

# CUTTING TOOLS

**ALLEGIANCE**  
PREMIUM PRODUCTION GRADE  
CUTTING TOOLS & THREAD GAGES.  
MADE IN USA

**Pittsburg**  
ALLEGHANY  
GLOBALLY SOURCED  
TOOLS PROVIDING A  
BALANCE OF QUALITY & PRICE

**Huot**  
CUTTING TOOL STORAGE

**apt**  
MADE IN USA  
INDEXABLE TOOLS

**KEO**  
COUNTERSINKS • END MILLS •  
CUTTERS

**Severance**  
COUNTERSINKS • DEBURRING TOOLS

**WALTON**  
TAP EXTRACTORS

**BAHCO**  
HOLE SAWS

**HS**  
BROACHES

**DORIAN**  
TOOL  
INDEXABLE TOOLING  
& INSERTS

**HANSON**  
TAP & DIE SETS

**RE-COIL**  
THREADED INSERTS

**LI**  
REAMERS

**FD**  
CUTTERS

**REGAL CUTTING TOOLS**  
HIGH PERFORMANCE TAPS

**RELTON** co  
CARBIDE TIPPED HOLE SAWS

**NEW ENGLAND TAP**  
CORPORATION  
TAPS

**ANE**  
AMERICAN NATIONAL CARBIDE  
CARBIDE INSERTS

**Buckingham**  
BUCKINGHAM  
THREAD RESTORERS

**IRWIN.**  
DRILL SETS  
CIRCULAR SAWS

**BROOKE**  
PARABOLIC DRILLS

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# Drill Sets

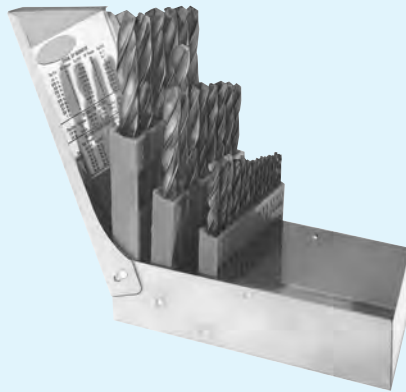
## ALLEGIANCE Jobber Drill Sets

DESCRIPTION	3 BLACK OXIDE H.S.S.		3 POLISHED FLUTE H.S.S.		3 HEAVY DUTY H.S.S.		2 BLACK & GOLD H.S.S.		2 M42 COBALT		2 TIN COATED H.S.S.	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE BOX	ORDER NO.	PRICE BOX	ORDER NO.	PRICE BOX	ORDER NO.	PRICE BOX	ORDER NO.	PRICE BOX
<b>Straight Shank</b>												
1/16-1/4 x 64ths 13 pc.	1009-098	\$ 16.20	1048-997	\$ 16.20	1009-013	\$ 18.20	9500-277	\$20.25	1109-115	\$ 27.30	1009-253	\$34.80
1/16-1/2 x 32nds 15 pc.	1009-099	43.30	1048-998	43.30	1009-014	48.45	9500-278	52.15	1109-110	80.70	1009-254	110.35
1/16-3/8 x 64ths 21 pc.	1009-100	38.60	1048-999	38.60	1009-015	43.80	9500-279	48.05	1109-105	71.20	1009-255	106.65
1/16-1/2 x 64ths 29 pc.	1009-101	68.30	1049-000	68.30	1009-016	78.60	9500-280	84.85	1109-100	113.95	1009-156	171.25
1/16-1/4 x 64ths & 9/32-1/2 x 32nds 21 pc.	-	-	-	-	1009-326	56.55	9500-288	61.30	1109-136	93.00		
Letter Sizes A-Z 26 pc.	1009-104	74.95	1049-003	74.95	1009-018	96.10	-	-	1109-130	140.25		
Number Sizes 1-60 60 pc.	1009-102	59.65	1049-001	59.65	1009-017	76.30	-	-	1109-125	114.50		
3-in-1 115 pc.	1009-000	196.85	1049-002	196.85	1009-019	266.25	-	-	1109-120	401.50		
<b>3/8" Shank Sets From 25/64" to 1/2"</b>												
1/16-1/2 x 64ths 29 pc.	1009-300	82.60	1009-305	82.60	1009-310	94.35	9500-285	102.15	1109-132	160.90		
<b>Screw Machine Length</b>												
1/16-1/2 x 64ths 29 pc.	1169-125	74.25	-	-	-	-	-	-	1211-197	128.70	-	-



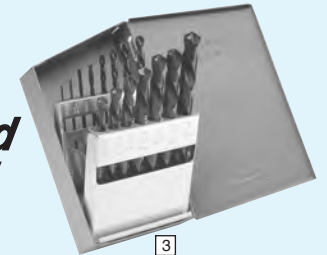
## Pittsburg ALLEGHANY Surface Treated Jobber Drills High Speed Steel

NO. PCS.	DESCRIPTION	BLACK IMPORT ORDER NO.	PRICE EACH
13	1/16 to 1/4 by 64ths	1009-140	\$ 7.95
21	1/16 to 3/8 by 64ths	1009-145	18.90
29	1/16 to 1/2 by 64ths	1009-150	19.45
15	1/16 to 1/2 by 32nds	1009-155	18.90
60	No. 1 to 60	1009-160	25.95
20	No. 61 to 80	1009-165	15.95
26	A to Z	1009-180	24.95
115	3N1: (1/16 - 1/2 by 64ths, A to Z & 1 to 60)	1009-250	71.95
<b>3/8 SHANK</b>			
29	1/16 to 1/2 by 64ths	1449-400	48.88



## Pittsburg ALLEGHANY Left Hand High Speed Steel

NO. PCS.	SIZE	ORDER NO.	PRICE EACH
15	1/16-1/2 x 32nds	1139-155	\$ 75.90
29	1/16-1/2 x 64ths	1139-150	152.35
60	No. 1 to 60	1139-160	102.30
26	A - Z	1139-180	139.10



## IRWIN TURBOMAX® Drill Sets

PCS.	DESCRIPTION	ORDER NO.	PRICE EACH
15	1/16"-1/2" by 32nds	1073-137	\$ 80.96
29	1/16"-1/2" by 64ths	1073-138	158.15



## Pittsburg ALLEGHANY Tin Coated

NO. PCS.	SIZE	ORDER NO.	PRICE EACH
29	1/16 - 1/2 x 64ths	1009-151	\$43.40



## IRWIN 29-Piece Drill Sets 135° Point

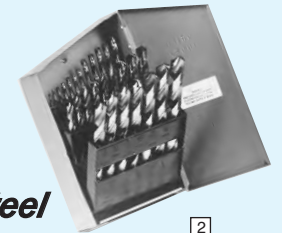
- Rubber over molded case
- Removable cartridges
- Automatic indexing

DESCRIPTION	ORDER NO.	PRICE EACH
Heavy Duty HSS Black Oxide	1073-650	\$82.17
HSS TIN Coated	1073-655	154.43
M35 Cobalt HSS	1073-660	133.10



## Pittsburg ALLEGHANY Fast Spiral High Speed Steel

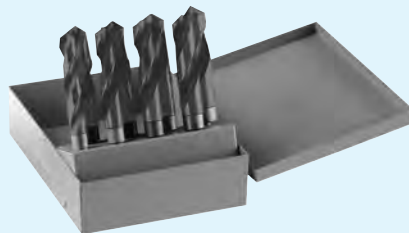
NO. PCS.	SIZE	ORDER NO.	PRICE EACH
15	1/16-1/2 x 32nds	1109-155	\$41.85
29	1/16-1/2 x 64ths	1109-150	73.95





# Drill Sets

## Silver & Deming Sets 1/2" Shank – High Speed Steel



**ALLEGIANCE**

2



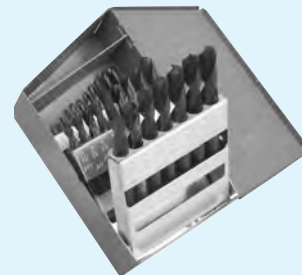
**Pittsburg ALLEGHANY**

3

SIZE	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	ALLEGIANCE ORDER NO.	PRICE EACH
9/16 to 1 by 16ths: 8 Drills in index	1449-100	\$ 56.50	1441-097	\$166.40
17/32 to 1 by 32nds: 13 drills in wood stand	1309-400	75.95		
1/2 to 1 by 64ths: Most complete set offered. 33 drills in sturdy Huot stand.	1449-300	199.90	1441-098	587.80

## Screw Machine Length Drill Sets– Right Hand

2



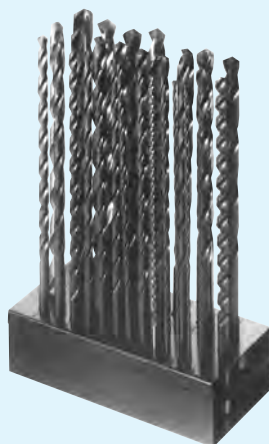
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NO. PCS.	DESCRIPTION	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	ALLEGIANCE ORDER NO.	PRICE EACH
29	1/16" to 1/2" by 64ths	1169-110	\$44.80	1169-125	\$74.25
60	No. 1 to 60	1169-115	42.00	-	-
26	A to Z	1169-120	50.05	-	-
29	*1/2" to 1" by 64ths	1169-300	459.45	-	-

\*Supplied in Metal Stand

## Long Boy High Speed Steel Drill Sets

**Pittsburg ALLEGHANY**



## H.S.S. Aircraft Extension Drill Sets

**Pittsburg ALLEGHANY**



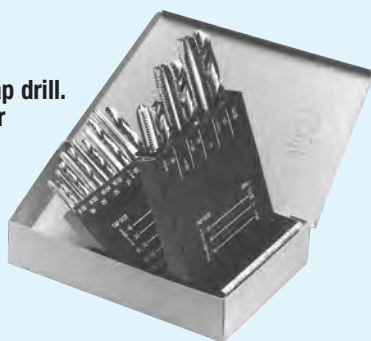
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NO. PCS.	DESCRIPTION	OVERALL LENGTH	ORDER NO.	PRICE EACH
25		8"	1309-450	\$134.25
25	1/8" – 1/2" by 64ths	10"	1309-455	159.95
25	in Metal Stand	12"	1309-460	136.92
25		18"	1309-465	390.65

NO. PCS.	DESCRIPTION	OVERALL LENGTH	ORDER NO.	PRICE EACH
13	1/16" – 1/4" by 64ths	6"	1309-470	\$ 29.10
29	1/16" – 1/2" by 64ths	12"	1309-475	225.22

## Tap & Drill Sets

Sets match 9 taps with correct tap drill. All tools High Speed Steel. Jobber Length Drills are polished flute ground from the solid.



## National Coarse Set

National Coarse Set holds 6-32 tap #36 drill, 8-32 #29, 10-24 #25, 10-32 #21, 1/4-20 #7, 5/16-18 F, 3/8-16 5/16, 7/16-14 U, and 1/2-13 27/64.

	ORDER NO.	PRICE EACH
Pittsburg-Alleghany	1009-005	\$40.80
Allegiance	1009-006	63.45

## National Fine Set

National Fine Set holds 6-40 tap #33 drill, 8-36 #29, 10-24 #25, 10-32 #21, 1/4-28 #3, 5/16-24 I, 3/8-24 Q, 7/16-20 25/64, and 1/2-20 29/64.

	ORDER NO.	PRICE EACH
Pittsburg-Alleghany	1009-010	\$42.30
Allegiance	1009-011	66.85

## Metric Set

Holds sizes: 2.5 x 0.45 tap 2.05 drill, 3.0 x 0.50 2.50, 3.5 x 0.60 2.90, 4.0 x 0.70 3.30, 5.0 x 0.80 4.20, 6.0 x 1.00 5.00, 8.00 x 1.25 6.70, 10.0 x 1.50 8.50, 12.0 x 1.75 10.20

	ORDER NO.	PRICE EACH
Pittsburg-Alleghany	1009-012	\$55.00



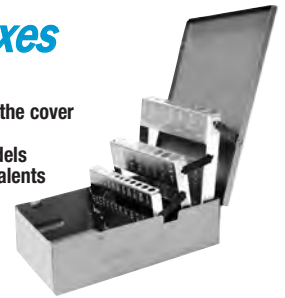
## Drill Indexes For Jobber Length Drills

PRICES FOR INDEXES WITHOUT DRILLS

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
313	1/16 to 1/4 by 64ths-single panel	1919-015	\$ 3.80
15	1/16 to 1/2 by 32nds	1919-035	6.60
20	No. 61 to 80 inclusive	1919-055	3.90
21	1/16 to 3/8 by 64ths	1919-020	6.60
26	A-Z inclusive	1919-070	7.50
29	1/16 to 1/2 by 64ths	1919-025	6.60
60	No. 1 to 60 inclusive	1919-050	6.40
80	No. 1 to 80 inclusive	1919-060	24.10
10001	1/16 to 1/4 by 64ths hang up	1919-018	3.40
1316	1/64 to 1/4 by 64ths	1919-005	10.80
2100	1/16 to 1/4 by 64ths and 9/32 to 1/2 by 32nds. Jobbers	1919-040	8.10
115	For jobbers: 1/16 to 1/2 by 64ths A-Z No. 1-60	1919-180	27.00
135	For jobbers: 1/16 to 1/2 by 64ths A-Z & No. 1-80	1919-190	34.70
134	For jobbers: 1/16 to 1/2 by 64ths No. 1-80, & 1mm to 13mm by 0.5mm	1919-185	34.70
4011	1mm to 6mm by 0.5mm	1919-075	4.50
4013	1mm to 7mm by 0.5mm	1919-080	4.50
4019	1mm to 10mm by 0.5mm	1919-085	6.20
4025	1mm to 13mm by 0.5mm	1919-090	8.60
4041	6mm to 10mm by 0.1mm	1919-095	23.40
4050	1mm to 5.9mm by 0.1mm	1919-100	10.80

## Automatic Drill Indexes

- Open cover and panels automatically follow the cover up, presenting the drill bits ready for use
- Permanent, embossed lettering on most models
- Fits in 2" deep tool drawer • Decimal equivalents
- Baked epoxy finish for durability



MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
20350	1/16" to 1/2" x 32nds.	1919-011	\$5.20

## Index For SILVER & DEMING Drills

For Drills 9/16" to 1" by 16ths with 1/2" shanks.  
Index measures 8-1/8" x 6-1/4" x 2".

MODEL NO. 88SD ORDER NO. 1919-140 PRICE: \$22.70



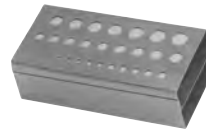
## Drill Indexes For Screw Machine Length Drills

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
2013	1/16" to 1/4" by 64ths	1919-150	\$ 6.00
2021	1/16" to 3/8" by 64ths	1919-155	8.70
2025	1mm to 13mm by 0.5mm		
2026	A to Z inclusive	1919-170	11.40
2029	1/16" to 1/2" by 64ths	1919-160	9.90
2060	No. 1 to 60 inclusive	1919-165	10.80
11550	1/16" to 1/2" by 64ths A-Z and No. 1 to 60	1919-175	37.40



## Mountable Drill Stands

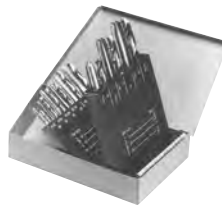
- These drill stands can be hung on a wall, used on a bench or mounted on press.
- Durably made from a single piece of prime steel, rigidly formed and welded.
- Plated black zinc finish.



MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
826	A-Z	1919-240	\$6.70
829	1/16 to 1/2 by 64ths	1919-230	6.70
860	No. 1 to 60	1919-235	3.40

## Indexes For Taps/Drills

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
99	NC 6-32 #36 to 1/2 - 13 #27/64 Holds 9 drills & 9 taps	1919-365	\$7.20
18	NF 6-40 #33 to 1/2-20 #29/64 Holds 9 drills & 9 taps	1919-370	7.80
4099	Metric 2.5mm x 0.45 tap 2.05 drill to 12.0mm x 1.75 tap 10.20mm drill	1919-335	8.40



## S & D Drill Stand

- For Drills 1/2" to 1" by 64ths with 1/2" shank.
  - Dimensions: 2-3/4" x 13" x 5".
  - Baked epoxy finish.
  - Fractional & decimal size equivalents clearly marked.
- MODEL NO. 833SD ORDER NO. 1919-233  
PRICE: \$26.10



*All HUOT Indexes,  
Dispensers & Stands are  
supplied without tools*



# Cutting Tool Storage



MADE IN U.S.A.

## Master Drill Dispenser

- All steel cabinet with vinyl dividers to help protect and separate bits.
- Each cabinet is LOCKABLE with its own set of 2 keys.
- STACKABLE for larger inventories at one location.
- Top drawer holds fractional drills 1/16" to 1/2" by 64ths with 42 compartments.
- 2nd drawer is for 1 to 60 wire gauge with 75 compartments.
- 3rd drawer is for letter size A to Z with 42 compartments.
- Each drawer measures 23-1/8" wide; 11" front to back.
- Lower drawer is undivided for extra long drills, reamers and miscellaneous tools.
- Drawer Divider Kit available for lower drawer.



ORDER NO. 1919-306 1  
PRICE:.....\$345.40

## Drill Dispensers For Jobber Length Drills

Buy Models #1, #2 & #3 Together and save!

ORDER NO. 1919-300 PRICE: \$196.90 1

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
1	1/16 to 1/2 by 64ths	1919-301	\$66.70
2	No. 1 to 60	1919-302	85.40
3	A-Z	1919-303	66.70
4	1mm to 13mm by 0.5mm	1919-304	77.20
5	1mm to 6.9mm by 0.1mm	1919-305	104.90
84	No. 1 to 80, 84 compartments	1919-309	104.90



## Master Tap/Drill Dispenser

Conveniently holds tap with the corresponding tap drill. Holds Tap & Drill sizes #0-80, 3/64 to 1.5-12, 1-27/64. Holds approximately one dozen each of the smaller sizes and at least several of each of the larger sizes. Built-in cam lock with two keys. Heavy-duty ball-bearing drawer slides for easy use and long service life.



ORDER NO. 1919-317  
PRICE:.....\$405.50 1

## Tap/Drill Dispenser

Stores and organizes correct Tap Drill with corresponding size Tap. Holds one dozen (minimum) of each size. Dimensions: 7-3/8" x 7-3/4" x 14-5/8"

TAP	FOR	DRILL	TAP	FOR	DRILL
6-32		#36	5/16-24		I
8-32		#29	3/8-16		5/16
10-24		#25	3/8-24		Q
10-32		#21	7/16-14		U
1/4-20		#7	7/16-20		25/64
1/4-28		#3	1/2-13		27/64
5/16-18		F	1/2-20		29/64



ORDER NO. 1919-375  
PRICE:.....\$80.50 1

## Metric Reamer Dispenser

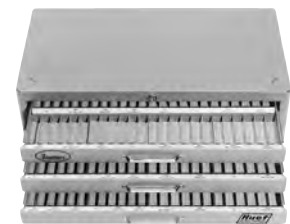
Stackable with all Huot "Original" style dispensers. Holds metric reamers from 1mm to 13mm x 0.5mm. Dimensions: 14 5/8" W x 7 3/8" D x 7 3/4" H



ORDER NO. 1919-348  
PRICE:....\$No Matc1!

## Reamer Dispenser

Lockable and stackable with other Huot storage units. Painted in our tough gray plastic finish. Packaged one per carton 40 lbs. shipping wt. overall 12" x 26" x 9-5/16" high. Ball bearing slides standard equipment. Dispenser does not include reamers.



Holds popular sizes and quantities:  
 1/8"-4 ea., .1230 d/p, .1240 under, .1247 d/p, .1260 over, 3 ea. \*3/16", .1855 d/p, .1865 under, .1870 d/p, .1885 over, 3 ea.  
 1/4"-4 ea., .2480 d/p, .2490 under, .2495 d/p, .2510 over, 3 ea.  
 5/16"-3 ea., .3105 d/p-3 ea., .3115 under-2 ea., .3120 d/p-2ea., .3135 over-2 ea.  
 3/8"-4 ea., .3730 d/p, .3740 under, .3745 d/p, .3760 over, 3 ea.  
 7/16", .4355 d/p, .4365 under, .4370 d/p, .4385 over, 2 ea.  
 1/2"-4 ea., .4980 d/p-2 ea., .4990 under, .4995 d/p, .5010 over, 3 ea.

Order No. 1919-308 ....Price Each: \$324.20 1

## Taper Shank/Taper Length Drill Index

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
1016	33/64" to 3/4" by 64ths Taper Shank or Taper Length	1919-125	\$66.10
2016	49/64" to 1" by 64ths for Taper Shank or Taper Length	1919-130	79.40
326	A-Z for Taper Length	1919-120	18.70
329	1/16" to 1/2" by 64ths for Taper Length	1919-110	18.70
360	No. 1 to 60 Taper Length	1919-115	30.70



## Reamer Index

These handy, all-steel reamer cases are designed to hold the reamer securely by the shank to help protect delicate cutting edges. Indexed for reamer size in decimal equivalents, with raised embossed lettering for permanent identification. Prices do not include reamers.

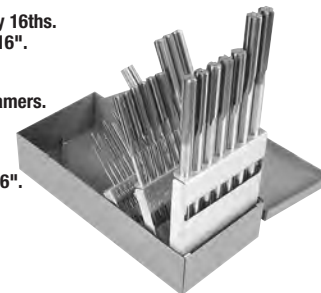
No. 1919-255.....\$18.60 2  
Over and under sizes .124 - .126 to .499 - .501 by 16ths. Holds 14 reamers. Dimensions 4" x 8-5/8" x 13/16".

No. 1919-270.....\$18.60  
For dowelpin reamers .123 to .4995. Holds 14 reamers. Dimensions 4" x 8-5/8" x 13/16".

No. 1919-265.....\$18.60  
A to Z reamers. Dimensions 4" x 8-5/8" x 1-13/16".

No. 1919-250.....\$18.60  
Chucking reamers 1/16" to 1/2" by 64ths. Dimensions 4" x 8-5/8" x 1-13/16".

No. 1919-260.....\$23.40  
No. 1 to 60 inclusive. Dimensions 3-3/8" x 6-3/4" x 1-3/16".



## Taper Shank/Taper Length Drill Dispenser

- Conveniently stores quantities of each size Taper Length or Taper Shank Drills 1/8" to 1" by 64ths.
- Plastic drawer dividers separate and protect drills.
- Stackable with other dispensers.
- Lockable with own set of keys.



MODEL NO. 57  
ORDER NO. 1919-307 PRICE:.....\$364.90 1

**All HUOT Indexes, Dispensers & Stands are supplied without tools**

# Jobbers Length Drills

## High Speed Steel – Fractional Sizes



**SURFACE TREATED**



**POLISHED FLUTE**



**TITANIUM NITRIDE COATED – 118° Point**

FRAC. SIZES	FLUTE LG'TH	OVER. LG'TH	Pittsburg® ALLEGHANY BLACK		ALLEGIANCE® BLACK*		Pittsburg® ALLEGHANY POLISHED*		ALLEGIANCE® POLISHED*		Pittsburg® ALLEGHANY TIN*	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/64	3/16	3/4	1000-001	\$ 0.50	1001-001	\$ 1.35	1040-001	\$ 0.75	1041-001	\$1.35	-	-
1/32	1/2	1-3/8	1000-002	0.40	1001-002	0.85	1040-002	0.50	1041-002	0.85	-	-
3/64	3/4	1-3/4	1000-003	0.40	1001-003	0.80	1040-003	0.50	1041-003	0.80	-	-
1/16	7/8	1-7/8	1000-004	0.35	1001-004	0.75	1040-004	0.50	1041-004	0.75	6326-004	\$1.36
5/64	1	2	1000-005	0.35	1001-005	0.75	1040-005	0.50	1041-005	0.75	6326-005	1.36
3/32	1-1/4	2-1/4	1000-006	0.35	1001-006	0.75	1040-006	0.50	1041-006	0.75	6326-006	1.36
7/64	1-1/2	2-5/8	1000-007	0.35	1001-007	0.75	1040-007	0.50	1041-007	0.75	6326-007	1.36
1/8	1-5/8	2-3/4	1000-008	0.35	1001-008	0.80	1040-008	0.50	1041-008	0.80	6326-008	1.36
9/64	1-3/4	2-7/8	1000-009	0.40	1001-009	0.85	1040-009	0.55	1041-009	0.85	6326-009	1.71
5/32	2	3-1/8	1000-010	0.40	1001-010	0.90	1040-010	0.55	1041-010	0.90	6326-010	1.71
11/64	2-1/8	3-1/4	1000-011	0.40	1001-011	1.00	1040-011	0.60	1041-011	1.00	6326-011	1.76
3/16	2-5/16	3-1/2	1000-012	0.45	1001-012	1.10	1040-012	0.65	1041-012	1.10	6326-012	1.87
13/64	2-7/16	3-5/8	1000-013	0.50	1001-013	1.25	1040-013	0.70	1041-013	1.25	6326-013	2.39
7/32	2-1/2	3-3/4	1000-014	0.55	1001-014	1.35	1040-014	0.80	1041-014	1.35	6326-014	2.45
15/64	2-5/8	3-7/8	1000-015	0.60	1001-015	1.45	1040-015	0.85	1041-015	1.45	6326-015	2.55
1/4	2-3/4	4	1000-016	0.70	1001-016	1.55	1040-016	0.95	1041-016	1.55	6326-016	2.60
17/64	2-7/8	4-1/8	1000-017	0.75	1001-017	1.75	1040-017	1.10	1041-017	1.75	6326-017	3.52
9/32	2-15/16	4-1/4	1000-018	0.85	1001-018	1.95	1040-018	1.15	1041-018	1.95	6326-018	3.57
19/64	3-1/16	4-3/8	1000-019	0.90	1001-019	2.25	1040-019	1.30	1041-019	2.25	6326-019	3.85
5/16	3-3/16	4-1/2	1000-020	1.00	1001-020	2.40	1040-020	1.40	1041-020	2.40	6326-020	4.03
21/64	3-5/16	4-5/8	1000-021	1.05	1001-021	2.65	1040-021	1.55	1041-021	2.65	6326-021	4.83
11/32	3-7/16	4-3/4	1000-022	1.20	1001-022	2.95	1040-022	1.75	1041-022	2.95	6326-022	5.11
23/64	3-1/2	4-7/8	1000-023	1.30	1001-023	3.40	1040-023	1.95	1041-023	3.40	6326-023	5.44
3/8	3-5/8	5	1000-024	1.40	1001-024	3.45	1040-024	2.00	1041-024	3.45	6326-024	5.49
25/64	3-3/4	5-1/8	1000-025	1.45	1001-025	3.95	1040-025	2.25	1041-025	3.95	6326-025	6.76
13/32	3-7/8	5-1/4	1000-026	1.60	1001-026	4.05	1040-026	2.30	1041-026	4.05	6326-026	6.85
27/64	3-15/16	5-3/8	1000-027	1.75	1001-027	4.45	1040-027	2.60	1041-027	4.45	6326-027	7.14
7/16	4-1/16	5-1/2	1000-028	1.90	1001-028	4.65	1040-028	2.65	1041-028	4.65	6326-028	7.28
29/64	4-3/16	5-5/8	1000-029	2.00	1001-029	5.10	1040-029	3.00	1041-029	5.10	6326-029	8.42
15/32	4-5/16	5-3/4	1000-030	2.10	1001-030	5.45	1040-030	3.20	1041-030	5.45	6326-030	8.73
31/64	4-3/8	5-7/8	1000-031	2.30	1001-031	5.75	1040-031	3.35	1041-031	5.75	6326-031	8.94
1/2	4-1/2	6	1000-032	2.60	1001-032	6.90	1040-032	3.40	1041-032	6.90	6326-032	9.31
33/64	4-13/16	6-5/8	1000-033	5.85	1001-033	11.20	-	-	1041-033	11.20	-	-
17/32	4-13/16	6-5/8	1000-034	6.05	1001-034	11.50	-	-	1041-034	11.50	-	-
35/64	4-13/16	6-5/8	1000-035	6.60	1001-035	12.70	1040-035	6.85	1041-035	12.70	-	-
9/16	4-13/16	6-5/8	1000-036	6.90	1001-036	13.05	-	-	1041-036	13.05	-	-
37/64	4-13/16	6-5/8	1000-037	6.95	1001-037	13.30	-	-	1041-037	13.30	-	-
19/32	5-3/16	7-1/8	1000-038	7.10	1001-038	13.70	1040-038	7.40	1041-038	13.70	-	-
39/64	5-3/16	7-1/8	1000-039	7.80	1001-039	14.65	-	-	1041-039	14.65	-	-
5/8	5-3/16	7-1/8	1000-040	7.65	1001-040	14.40	-	-	1041-040	14.40	-	-
41/64	5-3/16	7-1/8	1000-041	8.20	1001-041	15.70	1040-041	8.55	1041-041	15.70	-	-
21/32	5-3/16	7-1/8	1000-042	7.70	1001-042	16.45	-	-	1041-042	16.45	-	-
43/64	5-5/8	7-5/8	1000-043	9.45	1001-043	17.80	1040-043	9.90	1041-043	17.80	-	-
11/16	5-5/8	7-5/8	1000-044	9.25	1001-044	17.80	-	-	1041-044	17.80	-	-

\* Ground from solid. Limited Quantities

**PACKAGE QUANTITIES: Fractional Sizes**  
 1/64–19/64: 12 pcs. 5/16–1/2: 6 pcs. 33/64–11/16: 1 pcs.



# Jobbers Length Drills

## High Speed Steel – Wire Gage Sizes



TITANIUM NITRIDE COATED – 118° Point



SURFACE TREATED



POLISHED FLUTE

PACKAGE QUANTITIES: Wire Gage Sizes  
1-100: 12 pcs.

FRAC. SIZES	FLUTE LG'TH	OVER. LG'TH	Pittsburg® ALLEGHANY BLACK		ALLEGIANCE® BLACK*		Pittsburg® ALLEGHANY POLISHED*		ALLEGIANCE® POLISHED*		Pittsburg® ALLEGHANY TIN*	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	2-5/8	3-7/8	1010-001	\$0.70	1011-001	\$1.70	1050-001	\$0.90	1051-001	\$1.70	6326-101	\$2.50
2	2-5/8	3-7/8	1010-002	0.70	1011-002	1.70	1050-002	0.90	1051-002	1.70	6326-102	2.50
3	2-1/2	3-3/4	1010-003	0.65	1011-003	1.55	1050-003	0.80	1051-003	1.55	6326-103	2.39
4	2-1/2	3-3/4	1010-004	0.65	1011-004	1.55	1050-004	0.80	1051-004	1.55	6326-104	2.39
5	2-1/2	3-3/4	1010-005	0.65	1011-005	1.55	1050-005	0.80	1051-005	1.55	6326-105	2.39
6	2-1/2	3-3/4	1010-006	0.65	1011-006	1.55	1050-006	0.80	1051-006	1.55	6326-106	2.39
7	2-7/16	3-5/8	1010-007	0.55	1011-007	1.35	1050-007	0.70	1051-007	1.35	6326-107	2.29
8	2-7/16	3-5/8	1010-008	0.55	1011-008	1.35	1050-008	0.70	1051-008	1.35	6326-108	2.29
9	2-7/16	3-5/8	1010-009	0.55	1011-009	1.35	1050-009	0.70	1051-009	1.35	6326-109	2.29
10	2-7/16	3-5/8	1010-010	0.55	1011-010	1.35	1050-010	0.70	1051-010	1.35	6326-110	2.29
11	2-5/16	3-1/2	1010-011	0.50	1011-011	1.30	1050-011	0.70	1051-011	1.30	6326-111	2.29
12	2-5/16	3-1/2	1010-012	0.50	1011-012	1.30	1050-012	0.70	1051-012	1.30	6326-112	2.29
13	2-5/16	3-1/2	1010-013	0.50	1011-013	1.30	1050-013	0.65	1051-013	1.30	6326-113	1.66
14	2-3/16	3-3/8	1010-014	0.50	1011-014	1.30	1050-014	0.65	1051-014	1.30	6326-114	1.66
15	2-3/16	3-3/8	1010-015	0.50	1011-015	1.30	1050-015	0.65	1051-015	1.30	6326-115	1.66
16	2-3/16	3-3/8	1010-016	0.50	1011-016	1.30	1050-016	0.65	1051-016	1.30	6326-116	1.66
17	2-3/16	3-3/8	1010-017	0.50	1011-017	1.30	1050-017	0.65	1051-017	1.30	6326-117	1.66
18	2-1/8	3-1/4	1010-018	0.40	1011-018	1.15	1050-018	0.55	1051-018	1.15	6326-118	1.52
19	2-1/8	3-1/4	1010-019	0.40	1011-019	1.15	1050-019	0.55	1051-019	1.15	6326-119	1.52
20	2-1/8	3-1/4	1010-020	0.40	1011-020	1.15	1050-020	0.55	1051-020	1.15	6326-120	1.52
21	2-1/8	3-1/4	1010-021	0.40	1011-021	0.95	1050-021	0.55	1051-021	0.95	6326-121	1.50
22	2	3-1/8	1010-022	0.40	1011-022	0.95	1050-022	0.55	1051-022	0.95	6326-122	1.50
23	2	3-1/8	1010-023	0.40	1011-023	0.95	1050-023	0.50	1051-023	0.95	6326-123	1.48
24	2	3-1/8	1010-024	0.40	1011-024	0.95	1050-024	0.50	1051-024	0.95	6326-124	1.48
25	1-7/8	3	1010-025	0.40	1011-025	0.90	1050-025	0.50	1051-025	0.90	6326-125	1.46
26	1-7/8	3	1010-026	0.40	1011-026	0.90	1050-026	0.50	1051-026	0.90	6326-126	1.46
27	1-7/8	3	1010-027	0.40	1011-027	0.90	1050-027	0.50	1051-027	0.90	6326-127	1.46
28	1-3/4	2-7/8	1010-028	0.35	1011-028	0.85	1050-028	0.45	1051-028	0.85	6326-128	1.42
29	1-3/4	2-7/8	1010-029	0.35	1011-029	0.85	1050-029	0.45	1051-029	0.85	6326-129	1.42
30	1-5/8	2-3/4	1010-030	0.35	1011-030	0.85	1050-030	0.45	1051-030	0.85	6326-130	1.42
31	1-5/8	2-3/4	1010-031	0.30	1011-031	0.85	1050-031	0.45	1051-031	0.85	6326-131	1.24
32	1-5/8	2-3/4	1010-032	0.30	1011-032	0.85	1050-032	0.45	1051-032	0.85	6326-132	1.24
33	1-1/2	2-5/8	1010-033	0.30	1011-033	0.85	1050-033	0.45	1051-033	0.85	6326-133	1.24
34	1-1/2	2-5/8	1010-034	0.30	1011-034	0.85	1050-034	0.45	1051-034	0.85	6326-134	1.24
35	1-1/2	2-5/8	1010-035	0.30	1011-035	0.85	1050-035	0.45	1051-035	0.85	6326-135	1.24
36	1-7/16	2-1/2	1010-036	0.30	1011-036	0.85	1050-036	0.45	1051-036	0.85	6326-136	1.24
37	1-7/16	2-1/2	1010-037	0.30	1011-037	0.85	1050-037	0.45	1051-037	0.85	6326-137	1.24
38	1-7/16	2-1/2	1010-038	0.30	1011-038	0.85	1050-038	0.45	1051-038	0.85	6326-138	1.24
39	1-3/8	2-3/8	1010-039	0.30	1011-039	0.85	1050-039	0.45	1051-039	0.85	6326-139	1.24
40	1-3/8	2-3/8	1010-040	0.30	1011-040	0.85	1050-040	0.45	1051-040	0.85	6326-140	1.24
41	1-3/8	2-3/8	1010-041	0.30	1011-041	0.85	1050-041	0.45	1051-041	0.85	6326-141	1.24
42	1-1/4	2-1/4	1010-042	0.30	1011-042	0.85	1050-042	0.45	1051-042	0.85	6326-142	1.24
43	1-1/4	2-1/4	1010-043	0.30	1011-043	0.85	1050-043	0.45	1051-043	0.85	6326-143	1.24
44	1-1/8	2-1/8	1010-044	0.30	1011-044	0.85	1050-044	0.45	1051-044	0.85	6326-144	1.24
45	1-1/8	2-1/8	1010-045	0.30	1011-045	0.85	1050-045	0.45	1051-045	0.85	6326-145	1.24
46	1-1/8	2-1/8	1010-046	0.30	1011-046	0.85	1050-046	0.45	1051-046	0.85	6326-146	1.24
47	1	2	1010-047	0.30	1011-047	0.85	1050-047	0.45	1051-047	0.85	6326-147	1.24
48	1	2	1010-048	0.30	1011-048	0.85	1050-048	0.45	1051-048	0.85	6326-148	1.24
49	1	2	1010-049	0.30	1011-049	0.85	1050-049	0.45	1051-049	0.85	6326-149	1.24
50	1	2	1010-050	0.30	1011-050	0.85	1050-050	0.45	1051-050	0.85	6326-150	1.24
51	1	2	1010-051	0.30	1011-051	0.85	1050-051	0.45	1051-051	0.85	6326-151	1.24
52	7/8	1-7/8	1010-052	0.30	1011-052	0.85	1050-052	0.45	1051-052	0.85	6326-152	1.24
53	7/8	1-7/8	1010-053	0.30	1011-053	0.85	1050-053	0.45	1051-053	0.85	6326-153	1.19
54	7/8	1-7/8	1010-054	0.30	1011-054	0.85	1050-054	0.45	1051-054	0.85	6326-154	1.19
55	7/8	1-7/8	1010-055	0.30	1011-055	0.85	1050-055	0.45	1051-055	0.85	6326-155	1.19
56	3/4	1-3/4	1010-056	0.30	1011-056	0.85	1050-056	0.45	1051-056	0.85	6326-156	1.19
57	3/4	1-3/4	1010-057	0.30	1011-057	0.85	1050-057	0.45	1051-057	0.85	6326-157	1.19
58	11/16	1-5/8	1010-058	0.30	1011-058	0.85	1050-058	0.45	1051-058	0.85	6326-158	1.19
59	11/16	1-5/8	1010-059	0.30	1011-059	0.85	1050-059	0.45	1051-059	0.85	6326-159	1.19
60	11/16	1-5/8	1010-060	0.30	1011-060	0.85	1050-060	0.45	1051-060	0.85	6326-160	1.19

\* Ground from solid.

# Jobbers Length Drills

High Speed Steel — Wire Gage Sizes, Con't.



4 3 3

WIRE GAGE SIZES	DEC. EQV.	FLT. L'GTH	OAL	Pittsburg® ALLEGHANY BLACK		Pittsburg® ALLEGHANY POLISHED*		ALLEGIANCER® POLISHED*	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
61	.0390	11/16	1-5/8	1010-061	\$0.40	1050-061	\$0.40	1051-061	\$0.90
62	.3080	5/8	1-1/2	1010-062	0.40	1050-062	0.40	1051-062	0.90
63	.3070	5/8	1-1/2	1010-063	0.40	1050-063	0.40	1051-063	0.90
64	.0360	5/8	1-1/2	1010-064	0.40	1050-064	0.40	1051-064	0.90
65	.0350	5/8	1-1/2	1010-065	0.40	1050-065	0.40	1051-065	0.90
66	.0330	1/2	1-3/8	1010-066	0.40	1050-066	0.40	1051-066	0.90
67	.0320	1/2	1-3/8	1010-067	0.40	1050-067	0.40	1051-067	0.90
68	.0310	1/2	1-3/8	1010-068	0.40	1050-068	0.40	1051-068	0.90
69	.0292	1/2	1-3/8	1010-069	0.45	1050-069	0.45	1051-069	1.00
70	.0280	3/8	1-1/4	1010-070	0.45	1050-070	0.45	1051-070	1.00
71	.0260	3/8	1-1/4	1010-071	0.55	1050-071	0.55	1051-071	1.25
72	.0250	5/16	1-1/8	1010-072	0.55	1050-072	0.55	1051-072	1.25
73	.0240	5/16	1-1/8	1010-073	0.55	1050-073	0.55	1051-073	1.25
74	.0225	1/4	1	1010-074	0.55	1050-074	0.55	1051-074	1.25
75	.0210	1/4	1	1010-075	0.55	1050-075	0.55	1051-075	1.25
76	.0200	3/16	7/8	1010-076	0.55	1050-076	0.55	1051-076	1.25
77	.0180	3/16	7/8	1010-077	0.55	1050-077	0.55	1051-077	1.25
78	.0160	3/16	7/8	1010-078	0.55	1050-078	0.55	1051-078	1.25
79	.0145	1/8	3/4	1010-079	0.65	1050-079	0.65	1051-079	1.50
80	.0135	1/8	3/4	1010-080	0.65	1050-080	0.65	1051-080	1.50
81	.0130	3/32	3/4	—	—	—	—	1051-081	3.00
82	.0125	3/32	3/4	—	—	—	—	1051-082	3.00
83	.0120	3/32	3/4	—	—	—	—	1051-083	3.40
84	.0115	3/32	3/4	—	—	—	—	1051-084	3.40
85	.0110	5/64	3/4	—	—	—	—	1051-085	3.40
86	.0105	5/64	3/4	—	—	—	—	1051-086	3.80
87	.0100	5/64	3/4	—	—	—	—	1051-087	3.80
88	.0095	5/64	3/4	—	—	—	—	1051-088	4.80
89	.0091	1/16	3/4	—	—	—	—	1051-089	4.80
90	.0087	1/16	3/4	—	—	—	—	1051-090	4.80
91	.0083	1/16	3/4	—	—	—	—	1051-091	4.80
92	.0079	1/16	3/4	—	—	—	—	1051-092	4.80
93	.0075	1/16	3/4	—	—	—	—	1051-093	4.80
94	.0071	1/16	3/4	—	—	—	—	1051-094	6.90
95	.0067	1/16	3/4	—	—	—	—	1051-095	6.90
96	.0063	1/16	3/4	—	—	—	—	1051-096	7.60
97	.0059	1/16	3/4	—	—	—	—	1051-097	7.60

\* Ground from Solid

# 3/8" Shank Drills

High Speed Steel



3 3 3

DIAM.	Pittsburg® ALLEGHANY BLACK		ALLEGIANCER® BLACK*		ALLEGIANCER® POLISHED*	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
25/64	1460-025	\$2.54	1460-125	\$4.55	1460-225	\$4.55
13/32	1460-026	2.80	1460-126	4.65	1460-226	4.65
27/64	1460-027	3.06	1460-127	5.10	1460-227	5.10
7/16	1460-028	3.33	1460-128	5.35	1460-228	5.35
29/64	1460-029	3.50	1460-129	5.85	1460-229	5.85
15/32	1460-030	3.68	1460-130	6.25	1460-230	6.25
31/64	1460-031	4.03	1460-131	6.60	1460-231	6.60
1/2	1460-032	4.55	1460-132	7.95	1460-232	7.95
17/32	1460-034	6.36	—	—	—	—
9/16	1460-036	6.73	—	—	—	—
19/32	1460-038	7.24	—	—	—	—
5/8	1460-040	7.59	—	—	—	—
21/32	1460-042	8.06	—	—	—	—
11/16	1460-044	8.44	—	—	—	—
23/32	1460-046	8.89	—	—	—	—
3/4	1460-048	9.26	—	—	—	—

\* Ground from Solid

1/4" Reduced Shank High Speed Steel - 4" OAL



2

DIAM.	OVERALL LENGTH	ALLEGIANCER®	
		ORDER NO.	PRICE EACH
17/64	4	1450-120	\$3.10
11/32	4	1450-124	4.35
23/64	4	1450-128	5.25
3/8	4	1450-132	7.25

1/4" Reduced Shank High Speed Steel - Jobbers Length



3

# High Speed Steel — Letter Sizes

4 3 3 3

WIRE GAGE SIZES	DEC. EQV.	FLT. L'GTH	OAL	Pittsburg® ALLEGHANY BLACK		ALLEGIANCER® BLACK*		Pittsburg® ALLEGHANY POLISHED*		ALLEGIANCER® POLISHED*	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	.2340	2-5/8	3-7/8	1020-001	\$0.85	1021-001	\$1.75	1060-001	\$1.00	1061-001	\$1.75
B	.2380	2-3/4	4	1020-002	0.85	1021-002	1.75	1060-002	1.00	1061-002	1.75
C	.2420	2-3/4	4	1020-003	0.85	1021-003	1.75	1060-003	1.00	1061-003	1.75
D	.2460	2-3/4	4	1020-004	0.85	1021-004	1.75	1060-004	1.00	1061-004	1.75
E	.2500	2-3/4	4	1020-005	0.80	1021-005	1.70	1060-005	0.95	1061-005	1.70
F	.2570	2-7/8	4-1/8	1020-006	0.90	1021-006	2.20	1060-006	1.10	1061-006	2.20
G	.2610	2-7/8	4-1/8	1020-007	1.00	1021-007	2.20	1060-007	1.20	1061-007	2.20
H	.2660	2-7/8	4-1/8	1020-008	1.00	1021-008	2.20	1060-008	1.20	1061-008	2.20
I	.2720	2-7/8	4-1/8	1020-009	1.00	1021-009	2.20	1060-009	1.20	1061-009	2.20
J	.2770	2-7/8	4-1/8	1020-010	1.10	1021-010	2.30	1060-010	1.30	1061-010	2.30
K	.2810	2-15/16	4-1/4	1020-011	1.25	1021-011	2.50	1060-011	1.40	1061-011	2.50
L	.2900	2-15/16	4-1/4	1020-012	1.25	1021-012	2.50	1060-012	1.40	1061-012	2.50
M	.2950	3-1/16	4-3/8	1020-013	1.30	1021-013	2.75	1060-013	1.50	1061-013	2.75
N	.3020	3-1/16	4-3/8	1020-014	1.30	1021-014	2.75	1060-014	1.50	1061-014	2.75
O	.3160	3-3/16	4-1/2	1020-015	1.30	1021-015	2.85	1060-015	1.50	1061-015	2.85
P	.3230	3-5/16	4-5/8	1020-016	1.50	1021-016	3.15	1060-016	1.65	1061-016	3.15
Q	.3320	3-7/16	4-3/4	1020-017	1.50	1021-017	3.15	1060-017	1.65	1061-017	3.15
R	.3390	3-7/16	4-3/4	1020-018	1.60	1021-018	3.45	1060-018	1.80	1061-018	3.45
S	.3480	3-1/2	4-7/8	1020-019	1.65	1021-019	3.60	1060-019	1.90	1061-019	3.60
T	.3580	3-1/2	4-7/8	1020-020	1.95	1021-020	4.05	1060-020	2.15	1061-020	4.05
U	.3680	3-5/8	5	1020-021	1.95	1021-021	4.05	1060-021	2.15	1061-021	4.05
V	.3770	3-5/8	5	1020-022	1.95	1021-022	4.15	1060-022	2.20	1061-022	4.15
W	.3860	3-3/4	5-1/8	1020-023	2.00	1021-023	4.30	1060-023	2.25	1061-023	4.30
X	.3970	3-3/4	5-1/8	1020-024	2.45	1021-024	5.20	1060-024	2.75	1061-024	5.20
Y	.4040	3-7/8	5-1/4	1020-025	2.75	1021-025	5.75	1060-025	3.20	1061-025	5.75
Z	.4130	3-7/8	5-1/4	1020-026	2.95	1021-026	6.15	1060-026	3.25	1061-026	6.15

\* Ground from Solid

DIAM.	Pittsburg® ALLEGHANY BLACK		ALLEGIANCER®	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
17/64	1450-017	\$1.68	—	—
11/32	1450-018	1.92	1450-218	\$3.20
23/64	1450-019	2.08	—	—
3/8	1450-020	2.24	1450-220	3.30
21/64	1450-021	1.68	—	—
11/32	1450-022	1.92	1450-222	3.80
23/64	1450-023	2.08	—	—
3/8	1450-024	2.24	1450-224	4.25
25/64	1450-025	2.32	—	—
13/32	1450-026	2.56	1450-226	4.95
27/64	1450-027	2.80	—	—
7/16	1450-028	3.04	1450-228	5.50
29/64	1450-029	3.20	—	—
15/32	1450-030	3.36	1450-230	6.30
31/64	1450-031	3.68	—	—
1/2	1450-032	4.16	1450-232	6.55

PACKAGE QUANTITIES: Letter Sizes A-N: 12pcs. Q-Z: 6 pcs.

# Metric Jobber Length Drills

118° Point

2



High Speed Steel



Carbide Tipped

Pittsburg ALLEGANY			
HIGH SPEED			
DIAM. mm	DECM'L. EQUIV.	ORDER NO.	PRICE EACH
0.30	.0118	1030-030	\$1.53
0.32	.0126	1030-032	1.36
0.35	.0138	1030-035	1.15
0.38	.0150	1030-038	0.98
0.40	.0157	1030-040	0.98
0.42	.0165	1030-042	0.98
0.45	.0177	1030-045	0.98
0.48	.0189	1030-048	0.98
0.50	.0197	1030-050	0.98
0.52	.0204	1030-052	0.98
0.55	.0217	1030-055	0.98
0.58	.0228	1030-058	0.98
0.60	.0236	1030-060	0.98
0.65	.0256	1030-065	0.98
0.68	.0267	1030-068	0.98
0.70	.0276	1030-070	0.77
0.72	.0283	1030-072	0.77
0.75	.0295	1030-075	0.72
0.80	.0315	1030-080	0.64
0.85	.0335	1030-085	0.64
0.90	.0354	1030-090	0.64
0.95	.0374	1030-095	0.64
1.00	.0394	1030-100	0.64
1.05	.0413	1030-105	0.64
1.10	.0433	1030-110	0.64
1.15	.0453	1030-115	0.64
1.20	.0472	1030-120	0.64
1.25	.0492	1030-125	0.64
1.30	.0512	1030-130	0.64
1.35	.0531	1030-135	0.64
1.40	.0551	1030-140	0.64
1.45	.0571	1030-145	0.64
1.50	.0591	1030-150	0.64
1.55	.0610	1030-155	0.64
1.60	.0630	1030-160	0.64
1.65	.0650	1030-165	0.64
1.70	.0669	1030-170	0.64
1.75	.0689	1030-175	0.64
1.80	.0709	1030-180	0.64
1.85	.0728	1030-185	0.64
1.90	.0748	1030-190	0.64
1.95	.0768	1030-195	0.64

**PACKAGE QUANTITIES: Metric**  
**0.30-7.90: 12 pcs. 8.00-12.5: 6 pcs.**  
**12.60-17.50: 1 pcs.**

Pittsburg ALLEGANY					
HIGH SPEED				ROCK RIVER	
DIAM. mm	DECM'L. EQUIV.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2.00	.0787	1030-200	\$0.64	-	-
2.05	.0807	1030-205	0.64	-	-
2.10	.0827	1030-210	0.64	-	-
2.15	.0846	1030-215	0.64	-	-
2.20	.0866	1030-220	0.64	-	-
2.25	.0886	1030-225	0.64	-	-
2.30	.0906	1030-230	0.64	-	-
2.35	.0925	1030-235	0.64	-	-
2.40	.0945	1030-240	0.64	-	-
2.45	.0965	1030-245	0.64	-	-
2.50	.0984	1030-250	0.64	-	-
2.55	.1005	1030-255	0.64	-	-
2.60	.1024	1030-260	0.64	-	-
2.70	.1063	1030-270	0.64	-	-
2.75	.1083	1030-275	0.64	-	-
2.80	.1102	1030-280	0.64	-	-
2.90	.1142	1030-290	0.64	-	-
3.00	.1181	1030-300	0.64	2993-300	\$14.45
3.10	.1220	1030-310	0.74	2993-310	15.10
3.20	.1260	1030-320	0.74	2993-320	15.10
3.30	.1299	1030-330	0.74	2993-330	15.10
3.40	.1339	1030-340	0.74	2993-340	15.10
3.50	.1378	1030-350	0.74	2993-350	13.95
3.60	.1417	1030-360	0.78	2993-360	14.45
3.70	.1457	1030-370	0.78	2993-370	14.45
3.75	.1476	1030-375	0.78	-	-
3.80	.1496	1030-380	0.78	2993-380	14.45
3.90	.1535	1030-390	0.78	2993-390	14.45
4.00	.1575	1030-400	0.78	2993-400	13.60
4.10	.1614	1030-410	0.87	2993-410	13.10
4.20	.1654	1030-420	0.87	2993-420	13.95
4.30	.1693	1030-430	0.87	2993-430	13.95
4.40	.1732	1030-440	0.87	2993-440	13.95
4.50	.1772	1030-450	0.87	2993-450	14.45
4.60	.1811	1030-460	1.10	2993-460	15.75
4.70	.1850	1030-470	1.10	2993-470	13.35
4.80	.1890	1030-480	1.10	2993-480	13.95
4.90	.1929	1030-490	1.10	2993-490	15.75
5.00	.1969	1030-500	1.10	2993-500	15.10
5.10	.2008	1030-510	1.29	2993-510	16.40
5.20	.2047	1030-520	1.29	2993-520	16.40
5.25	.2067	1030-525	1.29	-	-
5.30	.2087	1030-530	1.29	2993-530	16.40
5.40	.2126	1030-540	1.29	2993-540	16.40
5.50	.2165	1030-550	1.29	2993-550	16.05
5.60	.2205	1030-560	1.47	2993-560	16.85
5.70	.2244	1030-570	1.47	2993-570	16.85
5.75	.2264	1030-575	1.47	-	-
5.80	.2283	1030-580	1.47	2993-580	16.85
5.90	.2323	1030-590	1.47	2993-590	16.85
6.00	.2362	1030-600	1.47	2993-600	16.65
6.10	.2402	1030-610	1.61	2993-610	17.60
6.20	.2441	1030-620	1.61	2993-620	17.60
6.30	.2480	1030-630	1.61	2993-630	17.60
6.40	.2520	1030-640	1.61	2993-640	17.60
6.50	.2559	1030-650	1.61	2993-650	17.20
6.60	.2598	1030-660	1.89	2993-660	18.40
6.70	.2638	1030-670	1.89	2993-670	18.40
6.80	.2677	1030-680	1.89	2993-680	18.40
6.90	.2717	1030-690	1.89	2993-690	18.40
7.00	.2756	1030-700	1.89	2993-700	18.00
7.10	.2795	1030-710	2.12	2993-710	18.85
7.20	.2835	1030-720	2.12	2993-720	18.85
7.25	.2854	1030-725	2.12	-	-
7.30	.2874	1030-730	2.12	2993-730	18.85
7.40	.2913	1030-740	2.12	2993-740	18.85
7.50	.2953	1030-750	2.12	2993-750	18.85
7.60	.2992	1030-760	2.44	2993-760	19.75
7.70	.3031	1030-770	2.44	2993-770	19.75

Pittsburg ALLEGANY					
HIGH SPEED				ROCK RIVER	
DIAM. mm	DECM'L. EQUIV.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7.80	.3071	1030-780	\$2.44	2993-780	\$19.75
7.90	.3110	1030-790	2.44	2993-790	19.75
8.00	.3150	1030-800	2.44	2993-800	19.30
8.10	.3189	1030-810	2.76	2993-810	21.10
8.20	.3228	1030-820	2.76	2993-820	21.10
8.25	.3248	1030-825	2.76	-	-
8.30	.3268	1030-830	2.76	2993-830	21.10
8.40	.3307	1030-840	2.76	2993-840	21.10
8.50	.3346	1030-850	2.76	2993-850	20.20
8.55	.3367	1030-855	2.76	-	-
8.60	.3386	1030-860	3.17	2993-860	21.10
8.70	.3425	1030-870	3.17	2993-870	21.10
8.80	.3465	1030-880	3.17	2993-880	21.10
8.90	.3504	1030-890	3.17	2993-890	21.10
9.00	.3543	1030-900	3.17	2993-900	20.60
9.10	.3583	1030-910	3.50	2993-910	22.85
9.20	.3622	1030-920	3.50	2993-920	22.85
9.25	.3642	1030-925	3.50	-	-
9.30	.3661	1030-930	3.50	2993-930	22.85
9.40	.3701	1030-940	3.50	2993-940	22.85
9.50	.3740	1030-950	3.50	2993-950	22.40
9.60	.3780	1030-960	3.96	2993-960	23.20
9.70	.3819	1030-970	3.96	2993-970	23.20
9.80	.3858	1030-980	3.96	2993-980	23.20
9.90	.3898	1030-990	3.96	2993-990	23.20
10.00	.3937	1031-000	3.96	2994-000	23.20
10.10	.3976	-	-	2994-010	27.65
10.20	.4016	1031-020	4.37	2994-020	27.65
10.30	.4055	1031-030	4.37	2994-030	27.65
10.40	.4094	1031-040	4.37	2994-040	27.65
10.50	.4134	1031-050	4.37	2994-050	26.75
10.60	.4173	1031-060	4.78	2994-060	30.30
10.70	.4213	1031-070	4.78	2994-070	30.30
10.80	.4252	1031-080	4.78	2994-080	30.30
10.90	.4291	-	-	2994-090	30.30
11.00	.4331	1031-100	4.78	2994-100	29.00
11.10	.4370	1031-110	5.29	2994-110	33.80
11.20	.4409	1031-120	5.29	2994-120	33.80
11.30	.4449	1031-130	5.29	2994-130	33.80
11.40	.4488	1031-140	5.29	2994-140	33.80
11.50	.4528	1031-150	5.29	2994-150	32.50
11.60	.4567	1031-160	5.70	2994-160	36.85
11.70	.4606	1031-170	5.70	2994-170	36.85
11.80	.4646	1031-180	5.70	2994-180	36.85
11.90	.4685	-	-	2994-190	36.85
12.00	.4724	1031-200	5.70	2994-200	35.20
12.10	.4764	-	-	2994-210	38.30
12.20	.4803	1031-220	6.16	2994-220	38.30
12.30	.4843	-	-	2994-230	38.30
12.40	.4882	1031-240	6.16	2994-240	38.30
12.50	.4921	1031-250	6.16	2994-250	36.50
12.60	.4921	1031-260	6.81	2994-260	39.65
12.70	.5000	1031-270	6.81	2994-270	33.70
12.80	.5039	1031-280	6.81	2994-280	43.50
12.90	.5079	1031-290	6.81	2994-290	43.50
13.00	.5118	1031-300	6.81	2994-300	43.50
13.50	.5315	1031-350	8.37	2994-350	56.30
14.00	.5512	1031-400	8.37	2994-400	59.70
14.50	.5709	1031-450	9.11	2994-450	64.00
15.00	.5906	1031-500	9.11	2994-500	64.00
15.50	.6102	1031-550	10.90	-	-
16.00	.6299	1031-600	10.90	2994-600	66.05
16.50	.6496	1031-650	12.70	-	-
17.00	.6693	1031-700	12.70	-	-
17.50	.6890	1031-750	15.55	-	-

# Jobbers Length Drills—Cobalt

## M42 Cobalt — 135° Split Point



3



### Fractional Sizes

COBALT USA					
FRACTIONAL SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1/64	0.0156	3/16	3/4	1101-001	\$ 1.70
1/32	0.0312	1/2	1-3/8	1101-002	1.45
3/64	0.0469	3/4	1-3/4	1101-003	1.10
1/16	0.0625	7/8	1-7/8	1101-004	1.15
5/64	0.0781	1	2	1101-005	1.15
3/32	0.0937	1-1/4	2-1/4	1101-006	1.25
7/64	0.1094	1-1/2	2-5/8	1101-007	1.40
1/8	0.1250	1-5/8	2-3/4	1101-008	1.45
9/64	0.1406	1-3/4	2-7/8	1101-009	1.55
5/32	0.1562	2	3-1/8	1101-010	1.70
11/64	0.1719	2-1/8	3-1/4	1101-011	1.85
3/16	0.1875	2-5/16	3-1/2	1101-012	2.05
13/64	0.2031	2-7/16	3-5/8	1101-013	2.55
7/32	0.2187	2-1/2	3-3/4	1101-014	2.80
15/64	0.2344	2-5/8	3-7/8	1101-015	3.05
1/4	0.2500	2-3/4	4	1101-016	3.20
17/64	0.2656	2-7/8	4-1/8	1101-017	3.80
9/32	0.2812	2-15/16	4-1/4	1101-018	4.25
19/64	0.2969	3-1/16	4-3/8	1101-019	4.75
5/16	0.3125	3-3/16	4-1/2	1101-020	5.15
21/64	0.3281	3-5/16	4-5/8	1101-021	5.75
11/32	0.3437	3-7/16	4-3/4	1101-022	6.05
23/64	0.3594	3-1/2	4-7/8	1101-023	6.80
3/8	0.3750	3-5/8	5	1101-024	7.50
25/64	0.3906	3-3/4	5-1/8	1101-025	8.25
13/32	0.4062	3-7/8	5-1/4	1101-026	8.80
27/64	0.4219	3-15/16	5-3/8	1101-027	9.65
7/16	0.4375	4-1/16	5-1/2	1101-028	9.85
29/64	0.4531	4-3/16	5-5/8	1101-029	10.50
15/32	0.4687	4-5/16	5-3/4	1101-030	11.35
31/64	0.4844	4-3/8	5-7/8	1101-031	12.35
1/2	0.5000	4-1/2	6	1101-032	12.80
33/64	0.5156	4-13/16	6-5/8	1101-033	-
17/32	0.5312	4-13/16	6-5/8	1101-034	-
35/64	0.5469	4-13/16	6-5/8	1101-035	-
9/16	0.5625	4-13/16	6-5/8	1101-036	-
37/64	0.5781	4-13/16	6-5/8	1101-037	-
19/32	0.5938	5-3/16	7-1/8	1101-038	-
39/64	0.6094	5-3/16	7-1/8	1101-039	-
5/8	0.6250	5-3/16	7-1/8	1101-040	-
41/64	0.6406	5-3/16	7-1/8	1101-041	-
21/32	0.6562	5-3/16	7-1/8	1101-042	-
43/64	0.6719	5-5/8	7-5/8	1101-043	-
11/16	0.6875	5-5/8	7-5/8	1101-044	-

**PACKAGE QUANTITIES: Fractional Sizes**  
**1/64-19/64: 12 pcs. 5/16-1/2: 6 pcs.**  
**33/64-11/16: 1 pcs.**

### 3/8" Shank Sizes

COBALT USA					
DIAM.	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
25/64	.3594	3-1/2	4-7/8	1460-325	\$9.50
13/32	.4062	3-7/8	5-1/4	1460-326	10.10
27/64	.4219	3-15/16	5-3/8	1460-327	11.10
7/16	.4375	4-1/16	5-1/2	1460-328	11.35
29/64	.4531	4-3/16	5-5/8	1460-329	12.05
15/32	.4687	4-5/16	5-3/4	1460-330	13.05
31/64	.4844	4-3/8	5-7/8	1460-331	14.20
1/2	.5000	4-1/2	6	1460-332	14.70

### Wire Gage Sizes

COBALT USA					
WIRE GAGE SIZES	DECM/L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1	.2280	2-5/8	3-7/8	1111-001	\$3.45
2	.2210	2-5/8	3-7/8	1111-002	3.35
3	.2130	2-1/2	3-3/4	1111-003	3.15
4	.2090	2-1/2	3-3/4	1111-004	3.15
5	.2055	2-1/2	3-3/4	1111-005	3.15
6	.2040	2-1/2	3-3/4	1111-006	3.10
7	.2010	2-7/16	3-5/8	1111-007	2.65
8	.1990	2-7/16	3-5/8	1111-008	2.70
9	.1960	2-7/16	3-5/8	1111-009	2.70
10	.1935	2-7/16	3-5/8	1111-010	2.55
11	.1910	2-5/16	3-1/2	1111-011	2.50
12	.1890	2-5/16	3-1/2	1111-012	2.55
13	.1850	2-5/16	3-1/2	1111-013	2.40
14	.1820	2-3/16	3-3/8	1111-014	2.45
15	.1800	2-3/16	3-3/8	1111-015	2.45
16	.1770	2-3/16	3-3/8	1111-016	2.30
17	.1730	2-3/16	3-3/8	1111-017	2.20
18	.1695	2-1/8	3-1/4	1111-018	2.15
19	.1660	2-1/8	3-1/4	1111-019	2.10
20	.1610	2-1/8	3-1/4	1111-020	1.95
21	.1590	2-1/8	3-1/4	1111-021	1.95
22	.1570	2	3-1/8	1111-022	2.00
23	.1540	2	3-1/8	1111-023	2.00
24	.1520	2	3-1/8	1111-024	1.95
25	.1495	1-7/8	3	1111-025	1.85
26	.1470	1-7/8	3	1111-026	1.90
27	.1440	1-7/8	3	1111-027	1.80
28	.1405	1-3/4	2-7/8	1111-028	1.80
29	.1360	1-3/4	2-7/8	1111-029	1.75
30	.1285	1-5/8	2-3/4	1111-030	1.60
31	.1200	1-5/8	2-3/4	1111-031	1.65
32	.1160	1-5/8	2-3/4	1111-032	1.60
33	.1130	1-1/2	2-5/8	1111-033	1.65
34	.1110	1-1/2	2-5/8	1111-034	1.60
35	.1100	1-1/2	2-5/8	1111-035	1.60
36	.1065	1-7/16	2-1/2	1111-036	1.60
37	.1040	1-7/16	2-1/2	1111-037	1.60
38	.1015	1-7/16	2-1/2	1111-038	1.60
39	.0995	1-3/8	2-3/8	1111-039	1.55
40	.0980	1-3/8	2-3/8	1111-040	1.45
41	.0960	1-3/8	2-3/8	1111-041	1.50
42	.0935	1-1/4	2-1/4	1111-042	1.50
43	.0890	1-1/4	2-1/4	1111-043	1.40
44	.0860	1-1/8	2-1/8	1111-044	1.40
45	.0820	1-1/8	2-1/8	1111-045	1.40
46	.0810	1-1/8	2-1/8	1111-046	1.40
47	.0785	1	2	1111-047	1.40
48	.0760	1	2	1111-048	1.40
49	.0730	1	2	1111-049	1.35
50	.0700	1	2	1111-050	1.35
51	.0670	1	2	1111-051	1.35
52	.0635	7/8	1-7/8	1111-052	1.30
53	.0595	7/8	1-7/8	1111-053	1.45
54	.0550	7/8	1-7/8	1111-054	1.45
55	.0520	7/8	1-7/8	1111-055	1.45
56	.0465	3/4	1-3/4	1111-056	1.45
57	.0430	3/4	1-3/4	1111-057	1.45
58	.0420	11/16	1-5/8	1111-058	1.45
59	.0410	11/16	1-5/8	1111-059	1.45
60	.0400	11/16	1-5/8	1111-060	1.35

**PACKAGE QUANTITIES: Wire Gage Sizes**  
**1-100: 12 pcs.**

### Letter Sizes

COBALT USA					
LETTER SIZES	DECM/L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
A	.2340	2-5/8	3-7/8	1121-001	\$3.10
B	.2380	2-3/4	4	1121-002	3.60
C	.2420	2-3/4	4	1121-003	3.60
D	.2460	2-3/4	4	1121-004	4.00
E	.2500	2-3/4	4	1121-005	3.10
F	.2570	2-7/8	4-1/8	1121-006	3.60
G	.2610	2-7/8	4-1/8	1121-007	3.60
H	.2660	2-7/8	4-1/8	1121-008	4.00
I	.2720	2-7/8	4-1/8	1121-009	3.80
J	.2770	2-7/8	4-1/8	1121-010	4.00
K	.2810	2-15/16	4-1/4	1121-011	4.00
L	.2900	2-15/16	4-1/4	1121-012	4.60
M	.2950	3-1/16	4-3/8	1121-013	4.80
N	.3020	3-1/16	4-3/8	1121-014	4.80
O	.3160	3-3/16	4-1/2	1121-015	5.40
P	.3230	3-5/16	4-5/8	1121-016	5.65
Q	.3320	3-7/16	4-3/4	1121-017	5.85
R	.3390	3-7/16	4-3/4	1121-018	5.85
S	.3480	3-1/2	4-7/8	1121-019	7.20
T	.3580	3-1/2	4-7/8	1121-020	7.20
U	.3680	3-5/8	5	1121-021	7.20
V	.3770	3-5/8	5	1121-022	7.90
W	.3860	3-3/4	5-1/8	1121-023	7.90
X	.3970	3-3/4	5-1/8	1121-024	7.90
Y	.4040	3-7/8	5-1/4	1121-025	8.40
Z	.4130	3-7/8	5-1/4	1121-026	9.10

**PACKAGE QUANTITIES: Letter Sizes**  
**A-N: 12 pcs. Q-Z: 6 pcs.**

Note: Sizes under 1/16, and #52 are not Split Point



# Jobbers Length Drills—Cobalt

## M35 Cobalt — 135° Split Point



### Fractional Sizes

Frac. Sizes	Dec. Eqv.	Flute Lg <sup>th</sup>	OAL	Order No.	Price Each
1/64	0.0156	3/16	3/4	1100-001	\$0.95
1/32	0.0312	1/2	1-3/8	1100-002	0.95
3/64	0.0469	3/4	1-3/4	1100-003	0.59
1/16	0.0625	7/8	1-7/8	1100-004	0.59
5/64	0.0781	1	2	1100-005	0.64
3/32	0.0937	1-1/4	2-1/4	1100-006	0.71
7/64	0.1094	1-1/2	2-5/8	1100-007	0.78
1/8	0.1250	1-5/8	2-3/4	1100-008	0.78
9/64	0.1406	1-3/4	2-7/8	1100-009	0.97
5/32	0.1562	2	3-1/8	1100-010	1.00
11/64	0.1719	2-1/8	3-1/4	1100-011	1.14
3/16	0.1875	2-5/16	3-1/2	1100-012	1.40
13/64	0.2031	2-7/16	3-5/8	1100-013	1.62
7/32	0.2187	2-1/2	3-3/4	1100-014	1.76
15/64	0.2344	2-5/8	3-7/8	1100-015	1.94
1/4	0.2500	2-3/4	4	1100-016	2.03
17/64	0.2656	2-7/8	4-1/8	1100-017	2.30
9/32	0.2812	2-15/16	4-1/4	1100-018	2.39
19/64	0.2969	3-1/16	4-3/8	1100-019	2.97
5/16	0.3125	3-3/16	4-1/2	1100-020	3.24
21/64	0.3281	3-5/16	4-5/8	1100-021	3.56
11/32	0.3437	3-7/16	4-3/4	1100-022	3.87
23/64	0.3594	3-1/2	4-7/8	1100-023	4.46
3/8	0.3750	3-5/8	5	1100-024	4.46
25/64	0.3906	3-3/4	5-1/8	1100-025	5.04
13/32	0.4062	3-7/8	5-1/4	1100-026	5.22
27/64	0.4219	3-15/16	5-3/8	1100-027	5.81
7/16	0.4375	4-1/16	5-1/2	1100-028	5.90
29/64	0.4531	4-3/16	5-5/8	1100-029	7.07
15/32	0.4687	4-5/16	5-3/4	1100-030	7.25
31/64	0.4844	4-3/8	5-7/8	1100-031	7.47
1/2	0.5000	4-1/2	6	1100-032	7.47

**PACKAGE QUANTITIES: Fractional Sizes**  
 1/64–19/64: 12 pcs. 5/16–1/2: 6 pcs.  
 3/32–11/16: 1 pcs.

Note: Sizes under 1/16, and #52 are not Split Point

### Wire Gage Sizes

Wire Gage Sizes	Decm'l Equiv.	Flute Length	Overall Length	Order No.	Price Each
1	.2280	2-5/8	3-7/8	1110-001	\$2.16
2	.2210	2-5/8	3-7/8	1110-002	2.16
3	.2130	2-1/2	3-3/4	1110-003	2.07
4	.2090	2-1/2	3-3/4	1110-004	2.07
5	.2055	2-1/2	3-3/4	1110-005	2.07
6	.2040	2-1/2	3-3/4	1110-006	2.07
7	.2010	2-7/16	3-5/8	1110-007	1.58
8	.1990	2-7/16	3-5/8	1110-008	1.58
9	.1960	2-7/16	3-5/8	1110-009	1.58
10	.1935	2-7/16	3-5/8	1110-010	1.58
11	.1910	2-5/16	3-1/2	1110-011	1.58
12	.1890	2-5/16	3-1/2	1110-012	1.58
13	.1850	2-5/16	3-1/2	1110-013	1.58
14	.1820	2-3/16	3-3/8	1110-014	1.58
15	.1800	2-3/16	3-3/8	1110-015	1.58
16	.1770	2-3/16	3-3/8	1110-016	1.49
17	.1730	2-3/16	3-3/8	1110-017	1.40
18	.1695	2-1/8	3-1/4	1110-018	1.31
19	.1660	2-1/8	3-1/4	1110-019	1.26
20	.1610	2-1/8	3-1/4	1110-020	1.26
21	.1590	2-1/8	3-1/4	1110-021	1.26
22	.1570	2	3-1/8	1110-022	1.26
23	.1540	2	3-1/8	1110-023	1.26
24	.1520	2	3-1/8	1110-024	1.26
25	.1495	1-7/8	3	1110-025	1.13
26	.1470	1-7/8	3	1110-026	1.13
27	.1440	1-7/8	3	1110-027	1.13
28	.1405	1-3/4	2-7/8	1110-028	1.08
29	.1360	1-3/4	2-7/8	1110-029	1.04
30	.1285	1-5/8	2-3/4	1110-030	0.95
31	.1200	1-5/8	2-3/4	1110-031	0.95
32	.1160	1-5/8	2-3/4	1110-032	0.90
33	.1130	1-1/2	2-5/8	1110-033	0.90
34	.1110	1-1/2	2-5/8	1110-034	0.90
35	.1100	1-1/2	2-5/8	1110-035	0.90
36	.1065	1-7/16	2-1/2	1110-036	0.90
37	.1040	1-7/16	2-1/2	1110-037	0.90
38	.1015	1-7/16	2-1/2	1110-038	0.81
39	.0995	1-3/8	2-3/8	1110-039	0.81
40	.0980	1-3/8	2-3/8	1110-040	0.81
41	.0960	1-3/8	2-3/8	1110-041	0.81
42	.0935	1-1/4	2-1/4	1110-042	0.81
43	.0890	1-1/4	2-1/4	1110-043	0.81
44	.0860	1-1/8	2-1/8	1110-044	0.81
45	.0820	1-1/8	2-1/8	1110-045	0.81
46	.0810	1-1/8	2-1/8	1110-046	0.81
47	.0785	1	2	1110-047	0.81
48	.0760	1	2	1110-048	0.81
49	.0730	1	2	1110-049	0.81
50	.0700	1	2	1110-050	0.81
51	.0670	1	2	1110-051	0.81
52	.0635	7/8	1-7/8	1110-052	0.81
53	.0595	7/8	1-7/8	1110-053	0.90
54	.0550	7/8	1-7/8	1110-054	0.90
55	.0520	7/8	1-7/8	1110-055	0.90
56	.0465	3/4	1-3/4	1110-056	0.95
57	.0430	3/4	1-3/4	1110-057	0.95
58	.0420	11/16	1-5/8	1110-058	0.95
59	.0410	11/16	1-5/8	1110-059	0.95
60	.0400	11/16	1-5/8	1110-060	0.95

**PACKAGE QUANTITIES: Wire Gage Sizes**  
 1-100: 12 pcs.

### Wire Gage Sizes (Continued)

Wire Gage Sizes	Decm'l Equiv.	Flute Length	Overall Length	Order No.	Price Each
61	.0390	11/16	1-5/8	1110-061†	\$1.07
62	.0380	5/8	1-1/2	1110-062†	1.07
63	.0370	5/8	1-1/2	1110-063†	1.07
64	.0360	5/8	1-1/2	1110-064†	1.07
65	.0350	5/8	1-1/2	1110-065†	1.07
66	.0330	1/2	1-3/8	1110-066†	1.15
67	.0320	1/2	1-3/8	1110-067†	1.15
68	.0310	1/2	1-3/8	1110-068†	1.15
69	.0292	1/2	1-3/8	1110-069†	1.28
70	.0280	3/8	1-1/4	1110-070†	1.28
71	.0260	3/8	1-1/4	1110-071†	1.28
72	.0250	5/16	1-1/8	1110-072†	1.28
73	.0240	5/16	1-1/8	1110-073†	1.28
74	.0225	1/4	1	1110-074†	1.28
76	.0200	3/16	7/8	1110-076†	1.43
78	.0160	3/16	7/8	1110-078†	1.43
79	.0145	1/8	3/4	1110-079†	1.43
80	.0135	1/8	3/4	1110-080†	1.43

**PACKAGE QUANTITIES: Wire Gage Sizes**  
 1-100: 12 pcs.

† Limited Quantities

### Letter Sizes

Letter Sizes	Decm'l Equiv.	Flute Length	Overall Length	Order No.	Price Each
A	.2340	2-5/8	3-7/8	1120-001	\$2.23
B	.2380	2-3/4	4	1120-002	2.23
C	.2420	2-3/4	4	1120-003	2.33
D	.2460	2-3/4	4	1120-004	2.33
E	.2500	2-3/4	4	1120-005	2.33
F	.2570	2-7/8	4-1/8	1120-006	2.33
G	.2610	2-7/8	4-1/8	1120-007	2.65
H	.2660	2-7/8	4-1/8	1120-008	2.65
I	.2720	2-7/8	4-1/8	1120-009	2.75
J	.2770	2-7/8	4-1/8	1120-010	2.75
K	.2810	2-15/16	4-1/4	1120-011	2.75
L	.2900	2-15/16	4-1/4	1120-012	3.42
M	.2950	3-1/16	4-3/8	1120-013	3.42
N	.3020	3-1/16	4-3/8	1120-014	3.73
O	.3160	3-3/16	4-1/2	1120-015	4.09
P	.3230	3-5/16	4-5/8	1120-016	4.09
Q	.3320	3-7/16	4-3/4	1120-017	4.45
R	.3390	3-7/16	4-3/4	1120-018	4.45
S	.3480	3-1/2	4-7/8	1120-019	5.13
T	.3580	3-1/2	4-7/8	1120-020	5.13
U	.3680	3-5/8	5	1120-021	5.13
V	.3770	3-5/8	5	1120-022	5.80
W	.3860	3-3/4	5-1/8	1120-023	5.80
X	.3970	3-3/4	5-1/8	1120-024	6.00
Y	.4040	3-7/8	5-1/4	1120-025	6.00
Z	.4130	3-7/8	5-1/4	1120-026	6.68

**PACKAGE QUANTITIES: Letter Sizes**  
 A-N: 12 pcs. O-Z: 6 pcs.

# Jobbers Length Drills— Heavy Duty

## High Speed Steel



Heavy Duty 135° Split Point



Titanium Nitride Coated Heavy Duty 135° Split Point



Premium Heavy Duty 135° Split Point Black & Gold

### Fractional Sizes

Pittsburgh® HEAVY DUTY				ALLEGIANCE® HEAVY DUTY		ALLEGIANCE® TIN COATED HD		ALLEGIANCE® HD BLACK & GOLD			
FRACTIONAL SIZES	DECIM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
1/16	0.0625	7/8	1-7/8	—	—	1002-004	\$0.85	6326-204	\$1.80	9500-004	\$0.95
5/64	0.0781	1	2	1002-105	\$0.63	1002-005	0.85	6326-205	1.80	9500-005	0.95
3/32	0.0937	1-1/4	2-1/4	1002-106	0.62	1002-006	0.85	6326-206	1.75	9500-006	0.95
7/64	0.1094	1-1/2	2-5/8	1002-107	0.67	1002-007	0.95	6326-207	1.80	9500-007	1.15
1/8	0.1250	1-5/8	2-3/4	1002-108	0.71	1002-008	0.90	6326-208	1.85	9500-008	1.00
9/64	0.1406	1-3/4	2-7/8	1002-109	0.70	1002-009	1.00	6326-209	2.10	9500-009	1.25
5/32	0.1562	2	3-1/8	1002-110	0.72	1002-010	1.00	6326-210	2.35	9500-010	1.30
11/64	0.1719	2-1/8	3-1/4	1002-111	0.72	1002-011	1.15	6326-211	2.45	9500-011	1.35
3/16	0.1875	2-5/16	3-1/2	1002-112	0.86	1002-012	1.30	6326-212	2.60	9500-012	1.45
13/64	0.2021	2-7/16	3-5/8	1002-113	0.95	1002-013	1.40	6326-213	3.40	9500-013	1.55
7/32	0.2187	2-1/2	3-3/4	1002-114	1.06	1002-014	1.55	6326-214	3.55	9500-014	1.75
15/64	0.2344	2-5/8	3-7/8	1002-115	1.15	1002-015	1.70	6326-215	3.65	9500-015	1.85
1/4	0.2500	2-3/4	4	1002-116	1.22	1002-016	1.85	6326-216	3.75	9500-016	2.00
17/64	0.2656	2-7/8	4-1/8	1002-117	1.44	1002-017	2.10	6326-217	5.45	9500-017	2.35
9/32	0.2812	2-15/16	4-1/4	1002-118	1.53	1002-018	2.25	6326-218	5.60	9500-018	2.45
19/64	0.2969	3-1/16	4-3/8	1002-119	1.75	1002-019	2.60	6326-219	5.85	9500-019	2.75
5/16	0.3125	3-3/16	4-1/2	1002-120	1.89	1002-020	2.85	6326-220	6.05	9500-020	3.10
11/32	0.3437	3-7/16	4-3/4	1002-122	2.27	1002-022	3.15	6326-222	7.05	9500-022	3.75
23/64	0.3594	3-1/2	4-7/8	1002-123	2.59	1002-023	3.85	6326-223	7.50	9500-023	4.30
3/8	0.3750	3-5/8	5	1002-124	2.75	1002-024	3.95	6326-224	7.50	9500-024	4.40
25/64	0.3906	3-3/4	5-1/8	1002-125	2.94	1002-025	4.45	6326-225	9.75	9500-025	4.90
13/32	0.4062	3-7/8	5-1/4	1002-126	3.13	1002-026	4.55	6326-226	9.85	9500-026	5.10
27/64	0.4219	3-15/16	5-3/8	1002-127	3.47	1002-027	5.05	6326-227	10.60	9500-027	5.65
7/16	0.4375	4-1/16	5-1/2	1002-128	3.59	1002-028	5.55	6326-228	10.65	9500-028	5.85
29/64	0.4531	4-3/16	5-5/8	1002-129	3.62	1002-029	6.20	6326-229	11.60	9500-029	6.50
15/32	0.4687	4-5/16	5-3/4	1002-130	4.17	1002-030	6.55	6326-230	11.85	9500-030	6.90
31/64	0.4844	4-3/8	5-7/8	1002-131	4.62	1002-031	6.85	6326-231	12.40	9500-031	7.25
1/2	0.5000	4-1/2	6	1002-132	4.70	1002-032	7.00	6326-232	12.25	9500-032	7.35

PACKAGE QUANTITIES: Fractional Sizes

1/64-19/64: 12 pcs. 5/16-1/2: 6 pcs. 33/64-11/16: 1 pcs.

### 3/8" Shank

25/64	0.3906	3-3/4	5-1/8	—	—	—	—	6326-255	\$11.20	9500-255	\$5.65
13/32	0.4062	3-7/8	5-1/4	—	—	—	—	6326-256	11.35	9500-256	5.85
27/64	0.4219	3-15/16	5-3/8	—	—	—	—	6326-257	12.20	9500-257	6.50
7/16	0.4375	4-1/16	5-1/2	—	—	—	—	6326-258	12.25	9500-258	6.75
29/64	0.4531	4-3/16	5-5/8	—	—	—	—	6326-259	13.35	9500-259	7.45
15/32	0.4687	4-5/16	5-3/4	—	—	—	—	6326-260	13.65	9500-260	7.95
31/64	0.4844	4-3/8	5-7/8	—	—	—	—	6326-261	14.25	9500-261	8.35
1/2	0.5000	4-1/2	6	—	—	—	—	6326-262	14.10	9500-262	8.45

### Letter Sizes

SIZE	DECIM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
A	.2340	2-5/8	3-7/8	1022-001	\$2.25
B	.2380	2-3/4	4	1022-002	2.25
C	.2420	2-3/4	4	1022-003	2.25
D	.2460	2-3/4	4	1022-004	2.25
E	.2500	2-3/4	4	1022-005	1.95
F	.2570	2-7/8	4-1/8	1022-006	2.45
G	.2610	2-7/8	4-1/8	1022-007	2.60
H	.2660	2-7/8	4-1/8	1022-008	2.70
I	.2720	2-7/8	4-1/8	1022-009	2.70
J	.2770	2-7/8	4-1/8	1022-010	2.75
K	.2810	2-15/16	4-1/4	1022-011	3.00
L	.2900	2-15/16	4-1/4	1022-012	3.00
M	.2950	3-1/16	4-3/8	1022-013	3.35

SIZE	DECIM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
N	.3020	3-1/16	4-3/8	1022-014	\$3.35
O	.3160	3-3/16	4-1/2	1022-015	3.40
P	.3230	3-5/16	4-5/8	1022-016	3.35
Q	.3320	3-7/16	4-3/4	1022-017	3.80
R	.3390	3-7/16	4-3/4	1022-018	3.90
S	.3480	3-1/2	4-7/8	1022-019	4.35
T	.3580	3-1/2	4-7/8	1022-020	4.50
U	.3680	3-5/8	5	1022-021	4.50
V	.3770	3-5/8	5	1022-022	4.65
W	.3860	3-3/4	5-1/8	1022-023	4.80
X	.3970	3-3/4	5-1/8	1022-024	5.80
Y	.4040	3-7/8	5-1/4	1022-025	6.80
Z	.4130	3-7/8	5-1/4	1022-026	6.95

### Wire Gage Sizes

WIRE GAGE SIZES	DECIM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1	.2280	2-5/8	3-7/8	1012-001	\$1.90
2	.2210	2-5/8	3-7/8	1012-002	1.90
3	.2130	2-1/2	3-1/4	1012-003	1.70
4	.2090	2-1/2	3-1/4	1012-004	1.70
5	.2055	2-1/2	3-1/4	1012-005	1.70
6	.2040	2-1/2	3-1/4	1012-006	1.70
7	.2010	2-7/16	3-5/8	1012-007	1.55
8	.1990	2-7/16	3-5/8	1012-008	1.55
9	.1960	2-7/16	3-5/8	1012-009	1.55
10	.1935	2-7/16	3-5/8	1012-010	1.55
11	.1910	2-5/16	3-1/2	1012-011	1.60
12	.1890	2-5/16	3-1/2	1012-012	1.60
13	.1850	2-5/16	3-1/2	1012-013	1.55
14	.1820	2-3/16	3-3/8	1012-014	1.55
15	.1800	2-3/16	3-3/8	1012-015	1.55
16	.1770	2-3/16	3-3/8	1012-016	1.55
17	.1730	2-3/16	3-3/8	1012-017	1.55
18	.1695	2-1/8	3-1/4	1012-018	1.30
19	.1660	2-1/8	3-1/4	1012-019	1.30
20	.1610	2-1/8	3-1/4	1012-020	1.30
21	.1590	2-1/8	3-1/4	1012-021	1.15
22	.1570	2	3-1/8	1012-022	1.15
23	.1540	2	3-1/8	1012-023	1.15
24	.1520	2	3-1/8	1012-024	1.15
25	.1495	1-7/8	3	1012-025	1.15
26	.1470	1-7/8	3	1012-026	1.15
27	.1440	1-7/8	3	1012-027	1.15
28	.1405	1-3/4	2-7/8	1012-028	1.00
29	.1360	1-3/4	2-7/8	1012-029	1.00
30	.1285	1-5/8	2-3/4	1012-030	1.00
31	.1200	1-5/8	2-3/4	1012-031	1.00
32	.1160	1-5/8	2-3/4	1012-032	1.00
33	.1130	1-1/2	2-5/8	1012-033	1.00
34	.1110	1-1/2	2-5/8	1012-034	1.00
35	.1100	1-1/2	2-5/8	1012-035	1.00
36	.1065	1-7/16	2-1/2	1012-036	1.00
37	.1040	1-7/16	2-1/2	1012-037	1.00
38	.1015	1-7/16	2-1/2	1012-038	1.00
39	.0995	1-3/8	2-3/8	1012-039	1.00
40	.0980	1-3/8	2-3/8	1012-040	1.00
41	.0960	1-3/8	2-3/8	1012-041	1.00
42	.0935	1-1/4	2-1/4	1012-042	1.00
43	.0890	1-1/4	2-1/4	1012-043	1.00
44	.0860	1-1/8	2-1/8	1012-044	1.00
45	.0820	1-1/8	2-1/8	1012-045	1.00
46	.0810	1-1/8	2-1/8	1012-046	1.00
47	.0785	1	2	1012-047	1.00
48	.0760	1	2	1012-048	1.00
49	.0730	1	2	1012-049	1.00
50	.0700	1	2	1012-050	1.00
51	.0670	1	2	1012-051	1.00
52	.0635	7/8	1-7/8	1012-052	1.00
53	.0595	7/8	1-7/8	1012-053	1.15
54	.0550	7/8	1-7/8	1012-054	1.15
55	.0520	7/8	1-7/8	1012-055	1.15
56	.0465	3/4	1-3/4	1012-056	1.15
57	.0430	3/4	1-3/4	1012-057	1.15
58	.0420	11/16	1-5/8	1012-058	1.15
59	.0410	11/16	1-5/8	1012-059	1.15
60	.0400	11/16	1-5/8	1012-060	1.15

PACKAGE QUANTITIES: Wire Gage Sizes

1-100: 12 pcs.

# Left Hand Jobber Drills

## High Speed Steel – Fractional , Wire Gage, and Letter Sizes

2



### Fractional Sizes

Pittsburg ALLEGHANY®		ALLEGIANCE®				
DIA.	FLUTE LENGTH	OVERALL LENGTH	IMPORT ORDER NO..	PRICE EACH	USA ORDER NO..	PRICE EACH
1/64	3/16	3/4	-	-	1131-001	\$ 5.37
1/32	1/2	1-3/8	1130-002	\$ 2.62	1131-002	3.24
3/64	3/4	1-3/4	1130-003	1.72	1131-003	2.13
1/16	7/8	1-7/8	1130-004	1.72	1131-004	2.13
5/64	1	2	1130-005	1.72	1131-005	2.13
3/32	1-1/4	2-1/4	1130-006	1.78	1131-006	2.22
7/64	1-1/2	2-5/8	1130-007	1.86	1131-007	2.31
1/8	1-5/8	2-3/4	1130-008	1.86	1131-008	2.31
9/64	1-3/4	2-7/8	1130-009	1.92	1131-009	2.40
5/32	2	3-1/8	1130-010	2.16	1131-010	2.68
11/64	2-1/8	3-1/4	1130-011	2.44	1131-011	3.12
3/16	2-5/16	3-1/2	1130-012	2.70	1131-012	3.35
13/64	2-7/16	3-5/8	1130-013	2.70	1131-013	3.46
7/32	2-1/2	3-3/4	1130-014	2.70	1131-014	3.35
15/64	2-5/8	3-7/8	1130-015	3.72	1131-015	4.80
1/4	2-3/4	4	1130-016	3.72	1131-016	4.62
17/64	2-7/8	4-1/8	1130-017	3.96	1131-017	5.08
9/32	2-15/16	4-1/4	1130-018	4.08	1131-018	5.06
19/64	3-1/16	4-3/8	1130-019	4.48	1131-019	5.74
5/16	3-3/16	4-1/2	1130-020	4.78	1131-020	5.90
21/64	3-5/16	4-5/8	1130-021	5.14	1131-021	6.67
11/32	3-7/16	4-3/4	1130-022	5.88	1131-022	7.27
23/64	3-1/2	4-7/8	1130-023	6.84	1131-023	8.78
3/8	3-5/8	5	1130-024	7.20	1131-024	8.89
25/64	3-3/4	5-1/8	1130-025	7.90	1131-025	10.10
13/32	3-7/8	5-1/4	1130-026	8.20	1131-026	10.12
27/64	3-15/16	5-3/8	1130-027	9.24	1131-027	11.83
7/16	4-1/16	5-1/2	1130-028	9.66	1131-028	11.92
29/64	4-3/16	5-5/8	1130-029	11.02	1131-029	14.10
15/32	4-5/16	5-3/4	1130-030	11.70	1131-030	14.46
31/64	4-3/8	5-7/8	1130-031	12.36	1131-031	15.84
1/2	4-1/2	6	1130-032	12.36	1131-032	15.27

### Wire Gage Sizes

Pittsburg ALLEGHANY®		ALLEGIANCE®				
SIZES	FLUTE LENGTH	OVERALL LENGTH	IMPORT ORDER NO..	PRICE EACH	USA ORDER NO..	PRICE EACH
1	2-5/8	3-7/8	1140-001	\$3.30	1141-001	\$4.31
2	2-5/8	3-7/8	1140-002	3.30	1141-002	4.31
3	2-1/2	3-3/4	1140-003	3.10	1141-003	4.06
4	2-1/2	3-3/4	1140-004	3.10	1141-004	4.06
5	2-1/2	3-3/4	1140-005	3.10	1141-005	4.06
6	2-1/2	3-3/4	1140-006	3.10	1141-006	4.06
7	2-7/16	3-5/8	1140-007	2.62	1141-007	3.42
8	2-7/16	3-5/8	1140-008	2.62	1141-008	3.42
9	2-7/16	3-5/8	1140-009	2.62	1141-009	3.42
10	2-7/16	3-5/8	1140-010	2.62	1141-010	3.42
11	2-5/16	3-1/2	1140-011	2.50	1141-011	3.29
12	2-5/16	3-1/2	1140-012	2.50	1141-012	3.29
13	2-5/16	3-1/2	1140-013	2.32	1141-013	3.05
14	2-3/16	3-3/8	1140-014	2.32	1141-014	3.05
15	2-3/16	3-3/8	1140-015	2.32	1141-015	3.05
16	2-3/16	3-3/8	1140-016	2.32	1141-016	3.05
17	2-3/16	3-3/8	1141-017	2.32	1141-017	3.05
18	2-1/8	3-1/4	1140-018	2.04	1141-018	2.68
19	2-1/8	3-1/4	1140-019	2.04	1141-019	2.68
20	2-1/8	3-1/4	1140-020	2.04	1141-020	2.68
21	2-1/8	3-1/4	1140-021	1.92	1141-021	2.55
22	2	3-1/8	1140-022	1.92	1141-022	2.55
23	2	3-1/8	1140-023	1.86	1141-023	2.45
24	2	3-1/8	1140-024	1.86	1141-024	2.45
25	1-7/8	3	1140-025	1.78	1141-025	2.35
26	1-7/8	3	1140-026	1.78	1141-026	2.35
27	1-7/8	3	1140-027	1.78	1141-027	2.35
28	1-3/4	2-7/8	1140-028	1.60	1141-028	2.08
29	1-3/4	2-7/8	1140-029	1.60	1141-029	2.08
30	1-3/4	2-7/8	1140-030	1.60	1141-030	2.08
31	1-5/8	2-3/4	1140-031	1.60	1141-031	2.08
32	1-5/8	2-3/4	1140-032	1.60	1141-032	2.08
33	1-1/2	2-5/8	1140-033	1.60	1141-033	2.08
34	1-1/2	2-5/8	1140-034	1.60	1141-034	2.08
35	1-1/2	2-5/8	1140-035	1.60	1141-035	2.08
36	1-7/16	2-1/2	1140-036	1.60	1141-036	2.08
37	1-7/16	2-1/2	1140-037	1.60	1141-037	2.08
38	1-7/16	2-1/2	1140-038	1.60	1141-038	2.08
39	1-3/8	2-3/8	1140-039	1.60	1141-039	2.08
40	1-3/8	2-3/8	1140-040	1.60	1141-040	2.08
41	1-3/8	2-3/8	1140-041	1.60	1141-041	2.08
42	1-1/4	2-1/4	1140-042	1.60	1141-042	2.08
43	1-1/4	2-1/4	1140-043	1.60	1141-043	2.08
44	1-1/8	2-1/8	1140-044	1.60	1141-044	2.08
45	1-1/8	2-1/8	1140-045	1.60	1141-045	2.08
46	1-1/8	2-1/8	1140-046	1.60	1141-046	2.08
47	1	2	1140-047	1.60	1141-047	2.08
48	1	2	1140-048	1.60	1141-048	2.08
49	1	2	1140-049	1.60	1141-049	2.08
50	1	2	1140-050	1.60	1141-050	2.08
51	1	2	1140-051	1.62	1141-051	2.13
52	7/8	1-7/8	1140-052	1.62	1141-052	2.13
53	7/8	1-7/8	1140-053	1.62	1141-053	2.13
54	7/8	1-7/8	1140-054	1.62	1141-054	2.13
55	7/8	1-7/8	1140-055	1.62	1141-055	2.13
56	3/4	1-3/4	1140-056	1.62	1141-056	2.13
57	3/4	1-3/4	1140-057	1.62	1141-057	2.13
58	11/16	1-5/8	1140-058	1.62	1141-058	2.13
59	11/16	1-5/8	1140-059	1.62	1141-059	2.13
60	11/16	1-5/8	1140-060	1.62	1141-060	2.13
61	11/16	1-5/8	1140-061†	3.00	-	-
62	5/8	1-1/2	1140-062†	3.00	-	-
63	5/8	1-1/2	1140-063†	3.00	-	-
64	5/8	1-1/2	1140-064†	3.00	-	-
65	5/8	1-1/2	1140-065†	3.00	-	-
66	1/2	1-3/8	1140-066†	3.00	-	-
67	1/2	1-3/8	1140-067†	3.00	-	-
68	1/2	1-3/8	1140-068†	3.00	-	-
69	1/2	1-3/8	1140-069†	3.20	-	-
70	3/8	1-1/4	1140-070†	3.20	-	-

WIRE GAGE SIZES #71 - #80  
MOST SIZES AVAILABLE IN STOCK

### Letter Sizes

Pittsburg ALLEGHANY®		ALLEGIANCE®				
SIZES	FLUTE LENGTH	OVERALL LENGTH	IMPORT ORDER NO..	PRICE EACH	USA ORDER NO..	PRICE EACH
A	2-5/8	3-7/8	1150-001	\$4.20	1151-001	\$ 5.81
B	2-3/4	4	1150-002	3.88	1151-002	5.81
C	2-3/4	4	1150-003	3.88	1151-003	5.81
D	2-3/4	4	1150-004	3.88	1151-004	5.81
E	2-3/4	4	1150-005	3.60	1151-005	5.08
F	2-7/8	4-1/8	1150-006	3.84	1151-006	6.24
G	2-7/8	4-1/8	1150-007	4.24	1151-007	6.24
H	2-7/8	4-1/8	1150-008	4.24	1151-008	6.24
I	2-7/8	4-1/8	1150-009	4.24	1151-009	6.24
J	2-7/8	4-1/8	1150-010	4.56	1151-010	6.24
K	2-15/16	4-1/4	1150-011	4.74	1151-011	6.24
L	2-15/16	4-1/4	1150-012	4.74	1151-012	6.24
M	3-1/16	4-3/8	1150-013	4.80	1151-013	7.07
N	3-1/16	4-3/8	1150-014	4.80	1151-014	7.26
O	3-3/16	4-1/2	1150-015	4.80	1151-015	8.11
P	3-5/16	4-5/8	1150-016	5.38	1151-016	8.96
Q	3-7/16	4-3/4	1150-017	5.52	1151-017	9.25
R	3-7/16	4-3/4	1150-018	5.92	1151-018	9.25
S	3-1/2	4-7/8	1150-019	6.48	1151-019	10.84
T	3-1/2	4-7/8	1150-020	7.36	1151-020	10.95
U	3-5/8	5	1150-021	7.48	1151-021	11.40
V	3-5/8	5	1150-022	7.48	1151-022	12.43
W	3-3/4	5-1/8	1150-023	7.68	1151-023	12.64
X	3-3/4	5-1/8	1150-024	9.40	1151-024	12.64
Y	3-7/8	5-1/4	1150-025	10.56	1151-025	13.28
Z	3-7/8	5-1/4	1150-026	11.44	1151-026	14.57



# Specialty Drills

## Mechanics Length Drills

### High Speed Steel — 3 Flats On Shank

- Flats on shank give positive grip in chucks
- Reduced overall length provides rigidity
- Gold surface treated for max. lubricity
- Self-centering 135° split point



PACKAGE QUANTITIES: Fractional Sizes  
 1/64–19/64: 12 pcs. 5/16–1/2: 6 pcs. 33/64–11/16: 1 pcs.



DIAM.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/16	7/8	1-7/8	1211-404	\$0.80
5/64	1	2	1211-405	0.80
3/32	1-1/4	2-1/4	1211-406	0.80
7/64	1-5/16	2-3/8	1211-407	0.80
1/8	1-7/16	2-1/2	1211-408	0.95
9/64	1-9/16	2-5/8	1211-409	0.95
5/32	1-11/16	2-3/4	1211-410	1.05
11/64	1-13/16	2-7/8	1211-411	1.10
3/16	1-7/8	3	1211-412	1.35
13/64	1-15/16	3-1/8	1211-413	1.45
7/32	2	3-1/4	1211-414	1.50
15/64	2-1/16	3-3/8	1211-415	1.65
1/4	2	3-1/2	1211-416	1.85

DIAM.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
17/64	2-1/8	3-5/8	1211-417	\$2.25
9/32	2-1/4	3-3/4	1211-418	2.30
19/64	2-3/8	3-7/8	1211-419	2.55
5/16	2-1/2	4	1211-420	2.70
21/64	2-9/16	4-1/16	1211-421	3.05
11/32	2-5/8	4-1/8	1211-422	3.45
23/64	2-11/16	4-3/16	1211-423	3.85
3/8	2-11/16	4-1/4	1211-424	3.95
25/64	2-3/4	4-5/16	1211-425	4.50
13/32	2-13/16	4-3/8	1211-426	4.65
27/64	2-7/8	4-7/16	1211-427	5.15
7/16	2-15/16	4-1/2	1211-428	5.35
29/64	3	4-5/8	1211-429	5.95

DIAM.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
15/32	3-1/8	4-3/4	1211-430	\$6.30
31/64	3-1/4	4-7/8	1211-431	6.75
1/2	3-3/8	5	1211-432	6.85
<b>3/8" SHANK</b>				
27/64	2-7/8	4-7/16	1211-527	6.65
7/16	2-15/16	4-1/2	1211-528	6.85
29/64	3	4-5/8	1211-529	7.55
15/32	3-1/8	4-3/4	1211-530	7.95
31/34	3-1/4	4-7/8	1211-531	8.35
1/2	3-3/8	5	1211-532	8.45

## Mechanics Length Drill Bits

### Left Hand — Cobalt



- 8% Cobalt alloyed for higher heat and abrasion resistance
- Shorter drill for additional strength
- Heavy-duty web construction for strength and durability

#### Applications:

Tough metal drilling, made for drilling into hardened steel bolts for creating pilot holes for screw extractors

Finish: Gold Oxide

Tip Geometry: 135° Split Point

SIZE	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
5/64	1	2	1211-605	\$ 3.20
7/64	1-5-16	2-3/8	1211-607	3.41
1/8	1-7/16	2-1/2	1211-608	4.15
5/32	1-11/16	2-3/4	1211-610	4.69
3/16	1-7/8	3	1211-612	5.30
7/32	2	3-1/4	1211-614	7.43
1/4	2	3-1/2	1211-616	8.58
9/32	2	3-9/16	1211-618	9.86
19/64	2-1/16	3-5/8	1211-619	10.19
5/16	2-1/8	3-3/4	1211-620	11.03
11/32	2-1/4	3-15/16	1211-622	11.30
3/8	2-3/8	4-1/8	1211-624	13.42
13/32	2-1/2	4-3/8	1211-626	15.54
7/16	2-5/8	4-9/16	1211-628	18.35
15/32	2-3/4	4-3/4	1211-630	20.48
1/2	2-7/8	5	1211-632	22.62

## TURBOMAX® HSS Fractional—Straight Shank Jobbers Length Drill Bits



DIAM.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/16	7/8	1-7/8	1073-104	\$ 0.95
5/64	1	2	1073-105	0.95
3/32	1-1/8	2-1/4	1073-106	0.99
7/64	1-1/2	2-5/8	1073-107	0.99
1/8	1-5/8	2-3/4	1073-108	1.51
9/64	1-3/4	2-7/8	1073-109	1.64
5/32	2	3-1/8	1073-110	1.72
11/64	2-1/8	3-1/4	1073-111	2.02
3/16	2-5/16	3-1/2	1073-112	2.21
13/64	2-7/16	3-5/8	1073-113	2.63
7/32	2-1/2	3-3/4	1073-114	2.65
15/64	2-5/8	3-7/8	1073-115	3.01
1/4	2-3/4	4	1073-116	3.27
17/64	2-7/8	4-1/8	1073-117	4.13
9/32	2-15/16	4-1/4	1073-118	4.59
19/64	3-1/16	4-3/8	1073-119	5.17
5/16	3-3/16	4-1/2	1073-120	5.37
21/64	3-5/16	4-5/8	1073-121	5.98
11/32	3-7/16	4-3/4	1073-122	6.36
23/64	3-1/2	4-7/8	1073-123	7.23
3/8	3-5/8	5	1073-124	7.49
25/64	3-3/4	5-1/8	1073-125	9.06
13/32	3-7/8	5-1/4	1073-126	9.18
27/64	3-15/16	5-3/8	1073-127	10.91
7/16	4-1/16	5-1/2	1073-128	11.03
29/64	4-3/16	5-5/8	1073-129	12.33
15/32	4-5/16	5-3/4	1073-130	12.35
31/64	4-3/8	5-7/8	1073-131	14.21
1/2	4-1/2	6	1073-132	14.24
<b>3/8" SHANK</b>				
25/64	3-3/4	5-1/8	1073-625	9.40
13/32	3-7/8	5-1/4	1073-626	9.52
27/64	3-15/16	5-3/8	1073-627	11.34
7/16	4-1/16	5-1/2	1073-628	11.46
29/64	4-3/16	5-5/8	1073-629	12.83
15/32	4-5/16	5-3/4	1073-630	12.83
31/64	4-3/8	5-7/8	1073-631	14.80
1/2	4-1/2	6	1073-632	14.87

Finish:  
Black Oxide/Gold Oxide

Tip Geometry: JET POINT®

- High speed steel features a black body and gold flute
- Three flatted shank on 3/16" and above for better chuck grip
- Self-centering (won't "walk")
- Precision ground to stay sharp longer & drill faster
- For portable drills
- For harder materials
- Requires less force than 118°



## IRWIN Speedbor 6" Length



- Application: For use on wood
- Blue-Groove point and cutting edge for faster chip removal - 4x faster than standard spade bits
- Double cutting spurs scribe the outside of the hole reducing breakout
- 10% larger shank for added durability
- Grooved hex shank prevents slipping in drill chuck or bit extension
- Fits all standard quick change chucks

LENGTH	ORDER NO.	PRICE EACH
3/8"	1073-724	\$3.44
7/16"	1073-728	3.44
1/2"	1073-732	3.44
9/16"	1073-736	3.61
5/8"	1073-740	3.79
11/16"	1073-744	3.79
3/4"	1073-748	3.79
13/16"	1073-752	3.97
7/8"	1073-756	3.97
15/16"	1073-760	4.19
1"	1073-764	4.19
1-1/8"	1073-772	6.06
1-1/4"	1073-780	6.06



# Jobbers Length Parabolic Drills

2

**High Speed Steel, Cobalt, TiAlN — 130° Notch Thinned or Split Point**  
 Fractional Sizes



Pittsburgh ALLEGANY			BROOKE					
HIGH SPEED STEEL			COBALT		COBALT TiAlN COATED			
FRAC. SIZES	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	7/8	1-7/8	1705-004	\$ 1.35	1705-304	\$ 3.13	1705-604	\$ 6.14
5/64	1	2	1705-005	1.35	1705-305	3.31	1705-605	6.14
3/32	1-1/4	2-1/4	1705-006	1.35	1705-306	3.41	1705-606	5.59
7/64	1-1/2	2-5/8	1705-007	1.50	1705-307	3.73	1705-607	5.59
1/8	1-5/8	2-3/4	1705-008	1.50	1705-308	3.88	1705-608	6.31
9/64	1-3/4	2-7/8	1705-009	1.55	1705-309	4.41	1705-609	6.31
5/32	2	3-1/8	1705-010	1.60	1705-310	4.62	1705-610	6.70
11/64	2-1/8	3-1/4	1705-011	1.80	1705-311	5.07	1705-611	6.67
3/16	2-5/16	3-1/2	1705-012	1.90	1705-312	5.49	1705-612	7.57
13/64	2-7/16	3-5/8	1705-013	2.20	1705-313	5.60	1705-613	8.34
7/32	2-1/2	3-3/4	1705-014	2.40	1705-314	6.60	1705-614	10.76
15/64	2-5/8	3-7/8	1705-015	2.70	1705-315	6.97	1705-615	11.13
1/4	2-3/4	4	1705-016	2.80	1705-316	7.95	1705-616	15.75
17/64	2-7/8	4-1/8	1705-017	3.35	1705-317	8.70	1705-617	16.85
9/32	2-15/16	4-1/4	1705-018	3.35	1705-318	9.41	1705-618	17.26
19/64	3-1/16	4-3/8	1705-019	4.00	1705-319	10.45	1705-619	20.50
5/16	3-3/16	4-1/2	1705-020	4.30	1705-320	10.45	1705-620	18.56
21/64	3-5/16	4-5/8	1705-021	4.90	1705-321	11.21	1705-621	17.83
11/32	3-7/16	4-3/4	1705-022	5.35	1705-322	14.15	1705-622	18.77
23/64	3-1/2	4-7/8	1705-023	6.25	1705-323	13.57	1705-623	20.27
3/8	3-5/8	5	1705-024	6.10	1705-324	15.08	1705-624	22.00
25/64	3-3/4	5-1/8	1705-025	7.15	1705-325	14.99	1705-625	22.00
13/32	3-7/8	5-1/4	1705-026	7.15	1705-326	17.63	1705-626	29.13
27/64	3-15/16	5-3/8	1705-027	8.20	1705-327	17.81	1705-627	29.13
7/16	4-1/16	5-1/2	1705-028	8.20	1705-328	18.29	1705-628	30.81
29/64	4-3/16	5-5/8	1705-029	9.65	1705-329	22.99	1705-629	31.74
15/32	4-5/16	5-3/4	1705-030	9.90	1705-330	21.26	1705-630	33.89
31/64	4-3/8	5-7/8	1705-031	10.75	1705-331	26.15	1705-631	37.05
1/2	4-1/2	6	1705-032	10.40	1705-332	26.52	1705-632	39.44
33/64	4-13/16	6-5/8	-	-	1705-333	28.02	1705-633	38.73
17/32	4-13/16	6-5/8	-	-	1705-334	29.21	1705-634	38.73
35/64	4-13/16	6-5/8	-	-	1705-335	30.88	1705-635	38.73
9/16	4-13/16	6-5/8	-	-	1705-336	45.26	1705-636	55.64
37/64	4-13/16	6-5/8	-	-	1705-337	45.26	1705-637	55.64
19/32	5-3/16	7-1/8	-	-	1705-338	46.24	1705-638	64.66
39/64	5-3/16	7-1/8	-	-	1705-339	55.57	1705-639	65.97
5/8	5-3/16	7-1/8	-	-	1705-340	55.24	1705-640	65.64

## Wire Gage Sizes

Pittsburgh ALLEGANY		BROOKE					
HIGH SPEED STEEL		COBALT		COBALT TiAlN COATED			
DIA.	DECIMAL EQUIV.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	.2280	1705-101	\$2.95	1705-401	\$ 7.22	1705-701	\$ 11.49
2	.2210	1705-102	2.95	1705-402	7.22	1705-702	11.49
3	.2130	1705-103	2.65	1705-403	6.48	1705-703	10.89
4	.2090	1705-104	2.65	1705-404	6.48	1705-704	10.70
5	.2055	1705-105	2.65	1705-405	6.48	1705-705	9.92
6	.2040	1705-106	2.65	1705-406	6.48	1705-706	9.92
7	.2010	1705-107	2.35	1705-407	6.48	1705-707	8.53
8	.1990	1705-108	2.35	1705-408	6.48	1705-708	8.53
9	.1960	1705-109	2.35	1705-409	5.51	1705-709	7.59
10	.1935	1705-110	2.35	1705-410	5.51	1705-710	7.59
11	.1910	1705-111	2.20	1705-411	5.51	1705-711	7.59
12	.1890	1705-112	2.20	1705-412	5.51	1705-712	7.59
13	.1850	1705-113	2.15	1705-413	5.23	1705-713	7.31
14	.1820	1705-114	2.15	1705-414	5.23	1705-714	7.31
15	.1800	1705-115	2.15	1705-415	5.07	1705-715	7.15
16	.1770	1705-116	2.15	1705-416	5.10	1705-716	7.16
17	.1730	1705-117	2.15	1705-417	5.07	1705-717	7.15
18	.1695	1705-118	1.75	1705-418	5.07	1705-718	9.23
19	.1660	1705-119	1.75	1705-419	4.76	1705-719	6.84
20	.1610	1705-120	1.75	1705-420	4.76	1705-720	6.84
21	.1590	1705-121	1.65	1705-421	4.90	1705-721	6.84
22	.1570	1705-122	1.65	1705-422	4.71	1705-722	6.79
23	.1540	1705-123	1.60	1705-423	4.71	1705-723	6.79
24	.1520	1705-124	1.60	1705-424	4.66	1705-724	6.74
25	.1495	1705-125	1.60	1705-425	4.66	1705-725	6.74
26	.1470	1705-126	1.60	1705-426	4.50	1705-726	6.58
27	.1440	1705-127	1.60	1705-427	4.50	1705-727	6.58
28	.1405	1705-128	1.45	1705-428	4.50	1705-728	6.31
29	.1360	1705-129	1.45	1705-429	4.37	1705-729	6.45
30	.1285	1705-130	1.45	1705-430	4.00	1705-730	5.59

Pittsburgh ALLEGANY		BROOKE					
HIGH SPEED STEEL		COBALT		COBALT TiAlN COATED			
DIA.	DECIMAL EQUIV.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
31	.1200	1705-131	\$ 1.45	1705-431	\$ 3.96	1705-731	\$ 6.04
32	.1160	1705-132	1.45	1705-432	3.79	1705-732	5.59
33	.1130	1705-133	1.45	1705-433	3.75	1705-733	5.59
34	.1110	1705-134	1.45	1705-434	3.75	1705-734	5.59
35	.1100	1705-135	1.45	1705-435	3.75	1705-735	5.59
36	.1065	1705-136	1.45	1705-436	3.91	1705-736	5.59
37	.1040	1705-137	1.45	1705-437	4.11	1705-737	5.59
38	.1015	1705-138	1.45	1705-438	3.96	1705-738	5.59
39	.0995	1705-139	1.45	1705-439	3.96	1705-739	5.59
40	.0980	1705-140	1.45	1705-440	3.80	1705-740	5.59
41	.0960	1705-141	1.45	1705-441	3.80	1705-741	5.59
42	.0935	1705-142	1.45	1705-442	3.80	1705-742	5.59
43	.0890	1705-143	1.45	1705-443	3.48	1705-743	5.59
44	.0860	1705-144	1.45	1705-444	3.56	1705-744	5.59
45	.0820	1705-145	1.45	1705-445	3.45	1705-745	5.59
46	.0810	1705-146	1.45	1705-446	3.45	1705-746	5.59
47	.0785	1705-147	1.45	1705-447	3.38	1705-747	5.59
48	.0760	1705-148	1.45	1705-448	3.38	1705-748	5.59
49	.0730	1705-149	1.45	1705-449	3.11	1705-749	5.59
50	.0700	1705-150	1.45	1705-450	3.11	1705-750	5.59
51	.0670	1705-151	1.45	1705-451	2.99	1705-751	5.59
52	.0635	1705-152	1.45	1705-452	3.09	1705-752	5.59
53	.0595	-	-	1705-453	3.32	1705-753	5.59
54	.0550	-	-	1705-454	3.09	1705-754	5.59
55	.0520	-	-	1705-455	3.09	1705-755	5.59
56	.0465	-	-	1705-456	3.09	1705-756	5.59
57	.0430	-	-	1705-457	3.09	1705-757	5.59
58	.0420	-	-	1705-458	3.09	1705-758	5.59
59	.0410	-	-	1705-459	3.35	1705-759	5.59
60	.0400	-	-	1705-460	3.09	1705-760	5.59

# Jobbers Length Drills— Carbide Tipped

## Straight Shank

2



### Fractional Sizes

				Pittsburg® ALLEGHANY				ROCK RIVER TOOL®			
DIA.	DECM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	.1250	1-5/8	2-3/4	2990-008	\$ 8.49	2990-308	\$ 10.75				
9/64	.1406	1-3/4	2-7/8	2990-009	9.16	2990-309	11.60				
5/32	.1562	2	3-1/8	2990-010	9.01	2990-310	11.40				
11/64	.1719	2-1/8	3-1/4	2990-011	9.84	2990-311	12.45				
3/16	.1875	2-5/16	3-1/2	2990-012	9.56	2990-312	12.10				
13/64	.2031	2-7/16	3-5/8	2990-013	10.51	2990-313	13.30				
7/32	.2187	2-1/2	3-3/4	2990-014	10.51	2990-314	13.30				
15/64	.2344	2-5/8	3-7/8	2990-015	11.30	2990-315	14.30				
1/4	.2500	2-3/4	4	2990-016	11.30	2990-316	14.30				
17/64	.2656	2-7/8	4-1/8	2990-017	12.56	2990-317	15.90				
9/32	.2812	2-15/16	4-1/4	2990-018	13.31	2990-318	16.85				
19/64	.2969	3-1/16	4-3/8	2990-019	14.73	2990-319	18.65				
5/16	.3125	3-3/16	4-1/2	2990-020	14.42	2990-320	18.25				
21/64	.3281	3-5/16	4-5/8	2990-021	15.29	2990-321	19.35				
11/32	.3437	3-7/16	4-3/4	2990-022	15.29	2990-322	19.35				
23/64	.3594	3-1/2	4-7/8	2990-023	16.27	2990-323	20.60				
3/8	.3750	3-5/8	5	2990-024	16.27	2990-324	20.60				
25/64	.3906	3-3/4	5-1/8	2990-025	17.70	2990-325	22.40				
13/32	.4062	3-7/8	5-1/4	2990-026	17.70	2990-326	22.40				
27/64	.4219	3-15/16	5-3/8	2990-027	19.28	2990-327	24.40				
7/16	.4375	4-1/16	5-1/2	2990-028	19.28	2990-328	24.40				
29/64	.4531	4-3/16	5-5/8	2990-029	22.12	2990-329	28.00				
15/32	.4687	4-5/16	5-3/4	2990-030	21.65	2990-330	27.40				
31/64	.4844	4-3/8	5-7/8	2990-031	24.21	2990-331	30.65				
1/2	.5000	4-1/2	6	2990-032	26.62	2990-332	33.70				

### Wire Gage Sizes

DIA.	DECM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	METRIC
1	.2280	2-5/8	3-7/8	2990-101	\$13.60	
2	.2210	2-5/8	3-7/8	2990-102	13.85	
3	.2130	2-1/2	3-3/4	2990-103	13.30	
4	.2090	2-1/2	3-3/4	2990-104	13.15	
5	.2055	2-1/2	3-3/4	2990-105	13.30	
6	.2040	2-1/2	3-3/4	2990-106	13.15	
7	.2010	2-7/16	3-5/8	2990-107	12.90	
8	.1990	2-7/16	3-5/8	2990-108	12.90	
9	.1960	2-7/16	3-5/8	2990-109	12.90	
10	.1935	2-7/16	3-5/8	2990-110	12.65	
11	.1910	2-5/16	3-1/2	2990-111	12.90	
12	.1890	2-5/16	3-1/2	2990-112	13.95	
13	.1850	2-5/16	3-1/2	2990-113	13.35	
14	.1820	2-3/16	3-3/8	2990-114	12.10	
15	.1800	2-3/16	3-3/8	2990-115	12.65	
16	.1770	2-3/16	3-3/8	2990-116	12.10	
17	.1730	2-3/16	3-3/8	2990-117	12.45	
18	.1695	2-1/8	3-1/4	2990-118	12.45	
19	.1660	2-1/8	3-1/4	2990-119	12.45	
20	.1610	2-1/8	3-1/4	2990-120	12.45	
21	.1590	2-1/8	3-1/4	2990-121	12.10	
22	.1570	2	3-1/8	2990-122	12.65	
23	.1540	2	3-1/8	2990-123	11.45	
24	.1520	2	3-1/8	2990-124	11.75	
25	.1495	1-7/8	3	2990-125	10.90	
26	.1470	1-7/8	3	2990-126	10.90	
27	.1440	1-7/8	3	2990-127	11.75	
28	.1405	1-3/4	2-7/8	2990-128	11.45	
29	.1360	1-3/4	2-7/8	2990-129	11.35	
30	.1285	1-5/8	2-3/4	2990-130	10.95	
31	.1200	1-5/8	2-3/4	2990-131	10.45	
32	.1160	1-5/8	2-3/4	2990-132	11.60	

**CARBIDE TIPPED  
— METRIC —  
JOBBERS LENGTH  
DRILLS**

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## Die Drills



### Carbide Tipped



DIA.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
3/16	1-1/2	3-1/2	2991-012	\$22.30
13/64	1-3/4	3-3/4	2991-013	22.30
7/32	1-3/4	3-3/4	2991-014	23.00
15/64	2	4	2991-015	23.75
1/4	2	4	2991-016	23.75
17/64	2-1/4	4-1/4	2991-017	25.10
9/32	2-1/4	4-1/4	2991-018	25.10
19/64	2-1/2	4-1/2	2991-019	26.30
5/16	2-1/2	4-1/2	2991-020	26.30
21/64	2-3/4	4-3/4	2991-021	28.00
11/32	2-3/4	4-3/4	2991-022	28.00
23/64	3	5	2991-023	30.10
3/8	3	5	2991-024	30.10
25/64	3	5-1/4	2991-025	33.95
13/32	3	5-1/4	2991-026	35.25
27/64	3	5-1/2	2991-027	38.05
7/16	3	5-1/2	2991-028	40.90
29/64	3-1/4	5-3/4	2991-029	42.90
15/32	3-1/4	5-3/4	2991-030	44.90
31/64	3-1/2	6	2991-031	54.50
1/2	3-1/2	6	2991-032	52.70
17/32	3-1/2	6	2991-034	60.40
9/16	3-1/2	6	2991-036	62.50
19/32	4	7	2991-038	66.15
5/8	4	7	2991-040	68.15
21/32	4-1/2	7-1/2	2991-042	72.95
11/16	4-1/2	7-1/2	2991-044	74.90
23/32	4-3/4	8	2991-046	78.50
3/4	4-3/4	8	2991-048	80.60

### Solid Carbide

• For work hardened and abrasive materials, such as stainless steel and heat treated alloys • 140° notched Drill Point

DIA.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/32	1/2	1-1/2	2962-002	\$ 8.75
3/64	3/8	1-1/2	2962-003	8.75
1/16	3/8	1-1/2	2962-004	8.25
5/64	11/16	1-11/16	2962-005	8.25
3/32	3/4	1-3/4	2962-006	8.60
7/64	13/16	1-13/16	2962-007	9.30
1/8	7/8	1-7/8	2962-008	9.75
9/64	15/16	1-15/16	2962-009	10.55
5/32	1	2-1/16	2962-010	11.55
11/64	1-1/16	2-1/8	2962-011	13.05
3/16	1-1/8	2-3/16	2962-012	14.10
13/64	1-3/16	2-1/4	2962-013	15.65
7/32	1-1/4	2-3/8	2962-014	16.15
15/64	1-5/16	2-7/16	2962-015	19.45
1/4	1-3/8	2-1/2	2962-016	18.10
17/64	1-7/16	2-5/8	2962-017	21.90
9/32	1-1/2	2-11/16	2962-018	22.85
19/64	1-9/16	2-3/4	2962-019	24.70
5/16	1-5/8	2-13/16	2962-020	24.85
21/64	1-11/16	2-15/16	2962-021	25.60
11/32	1-11/16	3	2962-022	29.75
23/64	1-3/4	3-1/16	2962-023	31.75
3/8	1-13/16	3-1/8	2962-024	35.35
25/64	1-7/8	3-1/4	2962-025	38.05
13/32	1-15/16	3-5/16	2962-026	44.30
27/64	2	3-3/8	2962-027	48.25
7/16	2-1/16	3-7/16	2962-028	52.90
29/64	2-1/8	3-9/16	2962-029	58.15
15/32	2-1/8	3-5/8	2962-030	59.60
31/64	2-3/16	3-11/16	2962-031	60.20
1/2	2-1/4	3-3/4	2962-032	63.95

### Letter Sizes

SIZES	DECM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
A	.2340	2-5/8	3-7/8	2990-201	\$15.05
B	.2380	2-3/4	4	2990-202	15.05
C	.2420	2-3/4	4	2990-203	15.05
D	.2460	2-3/4	4	2990-204	14.70
E	.2500	2-3/4	4	2990-205	14.30
F	.2570	2-7/8	4-1/8	2990-206	16.90
G	.2610	2-7/8	4-1/8	2990-207	17.35
H	.2660	2-7/8	4-1/8	2990-208	17.70
I	.2720	2-7/8	4-1/8	2990-209	17.35
J	.2770	2-7/8	4-1/8	2990-210	17.70
K	.2810	2-15/16	4-1/4	2990-211	17.70
L	.2900	2-15/16	4-1/4	2990-212	17.70
M	.2950	3-1/16	4-3/8	2990-213	19.50
N	.3020	3-1/16	4-3/8	2990-214	19.05
O	.3160	3-3/16	4-1/2	2990-215	18.75
P	.3230	3-5/16	4-5/8	2990-216	20.00
Q	.3320	3-7/16	4-3/4	2990-217	20.40
R	.3390	3-7/16	4-3/4	2990-218	20.00
S	.3480	3-1/2	4-7/8	2990-219	21.50
T	.3580	3-1/2	4-7/8	2990-220	21.95
U	.3680	3-5/8	5	2990-221	21.10
V	.3770	3-5/8	5	2990-222	21.50
W	.3860	3-3/4	5-1/8	2990-223	23.65
X	.3970	3-3/4	5-1/8	2990-224	22.65
Y	.4040	3-7/8	5-1/4	2990-225	23.65
Z	.4130	3-7/8	5-1/4	2990-226	26.15

# Solid Carbide Jobbers Length Drills



## Fractional Sizes

SIZE	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/32	5/16	1-1/4	2960-002	\$ 8.65
3/64	3/4	1-1/2	2960-003	7.80
1/16	3/4	1-1/2	2960-004	7.50
5/64	7/8	1-3/4	2960-005	7.35
3/32	1	2	2960-006	6.95
7/64	1-1/4	2-1/4	2960-007	7.80
1/8	1-1/4	2-1/4	2960-008	8.10
9/64	1-3/8	2-1/2	2960-009	8.90
5/32	1-3/8	2-1/2	2960-010	9.80
11/64	1-5/8	2-3/4	2960-011	12.05
3/16	1-5/8	2-3/4	2960-012	11.85
13/64	1-3/4	3	2960-013	12.90
7/32	1-3/4	3	2960-014	15.25
15/64	2	3-1/4	2960-015	16.55
1/4	2	3-1/4	2960-016	18.50
17/64	2-1/8	3-1/2	2960-017	20.45
9/32	2-1/8	3-1/2	2960-018	22.30
19/64	2-3/8	3-3/4	2960-019	25.40
5/16	2-3/8	4	2960-020	25.65
21/64	2-1/2	4	2960-021	28.20
11/32	2-1/2	4	2960-022	29.60
23/64	2-1/2	4	2960-023	34.00
3/8	2-3/4	4-1/4	2960-024	34.40
25/64	2-7/8	4-1/2	2960-025	41.25
13/32	2-7/8	4-1/2	2960-026	44.60
27/64	2-7/8	4-1/2	2960-027	48.80
7/16	2-7/8	4-1/2	2960-028	52.15
29/64	3	4-3/4	2960-029	59.55
15/32	3	4-3/4	2960-030	60.55
31/64	3	4-3/4	2960-031	63.55
1/2	3	4-3/4	2960-032	63.40
17/32	4	6	2960-034	97.90
9/16	4	6	2960-036	108.10
19/32	4	6	2960-038	119.90
5/8	4	6	2960-040	125.55
21/32	4	6	2960-042	138.20
11/16	4	6	2960-044	142.55
3/4	4	6	2960-046	169.70
7/8	4	6	2960-056	199.10
1	4	6	2960-064	223.95

## Wire Gage Sizes

DIA.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1	11-3/4	3	2960-101	\$16.55
2	11-3/4	3	2960-102	16.55
3	1-3/4	3	2960-103	15.25
4	1-3/4	3	2960-104	15.25
5	1-3/4	3	2960-105	15.25
6	1-3/4	3	2960-106	15.25
7	1-3/4	3	2960-107	12.90
8	1-3/4	3	2960-108	12.90
9	1-3/4	3	2960-109	12.90
10	1-5/8	2-3/4	2960-110	12.90
11	1-5/8	2-3/4	2960-111	12.90
12	1-5/8	2-3/4	2960-112	12.90
13	1-5/8	2-3/4	2960-113	12.30
14	1-5/8	2-3/4	2960-114	12.30
15	1-5/8	2-3/4	2960-115	12.30
16	1-5/8	2-3/4	2960-116	12.30
17	1-5/8	2-3/4	2960-117	12.30
18	1-5/8	2-3/4	2960-118	12.05
19	1-5/8	2-3/4	2960-119	12.05
20	1-3/8	2-1/2	2960-120	12.05
21	1-3/8	2-1/2	2960-121	12.05
22	1-3/8	2-1/2	2960-122	12.05
23	1-3/8	2-1/2	2960-123	10.15
24	1-3/8	2-1/2	2960-124	10.15
25	1-3/8	2-1/2	2960-125	10.15
26	1-3/8	2-1/2	2960-126	10.15
27	1-3/8	2-1/2	2960-127	10.15
28	1-3/8	2-1/2	2960-128	8.90
29	1-3/8	2-1/2	2960-129	8.90
30	1-1/4	2-1/4	2960-130	8.90
31	1-1/4	2-1/4	2960-131	8.75
32	1-1/4	2-1/4	2960-132	8.75
33	1-1/4	2-1/4	2960-133	8.75
34	1-1/4	2-1/4	2960-134	8.75
35	1-1/4	2-1/4	2960-135	8.75
36	1-1/4	2-1/4	2960-136	8.30
37	1-1/4	2-1/4	2960-137	8.30
38	1-1/4	2-1/4	2960-138	8.30
39	1-1/4	2-1/4	2960-139	8.30
40	1	2	2960-140	8.30

## Wire Gage Sizes (Continued)

DIA.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
41	1	2	2960-141	\$8.30
42	1	2	2960-142	7.55
43	1	2	2960-143	7.55
44	1	2	2960-144	7.55
45	7/8	1-3/4	2960-145	7.55
46	7/8	1-3/4	2960-146	7.55
47	7/8	1-3/4	2960-147	7.55
48	7/8	1-3/4	2960-148	7.80
49	7/8	1-3/4	2960-149	7.80
50	7/8	1-3/4	2960-150	7.80
51	3/4	1-1/2	2960-151	7.80
52	3/4	1-1/2	2960-152	7.80
53	3/4	1-1/2	2960-153	7.95
54	3/4	1-1/2	2960-154	7.95
55	3/4	1-1/2	2960-155	7.95
56	3/4	1-1/2	2960-156	8.30
57	3/4	1-1/2	2960-157	8.30
58	3/4	1-1/2	2960-158	8.30
59	3/4	1-1/2	2960-159	8.30
60	3/4	1-1/2	2960-160	8.30
61	5/8	1-1/2	2960-161	8.70
62	5/8	1-1/2	2960-162	8.70
63	5/8	1-1/2	2960-163	8.70
64	5/8	1-1/2	2960-164	8.90
65	5/8	1-1/2	2960-165	8.90
66	1/2	1-1/2	2960-166	9.20
67	1/2	1-1/2	2960-167	9.20
68	1/2	1-1/2	2960-168	9.55
69	1/2	1-1/2	2960-169	9.55
70	1/2	1-1/2	2960-170	9.55
71	5/16	1	2960-171	13.10
72	5/16	1	2960-172	13.10
73	1/4	7/8	2960-173	13.60
74	1/4	7/8	2960-174	13.60
75	1/4	7/8	2960-175	13.60
76	1/4	7/8	2960-176	13.60
77	3/16	3/4	2960-177	13.60
78	3/16	3/4	2960-178	14.05

## Letter Sizes

SIZE	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
A	2	3-1/4	2960-201	\$16.55
B	2	3-1/4	2960-202	18.50
C	2	3-1/4	2960-203	18.50
D	2	3-1/4	2960-204	18.50
E	2	3-1/4	2960-205	18.50
F	2	3-1/4	2960-206	20.45
G	2-1/8	3-1/2	2960-207	20.45
H	2-1/8	3-1/2	2960-208	22.30
I	2-1/8	3-1/2	2960-209	22.30
J	2-1/8	3-1/2	2960-210	22.30
K	2-1/8	3-1/2	2960-211	22.30
L	2-1/8	3-1/2	2960-212	25.40
M	2-3/8	4	2960-213	25.40
N	2-3/8	4	2960-214	25.65
O	2-3/8	4	2960-215	28.20
P	2-3/8	4	2960-216	28.20
Q	2-1/2	4	2960-217	30.55
R	2-1/2	4	2960-218	30.55
S	2-1/2	4	2960-219	34.00
T	2-3/4	4-1/4	2960-220	34.00
U	2-3/4	4-1/4	2960-221	35.00
V	2-3/4	4-1/4	2960-222	41.25
W	2-7/8	4-1/2	2960-223	41.25
X	2-7/8	4-1/2	2960-224	45.10
Y	2-7/8	4-1/2	2960-225	45.10
Z	2-7/8	4-1/2	2960-226	48.80

## Metric Sizes

SIZE	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1.00	5/8	1-1/2	2961-010	\$ 9.35
1.50	3/4	1-1/2	2961-015	7.95
2.00	7/8	1-3/4	2961-020	7.20
2.50	1	2	2961-025	7.80
3.00	1-1/4	2-1/4	2961-030	8.25
3.50	1-3/8	2-1/2	2961-035	8.90
4.00	1-3/8	2-1/2	2961-040	12.05
4.50	1-5/8	2-3/4	2961-045	12.30
5.00	1-3/4	3	2961-050	12.90
5.50	1-3/4	3	2961-055	15.25
6.00	2	3-1/4	2961-060	18.50
6.50	2	3-1/4	2961-065	20.45
7.00	2-1/8	3-1/2	2961-070	22.30
7.50	2-3/8	4	2961-075	25.40
8.00	2-3/8	4	2961-080	28.20
8.50	2-1/2	4	2961-085	30.55
9.00	2-3/4	4-1/4	2961-090	34.00
9.50	2-3/4	4-1/4	2961-095	35.00
10.00	2-7/8	4-1/2	2961-100	45.10
10.50	2-7/8	4-1/2	2961-105	48.80
11.00	2-7/8	4-1/2	2961-110	52.15
11.50	3	4-3/4	2961-115	59.55
12.00	3	4-3/4	2961-120	63.55
12.50	3	4-3/4	2961-125	64.35

## Spade Drills

Solid Carbide



DIA.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/16	3/8	1-1/2	2963-004	\$7.50
3/32	7/16	1-1/2	2963-006	7.50
1/8	1/2	1-1/2	2963-008	7.20
5/32	9/16	1-1/2	2963-010	8.65
3/16	11/16	2	2963-012	9.70
7/32	11/16	2	2963-014	12.55
1/4	13/16	2	2963-016	13.75
9/32	7/8	2	2963-018	17.15
5/16	7/8	2-1/2	2963-020	19.60
11/32	15/16	2-1/2	2963-022	22.85
3/8	1-1/8	2-1/2	2963-024	22.95
13/32	1-1/8	2-1/2	2963-026	29.70
7/16	1-3/16	2-1/2	2963-028	27.45
15/32	1-3/16	2-1/2	2963-030	38.85
1/2	1/2	2-1/2	2963-032	34.20

# Drills

## NC Spotting Drills

Right Hand—High Speed Steel <sup>3</sup>



				KEO	
BODY DIA.	OVERALL LG'TH.	POINT ANGLE	FLUTE LG'TH.	ORDER NO.	PRICE EACH
1/4	2-1/2	90	3/4	1909-902	\$23.06
	2-1/2	120	3/4	1909-904	23.06
	4	90	3/4	1909-906	33.18
	4	120	3/4	1909-908	33.18
	6	90	3/4	1909-910	45.57
	6	120	3/4	1909-912	45.57
3/8	3-1/8	90	1-1/8	1909-914	24.89
	3-1/8	120	1-1/8	1909-916	24.89
	5	90	1-3/8	1909-918	35.37
	5	120	1-1/8	1909-920	35.37
	7	90	1-1/8	1909-922	49.01
	7	120	1-1/8	1909-924	49.01
1/2	3-3/4	90	1-3/8	1909-926	31.91
	3-3/4	120	1-3/8	1909-928	31.91
	6	90	1-3/8	1909-930	44.24
	6	120	1-3/8	1909-932	44.24
	8	90	1-3/8	1909-934	60.17
	8	120	1-3/8	1909-936	60.17
5/8	4-3/8	90	1-5/8	1909-938	41.53
	4-3/8	120	1-5/8	1909-940	41.53
	7	90	1-5/8	1909-942	55.91
	7	120	1-5/8	1909-943	55.91
	9	90	1-5/8	1909-944	77.30
	9	120	1-5/8	1909-946	77.30
3/4	5	90	1-7/8	1909-948	56.82
	5	120	1-7/8	1909-950	56.82
	8	90	1-7/8	1909-952	76.81
	8	120	1-7/8	1909-954	76.81
	10	90	1-7/8	1909-956	102.66
	10	120	1-7/8	1909-958	102.66
1	6	90	2-1/4	1909-960	97.74
	6	120	2-1/4	1909-962	97.74
	8	90	2-1/4	1909-964	104.04
	8	120	2-1/4	1909-966	104.04
	10	90	2-1/4	1909-968	128.04
	10	120	2-1/4	1909-970	128.04

## Center Drills

High Speed Steel <sup>4</sup>



Pittsburg ALLEGHANY					
DIAM.	DEC. EQUIV.	FLUTE L'GTH	OVERALL L'GTH	ORDER NO.	PRICE EACH
#40	.0890	13/16	1-1/4	1484-040	\$ 0.57
#30	.1285	13/16	1-1/4	1484-030	0.64
1/16	.0625	3/4	1-1/4	1480-004	0.58
5/64	.0781	3/4	1-1/4	1480-005	0.58
3/32	.0938	3/4	1-1/4	1480-006	0.58
7/64	.1094	3/4	1-1/4	1480-007	0.61
1/8	.1250	3/4	1-1/4	1480-008	0.69
9/64	.1406	3/4	1-1/4	1480-009	0.69
5/32	.1562	1	1-1/2	1480-010	0.80
11/64	.1719	1	1-1/2	1480-011	0.84
3/16	.1875	1	1-1/2	1480-012	0.96
13/64	.2031	1	1-1/2	1480-013	1.12
7/32	.2188	1	1-1/2	1480-014	1.19
1/4	.2500	1	1-1/2	1480-016	1.42
9/32	.2812	1	1-1/2	1480-018	1.92
5/16	.3125	1	1-1/2	1480-020	2.23



## Double End Drills

135° Split Point—High Speed Steel

SIZES



Pittsburg ALLEGHANY		ALLEGIANCE			
DIAM.	DEC. EQUIV.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7/64	.1094	—	—	1486-307	\$1.10
1/8	.1250	1486-008	\$0.80	1486-308	1.15
9/64	.1406	—	—	1486-309	1.20
5/32	.1562	—	—	1486-310	1.35
3/16	.1875	—	—	1486-312	1.75
7/32	.2188	—	—	1486-314	2.35
1/4	.2500	—	—	1486-316	2.50
11	.1910	—	—	1486-411	2.00
20	.1610	—	—	1486-420	1.60
30	.1285	1486-130	0.80	1486-430	1.15

## Spotting & Center Drills

High Speed Steel <sup>2</sup>



Left Hand Spiral



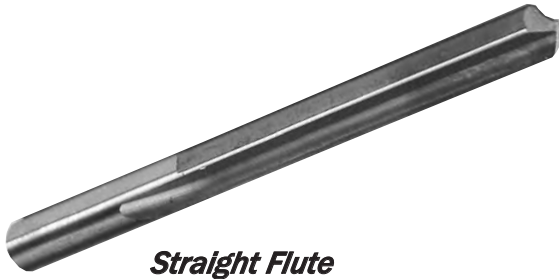
Right Hand Spiral

Pittsburg ALLEGHANY							
RIGHT HAND				LEFT HAND			
DIAM.	DEC. EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	.3750	1	2	1480-024	\$ 2.71	1481-024	\$ 5.70
7/16	.4375	1	2	1480-028	4.03	1481-028	8.45
1/2	.5000	1	2	1480-032	4.67	1481-032	9.81
5/8	.6250	1-1/8	2-1/4	1480-040	7.45	1481-040	15.64
3/4	.7500	1-1/8	2-1/4	1480-048	10.60	1481-048	22.25
7/8	.8750	1-1/4	2-1/2	1480-056	15.05	1481-056	31.59
1	1.000	1-1/4	2-1/2	1480-064	17.11	1481-064	35.94
1-1/4	1.250	2	4	1480-080	30.81	1481-080	64.71
1-1/2	1.500	2-1/2	5	1480-096	49.10	1481-096	103.11
1-3/4	1.750	2-3/4	5-1/2	1480-112	68.79	1481-112	144.46



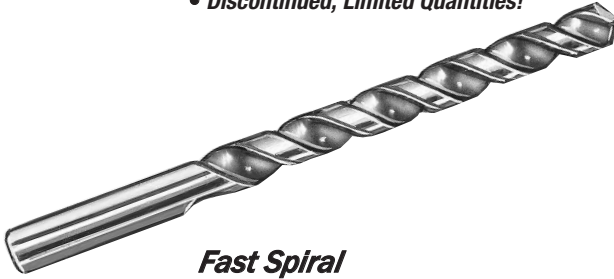
# Jobbers Length Drills— High Speed Steel

## Fast Spiral, & Straight Flute



**Straight Flute**

- For brass and non-ferrous materials
- Discontinued, Limited Quantities!



**Fast Spiral**

- For low tensile materials such as aluminum and other soft materials

**PACKAGE QUANTITIES: Fractional Sizes**  
 1/64–19/64: 12 pcs. 5/16–1/2: 6 pcs. 3/32–11/16: 1 pcs.

			Pittsburg® ALLEGHANY FAST SPIRAL		Pittsburg® ALLEGHANY STRAIGHT FLUTE	
FRACTIONAL SIZES	FLUTE LENGTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/64	3/16	3/4	1070-001	\$1.40	—	—
1/32	1/2	1-3/8	1070-002	1.40	—	—
3/64	3/4	1-3/4	1070-003	0.86	—	—
1/16	7/8	1-7/8	1070-004	0.86	—	—
5/64	1	2	1070-005	0.86	1701-005	\$1.46
3/32	1-1/4	2-1/4	1070-006	0.86	1701-006	1.46
7/64	1-1/2	2-5/8	1070-007	0.86	1701-007	1.52
1/8	1-5/8	2-3/4	1070-008	0.86	1701-008	1.54
9/64	1-3/4	2-7/8	1070-009	0.86	1701-009	1.64
5/32	2	3-1/8	1070-010	0.95	1701-010	1.66
11/64	2-1/8	3-1/4	1070-011	1.13	1701-011	1.73
3/16	2-5/16	3-1/2	1070-012	1.28	1701-012	1.85
13/64	2-7/16	3-5/8	1070-013	1.41	1701-013	2.61
7/32	2-1/2	3-3/4	1070-014	1.60	1701-014	2.75
15/64	2-5/8	3-7/8	1070-015	1.66	1701-015	2.92
1/4	2-3/4	4	1070-016	1.78	1701-016	3.14
17/64	2-7/8	4-1/8	1070-017	2.20	1701-017	3.37
9/32	2-15/16	4-1/4	1070-018	2.36	1701-018	3.60
19/64	3-1/16	4-3/8	1070-019	2.54	1701-019	3.91
5/16	3-3/16	4-1/2	1070-020	2.81	1701-020	4.25
21/64	3-5/16	4-5/8	1070-021	2.99	1701-021	4.64
11/32	3-7/16	4-3/4	1070-022	3.39	1701-022	5.07
23/64	3-1/2	4-7/8	1070-023	3.96	1701-023	5.47
3/8	3-5/8	5	1070-024	4.15	1701-024	5.38
25/64	3-3/4	5-1/8	1070-025	4.58	1701-025	5.56
13/32	3-7/8	5-1/4	1070-026	4.78	1701-026	5.74
27/64	3-15/16	5-3/8	1070-027	5.35	1701-027	5.92
7/16	4-1/16	5-1/2	1070-028	5.61	1701-028	5.98
29/64	4-3/16	5-5/8	1070-029	5.78	1701-029	6.20
15/32	4-5/16	5-3/4	1070-030	6.15	1701-030	7.36
31/64	4-3/8	5-7/8	1070-031	6.55	1701-031	8.02
1/2	4-1/2	6	1070-032	6.55	1701-032	8.29

WIRE GAGE SIZES	Pittsburg® FAST SPIRAL			Pittsburg® STR. FLUTE			
	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1	.2280	2-5/8	3-7/8	1080-001	\$1.81	1702-001	\$2.92
2	.2210	2-5/8	3-7/8	1080-002	1.81	1702-002	2.92
3	.2130	2-1/2	3-3/4	1080-003	1.71	1702-003	2.75
4	.2090	2-1/2	3-3/4	1080-004	1.71	1702-004	2.75
5	.2055	2-1/2	3-3/4	1080-005	1.71	1702-005	2.75
6	.2040	2-1/2	3-3/4	1080-006	1.71	1702-006	2.75
7	.2010	2-7/16	3-5/8	1080-007	1.46	—	—
8	.1990	2-7/16	3-5/8	1080-008	1.46	1702-008	2.61
9	.1960	2-7/16	3-5/8	1080-009	1.46	1702-009	2.61
10	.1935	2-7/16	3-5/8	1080-010	1.46	1702-010	2.61
11	.1910	2-5/16	3-1/2	1080-011	1.38	1702-011	2.61
12	.1890	2-5/16	3-1/2	1080-012	1.38	1702-012	1.85
13	.1850	2-5/16	3-1/2	1080-013	1.28	1702-013	1.73
14	.1820	2-3/16	3-3/8	1080-014	1.28	1702-014	1.73
15	.1800	2-3/16	3-3/8	1080-015	1.28	1702-015	1.73
16	.1770	2-3/16	3-3/8	1080-016	1.28	1702-016	1.73
17	.1730	2-3/16	3-3/8	1080-017	1.28	1702-017	1.73
18	.1695	2-1/8	3-1/4	1080-018	1.15	1702-018	1.66
19	.1660	2-1/8	3-1/4	1080-019	1.15	1702-019	1.66
20	.1610	2-1/8	3-1/4	1080-020	1.15	1702-020	1.66
21	.1590	2-1/8	3-1/4	1080-021	1.03	1702-021	1.66
22	.1570	2	3-1/8	1080-022	1.03	1702-022	1.66
23	.1540	2	3-1/8	1080-023	0.96	1702-023	1.64
24	.1520	2	3-1/8	1080-024	0.96	1702-024	1.64
25	.1495	1-7/8	3	1080-025	0.96	1702-025	1.64
26	.1470	1-7/8	3	1080-026	0.96	1702-026	1.64
27	.1440	1-7/8	3	1080-027	0.96	1702-027	1.64
28	.1405	1-3/4	2-7/8	1080-028	0.89	1702-028	1.54
29	.1360	1-3/4	2-7/8	1080-029	0.89	1702-029	1.54
30	.1285	1-5/8	2-3/4	1080-030	0.89	1702-030	1.54
31	.1200	1-5/8	2-3/4	1080-031	0.89	1702-031	1.52
32	.1160	1-5/8	2-3/4	1080-032	0.89	1702-032	1.52
33	.1701	1-1/2	2-5/8	1080-033	0.89	1702-033	1.52
34	.1110	1-1/2	2-5/8	1080-034	0.89	1702-034	1.52
35	.1100	1-1/2	2-5/8	1080-035	0.89	1702-035	1.52
36	.1065	1-7/16	2-1/2	1080-036	0.89	1702-036	1.46
37	.1040	1-7/16	2-1/2	1080-037	0.89	1702-037	1.46
38	.1015	1-7/16	2-1/2	1080-038	0.89	1702-038	1.46
39	.0995	1-3/8	2-3/8	1080-039	0.89	1702-039	1.46
40	.0980	1-3/8	2-3/8	1080-040	0.89	1702-040	1.46

WIRE GAGE SIZES	Pittsburg® FAST SPIRAL			Pittsburg® STR. FLUTE			
	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
41	.0960	1-3/8	2-3/8	1080-041	\$0.91	1702-041	\$1.46
42	.0935	1-1/4	2-1/4	1080-042	0.91	—	—
43	.0890	1-1/4	2-1/4	1080-043	0.91	1702-043	1.46
44	.0860	1-1/8	2-1/8	1080-044	0.91	1702-044	1.46
45	.0820	1-1/8	2-1/8	1080-045	0.91	1702-045	1.46
46	.0810	1-1/8	2-1/8	1080-046	0.91	1702-046	1.46
47	.0785	1	2	1080-047	0.91	1702-047	1.46
48	.0760	1	2	1080-048	0.91	1702-048	1.46
49	.0730	1	2	1080-049	0.91	—	—
50	.0700	1	2	1080-050	0.91	1702-050	1.46
51	.0670	1	2	1080-051	0.91	1702-051	1.46
52	.0635	7/8	1-7/8	1080-052	0.91	1702-052	1.46
53	.0595	7/8	1-7/8	1080-053	0.91	1702-053	1.43
54	.0550	7/8	1-7/8	1080-054	0.91	1702-054	1.43
55	.0520	7/8	1-7/8	1080-055	0.91	1702-055	1.43
56	.0465	3/4	1-3/4	1080-056	0.91	1702-056	1.43
57	.0430	3/4	1-3/4	1080-057	0.91	1702-057	1.43
58	.0420	11/16	1-5/8	1080-058	0.91	1702-058	1.43
59	.0410	11/16	1-5/8	1080-059	0.91	1702-059	1.43
60	.0400	11/16	1-5/8	1080-060	0.91	1702-060	1.43
61	.0390	11/16	1-5/8	1080-061	0.91	—	—
62	.0380	5/8	1-1/2	1080-062	0.91	—	—
63	.0370	5/8	1-1/2	1080-063	0.91	—	—
64	.0360	5/8	1-1/2	1080-064	0.91	—	—
65	.0350	5/8	1-1/2	1080-065	0.91	—	—
66	.0330	1/2	1-3/8	1080-066	0.91	—	—
67	.0320	1/2	1-3/8	1080-067	0.91	—	—
68	.0310	1/2	1-3/8	1080-068	0.91	—	—
69	.0292	1/2	1-3/8	1080-069	1.00	—	—
70	.0280	3/8	1-1/4	1080-070	1.00	—	—
71	.0260	3/8	1-1/4	1080-071	1.31	—	—
72	.0250	5/16	1-1/8	1080-072	1.31	—	—
73	.0240	5/16	1-1/8	1080-073	1.31	—	—
74	.0225	1/4	1	1080-074	1.31	—	—
75	.0210	1/4	1	1080-075	1.31	—	—
76	.0200	3/16	7/8	1080-076	1.31	—	—
77	.0180	3/16	7/8	1080-077	1.31	—	—
78	.0160	3/16	7/8	1080-078	1.31	—	—
79	.0145	1/8	3/4	1080-079	1.58	—	—
80	.0135	1/8	3/4	1080-080	1.58	—	—

# Jobbers Length Drills

High Speed Steel, Fast Spiral, Straight Flute ②

PACKAGE QUANTITIES: Letter Sizes  
A-N: 12pcs. O-Z: 6 pcs.

## Letter Sizes

SIZE	Pittsburg® FAST SPIRAL			Pittsburg® STR. FLUTE			
	DECM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	.2340	2-5/8	3-7/8	1090-001	\$1.93	1703-001	\$2.92
B	.2380	2-3/4	4	1090-002	1.93	1703-002	3.14
C	.2420	2-3/4	4	1090-003	1.93	—	—
D	.2460	2-3/4	4	1090-004	1.93	1703-004	3.14
E	.2500	2-3/4	4	1090-005	1.78	1703-005	3.14
F	.2570	2-7/8	4-1/8	1090-006	2.21	—	—
G	.2610	2-7/8	4-1/8	1090-007	2.35	1703-007	3.37
H	.2660	2-7/8	4-1/8	1090-008	2.35	1703-008	3.60
I	.2720	2-7/8	4-1/8	1090-009	2.35	1703-009	3.60
J	.2770	2-7/8	4-1/8	1090-010	2.48	1703-010	3.60
K	.2810	2-15/16	4-1/4	1090-011	2.76	1703-011	3.60
L	.2900	2-15/16	4-1/4	1090-012	2.73	1703-012	3.91
M	.2950	3-1/16	4-3/8	1090-013	2.93	1703-013	3.91

SIZE	Pittsburg® FAST SPIRAL			Pittsburg® STR. FLUTE			
	DECM'L EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
N	.3020	3-1/16	4-3/8	1090-014	\$2.93	1703-014	\$4.25
O	.3160	3-3/16	4-1/2	1090-015	2.93	1703-015	4.64
P	.3230	3-5/16	4-5/8	1090-016	3.33	1703-016	4.64
Q	.3320	3-7/16	4-3/4	1090-017	3.33	1703-017	5.07
R	.3390	3-7/16	4-3/4	1090-018	3.33	1703-018	5.07
S	.3480	3-1/2	4-7/8	1090-019	3.76	1703-019	5.47
T	.3580	3-1/2	4-7/8	1090-020	4.33	1703-020	5.47
U	.3680	3-5/8	5	1090-021	4.33	1703-021	5.38
V	.3770	3-5/8	5	1090-022	4.66	1703-022	5.56
W	.3860	3-3/4	5-1/8	1090-023	4.78	1703-023	5.56
X	.3970	3-3/4	5-1/8	1090-024	5.46	1703-024	5.74
Y	.4040	3-7/8	5-1/4	1090-025	6.38	1703-025	5.74
Z	.4130	3-7/8	5-1/4	1090-026	6.59	1703-026	5.92

# Standard Step Drills

High Speed Steel — Jobbers Length



For Drilling and Counterboring Cap Screw Clearance Holes

SCREW SIZE	MINOR DIAM.	MAJOR DIAM.	STEP LENGTH	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
No. 6	.150	1/4	1/2	2-3/4	4	2864-005	\$9.75
No. 8	.178	L	1/2	2-15/16	4-1/4	2864-010	11.15
No. 10	.204	O	5/8	3-7/16	4-3/4	2864-015	12.20
1/4	9/32	13/32	11/16	3-7/8	5-1/4	2864-020	14.05
5/16	11/32	1/2	3/4	4-1/2	6	2864-025	18.65
3/8	13/32	19/32	7/8	5-3/16	7-1/8	2864-030	29.85
1/2	17/32	25/32	1	3-1/4	5-1/8	2864-035	49.10

\*Shorter than Jobber's Length



For Drilling and Countersinking 82° Flat Head Machine Screws

SCREW SIZE	MINOR DIAM.	MAJOR DIAM.	STEP LENGTH	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
No. 6	.142	9/32	1/2	2-15/16	4-1/4	2864-105	\$10.75
No. 8	.169	Q	1/2	3-7/16	4-3/4	2864-110	12.70
No. 10	.196	W	5/8	3-3/4	5-1/8	2864-115	13.85
1/4	.257	1/2	11/16	4-13/16	6-5/8	2864-120	17.20
5/16	.320	5/8	3/4	5-3/16	7-1/8	2864-125	26.90
3/8	.383	3/4	7/8	5-5/8	7-5/8	2864-130	37.30
1/2	.510	7/8	1	3-1/2	5-1/2	2864-135	53.60

\*Shorter than Jobber's Length



For Drilling 45° Chamfered Holes To-Be-Tapped  
(To produce approx. 70% thread.)

TAP SIZE	MINOR DIAM.	MAJOR DIAM.	STEP LENGTH	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
5-40	.101	9/64	1/2	1-3/4	2-7/8	2864-205	\$9.05
6-32	.109	5/32	1/2	2	3-1/8	2864-210	9.20
8-32	.136	3/16	1/2	2-5/16	3-1/2	2864-215	9.40
8-36	.136	3/16	1/2	2-5/16	3-1/2	2864-220	9.55
10-24	.152	1/4	5/8	2-3/4	4	2864-225	10.00
10-32	.161	1/4	5/8	2-3/4	4	2864-230	10.00
1/4-20	.204	21/64	13/16	3-5/16	4-5/8	2864-235	12.35
1/4-28	.218	21/64	13/16	3-5/16	4-5/8	2864-240	12.55
5/16-18	.261	13/32	15/16	3-7/8	5-1/4	2864-245	14.05
5/16-24	.272	13/32	15/16	3-7/8	5-1/4	2864-250	14.25
3/8-16	.316	31/64	1	4-3/8	5-7/8	2864-255	18.60
3/8-24	.339	31/64	1	4-3/8	5-7/8	2864-260	18.95
7/16-14	.375	17/32	1-1/16	4-13/16	6-5/8	2864-265	32.40
7/16-20	.390	17/32	1-1/16	4-13/16	6-5/8	2864-270	32.40
1/2-13	.437	5/8	1-1/16	5-3/16	7-1/8	2864-280	37.40
1/2-20	.452	5/8	1-1/16	5-3/16	7-1/8	2864-285	37.85

CAP SCREW SET  
No. 6 thru 3/8 Screw Sizes  
(6 tools in wood stand)  
Order No. 2864-000

SET PRICE.....\$95.65

FLAT HEAD SET  
No. 6 thru 3/8 Screw Sizes  
(6 tools in wood stand)  
Order No. 2864-100

SET PRICE.....\$118.75

TAP DRILL SET  
No. 6 thru 3/8 NC TAP Sizes  
(6 tools in wood stand)  
Order No. 2864-200

SET PRICE.....\$73.60



# Screw Machine Length Drills

Right & Left Hand— High Speed Steel, Cobalt, Carbide Tipped



• Right Hand Spiral

135° Split Point 3/64"–1/2"  
118° 33/64"–3"



• Cobalt RHS

135° Split Point 3/64"–1/2"



• Left Hand Spiral

118° Point



• Carbide Tipped RHS

118° Point

4

3

2

2

2

			HI SPEED STEEL RH				HI SPEED STEEL LH				COBALT		CARBIDE TIPPED	
			Pittsburgh® ALLEGIANCE®		Pittsburgh® ALLEGIANCE®		Pittsburgh® ALLEGIANCE®		ALLEGIANCE®		ROCK RIVER TOOL®			
FRAC. SIZES	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
3/64	1/2	1-3/8	1160-003	\$ 0.55	—	—	1190-003	\$1.43	—	—	—	—		
1/16	5/8	1-5/8	1160-004	0.53	1162-004	\$ 0.80	1190-004	1.64	1211-104	\$1.10	—	—		
5/64	11/16	1-11/16	1160-005	0.53	1162-005	0.80	1190-005	1.64	1211-105	1.10	—	—		
3/32	3/4	1-3/4	1160-006	0.55	1162-006	0.80	1190-006	1.64	1211-106	1.10	—	—		
7/64	13/16	1-13/16	1160-007	0.53	1162-007	0.80	1190-007	1.64	1211-107	1.20	—	—		
1/8	7/8	1-7/8	1160-008	0.53	1162-008	0.80	1190-008	1.64	1211-108	1.40	3025-208	\$11.50		
9/64	15/16	1-15/16	1160-009	0.53	1162-009	0.90	1190-009	1.64	1211-109	1.40	3025-209	13.95		
5/32	1	2-1/16	1160-010	0.58	1162-010	0.90	1190-010	1.92	1211-110	1.55	3025-210	12.25		
11/64	1-1/16	2-1/8	1160-011	0.62	1162-011	1.05	1190-011	2.09	1211-111	1.70	3025-211	16.60		
3/16	1-1/8	2-3/16	1160-012	0.67	1162-012	1.10	1190-012	2.36	1211-112	2.00	3025-212	12.85		
13/64	1-3/16	2-1/4	1160-013	0.71	1162-013	1.20	1190-013	2.65	1211-113	2.30	3025-213	16.60		
7/32	1-1/4	2-3/8	1160-014	0.85	1162-014	1.30	1190-014	3.08	1211-114	2.45	3025-214	13.80		
15/64	1-5/16	2-7/16	1160-015	0.85	1162-015	1.35	1190-015	3.26	1211-115	2.75	3025-215	15.35		
1/4	1-3/8	2-1/2	1160-016	0.87	1162-016	1.50	1190-016	3.42	1211-116	2.80	3025-216	14.05		
17/64	1-7/16	2-5/8	1160-017	1.04	1162-017	1.70	1190-017	4.21	1211-117	3.20	3025-217	17.10		
9/32	1-1/2	2-11/16	1160-018	1.08	1162-018	1.80	1190-018	4.43	1211-118	3.40	3025-218	16.20		
19/64	1-9/16	2-3/4	1160-019	1.20	1162-019	2.00	1190-019	5.00	1211-119	4.00	3025-219	19.55		
5/16	1-5/8	2-13/16	1160-020	1.27	1162-020	2.15	1190-020	5.02	1211-120	4.20	3025-220	17.20		
21/64	1-11/16	2-15/16	1160-021	1.43	1162-021	2.30	1190-021	5.64	1211-121	4.80	3025-221	21.25		
11/32	1-11/16	3	1160-022	1.66	1162-022	2.65	1190-022	6.25	1211-122	5.05	3025-222	20.10		
23/64	1-3/4	3-1/16	1160-023	1.84	1162-023	3.00	1190-023	7.18	1211-123	5.90	3025-223	21.90		
3/8	1-13/16	3-1/8	1160-024	1.96	1162-024	3.20	1190-024	7.68	1211-124	5.80	3025-224	20.55		
25/64	3-1/4	3-1/4	1160-025	2.13	1162-025	3.55	1190-025	8.83	1211-125	6.75	3025-225	24.40		
13/32	1-15/16	3-5/16	1160-026	2.28	1162-026	3.70	1190-026	8.82	1211-126	6.80	3025-226	24.40		
27/64	2	3-3/8	1160-027	2.46	1162-027	4.05	1190-027	9.65	1211-127	7.70	3025-227	27.05		
7/16	2-1/16	3-7/16	1160-028	2.53	1162-028	4.10	1190-028	10.05	1211-128	7.75	3025-228	26.10		
29/64	2-1/8	3-9/16	1160-029	2.99	1162-029	4.85	1190-029	11.62	1211-129	9.45	—	—		
15/32	2-1/8	3-5/8	1160-030	3.17	1162-030	5.20	1190-030	12.53	1211-130	9.20	3025-230	37.10		
31/64	2-3/16	3-11/16	1160-031	3.31	1162-031	5.35	1190-031	12.85	1211-131	9.45	—	—		
1/2	2-1/4	3-3/4	1160-032	3.11	1162-032	5.35	1190-032	12.85	1211-132	9.25	3025-232	35.50		
33/64	2-3/8	3-7/8	1160-033	6.73	—	—	1190-033	21.49	—	—	—	—		
17/32	2-3/8	3-7/8	1160-034	7.02	—	—	1190-034	24.36	—	—	3025-234	44.25		
35/64	2-1/2	4	1160-035	7.36	—	—	1190-035	21.88	—	—	—	—		
9/16	2-1/2	4	1160-036	7.36	—	—	1190-036	24.36	—	—	3025-236	44.25		
37/64	2-5/8	4-1/8	1160-037	8.40	—	—	1190-037	25.74	—	—	—	—		
19/32	2-5/8	4-1/8	1160-038	8.40	—	—	1190-038	29.19	—	—	3025-238	50.75		
39/64	2-3/4	4-1/4	1160-039	8.80	—	—	1190-039	27.07	—	—	—	—		
5/8	2-3/4	4-1/4	1160-040	8.51	—	—	1190-040	30.70	—	—	3025-240	50.75		
41/64	2-7/8	4-1/2	1160-041	9.72	—	—	1190-041	28.57	—	—	—	—		
21/32	2-7/8	4-1/2	1160-042	9.72	—	—	1190-042	32.38	—	—	3025-242	61.00		
43/64	2-7/8	4-5/8	1160-043	10.75	—	—	1190-043	32.15	—	—	—	—		
11/16	2-7/8	4-5/8	1160-044	10.75	—	—	1190-044	36.46	—	—	3025-244	62.65		
45/64	3	4-3/4	1160-045	11.73	—	—	1190-045	36.63	—	—	—	—		
23/32	3	4-3/4	1160-046	11.73	—	—	1190-046	41.53	—	—	—	—		
47/64	3-1/8	5	1160-047	12.59	—	—	1190-047	38.02	—	—	—	—		
3/4	3-1/8	5	1160-048	12.36	—	—	1190-048	43.11	—	—	3025-248	71.20		
49/64	3-1/4	5-1/8	1160-049	13.63	—	—	1190-049	40.15	—	—	—	—		
25/32	3-1/4	5-1/8	1160-050	13.63	—	—	1190-050	40.15	—	—	—	—		
51/64	3-3/8	5-1/4	1160-051	14.61	—	—	1190-051	45.97	—	—	—	—		
13/16	3-3/8	5-1/4	1160-052	14.32	—	—	1190-052	45.97	—	—	3025-252	88.05		

(Continued)

# Screw Machine Length Drills

## Fractional & Letter Sizes



• **Right Hand Spiral**  
135° Split Point 3/64"-1/2", A-Z  
118° Point 33/64"-3"



• **Left Hand Spiral**  
118° Point



• **Carbide Tipped RHS**  
118° Point

### Fractional Sizes, Continued

			4		2		2	
			HIGH SPEED STEEL RH		HIGH SPEED STEEL LH		CARBIDE TIPPED	
			Pittsburg®		Pittsburg®		ROCK RIVER TOOL®	
FRAC. SIZES	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
53/64	3-1/2	5-3/8	1160-053	15.18	1190-053	\$47.50	—	—
27/32	3-1/2	5-3/8	1160-054	15.18	1190-054	47.50	—	—
55/64	3-1/2	5-1/2	1160-055	15.76	1190-055	49.43	—	—
7/8	3-1/2	5-1/2	1160-056	15.76	1190-056	49.43	3025-256	\$96.55
57/64	3-5/8	5-5/8	1160-057	16.33	1190-057	51.70	—	—
29/32	3-5/8	5-5/8	1160-058	16.33	1190-058	51.70	—	—
59/64	3-3/4	5-3/4	1160-059	18.00	1190-059	54.91	—	—
15/16	3-3/4	5-3/4	1160-060	18.00	1190-060	54.91	3025-260	103.65
61/64	3-7/8	5-7/8	1160-061	19.61	1190-061	59.17	—	—
31/32	3-7/8	5-7/8	1160-062	19.61	1190-062	59.17	—	—
63/64	4	6	1160-063	20.76	1190-063	60.31	—	—
1	4	6	1160-064	20.36	1190-064†	71.27	3025-264	109.55
1-1/64	4	6-1/4	1160-065	27.66	1190-065†	43.73	—	—
1-1/32	4	6-1/4	1160-066	28.00	1190-066†	46.78	—	—
1-3/64	4	6-1/4	1160-067	28.32	1190-067†	49.65	—	—
1-1/16	4	6-1/4	1160-068	22.05	1190-068†	71.02	3025-268	137.25
1-5/64	4	6-3/8	1160-069	30.94	1190-069†	52.35	—	—
1-3/32	4	6-3/8	1160-070	31.28	1190-070†	55.39	—	—
1-7/64	4	6-3/8	1160-071	31.80	1190-071†	58.32	—	—
1-1/8	4	6-3/8	1160-072	24.95	1190-072†	82.42	3025-272	152.40
1-9/64	4-1/4	6-5/8	1160-073	35.88	1190-073†	62.25	—	—
1-5/32	4-1/4	6-5/8	1160-074	36.28	1190-074†	62.51	—	—
1-11/64	4-1/4	6-5/8	1160-075	36.28	1190-075†	64.13	3025-276	186.00
1-3/16	4-1/4	6-5/8	1160-076	29.00	1190-076†	94.78	—	—
1-13/64	4-3/8	6-3/4	1160-077	36.28	1190-077†	67.29	—	—
1-7/32	4-3/8	6-3/4	1160-078	36.88	1190-078†	67.99	—	—
1-15/64	4-3/8	6-3/4	1160-079	37.20	1190-079†	70.95	3025-280	186.00
1-1/4	4-3/8	6-3/4	1160-080	25.95	1190-080†	107.26	—	—
1-17/64	4-3/8	7	1160-081	47.40	1190-081†	80.76	—	—
1-9/32	4-3/8	7	1160-082	47.74	1190-082†	83.41	—	—
1-19/64	4-3/8	7	1160-083	48.06	1190-083†	84.39	—	—
1-5/16	4-3/8	7	1160-084	37.85	1190-084†	122.76	—	—
1-21/64	4-1/2	7-7/8	1160-085	50.70	1190-085†	88.53	—	—
1-11/32	4-1/2	7-1/8	1160-086	51.02	1190-086†	90.57	—	—
1-23/64	4-1/2	7-1/8	1160-087	51.48	1190-087†	92.99	—	—
1-3/8	4-1/2	7-1/8	1160-088	40.90	1190-088†	130.41	—	—
1-25/64	4-3/4	7-3/8	1160-089	54.64	1190-089†	95.97	—	—
1-13/32	4-3/4	7-3/8	1160-090	54.96	1190-090†	99.28	—	—
1-27/64	4-3/4	7-3/8	1160-091	55.32	1190-091†	101.31	—	—
1-7/16	4-3/4	7-3/8	1160-092	43.85	1190-092†	139.39	—	—
1-29/64	4-7/8	7-1/2	1160-093	57.28	1190-093†	102.19	—	—
1-15/32	4-7/8	7-1/2	1160-094	57.74	1190-094†	103.77	—	—
1-31/64	4-7/8	7-1/2	1160-095	57.92	1190-095†	105.35	—	—
1-1/2	4-7/8	7-1/2	1160-096	46.20	1190-096†	148.29	—	—
1-33/64	4-7/8	7-3/4	1160-097	61.80	1190-097†	110.11	—	—
1-17/32	4-7/8	7-3/4	1160-098	63.84	1190-098†	112.30	—	—
1-35/64	4-7/8	7-3/4	1160-099	65.72	—	—	—	—
1-9/16	4-7/8	7-3/4	1160-100	52.20	1190-100†	105.13	—	—
1-37/64	4-7/8	7-3/4	1160-101	67.80	—	—	—	—
1-19/32	4-7/8	7-3/4	1160-102	70.58	1190-102†	127.03	—	—
1-39/64	4-7/8	7-3/4	1160-103	73.76	—	—	—	—
1-5/8	4-7/8	7-3/4	1160-104	58.60	1190-104†	116.30	—	—
1-21/32	5-1/8	8	1160-106	78.90	1190-106†	139.19	—	—
1-11/16	5-1/8	8	1160-108	65.85	1190-108†	132.32	—	—
1-23/32	5-1/8	8	1160-110	86.52	1190-110†	152.59	—	—
1-3/4	5-1/8	8	1160-112	69.15	1190-112†	133.49	—	—
1-25/32	5-3/8	8-1/4	1160-114	92.22	1190-114†	158.81	—	—
1-13/16	5-3/8	8-1/4	1160-116	75.15	1190-116†	160.97	—	—
1-27/32	5-3/8	8-1/4	1160-118	95.98	1190-118†	163.76	—	—

† Discontinued, Limited Quantities

			4		2	
			HIGH SPEED STEEL RH		HIGH SPEED STEEL LH	
			Pittsburg®		Pittsburg®	
FRAC. SIZES	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-7/8	5-3/8	8-1/4	1160-120	\$78.30	1190-120†	\$149.33
1-29/32	5-3/8	8-1/4	1160-122	101.10	1190-122†	170.54
1-15/16	5-5/8	8-1/4	1160-124	83.10	1190-124†	164.69
1-31/32	5-5/8	8-1/2	1160-126	107.04	1190-126†	173.87
2	5-5/8	8-1/2	1160-128	87.30	1190-128†	176.77
2-1/16	5-5/8	8-1/2	1160-132	120.58	—	—
2-1/8	5-5/8	8-1/2	1160-136	120.58	—	—
2-3/16	5-5/8	8-1/2	1160-140	131.14	—	—
2-1/4	5-5/8	8-1/2	1160-144	131.14	—	—
2-5/16	5-5/8	8-1/2	1160-148	141.77	—	—
2-3/8	5-5/8	8-1/2	1160-152	141.77	—	—
2-7/16	5-5/8	8-1/2	1160-156	152.45	—	—
2-1/2	5-5/8	8-1/2	1160-160	152.45	—	—
2-5/8	5-5/8	8-1/2	1160-168	POA	—	—
2-3/4	5-5/8	8-1/2	1160-176	POA	—	—
2-7/8	5-5/8	8-1/2	1160-184	POA	—	—
3	5-5/8	8-1/2	1160-192	POA	—	—

PACKAGE QUANTITIES: Fractional Sizes  
1/64-19/64: 12 pcs. 5/16-1/2: 6 pcs. 33/64-11/16: 1 pcs.

† Discontinued, Limited Quantities

### Letter Sizes

			4		2		2	
			HIGH SPEED STEEL RH		HIGH SPEED STEEL LH		U.S.A. COBALT	
			Pittsburg®		ALLEGIANCE®		ALLEGIANCE®	
LETTER SIZE	FLUTE LG'TH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	1-5/16	2-7/16	1180-001	\$1.27	1182-001	1.55	1211-301	\$3.20
B	1-3/8	2-1/2	1180-002	1.27	1182-002	1.55	1211-302	3.20
C	1-3/8	2-1/2	1180-003	1.27	1182-003	1.55	1211-303	3.20
D	1-3/8	2-1/2	1180-004	1.27	1182-004	1.55	1211-304	3.20
E	1-3/8	2-1/2	1180-005	1.15	1182-005	1.65	1211-305	2.90
F	1-7/16	2-5/8	1180-006	1.40	1182-006	1.80	1211-306	3.40
G	1-7/16	2-5/8	1180-007	1.50	1182-007	1.90	1211-307	3.40
H	1-1/2	2-11/16	1180-008	1.50	1182-008	1.90	1211-308	3.60
I	1-1/2	2-11/16	1180-009	1.50	1182-009	1.95	1211-309	3.60
J	1-1/2	2-11/16	1180-010	1.61	1182-010	2.05	1211-310	3.60
K	1-1/2	2-11/16	1180-011	1.70	1182-011	2.20	1211-311	3.60
L	1-9/16	2-3/4	1180-012	1.70	1182-012	2.20	1211-312	4.20
M	1-9/16	2-3/4	1180-013	1.89	1182-013	2.40	1211-313	4.20
N	1-5/8	2-13/16	1180-014	1.89	1182-014	2.40	1211-314	4.60
O	1-11/16	2-15/16	1180-015	1.89	1182-015	2.55	1211-315	5.00
P	1-11/16	2-15/16	1180-016	2.09	1182-016	2.75	1211-316	5.00
Q	1-11/16	3	1180-017	2.09	1182-017	2.75	1211-317	5.45
R	1-11/16	3	1180-018	2.09	1182-018	2.80	1211-318	5.45
S	1-3/4	3-1/16	1180-019	2.44	1182-019	3.15	1211-319	6.75
T	1-3/4	3-1/16	1180-020	2.83	1182-020	3.70	1211-320	6.75
U	1-13/16	3-1/8	1180-021	2.83	1182-021	3.70	1211-321	6.75
V	1-7/8	3-1/4	1180-022	2.99	1182-022	3.90	1211-322	7.50
W	1-7/8	3-1/4	1180-023	3.11	1182-023	4.10	1211-323	7.50
X	1-15/16	3-5/16	1180-024	3.63	1182-024	4.80	1211-324	7.50
Y	1-15/16	3-5/16	1180-025	4.30	1182-025	5.70	1211-325	7.50
Z	2	3-3/8	1180-026	4.30	1182-026	5.70	1211-326	8.55

PACKAGE QUANTITIES: Letter Sizes  
A-N: 12 pcs. O-Z: 6 pcs.

Left Hand Letter Sizes available on request.



# Screw Machine Length Drills



• **Right Hand Spiral**

135° Sp llt Point: No. 1-52  
135° No Sp llt Point: No. 53-60

**Wire Gage Sizes**



• **Left Hand Spiral**

118° Point



• **Cobalt RHS**

135° Sp llt Point: No. 1-52  
135° No Sp llt Point: No. 53-60

WIRE GAGE SIZES	FLUTE LENGTH	OVERALL LENGTH	HIGH SPEED STEEL RH		HIGH SPEED STEEL LH		COBALT			
			Pittsburg®		ALLEGIANCE®		Pittsburg®		ALLEGIANCE®	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1-5/16	2-7/16	1170-001	\$0.92	1172-001	\$1.50	1200-001†	\$2.05	1211-201	\$2.95
2	1-5/16	2-7/16	1170-002	0.92	1172-002	1.50	1200-002†	2.05	1211-202	2.75
3	1-1/4	2-3/8	1170-003	0.85	1172-003	1.40	1200-003†	1.91	1211-203	2.75
4	1-1/4	2-3/8	1170-004	0.85	1172-004	1.40	1200-004†	1.91	1211-204	2.60
5	1-1/4	2-3/8	1170-005	0.85	1172-005	1.40	1200-005†	1.91	1211-205	2.60
6	1-1/4	2-3/8	1170-006	0.85	1172-006	1.40	1200-006†	1.91	1211-206	2.60
7	1-3/16	2-1/4	1170-007	0.71	1172-007	1.20	1200-007†	1.61	1211-207	2.05
8	1-3/16	2-1/4	1170-008	0.71	1172-008	1.20	1200-008†	1.61	1211-208	2.05
9	1-3/16	2-1/4	1170-009	0.71	1172-009	1.20	1200-009†	1.61	1211-209	2.05
10	1-3/16	2-1/4	1170-010	0.71	1172-010	1.20	1200-010†	1.61	1211-210	2.05
11	1-3/16	2-1/4	1170-011	0.69	1172-011	1.20	1200-011†	1.55	1211-211	2.00
12	1-3/16	2-1/4	1170-012	0.69	1172-012	1.20	1200-012†	1.55	1211-212	2.00
13	1-1/8	2-3/16	1170-013	0.71	1172-013	1.20	1200-013†	1.43	1211-213	2.00
14	1-1/8	2-3/16	1170-014	0.71	1172-014	1.20	1200-014†	1.43	1211-214	2.00
15	1-1/8	2-3/16	1170-015	0.71	1172-015	1.20	1200-015†	1.43	1211-215	2.00
16	1-1/8	2-3/16	1170-016	0.71	1172-016	1.20	1200-016†	1.43	1211-216	2.00
17	1-1/8	2-3/16	1170-017	0.71	1172-017	1.20	1200-017†	1.43	1211-217	1.95
18	1-1/16	2-1/8	1170-018	0.62	1172-018	1.00	1200-018†	1.28	1211-218	1.70
19	1-1/16	2-1/8	1170-019	0.62	1172-019	1.00	1200-019†	1.28	1211-219	1.65
20	1-1/16	2-1/8	1170-020	0.62	1172-020	1.00	1200-020†	1.28	1211-220	1.65
21	1-1/16	2-1/8	1170-021	0.60	1172-021	0.90	1200-021†	1.17	1211-221	1.65
22	1-1/16	2-1/8	1170-022	0.60	1172-022	0.90	1200-022†	1.17	1211-222	1.65
23	1	2-1/16	1170-023	0.60	1172-023	0.90	1200-023†	1.17	1211-223	1.65
24	1	2-1/16	1170-024	0.60	1172-024	0.90	1200-024†	1.17	1211-224	1.65
25	1	2-1/16	1170-025	0.58	1172-025	0.90	-	-	1211-225	1.55
26	1	2-1/16	1170-026	0.58	1172-026	0.90	1200-026†	1.10	1211-226	1.55
27	1	2-1/16	1170-027	0.58	1172-027	0.90	1200-027†	1.10	1211-227	1.55
28	15/16	1-15/16	1170-028	0.52	1172-028	0.80	-	-	1211-228	1.40
29	15/16	1-15/16	1170-029	0.52	1172-029	0.80	1200-029†	1.00	1211-229	1.40
30	15/16	1-15/16	1170-030	0.52	1172-030	0.80	1200-030†	1.00	1211-230	1.35
31	7/8	1-7/8	1170-031	0.53	1172-031	0.80	1200-031†	1.00	1211-231	1.35
32	7/8	1-7/8	1170-032	0.53	1172-032	0.80	-	-	1211-232	1.35
33	7/8	1-7/8	1170-033	0.53	1172-033	0.80	1200-033†	1.00	1211-233	1.25
34	7/8	1-7/8	1170-034	0.53	1172-034	0.80	1200-034†	1.00	1211-234	1.25
35	7/8	1-7/8	1170-035	0.53	1172-035	0.80	1200-035†	1.00	1211-235	1.25
36	13/16	1-13/16	1170-036	0.53	1172-036	0.80	1200-036†	1.00	1211-236	1.25
37	13/16	1-13/16	1170-037	0.52	1172-037	0.80	1200-037†	1.00	1211-237	1.25
38	13/16	1-13/16	1170-038	0.53	1172-038	0.80	-	-	1211-238	1.20
39	13/16	1-13/16	1170-039	0.53	1172-039	0.80	1200-039†	1.00	1211-239	1.20
40	13/16	1-13/16	1170-040	0.53	1172-040	0.80	1200-040†	1.00	1211-240	1.20
41	13/16	1-13/16	1170-041	0.52	1172-041	0.95	1200-041†	1.00	1211-241	1.15
42	3/4	1-3/4	1170-042	0.52	1172-042	0.95	-	-	1211-242	1.15
43	3/4	1-3/4	1170-043	0.52	1172-043	0.95	1200-043†	1.00	1211-243	1.15
44	3/4	1-3/4	1170-044	0.52	1172-044	0.95	1200-044†	1.00	1211-244	1.15
45	3/4	1-3/4	1170-045	0.52	1172-045	0.95	1200-045†	1.00	1211-245	1.15
46	3/4	1-3/4	1170-046	0.52	1172-046	0.95	1200-046†	1.00	1211-246	1.15
47	3/4	1-3/4	1170-047	0.52	1172-047	0.95	-	-	1211-247	1.15
48	11/16	1-11/16	1170-048	0.52	1172-048	0.95	1200-048†	1.00	1211-248	1.15
49	11/16	1-11/16	1170-049	0.52	1172-049	0.95	1200-049†	1.00	1211-249	1.15
50	11/16	1-11/16	1170-050	0.52	1172-050	0.95	1200-050†	1.00	1211-250	1.15
51	11/16	1-11/16	1170-051	0.52	1172-051	0.95	1200-051†	1.00	1211-251	1.15
52	11/16	1-11/16	1170-052	0.52	1172-052	0.95	1200-052†	1.00	1211-252	1.15
53	5/8	1-5/8	1170-053	0.52	1172-053	0.95	1200-053†	1.00	1211-253	1.20
54	5/8	1-5/8	1170-054	0.52	1172-054	0.95	1200-054†	1.00	1211-254	1.20
55	5/8	1-5/8	1170-055	0.52	1172-055	0.95	1200-055†	1.00	1211-255	1.20
56	1/2	1-3/8	1170-056	0.52	1172-056	0.95	1200-056†	1.00	1211-256	1.20
57	1/2	1-3/8	1170-057	0.52	1172-057	0.95	1200-057†	1.00	1211-257	1.20
58	1/2	1-3/8	1170-058	0.52	1172-058	0.95	1200-058†	1.00	1211-258	1.35
59	1/2	1-3/8	1170-059	0.52	1172-059	0.95	1200-059†	1.00	1211-259	1.35
60	1/2	1-3/8	1170-060	0.52	1172-060	0.95	1200-060†	1.00	1211-260	1.35

PACKAGE QUANTITIES: Wire Gage Sizes  
1-100: 12 pcs.

† Discontinued, Limited Quantities

# Parabolic Drills—Screw Machine Length

## Fractional & Wire Gage Sizes—Cobalt & Cobalt TiALN Coated



• Parabolic Cobalt  
130° Notched Thinned or Split Point



• Parabolic TiALN  
130° Notched Thinned or Split Point

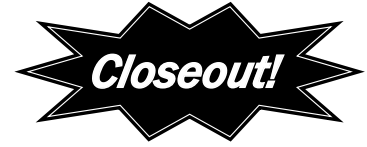
### Fractional Sizes

PARABOLIC COBALT		PARABOLIC COBALT TiALN	
BROOKE			
FRAC. SIZES	FLUTE LENGTH	OVERALL LENGTH	PRICE EACH
1/16	5/8	1-5/8	\$5.11
5/64	11/16	1-11/16	5.11
3/32	3/4	1-3/4	4.65
7/64	13/16	1-13/16	4.65
1/8	7/8	1-7/8	5.22
9/64	15/16	1-15/16	5.80
5/32	1	2-1/16	5.99
11/64	1-1/16	2-1/8	6.24
3/16	1-1/8	2-3/16	6.56
13/64	1-3/16	2-1/4	6.77
7/32	1-1/4	2-3/8	7.43
15/64	1-5/16	2-7/16	7.68
1/4	1-3/8	2-1/2	10.04
17/64	1-7/16	2-5/8	10.35
9/32	1-1/2	2-11/16	11.27
19/64	1-9/16	2-3/4	12.05
5/16	1-5/8	2-13/16	12.11
21/64	1-11/16	2-15/16	15.49
11/32	1-11/16	3	14.09
23/64	1-3/4	3-1/16	15.73
3/8	1-13/16	3-1/8	19.39
25/64	3-1/4	3-1/4	19.67
13/32	1-15/16	3-5/16	26.09
27/64	2	3-3/8	26.09
7/16	2-1/16	3-7/16	27.56
29/64	2-1/8	3-9/16	30.32
15/32	2-1/8	3-5/8	30.32
31/64	2-3/16	3-11/16	30.32
1/2	2-1/4	3-3/4	35.28
33/64	2-3/8	3-7/8	51.05
17/32	2-3/8	3-7/8	51.05
35/64	2-1/2	4	51.05

### Wire Gage Sizes

PARABOLIC COBALT		PARABOLIC COBALT TiALN	
BROOKE			
WIRE GAGE SIZES	FLT. LG'TH.	OAL	PRICE EACH
1	1-5/16	2-7/16	\$5.80
2	1-5/16	2-7/16	5.56
3	1-1/4	2-3/8	5.56
4	1-1/4	2-3/8	5.53
5	1-1/4	2-3/8	4.87
6	1-1/4	2-3/8	4.91
7	1-3/16	2-1/4	4.91
8	1-3/16	2-1/4	4.98
9	1-3/16	2-1/4	4.59
10	1-3/16	2-1/4	4.59
11	1-3/16	2-1/4	4.57
12	1-3/16	2-1/4	4.57
13	1-1/8	2-3/16	4.32
14	1-1/8	2-3/16	4.32
15	1-1/8	2-3/16	4.37
16	1-1/8	2-3/16	4.27
17	1-1/8	2-3/16	4.25
18	1-1/16	2-1/8	4.25
19	1-1/16	2-1/8	4.14
20	1-1/16	2-1/8	4.12
21	1-1/16	2-1/8	4.12
22	1-1/16	2-1/8	4.02
23	1	2-1/16	4.02
24	1	2-1/16	3.98
25	1	2-1/16	3.98
26	1	2-1/16	3.88
27	1	2-1/16	3.86
28	15/16	1-15/16	3.72
29	15/16	1-15/16	3.73
30	15/16	1-15/16	3.36
31	7/8	1-7/8	3.32
32	7/8	1-7/8	3.18
33	7/8	1-7/8	2.79
34	7/8	1-7/8	2.79
35	7/8	1-7/8	2.79
36	13/16	1-13/16	2.84
37	13/16	1-13/16	3.11
38	13/16	1-13/16	3.11
39	13/16	1-13/16	3.11
40	13/16	1-13/16	2.76
41	7/8	1-7/8	2.76
42	7/8	1-7/8	2.52
43	7/8	1-7/8	2.49
44	7/8	1-7/8	2.54
45	7/8	1-7/8	2.47
46	13/16	1-13/16	2.47
47	13/16	1-13/16	2.54
48	13/16	1-13/16	2.54
49	13/16	1-13/16	2.54
50	13/16	1-13/16	2.52
51	7/8	1-7/8	2.97
52	7/8	1-7/8	2.51
53	7/8	1-7/8	2.51
54	7/8	1-7/8	2.58
55	7/8	1-7/8	3.06
56	13/16	1-13/16	2.65
57	13/16	1-13/16	2.44
58	13/16	1-13/16	2.37
59	13/16	1-13/16	2.28
60	13/16	1-13/16	2.28

## Step Drills



## Small Diameter 1/2" Shank Drills

High Speed Steel

Unibit® STEP DRILLS TIN COATED											
Pittsburg ALLEGHANY HSS											
NO OF HOLES	HOLE SIZES	SHANK SIZE	STEP THICK.	MODEL	ORDER NO.	PRICE EACH	MODEL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
Fractional Sizes											
13	1/8-1/2 x 32nds	1/4	1/8	1	3255-301	\$22.12	1T	3255-321	\$29.48	1911-013	\$12.88
6	3/16-1/2 x 16ths	1/4	3/8	2	3255-303	22.12	2T	3255-322	29.48	1911-006	12.88
9	1/4-3/4 x 16ths	3/8	1/8	3	3255-305	39.87	3T	3255-323	53.15	1911-009	23.25
12	3/16-7/8 x 8ths	3/8	1/8	4	3255-307	47.12	4T	3255-324	62.81	1911-012	27.74
13	1/4-1-3/8 x 8ths	1/2	1/8	5	3255-309	83.53	-	-	-	1911-010	51.14
Self Starting Single Hole Sizes											
1	1/2	1/4	-	10	3255-311	\$21.44	-	-	-	-	-
	7/8	3/8	-	11	3255-312	44.24	-	-	-	-	-
	3/8	1/4	-	12	3255-313	17.26	-	-	-	-	-
	1-1/8	1/2	-	13	3255-315	56.99	-	-	-	-	-
	1-7/32	1/2	-	14	3255-316	64.78	-	-	-	-	-
Hole Enlarging Bits											
8	9/16-1 x 16ths	1/2	1/8	20	3255-317	\$45.57	-	-	-	1911-018	26.60
10	13/16-1-3/8 x 16ths	1/2	1/8	21	3255-319	92.55	-	-	-	1911-020	54.05
Metric											
9	4-12MM x 1MM	1/4	5MM	1M	3255-302	\$22.12	1MT	3255-325	\$29.27	-	-
5	4-12MM x 2MM	1/4	11MM	2M	3255-304	22.12	2MT	3255-326	29.48	-	-
7	6-18MM x 2MM	3/8	5MM	3M	3255-306	39.87	3MT	3255-327	53.15	-	-
10	4-22MM x 2MM	3/8	5MM	4M	3255-308	47.12	4MT	3255-328	62.81	-	-
12	5-35MM x 2-3MM	1/2	3.5MM	5M	3255-310	83.53	5MT	-	-	-	-
Self Starting Single Hole Sizes											
1	8MM	1/4	-	12M	3255-314	\$13.01	-	-	-	-	-
Hole Enlarging Bits											
6	14-24MM x 2MM	1/2	5MM	20M	3255-318	\$45.57	-	-	-	-	-
8	20-34MM x 2MM	1/2	5MM	21M	3255-320	92.55	-	-	-	-	-

DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
7/64	1-1/2	4-3/8	1440-007	POA
1/8	1-5/8	4-3/4	1440-008	\$5.88
9/64	2	5	1440-009	6.75
5/32	2	5	1440-010	5.88
7/32	2-1/2	5-1/2	1440-014	5.88
15/64	2-3/4	5-3/4	1440-015	6.75
9/32	2-15/16	6	1440-018	6.44
5/16	3-3/16	6	1440-020	6.44
15/32	3-1/8	6	1440-030	6.44

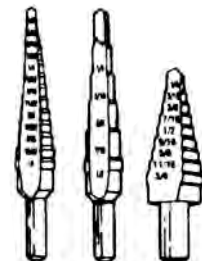
\*Limited quantities available

**IRWIN**  
UNIBIT® Sets



1

**Pittsburg ALLEGHANY**  
Step Drill Set



Self starting, Multiple Hole Sizes in plastic pouch.

3

SET DESCRIPTION	TYPE	CONTENTS	ORDER NO.	PRICE EACH
3-pc. Set	HSS	#1,2,3	3255-358	\$ 81.57
3-pc. Set	TiN coated	#1T,2T,3T	3255-359	108.72
4-pc. Set	HSS w/#1 TiN	#1,2,3 + #1T	3255-360	97.22
4-pc. Set	HSS	#1,2,4 & 21	3255-361	178.41

SET DESC.	TYPE	CONTENTS	ORDER NO.	PRICE EACH
3-pc. Set	HSS	1/8-1/2 x 32nds, 13 hole, 3/16-1/2 x 16ths, 6 hole, 1/4-3/4 x 16ths, 9 hole	1911-000	\$49.84

# Silver & Deming Drills— 1/2" Shank



3-1/8" Flute x 6" OAL



Carbide Tipped - 118° Point

118° Split Point  
High Speed Steel

118° Split Point  
Cobalt

118° Split Point  
Carbide Tipped

DIAM.	Pittsburg® HSS			ALLEGIANCE® HSS			Pittsburg® COBALT			ALLEGIANCE® COBALT			ROCK RIVER CARBIDE TIPPED	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/2	1440-032	\$4.77	-	-	-	-	-	-	-	-	-	-	2995-032	\$45.25
33/64	1440-033	5.09	1441-033	\$11.75	1442-033	\$21.85	1445-033	\$26.15	2995-034	66.20	-	-	-	-
17/32	1440-034	5.09	1441-034	11.75	1442-034	19.70	1445-034	26.15	-	-	-	-	-	-
35/64	1440-035	5.38	1441-035	12.45	1442-035	21.85	1445-035	26.80	-	-	-	-	-	-
9/16	1440-036	5.38	1441-036	12.45	1442-036	20.70	1445-036	26.80	2995-036	68.60	-	-	-	-
37/64	1440-037	5.79	1441-037	13.35	1442-037	24.60	1445-037	29.50	-	-	-	-	-	-
19/32	1440-038	5.79	1441-038	13.35	1442-038	23.80	1445-038	31.15	2995-038	71.35	-	-	-	-
39/64	1440-039	6.07	1441-039	13.90	1442-039	24.60	1445-039	31.35	-	-	-	-	-	-
5/8	1440-040	6.07	1441-040	13.90	1442-040	23.65	1445-040	31.95	2995-040	79.25	-	-	-	-
41/64	1440-041	6.45	1441-041	14.80	1442-041	27.00	1445-041	35.20	-	-	-	-	-	-
21/32	1440-042	6.45	1441-042	14.80	1442-042	24.35	1445-042	33.50	2995-042	85.90	-	-	-	-
43/64	1440-043	6.75	1441-043	15.40	1442-043	27.55	1445-043	37.15	-	-	-	-	-	-
11/16	1440-044	6.75	1441-044	15.40	1442-044	24.35	1445-044	34.30	2995-044	89.25	-	-	-	-
45/64	1440-045	7.11	1441-045	15.75	1442-045	30.10	1445-045	39.70	-	-	-	-	-	-
23/32	1440-046	7.11	1441-046	15.75	1442-046	27.15	1445-046	36.40	2995-046	92.65	-	-	-	-
47/64	1440-047	7.41	1441-047	16.40	1442-047	30.10	1445-047	39.70	-	-	-	-	-	-
3/4	1440-048	7.41	1441-048	16.40	1442-048	25.45	1445-048	38.90	2995-048	97.05	-	-	-	-
49/64	1440-049	7.82	1441-049	17.60	1442-049	33.70	1445-049	44.90	-	-	-	-	-	-
25/32	1440-050	7.82	1441-050	17.60	1442-050	32.55	1445-050	43.00	2995-050	107.00	-	-	-	-
51/64	1440-051	8.19	1441-051	17.60	1442-051	34.05	1445-051	47.00	-	-	-	-	-	-
13/16	1440-052	8.19	1441-052	17.60	1442-052	30.40	1445-052	44.00	2995-052	107.25	-	-	-	-
53/64	1440-053	8.48	1441-053	18.25	1442-053	36.50	1445-053	51.15	-	-	-	-	-	-
27/32	1440-054	8.48	1441-054	18.25	1442-054	34.95	1445-054	49.95	2995-054	107.25	-	-	-	-
55/64	1440-055	8.79	1441-055	19.30	1442-055	36.50	1445-055	51.15	-	-	-	-	-	-
7/8	1440-056	8.79	1441-056	19.30	1442-056	32.60	1445-056	49.95	2995-056	111.55	-	-	-	-
57/64	1440-057	9.20	1441-057	20.10	1442-057	40.85	1445-057	53.90	-	-	-	-	-	-
29/32	1440-058	9.20	1441-058	20.10	1442-058	39.05	1445-058	52.70	2995-058	114.25	-	-	-	-
59/64	1440-059	9.87	1441-059	21.60	1442-059	40.85	1445-059	53.90	-	-	-	-	-	-
15/16	1440-060	9.87	1441-060	21.60	1442-060	36.45	1445-060	53.70	2995-060	115.40	-	-	-	-
61/64	1440-061	10.41	1441-061	22.80	1442-061	48.00	1445-061	60.15	-	-	-	-	-	-
31/32	1440-062	10.41	1441-062	22.80	1442-062	45.95	1445-062	56.00	2995-062	119.35	-	-	-	-
63/64	1440-063	11.57	1441-063	25.35	1442-063	48.05	1445-063	65.35	-	-	-	-	-	-
1	1440-064	11.57	1441-064	25.35	1442-064	42.90	1445-064	57.70	2995-064	121.85	-	-	-	-
1-1/64	1440-065	13.77	-	-	-	-	-	-	-	-	-	-	-	-
1-1/32	1440-066	13.77	1441-066	30.25	1442-066	50.45	-	-	2995-066	117.65	-	-	-	-
1-3/64	1440-067	13.77	-	-	-	-	-	-	-	-	-	-	-	-
1-1/16	1440-068	13.77	1441-068	31.75	1442-068	53.55	1445-068	90.35	2995-068	127.55	-	-	-	-
1-5/64	1440-069	15.46	-	-	-	-	-	-	-	-	-	-	-	-
1-3/32	1440-070	15.46	1441-070	35.95	1442-070	61.70	-	-	2995-070	130.60	-	-	-	-
1-7/64	1440-071	15.46	-	-	-	-	-	-	-	-	-	-	-	-
1-1/8	1440-072	15.46	1441-072	34.35	1442-072	60.90	1445-072	94.55	2995-072	133.15	-	-	-	-
1-9/64	1440-073	16.93	-	-	-	-	-	-	-	-	-	-	-	-
1-5/32	1440-074	16.93	1441-074	36.00	1442-074	63.55	-	-	2995-074	161.60	-	-	-	-
1-11/64	1440-075	16.93	-	-	-	-	-	-	-	-	-	-	-	-
1-3/16	1440-076	16.93	1441-076	38.00	1442-076	66.50	1445-076	126.00	2995-076	164.55	-	-	-	-
1-13/64	1440-077	18.75	-	-	-	-	-	-	-	-	-	-	-	-
1-7/32	1440-078	18.75	1441-078	42.85	-	-	-	-	-	-	-	-	-	-
1-15/64	1440-079	18.75	-	-	-	-	-	-	-	-	-	-	-	-
1-1/4	1440-080	18.75	1441-080	42.05	1442-080	70.35	1445-080	128.00	2995-080	157.75	-	-	-	-
1-17/64	1440-081	22.40	-	-	-	-	-	-	-	-	-	-	-	-
1-9/32	1440-082	22.40	1441-082	73.90	-	-	-	-	-	-	-	-	-	-
1-19/64	1440-083	22.40	-	-	-	-	-	-	-	-	-	-	-	-
1-5/16	1440-084	22.40	1441-084	75.15	1442-084	79.90	1445-084	198.85	-	-	-	-	-	-
1-21/64	1440-085	23.85	-	-	-	-	-	-	-	-	-	-	-	-
1-11/32	1440-086	23.85	1441-086	78.10	-	-	-	-	-	-	-	-	-	-
1-23/64	1440-087	23.85	-	-	-	-	-	-	-	-	-	-	-	-
1-3/8	1440-088	23.85	1441-088	76.75	1442-088	79.95	1445-088	201.75	-	-	-	-	-	-
1-25/64	1440-089	26.68	-	-	-	-	-	-	-	-	-	-	-	-
1-13/32	1440-090	26.68	1441-090	81.50	-	-	-	-	-	-	-	-	-	-
1-27/64	1440-091	26.68	-	-	-	-	-	-	-	-	-	-	-	-
1-7/16	1440-092	26.68	1441-092	84.00	1442-092	86.35	1445-092	218.05	-	-	-	-	-	-
1-29/64	1440-093	28.10	-	-	-	-	-	-	-	-	-	-	-	-
1-15/32	1440-094	28.10	1441-094	87.80	-	-	-	-	-	-	-	-	-	-
1-31/64	1440-095	28.10	-	-	-	-	-	-	-	-	-	-	-	-
1-1/2	1440-096	28.10	1441-096	88.10	1442-096	87.25	1445-096	222.40	-	-	-	-	-	-



# Silver & Deming Drills



## Silver & Deming Drills— 1/2" Shank - Metric Sizes

3-1/8" Flute x 6" OAL



Cobalt



High Speed Steel

3

## 3/4" Shank Drills



High Speed Steel



Cobalt - 135° Notched Point

3

3

3

DIAM. MM.	HIGH SPEED ORDER NO.	PRICE EACH	COBALT ORDER NO.	PRICE EACH
13.00	1443-130	\$10.45	1444-130	\$18.23
13.50	1443-135	10.50	1444-135	20.24
14.00	1443-140	11.70	1444-140	20.24
14.50	1443-145	11.70	1444-145	22.93
15.00	1443-150	11.70	1444-150	22.93
15.50	1443-155	11.70	1444-155	23.14
16.00	1443-160	12.40	1444-160	25.07
16.50	1443-165	12.55	1444-165	25.07
17.00	1443-170	12.55	1444-170	25.98
17.50	1443-175	12.55	1444-175	28.92
18.00	1443-180	14.30	1444-180	28.92
18.50	1443-185	14.30	1444-185	29.47
19.00	1443-190	14.20	1444-190	29.47
19.50	1443-195	14.70	1444-195	33.60
20.00	1443-200	16.40	1444-200	35.80
20.50	1443-205	16.25	1444-205	35.80
21.00	1443-210	16.25	1444-210	36.35
21.50	1443-215	16.25	1444-215	37.73
22.00	1443-220	17.20	1444-220	37.73
22.50	1443-225	17.20	1444-225	38.41
23.00	1443-230	18.15	1444-230	38.41
23.50	1443-235	18.20	1444-235	41.38
24.00	1443-240	23.05	1444-240	43.99
24.50	1443-245	23.45	1444-245	43.99
25.00	1443-250	23.50	1444-250	45.08
25.50	1443-255	23.60	1444-255	50.53
26.00	1443-260	24.80	1444-260	50.53
26.50	1443-265	24.80	1444-265	50.53
27.00	1443-270	24.80	1444-270	54.44
27.50	1443-275	24.80	1444-275	54.44
28.00	1443-280	27.45	1444-280	54.44
28.50	1443-285	27.75	1444-285	60.50
29.00	1443-290	27.75	1444-290	60.50
29.50	1443-295	31.90	1444-295	60.50
30.00	1443-300	34.50	1444-300	68.70
30.50	1443-305	34.40	1444-305	68.70
31.00	1443-310	34.50	1444-310	68.70
31.50	1443-315	34.40	1444-315	79.03
32.00	1443-320	36.15	1444-320	79.03
32.50	1443-325	36.15	1444-325	79.03
33.00	1443-330	36.15	1444-330	79.03
33.50	1443-335	38.90	1444-335	81.55
34.00	1443-340	42.65	1444-340	81.55
34.50	1443-345	42.65	1444-345	81.55
35.00	1443-350	42.65	1444-350	91.28
35.50	1443-355	46.50	1444-355	91.28
36.00	1443-360	46.90	1444-360	91.28
36.50	1443-365	46.90	1444-365	94.99
37.00	1443-370	46.90	1444-370	94.99
37.50	1443-375	52.30	1444-375	94.99
38.00	1443-380	52.30	1444-380	94.99

DIAM.	Pittsburg® HSS - 118°		ALLEGIANCE® HSS - 118°		ALLEGIANCE® COBALT - 135°	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
25/32	-	-	1470-450	\$ 33.10	1470-650	\$ 70.70
13/16	-	-	1470-452	34.70	1470-652	73.45
27/32	-	-	1470-454	37.30	1470-654	77.75
7/8	-	-	1470-456	38.60	1470-656	80.90
29/32	-	-	1470-458	39.85	1470-658	88.45
15/16	-	-	1470-460	42.75	1470-660	94.70
31/32	-	-	1470-462	44.40	1470-662	100.05
1	1470-064	\$ 18.65	1470-464	45.35	1470-664	103.90
1-1/32	-	-	1470-466	54.25	1470-666	133.35
1-1/16	1470-068	21.90	1470-468	54.25	1470-668	141.55
1-3/32	-	-	1470-470	57.85	1470-670	153.10
1-1/8	1470-072	23.45	1470-472	60.50	1470-672	158.65
1-5/32	-	-	1470-474	61.65	1470-674	164.75
1-3/16	1470-076	25.75	1470-476	67.70	1470-676	180.05
1-7/32	-	-	1470-478	73.15	1470-678	184.65
1-1/4	1470-080	27.70	1470-480	74.60	1470-680	193.05
1-9/32	-	-	1470-482	83.90	1470-682	267.65
1-5/16	1470-084	33.95	1470-484	87.20	1470-684	267.65
1-11/32	-	-	1470-486	92.95	1470-686	270.00
1-3/8	1470-088	41.00	1470-488	96.55	1470-688	270.00
1-13/32	-	-	1470-490	102.00	1470-690	291.70
1-7/16	1470-092	43.00	1470-492	107.60	1470-692	291.70
1-15/32	-	-	1470-494	112.10	1470-694	300.50
1-1/2	1470-096	47.20	1470-496	115.25	1470-696	300.50
1-9/16	1470-100	53.45	1470-500	123.60	1470-700	330.00
1-5/8	1470-104	60.00	1470-504	137.45	1470-704	368.55
1-11/16	1470-108	68.65	1470-508	157.65	1470-708	375.55
1-3/4	1470-112	71.05	1470-512	159.35	1470-712	428.50
1-13/16	1470-116	77.85	1470-516	178.60	1470-716	471.25
1-7/8	1470-120	80.10	1470-520	182.45	1470-720	492.65
1-15/16	1470-124	85.00	1470-524	191.70	1470-724	514.00
2	1470-128	89.30	1470-528	199.00	1470-728	548.25

\*32nd sizes available on request

# Taper Length Drills—Long Series

## Straight Shank, High Speed Steel, Regular & Fast Spiral



Regular Spiral

Fast Spiral

Cobalt

Parabolic

Fractional Sizes

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			Pittsburg® REG. SPIRAL		ALLEGIANCE® REG. SPIRAL		Pittsburg® FAST SPIRAL		Pittsburg® COBALT		Pittsburg® CARBIDE TIPPED		Pittsburg® PARABOLIC HSS		BROOKE® PARABOLIC COBALT	
FRAC. SIZES	FLUTE LG'TH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/32	3/4	2	-	-	1222-002	\$3.69	-	-	-	-	-	-	-	-	-	-
3/64	1-1/8	2-1/4	1220-003	\$1.10	1222-003	\$1.74	1260-003	\$1.87	-	-	-	-	-	-	-	-
1/16	1-3/4	3	1220-004	1.10	1222-004	1.81	1260-004	1.97	1290-004	\$3.55	-	-	1706-004	\$ 4.20	1706-304	\$ 7.22
5/64	2	3-3/4	1220-005	1.28	1222-005	2.12	1260-005	2.31	1290-005	4.15	-	-	1706-005	4.50	1706-305	7.22
3/32	2-1/4	4-1/4	1220-006	1.54	1222-006	2.53	1260-006	2.80	1290-006	5.00	-	-	1706-006	5.35	1706-306	7.22
7/64	2-1/2	4-5/8	1220-007	1.96	1222-007	3.21	1260-007	3.45	1290-007	6.25	-	-	1706-007	5.80	1706-307	6.32
1/8	2-3/4	5-1/8	1220-008	2.00	1222-008	3.26	1260-008	3.57	1290-008	6.40	2992-008	\$14.45	1706-008	6.60	1706-308	8.38
9/64	3	5-3/8	1220-009	2.66	1222-009	3.95	1260-009	4.78	1290-009	7.80	2992-009	16.65	1706-009	8.85	1706-309	9.38
5/32	3	5-3/8	1220-010	2.42	1222-010	3.95	1260-010	4.33	1290-010	7.80	2992-010	15.30	1706-010	8.00	1706-310	9.38
11/64	3-3/8	5-3/4	1220-011	2.86	1222-011	3.98	1260-011	5.10	1290-011	7.80	2992-011	15.55	1706-011	9.35	1706-311	10.57
3/16	3-3/8	5-3/4	1220-012	2.44	1222-012	3.95	1260-012	4.33	1290-012	7.80	2992-012	15.55	1706-012	8.00	1706-312	11.24
13/64	3-5/8	6	1220-013	3.28	1222-013	4.66	1260-013	5.81	1290-013	9.10	2992-013	16.45	1706-013	10.75	1706-313	12.37
7/32	3-5/8	6	1220-014	3.48	1222-014	4.61	1260-014	6.20	1290-014	9.10	2992-014	16.45	1706-014	11.60	1706-314	12.37
15/64	3-3/4	6-1/8	1220-015	3.48	1222-015	4.66	1260-015	6.20	1290-015	9.45	2992-015	18.65	1706-015	11.60	1706-315	13.30
1/4	3-3/4	6-1/8	1220-016	2.86	1222-016	4.61	1260-016	5.10	1290-016	9.10	2992-016	18.65	1706-016	9.85	1706-316	14.18
17/64	3-7/8	6-1/4	1220-017	3.67	1222-017	5.69	1260-017	6.47	1290-017	11.45	2992-017	20.90	1706-017	12.15	1706-317	15.47
9/32	3-7/8	6-1/4	1220-018	3.48	1222-018	5.64	1260-018	6.20	1290-018	11.05	2992-018	20.90	1706-018	11.55	1706-318	17.54
19/64	4	6-3/8	1220-019	3.98	1222-019	5.77	1260-019	7.08	1290-019	11.45	2992-019	22.50	1706-019	13.15	1706-319	17.54
5/16	4	6-3/8	1220-020	3.48	1222-020	5.71	1260-020	6.20	1290-020	11.05	2992-020	22.50	1706-020	11.55	1706-320	20.99
21/64	4-1/8	6-1/2	1220-021	4.11	1222-021	6.61	1260-021	7.25	1290-021	13.15	2992-021	24.80	1706-021	13.45	1706-321	22.15
11/32	4-1/8	6-1/2	1220-022	3.98	1222-022	6.55	1260-022	7.08	1290-022	12.75	2992-022	24.80	1706-022	13.45	1706-322	23.98
23/64	4-1/4	6-3/4	1220-023	4.71	1222-023	7.78	1260-023	8.35	1290-023	15.55	2992-023	27.95	1706-023	16.10	1706-323	25.41
3/8	4-1/4	6-3/4	1220-024	4.71	1222-024	7.70	1260-024	8.35	1290-024	15.00	2992-024	27.95	1706-024	15.70	1706-324	32.05
25/64	4-3/8	7	1220-025	4.97	1222-025	8.12	1260-025	8.78	1290-025	16.15	2992-025	30.00	1706-025	16.65	1706-325	27.61
13/32	4-3/8	7	1220-026	4.91	1222-026	8.04	1260-026	8.73	1290-026	15.60	2992-026	30.00	1706-026	16.85	1706-326	29.29
27/64	4-5/8	7-1/4	1220-027	5.32	1222-027	8.76	1260-027	9.44	1290-027	17.50	2992-027	34.60	1706-027	16.25	1706-327	30.71
7/16	4-5/8	7-1/4	1220-028	5.43	1222-028	8.85	1260-028	9.61	1290-028	17.25	2992-028	34.60	1706-028	19.55	1706-328	34.01
29/64	4-3/4	7-1/2	1220-029	6.03	1222-029	9.91	1260-029	10.64	1290-029	19.90	2992-029	38.10	1706-029	21.20	1706-329	37.57
15/32	4-3/4	7-1/2	1220-030	6.36	1222-030	10.42	1260-030	11.30	1290-030	20.20	2992-030	38.10	1706-030	21.35	1706-330	38.79
31/64	4-3/4	7-3/4	1220-031	7.00	1222-031	10.98	1260-031	12.35	1290-031	21.95	2992-031	40.00	1706-031	23.15	1706-331	41.85
1/2	4-3/4	7-3/4	1220-032	6.69	1222-032	10.87	1260-032	11.80	1290-032	21.20	2992-032	40.00	1706-032	23.05	1706-332	46.98
33/64	4-3/4	8	1220-033	8.51	1222-033	16.18	1260-033	8.53	1290-033	28.25	2992-033	44.95	-	-	-	-
17/32	4-3/4	8	1220-034	8.27	1222-034	16.02	-	-	1290-034	27.20	2992-034	45.95	1706-034	36.05	-	-
35/64	4-7/8	8-1/4	1220-035	9.50	1222-035	17.01	-	-	1290-035	30.50	2992-035	46.40	-	-	-	-
9/16	4-7/8	8-1/4	1220-036	8.76	1222-036	16.20	-	-	1290-036	29.40	2992-036	46.40	1706-036	37.65	-	-
37/64	4-7/8	8-3/4	1220-037	10.23	1222-037	19.88	-	-	1290-037	35.60	2992-037	48.90	-	-	-	-
19/32	4-7/8	8-3/4	1220-038	10.23	1222-038	19.88	1260-038†	10.25	1290-038	34.35	2992-038	49.80	1706-038	43.45	-	-
39/64	4-7/8	8-3/4	1220-039	10.74	1222-039	20.57	1260-039†	10.76	1290-039	35.60	2992-039	56.45	-	-	-	-
5/8	4-7/8	8-3/4	1220-040	10.23	1222-040	19.59	1260-040†	10.25	1290-040	34.35	2992-040	56.45	1706-040	45.80	-	-
41/64	5-1/8	9	1220-041	12.14	1222-041	24.79	1260-041†	12.17	1290-041	39.30	2992-041	58.55	-	-	-	-
21/32	5-1/8	9	1220-042	11.68	1222-042	23.67	1260-042†	11.71	1290-042	37.85	2992-042	57.55	1706-042	59.15	-	-
43/64	5-3/8	9-1/4	1220-043	13.75	1222-043	29.12	1260-043†	13.77	1290-043	45.95	2992-043	60.55	-	-	-	-
11/16	5-3/8	9-1/4	1220-044	13.22	1222-044	27.08	1260-044†	13.25	1290-044	44.30	2992-044	58.50	1706-044	59.20	-	-
45/64	5-5/8	9-1/2	1220-045	14.70	1222-045	30.66	1260-045†	14.72	1290-045	50.30	2992-045	59.10	-	-	-	-
23/32	5-5/8	9-1/2	1220-046	14.45	1222-046	29.27	1260-046†	14.47	1290-046	48.50	2992-046	59.70	1706-046	62.65	-	-
47/64	5-7/8	9-3/4	1220-047	16.06	1222-047	32.97	1260-047†	16.08	1290-047	53.20	2992-047	60.05	-	-	-	-
3/4	5-7/8	9-3/4	1220-048	15.33	1222-048	29.69	-	-	1290-048	51.35	2992-048	61.00	1706-048	68.40	-	-
49/64	6	9-7/8	1220-049	16.90	1222-049	36.21	1260-049†	16.92	-	-	2992-049	73.80	-	-	-	-
25/32	6	9-7/8	1220-050	16.90	1222-050	34.57	1260-050†	16.92	-	-	2992-050	73.80	-	-	-	-
51/64	6-1/8	10	1220-051	18.19	1222-051	38.94	1260-051†	18.21	-	-	2992-051	74.10	-	-	-	-
13/16	6-1/8	10	1220-052	17.86	1222-052	35.41	-	-	-	-	2992-052	66.55	-	-	-	-
53/64	6-1/8	10	1220-053	18.81	1222-053	42.13	1260-053†	18.83	-	-	2992-053	74.10	-	-	-	-
27/32	6-1/8	10	1220-054	18.81	1222-054	39.13	1260-054†	18.83	-	-	2992-054	74.10	-	-	-	-
55/64	6-1/8	10	1220-055	19.76	1222-055	44.25	1260-055†	19.78	-	-	2992-055	78.45	-	-	-	-
7/8	6-1/8	10	1220-056	19.54	1222-056	39.53	1260-056†	19.56	-	-	2992-056	70.45	-	-	-	-
57/64	6-1/8	10	1220-057	20.59	1222-057	46.11	1260-057†	20.61	-	-	2992-057	81.10	-	-	-	-
29/32	6-1/8	10	1220-058	20.59	1222-058	42.83	1260-058†	20.61	-	-	2992-058	81.10	-	-	-	-
59/64	6-1/8	10-3/4	1220-059	22.57	1222-059	50.18	1260-059†	22.08	-	-	2992-059	82.30	-	-	-	-
15/16	6-1/8	10-3/4	1220-060	22.42	1222-060	44.81	1260-060†	22.44	-	-	2992-060	73.95	-	-	-	-
61/64	6-3/8	11	1220-061	24.75	1222-061	55.35	1260-061†	24.77	-	-	2992-061	86.20	-	-	-	-
31/32	6-3/8	11	1220-062	24.75	1222-062	51.41	1260-062†	24.77	-	-	2992-062	86.20	-	-	-	-
63/64	6-3/8	11	1220-063	26.03	1222-063	57.70	1260-063†	26.05	-	-	2992-063	88.90	-	-	-	-
1	6-3/8	11	1220-064	25.78	1222-064	51.53	1260-064†	25.81	-	-	2992-064	79.80	-	-	-	-

† Discontinued, Limited Quantities

(Continued)

# Taper Length Drills—Long Series

## Straight Shank, High Speed Steel, Regular & Fast Spiral



Regular Spiral



Fast Spiral

### Fractional Sizes (cont'd) <sup>3</sup>

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FRAC. SIZES	FLUTE LG'TH	OVERALL LENGTH	Pittsburg <sup>®</sup> REG. SPIRAL		ALLEGIANCE <sup>®</sup> REG. SPIRAL		Pittsburg <sup>®</sup> FAST SPIRAL	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-1/64	6-1/2	11-1/8	1220-065	\$32.98	1222-065	\$67.90	1260-065†	\$33.00
1-1/32	6-1/2	11-1/8	1220-066	32.98	1222-066	60.02	1260-066†	POA
1-3/64	6-5/8	11-1/4	1220-067	34.19	1222-067	70.22	1260-067†	34.22
1-1/16	6-5/8	11-1/4	1220-068	34.19	1222-068	57.93	1260-068†	34.22
1-5/64	6-7/8	11-1/2	1220-069	39.42	1222-069	75.34	1260-069†	39.45
1-3/32	6-7/8	11-1/2	1220-070	39.42	1222-070	66.58	1260-070†	39.45
1-7/64	7-1/8	11-3/4	1220-071	39.42	1222-071	78.19	1260-071†	39.45
1-1/8	7-1/8	11-3/4	1220-072	40.90	1222-072	61.57	1260-072†	40.92
1-9/64	7-1/4	11-7/8	1220-073	41.56	1222-073	78.70	1260-073†	41.58
1-5/32	7-1/4	11-7/8	1220-074	41.56	1222-074	75.22	1260-074†	POA
1-11/64	7-3/8	12	1220-075	46.18	1222-075	84.74	1260-075†	46.20
1-3/16	7-3/8	12	1220-076	47.94	1222-076	72.15	1260-076†	47.96
1-13/64	7-1/2	12-1/8	1220-077	50.01	1222-077	87.27	1260-077†	50.03
1-7/32	7-1/2	12-1/8	1220-078	50.03	1222-078	79.61	1260-078†	50.06
1-15/64	7-7/8	12-1/2	1220-079	50.45	1222-079	90.77	1260-079†	50.47
1-1/4	7-7/8	12-1/2	1220-080	51.33	1222-080	77.29	1260-080†	51.35
1-17/64	8-1/2	14-1/8	1220-081	POA	—	—	—	—
1-9/32	8-1/2	14-1/8	1220-082	58.67	1222-082	96.13	—	—
1-19/64	8-5/8	14-1/4	1220-083	POA	—	—	—	—
1-5/16	8-5/8	14-1/4	1220-084	60.80	1222-084	96.60	1260-084†	74.92
1-21/64	8-3/4	14-3/8	1220-085	POA	—	—	—	—
1-11/32	8-3/4	14-3/8	1220-086	62.84	1222-086	106.48	—	—
1-23/64	8-7/8	14-1/2	1220-087	POA	—	—	—	—
1-3/8	8-7/8	14-1/2	1220-088	65.20	1222-088	103.62	1260-088†	75.68
1-25/64	9	14-5/8	1220-089	POA	—	—	—	—
1-13/32	9	14-5/8	1220-090	68.73	—	—	—	—
1-27/64	9-1/8	14-3/4	1220-091	POA	1222-090	115.94	—	—
1-7/16	9-1/8	14-3/4	1220-092	71.04	1222-092	112.91	1260-092†	87.56
1-29/64	9-1/4	14-7/8	1220-093	POA	1222-094	125.99	—	—
1-15/32	9-1/4	14-7/8	1220-094	77.10	—	—	—	—
1-31/64	9-3/8	15	1220-095	POA	—	—	—	—
1-1/2	9-3/8	15	1220-096	79.64	1222-096	126.57	1260-096†	96.80
1-17/32	9-5/8	15-1/4	1220-098	POA	—	—	—	—
1-9/16	9-5/8	15-1/4	1220-100	89.12	1222-100	151.75	—	—
1-19/32	9-7/8	15-1/4	1220-102	POA	—	—	—	—
1-5/8	9-7/8	15-5/8	1220-104	100.63	1222-104	171.34	—	—
1-21/32	10	15-3/4	1220-106	POA	—	—	—	—
1-11/16	10	15-3/4	1220-108	110.92	1222-108	197.93	—	—
1-23/32	10-1/2	16-1/4	1220-110	POA	—	—	—	—
1-3/4	10-1/2	16-1/4	1220-112	121.25	1222-112	206.46	—	—
1-25/32	10-1/2	16-1/4	1220-114	POA	—	—	—	—
1-13/16	10-1/2	16-1/4	1220-116	128.35	1222-116	246.31	—	—
1-27/32	10-3/4	16-1/2	1220-118	POA	1222-120	269.90	—	—
1-7/8	10-3/4	16-1/2	1220-120	134.21	—	—	—	—
1-29/32	10-3/4	16-5/8	1220-122	POA	—	—	—	—
1-15/16	10-3/4	16-5/8	1220-124	144.51	1222-124	278.82	—	—
1-31/32	10-3/4	16-5/8	1220-126	POA	—	—	—	—
2	10-3/4	16-5/8	1220-128	148.86	1222-128	284.27	—	—
2-1/64	10-3/8	17-3/8	1220-129	POA	—	—	—	—
2-1/32	10-3/8	17-3/8	1220-130	POA	—	—	—	—
2-1/16	10-3/8	17-3/8	1220-132	POA	—	—	—	—
2-5/64	10-1/4	17-3/8	1220-133	POA	—	—	—	—
2-7/64	10-1/4	17-3/8	1220-135	POA	—	—	—	—
2-1/8	10-1/4	17-3/8	1220-136	POA	—	—	—	—
2-5/32	10-1/4	17-3/8	1220-138	POA	—	—	—	—
2-3/16	10-1/4	17-3/8	1220-140	POA	—	—	—	—
2-7/32	10-1/8	17-3/8	1220-142	POA	—	—	—	—
2-1/4	10-1/8	17-3/8	1220-144	POA	—	—	—	—

### Fractional Sizes (cont'd) <sup>3</sup>

FRAC. SIZES	DECIMAL EQUIV.	FLUTE LG'TH	OVERALL LENGTH	Pittsburg <sup>®</sup> REG. SPIRAL	
				ORDER NO.	PRICE EACH
2-17/64	2.2656	10-1/8	17-3/8	1220-145	POA
2-9/32	2.2812	10-1/8	17-3/8	1220-146	POA
2-5/16	2.3125	10-1/8	17-3/8	1220-148	POA
2-11/32	2.3438	10-1/8	17-3/8	1220-150	POA
2-3/8	2.3750	10-1/8	17-3/8	1220-152	POA
2-13/32	2.4062	11-1/4	18-3/4	1220-154	POA
2-7/16	2.4375	11-1/4	18-3/4	1220-156	POA
2-15/32	2.4688	11-1/4	18-3/4	1220-158	POA
2-1/2	2.5000	11-1/4	18-3/4	1220-160	POA
2-17/32	2.5312	11-7/8	19-1/2	1220-162	POA
2-9/16	2.5625	11-7/8	19-1/2	1220-164	POA
2-37/64	2.5781	11-7/8	19-1/2	1220-165	POA
2-19/32	2.6250	11-7/8	19-1/2	1220-166	POA
2-5/8	2.6300	11-7/8	19-1/2	1220-168	POA
2-21/32	2.6562	12-3/4	19-1/2	1220-170	POA
2-11/16	2.6875	12-3/4	20-3/8	1220-172	POA
2-3/4	2.7500	12-3/4	20-3/8	1220-176	POA
2-25/32	2.7812	13-3/8	21-1/8	1220-178	POA
2-13/16	2.8125	13-3/8	21-1/8	1220-180	POA
2-27/32	2.8438	13-3/8	21-1/8	1220-182	POA
2-7/8	2.8750	13-3/8	21-1/8	1220-184	POA
2-29/32	2.9062	14	21-3/4	1220-186	POA
2-15/16	2.9375	14	21-3/4	1220-188	POA
2-31/32	2.9688	14	21-3/4	1220-190	POA
3	3.0000	14	21-3/4	1220-192	POA

### Letter Sizes <sup>3</sup>

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LETTER SIZES	FLUTE LG'TH	OVERALL LENGTH	Pittsburg <sup>®</sup> REG. SPIRAL		ALLEGIANCE <sup>®</sup> USA REG. SPIRAL		Pittsburg <sup>®</sup> FAST SPIRAL	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	3-3/4	6-1/8	1240-001	\$4.73	1241-001	\$8.24	1280-001	\$8.18
B	3-3/4	6-1/8	1240-002	4.73	1241-002	8.24	1280-002	8.59
C	3-3/4	6-1/8	1240-003	4.73	1241-003	8.24	1280-003	8.59
D	3-3/4	6-1/8	1240-004	4.76	1241-004	8.33	1280-004	8.59
E	3-3/4	6-1/8	1240-005	2.88	1241-005	5.40	1280-005	6.85
F	3-7/8	6-1/4	1240-006	5.19	1241-006	8.72	1280-006	9.36
G	3-7/8	6-1/4	1240-007	5.19	1241-007	9.05	1280-007	9.36
H	3-7/8	6-1/4	1240-008	5.36	1241-008	9.41	1280-008	9.73
I	3-7/8	6-1/4	1240-009	5.36	1241-009	9.41	1280-009	9.73
J	3-7/8	6-1/4	1240-010	5.36	1241-010	9.41	1280-010	9.73
K	3-7/8	6-1/4	1240-011	5.36	1241-011	9.41	1280-011	9.73
L	4	6-3/8	1240-012	5.76	1241-012	10.07	1280-012	10.30
M	4	6-3/8	1240-013	5.76	1241-013	10.07	1280-013	10.30
N	4	6-3/8	1240-014	5.85	1241-014	10.26	1280-014	10.52
O	4-1/8	6-1/2	1240-015	5.85	1241-015	10.26	1280-015	10.52
P	4-1/8	6-1/2	1240-016	5.85	1241-016	10.26	1280-016	10.52
Q	4-1/8	6-1/2	1240-017	5.85	1241-017	10.26	1280-017	10.52
R	4-1/8	6-1/2	1240-018	6.17	1241-018	10.81	1280-018	11.03
S	4-1/4	6-3/4	1240-019	6.17	1241-019	10.81	1280-019	11.03
T	4-1/4	6-3/4	1240-020	6.17	1241-020	10.81	1280-020	11.03
U	4-1/4	6-3/4	1240-021	6.49	1241-021	11.36	1280-021	11.47
V	4-3/8	7	1240-022	6.49	1241-022	11.36	1280-022	11.47
W	4-3/8	7	1240-023	6.49	1241-023	11.36	1280-023	11.47
X	4-3/8	7	1240-024	6.69	1241-024	11.71	1280-024	11.89
Y	4-3/8	7	1240-025	6.69	1241-025	11.71	1280-025	11.89
Z	4-5/8	7-1/4	1240-026	6.95	1241-026	12.15	1280-026	12.30

† Limited Quantities (continued)

# Taper Length Drills— Long Series

## Straight Shank, High Speed Steel, Regular & Fast Spiral



Regular Spiral

Fast Spiral

Wire Gage Sizes

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WIRE			Pittsburg® ALLEGIANCE® REG. SPIRAL		ALLEGIANCE® REG. SPIRAL		Pittsburg® ALLEGIANCE® FAST SPIRAL	
FRAC. SIZES	FLUTE LG'TH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	3-3/4	6-1/8	1230-001	\$4.09	1231-001	\$7.36	1270-001	\$7.41
2	3-3/4	6-1/8	1230-002	4.09	1231-002	7.36	1270-002	7.41
3	3-5/8	6	1230-003	3.94	1231-003	7.13	1270-003	6.86
4	3-5/8	6	1230-004	3.94	1231-004	7.13	1270-004	6.86
5	3-5/8	6	1230-005	3.94	1231-005	7.13	1270-005	6.86
6	3-5/8	6	1230-006	3.94	1231-006	7.13	1270-006	6.86
7	3-5/8	6	1230-007	3.94	1231-007	7.13	1270-007	6.86
8	3-5/8	6	1230-008	3.94	1231-008	7.13	1270-008	6.86
9	3-5/8	6	1230-009	3.94	1231-009	7.13	1270-009	6.86
10	3-5/8	6	1230-010	3.94	1231-010	7.13	1270-010	6.86
11	3-5/8	6	1230-011	3.94	1231-011	7.13	1270-011	6.86
12	3-5/8	6	1230-012	3.94	1231-012	7.13	1270-012	6.86
13	3-3/8	5-3/4	1230-013	3.59	1231-013	6.46	1270-013	5.54
14	3-3/8	5-3/4	1230-014	3.59	1231-014	6.46	1270-014	5.54
15	3-3/8	5-3/4	1230-015	3.59	1231-015	6.46	1270-015	5.54
16	3-3/8	5-3/4	1230-016	3.59	1231-016	6.46	1270-016	5.54
17	3-3/8	5-3/4	1230-017	3.59	1231-017	6.46	1270-017	5.54
18	3-3/8	5-3/4	1230-018	3.59	1231-018	6.46	1270-018	6.37
19	3-3/8	5-3/4	1230-019	3.59	1231-019	6.46	1270-019	6.37
20	3-3/8	5-3/4	1230-020	3.59	1231-020	6.46	1270-020	6.37
21	3-3/8	5-3/4	1230-021	3.59	1231-021	6.46	1270-021	6.37
22	3-3/8	5-3/4	1230-022	3.59	1231-022	6.46	1270-022	6.37
23	3	5-3/8	1230-023	3.59	1231-023	6.46	1270-023	5.54
24	3	5-3/8	1230-024	3.59	1231-024	6.46	1270-024	5.54
25	3	5-3/8	1230-025	3.59	1231-025	6.46	1270-025	5.54
26	3	5-3/8	1230-026	3.59	1231-026	6.46	1270-026	5.54
27	3	5-3/8	1230-027	3.59	1231-027	6.46	1270-027	5.54
28	3	5-3/8	1230-028	3.62	1231-028	6.46	1270-028	5.54
29	3	5-3/8	1230-029	3.62	1231-029	6.46	1270-029	5.60
30	3	5-3/8	1230-030	3.62	1231-030	6.46	1270-030	5.60
31	2-3/4	5-1/8	1230-031	3.51	1231-031	6.37	1270-031	5.06
32	2-3/4	5-1/8	1230-032	3.51	1231-032	6.37	1270-032	5.06
33	2-3/4	5-1/8	1230-033	3.51	1231-033	6.37	1270-033	5.06
34	2-3/4	5-1/8	1230-034	3.51	1231-034	6.37	1270-034	5.06
35	2-3/4	5-1/8	1230-035	3.51	1231-035	6.37	1270-035	5.06
36	2-1/2	4-5/8	1230-036	2.64	1231-036	4.76	1270-036	4.11
37	2-1/2	4-5/8	1230-037	2.64	1231-037	4.76	1270-037	4.11
38	2-1/2	4-5/8	1230-038	2.64	1231-038	4.76	1270-038	4.11
39	2-1/2	4-5/8	1230-039	2.30	1231-039	4.13	1270-039	3.57
40	2-1/2	4-5/8	1230-040	2.30	1231-040	4.13	1270-040	3.57

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WIRE			Pittsburg® ALLEGIANCE® REG. SPIRAL		ALLEGIANCE® REG. SPIRAL		Pittsburg® ALLEGIANCE® FAST SPIRAL	
FRAC. SIZES	FLUTE LG'TH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
41	2-1/2	4-5/8	1230-041	\$2.30	1231-041	\$4.13	1270-041	\$3.57
42	2-1/4	4-1/4	1230-042	1.96	1231-042	3.51	1270-042	3.18
43	2-1/4	4-1/4	1230-043	1.96	1231-043	3.51	1270-043	3.18
44	2-1/4	4-1/4	1230-044	1.96	1231-044	3.51	1270-044	3.18
45	2-1/4	4-1/4	1230-045	1.96	1231-045	3.51	1270-045	3.18
46	2-1/4	4-1/4	1230-046	1.96	1231-046	3.51	1270-046	3.18
47	2-1/4	4-1/4	1230-047	1.96	1231-047	3.51	1270-047	3.18
48	2	3-3/4	1230-048	1.53	1231-048	2.91	1270-048	2.47
49	2	3-3/4	1230-049	1.53	1231-049	2.91	1270-049	2.47
50	2	3-3/4	1230-050	1.53	1231-050	2.91	1270-050	2.47
51	2	3-3/4	1230-051	1.53	1231-051	2.91	1270-051	2.47
52	2	3-3/4	1230-052	1.53	1231-052	2.91	1270-052	2.47
53	1-3/4	3	1230-053	1.53	1231-053	2.91	1270-053	1.81
54	1-3/4	3	1230-054	1.53	1231-054	2.91	1270-054	1.81
55	1-3/4	3	1230-055	1.53	1231-055	2.91	1270-055	1.81
56	1-1/8	2-1/4	1230-056	1.53	1231-056	2.91	1270-056	1.92
57	1-1/8	2-1/4	1230-057	1.53	1231-057	2.91	1270-057	2.31
58	1-1/8	2-1/4	1230-058	1.53	1231-058	2.91	1270-058	2.31
59	1-1/8	2-1/4	1230-059	1.53	1231-059	2.91	1270-059	2.31
60	1-1/8	2-1/4	1230-060	1.53	1231-060	2.91	1270-060	3.78
61	1-1/8	2-1/4	1230-061	1.56	1231-061	2.81	—	—
62	3/4	2	1230-062	1.56	1231-062	3.54	—	—
63	3/4	2	1230-063	1.56	1231-063	3.54	—	—
64	3/4	2	1230-064	1.56	1231-064	3.54	—	—
65	3/4	2	1230-065	1.56	1231-065	3.54	—	—
66	3/4	2	1230-066	1.87	1231-066	3.54	—	—
67	3/4	2	1230-067	1.87	1231-067	3.54	—	—
68	3/4	2	1230-068	1.87	1231-068	3.54	—	—
69	3/4	2	1230-069	1.87	1231-069	3.54	—	—
70	3/4	2	1230-070	2.06	1231-070	3.74	—	—
71	3/4	2	1230-071	2.06	1231-071	3.74	—	—
72	5/16	1-1/2	1230-072	2.06	1231-072	3.74	—	—
73	5/16	1-1/2	1230-073	2.06	1231-073	3.74	—	—
74	5/16	1-1/2	1230-074	2.06	1231-074	3.74	—	—
75	5/16	1-1/2	1230-075	2.06	1231-075	3.74	—	—
76	5/16	1-1/2	1230-076	2.45	1231-076	4.47	—	—
77	5/16	1-1/2	1230-077	2.45	1231-077	4.52	—	—
78	5/16	1-1/2	1230-078	2.45	1231-078	4.52	—	—
79	5/16	1-1/2	1230-079	2.45	1231-079	4.52	—	—
80	5/16	1-1/2	1230-080	2.45	1231-080	4.52	—	—



# Aircraft Extension Drills

•For drilling holes where reach is normally not accessible with jobbers or taper length drills

## Fractional Sizes

DIAM.	FLUTE LG'TH	Pittsburg ALLEGHANY HIGH SPEED STEEL				ALLEGIANCE® HIGH SPEED STEEL				Pittsburg ALLEGHANY COBALT				ROCK RIVER CARBIDE TIPPED			
		6" OAL		12" OAL		6" OAL		12" OAL		6" OAL		12" OAL		6" OAL		12" OAL	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/64	3/4	1550-003	\$3.42	1580-003	\$5.70	-	-	-	-	1601-003	\$3.80	1604-003	\$10.73	-	-	-	-
1/16	7/8	1550-004	1.56	1580-004	4.26	1550-104	\$2.40	-	-	1601-004	2.86	1604-004	8.05	-	-	-	-
5/64	1	1550-005	1.56	1580-005	4.26	1550-105	2.40	-	-	1601-005	2.90	1604-005	8.10	-	-	-	-
3/32	1-1/4	1550-006	1.18	1580-006	4.26	1550-106	2.05	-	-	1601-006	2.90	1604-006	8.10	-	-	-	-
7/64	1-1/2	1550-007	1.33	1580-007	3.88	1550-107	2.10	-	-	1601-007	3.12	1604-007	8.32	-	-	-	-
1/8	1-5/8	1550-008	1.33	1580-008	3.80	1550-108	2.15	1580-108	\$4.65	1601-008	3.12	1604-008	8.32	2997-008	\$15.05	2997-308	\$17.75
9/64	1-3/4	1550-009	1.60	1580-009	3.80	1550-109	2.40	-	-	1601-009	3.65	1604-009	8.45	2997-009	16.35	2997-309	19.20
5/32	2	1550-010	1.60	1580-010	3.80	1550-110	2.40	-	-	1601-010	3.65	1604-010	8.45	2997-010	16.00	2997-310	18.85
11/64	2-1/8	1550-011	1.71	1580-011	4.29	1550-111	2.60	-	-	1601-011	4.00	1604-011	9.15	2997-011	17.45	2997-311	20.55
3/16	2-5/16	1550-012	1.71	1580-012	4.29	1550-112	2.60	1580-112	5.30	1601-012	4.00	1604-012	9.15	2997-012	17.10	2997-312	20.10
13/64	2-7/16	1550-013	2.13	1580-013	4.90	1550-113	3.20	-	-	1601-013	4.93	1604-013	10.52	2997-013	18.70	2997-313	21.95
7/32	2-1/2	1550-014	2.13	1580-014	4.90	1550-114	3.25	-	-	1601-014	4.93	1604-014	10.52	2997-014	18.70	2997-314	21.95
15/64	2-5/8	1550-015	2.28	1580-015	5.24	1550-115	3.45	-	-	1601-015	5.37	1604-015	11.22	2997-015	20.10	2997-315	23.70
1/4	2-3/4	1550-016	2.28	1580-016	5.24	1550-116	3.45	1580-116	6.45	1601-016	5.37	1604-016	11.22	2997-016	20.10	2997-316	23.70
17/64	2-7/8	1550-017	4.07	1580-017	6.04	1550-117	5.35	-	-	-	-	1604-017	13.77	2997-017	21.50	2997-317	25.30
9/32	2-15/16	1550-018	4.29	1580-018	6.38	1550-118	5.55	-	-	-	-	1604-018	16.20	2997-018	21.50	2997-318	25.30
19/64	3-1/16	1550-019	4.86	1580-019	7.22	1550-119	6.05	-	-	-	-	1604-019	16.20	2997-019	23.35	2997-319	27.45
5/16	3-3/16	1550-020	5.50	1580-020	8.09	1550-120	6.25	1580-120	10.50	-	-	1604-020	17.55	2997-020	23.35	2997-320	27.45
21/64	3-5/16	1550-021	5.72	1580-021	8.47	1550-121	6.90	-	-	-	-	1604-021	17.01	2997-021	24.80	2997-321	29.25
11/32	3-7/16	1550-022	5.78	1580-022	8.55	1550-122	7.45	-	-	-	-	1604-022	21.60	2997-022	24.80	2997-322	29.25
23/64	3-1/2	1550-023	6.38	1580-023	9.39	1550-123	8.10	-	-	-	-	1604-023	21.92	2997-023	26.45	2997-323	31.00
3/8	3-5/8	1550-024	6.75	1580-024	9.96	1550-124	8.45	1580-124	12.90	-	-	1604-024	21.92	2997-024	26.45	2997-324	31.00
25/64	3-3/4	1550-025	7.08	1580-025	10.45	1550-125	8.65	-	-	-	-	1604-025	22.82	2997-025	27.15	2997-325	32.00
13/32	3-7/8	1550-026	7.08	1580-026	10.45	1550-126	9.25	-	-	-	-	1604-026	23.31	2997-026	26.75	2997-326	31.55
27/64	3-15/16	1550-027	7.60	1580-027	11.25	1550-127	10.00	-	-	-	-	1604-027	25.97	2997-027	29.45	2997-327	34.65
7/16	4-1/16	1550-028	8.00	1580-028	11.82	1550-128	10.70	1580-128	15.10	-	-	1604-028	26.98	2997-028	29.45	2997-328	34.65
29/64	4-1/16	1550-029	8.45	1580-029	12.46	1550-129	11.65	-	-	-	-	1604-029	28.16	2997-029	33.80	2997-329	39.80
15/32	4-5/16	1550-030	9.09	1580-030	13.45	1550-130	12.25	-	-	-	-	1604-030	28.16	2997-030	33.10	2997-330	39.00
31/64	4-3/8	-	-	1580-031	13.45	-	-	-	-	-	-	1604-031	29.03	2997-031	37.20	2997-331	43.75
1/2	4-1/2	-	-	1580-032	14.17	-	-	1580-132	18.30	-	-	1604-032	29.03	2997-032	37.20	2997-332	43.75

## Letter Sizes

DIAM.	FLUTE LG'TH	Pittsburg ALLEGHANY HIGH SPEED STEEL				ROCK RIVER CARBIDE TIPPED			
		6" OAL		12" OAL		6" OAL		12" OAL	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	2-5/8	1570-001	\$3.08	1600-001	\$6.54	2997-201	\$28.05	2997-501	\$33.00
B	2-3/4	1570-002	3.08	1600-002	6.54	2997-202	28.05	2997-502	33.00
C	2-3/4	1570-003	3.08	1600-003	6.54	2997-203	28.05	2997-503	33.00
D	2-3/4	1570-004	3.08	1600-004	6.54	2997-204	27.55	2997-504	32.40
E	2-3/4	1570-005	2.39	1600-005	5.93	2997-205	20.10	2997-505	23.70
F	2-7/8	1570-006	3.38	1600-006	7.75	2997-206	28.80	2997-506	33.90
G	2-7/8	-	-	1600-007	7.75	2997-207	29.45	2997-507	34.65
H	2-7/8	-	-	1600-008	7.75	2997-208	30.05	2997-508	35.40
I	2-7/8	-	-	1600-009	7.75	2997-209	29.45	2997-509	34.65
J	2-7/8	-	-	1600-010	7.75	2997-210	30.05	2997-510	35.40
K	2-15/16	-	-	1600-011	7.75	2997-211	30.05	2997-511	35.40
L	2-15/16	-	-	1600-012	8.17	2997-212	30.05	2997-512	35.40
M	3-1/16	-	-	1600-013	8.17	2997-213	33.10	2997-513	39.00
N	3-1/16	-	-	1600-014	8.93	2997-214	32.40	2997-514	38.15
O	3-1/16	-	-	1600-015	9.61	2997-215	30.80	2997-515	36.25
P	3-5/16	-	-	1600-016	9.61	2997-216	32.80	2997-516	38.60
Q	3-7/16	-	-	1600-017	10.07	2997-217	33.65	2997-517	39.60
R	3-7/16	-	-	1600-018	10.49	2997-218	32.80	2997-518	38.60
S	3-1/2	-	-	1600-019	10.98	2997-219	35.45	2997-519	41.65
T	3-1/2	-	-	1600-020	10.98	2997-220	36.35	2997-520	42.75
U	3-5/8	-	-	1600-021	10.98	2997-221	34.95	2997-521	41.15
V	3-5/8	-	-	1600-022	11.63	2997-222	35.45	2997-522	41.65
W	3-3/4	-	-	1600-023	11.63	2997-223	38.00	2997-523	44.75
X	3-3/4	-	-	1600-024	12.35	2997-224	36.00	2997-524	42.40
Y	3-7/8	-	-	1600-025	12.35	2997-225	37.40	2997-525	43.95
Z	3-7/8	-	-	1600-026	13.00	2997-226	42.15	2997-526	49.55

# Aircraft Extension Drills

• For drilling holes where reach is normally not accessible with jobbers or taper length drills

## Wire Gage Sizes

DIAM.	FLUTE LG'TH	Pittsburg ALLEGHANY HIGH SPEED STEEL				Pittsburg ALLEGHANY COBALT				ROCK RIVER CARBIDE TIPPED			
		6" OAL		12" OAL		6" OAL		12" OAL		6" OAL		12" OAL	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	2-5/8	1560-001	\$2.39	1590-001	\$5.81	-	-	-	-	2997-101	\$23.35	2997-401	\$27.45
2	2-5/8	1560-002	2.39	1590-002	5.81	-	-	-	-	2997-102	23.65	2997-402	27.80
3	2-1/2	1560-003	2.17	1590-003	5.43	-	-	-	-	2997-103	24.00	2997-403	28.35
4	2-1/2	1560-004	2.17	1590-004	5.43	-	-	-	-	2997-104	22.60	2997-404	26.60
5	2-1/2	1560-005	2.17	1590-005	5.43	-	-	-	-	2997-105	24.00	2997-405	28.35
6	2-1/2	1560-006	2.17	1590-006	5.43	-	-	-	-	2997-106	24.70	2997-406	29.05
7	2-7/16	1560-007	2.17	1590-007	5.43	1602-007	\$5.06	1605-007	\$10.96	2997-107	24.00	2997-407	28.35
8	2-7/16	1560-008	2.17	1590-008	5.43	-	-	-	-	2997-108	24.00	2997-408	28.35
9	2-7/16	1560-009	2.13	1590-009	4.86	-	-	-	-	2997-109	24.00	2997-409	28.35
10	2-7/16	1560-010	1.98	1590-010	4.86	1602-010	4.53	1605-010	9.77	2997-110	23.75	2997-410	27.95
11	2-5/16	1560-011	1.82	1590-011	4.86	-	-	-	-	2997-111	24.00	2997-411	28.35
12	2-5/16	1560-012	1.82	1590-012	4.86	-	-	-	-	2997-112	23.75	2997-412	27.95
13	2-5/16	1560-013	1.82	1590-013	4.86	-	-	-	-	2997-113	22.80	2997-413	26.80
14	2-3/16	1560-014	1.82	1590-014	4.86	-	-	-	-	2997-114	22.80	2997-414	26.80
15	2-3/16	1560-015	1.82	1590-015	4.86	-	-	-	-	2997-115	23.50	2997-415	27.65
16	2-3/16	1560-016	1.82	1590-016	4.86	-	-	-	-	2997-116	22.80	2997-416	26.80
17	2-3/16	1560-017	1.82	1590-017	4.86	-	-	-	-	2997-117	23.35	2997-417	27.45
18	2-1/8	1560-018	1.82	1590-018	4.86	-	-	-	-	2997-118	23.35	2997-418	27.45
19	2-1/8	1560-019	1.67	1590-019	4.86	-	-	-	-	2997-119	23.35	2997-419	27.45
20	2-1/8	1560-020	1.67	1590-020	4.45	1602-020	3.92	1605-020	8.98	2997-120	23.35	2997-420	27.45
21	2-1/8	1560-021	1.67	1590-021	4.45	-	-	-	-	2997-121	22.80	2997-421	26.80
22	2	1560-022	1.67	1590-022	4.45	-	-	-	-	2997-122	23.50	2997-422	27.65
23	2	1560-023	1.67	1590-023	4.45	-	-	-	-	2997-123	21.50	2997-423	25.30
24	2	1560-024	1.67	1590-024	4.45	-	-	-	-	2997-124	21.95	2997-424	25.80
25	1-7/8	1560-025	1.67	1590-025	4.45	-	-	-	-	2997-125	21.50	2997-425	25.30
26	1-7/8	1560-026	1.67	1590-026	4.45	-	-	-	-	2997-126	21.50	2997-426	25.30
27	1-7/8	1560-027	1.67	1590-027	4.45	-	-	-	-	2997-127	21.95	2997-427	25.80
28	1-3/4	1560-028	1.67	1590-028	4.45	-	-	-	-	2997-128	21.50	2997-428	25.30
29	1-3/4	1560-029	1.67	1590-029	4.45	-	-	-	-	2997-129	21.10	2997-429	24.85
30	1-5/8	1560-030	1.37	1590-030	4.45	1602-030	3.12	1605-030	8.98	2997-130	20.50	2997-430	24.10
31	1-5/8	1560-031	1.37	1590-031	4.45	-	-	-	-	2997-131	19.45	2997-431	22.85
32	1-5/8	1560-032	1.37	1590-032	4.45	-	-	-	-	2997-132	21.75	2997-432	25.60
33	1-1/2	1560-033	1.37	1590-033	4.45	-	-	-	-	-	-	-	-
34	1-1/2	1560-034	1.37	1590-034	4.45	-	-	-	-	-	-	-	-
35	1-1/2	1560-035	1.37	1590-035	4.45	-	-	-	-	-	-	-	-
36	1-7/16	1560-036	1.37	1590-036	4.45	-	-	-	-	-	-	-	-
37	1-7/16	1560-037	1.37	1590-037	4.45	-	-	-	-	-	-	-	-
38	1-7/16	1560-038	1.37	1590-038	4.45	-	-	-	-	-	-	-	-
39	1-3/8	1560-039	1.37	1590-039	4.45	-	-	-	-	-	-	-	-
40	1-3/8	1560-040	1.18	1590-040	4.45	1602-040	2.90	1605-040	8.98	-	-	-	-
41	1-3/8	1560-041	1.18	1590-041	4.45	-	-	-	-	-	-	-	-
42	1-1/4	1560-042	1.18	1590-042	4.45	-	-	-	-	-	-	-	-
43	1-1/4	1560-043	1.56	1590-043	5.62	-	-	-	-	-	-	-	-
44	1-1/8	1560-044	1.56	1590-044	5.62	-	-	-	-	-	-	-	-
45	1-1/8	1560-045	1.56	1590-045	5.62	-	-	-	-	-	-	-	-
46	1-1/8	1560-046	1.56	1590-046	5.62	-	-	-	-	-	-	-	-
47	1	1560-047	1.56	1590-047	5.62	-	-	-	-	-	-	-	-
48	1	1560-048	1.56	1590-048	5.62	-	-	-	-	-	-	-	-
49	1	1560-049	1.56	1590-049	5.62	-	-	-	-	-	-	-	-
50	1	1560-050	1.56	1590-050	5.62	1602-050	3.48	1605-050	9.24	-	-	-	-
51	1	1560-051	1.56	1590-051	5.97	-	-	-	-	-	-	-	-
52	7/8	1560-052	1.56	1590-052	5.97	-	-	-	-	-	-	-	-
53	7/8	1560-053	3.12	1590-053	6.00	-	-	-	-	-	-	-	-
54	7/8	1560-054	3.12	1590-054	6.00	-	-	-	-	-	-	-	-
55	7/8	1560-055	3.12	1590-055	6.00	-	-	-	-	-	-	-	-
56	3/4	1560-056	3.12	1590-056	6.00	-	-	-	-	-	-	-	-
57	3/4	1560-057	3.72	1590-057	6.00	-	-	-	-	-	-	-	-
58	11/16	1560-058	3.72	1590-058	6.80	-	-	-	-	-	-	-	-
59	11/16	1560-059	3.72	1590-059	6.80	-	-	-	-	-	-	-	-
60	11/16	1560-060	3.72	1590-060	6.80	-	-	-	-	-	-	-	-

# Extra Long Drills—

## Straight Shank



High Speed Steel - 118° Point

Cobalt - 135° Split Point

DIAM.	8" OAL X 5-1/2" FLT				12" OAL X 9" FLT			
	HSS		COBALT		HSS		COBALT	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/32	1620-608	\$11.60	1660-608	\$25.40	-	-	-	-
7/64	1620-708	9.80	1660-708	20.45	1620-712	\$14.05	-	-
1/8	1620-808	9.30	1660-808	20.45	1620-812	14.05	1660-812	\$26.45
9/64	1620-908	8.90	-	-	1620-912	14.05	-	-
5/32	1621-008	10.20	1661-008	22.35	1621-012	15.25	-	-
11/64	1621-108	10.25	-	-	1621-112	15.55	-	-
3/16	1621-208	10.35	1661-208	22.75	1621-212	16.00	1661-212	29.95
13/64	1621-308	11.20	-	-	1621-312	16.55	-	-
7/32	1621-408	13.45	-	-	1621-412	17.15	-	-
15/64	1621-508	11.15	-	-	1621-512	17.35	-	-
1/4	1621-608	10.65	1661-608	23.35	1621-612	17.35	1661-612	33.45
17/64	1621-708	10.70	-	-	1621-712	18.40	-	-
9/32	1621-808	11.75	1661-808	25.80	1621-812	18.40	-	-
19/64	1621-908	12.20	-	-	1621-912	19.00	-	-
5/16	1622-008	12.50	1662-008	27.35	1622-012	19.00	1662-012	35.90
21/64	1622-108	16.00	-	-	1622-112	20.30	-	-
11/32	1622-208	15.05	1662-208	33.00	1622-212	20.30	-	-
23/64	1622-308	14.80	-	-	1622-312	20.65	-	-
3/8	1622-408	12.70	1662-408	27.85	1622-412	20.65	1662-412	38.55
25/64	1622-508	16.80	-	-	1622-512	22.85	-	-
13/32	1622-608	15.90	1662-608	34.90	1622-612	22.85	-	-
27/64	1622-708	21.20	-	-	1622-712	23.95	-	-
7/16	1622-808	17.95	1662-808	39.35	1622-812	23.95	1662-812	45.85
29/64	1622-908	18.30	-	-	1622-912	27.30	-	-
15/32	1623-008	20.85	-	-	1623-012	27.30	-	-
31/64	1623-108	24.50	-	-	1623-112	27.30	-	-
1/2	1623-208	18.45	-	-	1623-212	27.30	1663-212	51.45
33/64	-	-	-	-	1623-312	33.65	-	-
17/32	-	-	-	-	1623-412	33.65	-	-
35/64	-	-	-	-	1623-512	33.65	-	-
9/16	-	-	-	-	1623-612	33.65	1663-612	64.10
37/64	-	-	-	-	1623-712	36.30	-	-
19/32	-	-	-	-	1623-812	36.30	-	-
39/64	-	-	-	-	1623-912	38.00	-	-
5/8	-	-	-	-	1624-012	38.00	1664-012	72.35
41/64	-	-	-	-	1624-112	42.10	-	-
21/32	-	-	-	-	1624-212	42.10	-	-
43/64	-	-	-	-	1624-312	44.50	-	-
11/16	-	-	-	-	1624-412	44.50	1664-412	84.80
45/64	-	-	-	-	1624-512	48.30	-	-
23/32	-	-	-	-	1624-612	48.30	-	-
47/64	-	-	-	-	1624-712	50.15	-	-
3/4	-	-	-	-	1624-812	50.15	-	-
49/64	-	-	-	-	1624-912	54.65	-	-
25/32	-	-	-	-	1625-012	54.65	-	-
51/64	-	-	-	-	1625-112	59.40	-	-
13/16	-	-	-	-	1625-212	59.40	-	-
53/64	-	-	-	-	1625-312	66.10	-	-
27/32	-	-	-	-	1625-412	66.10	-	-
55/64	-	-	-	-	1625-512	71.25	-	-
7/8	-	-	-	-	1625-612	71.25	-	-
57/64	-	-	-	-	1625-712	79.20	-	-
29/32	-	-	-	-	1625-812	79.20	-	-
59/64	-	-	-	-	1625-912	82.10	-	-
15/16	-	-	-	-	1626-012	82.10	-	-
61/64	-	-	-	-	1626-112	85.40	-	-
31/32	-	-	-	-	1626-212	85.40	-	-
63/64	-	-	-	-	1626-312	85.40	-	-
1	-	-	-	-	1626-412	85.40	-	-

# Extra Long Drills—Straight Shank

## High Speed Steel, 6" thru 36" OAL



DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/32	6	1610-206	\$9.32
3/64	6	1610-306	8.07
1/16	6	1610-406	7.88
1/16	8	1610-408	9.94
5/64	6	1610-506	7.88
5/64	8	1610-508	9.94
3/32	6	1610-606	7.48
3/32	8	1610-608	7.99
3/32	10	1610-610	10.05
7/64	6	1610-706	7.12
7/64	8	1610-708	7.99
7/64	10	1610-710	10.05
7/64	12	1610-712	11.72
1/8	6	1610-806	5.39
1/8	8	1610-808	5.95
1/8	10	1610-810	7.69
1/8	12	1610-812	8.03
1/8	16	1610-816	19.63
1/8	18	1610-818	27.88
9/64	6	1610-906	5.52
9/64	8	1610-908	6.04
9/64	10	1610-910	6.67
9/64	12	1610-912	8.03
9/64	16	1610-916	19.63
9/64	18	1610-918	27.88
5/32	6	1611-006	5.52
5/32	8	1611-008	6.04
5/32	10	1611-010	6.67
5/32	12	1611-012	8.03
5/32	16	1611-016	13.57
5/32	18	1611-018	24.40
11/64	6	1611-106	6.04
11/64	8	1611-108	6.63
11/64	10	1611-110	7.44
11/64	12	1611-112	8.03
11/64	16	1611-116	14.08
11/64	18	1611-118	24.40
3/16	6	1611-206	6.04
3/16	8	1611-208	6.63
3/16	10	1611-210	7.44
3/16	12	1611-212	8.03
3/16	16	1611-216	13.01
3/16	18	1611-218	19.51
13/64	8	1611-308	6.63
13/64	10	1611-310	7.44
13/64	12	1611-312	8.03
13/64	16	1611-316	15.23
13/64	18	1611-318	15.90
7/32	8	1611-408	6.63
7/32	10	1611-410	7.44
7/32	12	1611-412	8.03
7/32	16	1611-416	15.23
7/32	18	1611-418	15.90
15/64	8	1611-508	6.72
15/64	10	1611-510	7.61
15/64	12	1611-512	8.03
15/64	16	1611-516	15.17
15/64	18	1611-518	15.90
1/4	8	1611-608	6.72
1/4	10	1611-610	7.61
1/4	12	1611-612	8.03
1/4	16	1611-616	16.42
1/4	18	1611-618	15.90
1/4	24	1611-624	41.00

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
17/64	8	1611-708	\$ 7.44
17/64	10	1611-710	8.33
17/64	12	1611-712	9.18
17/64	16	1611-716	15.42
17/64	18	1611-718	18.96
17/64	24	1611-724	50.60
9/32	8	1611-808	7.44
9/32	10	1611-810	8.33
9/32	12	1611-812	9.18
9/32	16	1611-816	15.42
9/32	18	1611-818	18.96
9/32	24	1611-824	50.60
19/64	8	1611-908	7.44
19/64	10	1611-910	8.71
19/64	12	1611-912	9.18
19/64	16	1611-916	16.88
19/64	18	1611-918	18.96
19/64	24	1611-924	50.60
5/16	8	1612-008	7.61
5/16	10	1612-010	8.80
5/16	12	1612-012	9.39
5/16	16	1612-016	16.88
5/16	18	1612-018	18.96
5/16	24	1612-024	42.17
21/64	8	1612-108	8.50
21/64	10	1612-110	9.61
21/64	12	1612-112	10.58
21/64	16	1612-116	17.66
21/64	18	1612-118	18.96
21/64	24	1612-124	51.80
11/32	8	1612-208	8.50
11/32	10	1612-210	9.61
11/32	12	1612-212	10.58
11/32	16	1612-216	17.66
11/32	18	1612-218	18.96
11/32	24	1612-224	51.80
23/64	8	1612-308	8.93
23/64	10	1612-310	9.95
23/64	12	1612-312	11.01
23/64	16	1612-316	18.49
23/64	18	1612-318	18.96
23/64	24	1612-324	51.80
3/8	8	1612-408	8.93
3/8	10	1612-410	9.95
3/8	12	1612-412	11.01
3/8	16	1612-416	18.49
3/8	18	1612-418	18.96
3/8	24	1612-424	43.17
25/64	8	1612-508	9.61
25/64	10	1612-510	10.88
25/64	12	1612-512	11.90
25/64	16	1612-516	18.68
25/64	18	1612-518	20.70
25/64	24	1612-524	60.54
13/32	8	1612-608	9.61
13/32	10	1612-610	10.88
13/32	12	1612-612	11.90
13/32	16	1612-616	18.68
13/32	18	1612-618	20.70
13/32	24	1612-624	60.54
27/64	8	1612-708	9.95
27/64	10	1612-710	11.01
27/64	12	1612-712	12.24
27/64	16	1612-716	19.50
27/64	18	1612-718	22.27
27/64	24	1612-724	60.54

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
7/16	8	1612-808	\$9.95
7/16	10	1612-810	11.01
7/16	12	1612-812	12.24
7/16	16	1612-816	19.50
7/16	18	1612-818	22.27
7/16	24	1612-824	50.44
7/16	30	1612-830	POA
7/16	36	1612-836	POA
29/64	8	1612-908	11.35
29/64	10	1612-910	12.62
29/64	12	1612-912	13.81
29/64	16	1612-916	21.11
29/64	18	1612-918	25.54
29/64	24	1612-924	70.04
15/32	8	1613-008	11.35
15/32	10	1613-010	12.62
15/32	12	1613-012	13.81
15/32	16	1613-016	21.11
15/32	18	1613-018	25.54
15/32	24	1613-024	70.04
31/64	8	1613-108	11.52
31/64	10	1613-110	12.96
31/64	12	1613-112	14.37
31/64	16	1613-116	24.89
31/64	18	1613-118	26.44
31/64	24	1613-124	70.04
1/2	8	1613-208	11.52
1/2	10	1613-210	12.96
1/2	12	1613-212	14.37
1/2	16	1613-216	24.89
1/2	18	1613-218	26.44
1/2	24	1613-224	58.36
1/2	30	1613-230	POA
1/2	36	1613-236	POA
33/64	10	1613-310	18.30
33/64	12	1613-312	19.98
33/64	16	1613-316	27.00
33/64	18	1613-318	33.96
33/64	24	1613-324	93.60
17/32	10	1613-410	18.30
17/32	12	1613-412	19.98
17/32	16	1613-416	27.00
17/32	18	1613-418	33.96
17/32	24	1613-424	93.60
35/64	10	1613-510	18.89
35/64	12	1613-512	20.06
35/64	16	1613-516	27.32
35/64	18	1613-518	36.38
35/64	24	1613-524	93.60
9/16	10	1613-610	18.89
9/16	12	1613-612	20.06
9/16	16	1613-616	27.32
9/16	18	1613-618	36.38
9/16	24	1613-624	78.00
9/16	30	1613-630	POA
9/16	36	1613-636	POA
37/64	12	1613-712	21.04
37/64	16	1613-716	32.57
37/64	18	1613-718	40.08
37/64	24	1613-724	101.92
19/32	12	1613-812	21.04
19/32	16	1613-816	32.57
19/32	18	1613-818	40.08
19/32	24	1613-824	101.92
39/64	12	1613-912	22.44
39/64	16	1613-916	36.39
39/64	18	1613-918	44.20
39/64	24	1613-924	101.92

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
5/8	12	1614-012	\$ 22.44
5/8	16	1614-016	36.39
5/8	18	1614-018	43.05
5/8	24	1614-024	84.93
5/8	30	1614-030	POA
5/8	36	1614-036	POA
41/64	12	1614-112	23.80
41/64	16	1614-116	38.73
41/64	18	1614-118	47.81
41/64	24	1614-124	118.94
21/32	12	1614-212	23.80
21/32	16	1614-216	38.73
21/32	18	1614-218	47.81
21/32	24	1614-224	118.94
43/64	12	1614-312	25.76
43/64	16	1614-316	40.89
43/64	18	1614-318	49.77
43/64	24	1614-324	118.94
11/16	12	1614-412	25.76
11/16	16	1614-416	40.89
11/16	18	1614-418	49.77
11/16	24	1614-424	99.12
11/16	30	1614-430	POA
11/16	36	1614-436	POA
45/64	12	1614-512	28.56
45/64	16	1614-516	45.63
45/64	18	1614-518	54.83
45/64	24	1614-524	137.24
23/32	12	1614-612	28.56
23/32	16	1614-616	45.63
23/32	18	1614-618	54.83
23/32	24	1614-624	137.24
47/64	12	1614-712	30.73
47/64	16	1614-716	48.25
47/64	18	1614-718	57.12
47/64	24	1614-724	137.24
3/4	12	1614-812	30.73
3/4	16	1614-816	48.25
3/4	18	1614-818	57.12
3/4	24	1614-824	114.37
49/64	12	1614-912	34.51
49/64	16	1614-916	50.60
49/64	18	1614-918	58.99
49/64	24	1614-924	143.10
25/32	12	1615-012	34.51
25/32	16	1615-016	50.60
25/32	18	1615-018	58.99
25/32	24	1615-024	119.65
51/64	12	1615-112	36.64
51/64	16	1615-116	52.72
51/64	18	1615-118	60.86
13/16	12	1615-212	36.64
13/16	16	1615-216	52.72
13/16	18	1615-218	60.86
13/16	24	1615-224	122.58
53/64	12	1615-312	38.68
53/64	16	1615-316	55.86
53/64	18	1615-318	63.16
27/32	12	1615-412	38.68
27/32	16	1615-416	55.86
27/32	18	1615-418	63.16
27/32	24	1615-424	128.74

(cont'd)



# Extra Long Drills— Straight Shank (Cont'd)

High Speed Steel



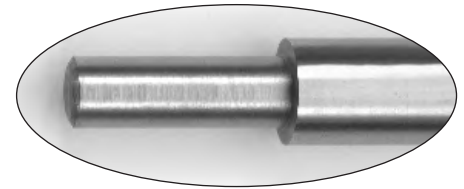
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**Metric Sizes -**  
9" Loc x 12" OAL

**1/2" Shank -**  
9" Loc x 12" OAL

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
55/64	12	1615-512	\$ 40.29
55/64	16	1615-516	57.27
55/64	18	1615-518	65.58
7/8	12	1615-612	40.29
7/8	16	1615-616	57.27
7/8	18	1615-618	65.58
7/8	24	1615-624	131.96
57/64	12	1615-712	41.35
57/64	16	1615-716	58.50
57/64	18	1615-718	66.00
29/32	12	1615-812	41.35
29/32	16	1615-816	58.50
29/32	18	1615-818	66.00
29/32	24	1615-824	165.40
59/64	12	1615-912	43.18
59/64	16	1615-916	59.34
59/64	18	1615-918	66.47
15/16	12	1616-012	43.18
15/16	16	1616-016	59.34
15/16	18	1616-018	66.47
15/16	24	1616-024	137.83
61/64	12	1616-112	45.94
61/64	16	1616-116	62.06
61/64	18	1616-118	69.02
61/64	24	1616-124	175.96
31/32	12	1616-212	45.94
31/32	16	1616-216	62.06
31/32	18	1616-218	69.02
31/32	24	1616-224	175.96
63/64	12	1616-312	51.64
63/64	16	1616-316	66.84
63/64	18	1616-318	72.04
63/64	24	1616-324	175.96
1	12	1616-412	51.64
1	16	1616-416	66.84
1	18	1616-418	72.04
1	24	1616-424	146.63
1-1/16	18	1616-818	84.11
1-1/16	24	1616-824	164.80
1-1/8	18	1617-218	84.11
1-1/8	24	1617-224	178.76
1-3/16	18	1617-618	112.16
1-3/16	24	1617-624	199.43
1-1/4	18	1618-018	134.60
1-1/4	24	1618-024	239.79

DIAM. MM.	ORDER NO.	PRICE EACH
3.00	1643-030	\$9.23
3.50	1643-035	9.23
4.00	1643-040	9.23
4.50	1643-045	9.23
5.00	1643-050	9.23
5.50	1643-055	9.23
6.00	1643-060	9.23
6.50	1643-065	10.56
7.00	1643-070	10.56
7.50	1643-075	10.56
8.00	1643-080	12.17
8.50	1643-085	12.17
9.00	1643-090	12.66
9.50	1643-095	12.66
10.00	1643-100	13.69
10.50	1643-105	14.08
11.00	1643-110	14.08
11.50	1643-115	15.88
12.00	1643-120	16.53
12.50	1643-125	16.53
13.00	1643-130	22.98
13.50	1643-135	23.07
14.00	1643-140	23.07
14.50	1643-145	24.20
15.00	1643-150	24.20
15.50	1643-155	25.81
16.00	1643-160	27.37
16.50	1643-165	27.37
17.00	1643-170	29.62
17.50	1643-175	32.84
18.00	1643-180	32.84
18.50	1643-185	35.34
19.00	1643-190	35.34
19.50	1643-195	39.69
20.00	1643-200	42.14
20.50	1643-205	42.14
21.00	1643-210	44.48
21.50	1643-215	46.33
22.00	1643-220	46.33
22.50	1643-225	47.55
23.00	1643-230	47.55
23.50	1643-235	49.66
24.00	1643-240	52.83
24.50	1643-245	52.83
25.00	1643-250	59.39



DIAM.	ORDER NO.	PRICE EACH
33/64	1653-312	\$23.98
17/32	1653-412	23.98
35/64	1653-512	24.07
9/16	1653-612	24.07
37/64	1653-712	25.25
19/32	1653-812	25.25
39/64	1653-912	26.93
5/8	1654-012	26.93
41/64	1654-112	28.56
21/32	1654-212	28.56
43/64	1654-312	30.91
11/16	1654-412	30.91
45/64	1654-512	34.27
23/32	1654-612	34.27
47/64	1654-712	36.88
3/4	1654-812	36.88
49/64	1654-912	41.41
25/32	1655-012	41.41
51/64	1655-112	43.97
13/16	1655-212	43.97
53/64	1655-312	46.42
27/32	1655-412	46.42
55/64	1655-512	48.35
7/8	1655-612	48.35
57/64	1655-712	49.62
29/32	1655-812	49.62
59/64	1655-912	51.82
15/16	1656-012	51.82
61/64	1656-112	55.13
31/32	1656-212	55.13
63/64	1656-312	61.97
1	1656-412	61.97

# Extra Long Drills—Straight Shank



## High Speed Steel



### Wire Gage Sizes

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1	8	1630-108	\$7.73
1	12	1630-112	9.23
2	8	1630-208	7.73
2	12	1630-212	9.23
3	8	1630-308	7.62
3	12	1630-312	9.23
4	8	1630-408	7.62
4	12	1630-412	9.23
5	8	1630-508	7.62
5	12	1630-512	9.23
6	8	1630-608	7.62
6	12	1630-612	9.23
7	8	1630-708	7.62
7	12	1630-712	9.23
8	8	1630-808	7.62
8	12	1630-812	9.23
9	8	1630-908	7.62
9	12	1630-912	9.23
10	8	1631-008	7.62
10	12	1631-012	9.23
11	8	1631-108	7.62
11	12	1631-112	9.23
12	8	1631-208	7.62
12	12	1631-212	9.23
13	6	1631-306	6.95
13	8	1631-308	7.62
13	12	1631-312	9.23
14	6	1631-406	6.95
14	8	1631-408	7.62
14	12	1631-412	9.23
15	6	1631-506	6.95
15	8	1631-508	7.62
15	12	1631-512	9.23
16	6	1631-606	6.95
16	8	1631-608	7.62
16	12	1631-612	9.23
17	6	1631-706	6.95
17	8	1631-708	7.62
17	12	1631-712	9.23
18	6	1631-806	6.95
18	8	1631-808	7.62
18	12	1631-812	9.23
19	6	1631-906	6.95
19	8	1631-908	7.62
19	12	1631-912	9.23
20	6	1632-006	6.95
20	8	1632-008	7.62
20	12	1632-012	9.23

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
21	6	1632-106	\$6.95
21	8	1632-108	7.62
21	12	1632-112	9.23
22	6	1632-206	6.95
22	8	1632-208	7.62
22	12	1632-212	9.23
23	6	1632-306	6.35
23	8	1632-308	6.95
23	12	1632-312	9.23
24	6	1632-406	6.35
24	8	1632-408	6.95
24	12	1632-412	9.23
25	6	1632-506	6.35
25	8	1632-508	6.95
25	12	1632-512	9.23
26	6	1632-606	6.35
26	8	1632-608	6.95
26	12	1632-612	9.23
27	6	1632-706	6.35
27	8	1632-708	6.95
27	12	1632-712	9.23
28	6	1632-806	6.35
28	12	1632-812	9.23
29	6	1632-906	6.35
29	8	1632-908	6.95
29	12	1632-912	9.23
30	6	1633-006	6.35
30	8	1633-008	6.95
30	12	1633-012	9.23
31	6	1633-106	6.20
31	8	1633-108	6.84
31	12	1633-112	9.23
32	6	1633-206	6.20
32	8	1633-208	6.84
33	6	1633-306	6.20
33	8	1633-308	6.84
34	6	1633-406	6.20
34	8	1633-408	6.84
35	6	1633-506	6.20
35	8	1633-508	6.84
36	6	1633-606	8.19
36	8	1633-608	9.19
37	6	1633-706	8.19
37	8	1633-708	9.19
38	6	1633-806	8.19
38	8	1633-808	9.19
39	6	1633-906	8.19
39	8	1633-908	9.19
40	6	1634-006	8.19
40	8	1634-008	9.19

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
41	6	1634-106	\$8.19
41	8	1634-108	9.19
42	6	1634-206	8.60
42	8	1634-208	9.19
43	6	1634-306	8.60
44	6	1634-406	8.60
45	6	1634-506	8.60
46	6	1634-606	8.60
47	6	1634-706	8.60
48	6	1634-806	9.06
49	6	1634-906	9.06
50	6	1635-006	9.06
51	6	1635-106	9.06
52	6	1635-206	9.06
53	3 1/2	1635-303	3.70
53	6	1635-306	9.06
54	3 1/2	1635-403	3.70
54	6	1635-406	9.06
55	3 3/8	1635-503	3.70
55	6	1635-506	9.06
56	3 1/4	1635-613	3.70
56	6	1635-606	9.28
57	3 1/4	1635-713	3.70
57	6	1635-706	9.28
58	3 1/4	1635-813	3.70
58	6	1635-806	9.28
59	3 1/8	1635-913	3.70
59	6	1635-906	9.28
60	3 1/8	1636-013	3.70
60	6	1636-006	9.28
61	3	1636-103	4.08
62	3	1636-203	4.08
63	3	1636-303	4.08
64	3	1636-403	4.08
65	3	1636-503	4.08
66	3	1636-603	4.08
67	3	1636-703	4.08
68	2 7/8	1636-802	4.08
69	2 3/4	1636-902	4.08
70	2 5/8	1637-002	4.08
71	2 5/8	1637-102	4.08
72	2 1/2	1637-202	4.08
73	2 3/8	1637-302	4.85
74	2 1/4	1637-402	4.85
75	2 1/8	1637-502	4.85
76	2	1637-602	4.85
77	1 7/8	1637-701	4.85
78	1 3/4	1637-801	4.85

### Letter Sizes

DIAM.	OVERALL LG'TH	ORDER NO.	PRICE EACH
A	12	1640-112	\$9.23
B	8	1640-208*	7.73
B	12	1640-212	9.23
C	10	1640-310*	8.75
C	12	1640-312	9.23
D	8	1640-408*	7.73
D	12	1640-412	9.23
F	6	1640-606*	6.04
F	10	1640-610*	9.58
F	12	1640-612	10.56
G	8	1640-708*	8.56
G	10	1640-710*	9.58
G	12	1640-712	10.56
H	12	1640-812	10.56
I	12	1640-912	10.56
J	10	1641-010*	9.58
J	12	1641-012	10.56
K	12	1641-112	10.56

DIAM.	OVERALL LG'TH	ORDER NO.	PRICE EACH
L	12	1641-212	\$10.56
M	8	1641-308*	8.56
M	10	1641-310*	10.02
M	12	1641-312	10.56
N	12	1641-412	10.80
O	12	1641-512	12.17
P	8	1641-608*	9.78
P	12	1641-612	12.17
Q	6	1641-706*	6.95
Q	12	1641-712	12.17
R	12	1641-812	12.17
S	8	1641-908*	10.27
S	12	1641-912	12.66
T	8	1642-008*	10.27
T	10	1642-010*	11.44
T	12	1642-012	12.66
U	12	1642-112	12.66
V	8	1642-208*	11.05

DIAM.	OVERALL LG'TH	ORDER NO.	PRICE EACH
V	12	1642-212	\$13.69
W	12	1642-312	13.69
X	8	1642-408*	11.05
X	12	1642-412	13.69
Y	10	1642-510*	12.51
Y	12	1642-512	13.69
Z	12	1642-612	14.08

\* Discontinued. Limited Quantities

# Taper Shank Drills

## High Speed Steel

Metric Sizes † Limited Quantities



DIAM. MM	DECIM'L EQUIV.	TAPER SHANK NO.	ORDER NO.	PRICE EACH
3.00	.1181	1MT	1330-300	\$3.80
3.50	.1378	1MT	1330-350	3.85
4.00	.1575	1MT	1330-400	3.85
4.50	.1772	1MT	1330-450	3.85
5.00	.1969	1MT	1330-500	4.30
5.50	.2165	1MT	1330-550	4.30
5.80	.2283	1MT	1330-580	4.50
6.00	.2362	1MT	1330-600	4.50
6.50	.2559	1MT	1330-650	4.75
7.00	.2756	1MT	1330-700	4.75
7.50	.2953	1MT	1330-750	4.90
8.00	.3150	1MT	1330-800	6.70
8.50	.3346	1MT	1330-850	7.15
8.80	.3465	1MT	1330-880 †	7.85
9.00	.3543	1MT	1330-900	7.85
9.50	.3740	1MT	1330-950	7.85
9.60	.3780	1MT	1330-960 †	0.00
10.00	.3937	1MT	1331-000	7.85
10.50	.4134	1MT	1331-050	8.40
11.00	.4331	1MT	1331-100	8.50
11.25	.4429	1MT*	1331-125	9.35
11.50	.4528	1MT	1331-150	9.35
11.75	.4626	1MT	1331-175 †	9.35
11.80	.4646	1MT	1331-180 †	9.80
12.00	.4724	1MT	1331-200	10.60
12.00	.4724	2MT	1351-200	10.60
12.20	.4803	2MT	1351-220 †	10.60
12.25	.4626	1MT	1331-225 †	10.60
12.50	.4921	1MT	1331-250	10.60
12.50	.4921	2MT	1351-250	10.60
13.00	.5118	1MT	1331-300	11.80
13.50	.5315	1MT	1331-350	12.90
13.50	.5315	2MT	1351-350	12.90
14.00	.5512	1MT	1331-400	12.90
14.00	.5512	2MT	1351-400	12.90
14.50	.5709	2MT	1331-450	13.75
15.00	.5906	2MT	1331-500	13.75
15.25	.6004	2MT	1331-525 †	14.10
15.50	.6102	2MT	1331-550	14.10
16.00	.6299	2MT	1331-600	15.60
16.50	.6496	2MT	1331-650	15.60
17.00	.6693	2MT	1331-700	16.40
17.50	.6890	2MT	1331-750	17.35
18.00	.7087	2MT	1331-800	17.35
18.50	.7283	2MT	1331-850	19.15
18.75	.7382	2MT	1331-875 †	19.15
19.00	.7480	2MT	1331-900	19.15
19.50	.7677	2MT	1331-950	22.80
20.00	.7874	2MT	1332-000	26.00
20.00	.7874	3MT	1352-000	23.65
20.50	.8071	2MT	1332-050	26.00
20.50	.8071	3MT	1352-050	23.65
20.75	.8169	3MT	1352-075	23.65
21.00	.8268	2MT	1332-100	28.80
21.50	.8465	2MT	1332-150	28.80
21.50	.8465	3MT	1352-150	26.20
22.00	.8661	2MT	1332-200	28.80
22.00	.8661	3MT	1352-200	26.20
22.50	.8858	2MT	1332-250	28.95
22.50	.8858	3MT	1352-250	26.30
22.75	.8957	2MT	1332-275 †	26.30
23.00	.9055	2MT	1332-300	28.95
23.00	.9055	3MT	1352-300	26.30
23.50	.9252	3MT	1332-350	26.30
24.00	.9449	3MT	1332-400	28.65
24.50	.9646	3MT	1332-450	28.65
24.75	.9744	3MT	1332-475 †	28.65
25.00	.9843	3MT	1332-500	30.55
25.25	.9941	3MT	1332-525 †	30.55
25.50	1.0039	3MT	1332-550	32.00
26.00	1.0236	3MT	1332-600	32.00
26.50	1.0433	3MT	1332-650	35.55
27.00	1.0630	3MT	1332-700	39.50
27.50	1.0827	3MT	1332-750	43.45
27.50	1.0827	4MT	1352-750 †	39.50

DIAM. MM	DECIM'L EQUIV.	TAPER SHANK NO.	ORDER NO.	PRICE EACH
28.00	1.1024	3MT	1332-800	\$45.65
28.00	1.1024	4MT	1352-800	41.50
28.50	1.1220	3MT	1332-850	45.65
28.75	1.1319	3MT	1332-875 †	POA
29.00	1.1417	3MT	1332-900	47.25
29.00	1.1417	4MT	1352-900	42.95
29.50	1.1614	3MT	1332-950	49.65
30.00	1.1811	3MT	1333-000	49.65
30.00	1.1811	4MT	1353-000	45.15
30.50	1.2008	3MT	1333-050	53.75
31.00	1.2205	3MT	1333-100	55.85
31.50	1.2402	3MT	1333-150	55.85
31.50	1.2402	4MT	1353-150	50.80
31.75	1.2500	3MT	1333-175 †	50.80
32.00	1.2598	4MT	1333-200	60.95
32.50	1.2795	4MT	1333-250	60.95
33.00	1.2992	4MT	1333-300	61.90
33.50	1.3189	4MT	1333-350	65.40
34.00	1.3386	4MT	1333-400	65.40
34.50	1.3583	4MT	1333-450	69.10
35.00	1.3780	4MT	1333-500	71.00
35.50	1.3976	4MT	1333-550	71.00
36.00	1.4173	4MT	1333-600	71.75
36.50	1.4370	4MT	1333-650	71.75
37.00	1.4567	4MT	1333-700	76.35
37.50	1.4764	4MT	1333-750	76.35
38.00	1.4961	4MT	1333-800	76.35
38.50	1.5157	4MT	1333-850	92.40
39.00	1.5354	4MT	1333-900	92.40
39.50	1.5551	4MT	1333-950	109.80
40.00	1.5748	4MT	1334-000	109.80
40.00	1.5748	5MT	1354-000	99.85
40.50	1.5945	4MT	1334-050	109.80
41.00	1.6142	4MT	1334-100	109.80
41.00	1.6142	5MT	1354-100	99.85
41.50	1.6339	4MT	1334-150	118.05
42.00	1.6535	4MT	1334-200	118.05
42.50	1.6732	4MT	1334-250	126.95
43.00	1.6929	4MT	1334-300	126.95
43.00	1.6929	5MT	1354-300	115.45
43.50	1.7129	4MT	1334-350	129.60
44.00	1.7323	4MT	1334-400	129.60
44.50	1.7520	4MT	1334-450	134.65
45.00	1.7717	4MT	1334-500	134.65
45.00	1.7717	5MT	1354-500	122.40
45.50	1.7913	4MT	1334-550	138.15
46.00	1.8110	4MT	1334-600	138.15
46.50	1.8307	4MT	1334-650	144.55
47.00	1.8504	4MT	1334-700	144.55
47.50	1.8701	4MT	1334-750	150.80
48.00	1.8898	4MT	1334-800	150.80
48.50	1.9094	4MT	1334-850	155.50
49.00	1.9291	4MT	1334-900	155.50
49.50	1.9488	4MT	1334-950	158.85
50.00	1.9685	4MT	1335-000	158.85
50.50	1.9882	4MT	1335-050 †	169.55
51.00	2.0079	5MT	1335-100	169.55
53.00	2.0866	5MT	1335-300 †	168.18
53.50	2.1063	5MT	1335-350 †	177.94
54.00	2.1260	5MT	1335-400 †	177.94
54.50	2.1457	5MT	1335-450 †	189.74
57.00	2.2441	5MT	1335-700 †	200.04
58.00	2.2835	5MT	1335-800 †	201.51
60.00	2.3622	5MT	1336-000 †	215.18
61.00	2.4016	5MT	1336-100 †	223.61
62.00	2.4409	5MT	1336-200 †	282.41
64.00	2.5197	5MT	1336-400 †	291.56
66.00	2.5984	5MT	1336-600 †	318.36
67.00	2.6378	5MT	1336-700 †	341.48
68.00	2.6772	5MT	1336-800 †	367.14
70.00	2.7559	5MT	1337-000 †	413.34
71.00	2.7953	5MT	1337-100 †	413.34
72.00	2.8346	5MT	1337-200 †	436.49
73.00	2.8740	5MT	1337-300 †	436.49

## Stub Length Drills

High Speed Steel



DIAM.	OAL	FLUTE LG'TH	4MT		5MT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2	12	5	1371-284	\$ 95.45	1371-285	\$ 97.65
2-1/16	12	5	1371-324	103.35	1371-325	105.15
2-1/8	12	5	1371-364	105.75	1371-365	107.55
2-3/16	12	5	1371-404	119.05	1371-405	120.55
2-1/4	12	5	1371-444	124.15	1371-445	127.15
2-5/16	12	5	1371-484	127.55	1371-485	129.85
2-3/8	12	5	1371-524	134.55	1371-525	138.45
2-7/16	12	5	1371-564	160.95	1371-565	164.95
2-1/2	12	5	1371-604	164.95	1371-605	166.95
2-9/16	12	5	1371-644	168.95	1371-645	174.45
2-5/8	12	5	1371-684	168.95	1371-685	174.45
2-11/16	12	5	1371-724	195.95	1371-725	187.95
2-3/4	12	5	1371-764	195.95	1371-765	195.95
2-13/16	12	5	1371-804	238.95	1371-805	216.95
2-7/8	12	5	1371-844	238.95	1371-845	216.95
2-15/16	12	5	1371-884	264.95	1371-885	236.95
3	12	5	1371-924	264.95	1371-925	256.95
3-1/8	12	5	1372-004	-	1372-005	288.95
3-1/4	12	5	1372-084	-	1372-085	328.95
3-3/8	12	5	1372-164	-	1372-165	338.95
3-1/2	12	5	1372-244	-	1372-245	394.95

# Taper Shank Drills

## High Speed Steel, Cobalt, & Carbide Tipped



DIAM.	TAPER SHANK NO.	FLUTE LENGTH	OVERALL LENGTH	HIGH SPEED STEEL		COBALT		CARBIDE TIPPED	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	1MT	1-1/4	4-5/8	1301-004	\$3.20	-	-	-	-
5/64	1MT	1-3/8	4-3/4	1301-005	3.20	-	-	-	-
3/32	1MT	1-1/2	4-7/8	1301-006	3.20	-	-	-	-
7/64	1MT	1-5/8	5	1301-007	3.30	-	-	-	-
1/8	1MT	1-7/8	5-1/8	1301-008	3.30	1304-008	\$8.85	1360-081	\$15.60
9/64	1MT	2-1/8	5-3/8	1301-009	3.35	1304-009	9.30	1360-091 †	19.50
5/32	1MT	2-1/8	5-3/8	1301-010	3.35	1304-010	8.90	1360-101	15.60
11/64	1MT	2-1/2	5-3/4	1301-011	3.75	1304-011	9.30	1360-111 †	19.50
3/16	1MT	2-1/2	5-3/4	1301-012	3.75	1304-012	7.20	1360-121	15.60
13/64	1MT	2-3/4	6	1301-013	3.75	1304-013	8.05	1360-131 †	19.50
7/32	1MT	2-3/4	6	1301-014	3.75	1304-014	7.75	1360-141	15.60
15/64	1MT	2-7/8	6-1/8	1301-015	4.05	1304-015	9.20	1360-151 †	19.50
1/4	1MT	2-7/8	6-1/8	1301-016	4.05	1304-016	7.95	1360-161	12.95
17/64	1MT	3	6-1/4	1301-017	4.35	1304-017	8.90	1360-171 †	14.85
17/64	2MT*	3	6-7/8	1306-017	4.80	-	-	-	-
9/32	1MT	3	6-1/4	1301-018	4.35	1304-018	8.55	1360-181	14.25
9/32	2MT*	3	6-7/8	1306-018	4.80	-	-	-	-
19/64	1MT	3-1/8	6-3/8	1301-019	4.35	1304-019	11.00	1360-191 †	14.85
19/64	2MT*	3-1/8	7	1306-019	4.85	-	-	-	-
5/16	1MT	3-1/8	6-3/8	1301-020	4.40	1304-020	8.55	1360-201	14.25
21/64	1MT	3-1/4	6-1/2	1301-021	5.10	1304-021	11.15	1360-211 †	17.45
11/32	1MT	3-1/4	6-1/2	1301-022	6.35	1304-022	11.65	1360-221	16.70
11/32	2MT*	3-1/4	7-1/8	1306-022	7.00	-	-	-	-
23/64	1MT	3-1/2	6-3/4	1301-023	7.00	1304-023	12.90	1360-231 †	20.60
23/64	2MT*	3-1/2	7-3/8	1306-023	7.70	-	-	-	-
3/8	1MT	3-1/2	6-3/4	1301-024	7.00	1304-024	12.30	1360-241 †	20.60
3/8	2MT*	3-1/2	7-3/8	1306-024	8.30	1306-124	15.60	1360-242	19.85
25/64	1MT	3-5/8	7	1301-025	7.20	1304-025	13.40	-	-
25/64	2MT*	3-5/8	7-1/2	1306-025	8.60	1306-125	17.15	1360-252 †	21.05
13/32	1MT	3-5/8	7	1301-026	7.00	1304-026	12.40	1360-261 †	21.95
13/32	2MT*	3-5/8	7-1/2	1306-026	8.75	1306-126	16.25	1360-262	21.05
27/64	1MT	3-7/8	7-1/4	1301-027	7.40	1304-027	14.25	-	-
27/64	2MT*	3-7/8	7-3/4	1306-027	8.65	1306-127	17.15	1360-272 †	22.70
7/16	1MT	3-7/8	7-1/4	1301-028	7.55	1304-028	13.75	-	-
7/16	2MT*	3-7/8	7-3/4	1306-028	9.15	1306-128	18.65	1360-282	22.70
29/64	1MT	4-1/8	7-1/2	1301-029	8.25	1304-029	15.70	-	-
29/64	2MT*	4-1/8	8	1306-029	9.45	1306-129	18.65	1360-292 †	25.45
15/32	1MT	4-1/8	7-1/2	1301-030	8.65	1304-030	15.80	-	-
15/32	2MT*	4-1/8	8	1306-030	9.85	1306-130	18.55	1360-302	24.35
31/64	1MT*	4-3/8	7-3/4	1303-031	9.75	1305-031	19.65	-	-
31/64	2MT	4-3/8	8-1/4	1301-031	9.85	1304-031	17.75	1360-312 †	26.35
1/2	1MT*	4-3/8	7-3/4	1303-032	8.85	1305-032	18.45	-	-
1/2	2MT	4-3/8	8-1/4	1301-032	8.45	1304-032	15.00	1360-322	25.20
33/64	1MT*	4-5/8	8	1303-033	10.15	1305-033	21.55	-	-
33/64	2MT	4-5/8	8-1/2	1301-033	10.25	1304-033	19.35	1360-332 †	31.15
17/32	1MT*	4-5/8	8	1303-034	9.95	1305-034	21.30	-	-
17/32	2MT	4-5/8	8-1/2	1301-034	10.05	1304-034	18.05	1360-342	29.10
35/64	1MT*	4-7/8	8-1/4	1303-035	10.85	1305-035	23.00	-	-
35/64	2MT	4-7/8	8-3/4	1301-035	10.90	1304-035	21.05	1360-352 †	32.40
9/16	1MT*	4-7/8	8-1/4	1303-036	10.75	1305-036	23.25	-	-
9/16	2MT	4-7/8	8-3/4	1301-036	10.90	1304-036	18.95	1360-362	30.50
37/64	1MT*	4-7/8	8-1/4	1303-037	10.95	1305-037	24.40	-	-
37/64	2MT	4-7/8	8-3/4	1301-037	11.25	1304-037	22.35	1360-372 †	34.90
19/32	2MT	4-7/8	8-3/4	1301-038	11.10	1304-038	21.15	1360-382	32.35
39/64	2MT	4-7/8	8-3/4	1301-039	11.80	1304-039	23.40	1360-392 †	37.10
5/8	1MT*	4-7/8	8-1/4	1303-040†	10.65	-	-	-	-
5/8	2MT	4-7/8	8-3/4	1301-040	10.80	1304-040	20.70	1360-402	34.70
5/8	3MT*	4-7/8	9-1/2	1306-040	13.20	-	-	-	-
41/64	2MT	5-1/8	9	1301-041	12.15	1304-041	25.75	-	-
41/64	3MT*	5-1/8	9-3/4	1306-041	14.15	1306-141	32.75	1360-413 †	41.85
21/32	2MT	5-1/8	9	1301-042	11.90	1304-042	24.00	-	-
21/32	3MT*	5-1/8	9-3/4	1306-042	14.45	1306-142	31.35	1360-423	39.65
43/64	2MT	5-3/8	9-1/4	1301-043	12.90	1304-043	27.65	-	-
43/64	3MT*	5-3/8	10	1306-043	15.20	1306-143	35.15	1360-433 †	45.70
11/16	2MT	5-3/8	9-1/4	1301-044	12.45	1304-044	24.75	-	-
11/16	3MT*	5-3/8	10	1306-044	15.75	1306-144	34.40	1360-443	42.30
45/64	2MT	5-5/8	9-1/2	1301-045	13.80	1304-045	28.80	-	-
45/64	3MT*	5-5/8	10-1/4	1306-045	16.45	1306-145	38.00	1360-453 †	49.85
23/32	2MT	5-5/8	9-1/2	1301-046	13.90	1304-046	26.75	-	-
23/32	3MT*	5-5/8	10-1/4	1306-046	16.85	1306-146	36.90	1360-463	46.15
47/64	2MT	5-7/8	9-3/4	1301-047	15.45	1304-047	30.60	-	-
47/64	3MT*	5-7/8	10-1/2	1306-047	17.80	1306-147	41.15	-	-
3/4	2MT	5-7/8	9-3/4	1301-048	14.70	1304-048	29.80	-	-
3/4	3MT*	5-7/8	10-1/2	1306-048	18.00	1306-148	38.60	1360-483	49.05
49/64	2MT	6	9-7/8	1301-049	17.35	1304-049	36.75	-	-
49/64	3MT*	6	10-5/8	1306-049	20.10	1306-149	45.75	1360-493 †	55.80

\* Alternate Shank

† Limited Quantities





(Continued)



# Taper Shank Drills (cont'd.)

## High Speed Steel, Cobalt, & Carbide Tipped



		HIGH SPEED STEEL						COBALT		CARBIDE TIPPED	
											
DIAM.	TAPER SHANK NO.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
25/32	2MT	6	9-7/8	1301-050	\$18.05	1304-050	\$35.15	-	-	3000-502	\$67.85
25/32	3MT*	6	10-5/8	1306-050	20.10	1306-150	42.45	1360-503	\$51.60	-	-
51/64	2MT*	6-1/8	10	1303-051	18.30	1305-051	42.10	-	-	-	-
51/64	3MT	6-1/8	10-3/4	1301-051	19.00	1304-051	40.25	1360-513 †	57.50	3000-513	76.50
13/16	2MT*	6-1/8	10	1303-052	19.35	1305-052	41.45	-	-	-	-
13/16	3MT	6-1/8	10-3/4	1301-052	18.10	1304-052	35.95	1360-523	53.25	3000-523	68.60
53/64	2MT*	6-1/8	10	1303-053	20.65	1305-053	44.85	-	-	-	-
53/64	3MT	6-1/8	10-3/4	1301-053	20.10	1304-053	42.00	1360-533 †	62.80	3000-533	76.50
27/32	2MT*	6-1/8	10	1303-054	20.65	1305-054	44.35	-	-	-	-
27/32	3MT	6-1/8	10-3/4	1301-054	19.50	1304-054	40.55	1360-543	62.05	3000-543	70.05
55/64	2MT*	6-1/8	10	1303-055	21.55	1305-055	46.75	-	-	-	-
55/64	3MT	6-1/8	10-3/4	1301-055	20.80	1304-055	43.45	1360-553 †	69.40	3000-553	80.80
7/8	2MT*	6-1/8	10	1303-056	20.00	1305-056	45.55	-	-	-	-
7/8	3MT	6-1/8	10-3/4	1301-056	19.90	1304-056	41.10	1360-563	62.05	3000-563	74.50
57/64	2MT*	6-1/8	10	1303-057	22.25	1305-057	48.20	-	-	-	-
57/64	3MT	6-1/8	10-3/4	1301-057	21.30	1304-057	44.40	1360-573 †	75.15	3000-573	83.50
29/32	2MT*	6-1/8	10	1303-058	22.05	1305-058	47.65	-	-	-	-
29/32	3MT	6-1/8	10-3/4	1301-058	22.15	1304-058	43.75	1360-583	72.95	3000-583	80.10
59/64	3MT	6-1/8	10-3/4	1301-059	21.55	1304-059	44.95	1360-593 †	78.95	3000-593	85.05
15/16	2MT*	6-1/8	10	1303-060	20.75	-	-	-	-	-	-
15/16	3MT	6-1/8	10-3/4	1301-060	20.20	1304-060	43.15	1360-603	72.95	3000-603	85.50
15/16	4MT*	5-1/8	10-3/4	1306-060 †	22.20	-	-	-	-	-	-
61/64	2MT*	6-1/4	10-1/4	1303-061 †	22.60	-	-	-	-	-	-
61/64	3MT	6-3/8	11	1301-061	22.15	1304-061	46.20	1360-613 †	87.10	3000-613	89.20
31/32	3MT	6-3/8	11	1301-062	21.90	1304-062	45.85	1360-623	82.50	3000-623	85.50
63/64	2MT*	6-1/4	10-1/4	1303-063 †	23.80	-	-	-	-	-	-
63/64	3MT	6-3/8	11	1301-063	23.50	1304-063	49.05	1360-633 †	90.20	3000-633	91.50
1	2MT*	6-1/8	10	1303-064	17.75	1305-064	50.95	-	-	-	-
1	3MT	6-3/8	11	1301-064	21.90	1304-064	45.20	1360-643	82.50	3000-643	84.15
1	4MT*	6-3/8	12	1306-064	31.70	1306-164	61.85	-	-	-	-
1-1/64	3MT	6-1/2	11-1/8	1301-065	28.70	1304-065	55.80	-	-	3000-653	POA
1-1/32	3MT	6-1/2	11-1/8	1301-066	27.15	1304-066	50.65	1360-663 †	118.35	3000-663	123.15
1-1/32	4MT*	6-1/2	12-1/8	1306-066	33.45	1306-166	69.70	1360-664	114.85	-	-
1-3/64	2MT*	6-5/8	10-5/8	1303-067 †	31.00	-	-	-	-	-	-
1-3/64	3MT	6-5/8	11-1/4	1301-067	30.15	1304-067	58.60	-	-	3000-673	POA
1-1/16	3MT	6-5/8	11-1/4	1301-068	28.70	1304-068	49.60	-	-	3000-683	104.50
1-1/16	4MT*	6-5/8	12-1/4	1306-068	37.40	1306-168	72.85	1360-684	105.70	-	-
1-5/64	3MT*	6-7/8	11-1/2	1303-069	36.05	1305-069	74.60	-	-	-	-
1-5/64	4MT	6-7/8	12-1/2	1301-069	34.80	1304-069	67.60	-	-	3000-694	136.95
1-3/32	3MT*	6-7/8	11-1/2	1303-070	33.45	1305-070	72.40	-	-	-	-
1-3/32	4MT	6-7/8	12-1/2	1301-070	33.45	1304-070	60.90	1360-704	125.30	3000-704	136.95
1-7/64	3MT*	7-1/8	11-3/4	1303-071	36.65	1305-071	75.70	-	-	-	-
1-7/64	4MT	7-1/8	12-3/4	1301-071	37.85	1304-071	70.30	-	-	3000-714	POA
1-1/8	3MT*	7-1/8	11-3/4	1303-072	34.25	1305-072	75.25	-	-	-	-
1-1/8	4MT	7-1/8	12-3/4	1301-072	36.80	1304-072	61.00	1360-724	115.65	3000-724	115.70
1-9/64	3MT*	7-1/4	11-7/8	1303-073	38.45	1305-073	80.45	-	-	-	-
1-9/64	4MT	7-1/4	12-7/8	1301-073	40.20	1304-073	74.50	-	-	3000-734	157.15
1-5/32	3MT*	7-1/4	11-7/8	1303-074	38.15	1305-074	81.95	-	-	-	-
1-5/32	4MT	7-1/4	12-7/8	1301-074	38.20	1304-074	66.25	1360-744	142.40	3000-744	157.15
1-11/64	3MT*	7-3/8	12	1303-075	38.40	1305-075	83.10	-	-	-	-
1-11/64	4MT	7-3/8	13	1301-075	40.60	1304-075	75.35	-	-	3000-754	157.15
1-3/16	3MT*	7-3/8	12	1303-076	38.15	1305-076	83.60	-	-	-	-
1-3/16	4MT	7-3/8	13	1301-076	40.20	1304-076	66.45	1360-764	131.10	3000-764	132.55
1-13/64	3MT*	7-1/2	12-1/8	1303-077	41.35	1305-077	89.15	-	-	-	-
1-13/64	4MT	7-1/2	13-1/8	1301-077	43.50	1304-077	80.60	-	-	3000-774	168.60
1-7/32	3MT*	7-1/2	12-1/8	1303-078	41.00	1305-078	89.80	-	-	-	-
1-7/32	4MT	7-1/2	13-1/8	1301-078	42.80	1304-078	74.25	1360-784	162.00	3000-784	168.60
1-15/64	3MT*	7-7/8	12-1/2	1303-079	45.30	1305-079	97.20	-	-	-	-
1-15/64	4MT	7-7/8	13-1/2	1301-079	47.45	1304-079	87.95	-	-	3000-794	168.60
1-1/4	3MT*	7-7/8	12-1/2	1303-080	44.20	1305-080	98.55	-	-	-	-
1-1/4	4MT	7-7/8	13-1/2	1301-080	45.20	1304-080	74.75	1360-804	149.40	3000-804	141.85
1-17/64	4MT	8-1/2	14-1/8	1301-081	51.35	1304-081	101.35	-	-	-	-
1-9/32	3MT*	8-1/2	13-1/4	1303-082 †	51.30	-	-	-	-	-	-
1-9/32	4MT	8-1/2	14-1/8	1301-082	52.35	1304-082	96.80	1360-824	208.80	-	-
1-19/64	3MT*	8-1/2	13-1/4	1303-083 †	POA	-	-	-	-	-	-
1-19/64	4MT	8-5/8	14-1/4	1301-083	57.45	1304-083	107.95	-	-	-	-
1-5/16	3MT*	8-5/8	13-1/4	1303-084 †	51.45	1305-084	121.95	-	-	-	-
1-5/16	4MT	8-5/8	14-1/4	1301-084	54.05	1304-084	93.80	1360-844	175.10	-	-
1-5/16	5MT	8-5/8	14-1/4	-	-	-	-	1360-845	208.80	-	-
1-21/64	4MT	8-3/4	14-3/8	1301-085	59.20	1304-085	111.60	-	-	-	-
1-11/32	4MT	8-3/4	14-3/8	1301-086	58.15	1304-086	103.95	1360-864	224.10	-	-
1-23/64	4MT	8-7/8	14-1/2	1301-087	58.35	1304-087	114.00	-	-	-	-
1-3/8	3MT*	8-7/8	13-1/2	1303-088	55.20	1305-088	128.45	-	-	-	-
1-3/8	4MT	8-7/8	14-1/2	1301-088	59.05	1304-088	100.65	1360-884	187.75	3000-884	224.90
1-3/8	5MT	8-7/8	14-1/2	-	-	-	-	1360-885	224.10	-	-

\* Alternate Shank

† Limited Quantities

# Taper Shank Drills (cont'd.)

High Speed Steel, Cobalt, & Carbide Tipped



DIAM.	TAPER SHANK NO.	FLUTE LENGTH	OVERALL LENGTH	HIGH SPEED STEEL				COBALT		CARBIDE TIPPED	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-25/64	4MT	9	14-5/8	1301-089	\$62.00	1304-089	\$117.15	-	-	-	-
1-13/32	3MT*	9	13-5/8	1303-093†	66.55	-	-	-	-	-	-
1-13/32	4MT	9	14-5/8	1301-090	62.00	1304-090	112.90	1360-904	\$242.20	-	-
1-27/64	4MT	9-1/8	14-3/4	1301-091	65.30	1304-091	121.30	-	-	-	-
1-7/16	3MT*	9-1/8	13-3/4	1303-092	59.20	1305-092	141.70	-	-	-	-
1-7/16	4MT	9-1/8	14-3/4	1301-092	62.85	1304-092	108.80	1360-924	202.95	-	-
1-7/16	5MT	9-1/8	14-3/4	-	-	-	-	1360-925	242.20	-	-
1-29/64	3MT*	9-1/4	13-7/8	-	-	-	-	-	-	-	-
1-29/64	4MT	9-1/4	14-7/8	1301-093	67.90	1304-093	127.60	-	-	-	-
1-15/32	4MT	9-1/4	14-7/8	1301-094	67.05	1304-094	121.65	1360-944	260.00	-	-
1-31/64	4MT	9-3/8	15	1301-095	69.55	1304-095	130.95	-	-	-	-
1-1/2	3MT*	9-3/8	14	1303-096	63.75	1305-096	149.05	-	-	-	-
1-1/2	4MT	9-3/8	15	1301-096	67.35	1304-096	115.65	1360-964	217.90	3000-964	\$257.45
1-1/2	5MT	9-1/2	16-1/2	-	-	-	-	1360-965	260.00	-	-
1-33/64	4MT*	9-3/8	15	1303-097	75.75	1305-097	156.55	-	-	-	-
1-33/64	5MT	9-3/8	16-3/8	1301-097	78.60	1304-097	156.50	-	-	-	-
1-17/32	4MT*	9-3/8	15	1303-098	79.25	1305-098	157.60	-	-	-	-
1-17/32	5MT	9-3/8	16-3/8	1301-098	79.15	1304-098	140.15	1360-985	374.40	-	-
1-35/64	4MT*	9-5/8	15-1/4	1303-099	83.40	1305-099	166.55	-	-	-	-
1-35/64	5MT	9-5/8	16-5/8	1301-099	82.20	1304-099	166.40	-	-	-	-
1-9/16	4MT*	9-5/8	15-1/4	1303-100	82.95	1305-100	168.65	-	-	-	-
1-9/16	5MT	9-5/8	16-5/8	1301-100	82.95	1304-100	145.45	1361-005	374.40	-	-
1-37/64	4MT*	9-7/8	15-1/2	1303-101	88.70	1305-101	177.00	-	-	-	-
1-37/64	5MT	9-7/8	16-7/8	1301-101	88.90	1304-101	177.30	-	-	-	-
1-19/32	4MT*	9-7/8	15-1/2	1303-102	88.65	1305-102	180.25	-	-	-	-
1-19/32	5MT	9-7/8	16-7/8	1301-102	89.60	1304-102	158.65	-	-	-	-
1-39/64	4MT*	10	15-5/8	1303-103	95.60	1305-103	183.80	-	-	-	-
1-39/64	5MT	10	17	1301-103	90.95	1304-103	185.70	-	-	-	-
1-5/8	4MT*	10	15-5/8	1303-104	92.90	1305-104	184.35	-	-	-	-
1-5/8	5MT	10	17	1301-104	91.20	1304-104	157.10	1361-045	329.40	-	-
1-41/64	4MT*	10-1/8	15-3/4	1303-105	99.30	1305-105	198.15	-	-	-	-
1-41/64	5MT	10-1/8	17-1/8	1301-105	95.75	1304-105	197.85	-	-	-	-
1-21/32	4MT*	10-1/8	15-3/4	1303-106	98.80	1305-106	206.50	-	-	-	-
1-21/32	5MT	10-1/8	17-1/8	1301-106	96.35	1304-106	170.60	-	-	-	-
1-43/64	4MT*	10-1/8	15-3/4	1303-107	103.10	1305-107	205.65	-	-	-	-
1-43/64	5MT	10-1/8	17-1/8	1301-107	98.15	1304-107	205.50	-	-	-	-
1-11/16	4MT*	10-1/8	15-3/4	1303-108	101.60	1305-108	206.65	-	-	-	-
1-11/16	5MT	10-1/8	17-1/8	1301-108	98.75	1304-108	173.20	1361-084	380.70	-	-
1-45/64	4MT*	10-1/8	15-3/4	1303-109	106.10	1305-109	211.80	-	-	-	-
1-45/64	5MT	10-1/8	17-1/8	1301-109	102.95	1304-109	212.20	-	-	-	-
1-23/32	4MT*	10-1/8	15-3/4	1303-110	101.15	1305-110	211.40	-	-	-	-
1-23/32	5MT	10-1/8	17-1/8	1301-110	103.65	1304-110	183.50	-	-	-	-
1-47/64	4MT*	10-3/8	16-1/4	1303-111	105.20	1305-111	204.35	-	-	-	-
1-47/64	5MT	10-1/8	17-1/8	1301-111	104.95	1304-111	204.30	-	-	-	-
1-3/4	4MT*	10-3/8	16-1/4	1303-112	102.55	1305-112	200.55	-	-	-	-
1-3/4	5MT	10-1/8	17-1/8	1301-112	104.70	1304-112	185.45	1361-125	380.70	-	-
1-49/64	5MT	10-1/8	17-1/8	1301-113	118.10	-	-	-	-	-	-
1-25/32	4MT*	10-3/8	16-1/4	1303-114	105.30	1305-114	221.15	-	-	-	-
1-25/32	5MT	10-1/8	17-1/8	1301-114	108.85	1304-114	194.55	-	-	-	-
1-51/64	5MT	10-1/8	17-1/8	1301-115	139.05	-	-	-	-	-	-
1-13/16	4MT*	10-3/8	16-1/4	1303-116	105.85	1305-116	221.15	-	-	-	-
1-13/16	5MT	10-1/8	17-1/8	1301-116	111.85	1304-116	197.70	1361-165	406.80	-	-
1-53/64	5MT	10-1/8	17-1/8	1301-117	130.85	-	-	-	-	-	-
1-27/32	4MT*	10-3/8	16-1/4	1303-118	112.80	1305-118	235.65	-	-	-	-
1-27/32	5MT	10-1/8	17-1/8	1301-118	116.65	1304-118	208.40	-	-	-	-
1-55/64	5MT	10-1/8	17-3/8	1301-119	133.85	-	-	-	-	-	-
1-7/8	4MT*	10-1/2	16-1/2	1303-120	109.85	1305-120	234.35	-	-	-	-
1-7/8	5MT	10-3/8	17-3/8	1301-120	115.30	1304-120	206.85	1361-205	406.80	-	-
1-57/64	5MT	10-3/8	17-3/8	1301-121	135.85	-	-	-	-	-	-
1-29/32	4MT*	10-1/2	16-1/2	1303-122	110.20	1305-122	253.35	-	-	-	-
1-29/32	5MT	10-3/8	17-3/8	1301-122	117.40	1304-122	217.95	-	-	-	-
1-59/64	5MT	10-3/8	17-3/8	1301-123	141.95	-	-	-	-	-	-
1-15/16	4MT*	10-5/8	16-5/8	1303-124	111.80	1305-124	250.00	-	-	-	-
1-15/16	5MT	10-3/8	17-3/8	1301-124	121.25	1304-124	222.55	1361-245	475.65	-	-
1-61/64	5MT	10-3/8	17-3/8	1301-125	145.70	-	-	-	-	-	-
1-31/32	4MT*	10-5/8	16-5/8	1303-126	126.75	1305-126	257.75	-	-	-	-
1-31/32	5MT	10-3/8	17-3/8	1301-126	124.70	1304-126	229.65	-	-	-	-
1-63/64	5MT	10-3/8	17-3/8	1301-127	148.30	-	-	-	-	-	-
2	4MT*	10-5/8	16-5/8	1303-128	129.85	1305-128	251.10	-	-	3001-284†	POA
2	5MT	10-3/8	17-3/8	1301-128	128.80	1304-128	231.10	1361-285	475.65	-	-

\* Alternate Shank

# Taper Shank Drills (cont'd.)

High Speed Steel



				Pittsburgh ALLEGIANCY		Pittsburgh ALLEGIANCY	
DIAM.	TAPER SHANK NO.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2-1/32	5MT	10-1/4	17-3/8	1301-130	\$133.35	1304-130	\$245.10
2-1/16	4MT	10-1/4	16-1/4	1303-132	142.10	1305-132	266.65
2-1/16	5MT	10-1/4	17-3/8	1301-132	134.40	1304-132	244.60
2-3/32	5MT	10-1/4	17-3/8	1301-134	142.20	1304-134	261.25
2-1/8	4MT	10-1/4	16-1/4	1303-136	151.65	1305-136	290.20
2-1/8	5MT	10-1/4	17-3/8	1301-136	142.20	1304-136	258.75
2-5/32	5MT	10-1/4	17-3/8	1301-138	151.55	1304-138	278.65
2-3/16	4MT	10-1/4	16-1/4	1303-140	166.35	1305-140	308.90
2-3/16	5MT	10-1/4	17-3/8	1301-140	154.25	1304-140	280.75
2-7/32	5MT	10-1/8	17-3/8	1301-142	159.85	1304-142	293.80
2-1/4	4MT	10-1/8	16-1/8	1303-144	173.60	1305-144	325.40
2-1/4	5MT	10-1/8	17-3/8	1301-144	161.05	1304-144	293.15
2-9/32	5MT	10-1/8	17-3/8	1301-146	208.10	-	-
2-5/16	4MT	10-1/8	16-1/8	1303-148	185.25	1305-148	351.70
2-5/16	5MT	10-1/8	17-3/8	1301-148	171.90	1304-148	316.00
2-11/32	5MT	10-1/8	17-3/8	1301-150	178.60	1304-150	426.15
2-3/8	4MT	10-1/8	16-1/8	1303-152	192.65	1305-152	357.45
2-3/8	5MT	10-1/8	17-3/8	1301-152	178.60	1304-152	325.20
2-13/32	5MT	11-1/4	18-3/4	1301-154	225.65	1304-154	438.65
2-7/16	4MT	11-1/4	17-1/4	1303-156	243.25	1305-156	453.30
2-7/16	5MT	11-1/4	18-3/4	1301-156	225.65	1304-156	414.75
2-15/32	5MT	11-1/4	18-3/4	1301-158	232.90	-	-
2-1/2	4MT	11-1/4	17-1/4	1303-160	253.10	1305-160	466.25
2-1/2	5MT	11-1/4	18-3/4	1301-160	231.85	1304-160	424.05
2-9/16	5MT	11-7/8	19-1/2	1301-164	241.20	1304-164	467.50
2-19/32	5MT	11-7/8	19-1/2	1301-166	297.25	1304-166	560.00
2-5/8	4MT	11-7/8	18	1303-168	363.20	1305-168	547.85
2-5/8	5MT	11-7/8	19-1/2	1301-168	243.95	1304-168	496.65
2-11/16	5MT	12-3/4	20-3/8	1301-172	273.45	1304-172	542.35
2-3/4	4MT	12-3/4	19-1/8	1303-176	408.70	1305-176	616.45
2-3/4	5MT	12-3/4	20-3/8	1301-176	297.85	1304-176	552.60
2-25/32	5MT	13-3/8	21-1/8	1301-178	324.00	1304-178	629.35
2-13/16	5MT	13-3/8	21-1/8	1301-180	322.95	1304-180	607.00
2-7/8	5MT	13-3/8	21-1/8	1301-184	328.70	1304-184	634.80
2-15/16	5MT	14	21-3/4	1301-188	334.95	1304-188	674.95
3	5MT	14	21-3/4	1301-192	449.20	1304-192	698.25
3-1/16	6MT	14-5/8	24-5/8	1301-196	480.60	1304-196	925.85
3-1/8	5MT*	14-5/8	22	1303-200	559.20	1305-200	1065.05
3-1/8	6MT	14-1/4	24-1/2	1301-200	488.40	1304-200	925.85
3-3/16	6MT	14-5/8	24-1/2	1301-204	512.85	1304-204	1056.55
3-1/4	5MT*	15-1/2	23	1303-208	635.20	1305-208	1065.05
3-1/4	6MT	15-1/2	25-1/2	1301-208	529.75	1304-208	1056.55
3-5/16	6MT	15-1/2	25-1/2	1301-212	589.20	1304-212	1168.00
3-3/8	6MT	15-1/2	25-1/2	1301-216	598.75	1304-216	1249.35
3-7/16	6MT	15-1/2	25-1/2	1301-220	642.80	1304-220	1571.20
3-1/2	5MT*	16-1/4	24	1303-224	847.50	1305-224	1419.35
3-1/2	6MT	16-3/8	26-1/2	1301-224	664.15	1304-224	1442.65
3-5/8	6MT	16-3/8	26-1/2	1301-232	1083.25	1304-232	1627.75
3-3/4	6MT	16-3/8	26-1/2	1301-240	1166.30	1304-240	1994.65
3-7/8	6MT	16-3/8	26-1/2	1301-248	1252.50	1304-248	2299.75
4	6MT	17-3/8	27-1/2	1301-256	1366.00	1304-256	2513.05

\* Alternate Shank

## Letter Sizes

				Pittsburgh ALLEGIANCY		Pittsburgh ALLEGIANCY	
DIAM.	FLUTE LENGTH	OVERALL LENGTH	SHANK NO.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	2-7/8	6-1/8	1	1321-001	\$6.20	1322-001	\$10.35
B	2-7/8	6-1/8	1	1321-002	6.20	1322-002	10.35
C	2-7/8	6-1/8	1	1321-003	6.20	1322-003	10.35
D	2-7/8	6-1/8	1	1321-004	5.50	1322-004	9.20
E	2-7/8	6-1/8	1	1321-005	POA	1322-005	5.75
F	3	6-1/4	1	1321-006	5.45	1322-006	9.10
G	3	6-1/4	1	1321-007	6.50	1322-007	10.85
H	3	6-1/4	1	1321-008	6.50	1322-008	10.85
I	3	6-1/4	1	1321-009	6.50	1322-009	10.85
J	3	6-1/4	1	1321-010	6.00	1322-010	10.05
K	3	6-1/4	1	1321-011	6.85	1322-011	11.40
L	3-1/8	6-3/8	1	1321-012	6.85	1322-012	11.40
M	3-1/8	6-3/8	1	1321-013	6.85	1322-013	11.40
N	3-1/8	6-3/8	1	1321-014	6.85	1322-014	11.40
O	3-1/4	6-1/2	1	1321-015	8.10	1322-015	13.55
P	3-1/4	6-1/2	1	1321-016	8.10	1322-016	13.55
Q	3-1/4	6-1/2	1	1321-017	8.50	1322-017	14.20
R	3-1/4	6-1/2	1	1321-018	9.35	1322-018	15.60
S	3-1/2	6-3/4	1	1321-019	9.80	1322-019	16.35
T	3-1/2	6-3/4	1	1321-020	9.80	1322-020	16.35
U	3-1/2	6-3/4	1	1321-021	9.80	1322-021	16.35
V	3-5/8	7	1	1321-022	10.35	1322-022	17.25
W	3-5/8	7	1	1321-023	10.35	1322-023	17.25
X	3-5/8	7	1	1321-024	10.65	1322-024	17.80
Y	3-5/8	7	1	1321-025	10.65	1322-025	17.80
Z	3-7/8	7-1/4	1	1321-026	11.15	1322-026	18.60

## Wire Gage Sizes

		Pittsburgh ALLEGIANCY		Pittsburgh ALLEGIANCY	
SHANK DIA.	SHANK NO.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1	1311-001	\$6.00	1312-001	\$10.00
2	1	1311-002	6.00	1312-002	10.00
3	1	1311-003	6.00	1312-003	10.00
4	1	1311-004	6.00	1312-004	10.00
5	1	1311-005	6.00	1312-005	10.00
6	1	1311-006	6.00	1312-006	10.00
7	1	1311-007	5.70	1312-007	9.55
8	1	1311-008	5.70	1312-008	9.55
9	1	1311-009	5.70	1312-009	9.55
10	1	1311-010	5.70	1312-010	9.55
11	1	1311-011	5.70	1312-011	9.55
12	1	1311-012	5.70	1312-012	9.55
13	1	1311-013	5.70	1312-013	9.55
14	1	1311-014	5.70	1312-014	9.55
15	1	1311-015	5.70	1312-015	9.55
16	1	1311-016	5.70	1312-016	9.55
17	1	1311-017	5.70	1312-017	9.55
18	1	1311-018	5.70	1312-018	9.55
19	1	1311-019	\$5.70	1312-019	\$9.55
20	1	1311-020	5.40	1312-020	8.95
21	1	1311-021	5.40	1312-021	8.95
22	1	1311-022	5.40	1312-022	8.95
23	1	1311-023	5.40	1312-023	8.95
24	1	1311-024	5.40	1312-024	8.95
25	1	1311-025	5.40	1312-025	8.95
26	1	1311-026	5.40	1312-026	8.95
27	1	1311-027	5.40	1312-027	8.95
28	1	1311-028	5.40	1312-028	8.95
29	1	1311-029	5.40	1312-029	8.95
30	1	1311-030	5.40	1312-030	8.95
31	1	1311-031	4.75	-	-
32	1	1311-032	4.75	-	-
33	1	1311-033	4.75	-	-
34	1	1311-034	4.75	-	-
35	1	1311-035	4.75	-	-
36	1	1311-036	4.75	-	-

# Taper Shank Drills— Extra Long

## High Speed Steel, 8" thru 36" OAL



HOW TO DETERMINE TS DRILL FLUTE LENGTHS IF OVERALL LENGTH IS:						
	10"	12"	16"	18"	30"	36"
THEN APPROXIMATE FLUTE LENGTH IS (+/- 3/4")						
MT1	6-3/4"	8-3/4"	12-3/4"	14-3/4"	26-3/4"	32-1/4"
MT2	6-1/4"	8-1/4"	12-1/4"	14-1/4"	26-1/4"	32-1/4"
MT3		7-5/8"	11-5/8"	13-5/8"	25-5/8"	31-5/8"
MT4			10-11/16"	12-11/16"	24-11/16"	31-11/16"
MT5			8-1/2"	11-1/2"	23-1/2"	29-1/2"
MT6				21"	27"	

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
1/8	8	1MT	1708-081†	\$6.75
1/8	10	1MT	1708-101†	7.50
1/8	12	1MT	1708-121	16.25
9/64	8	1MT	1709-081†	6.75
9/64	10	1MT	1709-101†	7.50
9/64	12	1MT	1709-121†	8.30
9/64	15	1MT	1709-151†	10.95
5/32	8	1MT	1710-081†	6.75
5/32	10	1MT	1710-101†	7.50
5/32	12	1MT	1710-121†	8.30
5/32	15	1MT	1710-151†	10.95
5/32	18	1MT	1710-181†	24.00
11/64	8	1MT	1711-081†	6.75
11/64	10	1MT	1711-101†	7.50
11/64	10	2MT	1711-102†	7.50
11/64	12	1MT	1711-121†	8.30
11/64	15	1MT	1711-151†	10.95
11/64	18	1MT	1711-181†	24.00
3/16	8	1MT	1712-081†	6.75
3/16	10	1MT	1712-101†	7.50
3/16	12	1MT	1712-121	16.25
3/16	15	1MT	1712-151	21.50
3/16	16	1MT	1712-161†	22.60
3/16	18	1MT	1712-181	39.90
13/64	8	1MT	1713-081†	7.50
13/64	10	1MT	1713-101†	8.30
13/64	12	1MT	1713-121	19.85
13/64	15	1MT	1713-151	23.65
13/64	18	1MT	1713-181†	25.75
7/32	8	1MT	1714-081†	7.50
7/32	10	1MT	1714-101†	8.30
7/32	10	2MT	1714-102†	8.30
7/32	12	1MT	1714-121	18.05
7/32	15	1MT	1714-151	21.50
7/32	16	1MT	1714-161†	22.60
7/32	18	1MT	1714-181	39.90
15/64	8	1MT	1715-081†	7.50
15/64	10	1MT	1715-101†	8.30
15/64	12	1MT	1715-121	19.85
15/64	15	1MT	1715-151	23.65
15/64	18	1MT	1715-181†	25.75
1/4	8	1MT	1716-081†	7.50
1/4	10	1MT	1716-101†	8.30
1/4	12	1MT	1716-121	18.05
1/4	15	1MT	1716-151	21.50
1/4	16	1MT	1716-161†	22.60
1/4	18	1MT	1716-181	39.90
1/4	24	1MT	1716-241	86.65
17/64	8	1MT	1717-081†	8.35
17/64	10	1MT	1717-101†	9.30
17/64	12	1MT	1717-121	20.20
17/64	15	1MT	1717-151	23.00
17/64	16	1MT	1717-161†	24.20
17/64	18	1MT	1717-181	39.90
17/64	22	1MT	1717-221†	25.75
9/32	8	1MT	1718-081†	8.35
9/32	10	1MT	1718-101†	9.30
9/32	12	1MT	1718-121	20.20
9/32	12	2MT*	1718-122†	20.20
9/32	15	1MT	1718-151	24.20
9/32	18	1MT	1718-181	39.90
9/32	24	1MT	1718-241	86.65
9/32	30	1MT	1718-301†	51.35

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
19/64	8	1MT	1719-081†	\$8.90
19/64	10	1MT	1719-101†	9.90
19/64	12	1MT	1719-121	21.50
19/64	15	1MT	1719-151	24.20
19/64	16	1MT	1719-161†	25.40
19/64	18	1MT	1719-181	39.90
19/64	24	1MT	1719-241†	48.50
5/16	8	1MT	1720-081†	8.90
5/16	12	1MT	1720-121	21.50
5/16	15	1MT	1720-151	24.20
5/16	16	1MT	1720-161†	25.40
5/16	18	1MT	1720-181	39.90
5/16	24	1MT	1720-241	86.65
21/64	8	1MT	1721-081†	9.30
21/64	10	1MT	1721-101†	10.35
21/64	12	1MT	1721-121	22.50
21/64	15	1MT	1721-151	25.15
21/64	16	1MT	1721-161†	26.40
21/64	18	1MT	1721-181	39.90
11/32	8	1MT	1722-081†	9.30
11/32	12	1MT	1722-121	22.50
11/32	15	1MT	1722-151	25.15
11/32	18	1MT	1722-181	39.90
11/32	24	1MT	1722-241	86.65
23/64	8	1MT	1723-081†	9.85
23/64	12	1MT	1723-121	23.80
23/64	15	1MT	1723-151	28.00
23/64	18	1MT	1723-181	44.20
3/8	10	1MT	1724-101†	10.95
3/8	12	1MT	1724-121	23.80
3/8	15	1MT	1724-151	28.00
3/8	16	1MT	1724-161†	29.40
3/8	18	1MT	1724-181	44.20
3/8	24	1MT	1724-241	66.65
25/64	8	1MT	1725-081†	9.85
25/64	10	1MT	1725-101†	10.95
25/64	12	1MT	1725-121	23.80
25/64	15	1MT	1725-151	28.00
25/64	16	1MT	1725-161†	29.40
25/64	18	1MT	1725-181	44.20
25/64	24	1MT	1725-241	66.65
13/32	8	1MT	1726-081†	9.85
13/32	10	1MT	1726-101†	10.95
13/32	12	1MT	1726-121	23.80
13/32	15	1MT	1726-151	28.00
13/32	16	1MT	1726-161†	29.40
13/32	18	1MT	1726-181	44.20
13/32	24	1MT	1726-241	66.65
13/32	30	1MT	1726-301†	52.40
13/32	36	1MT	1726-361†	94.85
27/64	8	1MT	1727-081†	9.85
27/64	12	1MT	1727-121	23.80
27/64	15	1MT	1727-151	28.00
27/64	18	1MT	1727-181	44.20
27/64	18	2MT*	1727-182†	44.20
27/64	24	1MT	1727-241	66.65
7/16	8	1MT	1728-081†	9.85
7/16	12	1MT	1728-121	23.80
7/16	15	1MT	1728-151	28.00
7/16	18	1MT	1728-181	44.20
7/16	18	2MT*	1728-182†	44.20
7/16	24	1MT	1728-241	67.85
7/16	30	1MT	1728-301	58.40
7/16	36	1MT	1728-361	102.45
29/64	8	1MT	1729-081†	10.50
29/64	10	1MT	1729-101†	11.70
29/64	12	1MT	1729-121	25.40
29/64	15	1MT	1729-151	28.00
29/64	16	1MT	1729-161†	29.40
29/64	18	1MT	1729-181	44.20

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
29/64	20	1MT	1729-201†	\$24.40
29/64	24	1MT	1729-241	67.85
15/32	8	1MT	1730-081†	10.50
15/32	10	1MT	1730-101†	11.70
15/32	12	1MT	1730-121	25.40
15/32	12	2MT*	1730-122†	25.40
15/32	15	1MT	1730-151	28.80
15/32	15	2MT*	1730-152†	28.80
15/32	16	1MT	1730-161†	30.30
15/32	18	1MT	1730-181	44.20
15/32	18	2MT*	1730-182†	44.20
15/32	20	1MT	1730-201†	24.40
15/32	24	1MT	1730-241	67.85
15/32	30	1MT	1730-301	58.40
15/32	36	1MT	1730-361†	102.45
31/64	10	1MT	1731-101†	11.70
31/64	10	2MT	1731-102†	11.70
31/64	12	1MT*	1731-121†	25.40
31/64	12	2MT	1731-122	25.40
31/64	15	1MT*	1731-151†	28.80
31/64	15	2MT	1731-152	28.80
31/64	16	2MT	1731-162†	30.30
31/64	18	1MT*	1731-181†	44.20
31/64	18	2MT	1731-182	45.00
31/64	24	1MT*	1731-241†	67.85
31/64	24	2MT	1731-242	67.85
31/64	27-1/2	2MT	1731-272†	49.95
31/64	30	2MT	1731-302	61.40
1/2	12	1MT*	1732-121†	25.40
1/2	12	2MT	1732-122	25.40
1/2	15	2MT	1732-152	28.80
1/2	16	2MT	1732-162†	30.30
1/2	18	2MT	1732-182	45.00
1/2	24	1MT*	1732-241†	67.85
1/2	24	2MT	1732-242	67.85
1/2	30	1MT*	1732-301†	POA
1/2	30	2MT	1732-302	62.15
1/2	36	2MT	1732-362	109.45
33/64	10	1MT	1733-101†	12.50
33/64	10	2MT	1733-102†	12.50
33/64	12	2MT	1733-122	27.20
33/64	15	2MT	1733-152	36.10
33/64	18	2MT	1733-182	46.75
33/64	20	2MT	1733-202†	26.50
33/64	24	2MT	1733-242	70.45
33/64	30	2MT	1733-302	62.15
17/32	10	2MT	1734-102†	12.50
17/32	12	2MT	1734-122	27.20
17/32	15	2MT	1734-152	36.10
17/32	16	2MT	1734-162†	38.00
17/32	18	1MT*	1734-181†	46.75
17/32	18	2MT	1734-182	46.75
17/32	20	2MT	1734-201†	26.50
17/32	24	2MT	1734-242	70.45
17/32	30	2MT	1734-300♦	62.15
17/32	30	2MT	1734-302	62.15
17/32	36	2MT	1734-362	109.45
35/64	10	1MT	1735-101†	12.75
35/64	10	2MT	1735-102†	12.75
35/64	12	2MT	1735-122	27.70
35/64	15	1MT*	1735-151†	36.10
35/64	15	2MT	1735-152	36.10
35/64	16	1MT*	1735-161†	38.00
35/64	16	2MT	1735-162†	38.00
35/64	18	2MT	1735-182	48.60
35/64	20	3MT	1735-203†	27.55
35/64	24	2MT	1735-242	70.45
35/64	30	2MT	1735-302	69.70

\* Alternate Shank † Limited Quantities  
♦ Limited Quantities, Alternate Shank



# Taper Shank Drills—Extra Long

## High Speed Steel, 8" thru 36" OAL



HOW TO DETERMINE TS DRILL FLUTE LENGTHS IF OVERALL LENGTH IS:						
	10"	12"	18"	18"	30"	36"
THEIR APPROXIMATE FLUTE LENGTH IS (+/- 3/4")						
MT1	6-3/4"	8-3/4"	12-3/4"	14-3/4"	26-3/4"	
MT2	6-1/4"	8-1/4"	12-1/4"	14-1/4"	26-1/4"	32-1/4"
MT3		7-5/8"	11-5/8"	13-5/8"	25-5/8"	31-5/8"
MT4			10-11/16"	12-11/16"	24-11/16"	31-11/16"
MT5			8-1/2"	11-1/2"	23-1/2"	29-1/2"
MT6				21"	27"	

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
9/16	12	2MT	1736-122	\$27.70
9/16	15	2MT	1736-152	36.10
9/16	16	2MT	1736-162†	38.00
9/16	18	2MT	1736-182	48.60
9/16	24	2MT	1736-242	70.45
9/16	30	2MT	1736-302	77.55
9/16	36	2MT	1736-362	126.75
37/64	10	2MT	1737-102†	12.75
37/64	12	2MT	1737-122	27.70
37/64	15	2MT	1737-152	36.10
37/64	16	2MT	1737-162†	38.00
37/64	18	2MT	1737-182	48.60
37/64	20	2MT	1737-202†	27.55
37/64	24	2MT	1737-242	70.45
37/64	30	2MT	1737-302	77.55
19/32	12	2MT	1738-122	27.70
19/32	15	2MT	1738-152	36.10
19/32	16	2MT	1738-162†	38.00
19/32	18	2MT	1738-182	48.60
19/32	24	2MT	1738-242	70.45
19/32	30	2MT	1738-300♦	74.00
19/32	30	2MT	1738-302	82.20
19/32	36	2MT	1738-362	126.75
39/64	12	2MT	1739-122	29.35
39/64	15	2MT	1739-152	38.35
39/64	18	2MT	1739-182	52.40
39/64	20	2MT	1739-202†	29.70
39/64	24	2MT	1739-242	70.45
39/64	30	2MT	1739-302	82.20
5/8	10	2MT	1740-102†	13.50
5/8	12	2MT	1740-122	29.35
5/8	15	2MT	1740-152	38.35
5/8	16	2MT	1740-162†	40.30
5/8	18	2MT	1740-182	52.40
5/8	24	2MT	1740-242	70.45
5/8	30	2MT	1740-302	110.15
5/8	36	2MT	1740-362	150.10
41/64	10	2MT	1741-102†	13.50
41/64	12	2MT	1741-122	29.35
41/64	15	2MT	1741-152	38.35
41/64	16	2MT	1741-162†	40.30
41/64	18	2MT	1741-182	52.40
41/64	24	2MT	1741-242	70.45
41/64	30	2MT	1741-302	110.15
21/32	12	2MT	1742-122	29.35
21/32	15	2MT	1742-152	38.35
21/32	18	2MT	1742-182	52.40
21/32	24	2MT	1742-242	70.45
21/32	30	2MT	1742-302	110.15
21/32	36	2MT	1742-362	150.10
43/64	10	2MT	1743-102†	13.95
43/64	12	2MT	1743-122	30.35
43/64	15	2MT	1743-152	38.35
43/64	18	2MT	1743-182	52.40
43/64	20	2MT	1743-202†	29.70
43/64	24	2MT	1743-242	73.20
43/64	30	2MT	1743-302	110.15
11/16	12	2MT	1744-122	30.35
11/16	15	2MT	1744-152	38.35
11/16	16	2MT	1744-162†	40.30
11/16	18	2MT	1744-182	52.40
11/16	24	2MT	1744-242	73.20
11/16	30	2MT	1744-302	110.15
11/16	36	2MT	1744-362	150.10

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
45/64	12	2MT	1745-122	\$30.35
45/64	15	2MT	1745-152	38.35
45/64	16	2MT	1745-162†	40.30
45/64	18	2MT	1745-182	52.40
45/64	24	2MT	1745-242	75.65
45/64	30	2MT	1745-302	110.15
23/32	12	2MT	1746-122	30.35
23/32	15	2MT	1746-152	38.35
23/32	18	2MT	1746-182	52.40
23/32	24	2MT	1746-242	75.65
23/32	30	2MT	1746-302	128.75
23/32	36	2MT	1746-362	194.30
47/64	12	2MT	1747-122	35.10
47/64	12	3MT*	1747-123†	35.10
47/64	15	2MT	1747-152	41.95
47/64	16	2MT	1747-162†	44.00
47/64	18	2MT	1747-182	59.80
47/64	20	2MT	1747-202†	33.90
47/64	24	2MT	1747-242	76.30
47/64	30	2MT	1747-302	128.75
3/4	12	2MT	1748-122	35.10
3/4	15	2MT	1748-152	41.95
3/4	18	2MT	1748-182	59.80
3/4	24	2MT	1748-242	76.30
3/4	30	2MT	1748-302	99.90
3/4	36	2MT	1748-362	194.30
49/64	12	2MT	1749-122	36.90
49/64	15	2MT	1749-152	50.45
49/64	18	2MT	1749-182	61.75
49/64	24	2MT	1749-242	79.00
49/64	30	2MT	1749-302	134.05
25/32	12	2MT	1750-122	36.90
25/32	15	2MT	1750-152	50.45
25/32	16	2MT	1750-162†	53.00
25/32	18	2MT	1750-182	58.60
25/32	18	3MT*	1750-183†	58.60
25/32	24	2MT	1750-242	79.00
25/32	30	2MT	1750-302	134.05
25/32	36	2MT	1750-362	196.10
51/64	12	2MT*	1751-122†	39.25
51/64	12	3MT	1751-123	39.25
51/64	15	3MT	1751-153	50.45
51/64	16	3MT	1751-163†	53.00
51/64	18	2MT*	1751-182†	62.65
51/64	18	3MT	1751-183	62.65
51/64	20	3MT	1751-203†	35.50
51/64	24	3MT	1751-243	86.90
51/64	30	3MT	1751-303	134.05
13/16	12	2MT*	1752-122	42.20
13/16	12	3MT	1752-123	39.25
13/16	15	3MT	1752-153	50.45
13/16	16	3MT	-	-
13/16	18	2MT*	1752-182	67.35
13/16	18	3MT	1752-183	62.65
13/16	24	2MT*	1752-242	93.40
13/16	24	3MT	1752-243	86.90
13/16	30	3MT	1752-303	108.55
13/16	36	2MT*	1752-362†	176.50
13/16	36	3MT	1752-363	196.10
53/64	12	2MT*	1753-122†	39.25
53/64	12	3MT	1753-123	39.25
53/64	15	3MT	1753-153	50.45
53/64	16	3MT	1753-163†	53.00
53/64	18	2MT*	1753-182†	63.60
53/64	18	3MT	1753-183	63.60
53/64	24	3MT	1753-243	90.85
53/64	30	3MT	1753-303	146.60
27/32	12	2MT*	1754-122†	39.25
27/32	12	3MT	1754-123	39.25
27/32	15	3MT	1754-153	50.45
27/32	18	3MT	1754-183	63.60
27/32	20	3MT	1754-203†	36.05

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
27/32	24	3MT	1754-243	\$90.85
27/32	30	3MT	1754-303	146.60
27/32	36	3MT	1754-363	206.95
55/64	12	2MT*	1755-122†	43.15
55/64	12	3MT	1755-123	43.15
55/64	15	3MT	1755-153	54.25
55/64	16	3MT	1755-163†	57.00
55/64	18	2MT*	1755-182†	65.45
55/64	18	3MT	1755-183	65.45
55/64	24	3MT	1755-243	95.00
55/64	30	3MT	1755-303	146.60
7/8	12	2MT*	1756-122	46.40
7/8	12	3MT	1756-123	43.15
7/8	15	3MT	1756-153	54.25
7/8	18	2MT*	1756-182	70.35
7/8	18	3MT	1756-183	65.45
7/8	24	2MT*	1756-242	102.15
7/8	24	3MT	1756-243	95.00
7/8	30	3MT	1756-300♦	106.85
7/8	30	3MT	1756-303	118.70
7/8	36	3MT	1756-363	216.10
57/64	12	3MT	1757-123†	22.00
57/64	15	3MT	1757-153	54.25
57/64	18	3MT	1757-183	65.45
57/64	24	3MT	1757-243	95.00
57/64	30	3MT	1757-303	170.20
29/32	15	3MT	1758-153	54.25
29/32	16	3MT	1758-163†	57.00
29/32	18	3MT	1758-183	65.45
29/32	20	3MT	1758-203†	37.10
29/32	24	3MT	1758-243	95.00
29/32	30	3MT	1758-303	170.20
29/32	36	3MT	1758-363	239.65
59/64	15	3MT	1759-153	56.10
59/64	18	3MT	1759-183	67.30
59/64	24	3MT	1759-243	98.95
59/64	30	3MT	1759-303	170.20
15/16	15	3MT	1760-153	56.10
15/16	18	3MT	1760-183	67.30
15/16	24	3MT	1760-243	98.95
15/16	30	3MT	1760-303	137.80
15/16	36	3MT	1760-363	246.50
61/64	15	3MT	1761-153	59.10
61/64	16	3MT	1761-163†	62.10
61/64	18	3MT	1761-183	69.20
61/64	20	3MT	1761-203†	29.45
61/64	24	3MT	1761-243	109.00
61/64	30	3MT	1761-303	176.50
31/32	15	3MT	1762-153	59.10
31/32	16	3MT	1762-163†	62.10
31/32	18	3MT	1762-183	69.20
31/32	24	3MT	1762-243	109.00
31/32	30	3MT	1762-300♦	158.85
31/32	30	3MT	1762-303	176.50
31/32	36	3MT	1762-363	246.50
63/64	15	3MT	1763-153	63.60
63/64	16	3MT	1763-163†	POA
63/64	18	3MT	1763-183	72.95
63/64	24	3MT	1763-243	111.05
63/64	30	3MT	1763-303	176.50
1	15	3MT	1764-153	63.60
1	18	3MT	1764-183	72.95
1	24	3MT	1764-243	111.05
1	30	3MT	1764-303	142.90
1	36	3MT	1764-363	292.05
1-1/64	15	3MT	1765-153	69.20
1-1/64	18	3MT	1765-183	78.55
1-1/64	24	3MT	1765-243	115.95
1-1/64	30	3MT	1765-303	200.95
1-1/32	15	3MT	1766-153	69.20
1-1/32	18	3MT	1766-183	78.55

\* Alternate Shank † Limited Quantities  
♦ Limited Quantities, Alternate Shank

(Continued)

# Taper Shank Drills— Extra Long

## High Speed Steel, 8" thru 36" OAL



HOW TO DETERMINE TS DRILL FLUTE LENGTHS IF OVERALL LENGTH IS:						
	10"	12"	16"	18"	30"	36"
THEIR APPROXIMATE FLUTE LENGTHS IS (+/- 3/4")						
MT1	6-3/4"	8-3/4"	12-3/4"	14-3/4"	26-3/4"	
MT2	6-1/4"	8-1/4"	12-1/4"	14-1/4"	26-1/4"	32-1/4"
MT3		7-5/8"	11-5/8"	13-5/8"	25-5/8"	31-5/8"
MT4			10-11/16"	12-11/16"	24-11/16"	31-11/16"
MT5			8-1/2"	11-1/2"	23-1/2"	29-1/2"
MT6				21"	27"	

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
1-1/32	24	3MT	1766-243	\$115.95
1-1/32	28	3MT	1766-283†	98.15
1-1/32	30	3MT	1766-303	200.95
1-1/32	36	3MT	1766-363	304.80
1-3/64	15	3MT	1767-153	69.20
1-3/64	18	3MT	1767-183	78.55
1-3/64	24	3MT	1767-243	115.95
1-3/64	30	3MT	1767-303	200.95
1-1/16	15	3MT	1768-153	69.20
1-1/16	16	3MT	1768-163†	72.70
1-1/16	18	3MT	1768-183	78.55
1-1/16	24	3MT	1768-243	115.95
1-1/16	30	3MT	1768-303	162.70
1-1/16	36	3MT	1768-363	313.80
1-5/64	15	4MT	1769-154	74.80
1-5/64	16	4MT	1769-164†	78.50
1-5/64	18	4MT	1769-184	84.20
1-5/64	20	4MT	1769-204†	47.75
1-5/64	22	4MT	1769-224†	52.50
1-5/64	24	3MT*	1769-243†	127.40
1-5/64	24	4MT	1769-244	127.40
1-5/64	30	4MT	1769-304	214.75
1-3/32	15	4MT	1770-154	74.80
1-3/32	18	3MT*	1770-183†	84.20
1-3/32	18	4MT	1770-184	84.20
1-3/32	20	4MT	1770-204†	47.75
1-3/32	24	4MT	1770-244	127.40
1-3/32	26	4MT	1770-264†	98.75
1-3/32	30	3MT*	1770-303†	214.75
1-3/32	30	4MT	1770-304	214.75
1-3/32	36	4MT	1770-364	338.80
1-7/64	15	4MT	1771-154	74.80
1-7/64	18	4MT	1771-184	84.20
1-7/64	24	4MT	1771-244	127.40
1-7/64	30	4MT	1771-304	214.75
1-1/8	15	4MT	1772-154	74.80
1-1/8	18	3MT*	1772-183	90.50
1-1/8	18	4MT	1772-184	84.20
1-1/8	24	3MT*	1772-243	136.95
1-1/8	24	4MT	1772-244	127.40
1-1/8	30	3MT*	1772-303	186.95
1-1/8	30	4MT	1772-304	173.90
1-1/8	36	4MT	1772-364	338.80
1-9/64	15	4MT	1773-154	76.30
1-9/64	18	4MT	1773-184	93.35
1-9/64	24	4MT	1773-244	133.45
1-9/64	30	4MT	1773-304	230.95
1-5/32	15	4MT	1774-154	76.30
1-5/32	18	4MT	1774-184	93.35
1-5/32	24	4MT	1774-244	133.45
1-5/32	30	4MT	1774-304	230.95
1-5/32	36	4MT	1774-364	338.80
1-11/64	15	4MT	1775-154	77.15
1-11/64	16	4MT	1775-164†	81.00
1-11/64	18	4MT	1775-184	92.60
1-11/64	22	4MT	1775-224†	57.75
1-11/64	24	4MT	1775-244	133.45
1-11/64	30	4MT	1775-304	230.95
1-3/16	15	4MT	1776-154	77.15
1-3/16	16	3MT*	1776-163†	81.00

\* Alternate Shank † Limited Quantities  
 \*\* Limited Quantities, Alternate Shank

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
1-3/16	18	3MT*	1776-183	\$99.55
1-3/16	18	4MT	1776-184	92.60
1-3/16	24	3MT*	1776-243	143.45
1-3/16	24	4MT	1776-244	133.45
1-3/16	30	3MT*	1776-303	201.05
1-3/16	30	4MT	1776-304	187.00
1-3/16	36	4MT	1776-364	360.70
1-13/64	15	4MT	1777-154	81.85
1-13/64	16	4MT	1777-164†	86.00
1-13/64	18	4MT	1777-184	98.20
1-13/64	20	4MT	1777-204†	55.65
1-13/64	22	4MT	1777-224†	61.25
1-13/64	24	4MT	1777-244	141.30
1-13/64	30	4MT	1777-304	254.05
1-7/32	15	4MT	1778-154	81.85
1-7/32	18	4MT	1778-184	98.20
1-7/32	24	4MT	1778-244	141.30
1-7/32	30	4MT	1778-304	254.05
1-7/32	36	4MT	1778-364	368.45
1-15/64	15	4MT	1779-154	81.85
1-15/64	16	4MT	1779-164†	86.00
1-15/64	18	4MT	1779-184	98.20
1-15/64	24	4MT	1779-244	141.30
1-15/64	30	4MT	1779-304	254.05
1-1/4	15	4MT	1780-154	81.85
1-1/4	18	3MT*	1780-183	105.55
1-1/4	18	4MT	1780-184	98.20
1-1/4	24	3MT*	1780-243	151.90
1-1/4	24	4MT	1780-244	141.30
1-1/4	30	4MT	1780-304	205.70
1-1/4	36	4MT	1780-364	368.45
1-17/64	15	4MT	1781-154	91.50
1-17/64	16	4MT	1781-164†	97.30
1-17/64	18	4MT	1781-184	111.20
1-17/64	24	4MT	1781-244	160.00
1-17/64	30	4MT	1781-304	277.15
1-9/32	15	4MT	1782-154	91.50
1-9/32	18	4MT	1782-184	111.20
1-9/32	24	4MT	1782-244	160.00
1-9/32	30	4MT	1782-300**	249.45
1-9/32	30	4MT	1782-304	277.15
1-9/32	36	4MT	1782-364	368.45
1-19/64	15	4MT	1783-154	91.50
1-19/64	18	4MT	1783-184	111.20
1-19/64	24	4MT	1783-244	160.00
1-19/64	30	4MT	1783-304	277.15
1-5/16	15	4MT	1784-154	91.50
1-5/16	18	4MT	1784-184	111.20
1-5/16	24	4MT	1784-244	160.00
1-5/16	30	4MT	1784-300**	201.95
1-5/16	30	4MT	1784-304	224.40
1-5/16	36	4MT	1784-360**	331.60
1-5/16	36	4MT	1784-364	368.45
1-21/64	18	4MT	1785-184	124.55
1-21/64	24	4MT	1785-244	178.95
1-21/64	30	4MT	1785-304	311.80
1-11/32	16	4MT	1786-164†	114.65
1-11/32	18	4MT	1786-184	124.55
1-11/32	24	4MT	1786-244	178.95
1-11/32	30	4MT	1786-304	311.80
1-11/32	36	4MT	1786-364	417.40
1-23/64	16	4MT	1787-164†	114.65
1-23/64	18	4MT	1787-184	124.55
1-23/64	24	4MT	1787-244	178.95
1-3/8	16	4MT	1788-164†	114.65
1-3/8	18	4MT	1788-184	124.55
1-3/8	24	4MT	1788-244	178.95
1-3/8	30	4MT	1788-304	252.45
1-3/8	34	4MT	1788-344†	390.25
1-3/8	36	4MT	1788-364	417.40

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
1-25/64	18	4MT	1789-184	\$128.45
1-25/64	20	4MT	1789-204†	72.80
1-25/64	24	4MT	1789-244	185.00
1-25/64	30	4MT	1789-304	346.40
1-13/32	18	4MT	1790-184	128.45
1-13/32	20	4MT	1790-204†	72.80
1-13/32	22	4MT	1790-224†	80.05
1-13/32	24	4MT	1790-244	185.00
1-13/32	30	4MT	1790-304	346.40
1-13/32	36	4MT	1790-364	463.75
1-27/64	18	4MT	1791-184	128.45
1-27/64	22	4MT	1791-224†	80.05
1-27/64	24	4MT	1791-244	185.00
1-27/64	30	4MT	1791-304	346.40
1-7/16	18	4MT	1792-184	128.45
1-7/16	24	4MT	1792-244	185.00
1-7/16	36	4MT	1792-300**	417.40
1-7/16	30	4MT	1792-304	280.50
1-7/16	36	4MT	1792-364	463.75
1-29/64	18	4MT	1793-184	139.55
1-29/64	20	4MT	1793-204†	79.10
1-29/64	24	4MT	1793-244	200.70
1-29/64	30	4MT	1793-304	413.25
1-15/32	18	4MT	1794-184	139.55
1-15/32	24	4MT	1794-244	200.70
1-15/32	30	4MT	1794-304	413.25
1-15/32	36	4MT	1794-364	477.50
1-31/64	18	4MT	1795-184	139.55
1-31/64	24	4MT	1795-244	200.70
1-31/64	30	4MT	1795-304	413.25
1-1/2	18	4MT	1796-184	139.55
1-1/2	24	4MT	1796-244	200.70
1-1/2	30	4MT	1796-304	317.90
1-1/2	36	4MT	1796-364	391.00
1-33/64	18	4MT*	1797-184	201.50
1-33/64	24	5MT	1797-245	289.70
1-33/64	30	4MT*	1797-304	461.90
1-17/32	18	4MT*	1798-184	166.65
1-17/32	18	5MT	1798-185	155.00
1-17/32	24	5MT	1798-245	222.85
1-17/32	30	5MT	1798-305	461.90
1-17/32	36	5MT	1798-365	568.15
1-35/64	18	4MT*	1799-184	201.50
1-35/64	24	5MT	1799-245	289.70
1-9/16	18	4MT*	1800-184	166.65
1-9/16	18	5MT	1800-185	155.00
1-9/16	24	4MT*	1800-244	239.55
1-9/16	24	5MT	1800-245	222.85
1-9/16	30	5MT	1800-305	355.30
1-9/16	36	5MT	1800-365	568.15
1-37/64	24	5MT	1801-245	310.10
1-19/32	18	4MT*	1802-184	177.70
1-19/32	18	5MT	1802-185	165.30
1-19/32	24	5MT	1802-245	238.55
1-19/32	30	5MT	1802-305	461.90
1-19/32	36	5MT	1802-365	568.15
1-39/64	24	5MT	1803-245	310.10
1-5/8	18	4MT*	1804-184	177.70
1-5/8	18	5MT	1804-185	165.30
1-5/8	24	4MT*	1804-244	256.45
1-5/8	24	5MT	1804-245	238.55
1-5/8	30	4MT*	1804-304	381.95
1-5/8	30	5MT	1804-305	355.30
1-5/8	36	5MT	1804-365	437.05
1-21/32	18	4MT*	1806-184	189.75
1-21/32	24	4MT*	1806-244†	254.00
1-21/32	24	5MT	1806-245	254.00
1-21/32	30	5MT	1806-305	485.00
1-21/32	36	5MT	1806-365	627.90

(Continued)

# Taper Shank Drills—Extra Long



3

## High Speed Steel, 8" thru 36" OAL



Letter Sizes - Limited Quantities

HOW TO DETERMINE TS DRILL FLUTE LENGTHS IF OVERALL LENGTH IS:						
	10"	12"	16"	18"	30"	36"
THEY APPROXIMATE FLUTE LENGTHS (+/- 3/4")						
MT1	6-3/4"	8-3/4"	12-3/4"	14-3/4"	26-3/4"	32-1/4"
MT2	6-1/4"	8-1/4"	12-1/4"	14-1/4"	26-1/4"	
MT3		7-5/8"	11-5/8"	13-5/8"	25-5/8"	31-5/8"
MT4			10-11/16"	12-11/16"	24-11/16"	31-11/16"
MT5			8-1/2"	11-1/2"	23-1/2"	29-1/2"
MT6				21"	27"	

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
1-11/16	18	4MT*	1808-184	189.75
1-11/16	18	5MT	1808-185	176.50
1-11/16	24	4MT*	1808-244	273.05
1-11/16	24	5MT	1808-245	254.00
1-11/16	30	5MT	1808-300**	343.45
1-11/16	30	5MT	1808-305	381.60
1-11/16	36	5MT	1808-365	627.90
1-23/32	18	4MT*	1810-184	211.55
1-23/32	24	5MT	1810-245	283.90
1-23/32	30	5MT	1810-305	510.50
1-23/32	36	5MT	1810-365	627.90
1-3/4	18	4MT*	1812-184	211.55
1-3/4	18	5MT	1812-185	196.80
1-3/4	24	4MT*	1812-244	305.20
1-3/4	24	5MT	1812-245	283.90
1-3/4	30	4MT*	1812-301**	353.45
1-3/4	30	5MT	1812-300**	353.45
1-3/4	30	4MT*	1812-304	422.15
1-3/4	30	5MT	1812-305	392.70
1-3/4	36	5MT	1812-360**	434.70
1-3/4	36	5MT	1812-365	483.00
1-25/32	18	4MT*	1814-184	218.20
1-25/32	24	5MT	1814-245	313.65
1-25/32	30	5MT	1814-305	571.30
1-25/32	36	5MT	1814-365	702.70
1-13/16	24	4MT*	1816-244	337.15
1-13/16	24	5MT	1816-245	313.65
1-13/16	30	4MT*	1816-305	472.40
1-13/16	36	5MT	1816-365	702.70
1-27/32	20	4MT	1818-204†	137.30
1-27/32	22	4MT	1818-224†	151.05
1-27/32	24	5MT	1818-245	348.50
1-27/32	30	5MT	1818-305	571.30
1-27/32	36	5MT	1818-365	702.70
1-7/8	24	4MT*	1820-244	374.65
1-7/8	24	5MT	1820-245	348.50
1-7/8	30	5MT	1820-300**	395.50
1-7/8	30	4MT*	1820-304	472.40
1-7/8	30	5MT	1820-305	439.45
1-7/8	36	5MT	1820-360**	486.50
1-7/8	36	5MT	1820-365	540.55
1-29/32	24	5MT	1822-245	383.15
1-29/32	30	5MT	1822-305	632.05
1-29/32	36	5MT	1822-365	839.55
1-15/16	24	4MT*	1824-244	411.90
1-15/16	24	5MT	1824-245	383.15
1-15/16	30	5MT	1824-305	486.20
1-15/16	36	5MT	1824-365	839.55
1-31/32	24	5MT	1826-245	415.25
1-31/32	30	5MT	1826-305	650.20
1-31/32	36	5MT	1826-365	839.55
2	24	4MT*	1828-244	446.40
2	24	5MT	1828-245	415.25
2	30	4MT*	1828-300**	483.90
2	30	4MT*	1828-304	537.65
2	30	5MT	1828-305	500.15
2	36	5MT	1828-365	645.80
2-1/32	24	5MT	1830-245	581.35
2-1/32	30	5MT	1830-305	717.15
2-1/16	24	5MT	1832-245	447.20
2-1/16	30	5MT	1832-305	551.65
2-1/16	36	5MT	1832-365	980.25

DIAM.	OVERALL LENGTH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
2-3/32	24	5MT	1834-245	\$581.35
2-3/32	30	5MT	1834-305	717.15
2-1/8	24	5MT	1836-245	447.20
2-1/8	30	5MT	1836-305	551.65
2-1/8	36	5MT	1836-365	754.05
2-5/32	24	5MT	1838-245	639.00
2-5/32	30	5MT	1838-305	769.75
2-3/16	24	5MT	1840-245	491.55
2-3/16	30	5MT	1840-305	592.10
2-3/16	36	5MT	1840-365	980.25
2-7/32	24	5MT	1842-245	639.00
2-7/32	30	5MT	1842-305	769.75
2-1/4	24	5MT	1844-245	491.55
2-1/4	30	5MT	1844-305	592.10
2-1/4	36	5MT	1844-365	754.05
2-9/32	24	5MT	1846-245	696.80
2-9/32	30	5MT	1846-305	839.30
2-5/16	24	5MT	1848-245	536.00
2-5/16	30	5MT	1848-305	645.60
2-5/16	36	5MT	1848-365	1174.90
2-11/32	24	5MT	1850-245	696.80
2-11/32	30	5MT	1850-305	839.30
2-3/8	24	5MT	1852-245	536.00
2-3/8	30	5MT	1852-305	645.60
2-3/8	36	5MT	1852-365	903.75
2-13/32	24	5MT	1854-245	743.60
2-13/32	30	5MT	1854-305	895.65
2-7/16	24	5MT	1856-245	572.00
2-7/16	30	5MT	1856-305	688.95
2-7/16	36	5MT	1856-365	1259.00
2-29/64	24	5MT	1857-245†	280.30
2-15/32	24	5MT	1858-245	743.60
2-15/32	30	5MT	1858-305	895.65
2-1/2	24	5MT	1860-245	572.00
2-1/2	30	5MT	1860-300**	620.05
2-1/2	30	5MT	1860-305	688.95
2-1/2	36	5MT	1860-365	968.45
2-17/32	24	5MT	1862-245	790.15
2-17/32	30	5MT	1862-305	951.85
2-9/16	24	5MT	1864-245	607.80
2-9/16	30	5MT	1864-305	951.85
2-9/16	36	5MT	1864-365	1332.50
2-19/32	24	5MT	1866-245	790.15
2-19/32	30	5MT	1866-305	951.85
2-5/8	24	5MT	1868-245	607.80
2-5/8	30	5MT	1868-305	732.20
2-5/8	36	5MT	1868-365	1025.00
2-21/32	24	5MT	1870-245	855.75
2-21/32	30	5MT	1870-305	1030.85
2-11/16	24	5MT	1872-245	658.25
2-11/16	30	5MT	1872-305	1109.95
2-11/16	36	5MT	1872-365	1553.70
2-23/32	24	5MT	1874-245	855.75
2-23/32	30	5MT	1874-305	1030.85
2-3/4	24	5MT	1876-245	658.25
2-3/4	30	5MT	1876-305	792.95
2-3/4	36	5MT	1876-365	1195.15
2-13/16	24	5MT	1880-245	708.70
2-13/16	30	5MT	1880-305	1109.95
2-13/16	36	5MT	1880-365	1553.70
2-7/8	24	5MT	1884-245	708.70
2-7/8	30	5MT	1884-305	853.80
2-7/8	36	5MT	1884-365	1195.15
2-15/16	24	5MT	1888-245	810.05
2-15/16	30	5MT	1888-305	1268.55
2-15/16	36	5MT	1888-365	1775.80
3	24	5MT	1892-245	810.05
3	30	5MT	1892-305	975.80
3	36	5MT	1892-365	1366.00

SIZE	OVERALL LENGTH	MTS	ORDER NO.	PRICE EACH
B	8	1	1672-081	\$14.10
B	10	1	1672-101	15.60
B	12	1	1672-121	17.30
C	8	1	1673-081	14.10
C	10	1	1673-101	15.60
C	12	1	1673-121	17.30
D	8	1	1674-081	14.10
D	10	1	1674-101	15.60
D	12	1	1674-121	17.30
F	8	1	1676-081	15.70
F	10	1	1676-101	17.40
F	12	1	1676-121	19.40
G	8	1	1677-081	15.70
G	10	1	1677-101	17.40
G	12	1	1677-121	19.40
H	8	1	1678-081	15.70
H	10	1	1678-101	17.40
H	12	1	1678-121	19.40
I	8	1	1679-081	15.70
I	10	1	1679-101	17.40
I	12	1	1679-121	19.40
J	8	1	1680-081	15.70
J	10	1	1680-101	17.40
J	12	1	1680-121	19.40
L	8	1	1682-081	16.70
L	10	1	1682-101	18.60
L	12	1	1682-121	20.60
M	8	1	1683-081	16.70
M	10	1	1683-101	18.60
M	12	1	1683-121	20.60
N	8	1	1684-081	16.70
N	10	1	1684-101	18.60
N	12	1	1684-121	20.60
O	8	1	1685-081	17.50
O	12	1	1685-121	21.60
P	12	1	1686-121	21.60
R	10	1	1688-101	19.50
R	12	1	1688-121	21.60
S	8	1	1689-081	18.50
S	10	1	1689-101	20.60
S	12	1	1689-121	22.80
T	8	1	1690-081	18.50
T	10	1	1690-101	20.60
T	12	1	1690-121	22.80
U	8	1	1691-081	18.50
U	10	1	1691-101	20.60
U	12	1	1691-121	22.80
V	8	1	1692-081	18.50
V	10	1	1692-101	20.60
V	12	1	1692-121	22.80
W	8	1	1693-081	18.50
W	10	1	1693-101	20.60
W	12	1	1693-121	22.80
X	8	1	1694-081	18.50
X	10	1	1694-101	20.60
X	12	1	1694-121	22.80
Y	8	1	1695-081	18.50
Y	10	1	1695-101	20.60
Y	12	1	1695-121	22.80
Z	8	1	1696-081	18.50
Z	10	1	1696-101	20.60
Z	12	1	1696-121	22.80

\* Alternate Shank † Limited Quantities  
 \*\* Limited Quantities, Alternate Shank



# Straight Shank Core Drills—High Speed Steel



2



Three Flute



Four Flute

DIAM.	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	3 FLUTE		4 FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	.2500	3-3/4	6-1/8	—	—	1390-016	\$10.86
17/64	.2656	3-7/8	6-1/4	—	—	1390-017	POA
9/32	.2812	3-7/8	6-1/4	1380-018†	\$8.65	1390-018	10.95
19/64	.2969	3-7/8	6-3/8	—	—	1390-019	POA
5/16	.3125	4	6-3/8	—	—	1390-020	11.59
21/64	.3281	4-1/8	6-1/2	—	—	1390-021	POA
11/32	.3438	4-1/8	6-1/2	1380-022†	9.90	1390-022	14.44
23/64	.3594	4-1/4	6-3/4	—	—	1390-023	POA
3/8	.3750	4-1/4	6-3/4	—	—	1390-024	14.44
25/64	.3906	4-3/8	7	—	—	1390-025	POA
13/32	.4062	4-3/8	7	—	—	1390-026	14.49
27/64	.4219	4-5/8	7	—	—	1390-027	POA
7/16	.4375	4-5/8	7-1/4	1380-028†	13.66	1390-028	14.49
29/64	.4531	4-5/8	7-1/4	—	—	1390-029	POA
15/32	.4688	4-3/4	7-1/2	—	—	1390-030	15.36
31/64	.4844	4-3/4	7-3/4	—	—	1390-031	POA
1/2	.5000	4-3/4	7-3/4	1380-032	12.21	1390-032	16.38
33/64	.5156	4-3/4	8	—	—	1390-033	POA
17/32	.5312	4-3/4	8	—	—	1390-034	17.48
35/64	.5469	4-7/8	8-1/4	—	—	1390-035	POA
9/16	.5625	4-7/8	8-1/4	—	—	1390-036	19.00
37/64	.5781	4-7/8	8-3/4	—	—	1390-037	POA
19/32	.5938	4-7/8	8-3/4	1380-038†	14.85	1390-038	19.83
39/64	.6094	4-7/8	8-3/4	—	—	1390-039	POA
5/8	.6250	4-7/8	8-3/4	—	—	1390-040	20.79
41/64	.6406	5-1/8	9	—	—	1390-041	POA
21/32	.6562	5-1/8	9	—	—	1390-042	22.17
43/64	.6719	5-1/8	9	1380-043†	18.04	1390-043	POA
11/16	.6875	5-3/8	9-1/4	1380-044†	18.04	1390-044	24.10
45/64	.7031	5-5/8	9-1/2	—	—	1390-045	POA
23/32	.7188	5-5/8	9-1/2	1380-046†	19.17	1390-046	25.58
47/64	.7344	5-7/8	9-3/4	—	—	1390-047	POA
3/4	.7500	5-7/8	9-3/4	1380-048†	20.49	1390-048	27.32
49/64	.7656	6	9-7/8	—	—	1390-049	POA
25/32	.7812	6	9-7/8	1380-050†	21.25	1390-050	29.72
51/64	.7969	6-1/8	10	—	—	1390-051	POA
13/16	.8125	6-1/8	10	—	—	1390-052	33.81
53/64	.8281	6-1/8	10	—	—	1390-053	POA
27/32	.8438	6-1/8	10	1380-054†	26.18	1390-054	34.18
55/64	.8594	6-1/8	10	1380-055†	26.92	1390-055	POA
7/8	.8750	6-1/8	10	—	—	1390-056	36.39

DIAM.	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	3 FLUTE		4 FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
57/64	.8906	6-1/8	10	—	—	1390-057	POA
29/32	.9062	6-1/8	10	1380-058†	\$28.40	1390-058	\$37.90
59/64	.9219	6-1/8	10-3/4	—	—	1390-059	POA
15/16	.9375	6-1/8	10-3/4	1380-060†	28.40	1390-060	39.65
61/64	.9531	6-3/8	11	1380-061†	32.87	1390-061	POA
31/32	.9688	6-3/8	11	1380-062†	32.87	1390-062	43.24
63/64	.9844	6-3/8	11	—	—	1390-063	POA
1	1.0000	6-3/8	11	1380-064†	33.83	1390-064	45.72
1-1/32	1.0312	6-1/2	11-1/8	1380-066†	35.97	1390-066	49.31
1-1/16	1.0625	6-5/8	11-1/4	—	—	1390-068	51.57
1-3/32	1.0938	6-7/8	11-1/2	—	—	1390-070	57.68
1-1/8	1.1250	7-1/8	11-3/4	—	—	1390-072	60.72
1-5/32	1.1562	7-1/4	11-7/8	1380-074†	47.08	1390-074	64.58
1-3/16	1.1875	7-3/8	12	1380-076†	50.60	1390-076	67.85
1-7/32	1.2188	7-1/2	12-1/8	—	—	1390-078	72.04
1-1/4	1.2500	7-7/8	12-1/2	—	—	1390-080	78.20
1-9/32	1.2812	8-1/2	14-1/8	—	—	1390-082	91.45
1-5/16	1.3125	8-5/8	14-1/4	—	—	1390-084	94.94
1-11/32	1.3438	8-3/4	14-3/8	—	—	1390-086	98.49
1-3/8	1.3750	8-7/8	14-1/2	1380-088†	76.81	1390-088	101.11
1-13/32	1.4062	9	14-5/8	—	—	1390-090	105.57
1-7/16	1.4375	9-1/8	14-3/4	—	—	1390-092	110.86
1-15/32	1.4688	9-1/4	14-7/8	1380-094†	90.95	1390-094	116.15
1-1/2	1.5000	9-3/8	15	1380-096†	90.95	1390-096	119.69
1-17/32	1.5312	9-5/8	15-1/4	1380-098†	100.79	1390-098	134.55
1-9/16	1.5625	9-5/8	15-1/4	—	—	1390-100	143.61
1-19/32	1.5938	9-7/8	15-5/8	—	—	1390-102	150.65
1-5/8	1.6250	9-7/8	15-5/8	—	—	1390-104	155.48
1-21/32	1.6562	10	15-3/4	—	—	1390-106	161.55
1-11/16	1.6875	10	15-3/4	—	—	1390-108	167.53
1-23/32	1.7188	10-1/2	16-1/4	—	—	1390-110	167.12
1-3/4	1.7500	10-1/2	16-1/4	—	—	1390-112	178.16
1-25/32	1.7812	10-1/2	16-1/4	—	—	1390-114	185.70
1-13/16	1.8125	10-1/2	16-1/4	—	—	1390-116	190.95
1-27/32	1.8438	10-3/4	16-1/2	—	—	1390-118	195.96
1-7/8	1.8750	10-3/4	16-1/2	—	—	1390-120	207.55
1-29/32	1.9062	10-3/4	16-5/8	—	—	1390-122	217.17
1-15/16	1.9375	10-3/4	16-5/8	—	—	1390-124	221.49
1-31/32	1.9688	10-3/4	16-5/8	1380-126†	183.59	1390-126	227.01
2	2.0000	10-3/4	16-5/8	—	—	1390-128	234.78

† Limited Quantities



# Taper Shank Core Drills – High Speed Steel



Three Flute



Four Flute

		3 FLUTE					4 FLUTE		3 FLUTE					4 FLUTE			
DIAM.	MTS	DEC. EQV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	DIAM.	MTS	DEC. EQV.	FLUTE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1MT	.2500	2-7/8	6-1/8	1400-161†	\$9.55	1410-161	\$10.86	1-7/64	4MT	1.1094	6-7/8	11-1/2	—	—	1410-714	POA
17/64	1MT	.2656	3	6-1/4	1400-171†	11.55	1410-171	POA	1-1/8	4MT	1.1250	7-1/8	12-3/4	—	—	1410-724	\$60.72
9/32	1MT	.2812	3	6-1/4	1400-181†	9.63	1410-181	10.95	1-9/64	4MT	1.1406	7-1/4	12-7/8	—	—	1410-734	POA
19/64	1MT	.2969	3-1/8	6-3/8	—	—	1410-191	POA	1-5/32	4MT	1.1562	7-1/4	12-7/8	—	—	1410-744	64.58
5/16	1MT	.3125	3-1/8	6-3/8	1400-201†	9.63	1410-201	11.59	1-11/64	4MT	1.1719	7-3/8	13	—	—	1410-754	POA
21/64	1MT	.3281	3-1/4	6-1/2	1400-211†	15.36	1410-211	POA	1-3/16	4MT	1.1875	7-3/8	13	1400-764†	\$61.18	1410-764	67.85
11/32	1MT	.3438	3-1/4	6-1/2	1400-221†	12.80	1410-221	14.44	1-13/64	4MT	1.2031	7-1/2	13-1/4	—	—	1410-774	POA
23/64	1MT	.3594	3-1/2	6-3/4	—	—	1410-231	POA	1-7/32	4MT	1.2188	7-1/2	13-1/8	1400-784†	64.98	1410-784	72.04
3/8	1MT	.3750	3-1/2	6-3/4	1400-241†	12.80	1410-241	14.44	1-15/64	4MT	1.2344	7-7/8	13-1/2	—	—	1410-794	POA
25/64	1MT	.3906	3-5/8	7	—	—	1410-251	POA	1-1/4	4MT	1.2500	7-7/8	13-1/2	—	—	1410-804	78.11
13/32	1MT	.4062	3-5/8	7	—	—	1410-261	14.49	1-17/64	4MT	1.2656	8-1/2	14-1/8	—	—	1410-814	POA
27/64	1MT	.4219	3-7/8	7-1/4	—	—	1410-271	POA	1-9/32	4MT	1.2812	8-1/2	14-1/8	1400-824†	82.53	1410-824	91.45
7/16	1MT	.4375	3-7/8	7-1/4	—	—	1410-281	14.49	1-19/64	4MT	1.2969	8-5/8	14-1/4	—	—	1410-834	POA
29/64	1MT	.4531	4-1/8	7-1/2	—	—	1410-291	POA	1-5/16	4MT	1.3125	8-5/8	14-1/4	—	—	1410-844	94.94
15/32	1MT	.4688	4-1/8	7-1/2	1400-301†	13.65	1410-301	15.36	1-21/64	4MT	1.3281	8-3/4	14-3/8	—	—	1410-854	POA
31/64	1MT	.4844	4-3/8	8-1/4	—	—	1410-312	POA	1-11/32	4MT	1.3438	8-3/4	14-3/8	1400-864†	88.95	1410-864	98.49
1/2	2MT	.5000	4-3/8	8-1/4	1400-321†	17.44	1410-322	16.38	1-23/64	4MT	1.3594	8-7/8	14-1/2	1400-874†	109.54	1410-874	POA
33/64	2MT	.5156	4-5/8	8-1/2	—	—	1410-332	POA	1-3/8	4MT	1.3750	8-7/8	14-1/2	—	—	1410-884	101.11
17/32	2MT	.5312	4-5/8	8-1/2	—	—	1410-342	17.48	1-25/64	4MT	1.3906	9	14-5/8	1400-894†	114.42	1410-894	POA
35/64	2MT	.5469	4-7/8	8-3/4	—	—	1410-352	POA	1-13/32	4MT	1.4062	9	14-5/8	1400-904†	95.35	1410-904	105.57
9/16	2MT	.5625	4-7/8	8-3/4	—	—	1410-362	19.00	1-27/64	4MT	1.4219	9-1/8	14-3/4	1400-914†	120.16	1410-914	POA
37/64	2MT	.5781	4-7/8	8-3/4	—	—	1410-372	POA	1-7/16	4MT	1.4375	9-1/8	14-3/4	1400-924†	100.13	1410-924	110.86
19/32	2MT	.5938	4-7/8	8-3/4	1400-382†	17.70	1410-382	19.83	1-29/64	4MT	1.4531	9-1/4	14-7/8	1400-934†	125.94	1410-934	POA
39/64	2MT	.6094	4-7/8	8-3/4	—	—	1410-392	POA	1-15/32	4MT	1.4688	9-1/4	14-7/8	—	—	1410-944	116.15
5/8	2MT	.6250	4-7/8	8-3/4	1400-402†	18.53	1410-402	20.79	1-31/64	4MT	1.4844	9-3/8	15	—	—	1410-954	POA
41/64	2MT	.6406	5-1/8	9	—	—	1410-412	POA	1-1/2	4MT	1.5000	9-3/8	15	—	—	1410-964	119.69
21/32	2MT	.6562	5-1/8	9	1400-422†	19.78	1410-422	22.17	1-17/32	5MT	1.5312	9-3/8	16-3/8	—	—	1410-985	134.55
43/64	2MT	.6719	5-1/8	9	—	—	1410-432	POA	1-9/16	5MT	1.5625	9-5/8	16-5/8	—	—	1411-005	143.61
11/16	2MT	.6875	5-3/8	9-1/4	—	—	1410-442	24.10	1-19/32	5MT	1.5938	9-7/8	16-7/8	—	—	1411-025	150.65
45/64	2MT	.7031	5-3/8	9-1/2	—	—	1410-452	POA	1-5/8	5MT	1.6250	10	17	1401-045†	140.53	1411-045	155.48
23/32	2MT	.7188	5-5/8	9-1/2	—	—	1410-462	25.58	1-21/32	5MT	1.6562	10-1/8	17-1/8	1401-065†	146.03	1411-065	161.55
47/64	2MT	.7344	5-7/8	9-3/4	—	—	1410-472	POA	1-11/16	5MT	1.6875	10-1/8	17-1/8	—	—	1411-085	167.53
3/4	2MT	.7500	5-7/8	9-3/4	1400-482†	24.45	1410-482	27.28	1-45/64	5MT	1.7031	—	—	—	—	1411-095	POA
49/64	2MT	.7656	6	9-7/8	—	—	1410-492	POA	1-23/32	5MT	1.7188	10-1/8	17-1/8	—	—	1411-105	176.32
25/32	2MT	.7812	6	9-7/8	—	—	1410-502	29.72	1-3/4	4MT	1.7500	10-1/8	17-1/8	—	—	—	—
51/64	3MT	.7969	6-1/8	10-3/4	—	—	1410-513	POA	1-3/4	5MT	1.7500	10-1/8	17-1/8	—	—	1411-125	178.16
13/16	3MT	.8125	6-1/8	10-3/4	—	—	1410-523	33.81	1-25/32	5MT	1.7812	10-1/8	17-1/8	1401-145†	167.93	1411-145	185.70
53/64	3MT	.8281	6-1/8	10-3/4	—	—	1410-533	POA	1-13/16	5MT	1.8125	10-1/8	17-1/8	1401-165†	172.68	1411-165	190.95
27/32	3MT	.8438	6-1/8	10-3/4	1400-543†	30.68	1410-543	34.18	1-27/32	5MT	1.8438	10-1/8	17-1/8	—	—	1411-185	195.96
55/64	3MT	.8594	6-1/8	10-3/4	1400-553†	39.74	1410-553	POA	1-7/8	5MT	1.8750	10-3/8	17-3/8	1401-205†	187.75	1411-205	207.55
7/8	3MT	.8750	6-1/8	10-3/4	—	—	1410-563	36.39	1-29/32	5MT	1.9062	10-3/8	17-3/8	1401-225†	196.43	1411-225	217.17
57/64	3MT	.8906	6-1/8	10-3/4	—	—	1410-573	POA	1-15/16	5MT	1.9375	10-3/8	17-3/8	—	—	1411-245	221.49
29/32	3MT	.9062	6-1/8	10-3/4	—	—	1410-583	37.90	1-31/32	5MT	1.9688	10-3/8	17-3/8	—	—	1411-265	227.01
59/64	3MT	.9219	6-1/8	10-3/4	—	—	1410-593	POA	2	5MT	2.0000	10-3/8	17-3/8	—	—	1411-285	234.78
15/16	3MT	.9375	6-1/8	10-3/4	—	—	1410-603	39.65	2-1/32	5MT	2.0312	10-3/8	17-3/8	—	—	1411-305	240.53
61/64	3MT	.9531	6-3/8	11	—	—	1410-613	POA	2-1/16	5MT	2.0625	10-1/4	17-3/8	—	—	1411-325	246.10
31/32	3MT	.9688	6-3/8	11	1400-623†	38.90	1410-623	43.24	2-1/8	5MT	2.1250	10-1/4	17-3/8	—	—	1411-365	256.96
63/64	3MT	.9844	6-3/8	11	—	—	1410-633	POA	2-3/16	5MT	2.1875	10-1/4	17-3/8	1401-405†	POA	1411-405	271.17
1	3MT	1.0000	6-3/8	11	—	—	1410-643	45.72	2-1/4	5MT	2.2500	10-1/8	17-3/8	—	—	1411-445	284.65
1-1/64	3MT	1.0156	6-1/2	11	—	—	1410-653	POA	2-5/16	5MT	2.3125	10-1/8	17-3/8	1401-485†	273.83	1411-485	302.63
1-1/32	3MT	1.0312	6-1/2	11-1/8	—	—	1410-663	49.31	2-3/8	5MT	2.3750	10-1/8	17-3/8	—	—	1411-525	319.98
1-3/64	3MT	1.0469	6-5/8	11-1/4	—	—	1410-673	POA	2-7/16	5MT	2.4375	11-1/4	18-3/4	—	—	1411-565	360.69
1-1/16	3MT	1.0625	6-5/8	11-1/4	1400-683†	46.45	1410-683	51.57	2-1/2	5MT	2.5000	11-1/4	18-3/4	—	—	1411-605	400.57
1-5/64	4MT	1.0781	6-7/8	12-1/2	1400-694†	62.37	1410-694	POA	2-9/16	5MT	2.5625	11-7/8	19-1/2	—	—	1411-645	424.72
1-3/32	4MT	1.0938	6-7/8	12-1/2	1400-704†	51.98	1410-704	57.68	2-5/8	5MT	2.6250	11-7/8	19-1/2	—	—	1411-685	455.08
2-11/16	5MT	2.6875	12-3/4	20-3/8	—	—	—	—	2-3/4	5MT	2.7500	12-3/4	20-3/8	1401-765†	496.68	1411-725	497.31
2-3/4	5MT	2.7500	12-3/4	20-3/8	—	—	—	—	2-13/16	5MT	2.8125	13-3/8	21-1/8	1401-805†	POA	1411-765	548.64
2-7/8	5MT	2.8750	13-3/8	21-1/8	—	—	—	—	2-7/8	5MT	2.8750	13-3/8	21-1/8	—	—	1411-805	575.74
2-15/16	5MT	2.9375	14	21-3/4	—	—	—	—	2-7/8	5MT	2.8750	13-3/8	21-1/8	—	—	1411-845	593.95
3	5MT	3.0000	14	21-3/4	—	—	—	—	2-15/16	5MT	2.9375	14	21-3/4	—	—	1411-885	634.11
																1411-925	692.44

**Sizes up to 4" in stock -  
- Call for price -**

† Limited Quantities

# Carbide Tipped Core Drills

Both types have: Cutting diameter tolerance plus .001" minus .001". Carbide tips brazed to one piece hardened tool steel bodies. Large right spiral flute capacity permits higher feeds and speeds. 118° included chamfer angle.

OPTIONS: intermediate decimal & metric sizes.

USE: Core drills are designed for economically enlarging cored, punched or drilled holes, removing up to 30% of the hole diameter. The balanced cutting action of the core drill removes considerably more material than a reamer, often eliminating the need for a final reaming or boring operation. For cast iron, non-ferrous metals; some steels, composites, plastics and non-metals.



CUT SIZE	MIN. CUT DIA.	CARB. TIP LGTH	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	ORDER NO.	TAPER	ORDER NO.	PRICE EACH
1/2	.350	3/4	4-3/8	8-1/4	1/2	2862-016	2	2862-216	\$76.55
17/32	.372	3/4	4-3/8	8-1/4	17/32	2862-017	2	2862-217	76.85
9/16	.394	3/4	4-3/8	8-1/4	9/16	2862-018	2	2862-218	76.85
19/32	.416	3/4	4-3/8	8-1/4	19/32	2862-019	2	2862-219	80.70
5/8	.438	3/4	4-3/8	8-1/4	5/8	2862-020	2	2862-220	80.70
21/32	.459	7/8	4-3/8	8-1/4	21/32	2862-021	2	2862-221	81.65
11/16	.481	7/8	4-3/8	8-1/4	11/16	2862-022	2	2862-222	82.35
23/32	.503	7/8	4-3/8	8-1/4	23/32	2862-023	2	2862-223	82.35
3/4	.525	7/8	4-3/8	8-1/4	3/4	2862-024	2	2862-224	82.35
25/32	.547	7/8	4-3/8	8-1/4	25/32	2862-025	2	2862-225	84.20
13/16	.569	7/8	4-7/8	9-1/2	13/16	2862-026	3	2862-226	86.55
27/32	.591	7/8	4-7/8	9-1/2	27/32	2862-027	3	2862-227	91.15
7/8	.612	7/8	4-7/8	9-1/2	7/8	2862-028	3	2862-228	91.15
29/32	.634	7/8	4-7/8	9-1/2	29/32	2862-029	3	2862-229	91.75
15/16	.656	7/8	4-7/8	9-1/2	15/16	2862-030	3	2862-230	91.75
31/32	.678	7/8	4-7/8	9-1/2	31/32	2862-031	3	2862-231	95.15
1	.700	7/8	4-7/8	9-1/2	1	2862-032	3	2862-232	96.90

CUT SIZE	MIN. CUT DIA.	CARB. TIP LGTH	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	ORDER NO.	TAPER	ORDER NO.	PRICE EACH
1-1/32	.722	7/8	4-7/8	9-1/2	1-1/32	2862-033	3	2862-233	\$97.75
1-1/16	.744	7/8	4-7/8	9-1/2	1-1/16	2862-034	3	2862-234	99.05
1-3/32	.766	1	4-7/8	10-1/2	1-3/32	2862-035	4	2862-235	115.40
1-1/8	.787	1	4-7/8	10-1/2	1-1/8	2862-036	4	2862-236	115.40
1-5/32	.809	1	4-7/8	10-1/2	1-5/32	2862-037	4	2862-237	126.00
1-3/16	.831	1	4-7/8	10-1/2	1-3/16	2862-038	4	2862-238	129.65
1-7/32	.853	1	4-7/8	10-1/2	1-7/32	2862-039	4	2862-239	130.10
1-1/4	.875	1	4-7/8	10-1/2	1-1/4	2862-040	4	2862-240	130.65
1-9/32	.897	1	4-7/8	10-1/2	1-9/32	2862-041	4	2862-241	139.95
1-5/16	.919	1	4-7/8	10-1/2	1-5/16	2862-042	4	2862-242	143.85
1-11/32	.940	1	4-7/8	10-1/2	1-11/32	2862-043	4	2862-243	146.85
1-3/8	.962	1	4-7/8	10-1/2	1-3/8	2862-044	4	2862-244	150.40
1-13/32	.984	1	4-7/8	10-1/2	1-13/32	2862-045	4	2862-245	153.85
1-7/16	1.006	1	4-7/8	10-1/2	1-7/16	2862-046	4	2862-246	158.35
1-15/32	1.025	1	4-7/8	10-1/2	1-15/32	2862-047	4	2862-247	163.10
1-1/2	1.050	1	4-7/8	10-1/2	1-1/2	2862-048	4	2862-248	166.60

# Oil Hole Drills Straight & Taper Shank - High Speed Steel - Limited Quantities

Straight Shank



Taper Shank



DIAM.	DECIMAL EQUIVALENT	STRAIGHT SHANK		TAPER SHANK		
		ORDER NO.	PRICE EACH	MTS	ORDER NO.	PRICE EACH
3/8	.3750	1420-024	\$115.40	—	—	—
25/64	.3906	1420-025	114.85	—	—	—
13/32	.4062	1420-026	117.00	—	—	—
27/64	.4219	1420-027	117.00	—	—	—
7/16	.4375	1420-028	121.25	—	—	—
29/64	.4531	1420-029	121.25	—	—	—
15/32	.4688	1420-030	123.80	3MT	1430-303	\$179.00
31/64	.4844	1420-031	123.80	3MT	1430-313	179.00
1/2	.5000	1420-032	125.40	3MT	1430-323	179.00
33/64	.5156	1420-033	125.40	3MT	1430-333	179.00
17/32	.5312	1420-034	127.25	3MT	1430-343	179.00
35/64	.5469	1420-035	127.25	3MT	1430-353	179.00
9/16	.5625	1420-036	130.20	3MT	1430-363	160.15
37/64	.5781	1420-037	130.20	3MT	1430-373	179.00
19/32	.5938	1420-038	131.70	3MT	1430-383	160.15
39/64	.6094	1420-039	131.70	3MT	1430-393	160.15
5/8	.6250	1420-040	138.05	3MT	1430-403	160.15
41/64	.6406	1420-041	138.05	3MT	1430-413	160.15
21/32	.6562	1420-042	138.05	—	—	—
21/32	.6562	—	—	3MT	1430-423	160.40
43/64	.6719	1420-043	138.05	3MT	1430-433	162.65
11/16	.6875	1420-044	141.20	3MT	1430-443	162.65
45/64	.7031	1420-045	141.20	3MT	1430-453	164.90
23/32	.7188	1420-046	144.85	3MT	1430-463	164.90
47/64	.7344	1420-047	144.85	3MT	1430-473	164.90
3/4	.7500	1420-048	154.85	3MT	1430-483	164.90
49/64	.7656	1420-049	154.85	3MT	1430-493	166.50
25/32	.7812	1420-050	157.55	3MT	1430-503	166.50
51/64	.7969	1420-051	157.55	3MT	1430-513	166.50
13/16	.8125	1420-052	161.25	3MT	1430-523	166.50
53/64	.8281	1420-053	161.25	3MT	1430-533	181.20
27/32	.8438	1420-054	164.40	3MT	1430-543	181.20

DIAM.	DECIMAL EQUIVALENT	STRAIGHT SHANK		TAPER SHANK		
		ORDER NO.	PRICE EACH	MTS	ORDER NO.	PRICE EACH
55/64	.8594	1420-055	\$164.40	3MT	1430-553	\$181.20
7/8	.8750	1420-056	178.00	3MT	1430-563	181.20
57/64	.8906	1420-057	178.00	3MT	1430-573	181.75
29/32	.9062	1420-058	190.70	3MT	1430-583	181.75
59/64	.9219	1420-059	203.90	3MT	1430-593	181.75
15/16	.9375	1420-060	203.90	3MT	1430-603	181.75
61/64	.9531	1420-061	213.85	3MT	1430-613	214.30
31/32	.9688	1420-062	213.85	3MT	1430-623	214.30
63/64	.9844	1420-063	224.45	3MT	1430-633	214.30
1	1.0000	1420-064	224.45	3MT	1430-643	214.30
1-1/32	1.0312	1420-066	237.00	3MT	1430-663	232.15
1-1/16	1.0625	1420-068	246.60	4MT	1430-684	232.15
1-3/32	1.0938	1420-070	256.60	4MT	1430-704	274.20
1-1/8	1.1250	1420-072	269.70	4MT	1430-724	299.90
1-5/32	1.1562	1420-074	282.90	4MT	1430-744	299.90
1-3/16	1.1875	1420-076	296.10	4MT	1430-764	301.75
1-7/32	1.2188	1420-078	309.20	4MT	1430-784	343.40
1-1/4	1.2500	1420-080	321.90	4MT	1430-804	343.40
1-5/16	1.3125	1420-084	357.15	4MT	1430-844	449.10
1-11/32	—	—	—	4MT	1430-864	449.10
1-3/8	1.3750	1420-088	400.95	4MT	1430-884	497.10
1-13/32	—	—	—	4MT	1430-904	497.10
1-7/16	—	—	—	4MT	1430-924	497.10
1-15/32	—	—	—	4MT	1430-944	518.90
1-1/2	—	—	—	4MT	1430-964	518.90
1-9/16	—	—	—	4MT	1431-004	543.60
1-5/8	—	—	—	4MT	1431-044	584.60
1-11/16	—	—	—	4MT	1431-084	687.20
1-3/4	—	—	—	4MT	1431-124	707.70
1-13/16	—	—	—	5MT	1431-165	738.45
1-7/8	—	—	—	5MT	1431-205	779.50
1-15/16	—	—	—	5MT	1431-245	825.65
2	—	—	—	5MT	1431-285	846.15

## Carbide Tipped— 125° Self Centering Point

2

### USES:

- Excellent coolant feeding drills for use when very high performance is required
- Excellent hole straightness
- Exceptional hole finish as coolant flushes chips out and away from cutting edges
- High penetration feed rates for shorter drill operation times
- Proven carbide tip point geometry assures long production runs within tolerances

### SPECIFICATIONS:

- 125° four facet point
- Flat relieved, self centering point
- Polished straight flutes
- Two coolant outlets
- Drill body diameter smaller than tool diameter to prevent gauling; shank diameter same size as tool diameter
- Shank and tool diameter tolerances: plus .000", minus .001"
- Carbide high temperature brazed to hardened steel body
- Extra long carbide tip for additional regrinds
- Straight flutes for superior hole straightness, improved finish & max. chip capacity

Metric sizes available upon request



### Short Length

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
1/4	2-1/2	4-29/32	2995-116	\$136.15
17/64	2-3/4	5-5/32	2995-117	136.15
9/32	2-3/4	5-5/32	2995-118	136.15
19/64	3-3/16	5-19/32	2995-119	136.15
5/16	3-3/16	5-19/32	2995-120	136.15
21/64	3-7/16	5-27/32	2995-121	136.15
11/32	3-7/16	5-27/32	2995-122	136.15
23/64	3-5/8	6-1/32	2995-123	137.55
3/8	3-5/8	6-1/32	2995-124	137.55
25/64	3-7/8	6-9/32	2995-125	141.00
13/32	3-7/8	6-1/32	2995-126	141.00
27/64	3-7/8	6-9/32	2995-127	145.75
7/16	4-1/16	6-9/32	2995-128	145.75
29/64	4-1/16	6-23/32	2995-129	155.20

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
15/32	4-5/16	6-23/32	2995-130	\$155.20
31/64	4-1/2	6-29/32	2995-131	159.70
1/2	4-1/2	6-29/32	2995-132	159.70
17/32	4-13/16	7-7/32	2995-134	169.30
9/16	4-13/16	7-7/32	2995-136	178.65
19/32	5-3/16	7-19/32	2995-138	214.00
5/8	5-3/16	7-19/32	2995-140	214.00
41/64	5-3/16	7-19/32	2995-141	225.65
21/32	5-3/16	7-19/32	2995-142	225.65
43/64	5-5/8	8-1/32	2995-143	244.10
11/16	5-5/8	8-1/32	2995-144	244.45
45/64	5-5/8	8-1/32	2995-145	251.40
23/32	5-5/8	8-1/32	2995-146	251.40
47/64	6-1/16	8-15/32	2995-147	253.85

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
3/4	6-1/16	8-15/32	2995-148	\$253.85
25/32	6-1/16	8-9/16	2995-150	270.35
13/16	6-1/16	8-9/16	2995-152	274.90
27/32	6-1/2	9	2995-154	291.50
7/8	6-1/2	9	2995-156	298.50
29/32	6-15/16	9-7/16	2995-158	319.45
15/16	6-15/16	9-7/16	2995-160	343.10
31/32	6-15/16	9-7/16	2995-162	357.15
1	7-3/8	9-7/8	2995-164	366.60

### Long Length

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
1/4	4-5/8	6-1/8	2995-216	\$149.05
17/64	4-3/4	6-1/4	2995-217	149.05
9/32	4-3/4	6-1/4	2995-218	149.05
19/64	4-7/8	6-3/8	2995-219	149.05
5/16	4-7/8	6-3/8	2995-220	149.05
21/64	5	6-1/2	2995-221	143.55
11/32	5	6-1/2	2995-222	143.55
23/64	5-1/4	6-3/4	2995-223	139.85
3/8	5-1/4	6-3/4	2995-224	145.20
25/64	5-1/2	7	2995-225	143.55
13/32	5-1/2	7	2995-226	143.55
27/64	5-3/4	7-1/4	2995-227	148.10

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
7/16	5-3/4	7-1/4	2995-228	\$148.10
29/64	5-3/4	7-1/4	2995-229	157.45
15/32	5-3/4	7-1/2	2995-230	157.45
31/64	5-3/4	7-3/4	2995-231	162.20
1/2	5-3/4	7-3/4	2995-232	162.20
33/64	6	8	2995-233	174.00
17/32	6	8	2995-234	174.00
9/16	6-1/4	8-1/4	2995-236	183.30
19/32	6-3/4	8-3/4	2995-238	220.70
5/8	6-3/4	8-3/4	2995-240	220.70
21/32	7	9	2995-242	232.65
11/16	7-1/4	9-1/4	2995-244	249.20

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
23/32	7-1/2	9-1/2	2995-246	\$258.45
3/4	7-3/4	9-3/4	2995-248	260.80
49/64	7-7/8	9-7/8	2995-249	277.25
25/32	7-7/8	9-7/8	2995-250	277.25
13/16	8	10	2995-252	281.95
27/32	8	10	2995-254	298.50
7/8	8	10	2995-256	305.50
29/32	8	10	2995-258	338.45
15/16	8-3/4	10-3/4	2995-260	352.45
31/32	9	11	2995-262	355.90
1	9	11	2995-264	355.90

### Extra Long Length

### USES:

- For drilling most materials, including some stainless steels
- For very deep holes, 12-24 tool diameters deep

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
5/16	8	10	2995-320	\$215.15
11/32	8	10	2995-322	215.15
3/8	9	11	2995-324	227.35
13/32	9	11	2995-326	258.85
7/16	9	11	2995-328	258.85
15/32	9-3/4	12	2995-330	273.35

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
1/2	9-3/4	12	2995-332	\$273.35
17/32	9-3/4	12	2995-334	293.40
9/16	10-3/4	13	2995-336	316.00
5/8	10-3/4	13	2995-340	333.65
11/16	11-3/4	14	2995-344	347.45
3/4	11-3/4	14	2995-348	367.70

TOOL DIA.	FLUTE LG'TH.	OAL (IN.)	ORDER NO.	PRICE EACH
13/16	12-3/4	15	2995-352	\$390.50
7/8	12-3/4	15	2995-356	420.80
15/16	13-3/4	16	2995-360	449.55
1	13-3/4	16	2995-364	486.85

# Masonry Drills

3



## Hex Shank Hammer Drills



- Hex shank eliminates spinning in all hammer chucks
- Optimizes benefits of a keyless chuck
- "Super H" grade carbide tips for longer life

## SDSMAX Shank QUAD Style Tip



## Spline Shank QUAD Style Tip



BIT DIA.	OVERALL LENGTH	USEABLE	ORDER NO.	PRICE EACH
<b>STRAIGHT SHANK</b>				
1/8	3	1-1/2	3014-081	\$ 1.69
1/8	6	4-1/2	3014-083	2.67
5/32	3	1-1/2	3014-101	1.76
5/32	6	4-1/2	3014-103	2.67
11/64	3	1-1/2	3014-111	1.89
3/16	3	1-1/2	3014-121	1.56
3/16	4	2-1/2	3014-122	1.63
3/16	6	4	3014-123	2.54
3/16	8	6	3014-124	3.22
3/16	13-1/2	12	3014-126	4.07
3/16	18	16	3014-127	13.59
<b>HEX SHANK</b>				
7/32	3	1-1/2	3014-141	2.18
7/32	6	4-1/2	3014-143	2.67
7/32	13	12	3014-146	4.55
1/4	4	2-1/2	3014-162	2.02
1/4	6	4-1/2	3014-163	2.73
1/4	13-1/2	12	3014-166	5.24
1/4	18	16-1/2	3014-167	6.98
1/4	24	22-1/2	3014-168	9.00
9/32	4	2-1/2	3014-182	3.29
9/32	6	4-1/2	3014-183	3.61
5/16	4	2-1/2	3014-202	2.70
5/16	6	4-1/2	3014-203	3.19
5/16	13-1/2	12	3014-206	5.89
5/16	18	16-1/2	3014-207	7.74
5/16	24	22-1/2	3014-208	9.72
3/8	4	2-1/2	3014-242	3.58
3/8	6	4-1/2	3014-243	4.23
3/8	13-1/2	12	3014-246	7.38
3/8	18	16-1/2	3014-247	8.62
3/8	24	22-1/2	3014-248	10.18
7/16	6	4-1/2	3014-283	5.14
7/16	13-1/2	12	3014-286	8.16
15/32	6	4-1/2	3014-303	5.37
1/2	4	2-1/2	3014-322	5.79
1/2	6	4-1/2	3014-323	5.98
1/2	13-1/2	12	3014-326	8.78
1/2	18	16	3014-327	10.34
1/2	24	22	3014-328	12.97
9/16	6	4-1/2	3014-363	6.24
9/16	13-1/2	12	3014-366	9.27
9/16	18	16	3014-367	10.99
5/8	6	4-1/2	3014-403	8.62
5/8	13-1/2	12	3014-406	11.90
5/8	18	16	3014-407	14.51
5/8	24	22	3014-408	17.69
11/16	6	4-1/2	3014-443	10.74
11/16	13-1/2	12	3014-446	13.17
11/16	18	16	3014-447	16.03
3/4	6	4-1/2	3014-483	11.29
3/4	13-1/2	12	3014-486	14.93
3/4	18	16	3014-487	17.11
3/4	24	22	3014-488	20.48
7/8	6	4-1/2	3014-563	15.89
7/8	13-1/2	12	3014-566	21.13
7/8	18	16	3014-567	23.36
7/8	24	22	3014-568	26.99
1	6	4-1/2	3014-643	17.34
1	13-1/2	12	3014-646	24.96
1	18	16	3014-647	32.77
1-1/8	6	4-1/2	3014-723	27.76
1-1/8	13-1/2	12	3014-726	35.80
1-1/8	18	16	3014-727	43.00
1-1/4	6	4-1/2	3014-803	29.29
1-1/4	13-1/2	12	3014-806	38.98
1-1/4	18	16	3014-807	47.13
1-3/8	6	4-1/2	3014-883	31.44
1-1/2	6	4-1/2	3014-963	36.75
1-1/2	12	10	3014-965	42.04

- Tri-Carb® grade tip combined with additional carbide bullets for a design that guarantees longer life and creates the fastest drilling Quad design worldwide!

- Rounded 'Fangs' bounce off steel reinforcement rods, allowing the operator to switch to our rebar drilling system before any major damage is done to the drill bit.

BIT DIA.	OAL (IN.)	USEABLE	ORDER NO.	PRICE EACH
5/8	13	7	3004-201	\$35.07
5/8	18	12	3004-204	39.72
5/8	23-1/2	18	3004-205	47.23
5/8	30	24	3004-206	61.88
5/8	36	30	3004-207	88.04
5/8	48	42	3004-208	159.25
11/16	23-1/2	18	3004-225	55.38
3/4	13	7	3004-241	35.58
3/4	18	12	3004-244	42.38
3/4	23-1/2	18	3004-245	51.94
3/4	30	24	3004-246	71.58
3/4	36	30	3004-247	90.68
3/4	48	42	3004-248	172.25
13/16	23-1/2	18	3004-265	61.88
27/32	13	7	3004-271	41.40
27/32	23-1/2	18	3004-275	53.61
7/8	13	7	3004-281	47.73
7/8	18	12	3004-284	51.03
7/8	23-1/2	18	3004-285	55.56
7/8	36	30	3004-287	106.60
1	13	7	3004-321	51.39
1	18	12	3004-324	55.58
1	23-1/2	18	3004-325	59.20
1	36	30	3004-327	113.75
1	48	42	3004-328	191.75
1-1/8	13	7	3004-361	53.43
1-1/8	18	12	3004-364	71.00
1-1/8	23-1/2	18	3004-365	78.69
1-3/16	23-1/2	18	3004-385	81.25
1-1/4	15	9	3004-402	75.21
1-1/4	23-1/2	18	3004-405	83.55
1-1/4	36	30	3004-407	148.69
1-3/8	18	12	3004-444	88.29
1-3/8	23-1/2	18	3004-445	106.69
1-1/2	15	9	3004-462	114.34
1-1/2	23-1/2	18	3004-465	123.40
1-1/2	36	30	3004-467	231.40
1-5/8	23-1/2	18	3004-475	146.33
1-3/4	23-1/2	18	3004-485	151.13
2	23-1/2	18	3004-495	179.53

BIT DIA.	OAL (IN.)	USEABLE	ORDER NO.	PRICE EACH
5/8	12	6	3004-702	\$34.10
5/8	18	12	3004-704	36.32
5/8	23-1/2	18	3004-705	43.45
5/8	30	24	3004-706	70.21
5/8	36	30	3004-707	78.59
5/8	48	42	3004-708	111.78
3/4	12	6	3004-742	32.98
3/4	18	12	3004-744	39.08
3/4	23-1/2	18	3004-745	47.78
3/4	30	24	3004-746	76.40
3/4	36	30	3004-747	87.02
3/4	48	42	3004-748	119.59
27/32	18	12	3004-774	45.03
27/32	23-1/2	18	3004-775	50.56
7/8	12	6	3004-782	37.83
7/8	18	12	3004-784	46.95
7/8	23-1/2	18	3004-785	51.09
7/8	36	30	3004-787	98.07
7/8	48	42	3004-788	162.62
1	12	6	3004-822	47.27
1	18	12	3004-824	51.13
1	23-1/2	18	3004-825	57.62
1	30	24	3004-826	87.92
1	36	30	3004-827	104.65
1	48	42	3004-828	176.15
1-1/8	18	12	3004-864	69.22
1-1/8	23-1/2	18	3004-865	77.73
1-1/8	36	30	3004-867	132.73
1-1/4	18	12	3004-904	82.73
1-1/4	23-1/2	18	3004-905	92.67
1-1/4	36	30	3004-907	136.99
1-1/4	48	42	3004-908	212.68
1-3/8	18	12	3004-944	91.33
1-3/8	23-1/2	18	3004-945	112.68
1-1/2	18	12	3004-964	115.78
1-1/2	23-1/2	18	3004-965	132.66
1-1/2	36	30	3004-967	253.50
1-1/2	48	42	3004-968	292.50
1-5/8	23-1/2	18	3004-975	149.63
1-3/4	23-1/2	18	3004-985	157.63
2	23-1/2	18	3004-995	174.33

## SDS+ Bits for Concrete Screws



BIT DIA.	OAL	DESCRIPTION	ORDER NO.	PRICE EACH
5/32	5"	SDS+ w/Hex	3005-055	\$ 6.54
5/32	7"	SDS+ w/Hex	3005-057	6.87
3/16	5"	SDS+ w/Hex	3005-065	6.60
3/16	7"	SDS+ w/Hex	3005-067	6.94





## SDS+



BIT DIA.	OVERALL LENGTH	USEABLE	ORDER NO.	PRICE EACH
5/32	4-5/8	2	3002-051	\$ 4.23
5/32	6-5/8	4	3002-052	4.72
5/32	8-5/8	6	3002-053	7.12
3/16	4-3/8	2	3002-061	3.99
3/16	6-3/8	4	3002-062	4.26
3/16	8-5/8	6	3002-063	5.40
3/16	10-5/8	8	3002-064	8.45
3/16	12-5/8	10	3002-065	10.89
3/16	14-5/8	12	3002-066	12.97
3/16	16-5/8	14	3002-067	17.88
7/32	4-3/4	2-1/2	3002-071	4.23
7/32	6-5/8	4	3002-072	5.30
7/32	8-5/8	6	3002-073	6.99
7/32	10-1/4	8	3002-074	8.88
7/32	14-5/8	12	3002-076	14.79
7/32	16-5/8	14	3002-077	18.30
1/4	4-3/8	2	3002-081	3.42
1/4	6-3/8	4	3002-082	4.07
1/4	8-5/8	6	3002-083	5.53
1/4	11-5/8	9	3002-084	8.58
1/4	12-1/4	9-5/8	3002-085	9.07
1/4	14-5/8	12	3002-086	10.60
1/4	16-5/8	14	3002-087	12.29
1/4	20-5/8	18	3002-088	18.85
9/32	8-5/8	6	3002-093	7.28
5/16	6-5/8	4	3002-102	5.20
5/16	9-3/4	7-1/2	3002-103	8.17
5/16	12-5/8	10	3002-105	9.75
3/8	6-5/8	4	3002-122	5.74
3/8	10-5/8	8	3002-124	8.65
3/8	12-5/8	10	3002-125	10.40
3/8	20-5/8	18	3002-128	16.58
3/8	24	22	3002-129	19.76
3/8	36	34	3002-130	39.00
7/16	6-5/8	4	3002-142	7.54
7/16	12-5/8	10	3002-145	12.48
7/16	18-5/8	18	3002-147	18.40
1/2	6-5/8	4	3002-162	6.83
1/2	10-5/8	8	3002-164	9.82
1/2	12-5/8	10	3002-165	10.63
1/2	18-5/8	16	3002-167	17.40
1/2	24	22	3002-169	24.64
1/2	38	36	3002-170	40.63
9/16	6-3/4	4	3002-182	9.92
9/16	10-1/8	7-7/8	3002-184	12.94
9/16	12-3/4	10	3002-185	14.27
9/16	18-3/4	16	3002-187	21.32
5/8	6-3/4	4	3002-202	11.48
5/8	9-3/4	7	3002-203	11.70
5/8	12-3/4	10	3002-205	16.36
5/8	18-3/4	16	3002-207	25.03
5/8	24	22	3002-209	35.75
5/8	36	34	3002-210	69.88
11/16	6-3/4	4	3002-222	15.80
11/16	12-3/4	10	3002-225	23.73
11/16	18-3/4	16	3002-227	35.88
3/4	6-3/4	4	3002-242	17.88
3/4	9-3/4	7	3002-243	18.72
3/4	12-3/4	10	3002-245	21.46
3/4	18-3/4	16	3002-247	27.71
3/4	24	22	3002-249	47.78
3/4	36	34	3002-250	77.35
13/16	12-3/4	10	3002-265	29.25
13/16	18-3/4	16	3002-267	38.94
27/32	6-3/4	4	3002-272	20.80
27/32	8-3/4	6	3002-273	31.20
27/32	12	10	3002-275	35.75
7/8	6-3/4	4	3002-282	29.68
7/8	9-3/4	7	3002-283	32.83
7/8	12-3/4	10	3002-285	37.83
7/8	18-3/4	16	3002-287	40.24
7/8	24	21	3002-289	58.07
1	10-3/4	8	3002-324	36.01
1	13-1/8	10-1/4	3002-325	41.18
1	18-3/4	16	3002-327	44.98
1	25	22	3002-329	60.13
1	30	28	3002-330	81.25
1-1/8	12-3/4	10	3002-365	46.91
1-1/8	18-3/4	16	3002-367	51.94
1-1/4	12-3/4	10	3002-405	62.53



- Tri-Carb® grade tip guarantees longer life with faster penetration due to increased chiselling action.
- Flute design, combined with a copper brazing alloy, creates the most reliable drill bit on the market.
- USA-made, with highest quality chrome-molybdenum-nickel steel available.
- Vacuum heat treated, and shot-peened for superior strength under rough conditions.

## SDS MAX Single Cutter Style



BIT DIA.	OAL (IN.)	DRILL DEPTH	ORDER NO.	PRICE EACH
3/8	13	7	3002-623	\$ 22.32
1/2	13	7	3002-663	22.66
1/2	18	12	3002-664	27.09
1/2	23-1/2	18	3002-665	33.45
1/2	30	24	3002-666	38.94
1/2	36	30	3002-667	72.09
1/2	48	42	3002-668	156.00
9/16	13	7	3002-683	27.43
9/16	23-1/2	18	3002-685	39.17
5/8	13	7	3002-703	25.63
5/8	18	12	3002-704	34.02
5/8	23-1/2	18	3002-705	36.42
3/4	13	7	3002-743	28.57
3/4	18	12	3002-744	36.31
3/4	23-1/2	18	3002-745	39.52
7/8	13	7	3002-783	33.09
7/8	18	12	3002-784	44.13
7/8	23-1/2	18	3002-785	48.43
1	13	7	3002-823	44.99
1	23-1/2	18	3002-825	53.39
1-1/8	13	7	3002-863	52.63
1-1/8	23-1/2	18	3002-865	72.61
1-1/4	15	9	3002-903	60.10
1-1/4	23-1/2	18	3002-905	77.63
1-3/8	15	9	3002-943	76.05
1-1/2	15	9	3002-983	97.13
1-1/2	23-1/2	18	3002-985	111.62

## SDS+ Adapters

- SDS+ Adapters allow you to use your larger Heavy Duty rotary hammer drills with SDS+ shank drill bits and any other SDS+ shanked tools.



- PM-SDS  
SDS Max to SDS+  
Order No. 3005-014  
Price Each: \$62.12



- CP9-SDS  
Chicago Pneumatic to SDS+  
Order No. 3005-010  
Price Each: \$66.12



- PB-SDS  
Spline to SDS+  
Order No. 3005-012  
Price Each: \$57.81



- TOP-SDS  
SDS-TOP to SDS+  
Order No. 3005-016  
Price Each: \$66.50

## Spline Shank Masonry Drills Single Cutter Style



BIT DIA.	OVERALL LENGTH	DRILL DEPTH	ORDER NO.	PRICE EACH
3/8	10	4	3003-121	\$ 20.90
3/8	12	6	3003-122	22.46
3/8	18	12	3003-124	30.88
7/16	12	6	3003-142	28.54
7/16	14	7	3003-143	30.72
1/2	12	6	3003-162	20.48
1/2	18	12	3003-164	26.62
1/2	23-1/2	18	3003-165	33.25
1/2	30	24	3003-166	36.73
1/2	36	30	3003-167	71.96
1/2	48	42	3003-168	123.50
9/16	12	6	3003-182	25.03
9/16	18	12	3003-184	26.17
9/16	23-1/2	18	3003-185	35.82
9/16	30	24	3003-186	67.12
9/16	36	30	3003-187	80.02
9/16	48	42	3003-188	136.50
5/8	12	6	3003-202	24.38
5/8	18	12	3003-204	31.46
5/8	23-1/2	18	3003-205	38.52
5/8	30	24	3003-206	67.43
5/8	36	30	3003-207	76.44
11/16	12	6	3003-222	37.14
11/16	23-1/2	18	3003-225	49.40
3/4	12	6	3003-242	25.26
3/4	18	12	3003-244	32.96
3/4	23-1/2	18	3003-245	36.45
27/32	18	12	3003-273	42.25
27/32	23-1/2	18	3003-275	44.48
7/8	12	6	3003-282	28.77
7/8	18	12	3003-284	42.25
7/8	23-1/2	18	3003-285	44.69
7/8	36	30	3003-287	87.92
1	12	6	3003-322	41.13
1	18	12	3003-324	44.17
1	23-1/2	18	3003-325	50.72
1-1/8	12	6	3003-362	47.33
1-1/8	18	12	3003-364	60.60
1-1/8	23-1/2	18	3003-365	71.83
1-1/4	18	12	3003-404	67.68
1-1/4	23-1/2	18	3003-405	74.83
1-3/8	18	12	3003-444	79.33
1-3/8	23-1/2	18	3003-445	84.44
1-1/2	18	12	3003-484	92.98
1-1/2	23-1/2	18	3003-485	107.62

# Masonry Core Drills

3



## Rebar Cutters



Now you can use the same tool to drill **concrete, rebar, and steel plate!** These innovative adaptor designs are for use with your **SDS+, SDS Max, or Spline drill!** No need for additional power tools, or core rigs to complete the job.

BIT DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
3/8	12"	3005-312	\$ 36.57
1/2	12"	3005-316	42.27
9/16	12"	3005-318	45.83
5/8	12"	3005-320	52.04
3/4	12"	3005-324	55.64
7/8	12"	3005-328	61.49
1	12"	3005-332	70.23
1-1/8	12"	3005-336	77.48
1-1/4	12"	3005-340	81.27
1-1/2	12"	3005-348	92.43



## Plate Cutters

BIT DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
3/8	12"	3005-362	\$ 35.14
1/2	12"	3005-366	40.34
5/8	12"	3005-370	49.73
3/4	12"	3005-374	52.98
7/8	12"	3005-378	59.19
1	12"	3005-382	66.99
1-1/8	12"	3005-386	71.02
1-1/4	12"	3005-390	77.74
1-1/2	12"	3005-398	87.46



## Adaptors



- RE-PB Spline Adaptor  
Order No. 3005-410 Price Each: \$36.57



- RE-PL 1/2" Straight Shank Adaptor  
Order No. 3005-412 Price Each: \$14.99



- RE-PM SDS Max Adaptor  
Order No. 3005-414 Price Each: \$41.73



- RE-PM SDS+ Adaptor  
Order No. 3005-416 Price Each: \$30.47

## Rotary Core Drills

DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1-1/2	5"	3005-112	\$ 85.89
1-3/4	5"	3005-114	101.17
2	5"	3005-116	113.80
2-1/2	5"	3005-120	133.66
3	5"	3005-124	172.84
3-1/2	5"	3005-128	181.74
4	5"	3005-132	252.05
4-1/2	5"	3005-136	266.02
5	5"	3005-140	350.90
6	6"	3005-148	422.32



## Shanks & Accessories



DESCRIPTION	ORDER NO.	PRICE EACH
12" Spline	3005-160	\$ 45.00
18" Spline	3005-162	64.24
12" SDS Max	3005-164	46.45
18" SDS Max	3005-166	65.69
12" Kango 950	3005-168	63.87
12" Kango 637	3005-170	63.87
12" 7/16" Hex Skill726, Mil5300	3005-172	63.87
12" 9/16" Hex Skill732, Mil5325	3005-174	63.87
12" 3/4" Hex Skill736, HD45	3005-176	65.69
12" 3/4" Hex for Wacker	3005-178	65.69
<b>A-Taper Starter Bit</b>	<b>3005-180</b>	<b>9.92</b>



## Thin Wall Core Drills

SIZE	ORDER NO.	PRICE EACH
1-1/2"	3005-212	\$ 74.75
1-3/4"	3005-214	91.00
2"	3005-216	107.90
2-1/2"	3005-220	140.40
3"	3005-224	165.10
3-1/2"	3005-228	191.75
4"	3005-232	201.13



## Shanks & Accessories



DESCRIPTION	ORDER NO.	PRICE EACH
12" SDS Max	3005-260	\$ 43.75
18" SDS Max	3005-262	54.93
12" SDS+	3005-264	41.27
8" SDS+	3005-266	34.13
12" Spline	3005-268	41.27
18" Spline	3005-270	49.61
<b>Starter</b>	<b>3005-272</b>	<b>11.38</b>



# Masonry Drills

## Fast Spiral



## Regular Spiral Import



## Extra Long Fast Spiral or Regular Spiral



DIA.	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/8	1/8	3	3011-010	\$ 1.31
5/32	5/32	3	3011-020	1.34
11/64	11/64	3	3011-030	1.68
3/16	3/16	3	3011-040	1.35
3/16	3/16	6	3011-050	1.82
7/32	7/32	4	3011-060	1.83
1/4	1/4	4	3011-070	1.55
1/4	1/4	6	3011-080	2.03
9/32	1/4	4	3011-090	2.69
9/32	1/4	6	3011-100	2.82
5/16	1/4	4	3011-110	2.14
5/16	1/4	6	3011-120	2.60
3/8	1/4	4	3011-130	2.34
3/8	1/4	6	3011-140	3.11
7/16	1/4	6	3011-150	3.26
1/2	1/4	4	3011-155	3.02
1/2	1/4	6	3011-160	3.22
1/2	3/8	6	3011-170	3.22
9/16	3/8	6	3011-180	5.06
5/8	3/8	6	3011-183	7.10
11/16	1/2	6	3011-200	6.57
3/4	3/8	6	3011-205	8.58
3/4	1/2	6	3011-210†	8.58
7/8	1/2	6	3011-220	11.99
1	1/2	6	3011-230	14.23
1-1/8	1/2	6	3011-240	25.43

† Limited Quantities

DIA.	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/8	3/8	3	3010-010	\$ 1.04
3/16	3/16	4	3010-045	1.04
3/16	3/16	6	3010-050	1.27
7/32	7/32	4	3010-065	1.27
1/4	1/4	4	3010-070	1.04
1/4	1/4	6	3010-080	1.35
9/32	1/4	4	3010-090†	1.40
5/16	1/4	4	3010-110	1.40
5/16	1/4	6	3010-120	1.88
3/8	1/4	4	3010-130	1.78
3/8	1/4	6	3010-140	2.32
7/16	1/4	4	3010-145†	1.84
7/16	1/4	6	3010-150	2.04
7/16	3/8	6	3010-152†	2.04
1/2	1/4	6	3010-160	2.30
1/2	3/8	6	3010-170	3.15
9/16	3/8	6	3010-180	3.49
5/8	3/8	6	3010-185	3.82
11/16	1/2	6	3010-200	4.38
3/4	1/2	6	3010-210	5.72
7/8	1/2	6	3010-220	7.99
1	1/2	6	3010-230	9.49

† Limited Quantities

			FAST SPIRAL MADE IN USA		REGULAR SPIRAL IMPORT	
DIAM.	SHANK DIAM.	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	13	3013-113	\$ 4.86	-	-
3/16	3/16	13	3013-123	3.50	-	-
3/16	3/16	18	3013-125	6.29	-	-
1/4	1/4	13	3013-163	4.42	3012-164	\$ 4.42
1/4	1/4	18	3013-165	6.08	3012-166	6.08
1/4	1/4	24	3013-167	7.19	-	-
1/4	1/4	30	3013-168	9.10	-	-
1/4	1/4	36	3013-170	12.02	-	-
5/16	1/4	13	3013-203	4.97	3012-204	4.97
5/16	1/4	18	3013-205	6.34	3012-206	6.34
5/16	1/4	24	3013-207	7.77	-	-
3/8	1/4	13	3013-243	5.85	3012-244	5.85
3/8	1/4	18	3013-245	6.75	3012-246	6.75
3/8	1/4	24	3013-247	7.99	-	-
3/8	1/4	36	3013-249	11.68	-	-
1/2	3/8	13	3013-323	6.76	3012-324	6.76
1/2	3/8	18	3013-325	8.09	3012-326	8.09
9/16	3/8	13	-	-	3012-364†	7.92
9/16	1/2	18	3013-365	13.06	3012-366†	9.39
5/8	1/2	13	3013-403	9.48	-	-
5/8	1/2	18	3013-405	12.56	-	-
5/8	1/2	24	3013-407	14.96	-	-
3/4	1/2	13	3013-483	12.62	-	-
3/4	1/2	18	3013-485	14.42	-	-
7/8	1/2	13	3013-563	18.12	-	-
7/8	1/2	18	3013-565†	21.74	-	-
1	1/2	13	3013-643†	23.76	3012-644†	21.34
1	1/2	18	3013-645†	28.71	-	-

† Limited Quantities

## Glass & Tile Drills Carbide Tipped



DIAM.	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/8	7/64	2-1/2	3016-008	\$ 2.35
3/16	5/32	2-1/2	3016-012	2.58
1/4	7/32	2-1/2	3016-016	3.22
5/16	1/4	3	3016-020	3.45
3/8	5/16	3-1/2	3016-024	4.65
7/16	3/8	3-1/2	3016-028	31.00
1/2	7/16	3-1/2	3016-032	5.68
9/16	1/2	4	3016-036	47.50
5/8	9/16	4	3016-040	57.30

- Drills glass, tile, porcelain, ceramic and other hard, fragile materials without chipping or cracking the material when properly used.
- Speed should be about 25 surface feet per minute (300 to 600 RPM) using a steady, moderate hand feed.
- Constant flow of coolant is important.
- Back material being drilled with wood or rubber to support material during drill breakthrough.
- Avoid vibration and excessive stress.
- Keep drill sharp to eliminate excessive pressure.

# Drill & Reamer Blanks—High Speed Steel



## Fractional Sizes

Pittsburg <sup>®</sup> ALLEGANY CO.									Pittsburg <sup>®</sup> ALLEGANY CO.														
DRILL BLANKS				VERMONT GAGE DRILL BLANKS				VERMONT GAGE REAMER BLANKS				DRILL BLANKS				VERMONT GAGE DRILL BLANKS				VERMONT GAGE REAMER BLANKS			
SIZE	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
1/64	.0156	3/4	1490-001	\$ 0.93	1491-001	\$ 1.76	1520-001	\$ 1.76	9/16	.5625	6	1490-036	\$ 10.94	1491-036	\$ 17.40	1520-036	\$ 17.40	—	—				
1/32	.0312	1-3/8	1490-002	0.93	1491-002	1.76	1520-002	1.76	37/64	.5781	6	1490-037	11.25	1491-037	19.80	—	—	—	—				
3/64	.0469	1-3/4	1490-003	0.98	1491-003	1.76	1520-003	1.76	19/32	.5937	6	1490-038	12.06	1491-038	19.80	—	—	—	—				
1/16	.0625	1-7/8	1490-004	0.98	1491-004	1.76	1520-004	1.76	39/64	.6094	6	1490-039	12.50	1491-039	19.80	—	—	—	—				
5/64	.0781	2	1490-005	1.05	1491-005	1.76	1520-005	1.76	5/8	.6250	6	1490-040	12.50	1491-040	19.80	1520-040	19.80	—	—				
3/32	.0937	2-1/4	1490-006	1.05	1491-006	1.76	1520-006	1.76	41/64	.6406	6	1490-041	13.44	1491-041	22.88	—	—	—	—				
7/64	.1094	2-5/8	1490-007	1.05	1491-007	1.76	1520-007	1.76	21/32	.6562	6	1490-042	13.94	1491-042	22.88	—	—	—	—				
1/8	.1250	2-3/4	1490-008	1.05	1491-008	1.76	1520-008	1.76	43/64	.6719	6	1490-043	14.31	1491-043	25.08	—	—	—	—				
9/64	.1406	2-7/8	1490-009	1.05	1491-009	1.76	1520-009	1.76	11/16	.6875	6	1490-044	14.94	1491-044	25.08	—	—	—	—				
5/32	.1562	3-1/8	1490-010	1.18	1491-010	2.20	1520-010	2.20	45/64	.7031	6	1490-045	15.44	1491-045	25.96	—	—	—	—				
11/64	.1719	3-1/4	1490-011	1.18	1491-011	2.20	1520-011	2.20	23/32	.7187	6	1490-046	15.81	1491-046	25.96	—	—	—	—				
3/16	.1875	3-1/2	1490-012	1.30	1491-012	2.20	1520-012	2.20	47/64	.7344	6	1490-047	16.38	1491-047	26.84	—	—	—	—				
13/64	.2031	3-5/8	1490-013	1.63	1491-013	2.88	1520-013	2.88	3/4	.7500	6	1490-048	16.38	1491-048	26.84	1520-048	26.84	—	—				
7/32	.2187	3-3/4	1490-014	1.71	1491-014	3.08	1520-014	3.08	49/64	.7656	6	1490-049	18.31	1491-049	28.60	—	—	—	—				
15/64	.2344	3-7/8	1490-015	1.86	1491-015	3.08	1520-015	3.08	25/32	.7812	6	1490-050	18.38	1491-050	28.60	—	—	—	—				
1/4	.2500	4	1490-016	2.03	1491-016	3.52	1520-016	3.52	51/64	.7969	6	1490-051	21.06	1491-051	30.36	—	—	—	—				
17/64	.2656	4-1/8	1490-017	2.14	1491-017	3.76	1520-017	3.76	13/16	.8125	6	1490-052	21.06	1491-052	30.36	—	—	—	—				
9/32	.2812	4-1/4	1490-018	2.30	1491-018	3.96	1520-018	3.96	53/64	.8281	6	1490-053	22.38	1491-053	33.00	—	—	—	—				
19/64	.2969	4-3/8	1490-019	2.55	1491-019	4.40	1520-019	4.40	27/32	.8437	6	1490-054	22.38	1491-054	33.00	—	—	—	—				
5/16	.3125	4-1/2	1490-020	2.63	1491-020	4.64	1520-020	4.64	55/64	.8594	6	1490-055	22.94	1491-055	35.64	—	—	—	—				
21/64	.3281	4-5/8	1490-021	2.89	1491-021	5.08	1520-021	5.08	7/8	.8750	6	1490-056	22.94	1491-056	35.64	1520-056	35.64	—	—				
11/32	.3438	4-3/4	1490-022	3.09	1491-022	5.52	1520-022	5.52	57/64	.8906	6	1490-057	25.19	1491-057	38.28	—	—	—	—				
23/64	.3594	4-7/8	1490-023	3.48	1491-023	6.16	1520-023	6.16	29/32	.9062	6	1490-058	25.19	1491-058	38.28	—	—	—	—				
3/8	.3750	5	1490-024	3.80	1491-024	6.60	1520-024	6.60	59/64	.9219	6	1490-059	27.75	1491-059	40.92	—	—	—	—				
25/64	.3906	5-1/8	1490-025	3.96	1491-025	7.04	1520-025	7.04	15/16	.9375	6	1490-060	27.75	1491-060	40.92	—	—	—	—				
13/32	.4062	5-1/4	1490-026	4.30	1491-026	7.48	1520-026	7.48	61/64	.9531	6	1490-061	33.19	1491-061	43.56	—	—	—	—				
27/64	.4219	5-3/8	1490-027	4.81	1491-027	8.36	1520-027	8.36	31/32	.9688	6	1490-062	33.19	1491-062	43.56	—	—	—	—				
7/16	.4375	5-1/2	1490-028	5.43	1491-028	9.48	1520-028	9.48	63/64	.9844	6	1490-063	33.13	1491-063	46.20	—	—	—	—				
29/64	.4531	5-5/8	1490-029	5.56	1491-029	9.68	1520-029	9.68	1	1.0000	6	1490-064	27.81	1491-064	46.20	—	—	—	—				
15/32	.4688	5-3/4	1490-030	5.65	1491-030	9.92	1520-030	9.92															
31/64	.4844	5-7/8	1490-031	6.40	1491-031	11.24	1520-031	11.24															
1/2	.5000	6	1490-032	6.76	1491-032	11.88	1520-032	11.88															
33/64	.5156	6	1490-033	9.63	1491-033	16.72	—	—															
17/32	.5312	6	1490-034	9.94	1491-034	16.72	1520-034	16.72															
35/64	.5469	6	1490-035	10.50	1491-035	16.72	—	—															

Tolerances: Drill Blanks 1/64" — 1/2" — .0002 + .0000; 33/64" — 5/8" — .0003 + .0000; 41/64" — 1" — .0005 + .0000  
 Reamer Blanks 1/64" — 1/2" + .0002 — .0000; 33/64" — 5/8" + .0003 — .0000; 41/64" — 1" + .0005 — .0000

## Letter Sizes

Pittsburg <sup>®</sup> ALLEGANY CO.									Pittsburg <sup>®</sup> ALLEGANY CO.														
DRILL BLANKS				VERMONT GAGE DRILL BLANKS				VERMONT GAGE REAMER BLANKS				DRILL BLANKS				VERMONT GAGE DRILL BLANKS				VERMONT GAGE REAMER BLANKS			
SIZE	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
A	.2340	3-7/8	1510-001	\$ 1.89	1511-001	\$ 3.52	1540-001	\$ 3.52	P	.3230	4-5/8	1510-016	\$ 2.95	1511-016	\$ 5.52	1540-016	\$ 5.52	—	—				
B	.2380	4	1510-002	1.89	1511-002	3.52	1540-002	3.52	Q	.3320	4-3/4	1510-017	2.95	1511-017	5.52	1540-017	5.52	—	—				
C	.2420	4	1510-003	1.89	1511-003	3.52	1540-003	3.52	R	.3390	4-3/4	1510-018	3.14	1511-018	5.96	1540-018	5.96	—	—				
D	.2460	4	1510-004	2.10	1511-004	3.52	1540-004	3.52	S	.3480	4-7/8	1510-019	3.55	1511-019	6.60	1540-019	6.60	—	—				
E	.2500	4	1510-005	2.03	1511-005	3.76	1540-005	3.76	T	.3580	4-7/8	1510-020	3.55	1511-020	6.60	1540-020	6.60	—	—				
F	.2570	4-1/8	1510-006	2.18	1511-006	4.20	1540-006	4.20	U	.3680	5	1510-021	3.94	1511-021	7.28	1540-021	7.28	—	—				
G	.2610	4-1/8	1510-007	2.18	1511-007	4.20	1540-007	4.20	V	.3770	5	1510-022	4.00	1511-022	7.28	1540-022	7.28	—	—				
H	.2660	4-1/8	1510-008	2.18	1511-008	4.20	1540-008	4.20	W	.3860	5-1/8	1510-023	4.00	1511-023	7.48	1540-023	7.48	—	—				
I	.2720	4-1/8	1510-009	2.36	1511-009	4.40	1540-009	4.40	X	.3970	5-1/8	1510-024	4.00	1511-024	7.48	1540-024	7.48	—	—				
J	.2770	4-1/8	1510-010	2.36	1511-010	4.40	1540-010	4.40	Y	.4040	5-1/4	1510-025	4.40	1511-025	8.36	1540-025	8.36	—	—				
K	.2810	4-1/4	1510-011	2.36	1511-011	4.40	1540-011	4.40	Z	.4130	5-1/4	1510-026	4.40	1511-026	8.36	1540-026	8.36	—	—				
L	.2900	4-1/4	1510-012	2.36	1511-012	4.40	1540-012	4.40															
M	.2950	4-3/8	1510-013	2.59	1511-013	4.84	1540-013	4.84															
N	.3020	4-3/8	1510-014	2.59	1511-014	4.84	1540-014	4.84															
O	.3160	4-1/2	1510-015	2.66	1511-015	5.08	1540-015	5.08															



# Drill & Reamer Blanks—High Speed Steel

## Wire Gage Sizes

2



SIZE	Pittsburg® DRILL BLANKS			VERMONT GAGE DRILL BLANKS		VERMONT GAGE REAMER BLANKS		
	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	.2280	3-7/8	1500-001	\$1.71	1501-001	\$3.08	1530-001	\$3.08
2	.2210	3-7/8	1500-002	1.71	1501-002	3.08	1530-002	3.08
3	.2130	3-3/4	1500-003	1.71	1501-003	3.08	1530-003	3.08
4	.2090	3-3/4	1500-004	1.71	1501-004	3.08	1530-004	3.08
5	.2055	3-3/4	1500-005	1.71	1501-005	3.08	1530-005	3.08
6	.2040	3-3/4	1500-006	1.63	1501-006	2.88	1530-006	2.88
7	.2010	3-5/8	1500-007	1.63	1501-007	2.88	1530-007	2.88
8	.1999	3-5/8	1500-008	1.63	1501-008	2.88	1530-008	2.88
9	.1960	3-5/8	1500-009	1.63	1501-009	2.88	1530-009	2.88
10	.1935	3-5/8	1500-010	1.63	1501-010	2.88	1530-010	2.88
11	.1910	3-1/2	1500-011	1.30	1501-011	2.44	1530-011	2.44
12	.1890	3-1/2	1500-012	1.30	1501-012	2.44	1530-012	2.44
13	.1850	3-1/2	1500-013	1.30	1501-013	2.44	1530-013	2.44
14	.1820	3-3/8	1500-014	1.30	1501-014	2.44	1530-014	2.44
15	.1800	3-3/8	1500-015	1.30	1501-015	2.44	1530-015	2.44
16	.1770	3-3/8	1500-016	1.18	1501-016	2.44	1530-016	2.44
17	.1730	3-3/8	1500-017	1.18	1501-017	2.44	1530-017	2.44
18	.1695	3-1/4	1500-018	1.18	1501-018	2.20	1530-018	2.20
19	.1660	3-1/4	1500-019	1.18	1501-019	2.20	1530-019	2.20
20	.1610	3-1/4	1500-020	1.18	1501-020	2.20	1530-020	2.20
21	.1590	3-1/4	1500-021	1.18	1501-021	2.20	1530-021	2.20
22	.1570	3-1/8	1500-022	1.18	1501-022	2.20	1530-022	2.20
23	.1540	3-1/8	1500-023	1.18	1501-023	2.20	1530-023	2.20
24	.1520	3-1/8	1500-024	1.18	1501-024	2.20	1530-024	2.20
25	.1495	3	1500-025	1.18	1501-025	1.76	1530-025	1.76
26	.1470	3	1500-026	1.05	1501-026	1.76	1530-026	1.76
27	.1440	3	1500-027	1.05	1501-027	1.76	1530-027	1.76
28	.1405	2-7/8	1500-028	1.05	1501-028	1.76	1530-028	1.76
29	.1360	2-7/8	1500-029	1.05	1501-029	1.76	1530-029	1.76
30	.1285	2-3/4	1500-030	1.05	1501-030	1.76	1530-030	1.76
31	.1200	2-3/4	1500-031	1.05	1501-031	1.76	1530-031	1.76
32	.1160	2-3/4	1500-032	1.05	1501-032	1.76	1530-032	1.76
33	.1130	2-5/8	1500-033	1.05	1501-033	1.76	1530-033	1.76
34	.1110	2-5/8	1500-034	1.05	1501-034	1.76	1530-034	1.76
35	.1100	2-5/8	1500-035	1.05	1501-035	1.76	1530-035	1.76
36	.1065	2-1/2	1500-036	1.05	1501-036	1.76	1530-036	1.76
37	.1040	2-1/2	1500-037	1.05	1501-037	1.76	1530-037	1.76
38	.1015	2-1/2	1500-038	1.05	1501-038	1.76	1530-038	1.76
39	.0995	2-3/8	1500-039	1.05	1501-039	1.76	1530-039	1.76
40	.0980	2-3/8	1500-040	1.05	1501-040	1.76	1530-040	1.76

SIZE	Pittsburg® DRILL BLANKS			VERMONT GAGE DRILL BLANKS		VERMONT GAGE REAMER BLANKS		
	DEC. EQV.	OVERALL LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
41	.0960	2-3/8	1500-041	\$1.05	1501-041	\$1.76	1530-041	\$1.76
42	.0965	2-1/4	1500-042	1.05	1501-042	1.76	1530-042	1.76
43	.0890	2-1/4	1500-043	1.05	1501-043	1.76	1530-043	1.76
44	.0860	2-1/8	1500-044	1.05	1501-044	1.76	1530-044	1.76
45	.0820	2-1/8	1500-045	1.05	1501-045	1.76	1530-045	1.76
46	.0810	2-1/8	1500-046	1.05	1501-046	1.76	1530-046	1.76
47	.0785	2	1500-047	1.05	1501-047	1.76	1530-047	1.76
48	.0760	2	1500-048	1.05	1501-048	1.76	1530-048	1.76
49	.0730	2	1500-049	1.05	1501-049	1.76	1530-049	1.76
50	.0700	2	1500-050	1.05	1501-050	1.76	1530-050	1.76
51	.0670	2	1500-051	0.98	1501-051	1.76	1530-051	1.76
52	.0635	1-7/8	1500-052	0.98	1501-052	1.76	1530-052	1.76
53	.0595	1-7/8	1500-053	0.98	1501-053	1.76	1530-053	1.76
54	.0550	1-7/8	1500-054	0.98	1501-054	1.76	1530-054	1.76
55	.0520	1-7/8	1500-055	0.98	1501-055	1.76	1530-055	1.76
56	.0465	1-3/4	1500-056	0.98	1501-056	1.76	1530-056	1.76
57	.0430	1-3/4	1500-057	0.98	1501-057	1.76	1530-057	1.76
58	.0420	1-5/8	1500-058	0.98	1501-058	1.76	1530-058	1.76
59	.0410	1-5/8	1500-059	0.98	1501-059	1.76	1530-059	1.76
60	.0400	1-5/8	1500-060	0.98	1501-060	1.76	1530-060	1.76
61	.0390	1-5/8	1500-061	0.98	1501-061	1.76	1530-061	1.76
62	.0380	1-1/2	1500-062	1.44	1501-062	1.76	1530-062	1.76
63	.0370	1-1/2	1500-063	1.44	1501-063	1.76	1530-063	1.76
64	.0360	1-1/2	1500-064	1.44	1501-064	1.76	1530-064	1.76
65	.0350	1-1/2	1500-065	1.44	1501-065	1.76	1530-065	1.76
66	.0330	1-1/2	1500-066	1.44	1501-066	1.76	1530-066	1.76
67	.0320	1-3/8	1500-067	1.44	1501-067	1.76	1530-067	1.76
68	.0310	1-3/8	1500-068	1.44	1501-068	1.76	1530-068	1.76
69	.0292	1-3/8	1500-069	1.44	1501-069	1.76	1530-069	1.76
70	.0280	1-1/4	1500-070	1.44	1501-070	1.76	1530-070	1.76
71	.0260	1-1/4	1500-071	1.44	1501-071	1.76	1530-071	1.76
72	.0250	1-1/8	1500-072	1.44	1501-072	1.76	1530-072	1.76
73	.0240	1-1/8	1500-073	1.44	1501-073	1.76	1530-073	1.76
74	.0225	1	1500-074	1.44	1501-074	1.76	1530-074	1.76
75	.0210	1	1500-075	1.44	1501-075	1.76	1530-075	1.76
76	.0200	7/8	1500-076	1.44	1501-076	1.76	1530-076	1.76
77	.0180	7/8	1500-077	1.44	1501-077	1.76	1530-077	1.76
78	.0160	7/8	1500-078	1.44	1501-078	1.76	1530-078	1.76
79	.0145	3/4	1500-079	1.44	1501-079	1.76	1530-079	1.76
80	.0135	3/4	1500-080	1.44	1501-080	1.76	1530-080	1.76

## Extra Long Drill Blanks—High Speed Steel

SIZE	VERMONT GAGE								
	DEC. EQV.	6" OVERALL		12" OVERALL		24" OVERALL		36" OVERALL	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	.0625	1511-104	\$4.00	1511-204	\$5.20	1511-304	\$22.00	1511-404	\$35.20
5/64	.0781	1511-105	4.00	1511-205	5.20	1511-305	22.00	1511-405	35.20
3/32	.0937	1511-106	4.00	1511-206	5.20	1511-306	22.00	1511-406	35.20
7/64	.1094	1511-107	5.20	1511-207	8.00	1511-307	26.40	1511-407	35.20
1/8	.1250	1511-108	5.20	1511-208	8.00	1511-308	26.40	1511-408	35.20
9/64	.1406	1511-109	5.20	1511-209	8.00	1511-309	26.40	1511-409	35.20
5/32	.1562	1511-110	5.20	1511-210	8.00	1511-310	26.40	1511-410	35.20
11/64	.1719	1511-111	7.20	1511-211	11.60	1511-311	30.80	1511-411	44.00
3/16	.1875	1511-112	7.20	1511-212	11.60	1511-312	30.80	1511-412	44.00
13/64	.2031	1511-113	7.20	1511-213	11.60	1511-313	30.80	1511-413	44.00
7/32	.2187	1511-114	7.20	1511-214	15.00	1511-314	30.80	1511-414	44.00
15/64	.2344	1511-115	10.40	1511-215	15.00	1511-315	35.20	1511-415	52.00
1/4	.2500	1511-116	10.40	1511-216	15.00	1511-316	35.20	1511-416	52.00
17/64	.2656	1511-117	10.40	1511-217	15.00	1511-317	35.20	1511-417	52.00

SIZE	VERMONT GAGE								
	DEC. EQV.	6" OVERALL		12" OVERALL		24" OVERALL		36" OVERALL	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
9/32	.2812	1511-118	\$10.40	1511-218	\$15.00	1511-318	\$35.20	1511-418	\$52.00
19/64	.2969	1511-119	11.20	1511-219	17.60	1511-319	39.60	1511-419	56.00
5/16	.3125	1511-120	11.20	1511-220	17.60	1511-320	39.60	1511-420	56.00
21/64	.3281	1511-121	11.20	1511-221	17.60	1511-321	39.60	1511-421	56.00
11/32	.3438	1511-122	11.20	1511-222	17.60	1511-322	39.60	1511-422	56.00
23/64	.3594	1511-123	12.00	1511-223	22.00	1511-323	44.00	1511-423	68.00
3/8	.3750	1511-124	12.00	1511-224	22.00	1511-324	44.00	1511-424	68.00
25/64	.3906	1511-125	12.00	1511-225	22.00	1511-325	44.00	1511-425	68.00
13/32	.4062	1511-126	12.00	1511-226	22.00	1511-326	44.00	1511-426	68.00
27/64	.4219	1511-127	12.80	1511-227	22.00	1511-327	48.00	1511-427	76.00
7/16	.4375	1511-128	12.80	1511-228	22.00	1511-328	48.00	1511-428	76.00
29/64	.4531	1511-129	12.80	1511-229	22.00	1511-329	48.00	1511-429	76.00
15/32	.4688	1511-130	12.80	1511-230	22.00	1511-330	48.00	1511-430	76.00
31/64	.4844	1511-131	13.60	1511-231	26.40	1511-331	61.60	1511-431	84.00
1/2	.5000	1511-132	13.60	1511-232	26.40	1511-332	61.60	1511-432	84.00

Tolerance Limits: 6" and 12" Lengths — Plus .000, Minus .0005 24" and 36" Lengths — Plus or Minus .001

# Combined Drills & Countersinks

3



5 Pc. Set  
(sizes #1 -#5)

## Plain Type 60° Included Angle Left Hand & Cobalt



SIZE NO.	BODY DIA.	DRILL DIA.	DRILL L'GTH	OAL	Pittsburg ALLEGHANY		KEO		LEFT HAND		COBALT		COBALT		TIN COATED	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1/8	3/64	3/64	1-1/4	1900-001	\$1.00	1900-101	\$4.84	1901-001	\$10.33	1910-022	\$3.10	1910-101	\$11.24	1901-051	\$5.77
2	3/16	5/64	5/64	1-7/8	1900-002	1.05	1900-102	5.06	1901-002	10.54	1910-023	3.20	1910-102	11.60	1901-052	6.36
3	1/4	7/64	7/64	2	1900-003	1.10	1900-103	5.28	1901-003	10.83	1910-024	3.40	1910-103	11.98	1901-053	7.05
4	5/16	1/8	1/8	2-1/8	1900-004	1.15	1900-104	5.44	1901-004	11.15	1910-025	3.50	1910-104	12.47	1901-054	8.42
4-1/2	3/8	9/64	9/64	2-1/2	—	—	1900-111	7.48	1901-011	15.58	—	—	1910-111	18.54	1901-061	10.48
5	7/16	3/16	3/16	2-3/4	1900-005	2.45	1900-105	8.61	1901-005	16.96	1910-026	6.15	1910-105	19.67	1901-055	13.37
6	1/2	7/32	7/32	3	1900-006	3.50	1900-106	12.96	1901-006	24.61	1910-027	9.60	1910-106	30.50	1901-056	17.73
7	5/8	1/4	1/4	3-1/4	1900-007	5.40	1900-107	19.67	1901-007	34.19	1910-028	17.40	1910-107	45.89	1901-057	27.14
8	3/4	5/16	5/16	3-1/2	1900-008	7.40	1900-108	27.01	1901-008	46.26	1910-029	24.40	1910-108	64.97	1901-058	35.52
9	7/8	11/32	11/32	3-5/8	1900-009	13.70	1900-109	49.00	1901-009	85.05	—	—	—	—	1901-059	60.70
10	1	3/8	3/8	3-3/4	1900-010	18.10	1900-110	64.32	1901-010	111.64	—	—	—	—	1901-060	79.21
5 Pc. Set incl. sizes #1,#2,#3,#4,#5					1900-011*	\$7.20	1900-112	43.87	—	—	1910-030*	20.35	—	—	—	—

\* Plastic Pouch

## Aircraft 60° Included Angle High Speed Steel



SIZE NO.	BODY DIA.	DRILL DIA.	DRILL L'GTH	OAL	Pittsburg ALLEGHANY		KEO		COBALT	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
00000	1/8	.010	.010	1-1/4	—	—	1900-125	\$7.98	1910-125	\$31.40
0000	1/8	.015	.015	1-1/4	—	—	1900-124	7.33	1910-124	30.52
000	1/8	.020	.020	1-1/4	1900-030	\$1.88	1900-123	6.94	1910-123	20.73
00	1/8	.025	.025	1-1/4	1900-020	1.88	1900-122	6.94	1910-122	20.73
0	1/8	1/32	1/32	1-1/4	1900-000	1.88	1900-120	6.94	1910-120	20.73

## Bell Type 60° Included Angle



SIZE NO.	BODY NO.	DRILL DIA.	DRILL L'GTH	OAL	BELL DIA.	ORDER NO.	PRICE EACH
11	1/8	3/64	3/64	1-1/4	.100	1904-011	\$2.80
12	3/16	1/16	1/16	1-7/8	.150	1904-012	2.80
13	1/4	3/32	3/32	2	.200	1904-013	2.80
14	5/16	7/64	7/64	2-1/8	.250	1904-014	2.80
15	7/16	5/32	5/32	2-3/4	.350	1904-015	5.50
16	1/2	3/16	3/16	3	.400	1904-016	8.25
17	5/8	7/32	7/32	3-1/4	.500	1904-017	10.85
18	3/4	1/4	1/4	3-1/2	.600	1904-018	14.65

## Plain Type 82° & 90° Included Angle, High Speed Steel



SIZE NO.	BODY DIA.	DRILL DIA.	DRILL L'GTH	OAL	KEO 82°		KEO 90°		Pittsburg ALLEGHANY 82°		Pittsburg ALLEGHANY 90°	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1/8	3/64	3/64	1-1/4	1902-001	\$7.92	1903-001	\$7.92	1901-101†	\$2.86	—	—
2	3/16	5/64	5/64	1-7/8	1902-002	8.11	1903-002	8.11	—	—	1901-202†	\$3.46
3	1/4	7/64	7/64	2	1902-003	8.39	1903-003	8.39	—	—	1901-203†	3.76
4	5/16	1/8	1/8	2-1/8	1902-004	8.72	1903-004	8.72	—	—	1901-204†	4.56
5	7/16	3/16	3/16	2-3/4	1902-005	13.29	1903-005	13.29	—	—	—	—
4-1/2	3/8	9/64	9/64	2-1/2	1902-011	11.94	1903-011	11.94	—	—	—	—
6	1/2	7/32	7/32	3	1902-006	20.12	1903-006	20.12	—	—	1901-206†	10.64
7	5/8	1/4	1/4	3-1/4	1902-007	28.47	1903-007	28.47	1901-107†	17.86	—	—
8	3/4	5/16	5/16	3-1/2	1902-008	39.92	1903-008	39.92	—	—	—	—

† Limited Quantities

## Long Series 60° Countersink Angle



SIZE	A BODY DIA.	B POINT DIA.	C POINT LG'TH.	Pittsburg ALLEGHANY		KEO		H.S.S.		KEO		M42	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
#1 X 3	1/8	3/64	3/64	1909-013	\$4.25	1909-113	\$11.70	1909-813	\$35.14	—	—	—	—
#1 X 4				1909-014	4.80	1909-114	12.22	1909-814	36.33	—	—	—	—
#1 X 5				1909-015	6.30	1909-115	16.97	1909-815	50.55	—	—	—	—
#1 X 6				1909-016	9.45	1909-116	22.23	1909-816	66.06	—	—	—	—
#2 X 3	3/16	5/64	5/64	—	—	1909-123	11.84	1909-823	35.23	—	—	—	—
#2 X 4				1909-024	5.10	1909-124	13.39	1909-824	39.83	—	—	—	—
#2 X 5				1909-025	6.20	1909-125	17.15	1909-825	51.05	—	—	—	—
#2 X 6				1909-026	8.75	1909-126	22.31	1909-826	66.47	—	—	—	—
#3 X 3	1/4	7/64	7/64	1909-033	4.85	1909-133	12.37	1909-833	36.73	—	—	—	—
#3 X 4				1909-034	5.15	1909-134	14.10	1909-834	41.87	—	—	—	—
#3 X 5				1909-035	7.00	1909-135	18.55	1909-835	55.24	—	—	—	—
#3 X 6				1909-036	8.85	1909-136	22.51	1909-836	66.99	—	—	—	—
#4 X 3	5/16	1/8	1/8	—	—	1909-143	14.52	1909-843	43.15	—	—	—	—
#4 X 4				1909-044	6.05	1909-144	15.63	1909-844	46.51	—	—	—	—
#4 X 5				1909-045	7.65	1909-145	19.98	1909-845	59.43	—	—	—	—
#4 X 6				1909-046	8.90	1909-146	23.07	1909-846	68.61	—	—	—	—

SIZE	A BODY DIA.	B POINT DIA.	C POINT LG'TH.	Pittsburg ALLEGHANY		KEO		H.S.S.		KEO		M42	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
#4-1/2 X 4	3/8	9/64	9/64	1909-047	\$7.05	1909-147	\$17.57	1909-847	\$51.10	—	—	—	—
#4-1/2 X 5				1909-048	8.25	1909-148	20.77	1909-848	60.59	—	—	—	—
#4-1/2 X 6				1909-049	9.85	1909-149	25.05	1909-849	73.13	—	—	—	—
#5 X 4	7/16	3/16	3/16	1909-054	7.50	1909-154	20.53	1909-854	59.93	—	—	—	—
#5 X 5				1909-055	8.95	1909-155	23.78	1909-855	69.38	—	—	—	—
#5 X 6				1909-056	10.10	1909-156	26.69	1909-856	77.86	—	—	—	—
#6 X 4	1/2	7/32	7/32	—	—	1909-164	22.28	1909-864	63.64	—	—	—	—
#6 X 5				1909-065	9.90	1909-165	25.55	1909-865	73.20	—	—	—	—
#6 X 6				1909-066	11.60	1909-166	30.88	1909-866	88.31	—	—	—	—
#7 X 6	5/8	1/4	1/4	1909-076	21.55	1909-176	57.54	1909-876	163.76	—	—	—	
#8 X 6	3/4	5/16	5/16	1909-086	23.20	1909-186	62.14	1909-886	176.80	—	—	—	

90° Angle available in High Speed Steel upon request

# Combined Drills & Countersinks

## Solid Carbide - R.H., Plain Type

• Premium sub-micron C-2 carbide with 10% cobalt

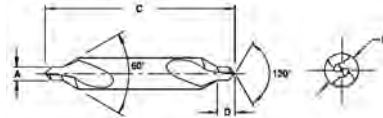


## Long Length

ALLEGIANCE®				60°		60° TiAlN		82°		90°		ALLEGIANCE®				60°	
TOOL NO.	BODY DIA.	DRILL DIA.	APPROX. OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	SHANK DIA.	PILOT DIA.	OAL	ORDER NO.	PRICE EACH
00	1/8	.0265	1-1/2	2966-000	\$11.25	2966-100	\$15.00	2966-039	\$11.25	2966-069	\$11.25	1	1/8	3/64	4	2966-214	\$22.05
0	1/8	1/32	1-1/2	2966-010	10.65	2966-110	14.55	2966-040	10.65	2966-070	10.65	2	3/16	5/64	4	2966-224	28.55
1	1/8	3/64	1-1/2	2966-011	9.75	2966-111	14.30	2966-041	9.75	2966-071	9.75	3	1/4	7/64	4	2966-234	35.05
2	3/16	5/64	1-7/8	2966-012	15.20	2966-112	18.70	2966-042	15.20	2966-072	15.20	4	5/16	1/8	4	2966-244	46.30
3	1/4	7/64	2	2966-013	16.80	2966-113	22.05	2966-043	16.80	2966-073	16.80	5	7/16	3/16	6	2966-256	75.85
4	5/16	1/8	2-1/8	2966-014	24.45	2966-114	31.80	2966-044	24.45	2966-074	24.45	6	1/2	7/32	6	2966-266	103.30
5	7/16	3/16	2-3/4	2966-015	35.20	2966-115	54.10	2966-045	35.20	2966-075	35.20	7	5/8	1/4	6	2966-276	175.00
6	1/2	7/32	3	2966-016	48.70	2966-116	69.40	2966-046	48.70	2966-076	48.70	8	3/4	5/16	6	2966-286	208.75
7	5/8	1/4	3-1/4	2966-017	77.30	-	-	2966-047	77.30	2966-077	77.30						
8	3/4	5/16	3-1/2	2966-018	101.25	-	-	2966-048	101.25	2966-078	101.25						
5 pc. Set - Contains sizes: #1, #2, #3, #4 and #5 in plastic pouch.				2966-019	103.90	2966-130	212.85	2966-060	103.90	2966-090	103.90						

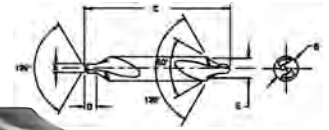
## Metric Combined Drill & Countersink

### Type A - High Speed Steel



A POINT DIA.	B BODY DIA.	C OVERALL LG'TH.	D LG'TH. OF CUT	ORDER NO.	PRICE EACH
0.50	3.15	25.0 SE	.08	1909-400	\$ 4.79
0.80	3.15	25.0 SE	1.1	1909-405	4.79
1.00	3.15	31.5	1.3	1909-410	4.37
1.25	3.15	31.5	1.6	1909-415	4.21
1.60	4.00	35.5	2.0	1909-420	4.10
2.00	5.00	40.0	2.5	1909-425	4.46
2.50	6.30	45.0	3.1	1909-430	5.07
3.15	8.00	50.0	3.9	1909-435	6.35
4.00	10.00	56.0	5.0	1909-440	10.52
5.00	12.50	63.0	6.3	1909-445	15.03
6.30	16.00	71.0	8.0	1909-450	21.33
8.00	20.00	80.0	10.1	1909-455	34.89
10.00	25.00	100.0	12.8	1909-460	67.09
12.52	31.50	125.0	16.5	1909-465	113.06

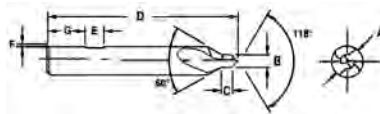
### Type B - High Speed Steel



A POINT DIA.	B BODY DIA.	C OVERALL LG'TH.	D LG'TH. OF CUT	E BELL DIA.	ORDER NO.	PRICE EACH
1.00	4.00	35.5	1.50	2.12	1909-500	\$ 6.17
1.25	5.00	40.0	1.90	2.65	1909-505	6.20
1.60	6.30	45.0	2.4	3.35	1909-510	6.58
2.00	8.00	50.0	3.0	4.25	1909-515	7.87
2.50	10.00	56.0	3.8	5.30	1909-520	10.33
3.15	11.20	60.0	4.8	6.70	1909-525	12.78
4.00	14.00	67.0	6.0	8.50	1909-530	16.53
5.00	18.00	75.0	7.5	0.60	1909-535	22.36
6.30	20.00	80.0	9.2	13.20	1909-540	29.56
8.00	25.00	100.0	11.5	17.00	1909-545	58.44
10.00	31.50	125.0	14.2	21.20	1909-550	116.96

## Jig Bore Type

### High Speed Steel



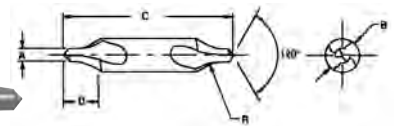
A BODY DIA.	B POINT DIA.	C POINT LG'TH.	D OVERALL LG'TH.	E BODY FLAT LG'TH.	F BODY FLAT DEPTH	G BODY FLAT OFFSET	ORDER NO.	PRICE EACH	
1/16	1/16						1909-205	\$18.61	
3/32	3/32						1909-210	18.61	
1/8	1/8	3	9/32	0.050	41/64		1909-215	18.61	
5/32	5/32						1909-220	18.61	
3/16	3/16						1909-225	18.61	
1/8	1/8						1909-235	22.56	
3/16	3/16						1909-240	22.56	
1/2	7/32	7/32	3-1/2	21/34	0.060	23/32	1909-245	22.56	
1/4	1/4						1909-250	22.56	
9/32	9/32						1909-255	22.56	
<b>SETS</b>									
3/8	Point Diameters: 1/16, 3/32, 1/8, 5/32, 3/16							1909-230	\$113.64
1/2	Point Diameters: 1/16, 3/32, 1/8, 5/32, 3/16							1909-260	133.75

Keo Jig Bore Type combined drills and countersinks are used for producing center holes in components or workpieces which require machining between centers and are manufactured with a locking set screw flat.



## Radius Type

### High Speed Steel



SIZE	A BODY DIA.	B POINT DIA.	C LG'TH. OF CUT	D OVERALL LG'TH.	R RADIUS	ORDER NO.	PRICE EACH
#5-0	1/8	0.010	0.068	1-1/4	1/16	1909-705	\$ 9.33
#4-0	1/8	0.015	0.083	1-1/4	5/64	1909-704	8.85
#3-0	1/8	0.020	0.097	1-1/4	3/32	1909-703	7.65
#2-0	1/8	0.025	0.109	1-1/4	7/64	1909-702	7.65
#0	1/8	1/32	0.118	1-1/4	1/8	1909-700	7.65
#1	1/8	3/64	0.132	1-1/4	5/32	1909-601	5.98
#2	3/16	5/64	0.204	1-7/8	7/32	1909-602	6.34
#3	1/4	7/64	0.275	2	9/32	1909-603	6.87
#4	5/16	1/8	11/32	2-1/8	3/8	1909-604	7.71
#4-1/2	3/8	9/64	13/32	2-1/2	7/16	1909-611	9.44
#5	7/16	3/16	31/64	2-3/4	1/2	1909-605	10.73
#6	1/2	7/32	35/64	3	9/16	1909-606	16.22
#7	5/8	1/4	43/64	3-1/4	45/64	1909-607	23.79
#8	3/4	5/16	13/16	3-1/2	7/8	1909-608	32.14
#9	7/8	11/32	15/16	3-5/8	1	1909-609	60.09
#10	1	3/8	1-1/16	3-3/4	1-7/64	1909-610	78.57

# Countersinks

## Single Flute High Speed Steel



3

DIAM. x SHK DIA.	OVERALL LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	100° ORDER NO.	110° ORDER NO.	120° ORDER NO.	PRICE EACH
3/16 x 3/16	1-1/2	2250-024	2251-024	2252-024	2253-024	-	2255-024†	\$ 3.10
1/4 x 3/16	1-3/4	2250-028	2251-028	2252-028	2253-028	2254-028†	-	3.25
1/4 x 1/4	1-3/4	2250-032	2251-032	2252-032	2253-032	-	2255-032†	3.25
5/16 x 1/4	1-3/4	2250-036	2251-036	2252-036	2253-036	2254-036†	2255-036†	3.40
3/8 x 1/4	1-3/4	2250-040	2251-040	2252-040	2253-040	2254-040†	-	3.70
1/2 x 1/4	2	2250-048	2251-048	2252-048	2253-048	2254-048†	-	4.80
1/2 x 3/8	2	2250-056	2251-056	2252-056	2253-056	-	-	4.80
5/8 x 1/4	2-1/4	-	2251-060†	-	-	-	2255-062†	6.55
5/8 x 3/8	2-1/4	2250-064	2251-064	2252-064	2253-064	-	2255-064†	6.55
5/8 x 1/2	2-1/4	2250-072	2251-072	2252-072	2253-068	-	2255-070†	6.55
3/4 x 3/8	2-3/4	2250-073	2251-073	2252-073	2253-072	-	-	8.90
3/4 x 1/2	2-3/4	2250-080	2251-080	2252-080	2253-080	-	2255-080†	8.90
7/8 x 1/2	2-3/4	2250-088	2251-088	2252-088	2253-088	2254-088†	2255-088†	14.50
1 x 1/2	2-3/4	2250-096	2251-096	2252-096	2253-096	2254-096†	2255-096†	15.60
1-1/4 x 1/2	3	2250-112	2251-112	2252-112	2253-112	-	-	23.70
1-1/4 x 3/4	3	2250-128	2251-128	2252-128	2253-128	-	-	23.70
1-1/2 x 1/2	3-1/2	2250-129	2251-129	2252-129	2253-129	-	-	37.25
1-1/2 x 3/4	3-1/2	2250-144	2251-144	2252-144	2253-144	-	-	37.25
1-3/4 x 1/2	4	2250-145	2251-145	2252-145	2253-145	-	-	51.35
1-3/4 x 3/4	4	2250-160	2251-155	2252-160	2253-160	-	-	51.35
2 x 1/2	4	2250-161	2251-161	2252-161	-	-	-	61.00
2 x 3/4	4	2250-176	2251-176	2252-176	2253-176	-	-	61.00

† Limited Quantities

## Single Flute 5 Pc. Set

5 piece set includes one each:  
1/4", 3/8", 1/2", 3/4" & 1" in wood stand.

3

DEGREE	ORDER NO.	PRICE EACH
60°	2250-900	35.70
82°	2251-900	35.70
90°	2252-900	35.70

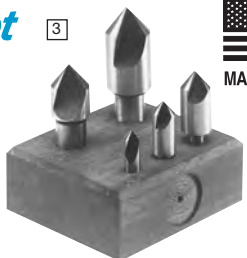


## Single Flute 5 Pc. Set

5 piece set includes one each:  
1/4", 3/8", 1/2", 3/4" & 1" in wood stand.

3

DEGREE	ORDER NO.	PRICE EACH
60°	2285-900	\$96.84
82°	2286-900	96.84
90°	2287-900	96.84
100°	2288-900	96.84



## Severance

### Set #36 - Single Flute Countersinks

SET INCLUDES 1 PIECE OF EACH TOOL WITH  
1/4", 3/8", 1/2", 5/8", 3/4", 1" BODY DIAMETER

### High Speed Steel

2



6 PIECE SET

CENTERLINE ANGLE							SEV. NAME	LIST PRICE
30°	41°	45°	50°	55°	60°			
INCLUDED ANGLE							SEV. NAME	LIST PRICE
60°	82°	90°	100°	110°	120°			
ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.	ORDER NO.	SEV. NAME	LIST PRICE	
-	6829-633	6829-634	6829-635	-	6829-637	SET #36	\$160.56	

## Single Flute High Speed Steel



3

DIAM. x SHK	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	100° ORDER NO.	PRICE EACH
3/16 x 3/16	2285-024	2286-024	2287-024	2288-024	\$ 7.97
1/4 x 1/4	2285-032	2286-032	2287-032	2288-032	8.30
3/8 x 1/4	2285-040	2286-040	2287-040	2288-040	9.47
1/2 x 1/4	2285-048	2286-048	2287-048	2288-048	11.59
5/8 x 3/8	2285-064	2286-064	2287-064	2288-064	15.50
3/4 x 1/2	2285-080	2286-080	2287-080	2288-080	22.63
1 x 1/2	2285-096	2286-096	2287-096	2288-096	38.80
1-1/4 x 3/4	2285-128	2286-128	2287-128	-	65.35
1-1/2 x 3/4	2285-144	2286-144	2287-144	-	87.50
1-3/4 x 3/4	2285-160	2286-160	2287-160	-	131.31
2 x 3/4	2285-176	2286-176	2287-176	-	142.20

## Severance

### Single Flute Countersinks - High Speed Steel

2

CENTERLINE ANGLE									
30°			41°			45°			
INCLUDED ANGLE									
60° ORDER NO.*	82° ORDER NO.	90° ORDER NO.	SEVERANCE BODY NAME	SEVERANCE BODY DIA.	NOSE TYPE	SHANK DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE
6800-270	6800-288	6800-306	1/8-SF	1/8"	-	1/8"	1-5/8"	1-5/8"	\$10.60
6800-271	6800-289	6800-307	3/16-SF	3/16"	-	3/16"	1-1/2"	1-1/2"	11.25
6800-272	6800-290	6800-308	1/4-SF	1/4"	-	3/16"	1-1/2"	3/4"	11.27
6800-273	6800-291	6800-309	5/16-SF	5/16"	-	1/4"	1-3/4"	7/8"	13.15
6800-274	6800-292	6800-310	3/8-SF	3/8"	-	1/4"	1-3/4"	7/8"	15.33
6800-275	6800-293	6800-311	1/2-SF	1/2"	-	3/8"	2-1/8"	1-1/8"	19.56
6800-276	6800-294	6800-312	1/2-1/4-SF	1/2"	-	1/4"	2-1/8"	1-1/8"	19.56
6800-277	6800-295	6800-313	5/8-SF	5/8"	-	3/8"	2-3/8"	1-1/8"	27.85
6800-278	6800-296	6800-314	5/8-1/4-SF	5/8"	-	1/4"	2-3/8"	1-1/8"	27.85
6800-279	6800-297	6800-315	3/4-SF	3/4"	-	1/2"	2-11/16"	1-5/16"	37.41
6800-280	6800-298	6800-316	7/8-SF	7/8"	-	1/2"	2-13/16"	1-5/16"	47.10
6800-281	6800-299	6800-317	1-SF	1"	-	1/2"	2-13/16"	1-5/16"	57.59
6800-282	6800-300	6800-318	1-1/4-SF	1-1/4"	-	3/4"	3-3/8"	1-5/8"	83.26
6800-283	6800-301	6800-319	1-1/2-SF	1-1/2"	-	3/4"	3-1/2"	1-5/8"	114.39
-	6800-302	6800-320	1-3/4-SF	1-3/4"	-	1"	4-1/4"	2-1/8"	137.56
6800-285	6800-303	6800-321	2-SF	2"	-	1"	4-3/8"	2-1/8"	175.91
-	6800-304	6800-322	2-1/2-SF	2-1/2"	-	1"	4-3/4"	2-1/8"	299.53
6800-287	6800-305	6800-323	3-SF	3"	-	1"	5"	2-1/8"	449.28

\* 60° Included Angle Priced slightly higher



# Countersinks

## Three Flute

High Speed Steel



3

DIA. x SK DIA.	OVERALL LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	100° ORDER NO.	110° ORDER NO.	120° ORDER NO.	PRICE EACH
3/16 x 3/16	1-1/2	2256-024	2257-024	2258-024	2259-024†	2260-024†	2261-024†	\$ 3.40
1/4 x 3/16	1-1/2	2256-028	2257-028	2258-028	2259-028†	2260-028†	-	3.75
5/16 x 1/4	1-3/4	2256-036	2257-036	2258-036	2259-036†	2260-036†	2261-036†	4.35
3/8 x 1/4	1-3/4	2256-040	2257-040	2258-040	2259-040†	2260-040†	2261-040†	4.85
7/16 x 1/4	1-3/4	2256-044†	-	2258-044†	-	-	-	5.35
1/2 x 1/4	2	2256-048	2257-048	2258-048	-	-	2261-048†	5.95
1/2 x 3/8	2	2256-056	2257-056	2258-056	2259-056†	2260-056†	2261-056†	5.95
5/8 x 3/8	2	2256-064	2257-064	2258-064	2259-064†	2260-064†	-	7.90
5/8 x 1/2	2	-	-	2258-070†	-	-	2261-070†	7.90
3/4 x 3/8	2-3/4	2256-072	2257-072	2258-072	2259-072†	-	-	10.75
3/4 x 1/2	2-3/4	2256-080	2257-080	2258-080	2259-080†	2260-080†	2261-080†	10.75
7/8 x 1/2	2-3/4	2256-088	2257-088	2258-088	2259-088†	2260-088†	2261-088†	14.00
1 x 1/2	2-3/4	2256-096	2257-096	2258-096	2259-096†	2260-096†	2261-096†	17.30
1-1/4 x 1/2	3-1/2	2256-112	2257-112	2258-112	-	-	-	31.85
1-1/4 x 5/8	3-1/2	-	-	2258-120†	2259-120†	2260-120†	2261-120†	31.85
1-1/4 x 3/4	3-1/2	2256-128	2257-128	2258-128	2259-128†	2260-128†	-	31.85
1-1/2 x 1/2	3-1/2	2256-129	2257-134	2258-129	-	-	-	43.45
1-1/2 x 3/4	3-1/2	2256-144	2257-144	2258-144	2259-144†	2260-144†	2261-144†	43.45
1-3/4 x 1/2	4	2256-145	2257-145	2258-145	-	-	-	65.20
1-3/4 x 3/4	4	2256-160	2257-160	2258-160	-	-	-	65.20
1-3/4 x 1	4	-	2257-163†	2258-163†	-	-	-	65.20
2 x 1/2	4	2256-165	2257-165	2258-161	-	-	-	71.80
2 x 3/4	4	2256-176	2257-176	2258-176	-	-	-	71.80
2 x 1	4	2256-192†	2257-192†	-	-	-	-	71.80

† Limited Quantities

## Three Groove 82°

High Speed Steel



2

SHANK DIA.	FLUTE LGTH	BODY LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
3/8	1/2	2-1/8	2-3/8	4-3/8	2268-056 \$9.00
1/2	1/2	2-1/4	2-1/2	4-1/2	2268-064 10.00
5/8	1/2	2-3/8	2-5/8	4-5/8	2268-072 11.20
3/4	1/2	2-1/2	2-3/4	4-3/4	2268-080 14.00
7/8	1/2	2-5/8	2-7/8	4-7/8	2268-088 16.50

-Closeout-  
Limited Quantities

## 4-Flute Machine Countersinks

High Speed Steel



3

DIA. x SK DIA.	OVERALL LENGTH	SHANK LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	PRICE EACH
3/8 x 3/8	3-3/4	-	2276-048†	2277-048†	2278-048†	\$12.40
1/2 x 1/2	3-7/8	2-1/4	2276-064	2277-064	2278-064	14.70
5/8 x 1/2	4	2-1/4	2276-072	2277-072	2278-072	16.45
3/4 x 1/2	4-1/8	2-1/4	2276-080	2277-080	2278-080	21.00
7/8 x 1/2	4-1/8	2-1/4	2276-088	2277-088	2278-088	23.20
1 x 1/2	4-3/8	2-1/4	2276-096	2277-096	2278-096	25.50
1-1/4 x 1/2	5	2-1/4	2276-112	2277-112	2278-112	35.90
1-1/2 x 1/2	5-3/8	2-1/4	2276-128	2277-128	2278-128	47.45
2 x 1/2	6-1/8	2-1/4	2276-161†	2277-161†	2278-161†	66.70

† Limited Quantities

## 4-Flute Center Reamers †

High Speed Steel



3

DIA. x SK DIA.	OVERALL LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	100° ORDER NO.	110° ORDER NO.	120° ORDER NO.	PRICE EACH
1/4 x 3/16	1-1/2	2270-028	2271-028	2272-028	2273-028	2274-028	2275-028	\$1.60
3/8 x 1/4	1-3/4	2270-040	2271-040	2272-040	-	2274-040	2275-040	1.75
1/2 x 3/8	2	2270-056	2271-056	-	2273-056	2274-056	2275-056	2.20
5/8 x 3/8	2	2270-064	2271-064	-	2273-064	2274-064	2275-064	2.90
3/4 x 1/2	2-3/4	-	2271-080	-	2273-080	2274-080	2275-080	4.25
7/8 x 1/2	2-3/4	2270-088	2271-088	-	2273-088	2274-088	2275-088	5.40
1 x 1/2	2-3/4	2270-096	-	2272-096	2273-096	2274-096	2275-096	6.55
1-1/4 x 1/2	3-1/2	-	2271-112	-	-	2274-112	2275-112	14.30
1-1/2 x 1/2	3-1/2	-	-	-	2273-128	2274-128	2275-128	22.05
1-3/4 x 1/2	4	2270-144	2271-144	2272-144	2273-144	2274-144	2275-144	29.20
2 x 1/2	4	2270-160	2271-160	-	2273-160	2274-160	2275-160	35.85

† Discontinued, Limited Quantities

# Severance

## 4 Flute Chatter Free Econosinks®

High Speed Steel

2

CENTERLINE ANGLE		30°	41°	45°	INCLUDED ANGLE				SEVERANCE NAME	BODY DIA.	SHANK DIA.	OVERALL LENGTH	SHANK LGTH	LIST PRICE
ORDER NO.*	ORDER NO.	ORDER NO.	ORDER NO.	60°	82°	90°								
6800-970	6800-991	6801-012	ES-1/8	1/8"	1/8"	1-5/8"	1-5/8"	\$10.60						
6800-971	6800-992	6801-013	ES-3/16	3/16"	3/16"	1-1/2"	1-1/2"	11.25						
6800-972	6800-993	6801-014	ES-1/4	1/4"	3/16"	1-1/2"	3/4"	11.27						
6800-973	6800-994	6801-015	ES-5/16	5/16"	1/4"	1-3/4"	7/8"	13.15						
6800-974	6800-995	6801-016	ES-3/8	3/8"	1/4"	1-3/4"	7/8"	15.33						
6800-976	6800-997	6801-018	ES-1/2	1/2"	3/8"	2-1/8"	1-1/8"	19.56						
6800-977	6800-998	6801-019	ES-1/2-1/4	1/2"	1/4"	2-1/8"	1-1/8"	19.56						
6800-978	6800-999	6801-020	ES-5/8	5/8"	3/8"	2-3/8"	1-1/8"	27.85						
6800-979	6801-000	6801-021	ES-5/8-1/4	5/8"	1/4"	2-3/8"	1-1/8"	27.85						
6800-980	6801-001	6801-022	ES-3/4	3/4"	1/2"	2-11/16"	1-5/16"	37.41						
6800-982	6801-003	6801-024	ES-7/8	7/8"	1/2"	2-13/16"	1-5/16"	47.10						
6800-983	6801-004	6801-025	ES-1	1"	1/2"	2-13/16"	1-5/16"	57.59						
6800-984	6801-005	6801-026	ES-1-1/4	1-1/4"	3/4"	3-3/8"	1-5/8"	83.26						
6800-985	6801-006	6801-027	ES-1-1/2	1-1/2"	3/4"	3-1/2"	1-5/8"	114.39						
6800-987	6801-008	6801-029	ES-1-3/4	1-3/4"	1"	4-1/4"	2-1/8"	137.56						
6800-988	6801-009	6801-030	ES-2	2"	1"	4-3/8"	2-1/8"	175.91						
6800-989	6801-010	6801-031	ES-2-1/2	2-1/2"	1"	4-3/4"	2-1/8"	299.53						
6800-990	6801-011	6801-032	ES-3	3"	1"	5"	2-1/8"	449.28						

\* 60°Included Angle Priced slightly higher

## 4 Flute 3N1™ Drill Point Countersinks

Patent Pending

### How Does a 3N1™ Work?

Severance has developed a unique tool which combines the functions of a drill point and countersink and edge chamfer. A conventional thin-web drill point is blended into two flutes of a four-flute chatterfree countersink . . . to perform two or all three of the steps in a spot-drill-countersink and edge chamfer operation. On thin material, such as in shown illustration, drilling could be optional.



### High Speed Steel - Single Ended Countersink

2

CENTERLINE ANGLE		30°	41°	45°	INCLUDED ANGLE				SEVERANCE NAME	C'SNK DIA.	SHNK DIA.	OVRALL LGTH	SHNK LGTH	LIST PRICE
ORDER NO.*	ORDER NO.	ORDER NO.	ORDER NO.	60°	82°	90°								
6801-473	6801-488	6801-503	3N1-1/8	1/8"	1/8"	1-5/8"	1-5/8"	\$12.05						
6801-474	6801-489	6801-504	3N1-3/16	3/16"	3/16"	1-5/8"	1-1/2"	12.83						
6801-470	6801-485	6801-500	3N1-1/4	1/4"	3/16"	1-1/2"	3/4"	13.45						
6801-475	6801-490	6801-505	3N1-5/16	5/16"	1/4"	1-3/4"	7/8"	15.79						
6801-471	6801-486	6801-501	3N1-3/8	3/8"	1/4"	1-3/4"	7/8"	18.46						
6801-472	6801-487	6801-502	3N1-1/2	1/2"	3/8"	2-1/8"	1-1/8"	23.63						
6801-476	6801-491	6801-506	3N1-5/8	5/8"	3/8"	2-3/8"	1-1/8"	33.33						
6801-477	6801-492	6801-507	3N1-3/4	3/4"	1/2"	2-11/16"	1-5/16"	44.92						
6801-478	6801-493	6801-508	3N1-7/8	7/8"	1/2"	2-13/16"	1-5/16"	56.49						
6801-479	6801-494	6801-509	3N1-1	1"	1/2"	2-13/16"	1-5/16"	69.18						

\* 60°Included Angle Priced slightly higher

# Countersinks—Six Flute

## Six Flute Countersinks High Speed Steel



### 8 PIECE SET

8 piece set includes one each:

1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8" & 1" in wood stand.

DIA. x SK DIA.	OVERALL LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	PRICE EACH
3/16 x 3/16	1-1/2	2262-024	2263-024	2264-024	\$ 7.25
1/4 x 3/16	1-1/2	2262-028	2263-028	2264-028	7.40
5/16 x 1/4	1-3/4	2262-036	2263-036	2264-036	8.85
3/8 x 1/4	1-3/4	2262-040	2263-040	2264-040	9.25
1/2 x 1/4	2	2262-048	2263-048	2264-048	11.35
1/2 x 3/8	2	2262-056	2263-056	2264-056	11.35
5/8 x 3/8	2-1/2	2262-064	2263-064	2264-064	20.00
3/4 x 1/2	2-3/4	2262-080	2263-080	2264-080	22.25
7/8 x 1/2	2-3/4	2262-088	2263-088	2264-088	30.65
1 x 1/2	2-3/4	2262-096	2263-096	2264-096	34.15
1-1/4 x 3/4	3-1/2	2262-128	2263-128	2264-128	52.00
1-1/2 x 3/4	3-1/2	2262-144	2263-144	2264-144	75.10
2 x 3/4	3-1/2	2262-160	2263-176	2264-176	160.25
<b>8 PIECE SET</b>		<b>2262-200</b>	<b>2263-200</b>	<b>2264-200</b>	<b>\$155.65</b>

100°, 110° & 120° Price On Application

## Six Flute Countersinks High Speed Steel



### 5 PIECE SET

5 piece set includes one each:  
1/4", 3/8", 1/2", 3/4" & 1" in wood stand.



DIA. x SK DIA.	OVERALL LENGTH	60° ORDER NO.	82° ORDER NO.	90° ORDER NO.	100° ORDER NO.	110° ORDER NO.	120° ORDER NO.	PRICE EACH
3/16 x 3/16	1-1/2	2282-024	2283-024	2284-024	2265-024†	2266-024†	2267-024†	\$ 4.15
1/4 x 3/16	1-1/2	-	-	-	2265-028†	2266-028†	2267-028†	4.50
1/4 x 1/4	1-1/2	2282-028	2283-028	2284-028	-	2266-032†	2267-032†	4.50
5/16 x 1/4	1-3/4	2282-036	2283-036	2284-036	-	2266-036†	-	5.25
3/8 x 1/4	1-3/4	2282-040	2283-040	2284-040	-	2266-040†	2267-040†	5.80
1/2 x 1/4	2	2282-048	2283-048	2284-048	-	2266-048†	2267-048†	7.55
1/2 x 3/8	2	2282-056	2283-056	2284-056	2265-056†	2266-056†	-	7.55
5/8 x 3/8	2-1/2	2282-065	2283-065	2284-065	2265-064†	2266-064†	2267-064†	10.75
5/8 x 1/2	2-1/2	2282-064	2283-064	2284-064	-	-	-	10.75
3/4 x 1/2	2-3/4	2282-080	2283-080	2284-080	-	2266-080†	2267-080†	14.20
7/8 x 1/2	2-3/4	2282-088	2283-088	2284-088	2265-088†	2266-088†	2267-088†	19.50
1 x 1/2	2-3/4	2282-096	2283-096	2284-096	-	2266-096†	2267-096†	22.55
1-1/4 x 3/4	3-1/2	2282-128	2283-128	2284-128	-	-	2267-128†	32.95
1-1/2 x 3/4	3-1/2	2282-144	2283-144	2284-144	-	-	-	45.10
1-3/4 x 3/4	3-1/2	2282-150	2283-150	2284-150	-	-	-	65.05
1-3/4 x 1	3-1/2	2282-152†	-	2284-158†	-	-	-	65.05
2 x 3/4	3-1/2	2282-160	2283-176	2284-176	-	-	-	71.10
<b>5 PIECE SET</b>		<b>2282-000</b>	<b>2283-000</b>	<b>2284-000</b>	-	-	-	<b>\$60.10</b>

† Limited Quantities

## 6-Flute Chatterless™ Double End Countersinks High Speed Steel



CENTERLINE ANGLE		<i>Severance</i>						
30°	41°	45°						
INCLUDED ANGLE								
60°	82°	90°						
ORDER NO.	ORDER NO.	ORDER NO.	SEVERANCE NAME	BODY DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE	
6802-670	6802-685	6802-700	CK-1/8-DE	1/8"	1-1/2"	1-1/2"	\$15.09	
6802-671	6802-686	6802-701	CK-3/16-DE	3/16"	1-7/8"	1-7/8"	15.99	
6802-672	6802-687	6802-702	CK-1/4-DE	1/4"	2"	2"	16.34	
6802-673	6802-688	6802-703	CK-5/16-DE	5/16"	2-1/8"	2-1/8"	18.65	
6802-674	6802-689	6802-704	CK-3/8-DE	3/8"	2-1/2"	2-1/2"	20.77	
6802-675	6802-690	6802-705	CK-1/2-DE	1/2"	3"	3"	25.75	
6802-676	6802-691	6802-706	CK-5/8-DE	5/8"	3-1/4"	3-1/4"	36.75	
6802-677	6802-692	6802-707	CK-3/4-DE	3/4"	3-1/2"	3-1/2"	54.32	

\* 60° Included Angle Priced slightly higher

## 6-Flute Chatterless™ NCK™ Precision Countersinks High Speed Steel



CENTERLINE ANGLE		<i>Severance</i>									
30°	41°	45°									
INCLUDED ANGLE											
60°	82°	90°									
ORDER NO.	ORDER NO.	ORDER NO.	SEVERANCE NAME	BODY DIA.	+ .001- -.000	SHANK DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE		
6802-970	-	-	CNCK 1/4	1/4"	.078	3/16"	1-1/2"	3/4"	\$13.24		
-	6802-980	6802-990	CNC-K 1/4	1/4"	.046	3/16"	1-1/2"	3/4"	12.99		
6802-971	-	-	CNC-K 3/8	3/8"	.125	1/4"	1-3/4"	7/8"	18.02		
-	6802-981	6802-991	CNC-K 3/8	3/8"	.078	1/4"	1-3/4"	7/8"	17.69		
6802-972	-	-	CNC-K 1/2	1/2"	.156	3/8"	2-1/8"	1-1/8"	22.97		
-	6802-982	6802-992	CNC-K 1/2	1/2"	.109	3/8"	2-1/8"	1-1/8"	22.54		
6802-973	-	-	CNC-K 5/8	5/8"	.023	3/8"	2-3/8"	1-1/8"	32.70		
-	6802-983	6802-993	CNC-K 5/8	5/8"	.125	3/8"	2-3/8"	1-1/8"	32.08		
6802-974	-	-	CNC-K 3/4	3/4"	.250	1/2"	2-11/16"	1-5/16"	43.86		
-	6802-984	6802-994	CNC-K 3/4	3/4"	.156	1/2"	2-11/16"	1-5/16"	43.02		
6802-975	-	-	CNC-K 7/8	7/8"	.281	1/2"	2-13/16"	1-5/16"	55.18		
-	6802-985	6802-995	CNC-K 7/8	7/8"	.172	1/2"	2-13/16"	1-5/16"	54.14		
6802-976	-	-	CNC-K 1	1"	.328	1/2"	2-13/16"	1-5/16"	67.46		
-	6802-986	6802-996	CNC-K 1	1"	.203	1/2"	2-13/16"	1-5/16"	66.19		

## 6-Flute Chatterless™ High Speed Steel

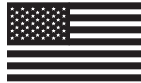


CENTERLINE ANGLE		<i>Severance</i>									
30°	41°	45°									
INCLUDED ANGLE											
60°	82°	90°									
HIGH SPEED STEEL											
ORDER NO.	ORDER NO.	ORDER NO.	SEVERANCE NAME	BODY DIA.	SHANK DIA.	OVERALL LENGTH	SHANK LGTH	LIST PRICE			
6802-370	6802-390	6802-410	CK-1/8	1/8"	1/8"	1-5/8"	1-5/8"	\$10.60			
6802-371	6802-391	6802-411	CK-3/16	3/16"	3/16"	1-1/2"	1-1/2"	11.25			
6802-372	6802-392	6802-412	CK-1/4	1/4"	3/16"	1-1/2"	3/4"	11.27			
6802-373	6802-393	6802-413	CK-5/16	5/16"	1/4"	1-3/4"	7/8"	13.15			
6802-374	6802-394	6802-414	CK-3/8	3/8"	1/4"	1-3/4"	7/8"	15.33			
6802-375	6802-395	6802-415	CK-1/2	1/2"	3/8"	2-1/8"	1-1/8"	19.56			
6802-376	6802-396	6802-416	CK-1/2-1/4	1/2"	1/4"	2-1/8"	1-1/8"	19.56			
6802-377	6802-397	6802-417	CK-5/8	5/8"	3/8"	2-3/8"	1-1/8"	27.85			
6802-378	6802-398	6802-418	CK-5/8-1/4	5/8"	1/4"	2-3/8"	1-1/8"	27.85			
6802-379	6802-399	6802-419	CK-3/4	3/4"	1/2"	2-11/16"	1-5/16"	37.41			
6802-380	6802-400	6802-420	CK-7/8	7/8"	1/2"	2-13/16"	1-5/16"	47.10			
6802-381	6802-401	6802-421	CK-1	1"	1/2"	2-13/16"	1-5/16"	57.59			
6802-382	6802-402	6802-422	CK-1-1/4	1-1/4"	3/4"	3-3/8"	1-5/8"	83.26			
6802-383	6802-403	6802-423	CK-1-1/2	1-1/2"	3/4"	3-1/2"	1-5/8"	114.39			
6802-384	6802-404	6802-424	CK-1-3/4	1-3/4"	1"	4-1/4"	2-1/8"	137.56			
6802-385	6802-405	6802-425	CK-2	2"	1"	4-3/8"	2-1/8"	175.91			
6802-386	6802-406	6802-426	CK-2-1/2	2-1/2"	1"	4-3/4"	2-1/8"	299.36			
6802-387	6802-407	6802-427	CK-3	3"	1"	5"	2-1/8"	449.28			

\* 60° Included Angle Priced slightly higher

# Countersinks—Solid Carbide

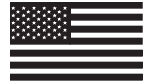
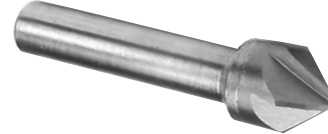
## Solid Carbide Single Flute 1



MADE IN U.S.A.

DIA. OF BODY	DIA. OF SHANK	OVERALL LENGTH	60°		82°		90°	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	2	2964-332	\$ 10.05	2964-032	\$ 10.05	2964-632	\$ 10.05
3/8	1/4	2-1/2	2964-340	16.85	2964-040	16.85	2964-640	16.85
1/2	1/4	2-1/2	2964-348	23.30	2964-048	23.30	2964-648	23.30
5/8	3/8	2-3/4	2964-372	31.90	2964-072	31.90	2964-672	31.90
3/4	1/2	3	2964-381	48.45	2964-081	48.45	2964-681	48.45
1	1/2	3	2964-396	70.00	2964-096	70.00	2964-696	70.00
1-1/4	3/4	3-1/4	2964-412	129.60	2964-112	129.60	2964-712	129.60

## Solid Carbide Six Chatterless Flutes 1



MADE IN U.S.A.

DIA. OF BODY	DIA. OF SHANK	OVERALL LENGTH	60°		82°		90°	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/16"	3/16"	2"	2965-324	\$ 8.60	2965-024	\$ 8.60	2965-624	\$ 8.60
1/4"	1/4"	2"	2965-332	10.25	2965-032	10.25	2965-632	10.25
3/8"	1/4"	2-1/2"	2965-340	16.05	2965-040	16.05	2965-640	16.05
1/2"	1/4"	2-1/2"	2965-356	21.95	2965-056	21.95	2965-656	21.95
5/8"	3/8"	2-3/4"	2965-372	31.00	2965-072	31.00	2965-672	31.00
3/4"	1/2"	3"	2965-381	45.40	2965-081	45.40	2965-681	45.40
1"	1/2"	3"	2965-396	70.00	2965-096	70.00	2965-696	70.00
1-1/4"	3/4"	3-1/4"	2965-412	156.50	2965-112	156.50	2965-712	156.50
1-1/2"	3/4"	3-1/2"	2965-444	224.45	2965-144	224.45	2965-744	224.45

## 6-Flute Chatterless™ NCK™ Precision Countersinks

Designed specifically for use in NC, CNC and preset machine tools, these precision countersinks feature "chatterless" tooth geometry. Tight tolerances on angles, diameters and lengths assure setting accuracy. Available in 30°, 41°, 45°, 50°, 55° and 60° centerline angles. Precision countersinks are identified by their notched shanks.

Carbide



2

CENTERLINE ANGLE			Severance									
30°	41°	45°										
INCLUDED ANGLE						NOSE DIA.						
60°	82°	90°	SEVERANCE NAME	BODY DIA.	+ .001- .000	SHANK DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE			
6803-120	—	—	CNCK 1/4-W	1/4"	.078	3/16"	1-1/2"	3/4"	\$23.64			
—	6803-130	6803-140	CNCK 1/4-W	1/4"	.046	3/16"	1-1/2"	3/4"	23.19			
6803-121	—	—	CNCK 3/8-W	3/8"	.125	1/4"	1-3/4"	7/8"	46.01			
—	6803-131	6803-141	CNCK 3/8-W	3/8"	.078	1/4"	1-3/4"	7/8"	45.15			
6803-122	—	—	CNCK 1/2-W	1/2"	.156	3/8"	2-1/4"	1-1/8"	63.73			
—	6803-132	6803-142	CNCK 1/2-W	1/2"	.109	3/8"	2-1/4"	1-1/8"	62.53			
6803-123	—	—	CNCK 5/8-W	5/8"	.023	3/8"	2-3/8"	1-1/8"	83.15			
—	6803-133	6803-143	CNCK 5/8-W	5/8"	.125	3/8"	2-3/8"	1-1/8"	81.59			
6803-124	—	—	CNCK 3/4-W	3/4"	.250	1/2"	2-11/16"	1-5/16"	118.76			
—	6803-134	6803-144	CNCK 3/4-W	3/4"	.156	1/2"	2-11/16"	1-5/16"	116.51			
6803-125	—	—	CNCK 7/8-W	7/8"	.281	1/2"	2-13/16"	1-5/16"	177.57			
—	6803-135	6803-145	CNCK 7/8-W	7/8"	.172	1/2"	2-13/16"	1-5/16"	174.22			
6803-126	—	—	CNCK 1-W	1"	.328	1/2"	2-13/16"	1-5/16"	193.18			
—	6803-136	6803-146	CNCK 1-W	1"	.203	1/2"	2-13/16"	1-5/16"	189.53			

## 6-Flute Chatterless™ Double End Countersinks Carbide



2

CENTERLINE ANGLE			Severance									
30°	41°	45°										
INCLUDED ANGLE						NOSE DIA.						
60°	82°	90°	SEVERANCE NAME	BODY DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE					
6802-820	6802-835	6802-850	CK-1/8-DE-W	1/8"	1-1/2"	1-1/2"	\$22.24					
6802-821	6802-836	6802-851	CK-3/16-DE-W	3/16"	2"	2"	28.51					
6802-822	6802-837	6802-852	CK-1/4-DE-W	1/4"	2"	2"	34.30					
6802-823	6802-838	6802-853	CK-5/16-DE-W	5/16"	2-1/8"	2-1/8"	56.39					
6802-824	6802-839	6802-854	CK-3/8-DE-W	3/8"	2-1/2"	2-1/2"	66.88					
6802-825	6802-840	6802-855	CK-1/2-DE-W	1/2"	3"	3"	92.72					
6802-826	6802-841	6802-856	CK-5/8-DE-W	5/8"	3-1/4"	3-1/4"	120.91					
6802-827	6802-842	6802-857	CK-3/4-DE-W	3/4"	3-1/2"	3-1/2"	172.60					

\* 60°Included Angle Priced slightly higher

## Single Flute Countersinks - Carbide

[2]

CENTERLINE ANGLE			SEVERANCE NAME	BODY DIA.	NOSE TYPE	SHANK DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE
30°	41°	45°							
INCLUDED ANGLE									
60°	82°	90°							
ORDER NO.*	ORDER NO.	ORDER NO.							
6800-420	6800-440	6800-460	1/8-SF-W	1/8"	P	1/8"	1-5/8"	1-1/2"	\$14.01
6800-421	6800-441	6800-461	3/16-SF-W	3/16"	P	3/16"	1-1/2"	1-1/2"	17.65
6800-422	6800-442	6800-462	1/4-SF-W	1/4"	P	3/16"	1-1/2"	1-1/16"	20.15
6800-423	6800-443	6800-463	5/16-SF-W	5/16"	P	1/4"	1-3/4"	1-5/8"	32.99
6800-424	6800-444	6800-464	3/8-SF-W	3/8"	P	1/4"	1-3/4"	1-7/16"	39.21
6800-425	6800-445	6800-465	1/2-SF-W	1/2"	P	3/8"	2-1/8"	1-3/8"	54.40
6800-426	6800-446	6800-466	1/2-1/4-SF-W	1/2"	P	1/4"	2-1/8"	1-3/8"	54.40
6800-427	6800-447	6800-467	5/8-SF-W	5/8"	P	3/8"	2-3/8"	1-5/16"	70.97
6800-428	6800-448	6800-468	5/8-1/4-SF-W	5/8"	P	1/4"	2-3/8"	1-21/64"	70.97
6800-429	6800-449	6800-469	3/4-SF-W	3/4"	P	1/2"	2-11/16"	1-5/16"	101.33
-	6800-450	6800-470	7/8-SF-W	7/8"	P	1/2"	2-13/16"	1-5/16"	151.43
6800-431	6800-451	6800-471	1-SF-W	1"	P	1/2"	2-13/16"	1-5/16"	164.83
6800-432	6800-452	6800-472	1-1/4-SF-W	1-1/4"	F	3/4"	3-3/8"	1-5/8"	204.02
-	6800-453	6800-473	1-1/2-SF-W	1-1/2"	F	3/4"	3-1/2"	1-5/8"	242.83
-	6800-455	-	2-SF-W	2"	F	1"	4-3/8"	2-1/8"	336.95

\* 60°Included Angle Priced slightly higher

## Double Ended Countersinks - Carbide

[2]

CENTERLINE ANGLE			SEVERANCE NAME	C'SINK DIA.	OVERALL LENGTH	SHANK LENGTH	LIST PRICE
30°	41°	45°					
INCLUDED ANGLE							
60°	82°	90°					
ORDER NO.*	ORDER NO.	ORDER NO.					
6801-650	6801-670	6801-680	3N1-1/8-DE-W	1/8"	1-1/2"	1-1/2"	\$26.63
6801-651	6801-671	6801-681	3N1-3/16-DE-W	3/16"	1-7/8"	1-7/8"	34.15
6801-652	6801-672	6801-682	3N1-1/4-DE-W	1/4"	2"	2"	41.18
6801-653	6801-673	6801-683	3N1-5/16-DE-W	5/16"	2-1/8"	2-1/8"	67.67
6801-654	6801-674	6801-684	3N1-3/8-DE-W	3/8"	2-1/2"	2-1/2"	80.19
6801-655	6801-675	6801-685	3N1-1/2-DE-W	1/2"	3"	3"	111.20
6801-656	6801-676	6801-686	3N1-5/8-DE-W	5/8"	3-1/4"	3-1/4"	145.02
-	-	6801-687	3N1-3/4-DE-W	3/4"	3-1/2"	3-1/2"	207.07

\* 60°Included Angle Priced slightly higher

## 4 Flute Chatter Free™ Econosinks®



Carbide

[2]

## 6 Flute Chatterless™ Countersinks®



The flutes of Severance 6-flute countersinks are designed with staggered cutting angles to eliminate the harmonics that cause chatter in conventional tools.

Carbide

[2]

CENTERLINE ANGLE			SEVERANCE NAME	BODY DIA.	SHANK DIA.	OVERALL LENGTH	SHANK LGTH	LIST PRICE
30°	41°	45°						
INCLUDED ANGLE								
60°	82°	90°						
ORDER NO.*	ORDER NO.	ORDER NO.						
6802-520	6802-540	6802-560	CK-1/8-W	1/8"	1/8"	1-1/2"	1-5/8"	\$14.01
6802-521	6802-541	6802-561	CK-3/16-W	3/16"	3/16"	1-1/2"	1-1/2"	17.65
6802-522	6802-542	6802-562	CK-1/4-W	1/4"	3/16"	1-1/2"	3/4"	20.15
6802-523	6802-543	6802-563	CK-5/16-W	5/16"	1/4"	2-1/4"	7/8"	32.99
6802-524	6802-544	6802-564	CK-3/8-W	3/8"	1/4"	2-1/4"	7/8"	39.21
6802-525	6802-545	6802-565	CK-1/2-W	1/2"	3/8"	2-1/4"	1-1/8"	54.40
6802-526	6802-546	6802-566	CK-1/2-1/4-W	1/2"	1/4"	2-1/4"	1-1/8"	54.40
6802-527	6802-547	6802-567	CK-5/8-W	5/8"	3/8"	2-3/8"	1-1/8"	70.97
6802-528	6802-548	6802-568	CK-5/8-1/4-W	5/8"	1/4"	2-3/8"	1-1/8"	70.97
6802-529	6802-549	6802-569	CK-3/4-W	3/4"	1/2"	2-11/16"	1-5/16"	101.33
6802-530	6802-550	6802-570	CK-7/8-W	7/8"	1/2"	2-13/16"	1-5/16"	151.43
6802-531	6802-551	6802-571	CK-1-W	1"	1/2"	2-13/16"	1-5/16"	164.83
6802-532	6802-552	6802-572	CK-1-1/4-W	1-1/4"	3/4"	3-3/8"	1-5/8"	204.02
6802-533	6802-553	6802-573	CK-1-1/2-W	1-1/2"	3/4"	3-1/2"	1-5/8"	242.83
6802-534	6802-554	6802-574	CK-1-3/4-W	1-3/4"	1"	4-1/4"	2-1/8"	317.92
6802-535	6802-555	6802-575	CK-2-W	2"	1"	4-3/8"	2-1/8"	336.95

\* 60°Included Angle Priced slightly higher

CENTERLINE ANGLE			SEVERANCE NAME	BODY DIA.	SHANK DIA.	OVERALL LENGTH	SHANK LGTH	LIST PRICE
30°	41°	45°						
INCLUDED ANGLE								
60°	82°	90°						
ORDER NO.*	ORDER NO.	ORDER NO.						
6801-120	6801-135	6801-150	ES-1/8-W	1/8"	1/8"	1-1/2"	1-1/2"	\$14.01
6801-121	6801-136	6801-151	ES-1/4-W	1/4"	3/16"	1-1/2"	1-1/16"	20.15
6801-122	6801-137	6801-152	ES-3/8-W	3/8"	1/4"	2-1/4"	1-7/16"	39.21
6801-125	6801-140	6801-155	ES-1/2-W	1/2"	3/8"	2-1/4"	1-3/8"	54.40
6801-126	6801-141	6801-156	ES-5/8-W	5/8"	3/8"	2-3/8"	1-5/16"	70.97
6801-127	6801-142	6801-157	ES-3/4-W	3/4"	1/2"	2-11/16"	1-5/16"	101.33
6801-128	6801-143	6801-158	ES-1-W	1"	1/2"	2-13/16"	1-5/16"	164.83

\* 60°Included Angle Priced slightly higher



# Countersink and Deburring Tools

## Pittsburg ALLEGHANY Pilotless Type - High Speed Steel

- Premium High Speed Steel
- Easily resharpened
- Tool designed to prevent chatter
- Small grinding wheel in the cross hole

SIZE	RANGE OF HOLE DIA. WHICH CAN BE CUT		SHANK DIA.	60° ORDER NO.	PRICE EACH	82° ORDER NO.	PRICE EACH	90° ORDER NO.	PRICE EACH
0 DOUBLE END	1/16	15/64	1/4	2238-000	\$ 5.55	2238-010	\$ 5.55	2238-020	\$ 5.55
1 SINGLE END	5/32	13/32	1/4	2238-001	6.00	2238-011	6.00	2238-021	6.00
2 SINGLE END	3/16	17/32	1/4	2238-002	6.85	2238-012	6.85	2238-022	6.85
3 SINGLE END	5/16	25/32	1/2	2238-003	11.35	2238-013	11.35	2238-023	11.35
4 SINGLE END	9/16	1-1/16	1/2	2238-004	16.95	2238-014	16.95	2238-024	16.95
5 PIECE SET	0-4, WITH WOOD STAND			2238-900	\$41.30	2238-901	\$41.30	2238-902	\$41.30



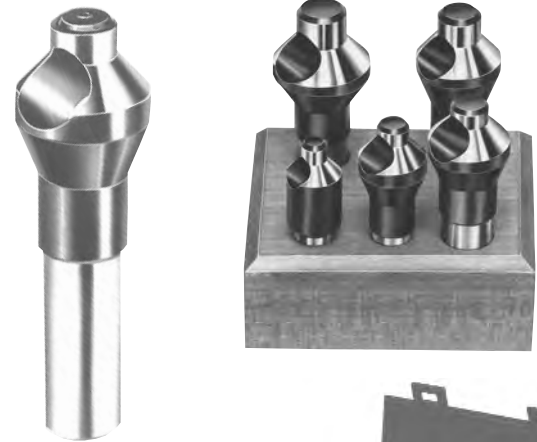
## ALLEGIANCE MADE IN U.S.A. Piloted Type - High Speed Steel

The action of a single cutting edge provides faster stock removal and prevents chatter. These tools are recommended for deburring steel and other ferrous materials. They can easily be resharpened by using the Weldon Axial Relieving Fixture or by using a small mounted grinding wheel and inserting it in the hole.

### Single Tool & 5 pc. Set- 82°

SIZE	SCREW SIZE	RANGE OF HOLE DIAMETER WHICH CAN BE CUT		PILOT LENGTH	SHANK DIAM.	ORDER NO.	PRICE EACH
		SMALLEST DIA.*	TO LARGEST DIA.				
11	1/4	1/4	33/64	5/32	3/8	2861-211	\$ 10.15
12	1/4	17/64	33/64	5/32	3/8	2861-212	10.15
13	5/16	5/16	41/64	5/32	3/8	2861-213	12.10
14	5/16	21/64	41/64	5/32	3/8	2861-214	12.10
15	3/8	3/8	49/64	5/32	1/2	2861-215	16.05
16	3/8	25/64	49/64	5/32	1/2	2861-216	16.05
17	7/16	7/16	53/64	7/32	1/2	2861-217	20.00
18	7/16	29/64	53/64	7/32	1/2	2861-218	20.00
19	1/2	1/2	15/16	1/4	1/2	2861-219	20.80
20	1/2	33/64	15/16	1/4	1/2	2861-220	20.80
5 PC. SET		82° Pt. Angle	Contains: (1 each) 11, 13, 15, 17, & 19			2861-285	79.10

\* Pilot Diameter



## Zero Flute Countersink & Deburring Tools - M35 Cobalt, Straight Shank, Chatterless Cutting Action

### FEATURES:

- Micro-smooth CNC precision for clean, smooth cutting without smearing
- M35 Cobalt: 6% Tungsten, 5% Moly, 5% Cobalt - for long tool lives in all types of materials
- Cam Relieved for totally chatter-free cuts
- Through-Hole Design that is easy to resharpen using a small grinding wheel in the cross-hole.



DEGREE	HEAD DIAM.	DIA. OF CUT		SHANK DIAM.	OAL	ORDER NO.	PRICE EACH
		MIN.	MAX				
60° Angle	5/16	7/64	9/32	1/4	1-7/8	2239-001	\$ 12.56
	3/8	5/32	11/32	1/4	1-7/8	2239-002	14.35
	1/2	11/64	29/64	5/16	2	2239-003	17.18
	5/8	3/16	37/64	3/8	2-1/2	2239-004	19.72
	3/4	1/4	45/64	3/8	2-3/4	2239-005	30.03
	1	19/64	27/32	3/8	3	2239-006	37.35
	1-1/4	27/64	1-1/32	1/2	3-1/2	2239-007	90.50
4 pc. set		see above		5/16,3/8,1/2,5/8		2239-052	67.87
5 pc. set		see above		5/16,3/8,1/2,3/4,1		2239-054	115.60
82° Angle	5/16	3/32	9/32	1/4	1-5/8	2239-011	\$ 12.56
	3/8	9/64	11/32	1/4	1-3/4	2239-012	14.35
	1/2	5/32	29/64	5/16	1-3/4	2239-013	17.18
	5/8	11/64	37/64	3/8	2-1/8	2239-014	19.72
	3/4	13/64	45/64	3/8	2-3/8	2239-015	30.03
	1	19/64	59/64	3/8	2-5/8	2239-016	37.35
	1-1/4	23/64	1-3/32	1/2	3-1/8	2239-017	90.50
4 pc. set		see above		5/16,3/8,1/2,5/8		2239-056	67.87
5 pc. set		see above		5/16,3/8,1/2,3/4,1		2239-058	115.60

DEGREE	HEAD DIAM.	DIA. OF CUT		SHANK DIAM.	OAL	ORDER NO.	PRICE EACH
		MIN.	MAX				
90° Angle	5/16	3/32	9/32	1/4	1-5/8	2239-021	\$ 12.56
	3/8	9/64	11/32	1/4	1-3/4	2239-022	14.35
	1/2	5/32	29/64	5/16	1-3/4	2239-023	17.18
	5/8	11/64	37/64	3/8	2-1/8	2239-024	19.72
	3/4	13/64	45/64	3/8	2-3/8	2239-025	30.03
	1	19/64	59/64	3/8	2-5/8	2239-026	37.35
	1-1/4	23/64	1-3/32	1/2	3-1/8	2239-027	90.50
4 pc. set		see above		5/16,3/8,1/2,5/8		2239-060	67.87
5 pc. set		see above		5/16,3/8,1/2,3/4,1		2239-062	115.60
100° Angle	5/16	3/32	9/32	1/4	1-5/8	2239-031	\$ 12.56
	3/8	9/64	11/32	1/4	1-3/4	2239-032	14.35
	1/2	5/32	29/64	5/16	1-3/4	2239-033	17.18
	5/8	11/64	37/64	3/8	2-1/8	2239-034	19.72
	3/4	13/64	45/64	3/8	2-3/8	2239-035	30.03
	1	19/64	59/64	3/8	2-5/8	2239-036	37.35
	1-1/4	23/64	1-1/8	1/2	3-1/8	2239-037	90.50
4 pc. set		see above		5/16,3/8,1/2,5/8		2239-064	67.87
5 pc. set		see above		5/16,3/8,1/2,3/4,1		2239-066	115.60

## Micro-Stop Countersink Units

The Severance Micro-Stop Countersink system allows depth of cut to be adjusted (without tools, just a twist of the wrist) in increments of 0.001". The tool holders also provide a base to establish perpendicularity of the cutter to the work surface. Oversize bases can be supplied on special order, and bases can be modified to accommodate special clearance or contour problems. Non-marring nylon feet are available to protect workpiece finish, if necessary. The Micro-Stop Countersink system can be supplied with a wide variety of cutting tools for use wherever depth control is important.

All units come complete with a lock nut to maintain "preset" depth dimensions.



ORDER NO.	SEVERANCE TOOL NAME	RECOMMENDED		STANDARD OUTSIDE DIA.	OVERALL LENGTH RETRACTED	OVERALL LENGTH EXTENDED	LENGTH OF STROKE	INTERNAL THREAD	LIST PRICE
		MAX. CUTTER DIA.	UNIT SHANK DIA.						
6821-220	SC-14	7/16"	1/4"	7/8"	3.243	3.544	.180	1/4"-28	\$ 59.96
6821-221	SC-24	3/4"	1/4"	1-1/16"	3.265	3.513	.180	1/4"-28	81.88
6821-222	SC-36	3/4"	3/8"	1-1/16"	3.310	3.521	.180	3/8"-24	95.96
6821-223	SC-47	1-1/4"	1/2"	1-3/4"	4.270	4.715	.280	7/16"-20	130.08
6821-224	SC-57	1-1/4"	3/8"	1-3/4"	4.700	5.185	.280	3/8"-24	119.97

SC-14 – Light Duty, SC-24 – Standard Duty, SC-36 – Heavy Duty, SC-47 – Heavy Duty

### Non-Marking Nylon Foot

PART NO.	SC-14-11	SC-24-11	SC-36-11	SC-47-11	SC-57-11
ORDER NO.	6821-245	6821-264	6821-283	6821-302	6821-321
LIST PRICE	\$8.42	\$10.79	\$10.79	\$17.47	\$17.58

## Chatter Free® Stop Countersink Cutters— High Speed Steel

These items are designed specifically for use with the Severance Micro-Stop Countersink system. Angles and pilot diameters other than those listed may be specified as specials.



CENTERLINE ANGLE									
38° 41° 45°									
INCLUDED ANGLE									
78° 82° 90°									
ORDER NO.	ORDER NO.	ORDER NO.	TOOL NAME	BODY DIA.	PILOT DIA.	THREAD DIA.	OA LENGTH	LIST PRICE	
-	6815-485	6815-629	SC-6	3/8"	3/32 (.0938)	1/4"-28	1-5/32"	\$ 14.07	
6815-341	6815-486	6815-630	SC-6	3/8"	#40 (.0980)	1/4"-28	1-5/32"	14.07	
6815-342	6815-487	6815-631	SC-6	3/8"	1/8 (.1250)	1/4"-28	1-5/32"	14.07	
-	6815-488	6815-632	SC-6	3/8"	#30 (.1285)	1/4"-28	1-5/32"	14.07	
-	6815-489	6815-634	SC-6	3/8"	5/32 (.1562)	1/4"-28	1-5/32"	14.07	
-	6815-490	6815-635	SC-6	3/8"	#21 (.1590)	1/4"-28	1-5/32"	14.07	
6815-347	6815-491	6815-636	SC-6	3/8"	3/16 (.1875)	1/4"-28	1-5/32"	14.07	
6815-348	6815-492	6815-637	SC-6	3/8"	#10 (.1935)	1/4"-28	1-5/32"	14.07	
-	6815-494	6815-639	SC-7	7/16"	3/32 (.0938)	1/4"-28	1-5/32"	14.37	
-	6815-495	6815-640	SC-7	7/16"	#40 (.0980)	1/4"-28	1-5/32"	14.37	
-	6815-496	6815-641	SC-7	7/16"	1/8 (.1250)	1/4"-28	1-5/32"	14.37	
-	6815-497	6815-642	SC-7	7/16"	#30 (.1285)	1/4"-28	1-5/32"	14.37	
-	6815-499	6815-644	SC-7	7/16"	5/32 (.1562)	1/4"-28	1-5/32"	14.37	
-	6815-500	6815-645	SC-7	7/16"	#21 (.1590)	1/4"-28	1-5/32"	14.37	
-	6815-501	6815-646	SC-7	7/16"	3/16 (.1875)	1/4"-28	1-5/32"	14.37	
-	6815-502	6815-647	SC-7	7/16"	#10 (.1935)	1/4"-28	1-5/32"	14.37	
-	6815-504	6815-649	SC-8	1/2"	3/32 (.0938)	1/4"-28	1-5/32"	16.75	
-	6815-505	6815-650	SC-8	1/2"	#40 (.0980)	1/4"-28	1-5/32"	16.75	
-	6815-506	6815-651	SC-8	1/2"	1/8 (.1250)	1/4"-28	1-5/32"	16.75	
-	6815-507	6815-652	SC-8	1/2"	#30 (.1285)	1/4"-28	1-5/32"	16.75	
-	6815-508	6815-653	SC-8	1/2"	5/32 (.1562)	1/4"-28	1-5/32"	16.75	
-	6815-510	6815-655	SC-8	1/2"	#21 (.1590)	1/4"-28	1-5/32"	16.75	
-	6815-511	6815-656	SC-8	1/2"	3/16 (.1875)	1/4"-28	1-5/32"	16.75	
-	6815-512	6815-657	SC-8	1/2"	#10 (.1935)	1/4"-28	1-5/32"	16.75	
-	6815-513	6815-658	SC-8	1/2"	7/32 (.2187)	1/4"-28	1-5/32"	16.75	
-	6815-514	6815-659	SC-8	1/2"	1/4 (.2500)	1/4"-28	1-5/32"	16.75	
-	6815-516	6815-661	SC-10	5/8"	1/8 (.1250)	1/4"-28	1-5/32"	18.64	
6815-373	6815-517	-	SC-10	5/8"	#30 (.1285)	1/4"-28	1-5/32"	18.64	
-	6815-518	6815-663	SC-10	5/8"	5/32 (.1562)	1/4"-28	1-5/32"	18.64	
6815-375	6815-519	-	SC-10	5/8"	#21 (.1590)	1/4"-28	1-5/32"	18.64	
-	6815-520	6815-665	SC-10	5/8"	3/16 (.1875)	1/4"-28	1-5/32"	18.64	

CENTERLINE ANGLE									
38° 41° 45°									
INCLUDED ANGLE									
78° 82° 90°									
ORDER NO.	ORDER NO.	ORDER NO.	TOOL NAME	BODY DIA.	PILOT DIA.	THREAD DIA.	OA LENGTH	LIST PRICE	
-	6815-522	6815-667	SC-10	5/8"	#10 (.1935)	1/4"-28	1-5/32"	\$18.64	
-	6815-523	6815-668	SC-10	5/8"	7/32 (.2187)	1/4"-28	1-5/32"	18.64	
6815-380	6815-524	6815-669	SC-10	5/8"	1/4 (.2500)	1/4"-28	1-5/32"	18.64	
-	6815-525	6815-670	SC-10	5/8"	5/16 (.3125)	1/4"-28	1-5/32"	18.64	
-	6815-526	6815-671	SC-10	5/8"	3/8 (.3750)	1/4"-28	1-5/32"	18.64	
-	6815-528	6815-673	SC-12	3/4"	5/32 (.1562)	1/4"-28	1-3/16"	29.55	
-	6815-529	-	SC-12	3/4"	#21 (.1590)	1/4"-28	1-3/16"	29.55	
-	-	6815-675	SC-12	3/4"	3/16 (.1875)	1/4"-28	1-3/16"	29.55	
-	6815-531	6815-676	SC-12	3/4"	#10 (.1935)	1/4"-28	1-3/16"	29.55	
-	6815-533	-	SC-12	3/4"	7/32 (.2187)	1/4"-28	1-3/16"	29.55	
-	6815-534	6815-679	SC-12	3/4"	1/4 (.2500)	1/4"-28	1-3/16"	29.55	
-	6815-535	6815-680	SC-12	3/4"	"F" (.2570)	1/4"-28	1-3/16"	29.55	
-	6815-536	6815-681	SC-12	3/4"	5/16 (.3125)	1/4"-28	1-3/16"	29.55	
-	6815-537	6815-682	SC-12	3/4"	3/8 (.3750)	1/4"-28	1-3/16"	29.55	
6815-395	6815-539	6815-684	S3-12	3/4"	5/32 (.1562)	3/8"-24	1-3/16"	29.55	
-	6815-540	6815-685	S3-12	3/4"	#21 (.1590)	3/8"-24	1-3/16"	29.55	
-	-	6815-686	S3-12	3/4"	3/16 (.1875)	3/8"-24	1-3/16"	29.55	
-	6815-545	6815-690	S3-12	3/4"	1/4 (.2500)	3/8"-24	1-3/16"	29.55	
-	6815-546	6815-691	S3-12	3/4"	"F" (.2570)	3/8"-24	1-3/16"	29.55	
-	6815-547	6815-692	S3-12	3/4"	5/16 (.3125)	3/8"-24	1-3/16"	29.55	
-	6815-548	6815-693	S3-12	3/4"	3/8 (.3750)	3/8"-24	1-3/16"	29.55	
-	6815-551	-	SC-20	1-1/4"	#10 (.1935)	7/16"-20	1-3/8"	82.64	
-	6815-557	-	SC-20	1-1/4"	3/8 (.3750)	7/16"-20	1-3/8"	82.64	
-	6815-558	6815-703	SC-20	1-1/4"	1/2 (.5000)	7/16"-20	1-3/8"	82.64	

## Midget Mills - Edge, Rounding, Shape "U" High Speed Steel



ORDER NO.	SEVERANCE TOOL NAME	CUTTING DIA.	HEAD LENGTH	RADIUS	LIST PRICE
6823-186	CAU	1/4"	1/8"	3/32"	\$15.23
6823-187	CBU	1/4"	3/16"	3/16"	17.06
6823-188	CZU	1/4"	1/8"	1/16" x 4PL.	26.90
6823-189	DBU	5/16"	3/16"	3/32"	18.00
6823-190	EAU	3/8"	1/8"	1/16"	21.52
6823-191	EBU	3/8"	3/16"	1/8"	21.52
6823-192	ECU	3/8"	1/4"	3/16"	21.52
6823-193	EDU	3/8"	5/16"	1/4"	22.60
6823-195	GCU	1/2"	1/4"	3/16"	27.05
6823-197	GEU	1/2"	3/8"	5/16"	28.59
6823-199	IGU	5/8"	1/2"	7/16"	40.73
6823-202	JGU	3/4"	1/2"	3/8"	47.35
6823-203	JIU	3/4"	5/8"	1/2"	49.04
6823-205	KJU	7/8"	3/4"	5/8"	55.34

## Di-Car Mills - Carbide

Di-Car mills are used in place of mounted grinding wheels to produce a fine finish on either soft or hard materials. They may be purchased individually or as an 8-piece Set No. 40W.



ORDER NO.	SEVERANCE TOOL NAME	HEAD DIA.*	CUTTING LENGTH	SHAPE	EXTRA FINE TOOTH STYLE	LIST PRICE
6822-150	A-44-H-W	1/4"	5/8"	Cyl. flat end	Herringbone Cut	\$49.76
6822-151	A-48-D-W	1/2"	1"	Cyl. flat end	Double Cut	89.92
6822-152	B-44-H-W	1/4"	1/4"	Ball	Herringbone Cut	45.17
6822-153	C-44-D-W	1/4"	5/8"	Cyl. ball nose	Double Cut	46.70
6822-154	C-48-H-W	1/2"	1"	Cyl. ball nose	Herringbone Cut	102.27
6822-155	H-44-H-W	1/4"	3/8"	Taper, round nose	Herringbone Cut	46.87
6822-156	R-44-D-W	1/4"	1/2"	Tree, round nose	Double Cut	45.17
6822-157	R-48-H-W	1/2"	1"	Tree, round nose	Herringbone Cut	98.14

\* 1/2" tools have 1/4" alloy steel, hardened shanks; all 1/4" tools are solid carbide.

## Die Mills - Carbide

Die Mills are made with the shank and the cutting head of the same diameter. They are used extensively in template work, where the shank serves as a guide, and in other profiling operations. Die Mills may be reground many times for a long service life. When reground by Severance, a portion of the shank is reduced to match the new cutting diameter.



ORDER NO.	SEVERANCE TOOL NAME	CUTTING DIA.	SHANK DIA.	HEAD LENGTH	FLUTE STYLE	OVERALL LENGTH	LIST PRICE
6817-260	4A-DIE-W	1/8"	1/8"	1/2"	Double Cut	1-1/2"	\$20.07
6817-262	AGA-DIE-W	1/8"	1/8"	1/2"	Standard Cut	1-1/2"	16.02
6817-266	5GA-DIE-W	5/32"	3/16"	1/2"	Standard Cut	2"	22.43
6817-270	BJA-DIE-W	3/16"	3/16"	3/4"	Standard Cut	2"	22.43
6817-272	8A-DIE-W	1/4"	1/4"	3/4"	Double Cut	2"	36.65
6817-274	CJA-DIE-W	1/4"	1/4"	3/4"	Standard Cut	2"	29.26
6817-278	DJA-DIE-W	5/16"	5/16"	3/4"	Standard Cut	2"	33.74
6817-282	ELA-DIE-W	3/8"	3/8"	1"	Standard Cut	2-1/2"	42.63
6817-290	GLA-DIE-W	1/2"	1/2"	1"	Standard Cut	2-1/2"	72.75

## Outside Chamfering Mills - High Speed Steel

These outside chamfering mills are most efficient when used in screw machines, lathes, drill presses, or other chucking machines, or with work holding devices, although where requirements are not too exacting, may be used in a portable power tool on some materials. Chatterless teeth provide for amazing ease and speed of operation. It is recommended that guides such as V-blocks be positioned to facilitate quick positioning of the work.



Designed to economically chamfer a large variety of diameters on tubing, pipe, and rod:

- Chatterless teeth produce heavy chamfers • Large variety of shanks available
- One size will accommodate many size parts • May be reground many times
- Available in 60° and 90° angles

ORDER NO.	SEVERANCE TOOL NAME	MAX. CUTTING DIA.	RECESS HOLE DIA.	MOUTH DIA.	BODY DIA.	BODY LENGTH	I.D. THREAD SIZE	LIST PRICE
<b>30° INTERNAL C/LINE ANGLE (60° INCL.)</b>								
6825-230	OC-1/8-30°	1/8"	1/32"	3/16"	1/2"	1"	5/16"-24	\$ 42.23
6825-231	OC-1/4-30°	1/4"	3/64"	5/16"	1/2"	1"	5/16"-24	40.31
6825-232	OC-1/2-30°	1/2"	1/8"	5/8"	7/8"	1-5/16"	3/8"-24	52.42
6825-233	OC-3/4-30°	3/4"	1/4"	7/8"	1-1/8"	1-3/4"	1/2"-20	64.78
6825-234	OC-1-30°	1"	1/4"	1-1/8"	1-1/2"	2"	3/4"-16	92.31
6825-235	OC-1-3/4-30°	1-3/4"	1/2"	1-7/8"	2-1/4"	2-15/16"	1"-14	201.16
6825-236	OC-2-30°	2"	7/8"	2-1/8"	2-1/2"	3"	1"-14	344.89
6825-237	OC-3-30°	3"	1"	3-1/4"	3-3/4"	3-3/4"	1-1/4"-12	730.81
<b>45° INTERNAL C/LINE ANGLE (90° INCL.)</b>								
6825-250	OC-1/8-45°	1/8"	1/32"	3/16"	1/2"	1"	5/16"-24	\$ 40.35
6825-251	OC-1/4-45°	1/4"	3/64"	5/16"	1/2"	1"	5/16"-24	38.51
6825-252	OC-1/2-45°	1/2"	1/8"	5/8"	7/8"	1-5/16"	3/8"-24	50.75
6825-253	OC-3/4-45°	3/4"	3/16"	7/8"	1-1/8"	1-5/16"	1/2"-20	59.07
6825-254	OC-1-45°	1"	1/4"	1-1/8"	1-1/2"	1-3/4"	3/4"-16	88.55
6825-255	OC-1-1/2-45°	1-1/2"	3/8"	1-5/8"	2"	1-7/8"	3/4"-16	139.99
6825-256	OC-2-45°	2"	7/8"	2-1/8"	2-1/2"	2-1/2"	1"-14	236.33
6825-257	OC-3-45°	3"	1"	3-1/4"	3-3/4"	2-7/8"	1-1/4"-12	630.17

Tools furnished without shanks.

## Die Mills - High Speed Steel



ORDER NO.	SEVERANCE TOOL NAME	CUTTING DIA.	SHANK DIA.	HEAD LENGTH	OVERALL LENGTH	LIST PRICE
6817-312	AGA-DIE	1/8"	1/8"	1/2"	1-5/8"	\$ 11.65
6817-314	APA-DIE	1/8"	1/8"	1-1/2"	3"	17.03
6817-316	BJA-DIE	3/16"	3/16"	3/4"	2"	12.96
6817-318	CJA-DIE	1/4"	1/4"	3/4"	2-1/4"	14.56

## Micro-Mills™ - Carbide



Micro-Mills are similar in application to the Bore Mills, but are used for finishing in the 6 to 8 microinch range. Micro-Mills should not be oscillated. Cut on the in-feed and burnish on the out-feed. Both Micro-Mills and Bore Mills will outlast grinding wheels, particularly on demanding operations such as chamfering and counter-boring.

ORDER NO.	SEVERANCE TOOL NAME	HEAD DIA.	SHANK DIA.	OVERALL LENGTH	LIST PRICE
6821-120	MW-4	.047	1/8"	1-1/2"	\$25.37
6821-130	MW-5	.065	1/8"	1-1/2"	25.37
6821-121	MW-6	.078	1/8"	1-1/2"	25.37
6821-131	MW-7	.096	1/8"	1-1/2"	25.37
6821-122	MW-8	.109	1/8"	1-1/2"	25.37
6821-132	MW-9	.127	1/8"	1-1/2"	25.37
6821-123	MW-10	.130	3/16"	2"	35.54
6821-133	MW-11	.158	3/16"	2"	35.54
6821-124	MW-12	.172	3/16"	2"	35.54
6821-134	MW-13	.190	3/16"	2"	35.54
6821-125	MW-14	.195	1/4"	2"	45.98
6821-126	MW-16	.219	1/4"	2"	45.98
6821-135	MW-18	.253	1/4"	2"	45.98
6821-127	MW-20	.281	1/4"	2"	55.74
6821-136	MW-22	.312	1/4"	2"	55.74
6821-128	MW-24	.344	1/4"	2"	63.98
6821-129	MW-32	.469	1/4"	2"	86.82

Other sizes available on request.

NOTE: ALL MICRO-MILLS™ ARE COATED WITH TIN AT NO EXTRA CHARGE.

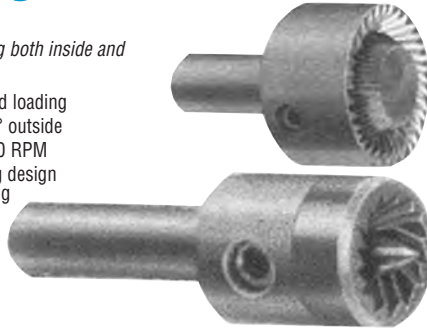


## Tube End Deburring Cutters

### HSS and Carbide

Economical methods of light deburring both inside and outside of tubing simultaneously:

- Shear cutting teeth designed to avoid loading
- Chamfer 30° Degrees inside and 45° outside
- Operating speeds range from 50-200 RPM
- Two piece inside and outside cutting design consisting of plug and adjustable ring
- May be reground many times
- Adjustable
- Great for production deburring
- Large variety of shanks available



Cutting teeth are designed to give a shearing cut. They curl the fine chips away from the cutter to avoid loading. The inside member produces a chamfer of 30° angle with C/L and the outside member 45°.

The tube end deburring cutters, described here, are intended for light deburring only, and will quickly deburr tubes of most any machinable material. They can also be supplied in CARBIDE for the tougher and harder materials.

The tooth arrangement on these cutters has been adopted to cover the widest possible range of most commonly

encountered materials. Any special material found not to be responsive to our Tube End Deburring Cutters should be given special consideration by our engineers.

Simple guides such as V-blocks correctly positioned are recommended.

The Ring or outside member is adjustable for more or less relative chamfer on the outside edge, and is secured after adjustment by socket and screws.

Operating speeds range from 50 to 200 R.P.M. depending on the size of the cutter, material and work condition.

Tool numbers ML-Tube through TS-Tube require threaded shanks, priced separately. For a wide variety of insertable threaded shanks . . .

## Carbide

ORDER NO.	SEVERANCE TOOL NAME	TUBING OD. SIZE	TUBING ID. SIZE	HOLE DIA. OF RING	SHANK DIAMETER	LIST PRICE
6835-160	A-Tube-W	1/8"	1/16"	.093	1/4"	\$151.64
6835-161	BA-Tube-W	3/16"	1/8"	.156	1/4"	173.84
6835-162	CB-Tube-W	1/4"	3/16"	.218	1/4"	184.26
6835-163	DC-Tube-W	5/16"	1/4"	.281	5/16"	206.46
6835-164	ED-Tube-W	3/8"	5/16"	.343	3/8"	225.69
6835-166	GF-Tube-W	1/2"	7/16"	.468	1/2"	283.51
6835-168	IH-Tube-W	5/8"	9/16"	.595	1/2"	327.51
6835-169	JI-Tube-W	3/4"	5/8"	.685	1/2"	357.42
6835-170	KJ-Tube-W	7/8"	3/4"	.805	1/2"	396.14

## High Speed Steel

ORDER NO.	SEVERANCE TOOL NAME	TUBING OD. SIZE	TUBING ID. SIZE	HOLE DIA. OF RING	SHANK DIAMETER	LIST PRICE
6835-060	A-Tube	1/8"	1/16"	.093	1/4"	\$42.40
6835-061	BA-Tube	3/16"	1/8"	.156	1/4"	45.11
6835-062	CB-Tube	1/4"	3/16"	.218	1/4"	48.75
6835-063	DC-Tube	5/16"	1/4"	.281	5/16"	53.47
6835-064	ED-Tube	3/8"	5/16"	.343	3/8"	58.61
6835-065	FE-Tube	7/16"	3/8"	.406	7/16"	66.58
6835-066	GF-Tube	1/2"	7/16"	.468	1/2"	71.85
6835-067	HG-Tube	9/16"	1/2"	.531	1/2"	80.62
6835-068	IH-Tube	5/8"	9/16"	.595	1/2"	85.20
6835-069	JI-Tube	3/4"	5/8"	.685	1/2"	91.70
6835-070	KJ-Tube	7/8"	3/4"	.805	1/2"	111.82
6835-071	LK-Tube	1"	7/8"	.930	1/2"	122.34

## Handles



Handles generally used with radius debur tools. Other shank available.

ORDER NO.	SEVERANCE TOOL NAME	FITS THIS RADIUS DEBURRING CUTTER	LIST PRICE
6834-260	H-100	HR-1	\$14.22
		HR-2	
		HR-3	
		HR-5	
		HR-10	
		HR-15	
6834-261	H-110	HR-20	17.70
		HR-25	
6834-262	H-121	HR-30	20.54
		HR-35	
		HR-40	
6834-263	H-131	HR-45	28.91
		HR-50	

## Radius Deburring Cutters - High Speed Steel

"Rounds" hole edges often an improvement over the chamfer:

- Mounted on a handle, a "Twist of the Wrist" easily removes the burr
- Shank-mounted and chucked in a machine, parts may be applied manually or mechanically to the cutter
- Multi-flute design keeps cutter centered in hole
- Removes burrs safely from holes already sized
- No danger of marring hole-finish nor face of part
- Safer than ordinary deburring tools
- May be reground many times

Shanks and handles sold separately.



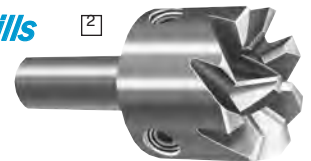
ORDER NO.	SEVERANCE TOOL NAME	USE FOR NOMINAL HOLE SIZE	D CUTTING DIA.	L CUTTING LENGTH	R RADIUS	S NOSE DIA.	O O.A. LENGTH	T THREAD	LIST PRICE
6825-140	HR-1	3/32"	3/16"	1/16"	3/32"	0.046	7/8"	1/4"-28	\$24.98
6825-141	HR-2	1/8"	9/32"	3/32"	1/8"	0.063	7/8"	1/4"-28	24.98
6825-142	HR-3	3/16"	3/8"	1/8"	3/16"	0.093	7/8"	1/4"-28	24.98
6825-143	HR-5	1/4"	9/16"	3/16"	1/4"	1/8"	3/4"	1/4"-28	25.53
6825-144	HR-10	5/16"	5/8"	1/4"	5/16"	3/16"	3/4"	1/4"-28	27.68
6825-145	HR-15	3/8"	3/4"	1/4"	3/8"	1/4"	3/4"	1/4"-28	32.68
6825-146	HR-20	7/16"-1/2"	1"	3/8"	3/8"	5/16"	3/4"	5/16"-24	37.00
6825-147	HR-25	9/16"-5/8"	1-1/8"	1/4"	1/2"	3/8"	5/8"	5/16"-24	45.24
6825-148	HR-30	3/4"	1-3/8"	3/8"	9/16"	7/16"	3/4"	3/8"-24	58.07
6825-149	HR-35	7/8"-1"	1-1/2"	3/8"	5/8"	9/16"	11/16"	3/8"-24	64.41
6825-150	HR-40	1-3/8"	2"	1/2"	1"	1"	3/4"	3/8"-24	110.86

## Tube End Chamfering Mills High Speed Steel

Designed to chamfer both inside and outside of a tube or pipe simultaneously:

- Chatterless
- Designed for heavy chamfering
- Liberal adjustment to accommodate different wall thickness
- Large variety of shanks available

The cutting teeth are so developed as to preclude chatter and provide ample chip room for every operating condition. Moderate speeds of about 100 R.P.M. for 1-inch steel tubing to about 200 R.P.M. for 1/2-inch tubing are recommended for these cutters. It is advisable to start at a slower speed on any given material or size and increase until best results are obtained.



ORDER NO.	SEVERANCE TOOL NAME	STD. PIPE SIZE	STD. TUBING O.D. SIZE	WALL THICKNESS MIN.	WALL THICKNESS MAX.	PLUG DIA.	SHANK DIA.	SHANK LENGTH	LIST PRICE
6834-960	T-6		3/16"	.022	.045	.152	1/4"	7/8"	\$53.52
6834-961	T-8		1/4"	.022	.065	.228	1/4"	1"	59.21
6834-962	T-10		5/16"	.022	.095	.290	1/4"	1"	66.31
6834-963	T-12	1/8"	3/8"	.022	.095	.353	3/8"	1"	73.96
6834-964	T-14		7/16"	.028	.095	.409	3/8"	1"	79.52
6834-965	T-16	1/4"	1/2"	.028	.095	.472	3/8"	1"	86.61
6834-966	T-18		9/16"	.028	.120	.534	1/2"	1"	92.85
6834-967	T-20	3/8"	5/8"	.028	.120	.597	1/2"	1"	101.48
6834-968	T-24	1/2"	3/4"	.028	.120	.722	1/2"	1"	116.64
6834-969	T-28		7/8"	.022	.156	.847	1/2"	1"	132.07
6834-970	T-32	3/4"	1"	.035	.156	.965	1/2"	1-5/16"	151.66
6834-971	T-36		1-1/8"	.035	.187	1.090	1/2"-20		207.83
6834-972	T-40	1"	1-1/4"	.035	.187	1.215	5/8"-18		245.23
6834-974	T-44		1-3/8"	.035	.187	1.340	5/8"-18	*Requires threaded shanks sold separately	281.80
6834-975	T-48		1-1/2"	.035	.250	1.465	3/4"-16		323.90
6834-977	T-56	1-1/2"	1-3/4"	.035	.250	1.715	3/4"-16		426.78
6834-978	T-60		1-7/8"	.035	.250	1.840	3/4"-16		486.69
6834-979	T-64		2"	.035	.312	1.965	1"-14		557.45

\* Threaded shanks sold separately.

Tool numbers T-36 thru T-64 require threaded shanks, priced separately.

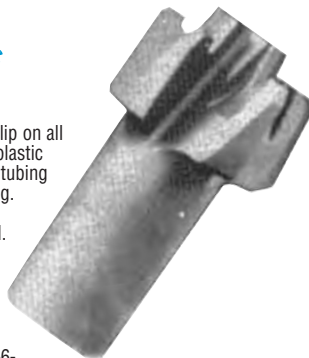


## Tube End Forming Cutters High Speed Steel

These cutters are used to produce a smooth, round lip on all types of tubing, including steel, copper, aluminum, plastic and other materials. They are not recommended for tubing with irregular wall thickness or for interrupted cutting. Larger sizes (A-6 x .025 and up) can be supplied in carbide. Special cutting shapes can also be provided.

Speeds of about 50 to 350 RPM are suggested for these cutters. It is advisable to start at a slower speed on any given material or size, and increase until best results are obtained.

Order by tool number plus wall thickness of tubing: A-6-.035, A-16-.065, etc. **If possible, provide a sample of your tubing** when ordering, or, at least, give material specification.



## Tube End Forming Cutters – (Continued) High Speed Steel

ORDER NO.	SEVERANCE TOOL NAME	WALL THICKNESS GAUGE	INCH	SHANK DIA.	HEAD DIA.	OA LENGTH	SHANK LENGTH	LIST PRICE
<b>1/8" TUBING</b>								
6835-462	A-2-020	25	.020	1/4"	1/4"	2-1/4"	2"	\$71.57
6835-463	A-2-028	22	.028	1/4"	1/4"	2-1/4"	2"	71.57
<b>3/16" TUBING</b>								
6835-466	A-3-020	25	.020	3/8"	1/2"	1-9/16"	1"	71.57
6835-467	A-3-028	22	.028	3/8"	1/2"	1-9/16"	1"	71.57
6835-468	A-3-032	21	.032	3/8"	1/2"	1-9/16"	1"	71.57
6835-469	A-3-035	20	.035	3/8"	1/2"	1-9/16"	1"	71.57
<b>1/4" TUBING</b>								
6835-470	A-4-020	25	.020	3/8"	1/2"	1-9/16"	1"	71.57
6835-471	A-4-028	22	.028	3/8"	1/2"	1-9/16"	1"	71.57
6835-472	A-4-032	21	.032	3/8"	1/2"	1-9/16"	1"	71.57
6835-473	A-4-035	20	.035	3/8"	1/2"	1-9/16"	1"	71.57
6835-474	A-4-049	18	.049	3/8"	1/2"	1-9/16"	1"	71.57
<b>5/16" TUBING</b>								
6835-476	A-5-020	25	.020	3/8"	9/16"	1-9/16"	1"	77.52
6835-477	A-5-028	22	.028	3/8"	9/16"	1-9/16"	1"	77.52
6835-478	A-5-032	21	.032	3/8"	9/16"	1-9/16"	1"	77.52
6835-479	A-5-035	20	.035	3/8"	9/16"	1-9/16"	1"	77.52
6835-480	A-5-049	18	.049	3/8"	9/16"	1-9/16"	1"	77.52
6835-481	A-5-058	17	.058	3/8"	9/16"	1-9/16"	1"	77.52
<b>3/8" TUBING</b>								
6835-483	A-6-020	25	.020	1/2"	3/4"	1-9/16"	1"	83.74
6835-484	A-6-028	22	.028	1/2"	3/4"	1-9/16"	1"	83.74
6835-485	A-6-032	21	.032	1/2"	3/4"	1-9/16"	1"	83.74
6835-486	A-6-035	20	.035	1/2"	3/4"	1-9/16"	1"	83.74
6835-487	A-6-049	18	.049	1/2"	3/4"	1-9/16"	1"	83.74
6835-488	A-6-058	17	.058	1/2"	3/4"	1-9/16"	1"	83.74
6835-489	A-6-065	16	.065	1/2"	3/4"	1-9/16"	1"	83.74
<b>7/16" TUBING</b>								
6835-493	A-7-035	20	.035	1/2"	3/4"	1-9/16"	1"	91.97
6835-494	A-7-049	18	.049	1/2"	3/4"	1-9/16"	1"	91.97
6835-495	A-7-065	16	.065	1/2"	3/4"	1-9/16"	1"	91.97
<b>1/2" TUBING</b>								
6835-496	A-8-020	25	.020	1/2"	3/4"	1-9/16"	1"	100.21
6835-497	A-8-028	22	.028	1/2"	3/4"	1-9/16"	1"	100.21
6835-498	A-8-032	21	.032	1/2"	3/4"	1-9/16"	1"	100.21
6835-499	A-8-035	20	.035	1/2"	3/4"	1-9/16"	1"	100.21
6835-500	A-8-049	18	.049	1/2"	3/4"	1-9/16"	1"	100.21
6835-502	A-8-065	16	.065	1/2"	3/4"	1-9/16"	1"	100.21
<b>9/16" TUBING</b>								
6835-505	A-9-035	20	.035	1/2"	7/8"	1-5/8"	1"	111.42
6835-506	A-9-049	18	.049	1/2"	7/8"	1-5/8"	1"	111.42
6835-507	A-9-065	16	.065	1/2"	7/8"	1-5/8"	1"	111.42
6835-508	A-9-095	13	.095	1/2"	7/8"	1-5/8"	1"	POA

(continued)

ORDER NO.	SEVERANCE TOOL NAME	WALL THICKNESS GAUGE	INCH	SHANK DIA.	HEAD DIA.	OA LENGTH	SHANK LENGTH	LIST PRICE
<b>5/8" TUBING</b>								
6835-509	A-10-028	22	.028	1/2"	7/8"	1-5/8"	1"	\$116.27
6835-510	A-10-032	21	.032	1/2"	7/8"	1-5/8"	1"	116.27
6835-511	A-10-035	20	.035	1/2"	7/8"	1-5/8"	1"	116.27
6835-512	A-10-049	18	.049	1/2"	7/8"	1-5/8"	1"	116.27
6835-513	A-10-058	17	.058	1/2"	7/8"	1-5/8"	1"	116.27
6835-514	A-10-065	16	.065	1/2"	7/8"	1-5/8"	1"	116.27
6835-515	A-10-083	14	.083	1/2"	7/8"	1-5/8"	1"	116.27
6835-516	A-10-095	13	.095	1/2"	7/8"	1-5/8"	1"	116.27
<b>3/4" TUBING</b>								
6835-518	A-12-032	21	.032	1/2"	1"	1-5/8"	1"	134.64
6835-519	A-12-035	20	.035	1/2"	1"	1-5/8"	1"	134.64
6835-520	A-12-049	18	.049	1/2"	1"	1-5/8"	1"	134.64
6835-521	A-12-058	17	.058	1/2"	1"	1-5/8"	1"	134.64
6835-522	A-12-065	16	.065	1/2"	1"	1-5/8"	1"	134.64
6835-523	A-12-083	14	.083	1/2"	1"	1-5/8"	1"	134.64
6835-524	A-12-095	13	.095	1/2"	1"	1-5/8"	1"	134.64
6835-525	A-12-120	11	.120	1/2"	1"	1-5/8"	1"	134.64

## Rod End Forming Cutters High Speed Steel

These cutters are used to form rounded ends on rods, wire, parts, etc. They perform well on many "Space Age" materials, as well as on the more common metals, plastics, etc.

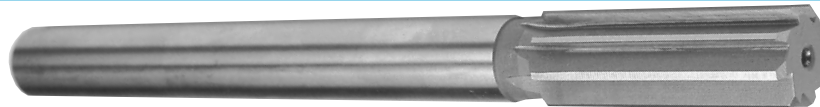
SPECIALS – Rod-End Forming Cutters may be obtained to produce various radii, straight chamfers, etc. Send sketch of desired form and sample of part, if feasible.



ORDER NO.	SEVERANCE TOOL NAME	FOR ROD* DIA.	RADIUS FORMED	BODY DIA.	SHANK DIA.	OVERALL LENGTH	LIST PRICE
6828-630	RFC-0	1/32	1/64	1/4"	1/4"	1-1/2"	\$ 86.03
6828-631	RFC-1	1/16	1/32	5/16"	1/4"	1-3/4"	90.61
6828-632	RFC-1-1/2	3/32	3/64	3/8"	1/4"	1-3/4"	94.52
6828-633	RFC-2	1/8	1/16	1/2"	3/8"	2-1/8"	100.33
6828-634	RFC-3	3/16	3/32	1/2"	3/8"	2-1/8"	106.14
6828-635	RFC-4	1/4	1/8	3/4"	1/2"	2-11/16"	111.69
6828-636	RFC-5	5/16	5/32	3/4"	1/2"	2-11/16"	117.49
6828-637	RFC-6	3/8	3/16	3/4"	1/2"	2-11/16"	123.44
6828-638	RFC-7	7/16	7/32	1"	1/2"	2-13/16"	135.17
6828-639	RFC-8	1/2	1/4	1"	1/2"	2-13/16"	143.14
6828-640	RFC-9	9/16	9/32	1"	1/2"	2-13/16"	160.84
6828-641	RFC-10	5/8	5/16	1-1/4"	3/4"	3-3/8"	180.41
6828-642	RFC-12	3/4	3/8	1-1/2"	3/4"	3-1/2"	233.36
6828-644	RFC-16	1"	1/2	2"	1"	4-3/8"	291.02

# Chucking Reamers— Straight Shank, Straight Flute

Fractional Sizes,  
High Speed Steel



				Pittsburg ALLEGHANY		USA	
FRAC. SIZES	DEC. EQV.	FLUTE LGTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/64	.0156	3/8	3/4	—	—	1970-001	\$13.27
1/32	.0312	1/2	1-3/8	—	—	1970-002	10.46
3/64	.0469	1/2	2-1/2	1920-003	\$ 8.47	1970-003	10.88
1/16	.0625	1/2	2-1/2	1920-004	7.51	1970-004	9.69
5/64	.0781	3/4	3	1920-005	7.06	1970-005	8.66
3/32	.0937	3/4	3	1920-006	6.52	1970-006	7.81
7/64	.1094	7/8	3-1/2	1920-007	7.39	1970-007	9.03
1/8	.1250	7/8	3-1/2	1920-008	3.90	1970-008	7.20
9/64	.1406	1	4	1920-009	6.02	1970-009	10.77
5/32	.1562	1	4	1920-010	5.40	1970-010	10.77
11/64	.1719	1-1/8	4-1/2	1920-011	6.02	1970-011	11.51
3/16	.1875	1-1/8	4-1/2	1920-012	5.44	1970-012	10.34
13/64	.2031	1-1/4	5	1920-013	7.22	1970-013	13.05
7/32	.2187	1-1/4	5	1920-014	7.01	1970-014	13.05
15/64	.2344	1-1/2	6	1920-015	7.22	1970-015	13.23
1/4	.2500	1-1/2	6	1920-016	6.27	1970-016	11.85
17/64	.2656	1-1/2	6	1920-017	8.05	1970-017	15.55
9/32	.2812	1-1/2	6	1920-018	8.05	1970-018	14.78
19/64	.2969	1-1/2	6	1920-019	8.51	1970-019	15.55
5/16	.3125	1-1/2	6	1920-020	7.47	1970-020	14.01
21/64	.3281	1-1/2	6	1920-021	9.21	1970-021	16.79
11/32	.3437	1-1/2	6	1920-022	9.21	1970-022	16.79
23/64	.3594	1-3/4	7	1920-023	9.21	1970-023	17.25
3/8	.3750	1-3/4	7	1920-024	8.05	1970-024	15.11
25/64	.3906	1-3/4	7	1920-025	9.50	1970-025	18.26
13/32	.4062	1-3/4	7	1920-026	8.55	1970-026	18.95
27/64	.4219	1-3/4	7	1920-027	10.38	1970-027	18.95
7/16	.4375	1-3/4	7	1920-028	9.50	1970-028	17.55
29/64	.4531	1-3/4	7	1920-029	11.58	1970-029	20.63
15/32	.4687	1-3/4	7	1920-030	11.25	1970-030	20.63
31/64	.4844	2	8	1920-031	11.58	1970-031	20.63
1/2	.5000	2	8	1920-032	10.38	1970-032	19.46
33/64	.5156	2	8	1920-033	12.68	1970-033	25.56
17/32	.5312	2	8	1920-034	12.08	1970-034	24.35
35/64	.5469	2	8	1920-035	12.68	1970-035	24.65
9/16	.5625	2	8	1920-036	12.08	1970-036	23.49
37/64	.5781	2	8	1920-037	14.82	1970-037	24.65
19/32	.5938	2	8	1920-038	14.11	1970-038	23.49
39/64	.6094	2-1/4	9	1920-039	14.82	1970-039	28.77
5/8	.6250	2-1/4	9	1920-040	14.11	1970-040	27.50
41/64	.6406	2-1/4	9	1920-041	14.82	1970-041	28.77
21/32	.6562	2-1/4	9	1920-042	14.11	1970-042	30.98
43/64	.6719	2-1/4	9	1920-043	16.82	1970-043	32.51
11/16	.6875	2-1/4	9	1920-044	16.02	1970-044	30.98
45/64	.7031	2-1/4	9	1920-045	19.56	1970-045	34.91

				Pittsburg ALLEGHANY		USA	
FRAC. SIZES	DEC. EQV.	FLUTE LGTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
23/32	.7188	2-1/4	9	1920-046	\$18.63	1970-046	\$34.56
47/64	.7344	2-1/2	9-1/2	1920-047	18.74	1970-047	40.94
3/4	.7500	2-1/2	9-1/2	1920-048	17.85	1970-048	34.79
49/64	.7656	2-1/2	9-1/2	1920-049	21.79	1970-049	40.94
25/32	.7812	2-1/2	9-1/2	1920-050	20.75	1970-050	38.25
51/64	.7964	2-1/2	9-1/2	1920-051	21.79	1970-051	41.43
13/16	.8125	2-1/2	9-1/2	1920-052	20.75	1970-052	38.25
53/64	.8281	2-1/2	9-1/2	1920-053	24.79	1970-053	41.43
27/32	.8438	2-1/2	9-1/2	1920-054	23.61	1970-054	44.36
55/64	.8594	2-5/8	10	1920-055	24.28	1970-055	49.05
7/8	.8750	2-5/8	10	1920-056	23.12	1970-056	46.76
57/64	.8906	2-5/8	10	1920-057	27.24	1970-057	50.78
29/32	.9062	2-5/8	10	1920-058	25.94	1970-058	54.00
59/64	.9219	2-5/8	10	1920-059	27.24	1970-059	54.00
15/16	.9375	2-5/8	10	1920-060	25.94	1970-060	54.00
61/64	.9531	2-5/8	10	1920-061	30.63	1970-061	54.00
31/32	.9688	2-5/8	10	1920-062	29.17	1970-062	56.25
63/64	.9844	2-3/4	10-1/2	1920-063	30.07	1970-063	57.75
1	1.0000	2-3/4	10-1/2	1920-064	28.64	1970-064	56.63
1-1/32	1.0312	2-3/4	10-1/2	1920-066	37.75	1970-066	78.00
1-1/16	1.0625	2-3/4	10-1/2	1920-068	32.83	1970-068	62.40
1-3/32	1.0938	2-7/8	11	1920-070	40.33	1970-070	82.88
1-1/8	1.1250	2-7/8	11	1920-072	35.07	1970-072	67.13
1-5/32	1.1562	2-7/8	11	1920-074	45.44	1970-074	93.75
1-3/16	1.1875	2-7/8	11	1920-076	39.51	1970-076	77.25
1-7/32	1.2188	3	11-1/2	1920-078	49.44	1970-078	97.95
1-1/4	1.2500	3	11-1/2	1920-080	42.99	1970-080	82.50
1-9/32	1.2812	3	11-1/2	1920-082	54.60	1970-082	108.75
1-5/16	1.3125	3	11-1/2	1920-084	47.48	1970-084	97.20
1-11/32	1.3438	3-1/4	12	1920-086	59.27	1970-086	99.75
1-3/8	1.3750	3-1/4	12	1920-088	51.54	1970-088	102.15
1-13/32	1.4062	3-1/4	12	1920-090	65.04	1970-090	125.25
1-7/16	1.4375	3-1/4	12	1920-092	56.56	1970-092	108.75
1-15/32	1.4688	3-1/4	12	1920-094	70.21	1970-094	131.93
1-1/2	1.5000	3-1/2	12-1/2	1920-096	61.05	1970-096	116.54
1-9/16	1.5625	3-1/2	12-1/2	1920-100	99.76	—	—
1-5/8	1.6250	3-1/2	13	1920-104	111.32	—	—
1-11/16	1.6875	3-1/2	13	1920-108	122.71	—	—
1-3/4	1.7500	4	14	1920-112	128.69	—	—
1-13/16	1.8125	4	14	1920-116	192.22	—	—
1-7/8	1.8750	4	14	1920-120	148.24	—	—
1-15/16	1.9375	4	14	1920-124	204.41	—	—
2	2.0000	4	14	1920-128	156.92	—	—

Size not shown POA

\* Price On Application

# Chucking Reamers — Dowel, Over & Under Sizes

Straight Shank,  
Straight Flute, HSS



				Pittsburg ALLEGHANY		USA	
DIAM.	FLUTE LGTH	OVER. LGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
.1230†	7/8	3-1/2	1931-230	\$4.90	1971-230	\$9.00	
.1240	7/8	3-1/2	1931-240	4.90	1971-240	9.03	
.1247†	7/8	3-1/2	1931-247	4.90	1971-247	9.00	
.1260	7/8	3-1/2	1931-260	4.90	1971-260	9.03	
.1855	1-1/8	3-1/2	1931-855	6.76	1971-855	11.81	
.1865†	1-1/8	4-1/2	1931-865	6.76	1971-865	11.51	
.1870†	1-1/8	4-1/2	1931-870	6.76	1971-870	11.81	
.1885	1-1/8	4-1/2	1931-885	6.76	1971-885	11.51	
.2480†	1-1/2	6	1932-480	7.14	1972-480	12.30	
.2490	1-1/2	6	1932-490	7.14	1972-490	12.56	

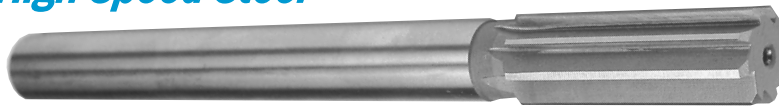
				Pittsburg ALLEGHANY		USA	
DIAM.	FLUTE LGTH	OVER. LGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
.2495†	1-1/2	6	1932-495	\$7.14	1972-495	\$12.30	
.2510	1-1/2	6	1932-510	7.14	1972-510	12.56	
.3105†	1-1/2	6	1933-105	8.18	1973-105	14.45	
.3115	1-1/2	6	1933-115	8.18	1973-115	14.78	
.3120†	1-1/2	6	1933-120	8.18	1973-120	14.45	
.3135	1-1/2	6	1933-135	8.18	1973-135	14.78	
.3730†	1-3/4	7	1933-730	9.17	1973-730	16.21	
.3740	1-3/4	7	1933-740	9.17	1973-740	15.94	
.3745†	1-3/4	7	1933-745	9.17	1973-745	16.21	
.3760	1-3/4	7	1933-760	9.17	1973-760	15.94	

				Pittsburg ALLEGHANY		USA	
DIAM.	FLUTE LGTH	OVER. LGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
.4355†	1-3/4	5-1/2	1934-355	\$10.50	1974-355	\$18.02	
.4365	1-3/4	7	1934-365	10.50	1974-365	17.99	
.4370†	1-3/4	5-1/2	1934-370	10.50	1974-370	18.02	
.4385	1-3/4	7	1934-385	10.50	1974-385	17.99	
.4980†	2	8	1934-980	11.87	1974-980	19.74	
.4990	2	8	1934-990	11.87	1974-990	19.59	
.4995†	2	8	1934-995	11.87	1974-995	19.74	
.5010	2	8	1935-010	11.87	1975-010	19.59	
14 pc. Dowel Pin set				1920-950	\$123.25		
14 pc. Over/Under set				1920-955	123.25		

† Note: Dowel pin reamers made to a minus tolerance. All other reamers made to a plus tolerance.

# Chucking Reamers— Straight Shank, Straight Flute

## Wire Gage Sizes, High Speed Steel



				Pittsburg ALLEGHANY USA				Pittsburg ALLEGHANY USA													
WIRE GAGE SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	WIRE GAGE SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	WIRE GAGE SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1	.2280	1-1/2	6	1920-201	\$7.14	1970-201	\$13.23	31	.1200	7/8	3-1/2	1920-231	\$5.81	1970-231	\$9.03	61	.0390	1/2	1-5/8	1970-261	\$11.06
2	.2210	1-1/2	6	1920-202	7.14	1970-202	16.31	32	.1160	7/8	3-1/2	1920-232	5.81	1970-232	9.03	62	.0380	1/2	1-1/2	1970-262	11.06
3	.2130	1-1/4	5	1920-203	7.14	1970-203	13.05	33	.1130	7/8	3-1/2	1920-233	5.81	1970-233	9.03	63	.0370	1/2	1-1/2	1970-263	11.06
4	.2090	1-1/4	5	1920-204	7.14	1970-204	13.05	34	.1110	7/8	3-1/2	1920-234	6.18	1970-234	9.03	64	.0360	1/2	1-1/2	1970-264	11.06
5	.2055	1-1/4	5	1920-205	7.14	1970-205	13.05	35	.1100	7/8	3-1/2	1920-235	6.18	1970-235	9.03	65	.0350	1/2	1-1/2	1970-265	11.06
6	.2040	1-1/4	5	1920-206	7.14	1970-206	13.05	36	.1065	7/8	3-1/2	1920-236	6.18	1970-236	8.77	66	.0330	1/2	1-3/8	1970-266	11.06
7	.2010	1-1/4	5	1920-207	7.14	1970-207	13.05	37	.1040	7/8	3-1/2	1920-237	6.18	1970-237	8.77	67	.0320	1/2	1-3/8	1970-267	11.06
8	.1990	1-1/4	5	1920-208	7.14	1970-208	13.05	38	.1015	7/8	3-1/2	1920-238	6.18	1970-238	8.77	68	.0310	1/2	1-3/8	1970-268	13.27
9	.1960	1-1/4	5	1920-209	7.14	1970-209	13.05	39	.0995	7/8	3-1/2	1920-239	6.18	1970-239	8.77	69	.0292	1/2	1-3/8	1970-269	13.27
10	.1935	5	5	1920-210	7.14	1970-210	13.05	40	.0980	7/8	3-1/2	1920-240	6.18	1970-240	8.77	70	.0280	1/2	1-1/4	1970-270	13.27
11	.1910	5	5	1920-211	7.01	1970-211	13.05	41	.0960	7/8	3-1/2	1920-241	6.47	1970-241	8.77	71	.0260	1/2	1-1/4	1970-271	13.27
12	.1890	4-1/2	4-1/2	1920-212	6.10	1970-212	11.51	42	.0935	3/4	3	1920-242	6.47	1970-242	8.66	72	.0250	1/2	1-1/8	1970-272	13.27
13	.1850	1-1/8	4-1/2	1920-213	6.64	1970-213	11.51	43	.0890	3/4	3	1920-243	6.47	1970-243	8.66	73	.0240	1/2	1-1/8	1970-273	13.27
14	.1820	1-1/8	4-1/2	1920-214	6.64	1970-214	11.51	44	.0860	3/4	3	1920-244	6.47	1970-244	8.66	74	.0225	1/2	1	1970-274	13.27
15	.1800	1-1/8	4-1/2	1920-215	6.64	1970-215	11.51	45	.0820	3/4	3	1920-245	6.47	1970-245	8.66	75	.0210	1/2	1	1970-275	13.27
16	.1770	1-1/8	4-1/2	1920-216	6.10	1970-216	11.51	46	.0810	3/4	3	1920-246	6.47	1970-246	8.66	76	.0200	3/8	7/8	1970-276	13.27
17	.1730	1-1/8	4-1/2	1920-217	6.10	1970-217	11.51	47	.0785	3/4	3	1920-247	6.47	1970-247	8.66	77	.0180	3/8	7/8	1970-277	13.27
18	.1695	1-1/8	4-1/2	1920-218	5.69	1970-218	11.51	48	.0760	3/4	3	1920-248	6.47	1970-248	8.66	78	.0160	3/8	7/8	1970-278	13.27
19	.1660	1-1/8	4-1/2	1920-219	5.69	1970-219	11.51	49	.0730	3/4	3	1920-249	6.47	1970-249	8.66	79	.0145	3/8	3/4	1970-279	13.27
20	.1610	1-1/8	4-1/2	1920-220	5.69	1970-220	11.51	50	.0700	3/4	3	1920-250	6.47	1970-250	8.66	80	.0135	3/8	3/4	1970-280	13.27
21	.1590	1-1/8	4-1/2	1920-221	5.69	1970-221	11.51	51	.0670	3/4	3	1920-251	6.47	1970-251	8.66						
22	.1570	1	4	1920-222	5.69	1970-222	10.77	52	.0635	1/2	2-1/2	1920-252	7.43	1970-252	9.69						
23	.1540	1	4	1920-223	5.69	1970-223	10.77	53	.0595	1/2	2-1/2	1920-253	7.43	1970-253	10.88						
24	.1520	1	4	1920-224	5.69	1970-224	10.77	54	.0550	1/2	2-1/2	1920-254	7.43	1970-254	10.88						
25	.1495	1	4	1920-225	5.69	1970-225	10.77	55	.0520	1/2	2-1/2	1920-255	7.43	1970-255	10.88						
26	.1470	1	4	1920-226	5.69	1970-226	10.77	56	.0465	1/2	2-1/2	1920-256	7.43	1970-256	10.88						
27	.1440	1	4	1920-227	5.69	1970-227	10.77	57	.0430	1/2	2-1/2	1920-257	7.43	1970-257	10.88						
28	.1405	1	4	1920-228	5.69	1970-228	10.77	58	.0420	1/2	2-1/2	1920-258	7.43	1970-258	10.88						
29	.1360	1	4	1920-229	5.69	1970-229	10.77	59	.0410	1/2	2-1/2	1920-259	7.43	1970-259	10.88						
30	.1285	7/8	3-1/2	1920-230	4.36	1970-230	9.03	60	.0400	1/2	2-1/2	1920-260	7.43	1970-260	10.88						

**Reamer Selection?**  
**We Stock:**  
 High Speed Steel,  
 Cobalt, Carbide Tipped  
 & Solid Carbide

## Letter Sizes, High Speed Steel



				Pittsburg ALLEGHANY USA				Pittsburg ALLEGHANY USA							
LTR. SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	LTR. SIZES	DEC. EQV.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	.2340	1-1/2	6	1920-301	\$7.68	1970-301	\$13.23	P	.3230	1-1/2	6	1920-316	\$9.21	1970-316	\$16.79
B	.2380	1-1/2	6	1920-302	7.68	1970-302	13.95	Q	.3320	1-1/2	6	1920-317	9.21	1970-317	16.79
C	.2420	1-1/2	6	1920-303	7.68	1970-303	13.95	R	.3390	1-1/2	6	1920-318	9.21	1970-318	16.79
D	.2460	1-1/2	6	1920-304	7.68	1970-304	13.95	S	.3480	1-3/4	7	1920-319	9.21	1970-319	17.25
E	.2500	1-1/2	6	1920-305	6.27	1970-305	11.85	T	.3580	1-3/4	7	1920-320	9.21	1970-320	17.25
F	.2570	1-1/2	6	1920-306	7.68	1970-306	13.95	U	.3680	1-3/4	7	1920-321	9.21	1970-321	17.25
G	.2610	1-1/2	6	1920-307	8.18	1970-307	13.95	V	.3770	1-3/4	7	1920-322	10.21	1970-322	18.26
H	.2660	1-1/2	6	1920-308	8.59	1970-308	15.55	W	.3860	1-3/4	7	1920-323	10.21	1970-323	21.14
I	.2720	1-1/2	6	1920-309	8.59	1970-309	15.55	X	.3970	1-3/4	7	1920-324	10.21	1970-324	18.26
J	.2770	1-1/2	6	1920-310	8.59	1970-310	15.55	Y	.4040	1-3/4	7	1920-325	10.50	1970-325	18.95
K	.2810	1-1/2	6	1920-311	8.59	1970-311	15.55	Z	.4130	1-3/4	7	1920-326	10.50	1970-326	18.95
L	.2900	1-1/2	6	1920-312	8.59	1970-312	15.55								
M	.2950	1-1/2	6	1920-313	8.59	1970-313	15.55								
N	.3020	1-1/2	6	1920-314	8.59	1970-314	15.55								
O	.3160	1-1/2	6	1920-315	8.96	1970-315	15.55								



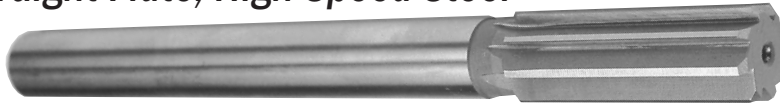
**1/16 - 1/2 by 64th A-Z**  
 Order No. 1920-900 Order No. 1920-910  
 Price.....\$228.05 Price.....\$223.90

**1/8-1/2 by 16th #1 thru #60**  
 Order No. 1920-905 Order No. 1920-920  
 Price.....\$65.85 Price.....\$371.75  
 —all sets in plastic pouch—



# Chucking Reamers— Metric

## Straight Shank, Straight Flute, High Speed Steel



DIAM. mm.	DEC. EQV.	FLUTE LG*TH	OAL	Pittsburg ALLEGHANY	PRICE EACH	USA	PRICE EACH	DIAM. mm.	DEC. EQV.	FLUTE LG*TH	OAL	Pittsburg ALLEGHANY	PRICE EACH	USA	PRICE EACH
1.00	0.0394	1/2	2-1/2	2000-394†	8.00	5410-100	11.06	13.50	0.5315	2	8	2005-315	16.72	5411-350	25.56
1.50	0.0591	1/2	2-1/2	2000-591†	8.00	5410-150	10.88	14.00	0.5512	2	8	2005-512	16.72	5411-400	24.65
2.00	0.0787	3/4	3	2000-787†	7.16	5410-200	8.66	14.50	0.5709	2	8	2005-709	16.72	5411-450	24.65
2.50	0.0984	7/8	3-1/2	2000-984†	7.16	5410-250	8.77	15.00	0.5906	2	8	2005-906	19.03	5411-500	24.65
3.00	0.1181	7/8	3-1/2	2001-181	5.33	5410-300	9.03	15.50	0.6102	2-1/4	9	2006-102	19.03	5411-550	28.77
3.50	0.1378	1	4	2001-378	7.73	5410-350	10.77	16.00	0.6299	2-1/4	9	2006-299	19.03	5411-600	28.77
4.00	0.1575	1-1/8	4-1/2	2001-575	7.73	5410-400	10.77	16.50	0.6496	2-1/4	9	2006-496	21.80	5411-650	28.77
4.50	0.1772	1-1/8	4-1/2	2001-772	7.73	5410-450	11.51	17.00	0.6693	2-1/4	9	2006-693	21.80	5411-700	32.51
5.00	0.1969	1-1/4	5	2001-969	9.45	5410-500	13.05	17.50	0.6890	2-1/4	9	2006-890	21.80	5411-750	34.91
5.50	0.2165	1-1/4	5	2002-165	9.45	5410-550	13.05	18.00	0.7087	2-1/4	9	2007-087	25.16	5411-800	34.91
6.00	0.2362	1-1/2	6	2002-362	9.45	5410-600	13.95	18.50	0.7283	2-1/2	9-1/2	2007-283	25.16	5411-850	36.28
6.50	0.2559	1-1/2	6	2002-559	9.45	5410-650	13.95	19.00	0.7480	2-1/2	9-1/2	2007-480	26.63	5411-900	40.94
7.00	0.2756	1-1/2	6	2002-756	10.58	5410-700	15.55	19.50	0.7677	2-1/2	9-1/2	2007-677	26.63	5411-950	40.94
7.50	0.2953	1-1/2	6	2002-953	10.58	5410-750	15.55	20.00	0.7874	2-1/2	9-1/2	2007-874	28.18	5412-000	41.43
8.00	0.3150	1-1/2	6	2003-150	10.58	5410-800	15.55	20.50	0.8071	2-1/2	9-1/2	2008-071	28.18	5412-050	41.43
8.50	0.3346	1-1/2	6	2003-346	11.84	5410-850	16.79	21.00	0.8268	2-1/2	9-1/2	2008-268	31.96	5412-100	41.43
9.00	0.3543	1-3/4	7	2003-543	11.84	5410-900	17.25	21.50	0.8465	2-1/2	9-1/2	2008-465	31.96	5412-150	49.05
9.50	0.3740	1-3/4	7	2003-740	11.84	5410-950	15.94	22.00	0.8661	2-5/8	10	2008-661	32.09	5412-200	49.80
10.00	0.3937	1-3/4	7	2003-937	12.39	5411-000	18.26	22.50	0.8858	2-5/8	10	2008-858	32.09	5412-250	50.78
10.50	0.4134	1-3/4	7	2004-134	12.85	5411-050	18.95	23.00	0.9055	2-5/8	10	2009-055	34.73	5412-300	50.78
11.00	0.4331	1-3/4	7	2004-331	13.65	5411-100	18.95	23.50	0.9252	2-5/8	10	2009-252	34.73	5412-350	54.00
11.50	0.4528	1-3/4	7	2004-528	14.99	5411-150	20.63	24.00	0.9449	2-5/8	10	2009-449	34.73	5412-400	54.00
12.00	0.4724	2	8	2004-724	14.99	5411-200	20.63	24.50	0.9646	2-5/8	10	2009-646	38.01	5412-450	54.00
12.50	0.4921	2	8	2004-921	14.99	5411-250	20.63	25.00	0.9843	2-3/4	10-1/2	2009-843	38.01	5412-500	57.75
13.00	0.5118	2	8	2005-118	14.99	5411-300	25.56	25.50	1.0039	2-3/4	10-1/2	2010-039	47.15	5412-550	61.05
								30.00	1.1811	2-7/8	11	2011-811	54.78	-	-

† Limited Quantities

# Chucking Reamers— Straight Shank, RHS - RHC

## High Speed Steel



FRAC. SIZES	DECM'L EQV.	FLUTE LG*TH	OVER. LG*TH	ORDER NO.	PRICE EACH
1/32	0.0312	1/2	1-3/8	1921-002†	6.84
3/64	0.0469	1/2	2-1/2	1921-003†	6.84
1/16	0.0625	1/2	2-1/2	1921-004	7.92
5/64	0.0781	3/4	3	1921-005	7.92
3/32	0.0937	3/4	3	1921-006	7.92
7/64	0.1094	7/8	3-1/2	1921-007	8.00
1/8	0.1250	7/8	3-1/2	1921-008	4.72
9/64	0.1406	1	4	1921-009	6.20
5/32	0.1562	1	4	1921-010	6.20
11/64	0.1719	1-1/8	4-1/2	1921-011	6.20
3/16	0.1875	1-1/8	4-1/2	1921-012	6.20
13/64	0.2031	1-1/4	5	1921-013	7.29
7/32	0.2187	1-1/4	5	1921-014	7.06
15/64	0.2344	1-1/2	6	1921-015	7.29
1/4	0.2500	1-1/2	6	1921-016	6.67
17/64	0.2656	1-1/2	6	1921-017	7.96
9/32	0.2812	1-1/2	6	1921-018	7.96
19/64	0.2969	1-1/2	6	1921-019	7.96
5/16	0.3125	1-1/2	6	1921-020	8.51
21/64	0.3281	1-1/2	6	1921-021	9.05
11/32	0.3437	1-1/2	6	1921-022	9.05
23/64	0.3594	1-3/4	7	1921-023	9.05
3/8	0.3750	1-3/4	7	1921-024	8.70
25/64	0.3906	1-3/4	7	1921-025	9.98
13/32	0.4062	1-3/4	7	1921-026	9.98
27/64	0.4219	1-3/4	7	1921-027	9.98
7/16	0.4375	1-3/4	7	1921-028	9.91
29/64	0.4531	1-3/4	7	1921-029	9.91
15/32	0.4687	1-3/4	7	1921-030	11.47
31/64	0.4844	2	8	1921-031	11.47
1/2	0.5000	2	8	1921-032	10.18
17/32	0.5312	2	8	1921-034	12.91

FRAC. SIZES	DECM'L EQV.	FLUTE LG*TH	OVER. LG*TH	ORDER NO.	PRICE EACH
35/64	0.5469	2	8	1921-035†	13.56
9/16	0.5625	2	8	1921-036	12.91
19/32	0.5938	2	8	1921-038	14.55
39/64	0.6094	2-1/4	9	1921-039†	15.28
5/8	0.6250	2-1/4	9	1921-040	13.96
21/32	0.6562	2-1/4	9	1921-042	16.38
11/16	0.6875	2-1/4	9	1921-044	16.38
45/64	0.7031	2-1/4	9	1921-045†	19.49
23/32	0.7188	2-1/4	9	1921-046	18.56
47/64	0.7344	2-1/2	9-1/2	1921-047†	19.49
3/4	0.7500	2-1/2	9-1/2	1921-048	18.21
25/32	0.7812	2-1/2	9-1/2	1921-050	20.94
51/64	0.7964	2-1/2	9-1/2	1921-051†	21.99
13/16	0.8125	2-1/2	9-1/2	1921-052	20.94
53/64	0.8281	2-1/2	9-1/2	1921-053†	24.61
27/32	0.8438	2-1/2	9-1/2	1921-054	23.44
55/64	0.8594	2-5/8	10	1921-055†	24.61
7/8	0.8750	2-5/8	10	1921-056	23.44
29/32	0.9062	2-5/8	10	1921-058	26.01
15/16	0.9375	2-5/8	10	1921-060	26.01
61/64	0.9531	2-5/8	10	1921-061†	30.84
31/32	0.9688	2-5/8	10	1921-062	29.37
63/64	0.9844	2-3/4	10-1/2	1921-063†	30.84
1	1.0000	2-3/4	10-1/2	1921-064	29.37
1-1/16	1.0625	2-3/4	10-1/2	1921-068	32.96
1-1/8	1.1250	2-7/8	11	1921-072	36.04
1-3/16	1.1875	2-7/8	11	1921-076	39.90
1-1/4	1.2500	3	11-1/2	1921-080	44.27
1-5/16	1.3125	3	11-1/2	1921-084	48.67
1-3/8	1.3750	3-1/4	12	1921-088	53.35
1-7/16	1.4375	3-1/4	12	1921-092	57.72
1-1/2	1.5000	3-1/2	12-1/2	1921-096	61.78

## Letter Sizes

LTR. SIZES	DECM'L EQV.	FLUTE LG*TH	OVER. LG*TH	ORDER NO.	PRICE EACH
A	0.2340	1-1/2	6	1921-301	\$6.90
B	0.2380	1-1/2	6	1921-302	6.90
C	0.2420	1-1/2	6	1921-303	6.90
D	0.2460	1-1/2	6	1921-304	6.90
E	0.2500	1-1/2	6	1921-305	6.90
F	0.2570	1-1/2	6	1921-306	6.90
G	0.2610	1-1/2	6	1921-307	7.41
H	0.2660	1-1/2	6	1921-308	7.80
I	0.2720	1-1/2	6	1921-309	7.80
J	0.2770	1-1/2	6	1921-310	7.80
K	0.2810	1-1/2	6	1921-311	7.80
L	0.2900	1-1/2	6	1921-312	7.80
M	0.2950	1-1/2	6	1921-313	7.80
N	0.3020	1-1/2	6	1921-314	8.03
O	0.3160	1-1/2	6	1921-315	8.03
P	0.3230	1-1/2	6	1921-316	8.31
Q	0.3320	1-1/2	6	1921-317	8.31
R	0.3390	1-1/2	6	1921-318	8.31
S	0.3480	1-3/4	7	1921-319	8.31
T	0.3580	1-3/4	7	1921-320	8.31
U	0.3680	1-3/4	7	1921-321	8.31
V	0.3770	1-3/4	7	1921-322	9.20
W	0.3860	1-3/4	7	1921-323	9.20
X	0.3970	1-3/4	7	1921-324	9.20
Y	0.4040	1-3/4	7	1921-325	9.44
Z	0.4130	1-3/4	7	1921-326	9.44

\* LHS - RHC Price On Application.

† Limited Quantities



# Chucking Reamers— Straight Shank, RHS - RHC (Continued)

High Speed Steel



## Wire Gage Sizes

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1	0.2280	1-1/2	6	1921-201	6.47
2	0.2210	1-1/2	6	1921-202	6.47
3	0.2130	1-1/4	5	1921-203	6.47
4	0.2090	1-1/4	5	1921-204	6.47
5	0.2055	1-1/4	5	1921-205	6.47
6	0.2040	1-1/4	5	1921-206	6.47
7	0.2010	1-1/4	5	1921-207	6.47
8	0.1990	1-1/4	5	1921-208	6.47
9	0.1960	1-1/4	5	1921-209	6.47
10	0.1935	5	5	1921-210	6.47
11	0.1910	5	5	1921-211	6.28
12	0.1890	4-1/2	4-1/2	1921-212	5.46
13	0.1850	1-1/8	4-1/2	1921-213	6.01
14	0.1820	1-1/8	4-1/2	1921-214	6.01
15	0.1800	1-1/8	4-1/2	1921-215	6.01
16	0.1770	1-1/8	4-1/2	1921-216	5.46
17	0.1730	1-1/8	4-1/2	1921-217	5.46
18	0.1695	1-1/8	4-1/2	1921-218	5.11
19	0.1660	1-1/8	4-1/2	1921-219	5.11
20	0.1610	1-1/8	4-1/2	1921-220	5.11

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
21	0.1590	1-1/8	4-1/2	1921-221	\$5.11
22	0.1570	1	4	1921-222	5.11
23	0.1540	1	4	1921-223	5.11
24	0.1520	1	4	1921-224	5.11
25	0.1495	1	4	1921-225	5.11
26	0.1470	1	4	1921-226	5.11
27	0.1440	1	4	1921-227	5.11
28	0.1405	1	4	1921-228	5.11
29	0.1360	1	4	1921-229	5.11
30	0.1285	7/8	3-1/2	1921-230	3.90
31	0.1200	7/8	3-1/2	1921-231	5.07
32	0.1160	7/8	3-1/2	1921-232	5.07
33	0.1130	7/8	3-1/2	1921-233	5.07
34	0.1110	7/8	3-1/2	1921-234	5.34
35	0.1100	7/8	3-1/2	1921-235	5.34
36	0.1065	7/8	3-1/2	1921-236	5.34
37	0.1040	7/8	3-1/2	1921-237	5.34
38	0.1015	7/8	3-1/2	1921-238	5.34
39	0.0995	7/8	3-1/2	1921-239	5.34
40	0.0980	7/8	3-1/2	1921-240	5.34

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
41	0.0960	7/8	3-1/2	1921-241	\$5.58
42	0.0935	3/4	3	1921-242	5.58
43	0.0890	3/4	3	1921-243	5.58
44	0.0860	3/4	3	1921-244	5.58
45	0.0820	3/4	3	1921-245	5.58
46	0.0810	3/4	3	1921-246	5.58
47	0.0785	3/4	3	1921-247	5.58
48	0.0760	3/4	3	1921-248	5.58
49	0.0730	3/4	3	1921-249	5.58
50	0.0700	3/4	3	1921-250	5.58
51	0.0670	3/4	3	1921-251	5.58
52	0.0635	1/2	2-1/2	1921-252	5.58
53	0.0595	1/2	2-1/2	1921-253	6.86
54	0.0550	1/2	2-1/2	1921-254	6.86
55	0.0520	1/2	2-1/2	1921-255	6.86
56	0.0465	1/2	2-1/2	1921-256	6.86
57	0.0430	1/2	2-1/2	1921-257	6.86
58	0.0420	1/2	2-1/2	1921-258	6.86
59	0.0410	1/2	2-1/2	1921-259	6.86
60	0.0400	1/2	2-1/2	1921-260	6.86

RHS/RHC Available on request

# Chucking Reamers— Cobalt

Straight Shank, Straight Flute



## Fractional Sizes

FRAC. SIZES	FLUTE LG'TH	OAL	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA	PRICE EACH
3/64	1/2	2-1/2	—	—	1923-403	\$12.60
1/16	1/2	2-1/2	—	—	1923-404	12.60
5/64	3/4	3	—	—	1923-405	9.60
3/32	3/4	3	—	—	1923-406	9.60
7/64	7/8	3-1/2	—	—	1923-407	9.95
1/8	7/8	3-1/2	1923-008	\$7.45	1923-408	8.93
9/64	1	4	1923-009	12.10	1923-409	12.38
5/32	1	4	1923-010	11.13	1923-410	12.38
11/64	1-1/8	4-1/2	1923-011	12.10	1923-411	13.13
3/16	1-1/8	4-1/2	1923-012	10.81	1923-412	12.23
13/64	1-1/4	5	1923-013	14.21	1923-413	15.38
7/32	1-1/4	5	1923-014	13.85	1923-414	15.38
15/64	1-1/2	6	1923-015	14.21	1923-415	15.75
1/4	1-1/2	6	1923-016	12.47	1923-416	13.88
17/64	1-1/2	6	1923-017	16.05	1923-417	20.85

FRAC. SIZES	FLUTE LG'TH	OAL	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA	PRICE EACH
9/32	1-1/2	6	1923-018	16.70	1923-418	\$20.85
19/64	1-1/2	6	1923-019	18.31	1923-419	20.85
5/16	1-1/2	6	1923-020	15.27	1923-420	19.31
21/64	1-1/2	6	1923-021	18.86	1923-421	23.25
11/32	1-1/2	6	1923-022	18.86	1923-422	23.25
23/64	1-3/4	7	1923-023	19.23	1923-423	23.25
3/8	1-3/4	7	1923-024	16.70	1923-424	21.75
25/64	1-3/4	7	1923-025	23.46	1923-425	27.75
13/32	1-3/4	7	1923-026	24.43	1923-426	27.75
27/64	1-3/4	7	1923-027	25.85	1923-427	28.50
7/16	1-3/4	7	1923-028	23.41	1923-428	27.75
29/64	1-3/4	7	1923-029	28.43	1923-429	32.25
15/32	1-3/4	7	1923-030	28.43	1923-430	33.38
31/64	2	8	1923-031	28.43	1923-431	33.38
1/2	2	8	1923-032	25.67	1923-432	31.88

FRAC. SIZES	FLUTE LG'TH	OAL	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA	PRICE EACH
17/32	2	8	—	—	1923-434	\$36.75
9/16	2	8	—	—	1923-436	35.25
19/32	2	8	—	—	1923-438	35.25
5/8	2-1/4	9	—	—	1923-440	40.50
21/32	2-1/4	9	—	—	1923-442	48.00
11/16	2-1/4	9	—	—	1923-444	46.88
23/32	2-1/4	9	—	—	1923-446	51.75
3/4	2-1/2	9-1/2	—	—	1923-448	51.75
25/32	2-1/2	9-1/2	—	—	1923-450	56.25
13/16	2-1/2	9-1/2	—	—	1923-452	56.25
27/32	2-1/2	9-1/2	—	—	1923-454	66.75
7/8	2-5/8	10	—	—	1923-456	68.63
29/32	2-5/8	10	—	—	1923-458	74.63
15/16	2-5/8	10	—	—	1923-460	80.63
31/32	2-5/8	10	—	—	1923-462	82.13
1	2-3/4	10-1/2	—	—	1923-464	82.13

## Over & Under Sizes

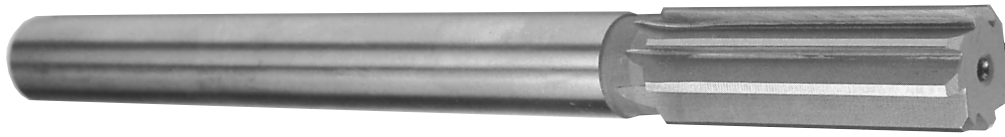
FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	USA	ORDER NO.	PRICE EACH
.1240	7/8	3-1/2	1935-240	\$8.57	5415-240	\$11.10
.1260	7/8	3-1/2	1935-260	8.57	5415-260	11.10
.1865	1-1/8	4-1/2	1935-865	12.43	5415-865	13.13
.1885	1-1/8	4-1/2	1935-885	12.43	5415-885	13.13
.2490	1-1/2	6	1936-490	14.34	5416-490	14.25
.2510	1-1/2	6	1936-510	14.34	5416-510	14.25
.3115	1-1/2	6	1937-115	17.56	5417-115	20.85
.3135	1-1/2	6	1937-135	17.56	5417-135	20.85
.3740	1-3/4	7	1937-740	19.21	5417-740	22.88
.3760	1-3/4	7	1937-760	19.21	5417-760	22.88
.4365	1-3/4	7	1938-365	26.92	5418-365	28.50
.4385	1-3/4	7	1938-385	26.92	5418-385	27.75
.4990	2	8	1938-990	29.52	5418-990	33.38
.5010	2	8	1939-010	29.52	5419-010	33.38

## Dowel Pin

FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	USA	ORDER NO.	PRICE EACH
.1230	7/8	3-1/2	1935-230	\$ 8.57	5415-230	\$10.13
.1247	7/8	3-1/2	1935-247	8.57	5415-247	10.13
.1855	1-1/8	3-1/2	1935-855	12.43	5415-855	12.30
.1870	1-1/8	4-1/2	1935-870	12.43	5415-870	12.30
.2480	1-1/2	6	1936-480	14.34	5416-480	14.63
.2495	1-1/2	6	1936-495	14.34	5416-495	14.63
.3105	1-1/2	6	1937-105	17.56	5417-105	19.25
.3120	1-1/2	6	1937-120	17.56	5417-120	19.25
.3730	1-3/4	7	1937-730	19.21	5417-730	21.08
.3745	1-3/4	7	1937-745	19.21	5417-745	21.08
.4355	1-3/4	5-1/2	1938-355	26.92	5418-355	27.05
.4370	1-3/4	5-1/2	1938-370	26.92	5418-370	27.05
.4980	2	8	1938-980	29.52	5418-980	31.03
.4995	2	8	1938-995	29.52	5418-995	31.03

# Special Decimal Chucking Reamers

Straight Flute - Straight Shank - R.H. Cut - High Speed Steel



Pittsburg ALLEGHANY		PRICE EACH	USA ORDER NO.	PRICE EACH	Pittsburg ALLEGHANY		PRICE EACH	USA ORDER NO.	PRICE EACH	Pittsburg ALLEGHANY		PRICE EACH	USA ORDER NO.	PRICE EACH
SIZE	ORDER NO.				SIZE	ORDER NO.				SIZE	ORDER NO.			
0.0295	—	—	5400-295	\$14.63	0.0655	2000-655	\$9.18	5400-655	\$12.73	0.0970	2000-970	\$10.49	5400-970	\$13.01
0.0300	—	—	5400-300	14.63	0.0660	—	—	5400-660	12.73	0.0975	—	—	5400-975	13.01
0.0305	—	—	5400-305	14.63	0.0665	—	—	5400-665	12.73	0.0985	—	—	5400-985	13.01
0.0315	—	—	5400-315	14.63	0.0675	—	—	5400-675	12.73	0.0990	2000-990	10.49	5400-990	13.01
0.0325	—	—	5400-325	14.63	0.0680	2000-680	9.18	5400-680	12.73	0.1000	2001-000	10.49	5401-000	13.01
0.0335	2000-335†	11.70	5400-335	14.63	0.0685	—	—	5400-685	12.73	0.1005	—	—	5401-005	13.01
0.0340	—	—	5400-340	14.63	0.0690	—	—	5400-690	12.73	0.1010	2001-010	10.49	5401-010	13.01
0.0355	—	—	5400-355	14.63	0.0695	—	—	5400-695	12.73	0.1020	—	—	5401-020	13.01
0.0365	—	—	5400-365	14.63	0.0705	—	—	5400-705	12.73	0.1025	2001-025	10.49	5401-025	13.01
0.0385	—	—	5400-385	14.63	0.0710	2000-710	9.18	5400-710	12.73	0.1030	—	—	5401-030	13.01
0.0395	—	—	5400-395	14.63	0.0715	—	—	5400-715	12.73	0.1035	—	—	5401-035	13.01
0.0405	—	—	5400-405	14.54	0.0720	—	—	5400-720	12.73	0.1045	—	—	5401-045	13.01
0.0415	—	—	5400-415	14.54	0.0725	—	—	5400-725	12.73	0.1050	2001-050	10.49	5401-050	13.01
0.0425	—	—	5400-425	14.54	0.0735	2000-735	9.18	5400-735	12.73	0.1055	—	—	5401-055	13.01
0.0435	—	—	5400-435	14.54	0.0740	—	—	5400-740	12.73	0.1060	2001-060	10.49	5401-060	13.01
0.0440	2000-440	10.08	5400-440	14.54	0.0745	—	—	5400-745	12.73	0.1070	2001-070	10.49	5401-070	13.01
0.0445	2000-445	10.08	5400-445	14.54	0.0750	—	—	5400-750	12.73	0.1075	—	—	5401-075	13.01
0.0450	—	—	5400-450	14.54	0.0755	—	—	5400-755	12.73	0.1080	2001-080	10.49	5401-080	13.01
0.0455	—	—	5400-455	14.54	0.0765	—	—	5400-765	12.73	0.1085	—	—	5401-085	13.01
0.0460	—	—	5400-460	14.54	0.0770	2000-770	9.18	5400-770	12.73	0.1090	—	—	5401-090	13.01
0.0470	—	—	5400-470	13.93	0.0775	—	—	5400-775	12.73	0.1095	—	—	5401-095	13.01
0.0475	—	—	5400-475	13.93	0.0780	—	—	5400-780	12.73	0.1105	2001-105	9.66	5401-105	11.36
0.0480	—	—	5400-480	13.93	0.0790	2000-790	9.18	5400-790	12.11	0.1115	—	—	5401-115	11.36
0.0485	—	—	5400-485	13.93	0.0795	2000-795	9.18	5400-795	12.11	0.1120	2001-120	9.66	5401-120	11.36
0.0490	—	—	5400-490	13.93	0.0800	2000-800	9.18	5400-800	12.11	0.1125	—	—	5401-125	11.36
0.0495	2000-495	10.08	5400-495	13.93	0.0805	2000-805	9.18	5400-805	12.11	0.1135	—	—	5401-135	11.36
0.0500	—	—	5400-500	13.93	0.0815	—	—	5400-815	12.11	0.1140	2001-140	9.66	5401-140	11.36
0.0505	—	—	5400-505	13.93	0.0825	2000-825	9.18	5400-825	12.11	0.1145	—	—	5401-145	11.36
0.0510	—	—	5400-510	13.93	0.0830	—	—	5400-830	12.11	0.1150	—	—	5401-150	11.36
0.0515	—	—	5400-515	13.93	0.0835	—	—	5400-835	12.11	0.1155	2001-155	9.66	5401-155	11.36
0.0525	2000-525	10.08	5400-525	13.93	0.0840	2000-840	9.18	5400-840	12.11	0.1165	—	—	5401-165	11.36
0.0530	—	—	5400-530	13.93	0.0845	—	—	5400-845	12.11	0.1170	—	—	5401-170	11.36
0.0535	—	—	5400-535	13.93	0.0850	2000-850	9.18	5400-850	12.11	0.1175	—	—	5401-175	11.36
0.0540	—	—	5400-540	13.93	0.0855	2000-855	9.18	5400-855	12.11	0.1180	—	—	5401-180	11.36
0.0545	—	—	5400-545	13.93	0.0865	—	—	5400-865	12.11	0.1185	—	—	5401-185	11.36
0.0555	—	—	5400-555	13.93	0.0870	2000-870	9.18	5400-870	12.11	0.1190	2001-190	9.66	5401-190	11.36
0.0560	—	—	5400-560	13.93	0.0875	—	—	5400-875	12.11	0.1195	—	—	5401-195	11.36
0.0565	—	—	5400-565	13.93	0.0880	2000-880	9.18	5400-880	12.11	0.1205	—	—	5401-205	11.36
0.0570	—	—	5400-570	13.93	0.0885	—	—	5400-885	12.11	0.1210	2001-210	9.66	5401-210	11.36
0.0575	—	—	5400-575	13.93	0.0895	—	—	5400-895	12.11	0.1215	—	—	5401-215	11.36
0.0580	—	—	5400-580	13.93	0.0900	2000-900	9.18	5400-900	12.11	0.1220	—	—	5401-220	10.42
0.0585	—	—	5400-585	13.93	0.0905	—	—	5400-905	12.11	0.1225	2001-225	8.86	5401-225	10.42
0.0590	2000-590	10.08	5400-590	13.93	0.0910	2000-910	9.18	5400-910	12.11	0.1235	2001-235	8.86	5401-235	10.42
0.0600	2000-600	10.08	5400-600	13.93	0.0915	—	—	5400-915	12.11	0.1245	2001-245	8.86	5401-245	10.42
0.0605	—	—	5400-605	13.93	0.0920	—	—	5400-920	12.11	0.1255	2001-255	10.49	5401-255	13.32
0.0610	—	—	5400-610	12.77	0.0925	—	—	5400-925	12.11	0.1265	2001-265	10.49	5401-265	13.32
0.0615	—	—	5400-615	12.77	0.0930	—	—	5400-930	12.11	0.1270	2001-270	10.49	5401-270	13.32
0.0620	2000-620	10.08	5400-620	12.77	0.0940	—	—	5400-940	13.01	0.1275	2001-275	10.49	5401-275	13.32
0.0630	—	—	5400-630	11.67	0.0945	—	—	5400-945	13.01	0.1280	2001-280	10.49	5401-280	13.32
0.0640	—	—	5400-640	11.67	0.0950	—	—	5400-950	13.01	0.1290	2001-290	10.49	5401-290	14.54
0.0645	—	—	5400-645	12.73	0.0955	—	—	5400-955	13.01	0.1295	2001-295	10.49	5401-295	14.54
0.0650	—	—	5400-650	12.73	0.0965	—	—	5400-965	13.01					

† Limited Quantities.

The following Standard sizes are NOT included in this Special Decimal Chart:

Standard      Standard      Standard Metric Sizes  
Dowel Sizes    Over & Under Sizes    1.00mm thru 25.00mm by 0.5mm

Find these sizes in the Standard Reamer pricing charts.

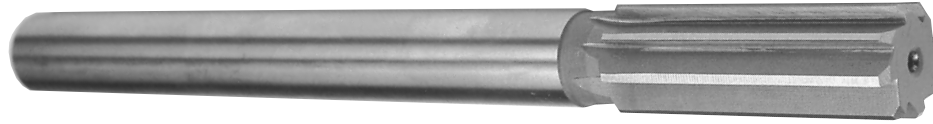
# Special Decimal Chucking Reamers

**Straight Flute - Straight Shank**  
**R.H. Cut - High Speed Steel**

The following Standard sizes are NOT included in this Special Decimal Chart:

Standard Dowel Sizes      Standard Over & Under Sizes      Standard Metric Sizes 1.00mm thru 25.00mm by 0.5mm

Find these sizes in the Standard Reamer pricing charts.



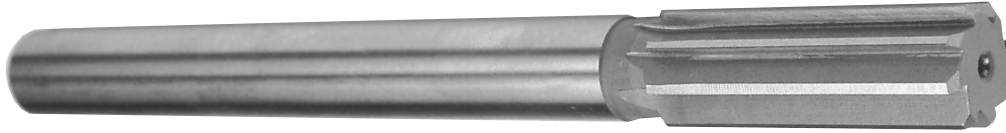
SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.1300	2001-300	\$10.49	5401-300	\$14.54
0.1305	2001-305	10.49	5401-305	14.54
0.1310	2001-310	10.49	5401-310	14.54
0.1315	2001-315	10.49	5401-315	14.54
0.1320	2001-320	10.49	5401-320	14.54
0.1325	2001-325	10.49	5401-325	14.54
0.1330	2001-330	10.49	5401-330	14.54
0.1335	2001-335	10.49	5401-335	14.54
0.1340	2001-340	10.49	5401-340	14.54
0.1345	2001-345	10.49	5401-345	14.54
0.1350	2001-350	10.49	5401-350	14.54
0.1355	2001-355	10.49	5401-355	14.54
0.1365	2001-365	10.49	5401-365	14.54
0.1370	2001-370	10.49	5401-370	14.54
0.1375	2001-375	10.49	5401-375	14.54
0.1380	2001-380	10.49	5401-380	14.54
0.1385	2001-385	10.49	5401-385	14.54
0.1390	2001-390	10.49	5401-390	14.54
0.1395	2001-395	10.49	5401-395	14.54
0.1400	2001-400	10.49	5401-400	14.54
0.1410	2001-410	10.49	5401-410	13.91
0.1415	2001-415	10.49	5401-415	13.91
0.1420	2001-420	10.49	5401-420	13.91
0.1425	2001-425	10.49	5401-425	13.91
0.1430	2001-430	10.49	5401-430	13.91
0.1435	2001-435	10.49	5401-435	13.91
0.1445	2001-445	10.49	5401-445	13.91
0.1450	2001-450	10.49	5401-450	13.91
0.1455	2001-455	10.49	5401-455	13.91
0.1460	2001-460	10.49	5401-460	13.91
0.1465	2001-465	10.49	5401-465	13.91
0.1475	2001-475	10.49	5401-475	13.91
0.1480	2001-480	10.49	5401-480	13.91
0.1485	2001-485	10.49	5401-485	13.91
0.1490	2001-490	10.49	5401-490	13.91
0.1500	2001-500	10.49	5401-500	13.91
0.1505	2001-505	10.49	5401-505	13.91
0.1510	2001-510	10.49	5401-510	13.91
0.1515	2001-515	10.49	5401-515	13.91
0.1525	2001-525	10.49	5401-525	13.91
0.1530	2001-530	10.49	5401-530	13.91
0.1535	2001-535	10.49	5401-535	13.91
0.1545	2001-545	10.49	5401-545	13.91
0.1550	2001-550	10.49	5401-550	13.91
0.1555	2001-555	10.49	5401-555	13.91
0.1560	2001-560	10.49	5401-560	13.91
0.1565	2001-565	10.49	5401-565	14.54
0.1580	2001-580	10.49	5401-580	14.54
0.1585	2001-585	10.49	5401-585	14.54
0.1595	2001-595	10.49	5401-595	14.54
0.1600	2001-600	10.49	5401-600	14.54
0.1605	2001-605	10.49	5401-605	14.54
0.1615	2001-615	10.49	5401-615	14.54
0.1620	2001-620	10.49	5401-620	14.54
0.1625	2001-625	10.49	5401-625	14.54

SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.1630	2001-630	\$10.49	5401-630	\$14.54
0.1635	2001-635	10.49	5401-635	14.54
0.1640	2001-640	10.49	5401-640	14.54
0.1645	2001-645	10.49	5401-645	14.54
0.1650	2001-650	10.49	5401-650	14.54
0.1655	2001-655	10.49	5401-655	14.54
0.1665	2001-665	10.49	5401-665	14.54
0.1670	2001-670	10.49	5401-670	14.54
0.1675	2001-675	10.49	5401-675	14.54
0.1680	2001-680	10.49	5401-680	14.54
0.1685	2001-685	10.49	5401-685	14.54
0.1690	2001-690	10.49	5401-690	14.54
0.1700	2001-700	10.49	5401-700	14.54
0.1705	2001-705	10.49	5401-705	14.54
0.1710	2001-710	10.49	5401-710	14.54
0.1715	2001-715	10.49	5401-715	14.54
0.1720	2001-720	10.49	5401-720	13.77
0.1725	2001-725	10.49	5401-725	13.77
0.1735	2001-735	10.49	5401-735	13.77
0.1740	2001-740	10.49	5401-740	13.77
0.1745	2001-745	10.49	5401-745	13.77
0.1750	2001-750	10.49	5401-750	13.77
0.1755	2001-755	10.49	5401-755	13.77
0.1760	2001-760	10.49	5401-760	13.77
0.1765	2001-765	10.49	5401-765	13.77
0.1775	2001-775	10.49	5401-775	13.77
0.1780	2001-780	10.49	5401-780	13.77
0.1785	2001-785	10.49	5401-785	13.77
0.1790	2001-790	10.49	5401-790	13.77
0.1795	2001-795	10.49	5401-795	13.77
0.1805	2001-805	10.49	5401-805	13.77
0.1810	2001-810	10.49	5401-810	13.77
0.1815	2001-815	10.49	5401-815	13.77
0.1825	2001-825	10.49	5401-825	13.77
0.1830	2001-830	10.49	5401-830	13.77
0.1835	2001-835	10.49	5401-835	13.77
0.1840	2001-840	10.49	5401-840	13.77
0.1845	2001-845	10.49	5401-845	13.77
0.1860	2001-860	10.49	5401-860	12.62
0.1880	2001-880	12.02	5401-880	15.26
0.1895	2001-895	12.02	5401-895	15.26
0.1900	2001-900	12.02	5401-900	15.26
0.1905	2001-905	12.02	5401-905	16.65
0.1915	2001-915	12.02	5401-915	16.65
0.1920	2001-920	12.02	5401-920	16.65
0.1925	2001-925	12.02	5401-925	16.65
0.1930	2001-930	12.02	5401-930	16.65
0.1940	2001-940	12.02	5401-940	16.65
0.1945	2001-945	12.02	5401-945	16.65
0.1950	2001-950	12.02	5401-950	16.65
0.1955	2001-955	12.02	5401-955	16.65
0.1965	2001-965	12.02	5401-965	16.65
0.1970	2001-970	12.02	5401-970	16.65
0.1975	2001-975	12.02	5401-975	16.65
0.1980	2001-980	12.02	5401-980	16.65

SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.1985	2001-985	\$12.02	5401-985	\$16.65
0.1995	2001-995	12.02	5401-995	16.65
0.2000	2002-000	12.02	5402-000	16.65
0.2005	2002-005	12.02	5402-005	16.65
0.2015	2002-015	12.02	5402-015	16.65
0.2020	2002-020	12.02	5402-020	16.65
0.2025	2002-025	12.02	5402-025	16.65
0.2030	2002-030	12.02	5402-030	16.65
0.2035	2002-035	12.02	5402-035	16.31
0.2045	2002-045	12.02	5402-045	16.31
0.2050	2002-050	12.02	5402-050	16.31
0.2060	2002-060	12.02	5402-060	16.31
0.2070	2002-070	12.02	5402-070	16.31
0.2075	2002-075	12.02	5402-075	16.31
0.2080	2002-080	12.02	5402-080	16.31
0.2085	2002-085	12.02	5402-085	16.31
0.2095	2002-095	12.02	5402-095	16.31
0.2100	2002-100	12.02	5402-100	16.31
0.2105	2002-105	12.02	5402-105	16.31
0.2110	2002-110	12.02	5402-110	16.31
0.2115	2002-115	12.02	5402-115	16.31
0.2120	2002-120	12.02	5402-120	16.31
0.2125	2002-125	12.02	5402-125	16.31
0.2135	2002-135	12.02	5402-135	16.31
0.2140	2002-140	12.02	5402-140	16.31
0.2145	2002-145	12.02	5402-145	16.31
0.2150	2002-150	12.02	5402-150	16.31
0.2155	2002-155	12.02	5402-155	16.31
0.2160	2002-160	12.02	5402-160	16.31
0.2170	2002-170	12.02	5402-170	16.31
0.2175	2002-175	12.02	5402-175	16.31
0.2180	2002-180	12.02	5402-180	16.31
0.2185	2002-185	12.02	5402-185	16.31
0.2190	2002-190	12.02	5402-190	16.31
0.2195	2002-195	12.02	5402-195	16.31
0.2200	2002-200	12.02	5402-200	16.31
0.2205	2002-205	12.02	5402-205	16.31
0.2215	2002-215	12.02	5402-215	16.31
0.2220	2002-220	12.02	5402-220	16.31
0.2225	2002-225	12.02	5402-225	16.31
0.2230	2002-230	12.02	5402-230	16.31
0.2235	2002-235	12.02	5402-235	16.31
0.2240	2002-240	12.02	5402-240	16.31
0.2245	2002-245	12.02	5402-245	16.31
0.2250	2002-250	12.02	5402-250	16.31
0.2260	2002-260	12.02	5402-260	16.31
0.2265	2002-265	12.02	5402-265	16.31
0.2270	2002-270	12.02	5402-270	16.31
0.2275	2002-275	12.02	5402-275	16.31
0.2285	2002-285	12.02	5402-285	16.31
0.2290	2002-290	12.02	5402-290	16.31
0.2295	2002-295	12.02	5402-295	16.31
0.2300	2002-300	12.02	5402-300	16.31
0.2305	2002-305	12.02	5402-305	16.31
0.2310	2002-310	12.02	5402-310	16.31

# Special Decimal Chucking Reamers

Straight Flute - Straight Shank - R.H. Cut - High Speed Steel



SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.2315	2002-315	\$ 12.02	5402-315	\$16.31
0.2320	2002-320	12.02	5402-320	16.31
0.2325	2002-325	12.02	5402-325	16.31
0.2330	2002-330	12.02	5402-330	16.31
0.2335	2002-335	12.89	5402-335	16.31
0.2345	2002-345	12.89	5402-345	15.16
0.2350	2002-350	12.89	5402-350	15.16
0.2355	2002-355	12.89	5402-355	15.16
0.2360	2002-360	12.89	5402-360	15.16
0.2365	2002-365	12.89	5402-365	15.16
0.2370	2002-370	12.89	5402-370	15.16
0.2375	2002-375	12.89	5402-375	15.16
0.2385	2002-385	12.89	5402-385	15.16
0.2390	2002-390	12.89	5402-390	15.16
0.2395	2002-395	12.89	5402-395	15.16
0.2400	2002-400	12.89	5402-400	15.16
0.2405	2002-405	12.89	5402-405	15.16
0.2410	2002-410	12.89	5402-410	15.16
0.2415	2002-415	12.89	5402-415	15.16
0.2425	2002-425	12.89	5402-425	15.16
0.2430	2002-430	12.89	5402-430	15.16
0.2435	2002-435	12.89	5402-435	15.16
0.2440	2002-440	12.89	5402-440	15.16
0.2445	2002-445	12.89	5402-445	15.16
0.2450	2002-450	12.89	5402-450	15.16
0.2455	2002-455	12.89	5402-455	15.16
0.2465	2002-465	12.89	5402-465	15.16
0.2470	2002-470	11.81	5402-470	13.89
0.2475	2002-475	11.81	5402-475	13.89
0.2485	2002-485	11.81	5402-485	13.89
0.2505	2002-505	13.41	5402-505	15.78
0.2515	2002-515	13.41	5402-515	15.78
0.2520	2002-520	13.41	5402-520	15.78
0.2525	2002-525	13.41	5402-525	15.78
0.2530	2002-530	13.41	5402-530	15.78
0.2535	2002-535	13.46	5402-535	17.21
0.2540	2002-540	13.46	5402-540	17.21
0.2550	2002-550	13.46	5402-550	17.21
0.2560	2002-560	13.46	5402-560	17.21
0.2580	2002-580	13.46	5402-580	17.21
0.2590	2002-590	13.46	5402-590	17.21
0.2600	2002-600	13.46	5402-600	17.21
0.2620	2002-620	13.46	5402-620	17.21
0.2630	2002-630	13.46	5402-630	17.21
0.2640	2002-640	13.46	5402-640	17.21
0.2650	2002-650	13.46	5402-650	17.21
0.2655	2002-655	13.46	5402-655	17.21
0.2665	2002-665	13.46	5402-665	18.00
0.2670	2002-670	13.46	5402-670	18.00
0.2675	2002-675	13.46	5402-675	18.00
0.2680	2002-680	13.46	5402-680	18.00
0.2690	2002-690	13.46	5402-690	18.00
0.2700	2002-700	13.46	5402-700	18.00
0.2705	2002-705	13.46	5402-705	18.00
0.2710	2002-710	13.46	5402-710	18.00
0.2725	2002-725	13.46	5402-725	18.00
0.2730	2002-730	13.46	5402-730	18.00
0.2735	2002-735	13.46	5402-735	18.00
0.2740	2002-740	13.46	5402-740	18.00
0.2745	2002-745	13.46	5402-745	18.00
0.2750	2002-750	13.46	5402-750	18.00
0.2760	2002-760	13.46	5402-760	18.00
0.2765	2002-765	13.46	5402-765	18.00
0.2775	2002-775	13.46	5402-775	18.00
0.2780	2002-780	13.46	5402-780	18.00

SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.2785	2002-785	13.46	5402-785	\$18.00
0.2790	2002-790	13.46	5402-790	18.00
0.2795	2002-795	13.46	5402-795	18.00
0.2800	2002-800	13.46	5402-800	18.00
0.2805	2002-805	13.46	5402-805	18.00
0.2815	2002-815	13.46	5402-815	18.63
0.2820	2002-820	13.46	5402-820	18.63
0.2825	2002-825	13.46	5402-825	18.63
0.2830	2002-830	13.46	5402-830	18.63
0.2835	2002-835	13.46	5402-835	18.63
0.2840	2002-840	13.46	5402-840	18.63
0.2845	2002-845	13.46	5402-845	18.63
0.2850	2002-850	13.46	5402-850	18.63
0.2855	2002-855	13.46	5402-855	18.63
0.2860	2002-860	13.46	5402-860	18.63
0.2865	2002-865	13.46	5402-865	18.63
0.2870	2002-870	13.46	5402-870	18.63
0.2875	2002-875	13.46	5402-875	18.63
0.2880	2002-880	13.46	5402-880	18.63
0.2885	2002-885	13.46	5402-885	18.63
0.2890	2002-890	13.46	5402-890	18.63
0.2895	2002-895	13.46	5402-895	18.63
0.2905	2002-905	13.46	5402-905	18.63
0.2910	2002-910	13.46	5402-910	18.63
0.2915	2002-915	13.46	5402-915	18.63
0.2920	2002-920	13.46	5402-920	18.63
0.2925	2002-925	13.46	5402-925	18.63
0.2930	2002-930	13.46	5402-930	18.63
0.2935	2002-935	13.46	5402-935	18.63
0.2940	2002-940	13.46	5402-940	18.63
0.2945	2002-945	13.46	5402-945	18.63
0.2955	2002-955	13.46	5402-955	18.63
0.2960	2002-960	13.46	5402-960	18.63
0.2965	2002-965	13.46	5402-965	18.63
0.2970	2002-970	13.46	5402-970	18.63
0.2975	2002-975	13.46	5402-975	18.63
0.2980	2002-980	13.46	5402-980	18.63
0.2985	2002-985	13.46	5402-985	18.63
0.2990	2002-990	13.46	5402-990	18.63
0.2995	2002-995	13.46	5402-995	18.63
0.3000	2003-000	13.46	5403-000	18.63
0.3005	2003-005	13.46	5403-005	18.63
0.3010	2003-010	13.46	5403-010	18.63
0.3015	2003-015	13.46	5403-015	18.63
0.3025	2003-025	13.46	5403-025	18.63
0.3030	2003-030	13.46	5403-030	18.63
0.3035	2003-035	13.46	5403-035	18.63
0.3040	2003-040	13.46	5403-040	18.63
0.3045	2003-045	13.46	5403-045	18.63
0.3050	2003-050	13.46	5403-050	18.63
0.3055	2003-055	13.46	5403-055	18.63
0.3060	2003-060	13.46	5403-060	18.63
0.3065	2003-065	13.46	5403-065	18.63
0.3070	2003-070	13.46	5403-070	18.63
0.3075	2003-075	13.46	5403-075	18.63
0.3080	2003-080	13.46	5403-080	18.63
0.3085	2003-085	13.46	5403-085	18.63
0.3090	2003-090	13.46	5403-090	18.63
0.3095	2003-095	13.46	5403-095	18.63
0.3100	2003-100	13.46	5403-100	17.08
0.3110	2003-110	13.46	5403-110	17.08
0.3130	2003-130	13.46	5403-130	17.92
0.3140	2003-140	13.46	5403-140	17.92
0.3145	2003-145	13.46	5403-145	17.92
0.3155	2003-155	13.46	5403-155	19.55

SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0.3165	2003-165	\$13.46	5403-165	\$19.55
0.3170	2003-170	13.46	5403-170	19.55
0.3175	2003-175	13.46	5403-175	19.55
0.3180	2003-180	13.46	5403-180	19.55
0.3185	2003-185	13.46	5403-185	19.55
0.3190	2003-190	13.46	5403-190	19.55
0.3195	2003-195	13.46	5403-195	19.55
0.3200	2003-200	13.46	5403-200	19.55
0.3205	2003-205	13.46	5403-205	19.55
0.3210	2003-210	13.46	5403-210	19.55
0.3215	2003-215	13.46	5403-215	19.55
0.3220	2003-220	13.46	5403-220	19.55
0.3225	2003-225	13.46	5403-225	19.55
0.3240	2003-240	13.46	5403-240	19.55
0.3245	2003-245	13.46	5403-245	19.55
0.3250	2003-250	13.46	5403-250	19.55
0.3255	2003-255	13.46	5403-255	19.55
0.3260	2003-260	13.46	5403-260	19.55
0.3265	2003-265	13.46	5403-265	19.55
0.3270	2003-270	13.46	5403-270	19.55
0.3275	2003-275	13.46	5403-275	19.55
0.3280	2003-280	13.46	5403-280	19.55
0.3285	2003-285	13.46	5403-285	19.55
0.3290	2003-290	13.46	5403-290	19.55
0.3295	2003-295	13.46	5403-295	19.55
0.3300	2003-300	13.46	5403-300	19.55
0.3305	2003-305	13.46	5403-305	19.55
0.3310	2003-310	13.46	5403-310	19.55
0.3315	2003-315	13.46	5403-315	19.55
0.3330	2003-330	13.46	5403-330	19.55
0.3335	2003-335	13.46	5403-335	19.55
0.3340	2003-340	13.46	5403-340	19.55
0.3345	2003-345	13.46	5403-345	19.55
0.3350	2003-350	13.46	5403-350	19.55
0.3355	2003-355	13.46	5403-355	19.55
0.3360	2003-360	13.46	5403-360	19.55
0.3365	2003-365	13.46	5403-365	19.55
0.3370	2003-370	13.46	5403-370	19.55
0.3375	2003-375	13.46	5403-375	19.55
0.3380	2003-380	13.46	5403-380	19.55
0.3385	2003-385	13.46	5403-385	19.55
0.3395	2003-395	13.46	5403-395	19.55
0.3400	2003-400	13.46	5403-400	19.55
0.3410	2003-410	13.46	5403-410	19.55
0.3415	2003-415	13.46	5403-415	19.55
0.3420	2003-420	13.46	5403-420	19.55
0.3425	2003-425	13.46	5403-425	19.55
0.3430	2003-430	13.46	5403-430	19.55
0.3435	2003-435	13.46	5403-435	19.55
0.3440	2003-440	13.46	5403-440	19.55
0.3445	2003-445	16.62	5403-445	19.55
0.3450	2003-450	16.62	5403-450	19.55
0.3455	2003-455	16.62	5403-455	19.55
0.3460	2003-460	16.62	5403-460	19.55
0.3465	2003-465	16.62	5403-465	19.55
0.3470	2003-470	16.62	5403-470	19.55
0.3475	2003-475	16.62	5403-475	19.55
0.3485	2003-485	16.62	5403-485	19.55
0.3490	2003-490	16.62	5403-490	19.55
0.3495	2003-495	16.62	5403-495	19.55
0.3500	2003-500	16.62	5403-500	19.55
0.3505	2003-505	16.62	5403-505	19.55
0.3510	2003-510	16.62</		



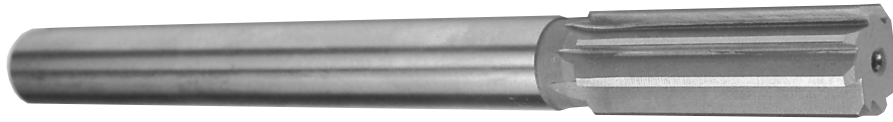
# Special Decimal Chucking Reamers

**Straight Flute - Straight Shank**  
**R.H. Cut - High Speed Steel**

The following Standard sizes are NOT included in this Special Decimal Chart:

Standard Dowel Sizes      Standard Over & Under Sizes      Standard Metric Sizes 1.00mm thru 25.00mm by 0.5mm

Find these sizes in the Standard Reamer pricing charts.



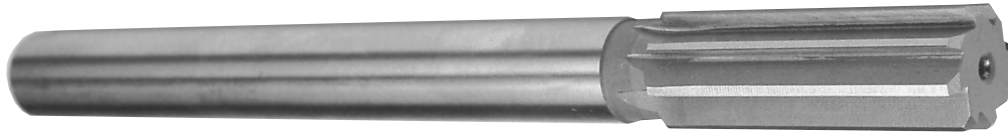
SIZE	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.3525	2003-525	\$16.62	5403-525	\$19.55
0.3530	2003-530	16.62	5403-530	19.55
0.3535	2003-535	16.62	5403-535	19.55
0.3540	2003-540	16.62	5403-540	19.55
0.3545	2003-545	16.62	5403-545	19.55
0.3550	2003-550	16.62	5403-550	19.55
0.3555	2003-555	16.62	5403-555	19.55
0.3560	2003-560	16.62	5403-560	19.55
0.3565	2003-565	16.62	5403-565	19.55
0.3570	2003-570	16.62	5403-570	19.55
0.3575	2003-575	16.62	5403-575	19.55
0.3585	2003-585	16.62	5403-585	19.55
0.3590	2003-590	16.62	5403-590	19.55
0.3595	2003-595	16.62	5403-595	19.55
0.3600	2003-600	15.94	5403-600	18.75
0.3610	2003-610	15.94	5403-610	18.75
0.3615	2003-615	15.94	5403-615	18.75
0.3620	2003-620	15.94	5403-620	18.75
0.3625	2003-625	15.94	5403-625	18.75
0.3630	2003-630	15.94	5403-630	18.75
0.3635	2003-635	15.94	5403-635	18.75
0.3640	2003-640	15.94	5403-640	18.75
0.3650	2003-650	15.94	5403-650	18.75
0.3655	2003-655	15.94	5403-655	18.75
0.3660	2003-660	15.94	5403-660	18.75
0.3665	2003-665	15.94	5403-665	18.75
0.3670	2003-670	15.94	5403-670	18.75
0.3675	2003-675	15.94	5403-675	18.75
0.3685	2003-685	15.94	5403-685	18.75
0.3690	2003-690	15.94	5403-690	18.75
0.3695	2003-695	15.94	5403-695	18.75
0.3700	2003-700	15.94	5403-700	18.75
0.3705	2003-705	15.94	5403-705	18.75
0.3710	2003-710	15.94	5403-710	18.75
0.3715	2003-715	15.94	5403-715	18.75
0.3720	2003-720	15.94	5403-720	18.75
0.3725	2003-725	15.94	5403-725	18.75
0.3735	2003-735	14.61	5403-735	17.19
0.3755	2003-755	16.46	5403-755	19.37
0.3765	2003-765	16.46	5403-765	19.37
0.3775	2003-775	16.74	5403-775	21.14
0.3780	2003-780	16.74	5403-780	21.14
0.3785	2003-785	16.74	5403-785	21.14
0.3790	2003-790	16.74	5403-790	21.14
0.3795	2003-795	16.74	5403-795	21.14
0.3800	2003-800	16.74	5403-800	21.14
0.3805	2003-805	16.74	5403-805	21.14
0.3810	2003-810	16.74	5403-810	21.14
0.3815	2003-815	16.74	5403-815	21.14
0.3820	2003-820	16.74	5403-820	21.14
0.3825	2003-825	16.74	5403-825	21.14
0.3830	2003-830	16.74	5403-830	21.14
0.3835	2003-835	16.74	5403-835	21.14
0.3840	2003-840	16.74	5403-840	21.14
0.3845	2003-845	16.74	5403-845	21.14
0.3850	2003-850	16.74	5403-850	21.14
0.3855	2003-855	16.74	5403-855	21.14
0.3865	2003-865	16.74	5403-865	21.14
0.3870	2003-870	16.74	5403-870	21.14
0.3875	2003-875	16.74	5403-875	21.14
0.3880	2003-880	16.74	5403-880	21.14
0.3885	2003-885	16.74	5403-885	21.14
0.3890	2003-890	16.74	5403-890	21.14
0.3895	2003-895	16.74	5403-895	21.14
0.3900	2003-900	16.74	5403-900	21.14

SIZE	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.3905	2003-905	\$16.74	5403-905	\$21.14
0.3910	2003-910	16.74	5403-910	21.53
0.3915	2003-915	16.74	5403-915	21.53
0.3920	2003-920	16.74	5403-920	21.53
0.3925	2003-925	16.74	5403-925	21.53
0.3930	2003-930	16.74	5403-930	21.53
0.3935	2003-935	16.74	5403-935	21.53
0.3940	2003-940	16.74	5403-940	21.53
0.3945	2003-945	16.74	5403-945	21.53
0.3950	2003-950	16.74	5403-950	21.53
0.3955	2003-955	16.74	5403-955	21.53
0.3960	2003-960	16.74	5403-960	21.53
0.3965	2003-965	16.74	5403-965	21.53
0.3975	2003-975	16.74	5403-975	21.53
0.3980	2003-980	16.74	5403-980	21.53
0.3985	2003-985	16.74	5403-985	21.53
0.3990	2003-990	16.74	5403-990	21.53
0.3995	2003-995	16.74	5403-995	21.53
0.4000	2004-000	16.74	5404-000	21.53
0.4005	2004-005	16.74	5404-005	21.53
0.4010	2004-010	16.74	5404-010	21.53
0.4015	2004-015	16.74	5404-015	21.53
0.4020	2004-020	16.74	5404-020	21.53
0.4025	2004-025	16.74	5404-025	21.53
0.4030	2004-030	16.74	5404-030	21.53
0.4035	2004-035	16.74	5404-035	21.53
0.4045	2004-045	16.74	5404-045	21.53
0.4050	2004-050	16.74	5404-050	21.53
0.4055	2004-055	16.74	5404-055	21.53
0.4060	2004-060	16.74	5404-060	21.53
0.4065	2004-065	16.74	5404-065	21.53
0.4070	2004-070	16.74	5404-070	21.53
0.4075	2004-075	16.74	5404-075	21.53
0.4080	2004-080	16.74	5404-080	21.53
0.4085	2004-085	16.74	5404-085	21.53
0.4090	2004-090	16.74	5404-090	21.53
0.4095	2004-095	16.74	5404-095	21.53
0.4100	2004-100	16.74	5404-100	21.53
0.4105	2004-105	16.74	5404-105	21.53
0.4110	2004-110	16.74	5404-110	21.53
0.4115	2004-115	16.74	5404-115	21.53
0.4120	2004-120	16.74	5404-120	21.53
0.4125	2004-125	16.74	5404-125	21.53
0.4135	2004-135	16.74	5404-135	21.53
0.4140	2004-140	16.74	5404-140	21.53
0.4145	2004-145	16.74	5404-145	21.53
0.4150	2004-150	16.74	5404-150	21.53
0.4155	2004-155	16.74	5404-155	21.53
0.4160	2004-160	16.74	—	—
0.4165	2004-165	16.74	5404-165	21.53
0.4170	2004-170	16.74	5404-170	21.53
0.4175	2004-175	16.74	5404-175	21.53
0.4180	2004-180	16.74	5404-180	21.53
0.4185	2004-185	16.74	5404-185	21.53
0.4190	2004-190	16.74	5404-190	21.53
0.4195	2004-195	16.74	5404-195	21.53
0.4200	2004-200	16.74	5404-200	21.53
0.4205	2004-205	16.74	5404-205	21.53
0.4210	2004-210	16.74	5404-210	21.53
0.4215	2004-215	16.74	5404-215	21.53
0.4220	2004-220	16.74	5404-220	21.86
0.4225	2004-225	16.74	5404-225	21.86
0.4230	2004-230	16.74	5404-230	21.86
0.4235	2004-235	16.74	5404-235	21.86
0.4240	2004-240	16.74	5404-240	21.86

SIZE	Pittsburg ALLEGHANY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.4245	2004-245	\$16.74	5404-245	\$21.86
0.4250	2004-250	16.74	5404-250	20.36
0.4255	2004-255	16.74	5404-255	21.86
0.4260	2004-260	16.74	5404-260	21.86
0.4265	2004-265	16.74	5404-265	21.86
0.4270	2004-270	16.74	5404-270	21.11
0.4275	2004-275	16.74	5404-275	21.86
0.4280	2004-280	16.74	5404-280	21.86
0.4285	2004-285	16.74	5404-285	21.86
0.4290	2004-290	16.74	5404-290	21.86
0.4295	2004-295	16.74	5404-295	21.86
0.4300	2004-300	16.74	5404-300	21.86
0.4305	2004-305	16.74	5404-305	21.86
0.4310	2004-310	16.74	5404-310	21.86
0.4315	2004-315	16.74	5404-315	21.86
0.4320	2004-320	16.74	5404-320	20.36
0.4325	2004-325	16.74	5404-325	21.86
0.4330	2004-330	16.74	5404-330	21.86
0.4335	2004-335	16.74	5404-335	21.86
0.4340	2004-340	16.74	5404-340	21.86
0.4345	2004-345	16.74	5404-345	21.86
0.4350	2004-350	16.74	5404-350	20.36
0.4360	2004-360	16.74	5404-360	21.86
0.4380	2004-380	16.74	5404-380	23.29
0.4390	2004-390	16.74	5404-390	23.29
0.4395	2004-395	16.74	5404-395	25.41
0.4400	2004-400	16.74	5404-400	25.41
0.4405	2004-405	16.74	5404-405	25.41
0.4410	2004-410	16.74	5404-410	25.41
0.4415	2004-415	16.74	5404-415	25.41
0.4420	2004-420	16.74	5404-420	25.41
0.4425	2004-425	16.74	5404-425	25.41
0.4430	2004-430	16.74	5404-430	25.41
0.4435	2004-435	16.74	5404-435	25.41
0.4440	2004-440	16.74	5404-440	25.41
0.4445	2004-445	16.74	5404-445	25.41
0.4450	2004-450	16.74	5404-450	25.41
0.4455	2004-455	16.74	5404-455	25.41
0.4460	2004-460	16.74	5404-460	25.41
0.4465	2004-465	16.74	5404-465	25.41
0.4470	2004-470	16.74	5404-470	25.41
0.4475	2004-475	16.74	5404-475	25.41
0.4480	2004-480	16.74	5404-480	25.41
0.4485	2004-485	16.74	5404-485	25.41
0.4490	2004-490	16.74	5404-490	25.41
0.4495	2004-495	16.74	5404-495	25.41
0.4500	2004-500	16.74	5404-500	25.41
0.4505	2004-505	16.74	5404-505	25.41
0.4510	2004-510	16.74	5404-510	25.41
0.4515	2004-515	16.74	5404-515	25.41
0.4520	2004-520	16.74	5404-520	25.41
0.4525	2004-525	16.74	5404-525	25.41
0.4530	2004-530	16.74	5404-530	25.41
0.4535	2004-535	16.74	5404-535	25.41
0.4540	2004-540	16.74	5404-540	25.41
0.4545	2004-545	16.74	5404-545	25.41
0.4550	2004-550	16.74	5404-550	25.41
0.4555	2004-555	16.74	5404-555	25.41
0.4560	2004-560	16.74		

# Special Decimal Chucking Reamers

## Straight Flute - Straight Shank - R.H. Cut - High Speed Steel



SIZE	Pittsburgh ALLEGHENY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.4595	2004-595	\$16.74	5404-595	\$25.41
0.4600	2004-600	16.74	5404-600	25.41
0.4605	2004-605	16.74	5404-605	25.41
0.4610	2004-610	16.74	5404-610	25.41
0.4615	2004-615	16.74	5404-615	25.41
0.4620	2004-620	16.74	5404-620	25.41
0.4625	2004-625	16.74	5404-625	25.41
0.4630	2004-630	16.74	5404-630	25.41
0.4635	2004-635	16.74	5404-635	25.41
0.4640	2004-640	16.74	5404-640	25.41
0.4645	2004-645	16.74	5404-645	25.41
0.4650	2004-650	16.74	5404-650	25.41
0.4655	2004-655	16.74	5404-655	25.41
0.4660	2004-660	16.74	5404-660	25.41
0.4665	2004-665	16.74	5404-665	25.41
0.4670	2004-670	16.74	5404-670	25.41
0.4675	2004-675	16.74	5404-675	25.41
0.4680	2004-680	16.74	5404-680	25.41
0.4685	2004-685	16.74	5404-685	25.41
0.4695	2004-695	18.36	5404-695	25.41
0.4700	2004-700	18.36	5404-700	25.41
0.4705	2004-705	18.36	5404-705	25.41
0.4710	2004-710	18.36	5404-710	25.41
0.4715	2004-715	18.36	5404-715	25.41
0.4720	2004-720	18.36	5404-720	25.41
0.4725	2004-725	18.36	5404-725	25.41
0.4730	2004-730	18.36	5404-730	25.41
0.4735	2004-735	18.36	5404-735	25.41
0.4740	2004-740	18.36	5404-740	25.41
0.4745	2004-745	18.36	5404-745	25.41
0.4750	2004-750	18.36	5404-750	25.41
0.4755	2004-755	18.36	5404-755	25.41
0.4760	2004-760	18.36	5404-760	25.41
0.4765	2004-765	18.36	5404-765	25.41
0.4770	2004-770	18.36	5404-770	25.41
0.4775	2004-775	18.36	5404-775	25.41
0.4780	2004-780	18.36	5404-780	25.41
0.4785	2004-785	18.36	5404-785	25.41
0.4790	2004-790	18.36	5404-790	25.41
0.4795	2004-795	18.36	5404-795	25.41
0.4800	2004-800	18.36	5404-800	25.41
0.4805	2004-805	18.36	5404-805	25.41
0.4810	2004-810	18.36	5404-810	25.41
0.4815	2004-815	18.36	5404-815	25.41
0.4820	2004-820	18.36	5404-820	25.41
0.4825	2004-825	18.36	5404-825	25.41
0.4830	2004-830	18.36	5404-830	25.41
0.4835	2004-835	18.36	5404-835	25.41
0.4840	2004-840	18.36	5404-840	25.41
0.4845	2004-845	18.36	5404-845	25.41
0.4850	2004-850	18.36	5404-850	25.41
0.4855	2004-855	18.36	5404-855	25.41
0.4860	2004-860	18.36	5404-860	25.41
0.4865	2004-865	18.36	5404-865	25.41
0.4870	2004-870	18.36	5404-870	25.41
0.4875	2004-875	18.36	5404-875	25.41
0.4880	2004-880	18.36	5404-880	25.41
0.4885	2004-885	18.36	5404-885	25.41
0.4890	2004-890	18.36	5404-890	25.41
0.4895	2004-895	18.36	5404-895	25.41
0.4900	2004-900	18.36	5404-900	25.41
0.4905	2004-905	18.36	5404-905	25.41
0.4910	2004-910	18.36	5404-910	25.41
0.4915	2004-915	18.36	5404-915	25.41
0.4920	2004-920	18.36	5404-920	25.41

SIZE	Pittsburgh ALLEGHENY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.4925	2004-925	\$18.36	5404-925	\$25.41
0.4930	2004-930	18.36	5404-930	25.41
0.4935	2004-935	18.36	5404-935	25.41
0.4940	2004-940	18.36	5404-940	25.41
0.4945	2004-945	18.36	5404-945	25.41
0.4950	2004-950	18.36	5404-950	25.41
0.4955	2004-955	18.36	5404-955	25.41
0.4960	2004-960	18.36	5404-960	25.41
0.4965	2004-965	18.36	5404-965	25.41
0.4970	2004-970	18.36	5404-970	25.41
0.4975	2004-975	18.36	5404-975	25.41
0.4985	2004-985	18.36	5404-985	23.29
0.5005	2005-005	18.36	5405-005	23.29
0.5015	2005-015	18.36	5405-015	44.00
0.5020	2005-020	18.36	5405-020	44.00
0.5025	2005-025	24.48	5405-025	48.00
0.5030	2005-030	24.48	5405-030	44.00
0.5035	2005-035	24.48	5405-035	48.00
0.5040	2005-040	24.48	5405-040	48.00
0.5045	2005-045	24.48	5405-045	48.00
0.5050	2005-050	24.48	5405-050	48.00
0.5060	2005-060	24.48	5405-060	48.00
0.5070	2005-070	24.48	5405-070	48.00
0.5080	2005-080	24.48	5405-080	48.00
0.5090	2005-090	24.48	5405-090	48.00
0.5100	2005-100	24.48	5405-100	48.00
0.5110	2005-110	24.48	5405-110	48.00
0.5120	2005-120	24.48	5405-120	48.00
0.5130	2005-130	24.48	5405-130	48.00
0.5140	2005-140	24.48	5405-140	48.00
0.5150	2005-150	24.48	5405-150	48.00
0.5160	2005-160	24.48	5405-160†	48.00
0.5170	2005-170	24.48	—	—
0.5200	2005-200	24.48	5405-200	48.00
0.5210	2005-210	24.48	5405-210	48.00
0.5250	2005-250	24.48	5405-250	48.00
0.5300	2005-300	24.48	5405-300	48.00
0.5310	2005-310	24.48	—	—
0.5320	2005-320	24.48	5405-320	48.00
0.5370	2005-370	24.48	—	—
0.5480	2005-480	24.48	5405-480	48.00
0.5500	2005-500	24.48	—	—
0.5510	2005-510	24.48	5405-510	48.00
0.5520	2005-520	24.48	—	—
0.5530	2005-530	24.48	5405-530	48.00
0.5540	2005-540	24.48	—	—
0.5550	2005-550	24.48	—	—
0.5570	2005-570	24.48	5405-570	48.00
0.5590	2005-590	24.48	5405-590	48.00
0.5600	2005-600	24.48	5405-600	48.00
0.5605	2005-605	24.48	5405-605	48.00
0.5610	2005-610	24.48	—	—
0.5615	2005-615	20.95	5405-615	24.65
0.5620	2005-620	24.48	5405-620	48.00
0.5630	2005-630	24.48	5405-630	48.00
0.5635	2005-635	20.95	5405-635	24.65
0.5645	2005-645	24.48	5405-645	48.00
0.5655	2005-655	24.48	5405-655	48.00
0.5840	2005-840	24.48	—	—
0.5890	2005-890	24.48	—	—
0.5910	2005-910	24.48	—	—
0.5920	2005-920	24.48	—	—
0.5950	2005-950	24.48	—	—
0.5960	2005-960	24.48	—	—
0.6120	2006-120	24.48	5406-120	48.00

SIZE	Pittsburgh ALLEGHENY ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH
0.6160	2006-160	\$24.48	5406-160	\$48.00
0.6220	2006-220	24.48	5406-220	48.00
0.6230	2006-230	24.48	5406-230	48.00
0.6240	2006-240	24.45	5406-240	28.77
0.6245	2006-245	25.96	5406-245	44.00
0.6255	2006-255	25.96	5406-255	44.00
0.6260	2006-260	24.45	5406-260	28.77
0.6270	2006-270	29.21	5406-270	49.50
0.6280	2006-280	31.86	5406-280	54.00
0.6290	2006-290	31.86	5406-290	54.00
0.6300	2006-300	31.86	5406-300	54.00
0.6310	2006-310	31.86	5406-310	54.00
0.6320	2006-320	31.86	5406-320	54.00
0.6325	2006-325	31.86	—	—
0.6340	2006-340	31.86	5406-340	54.00
0.6350	2006-350	31.86	5406-350†	54.00
0.6600	2006-600	31.86	5406-600†	54.00
0.6680	2006-680	31.86	5406-680†	54.00
0.6850	2006-850	31.86	5406-850	54.00
0.6860	2006-860	31.86	5406-860	54.00
0.6870	2006-870	31.86	5406-870	54.00
0.6880	2006-880	32.53	5406-880	55.13
0.6900	2006-900	32.53	5406-900	55.13
0.7200	2007-200	32.53	5407-200	55.13
0.7270	2007-270	32.53	—	—
0.7300	2007-300	32.53	—	—
0.7470	2007-470	35.28	5407-470	55.13
0.7490	2007-490	34.80	5407-490	40.94
0.7495	2007-495	35.28	5407-495	55.13
0.7505	2007-505	39.36	5407-505	61.50
0.7510	2007-510	34.80	5407-510	40.94
0.7515	2007-515	39.36	5407-515	61.50
0.7520	2007-520	39.36	5407-520	61.50
0.7530	2007-530	39.36	5407-530	61.50
0.7540	2007-540	39.36	5407-540	61.50
0.7550	2007-550	39.36	5407-550	61.50
0.7560	2007-560	39.36	—	—
0.7580	2007-580	39.36	—	—
0.7600	2007-600	39.36	—	—
0.7840	2007-840	39.36	—	—
0.7860	2007-860	39.36	—	—
0.8100	2008-100	39.36	5408-100	61.50
0.8110	2008-110	39.36	5408-110	61.50
0.8115	2008-115	35.22	5408-115	41.43
0.8140	2008-140	39.36	5408-140	61.50
0.8150	2008-150	39.36	5408-150	61.50
0.8700	2008-700	39.36	—	—
0.8710	2008-710	39.36	—	—
0.8720	2008-720	39.36	5408-720	61.50
0.8730	2008-730	39.36	5408-730	61.50
0.8740	2008-740	42.33	5408-740	49.80
0.8760	2008-760	42.33	5408-760	49.80
0.8770	2008-770	47.28	5408-770	73.88
0.9360	2009-360	47.28	5409-360	73.88
0.9385	2009-385	45.90	5409-385	54.00
0.9660	2009-660	51.12	—	—
0.9980	2009-980	51.12	5409-980	79.88
0.9990	2009-990	49.09	5409-990	57.75
1.0010	2010-010	51.89	—	—
1.0020	2010-020	59.85	—	—
1.0030	2010-030	59.85	—	—
1.0040	2010-040	59.85	—	—
1.0050	2010-050	59.85	—	—

# Chucking Reamers – Expansion, Straight Flute

High Speed Steel, Straight & Taper Shank



Straight Shank



Taper Shank

DIAM.	DECM'L EQUIV	FLUTE LG'TH	OVER. LG'TH	TAPER SHANK NO.	STRAIGHT SHANK		TAPER SHANK	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	0.3750	3/4	7	1	2030-024	\$27.36	2040-241	\$27.50
13/32	0.4062	3/4	7	1	2030-026	27.36	2040-261	27.50
7/16	0.4375	7/8	7	1	2030-028	28.40	2040-281	28.40
15/32	0.4688	7/8	7	1	2030-030	29.61	2040-301	29.07
1/2	0.5000	1	8	1	2030-032	30.11	2040-321	29.70
17/32	0.5312	1	8	1	2030-034	31.37	2040-341	30.83
9/16	0.5625	1-1/8	8	1	2030-036	32.09	2040-361	31.28
19/32	0.5938	1-1/8	8	1	2030-038	32.58	2040-381	32.18
5/8	0.6250	1-1/4	9	2	2030-040	33.57	2040-402	33.26
21/32	0.6562	1-1/4	9	2	2030-042	34.83	2040-422	33.93
11/16	0.6875	1-1/4	9	2	2030-044	35.28	2040-442	34.38
23/32	0.7188	1-1/4	9	2	2030-046	37.58	2040-462	36.32
3/4	0.7500	1-3/8	9-1/2	2	2030-048	38.84	2040-482	37.85
25/32	0.7812	1-3/8	9-1/2	2	2030-050	41.00	2040-502	39.42
13/16	0.8125	1-3/8	9-1/2	2	2030-052	42.75	2040-522	40.05
27/32	0.8438	1-3/8	9-1/2	2	2030-054	39.24	2040-542	42.26
7/8	0.8750	1-1/2	10	2	2030-056	46.26	2040-562	44.01
29/32	0.9062	1-1/2	10	2	2030-058	49.91	2040-582	46.22
15/16	0.9375	1-1/2	10	3	2030-060	52.25	2040-603	47.57
31/32	0.9688	1-1/2	10	3	2030-062	54.54	2040-623	52.02
1	1.0000	1-5/8	10-1/2	3	2030-064	57.38	2040-643	55.08
1-1/32	1.0312	1-5/8	10-1/2	3	2030-066†	69.89	2040-663†	65.64
1-1/16	1.0625	1-5/8	10-1/2	3	2030-068	63.54	2040-683	59.67
1-3/32	1.0938	1-5/8	10-1/2	3	2030-070†	76.38	2040-703†	70.98

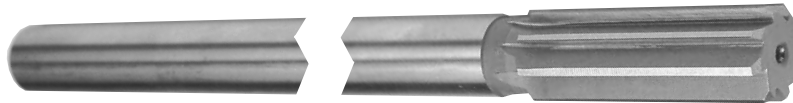
DIAM.	DECM'L EQUIV	FLUTE LG'TH	OVER. LG'TH	TAPER SHANK NO.	STRAIGHT SHANK		TAPER SHANK	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-1/8	1.1250	1-3/4	11	3	2030-072	69.44	2040-723	\$64.53
1-5/32	1.1562	1-3/4	11	3	2030-074†	74.79	2040-743†	77.08
1-3/16	1.1875	1-3/4	11	3	2030-076	67.99	2040-763	70.07
1-7/32	1.2188	1-3/4	11	3	2030-078†	86.88	2040-783†	83.66
1-1/4	1.2500	1-7/8	11-1/2	4	2030-080	78.98	2040-804	76.05
1-5/16	1.3125	1-7/8	11-1/2	4	2030-084	81.54	2040-844	79.07
1-3/8	1.3750	2	12	4	2030-088	84.60	2040-884	82.31
1-7/16	1.4375	2	12	4	2030-092	87.93	2040-924	86.90
1-1/2	1.5000	2-1/8	12-1/2	4	2030-096	91.53	2040-964	98.73
1-9/16	1.5625	2-1/8	12-1/2	4	2030-100	96.71	2041-004	106.97
1-5/8	1.6250	2-1/4	13	4	2030-104	100.80	2041-044	112.19
1-11/16	1.6875	2-1/4	13	4	2030-108	105.17	2041-084	117.66
1-3/4	1.7500	2-3/8	13-1/2	5	2030-112	110.12	2041-125	123.12
1-13/16	1.8125	2-3/8	13-1/2	5	2030-116	115.70	2041-165	129.15
1-7/8	1.8750	2-1/2	14	5	2030-120	120.60	2041-205	135.99
1-15/16	1.9375	2-1/2	14	5	2030-124	126.50	2041-245	142.86
2	2.0000	2-1/2	14	5	2030-128	132.39	2041-285	149.72

Our Drill Selection Is Unbeatable!  
More Sizes - More Types

† Limited Quantities

# Chucking Reamers – Extra Long

High Speed Steel



1

DIAM.	FLUTE x OVERALL									
	ORDER NO.	STD. x 6	ORDER NO.	STD. x 8	ORDER NO.	STD. x 12	ORDER NO.	8 x 12	ORDER NO.	12 x 16
1/8	1960-080	\$12.80	1960-081	\$14.00	1960-082	\$ 28.75	—	—	—	—
5/32	1960-100	18.00	1960-101	19.70	1960-102	32.00	—	—	—	—
3/16	1960-120	13.70	1960-121	14.95	1960-122	28.75	—	—	—	—
7/32	—	—	1960-141	25.45	1960-142	32.00	—	—	—	—
1/4	—	—	1960-161	21.20	1960-162	28.75	—	—	—	—
9/32	—	—	—	—	1960-182	36.80	—	—	—	—
5/16	—	—	—	—	1960-202	34.30	—	—	—	—
11/32	—	—	—	—	1960-222	41.95	—	—	—	—
3/8	—	—	—	—	1960-242	36.80	—	—	—	—
13/32	—	—	—	—	1960-262	44.10	—	—	—	—
7/16	—	—	—	—	1960-282	42.55	1960-283†	\$52.35	—	—
15/32	—	—	—	—	1960-302	50.55	—	—	—	—
1/2	—	—	—	—	1960-322	46.70	—	—	—	—
17/32	—	—	—	—	1960-342	55.60	—	—	—	—
9/16	—	—	—	—	1960-362	54.40	1960-363†	66.90	1960-364†	\$89.20
19/32	—	—	—	—	1960-382	63.40	1960-383†	84.90	—	—
5/8	—	—	—	—	1960-402	63.40	—	—	—	—
21/32	—	—	—	—	1960-422	72.60	1960-423†	97.40	—	—
11/16	—	—	—	—	1960-442	72.00	1960-443†	97.40	1960-444†	129.80
23/32	—	—	—	—	1960-462	83.55	1960-463†	106.20	—	—
3/4	—	—	—	—	1960-482	144.30	1960-483†	159.35	—	—
13/16	—	—	—	—	1960-522	168.55	—	—	—	—
7/8	—	—	—	—	1960-562	186.55	—	—	—	—
15/16	—	—	—	—	1960-602	203.80	—	—	1960-604†	265.95
1	—	—	—	—	1960-642	218.40	—	—	—	—

† Limited Quantities

# Chucking Reamers—Taper Shank

Straight Flute & RHS-RHC, High Speed Steel



**Straight Flute**



**Right Hand Spiral**

DIAM.	DECM'L EQUIV	FLUTE LG'TH	OVER. LG'TH	SHANK NO.	STR. FLUTE		RHS-RHC	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
9/64	.1406	1	4	1	1980-091†	\$9.06	—	—
11/64	.1719	1-1/8	4-1/2	1	1980-111†	10.42	1990-111†	\$8.84
7/32	.2188	1-1/4	5	1	1980-141†	9.06	—	—
15/64	.2344	1-1/2	6	1	1980-151†	10.42	1990-151†	12.06
1/4	.2500	1-1/2	6	1	1980-161	9.06	1990-161	10.49
17/64	.2656	1-1/2	6	1	—	—	1990-171†	12.06
9/32	.2812	1-1/2	6	1	1980-181	9.85	1990-181	10.49
19/64	.2969	1-1/2	6	1	1980-191†	10.82	—	—
5/16	.3125	1-1/2	6	1	1980-201	9.41	1990-201	10.49
11/32	.3438	1-1/2	6	1	1980-221	10.40	1990-221	10.49
23/64	.3594	1-3/4	7	1	1980-231†	12.18	1990-231†	12.06
3/8	.3750	1-3/4	7	1	1980-241	10.59	1990-241	10.49
25/64	.3906	1-3/4	7	1	—	—	1990-251†	13.43
13/32	.4062	1-3/4	7	1	1980-261	10.89	1990-261	11.68
7/16	.4375	1-3/4	7	1	1980-281	10.89	1990-281	11.68
15/32	.4688	1-3/4	7	1	1980-301	11.98	1990-301	12.28
31/64	.4844	2	8	1	1980-311†	13.66	1990-311†	14.12
1/2	.5000	2	8	1	1980-321	11.88	1990-321	12.28
17/32	.5312	2	8	1	1980-341	13.22	1990-341	14.45
35/64	.5469	2-1/2	9-1/2	2	1980-352†	14.86	—	—
9/16	.5625	2	8	1	1980-361	12.92	1990-361	14.45
19/32	.5938	2	8	1	1980-381	14.31	1990-381	15.54
39/64	.6094	2-1/4	9	2	—	—	1990-392†	17.65
5/8	.6250	2-1/4	9	2	1980-402	14.01	1990-402	15.35
21/32	.6562	2-1/4	9	2	1980-422	15.39	1990-422	16.83
11/16	.6875	2-1/4	9	2	1980-442	15.25	1990-442	16.83
23/32	.7188	2-1/4	9	2	1980-462	17.37	1990-462	18.96

DIAM.	DECM'L EQUIV	FLUTE LG'TH	OVER. LG'TH	SHANK NO.	STR. FLUTE		RHS-RHC	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4	.7500	2-1/2	9-1/2	2	1980-482	\$17.03	1990-482	\$18.81
25/32	.7812	2-1/2	9-1/2	2	1980-502	19.85	1990-502	21.63
13/16	.8125	2-1/2	9-1/2	2	1980-522	19.85	1990-522	21.63
27/32	.8438	2-1/2	9-1/2	2	1980-542	22.62	1990-542	24.80
55/64	.8594	2-5/8	10	2	1980-552†	25.67	1990-552†	28.52
7/8	.8750	2-5/8	10	2	1980-562	22.32	1990-562	24.80
29/32	.9062	2-5/8	10	2	1980-582	24.65	1990-582	27.13
59/64	.9219	2-5/8	10	3	1980-593†	28.35	—	—
15/16	.9375	2-5/8	10	3	1980-603	24.65	1990-603	27.13
31/32	.9688	2-5/8	10	3	1980-623	27.47	1990-623	30.39
63/64	.9844	2-3/4	10-1/2	3	—	—	1990-633†	34.67
1	1.0000	2-3/4	10-1/2	3	1980-643	27.23	1990-643	30.15
1-1/16	1.0625	2-3/4	10-1/2	3	1980-683	30.59	1990-683	33.41
1-5/64	1.0781	2-7/8	11	3	1980-693†	38.03	—	—
1-7/64	1.1094	2-7/8	11	3	1980-713†	38.03	—	—
1-1/8	1.1250	2-7/8	11	3	1980-723	33.07	1990-723	36.88
1-3/16	1.1875	2-7/8	11	3	1980-763	37.08	1990-763	40.14
1-15/64	1.2344	3	11-1/2	4	—	—	1990-794†	50.77
1-1/4	1.2500	3	11-1/2	4	1980-804	40.10	1990-804	44.15
1-5/16	1.3125	3	11-1/2	4	1980-844	44.85	1990-844	48.36
1-23/64	1.3594	3-1/4	12	4	—	—	1990-874†	60.17
1-3/8	1.3750	3-1/4	12	4	1980-884	48.51	1990-884	52.32
1-7/16	1.4375	3-1/4	12	4	1980-924	52.57	1990-924	56.97
1-29/64	1.4531	3-1/2	12-1/2	4	—	—	1990-934†	69.56
1-1/2	1.5000	3-1/2	12-1/2	4	1980-964	56.18	1990-964	60.49

**Need a Decimal Size?  
We Deliver Fast!**

† Limited Quantities



# Solid Carbide Chucking Reamers

## Straight Shank - Straight Flute

2



### Fractional Sizes

FRAC. SIZES	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/32	.0312	3/8	1-1/2	2967-002	\$11.80
3/64	.0469	3/8	1-1/2	2967-003	11.05
1/16	.0625	3/8	1-1/2	2967-004	10.65
5/64	.0781	1-1/2	1-3/4	2967-005	11.00
3/32	.0937	1/2	2	2967-006	12.55
7/64	.1094	5/8	2-1/4	2967-007	13.35
1/8	.1250	5/8	2-1/4	2967-008	13.80
9/64	.1406	3/4	2-1/2	2967-009	14.55
5/32	.1562	3/4	2-1/2	2967-010	14.80
11/64	.1719	7/8	2-3/4	2967-011	16.55
3/16	.1875	7/8	2-3/4	2967-012	16.80
13/64	.2031	1	3	2967-013	19.10
7/32	.2187	1	3	2967-014	19.90
15/64	.2344	1	3	2967-015	21.55
1/4	.2500	1	3	2967-016	21.80
17/64	.2656	1-1/8	3-1/4	2967-017	26.70
9/32	.2812	1-1/8	3-1/4	2967-018	26.95
19/64	.2969	1-1/8	3-1/4	2967-019	27.15
5/16	.3125	1-1/8	3-1/4	2967-020	27.40
21/64	.3281	1-1/4	3-1/2	2967-021	33.60
11/32	.3437	1-1/4	3-1/2	2967-022	33.85
23/64	.3594	1-1/4	3-1/2	2967-023	34.25
3/8	.3750	1-1/4	3-1/2	2967-024	36.80
13/32	.4062	1-1/2	4	2967-026	44.05
7/16	.4375	1-1/2	4	2967-028	53.10
15/32	.4687	1-1/2	4	2967-030	66.15
1/2	.5000	1-1/2	4	2967-032	67.20

Tolerance +.0001/+.0003

### Letter Sizes

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
A	.2340	1	3	2967-201	\$21.80
B	.2380	1	3	2967-202	21.80
C	.2420	1	3	2967-203	21.80
D	.2460	1	3	2967-204	21.80
E	.2500	1	3	2967-205	19.85
F	.2570	1	3	2967-206	27.50
G	.2610	1	3	2967-207	27.50
H	.2660	1	3	2967-208	27.50
I	.2720	1	3	2967-209	27.50
J	.2770	1-1/8	3-1/4	2967-210	27.50
K	.2810	1-1/8	3-1/4	2967-211	27.50
L	.2900	1-1/8	3-1/4	2967-212	27.50
M	.2950	1-1/8	3-1/4	2967-213	27.50
N	.3020	1-1/8	3-1/4	2967-214	28.25
O	.3160	1-1/8	3-1/4	2967-215	29.05
P	.3230	1-1/8	3-1/4	2967-216	37.45
Q	.3320	1-1/4	3-1/2	2967-217	37.45
R	.3390	1-1/4	3-1/2	2967-218	37.45
S	.3480	1-1/4	3-1/2	2967-219	38.50
T	.3580	1-1/4	3-1/2	2967-220	38.50
U	.3680	1-1/4	3-1/2	2967-221	41.55
V	.3770	1-1/4	3-1/2	2967-222	47.05
W	.3860	1-1/4	3-1/2	2967-223	48.55
X	.3970	1-1/4	3-1/2	2967-224	49.60
Y	.4040	1-1/4	3-1/2	2967-225	49.60
Z	.4130	1-1/2	4	2967-226	51.65

### Wire Gage Sizes

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1	.2280	1	3	2967-101	\$21.75
2	.2210	1	3	2967-102	21.75
3	.2130	1	3	2967-103	21.20
4	.2090	1	3	2967-104	21.20
5	.2055	1	3	2967-105	21.20
6	.2040	1	3	2967-106	21.20
7	.2010	1	3	2967-107	21.20
8	.1990	1	3	2967-108	21.20
9	.1960	1	3	2967-109	21.20
10	.1935	7/8	2-3/4	2967-110	21.20
11	.1910	7/8	2-3/4	2967-111	17.80
12	.1890	7/8	2-3/4	2967-112	17.80
13	.1850	7/8	2-3/4	2967-113	17.80
14	.1820	7/8	2-3/4	2967-114	17.80
15	.1800	7/8	2-3/4	2967-115	17.80
16	.1770	7/8	2-3/4	2967-116	17.80
17	.1730	7/8	2-3/4	2967-117	17.80
18	.1695	7/8	2-3/4	2967-118	17.80
19	.1660	7/8	2-3/4	2967-119	17.80
20	.1610	7/8	2-3/4	2967-120	17.80
21	.1590	3/4	2-1/2	2967-121	16.15
22	.1570	3/4	2-1/2	2967-122	15.10
23	.1540	3/4	2-1/2	2967-123	15.10
24	.1520	3/4	2-1/2	2967-124	15.10
25	.1495	3/4	2-1/2	2967-125	15.10
26	.1470	3/4	2-1/2	2967-126	15.10
27	.1440	3/4	2-1/2	2967-127	15.10
28	.1405	3/4	2-1/2	2967-128	15.10
29	.1360	3/4	2-1/2	2967-129	15.10
30	.1285	5/8	2-1/4	2967-130	12.55
31	.1200	5/8	2-1/4	2967-131	12.55
32	.1160	5/8	2-1/4	2967-132	12.55
33	.1130	5/8	2-1/4	2967-133	12.55
34	.1110	5/8	2-1/4	2967-134	12.55
35	.1100	5/8	2-1/4	2967-135	12.55
36	.1065	5/8	2-1/4	2967-136	12.55
37	.1040	5/8	2-1/4	2967-137	12.55
38	.1015	5/8	2-1/4	2967-138	12.55
39	.0995	5/8	2-1/4	2967-139	12.55
40	.0980	5/8	2-1/4	2967-140	12.55
41	.0960	5/8	2-1/4	2967-141	12.40
42	.0935	1/2	1-3/4	2967-142	12.40
43	.0890	1/2	1-3/4	2967-143	12.40
44	.0860	1/2	1-3/4	2967-144	12.40
45	.0820	1/2	1-3/4	2967-145	12.40
46	.0810	1/2	1-3/4	2967-146	12.10
47	.0785	1/2	1-3/4	2967-147	12.10
48	.0760	1/2	1-3/4	2967-148	12.10
49	.0730	1/2	1-3/4	2967-149	12.10
50	.0700	1/2	1-3/4	2967-150	12.10
51	.0670	1/2	1-1/2	2967-151	12.10
52	.0635	1/2	1-1/2	2967-152	12.80
53	.0595	1/2	1-1/2	2967-153	12.80
54	.0550	1/2	1-1/2	2967-154	12.80
55	.0520	1/2	1-1/2	2967-155	12.80
56	.0465	1/2	1-1/2	2967-156	12.80
57	.0430	1/2	1-1/2	2967-157	12.80
58	.0420	1/2	1-1/2	2967-158	12.80
59	.0410	1/2	1-1/2	2967-159	12.80
60	.0400	1/2	1-1/2	2967-160	12.80
61	.0390	3/8	1-1/2	2967-161	12.80
62	.0380	3/8	1-1/2	2967-162	12.80
63	.0370	3/8	1-1/2	2967-163	12.80
64	.0360	3/8	1-1/2	2967-164	12.80
65	.0350	3/8	1-1/2	2967-165	14.75
66	.0330	3/8	1-1/2	2967-166	14.75
67	.0320	3/8	1-1/2	2967-167	14.75
68	.0310	3/8	1-1/2	2967-168	14.75
69	.0292	3/8	1-1/2	2967-169	14.75
70	.0280	3/8	1-1/2	2967-170	14.75

### Metric Sizes

DIA.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1.0	.0394	1/4	1-1/2	3090-394	\$12.80
1.5	.0591	3/8	1-1/2	3090-591	12.80
2.0	.0787	1/2	1-3/4	3090-787	12.10
2.5	.0984	5/8	2-1/4	3090-984	12.55
3.0	.1181	5/8	2-1/4	3091-181	12.55
3.5	.1378	3/4	2-1/2	3091-378	15.10
4.0	.1575	3/4	2-1/2	3091-575	16.15
4.5	.1772	7/8	2-3/4	3091-772	17.90
5.0	.1969	1	3	3091-969	20.05
5.5	.2165	1	3	3092-165	20.60
6.0	.2362	1	3	3092-362	22.00
6.5	.2559	1-1/8	3-1/4	3092-559	27.75
7.0	.2756	1-1/8	3-1/4	3092-756	27.75
7.5	.2953	1-1/8	3-1/4	3092-953	28.55
8.0	.3150	1-1/8	3-1/4	3093-150	29.30
8.5	.3346	1-1/4	3-1/2	3093-346	35.20
9.0	.3543	1-1/4	3-1/2	3093-543	36.20
9.5	.3740	1-1/4	3-1/2	3093-740	39.15
10.0	.3937	1-1/4	3-1/2	3093-937	46.65
10.5	.4134	1-1/4	3-1/2	3094-134	48.60
11.0	.4331	1-3/8	4	3094-331	54.10
11.5	.4528	1-3/8	4	3094-528	68.65
12.0	.4724	1-3/8	4	3094-724	69.85
12.5	.4921	1-1/2	4	3094-921	71.10

Tolerance +.0001/+.0003  
 Sizes in .0001 increments will be quoted on request.

# Solid Carbide Chucking Reamers, Decimal Sizes

2



Tolerance +. Sizes in .0001 increments will be quoted on request.

SIZE	ORDER NO.	PRICE EACH
<b>▼ 1/4 LOC x 1-1/2 OAL ▼</b>		
0.0300	3090-300	\$15.85
0.0315	3090-315	15.85
0.0325	3090-325	15.85
0.0335	3090-335	15.85
0.0340	3090-340	15.85
0.0345	3090-345	15.85
0.0355	3090-355	13.50
0.0365	3090-365	13.50
0.0375	3090-375	13.50
0.0385	3090-385	13.50
0.0395	3090-395	13.50
0.0405	3090-405	13.50
0.0415	3090-415	13.50
<b>▼ 3/8 LOC x 1-1/2 OAL ▼</b>		
0.0425	3090-425	\$13.50
0.0435	3090-435	13.50
0.0440	3090-440	13.50
0.0445	3090-445	13.50
0.0450	3090-450	13.50
0.0455	3090-455	13.50
0.0460	3090-460	13.50
0.0470	3090-470	13.05
0.0475	3090-475	13.05
0.0480	3090-480	13.05
0.0485	3090-485	13.05
0.0490	3090-490	13.05
0.0495	3090-495	13.05
0.0500	3090-500	13.05
0.0505	3090-505	13.05
0.0510	3090-510	13.05
0.0515	3090-515	13.05
0.0525	3090-525	13.05
0.0530	3090-530	13.05
0.0535	3090-535	13.05
0.0540	3090-540	13.05
0.0545	3090-545	13.05
0.0555	3090-555	13.05
0.0560	3090-560	13.05
0.0565	3090-565	13.05
0.0570	3090-570	13.05
0.0575	3090-575	13.05
0.0580	3090-580	13.05
0.0585	3090-585	13.05
0.0590	3090-590	13.05
0.0600	3090-600	13.05
0.0605	3090-605	13.05
0.0610	3090-610	13.05
0.0615	3090-615	13.05
0.0620	3090-620	13.05
0.0630	3090-630	13.05
0.0640	3090-640	13.30
0.0645	3090-645	13.30
0.0650	3090-650	13.30
<b>▼ 1/2 LOC x 1-3/4 OAL ▼</b>		
0.0655	3090-655	\$13.45
0.0660	3090-660	13.45
0.0665	3090-665	13.45
0.0675	3090-675	13.45
0.0680	3090-680	13.45
0.0685	3090-685	13.45
0.0690	3090-690	13.45
0.0695	3090-695	13.45
0.0705	3090-705	13.45
0.0710	3090-710	13.45

SIZE	ORDER NO.	PRICE EACH
<b>▼ 1/2 LOC x 2 OAL ▼</b>		
0.0715	3090-715	\$13.45
0.0720	3090-720	13.45
0.0725	3090-725	13.45
0.0735	3090-735	13.45
0.0740	3090-740	13.45
0.0745	3090-745	13.45
0.0750	3090-750	13.45
0.0755	3090-755	13.45
0.0765	3090-765	13.45
0.0770	3090-770	13.45
0.0775	3090-775	13.45
0.0780	3090-780	13.45
0.0790	3090-790	15.00
0.0795	3090-795	15.00
0.0800	3090-800	15.00
0.0805	3090-805	15.00
0.0815	3090-815	15.40
0.0825	3090-825	15.40
0.0830	3090-830	15.40
0.0835	3090-835	15.40
0.0840	3090-840	15.40
0.0845	3090-845	15.40
0.0850	3090-850	15.40
0.0855	3090-855	15.40
0.0865	3090-865	15.40
0.0870	3090-870	15.40
0.0875	3090-875	15.40
0.0880	3090-880	15.40
0.0885	3090-885	15.40
0.0895	3090-895	15.40
0.0900	3090-900	15.40
0.0905	3090-905	15.40
0.0910	3090-910	15.40
0.0915	3090-915	15.40
0.0920	3090-920	15.40
0.0925	3090-925	15.40
0.0930	3090-930	15.40
0.0940	3090-940	15.40
0.0945	3090-945	15.40
0.0950	3090-950	15.40
0.0955	3090-955	15.40
0.0965	3090-960	15.40
<b>▼ 5/8 LOC x 2-1/4 OAL ▼</b>		
0.0970	3090-970	\$15.50
0.0975	3090-975	15.70
0.0985	3090-985	15.70
0.0990	3090-990	15.70
0.1000	3091-000	15.70
0.1005	3091-005	15.70
0.1010	3091-010	15.70
0.1020	3091-020	15.70
0.1025	3091-025	15.70
0.1030	3091-030	15.70
0.1035	3091-035	15.70
0.1045	3091-045	15.70
0.1050	3091-050	15.70
0.1055	3091-055	15.70
0.1060	3091-060	15.70
0.1070	3091-070	15.70
0.1075	3091-075	15.70
0.1080	3091-080	15.70
0.1085	3091-085	15.70
0.1090	3091-090	15.70
0.1095	3091-095	16.70
0.1105	3091-105	16.70
0.1115	3091-115	16.70

SIZE	ORDER NO.	PRICE EACH
<b>▼ 5/8 LOC x 2-1/4 OAL ▼</b>		
0.1125	3091-125	\$16.70
0.1135	3091-135	16.70
0.1140	3091-140	16.70
0.1145	3091-145	16.70
0.1150	3091-150	16.70
0.1155	3091-155	16.70
0.1165	3091-165	16.70
0.1170	3091-170	16.70
0.1175	3091-175	16.70
0.1180	3091-180	16.70
0.1185	3091-185	16.70
0.1190	3091-190	16.70
0.1195	3091-195	16.70
0.1205	3091-205	16.70
0.1210	3091-210	16.70
0.1215	3091-215	16.70
0.1220	3091-220	16.70
0.1225	3091-225	16.70
0.1230	3091-230	16.70
0.1235	3091-235	16.70
0.1240	3091-240	16.70
0.1245	3091-245	16.70
0.1247	3091-247	16.70
0.1255	3091-255	16.70
0.1260	3091-260	16.70
0.1265	3091-265	16.70
0.1270	3091-270	16.70
0.1275	3091-275	16.70
0.1280	3091-280	16.70
0.1290	3091-290	16.70
0.1295	3091-295	18.45
0.1300	3091-300	18.45
<b>▼ 3/4 LOC x 2-1/2 OAL ▼</b>		
0.1305	3091-305	\$20.45
0.1310	3091-310	20.45
0.1315	3091-315	20.45
0.1320	3091-320	20.45
0.1325	3091-325	20.45
0.1330	3091-330	20.45
0.1335	3091-335	20.45
0.1340	3091-340	20.45
0.1345	3091-345	20.45
0.1350	3091-350	20.45
0.1355	3091-355	20.45
0.1365	3091-365	20.45
0.1370	3091-370	20.45
0.1375	3091-375	20.45
0.1380	3091-380	20.45
0.1385	3091-385	20.45
0.1390	3091-390	20.45
0.1395	3091-395	20.45
0.1400	3091-400	20.45
0.1410	3091-410	20.45
0.1415	3091-415	20.45
0.1420	3091-420	20.45
0.1425	3091-425	20.45
0.1430	3091-430	20.45
0.1435	3091-435	20.45
0.1445	3091-445	20.45
0.1450	3091-450	20.45
0.1455	3091-455	20.45
0.1460	3091-460	20.45
0.1465	3091-465	20.45
0.1475	3091-475	20.45
0.1480	3091-480	20.45

SIZE	ORDER NO.	PRICE EACH
<b>▼ 3/4 LOC x 2-1/2 OAL ▼</b>		
0.1485	3091-485	\$20.45
0.1490	3091-490	20.45
0.1500	3091-500	20.45
0.1505	3091-505	20.45
0.1507	3091-507	20.45
0.1510	3091-510	20.45
0.1515	3091-515	20.45
0.1525	3091-525	20.45
0.1530	3091-530	20.45
0.1535	3091-535	20.45
0.1541	3091-541	20.45
0.1545	3091-545	20.45
0.1550	3091-550	20.45
0.1555	3091-555	20.45
0.1560	3091-560	20.45
0.1565	3091-565	20.45
0.1580	3091-580	21.30
0.1585	3091-585	21.30
0.1595	3091-595	21.30
0.1600	3091-600	21.30
0.1605	3091-605	21.30
<b>▼ 7/8 LOC x 2-3/4 OAL ▼</b>		
0.1615	3091-615	\$23.30
0.1620	3091-620	23.30
0.1625	3091-625	23.30
0.1630	3091-630	23.30
0.1635	3091-635	23.30
0.1640	3091-640	23.30
0.1645	3091-645	23.30
0.1650	3091-650	23.30
0.1655	3091-655	23.30
0.1665	3091-665	23.30
0.1670	3091-670	23.30
0.1675	3091-675	23.30
0.1680	3091-680	23.30
0.1685	3091-685	23.30
0.1690	3091-690	23.30
0.1700	3091-700	23.30
0.1705	3091-705	23.30
0.1710	3091-710	23.30
0.1715	3091-715	23.30
0.1720	3091-720	23.30
0.1725	3091-725	23.30
0.1735	3091-735	23.30
0.1740	3091-740	23.30
0.1745	3091-745	23.30
0.1750	3091-750	23.30
0.1755	3091-755	23.30
0.1760	3091-760	23.30
0.1765	3091-765	23.30
0.1775	3091-775	23.30
0.1780	3091-780	23.30
0.1785	3091-785	23.30
0.1790	3091-790	23.30
0.1795	3091-795	23.30
0.1805	3091-805	23.30
0.1810	3091-810	23.30
0.1814	3091-814	23.30
0.1815	3091-815	23.30
0.1825	3091-825	23.30
0.1830	3091-830	23.30
0.1835	3091-835	23.30
0.1840	3091-840	23.30
0.1845	3091-845	23.30
0.1855	3091-855	23.30

SIZE	ORDER NO.	PRICE EACH
<b>▼ 7/8 LOC x 2-3/4 OAL ▼</b>		
0.1860	3091-860	\$23.30
0.1865	3091-865	23.30
0.1870	3091-870	23.30
0.1872	3091-872	23.30
0.1880	3091-880	23.30
0.1885	3091-885	23.30
0.1895	3091-895	23.30
0.1900	3091-900	23.30
0.1905	3091-905	23.30
0.1915	3091-915	23.30
<b>▼ 1 LOC x 3 OAL ▼</b>		
0.1920	3091-920	\$25.80
0.1925	3091-925	25.80
0.1930	3091-930	25.80
0.1940	3091-940	25.80
0.1945	3091-945	25.80
0.1950	3091-950	25.80
0.1955	3091-955	25.80
0.1965	3091-965	25.80
0.1970	3091-970	25.80
0.1975	3091-975	25.80
0.1980	3091-980	25.80
0.1985	3091-985	25.80
0.1995	3091-995	25.80
0.2000	3092-000	25.80
0.2005	3092-005	25.80
0.2015	3092-015	25.80
0.2020	3092-020	25.80
0.2025	3092-025	25.80
0.2030	3092-030	25.80
0.2035	3092-035	25.80
0.2045	3092-045	25.80
0.2050	3092-050	25.80
0.2060	3092-060	25.80
0.2065	3092-065	25.80
0.2070	3092-070	25.80
0.2075	30	

# Solid Carbide Chucking Reamers, Decimal Sizes

(Continued)



MADE IN U.S.A.

Tolerance +. Sizes in .0001 increments will be quoted on request.

SIZE	ORDER NO.	PRICE EACH
<b>1 LOC x 3 OAL</b>		
0.2230	3092-230	\$26.45
0.2235	3092-235	26.45
0.2240	3092-240	26.45
0.2245	3092-245	26.45
0.2250	3092-250	26.45
0.2255	3092-255	26.45
0.2260	3092-260	26.45
0.2265	3092-265	26.45
0.2270	3092-270	26.45
0.2275	3092-275	26.45
0.2285	3092-285	26.45
0.2290	3092-290	26.45
0.2295	3092-295	26.45
0.2300	3092-300	26.45
0.2305	3092-305	26.45
0.2310	3092-310	26.45
0.2315	3092-315	26.45
0.2320	3092-320	26.45
0.2325	3092-325	26.45
0.2330	3092-330	26.45
0.2335	3092-335	26.45
0.2345	3092-345	28.10
0.2350	3092-350	28.10
0.2355	3092-355	28.10
0.2360	3092-360	28.10
0.2365	3092-365	28.10
0.2370	3092-370	28.10
0.2375	3092-375	28.10
0.2385	3092-385	28.10
0.2390	3092-390	28.10
0.2395	3092-395	28.10
0.2400	3092-400	28.10
0.2405	3092-405	28.10
0.2410	3092-410	28.10
0.2415	3092-415	28.10
0.2425	3092-425	28.10
0.2430	3092-430	28.10
0.2435	3092-435	28.10
0.2440	3092-440	28.10
0.2445	3092-445	28.10
0.2450	3092-450	28.10
0.2455	3092-455	28.10
0.2465	3092-465	28.10
0.2470	3092-470	28.10
0.2475	3092-475	28.10
0.2480	3092-480	28.10
0.2485	3092-485	28.10
0.2490	3092-490	28.10
0.2495	3092-495	28.10
0.2505	3092-505	28.10
0.2510	3092-510	28.10
0.2515	3092-515	28.10
0.2520	3092-520	28.10
0.2525	3092-525	29.50
0.2530	3092-530	29.50
0.2535	3092-535	29.50
0.2540	3092-540	29.50
0.2545	3092-545	29.50
0.2550	3092-550	29.50
<b>1-1/8 LOC x 3-1/4 OAL</b>		
0.2560	3092-560	\$34.95
0.2565	3092-565	34.95
0.2575	3092-575	34.95
0.2580	3092-580	34.95
0.2590	3092-590	34.95

SIZE	ORDER NO.	PRICE EACH
<b>1-1/8 LOC x 3-1/4 OAL</b>		
0.2600	3092-600	\$34.95
0.2620	3092-620	34.95
0.2630	3092-630	34.95
0.2640	3092-640	34.95
0.2650	3092-650	34.95
0.2670	3092-670	34.95
0.2680	3092-680	34.95
0.2690	3092-690	34.95
0.2700	3092-700	34.95
0.2710	3092-710	34.95
0.2730	3092-730	34.95
0.2740	3092-740	34.95
0.2750	3092-750	34.95
0.2760	3092-760	34.95
0.2780	3092-780	34.95
0.2790	3092-790	34.95
0.2800	3092-800	34.95
0.2818	3092-818	36.05
0.2820	3092-820	36.05
0.2830	3092-830	36.05
0.2840	3092-840	36.05
0.2850	3092-850	36.05
0.2860	3092-860	36.05
0.2870	3092-870	36.05
0.2880	3092-880	36.05
0.2890	3092-890	36.05
0.2910	3092-910	36.05
0.2920	3092-920	36.05
0.2930	3092-930	36.05
0.2940	3092-940	36.05
0.2960	3092-960	36.05
0.2970	3092-970	36.05
0.2980	3092-980	36.05
0.2990	3092-990	36.05
0.3000	3093-000	36.05
0.3010	3093-010	36.05
0.3030	3093-030	36.05
0.3040	3093-040	36.05
0.3050	3093-050	36.05
0.3060	3093-060	36.05
0.3070	3093-070	36.05
0.3080	3093-080	36.05
0.3090	3093-090	36.05
0.3100	3093-100	36.05
0.3110	3093-110	36.05
0.3120	3093-120	37.10
0.3130	3093-130	37.10
0.3140	3093-140	37.10
<b>1-1/4 LOC x 3-1/2 OAL</b>		
0.3170	3093-170	\$46.90
0.3180	3093-180	46.90
0.3190	3093-190	46.90
0.3200	3093-200	46.90
0.3210	3093-210	46.90
0.3220	3093-220	46.90
0.3240	3093-240	46.90
0.3250	3093-250	46.90
0.3260	3093-260	46.90
0.3270	3093-270	46.90
0.3280	3093-280	46.90
0.3290	3093-290	46.90
0.3300	3093-300	46.90
0.3310	3093-310	46.90
0.3330	3093-330	46.90
0.3340	3093-340	46.90

SIZE	ORDER NO.	PRICE EACH
<b>1-1/4 LOC x 3-1/2 OAL</b>		
0.3350	3093-350	\$46.90
0.3360	3093-360	46.90
0.3370	3093-370	46.90
0.3380	3093-380	46.90
0.3400	3093-400	46.90
0.3410	3093-410	46.90
0.3420	3093-420	46.90
0.3430	3093-430	46.90
0.3440	3093-440	48.35
0.3450	3093-450	48.35
0.3460	3093-460	48.35
0.3470	3093-470	48.35
0.3490	3093-490	48.35
0.3500	3093-500	48.35
0.3510	3093-510	48.35
0.3520	3093-520	48.35
0.3530	3093-530	48.35
0.3540	3093-540	48.35
0.3550	3093-550	48.35
0.3560	3093-560	48.35
0.3570	3093-570	48.35
0.3590	3093-590	48.35
0.3600	3093-600	52.60
0.3610	3093-610	52.60
0.3620	3093-620	52.60
0.3630	3093-630	52.60
0.3640	3093-640	52.60
0.3650	3093-650	52.60
0.3660	3093-660	52.60
0.3670	3093-670	52.60
0.3690	3093-690	52.60
0.3700	3093-700	52.60
0.3710	3093-710	52.60
0.3720	3093-720	52.60
0.3730	3093-730	52.60
0.3745	3093-745	52.60
0.3755	3093-755	52.60
0.3760	3093-760	52.60
0.3765	3093-765	52.60
0.3780	3093-780	54.75
0.3790	3093-790	61.10
0.3800	3093-800	61.10
0.3810	3093-810	61.10
0.3820	3093-820	61.10
0.3830	3093-830	61.10
0.3840	3093-840	61.10
0.3850	3093-850	61.10
0.3870	3093-870	61.10
0.3880	3093-880	61.10
0.3890	3093-890	61.10
0.3900	3093-900	61.10
0.3910	3093-910	62.55
0.3920	3093-920	62.55
0.3930	3093-930	62.55
0.3940	3093-940	62.55
0.3950	3093-950	62.55
0.3960	3093-960	62.55
0.3980	3093-980	62.55
0.3990	3093-990	62.55
0.4000	3094-000	62.55
0.4010	3094-010	62.55
0.4020	3094-020	62.55
0.4030	3094-030	62.55
0.4050	3094-050	62.55
0.4060	3094-060	62.55

SIZE	ORDER NO.	PRICE EACH
<b>1-1/4 LOC x 3-1/2 OAL</b>		
0.4070	3094-070	\$65.40
0.4080	3094-080	65.40
0.4090	3094-090	65.40
0.4100	3094-100	65.40
0.4110	3094-110	65.40
0.4120	3094-120	65.40
0.4140	3094-140	65.40
0.4150	3094-150	65.40
0.4160	3094-160	65.40
<b>1-3/8 LOC x 4 OAL</b>		
0.4170	3094-170	\$65.65
0.4180	3094-180	65.65
0.4190	3094-190	65.65
0.4200	3094-200	65.65
0.4210	3094-210	65.65
0.4230	3094-230	68.15
0.4240	3094-240	68.15
0.4250	3094-250	68.15
0.4260	3094-260	68.15
0.4270	3094-270	68.15
0.4280	3094-280	68.15
0.4290	3094-290	68.15
0.4300	3094-300	68.15
0.4310	3094-310	68.15
0.4320	3094-320	68.15
0.4340	3094-340	68.15
0.4350	3094-350	68.15
0.4360	3094-360	68.15
0.4370	3094-370	68.15
0.4380	3094-380	68.15
0.4390	3094-390	68.15
0.4400	3094-400	74.70
0.4410	3094-410	74.70
0.4420	3094-420	74.70
0.4430	3094-430	74.70
0.4440	3094-440	74.70
0.4450	3094-450	74.70
0.4460	3094-460	74.70
0.4470	3094-470	74.70
0.4480	3094-480	74.70
0.4490	3094-490	74.70
0.4500	3094-500	74.70
0.4510	3094-510	74.70
0.4520	3094-520	74.70
0.4530	3094-530	74.70
0.4540	3094-540	76.80
0.4550	3094-550	76.80
0.4560	3094-560	76.80
0.4570	3094-570	76.80
0.4580	3094-580	76.80
0.4590	3094-590	76.80
0.4600	3094-600	76.80
0.4610	3094-610	76.80
0.4620	3094-620	76.80
0.4630	3094-630	76.80
0.4640	3094-640	76.80
0.4650	3094-650	76.80
0.4660	3094-660	76.80
0.4670	3094-670	76.80
0.4680	3094-680	76.80
0.4690	3094-690	76.80
0.4700	3094-700	76.80
0.4710	3094-710	76.80
0.4720	3094-720	76.80
0.4730	3094-730	76.80

SIZE	ORDER NO.	PRICE EACH
<b>1-3/8 LOC x 4 OAL</b>		
0.4740	3094-740	\$76.80
0.4750	3094-750	76.80
0.4760	3094-760	76.80
0.4770	3094-770	76.80
0.4780	3094-780	76.80
<b>1-1/2 LOC x 4 OAL</b>		
0.4790	3094-790	\$76.80
0.4800	3094-800	76.80
0.4805	3094-805	76.80
0.4810	3094-810	76.80
0.4820	3094-820	76.80
0.4830	3094-830	76.80
0.4840	3094-840	76.80
0.4850	3094-850	76.80
0.4860	3094-860	76.80
0.4870	3094-870	76.80
0.4880	3094-880	76.80
0.4890	3094-890	76.80
0.4900	3094-900	76.80
0.4910	3094-910	76.80
0.4930	3094-930	76.80
0.4940	3094-940	76.80
0.4950	3094-950	76.80
0.4960	3094-960	76.80
0.4970	3094-970	76.80
0.4980	3094-980	76.80
0.4990	3094-990	76.80
0.4995	3094-995	76.80
0.5005	3095-005	76.80
0.5010	3095-010	76.80
0.5015	3095-015	76.80
0.5020	3095-020	76.80
0.5030	3095-030	76.80
0.5040	3095-040	76.80
0.5050	3095-050	76.80



# Carbide Tipped Chucking Reamers

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## Straight Shank— Straight Flute— RHS RHC & LHS RHC



**Straight Flute**



**Right Hand Spiral**



**Left Hand Spiral**

DIAM.	FLUTE LENGTH	OVERALL LENGTH	STRAIGHT FLUTE ORDER NO.	STRAIGHT FLUTE PRICE EACH	RHS - RHC FLUTE ORDER NO.	RHS - RHC FLUTE PRICE EACH	LHS - RHC - FLUTE ORDER NO.	LHS - RHC - FLUTE PRICE EACH
3/16	1-1/8	4-1/2	1954-012	\$30.25	—	—	—	—
13/64	1-1/8	4-1/2	1954-013	32.05	—	—	—	—
7/32	1-1/4	5	1954-014	30.25	—	—	—	—
15/64	1-1/2	6	1954-015	32.05	—	—	—	—
1/4	1-1/2	6	1954-016	30.25	3020-216	\$39.60	3020-416	\$44.75
17/64	1-1/2	6	1954-017	32.75	—	—	—	—
9/32	1-1/2	6	1954-018	30.90	3020-218	39.70	3020-418	44.90
19/64	1-1/2	6	1954-019	32.75	—	—	—	—
5/16	1-1/2	6	1954-020	30.90	3020-220	39.70	3020-420	44.90
21/64	1-1/2	6	1954-021	33.95	—	—	—	—
11/32	1-1/2	6	1954-022	32.00	3020-222	43.65	3020-422	49.40
23/64	1-3/4	7	1954-023	33.95	—	—	—	—
3/8	1-3/4	7	1954-024	29.35	3020-224	44.10	3020-424	49.85
25/64	1-3/4	7	1954-025	35.65	—	—	—	—
13/32	1-3/4	7	1954-026	33.55	3020-226	46.05	3020-426	52.10
27/64	1-3/4	7	1954-027	37.95	—	—	—	—
7/16	1-3/4	7	1954-028	35.85	3020-228	47.90	3020-428	54.20
29/64	1-3/4	7	1954-029	38.55	—	—	—	—
15/32	1-3/4	7	1954-030	36.35	3020-230	50.90	3020-430	57.50
31/64	2	8	1954-031	41.65	—	—	—	—
1/2	2	8	1954-032	43.25	3020-232	57.95	3020-432	59.70
33/64	2	8	1954-033	47.05	—	—	—	—
17/32	2	8	1954-034	47.05	3020-234	57.95	3020-434	61.50
35/64	2	8	1954-035	47.05	—	—	—	—
9/16	2	8	1954-036	47.05	3020-236	57.95	3020-436	61.50
37/64	2	8	1954-037	48.95	—	—	—	—
19/32	2	8	1954-038	48.95	3020-238	59.70	3020-438	63.35
39/64	2-1/4	9	1954-039	48.95	—	—	—	—
5/8	2-1/4	9	1954-040	48.95	3020-240	59.70	3020-440	63.35
41/64	2-1/4	9	1954-041	49.80	—	—	—	—
21/32	2-1/4	9	1954-042	49.80	3020-242	63.45	3020-442	65.15
43/64	2-1/4	9	1954-043	49.80	—	—	—	—
11/16	2-1/4	9	1954-044	49.80	3020-244	65.35	3020-444	69.40
45/64	2-1/4	9	1954-045	52.15	—	—	—	—
23/32	2-1/4	9	1954-046	52.15	3020-246	67.25	—	—
47/64	2-1/2	9-1/2	1954-047	52.15	—	—	—	—
3/4	2-1/2	9-1/2	1954-048	52.15	3020-248	67.25	3020-448	71.45
49/64	2-1/2	9-1/2	1954-049	53.85	—	—	—	—
25/32	2-1/2	9-1/2	1954-050	53.85	3020-250	71.35	3020-450	73.25
51/64	2-1/2	9-1/2	1954-051	53.85	—	—	—	—
13/16	2-1/2	9-1/2	1954-052	53.85	3020-252	71.35	3020-452	73.25
53/64	2-1/2	9-1/2	1954-053	56.00	—	—	—	—
27/32	2-1/2	9-1/2	1954-054	56.00	3020-254	75.25	3020-454	77.25
55/64	2-5/8	10	1954-055	56.00	—	—	—	—
7/8	2-5/8	10	1954-056	58.15	3020-256	78.10	3020-456	80.20
57/64	2-5/8	10	1954-057	67.70	—	—	—	—
29/32	2-5/8	10	1954-058	67.70	3020-258	90.95	3020-458	93.45
59/64	2-5/8	10	1954-059	67.70	—	—	—	—
15/16	2-5/8	10	1954-060	67.70	3020-260	90.95	3020-460	93.45
61/64	2-5/8	10	1954-061	71.00	—	—	—	—
31/32	2-5/8	10	1954-062	71.00	3020-262	95.40	3020-462	97.95
63/64	2-3/4	10-1/2	1954-063	71.00	—	—	—	—
1	2-3/4	10-1/2	1954-064	53.80	3020-264	95.40	3020-464	97.95
1-1/16	2-3/4	10-1/2	1954-068	73.40	—	—	—	—
1-1/8	2-7/8	11	1954-072	79.35	—	—	—	—
1-3/16	2-7/8	11	1954-076	83.45	—	—	—	—
1-1/4	3	11-1/2	1954-080	88.20	—	—	—	—
1-5/16	3	11-1/2	1954-084	92.80	—	—	—	—
1-3/8	3-1/4	12	1954-088	98.50	—	—	—	—
1-7/16	3-1/4	12	1954-092	109.70	—	—	—	—
1-1/2	3-1/2	12-1/2	1954-096	116.00	—	—	—	—

### Over/Undersize Dowel Pin Reamers

DIAM.	ORDER NO.	PRICE EACH
.1855	3019-205	\$38.05
.1865+	3019-105	38.05
.1870+	3019-210	38.05
.1885	3019-110	38.05
.2480+	3019-215	38.05
.2490	3019-115	38.05
.2495+	3019-220	38.05
.2510	3019-120	38.05
.3105+	3019-225	38.90
.3115	3019-125	38.90
.3120+	3019-230	38.90
.3135	3019-130	38.90
.3730+	3019-235	40.35
.3740	3019-135	40.35
.3745+	3019-240	40.35
.3760	3019-140	40.35
.4355+	3019-245	45.10
.4365	3019-145	45.10
.4370+	3019-250	45.10
.4385	3019-150	45.10
.4980+	3019-255	49.45
.4990	3019-155	49.45
.4995+	3019-260	49.45
.5010	3019-160	49.45

Tolerance:  
 O/U= + .0002 - .0000  
 +Dowel= + .0000 - .0002

### Special Decimal Sizes

SIZE RANGE	PRICE EACH
0.1560-0.1765	POA
0.1770-0.2210	POA
0.2215-0.2380	POA
0.2385-0.2530	POA
0.2535-0.3150	POA
0.3155-0.3780	POA
0.3785-0.4090	POA
0.4098-0.4410	POA
0.4415-0.4720	POA
0.4825-0.5030	POA
0.5035-0.5660	POA
0.5665-0.6280	POA
0.6285-0.6910	POA
0.6915-0.7530	POA
0.7535-0.7555	POA

**Metric Chucking Reamers In Stock!**



# Carbide Tipped Chucking Reamers

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## Taper Shank – Straight Flute



DIAM.	FLUTE LG'TH	OVER. LG'TH	TAPER SHANK	STRAIGHT FLUTE		FLUTE LONG CARBIDE		
				ORDER NO.	PRICE EACH	FLUTE LG'TH	ORDER NO.	PRICE EACH
1/4	1-1/2	6	1	3022-016	\$34.85	1-1/2	3023-016	\$41.65
9/32	1-1/2	6	1	3022-018	35.50	1-1/2	3023-018	42.25
5/16	1-1/2	6	1	3022-020	35.50	1-1/2	3023-020	42.25
11/32	1-1/2	6	1	3022-022	36.85	1-1/2	3023-022	43.20
3/8	1-3/4	7	1	3022-024	33.80	1-3/4	3023-024	43.65
13/32	1-3/4	7	1	3022-026	38.65	1-3/4	3023-026	46.00
7/16	1-3/4	7	1	3022-028	41.15	1-3/4	3023-028	49.00
15/32	1-3/4	7	1	3022-030	42.25	1-3/4	3023-030	50.05
1/2	2	8	1	3022-032	49.70	2	3023-032	53.95
17/32	2	8	1	3022-034	53.70	—	—	—
9/16	2	8	1	3022-036	53.70	2	3023-036	59.10
19/32	2	8	2	3022-038	56.30	—	—	—
5/8	2-1/4	9	2	3022-040	56.30	2	3023-040	61.80
21/32	2-1/4	9	2	3022-042	57.30	—	—	—
11/16	2-1/4	9	2	3022-044	57.30	2	3023-044	62.95
23/32	2-1/4	9	2	3022-046	59.90	—	—	—
3/4	2-1/2	9-1/2	2	3022-048	59.90	2	3023-048	65.90
25/32	2-1/2	9-1/2	2	3022-050	61.75	—	—	—
13/16	2-1/2	9-1/2	2	3022-052	61.75	2	3023-052	67.95
27/32	2-1/2	9-1/2	2	3022-054	64.45	—	—	—
7/8	2-5/8	10	2	3022-056	66.90	2	3023-056	73.60
29/32	2-5/8	10	2	3022-058	78.45	—	—	—
15/16	2-5/8	10	3	3022-060	78.45	3	3023-060	86.20
31/32	2-5/8	10	3	3022-062	81.75	—	—	—
1	2-3/4	10-1/2	3	3022-064	81.75	3	3023-064	89.75
1-1/16	2-3/4	10-1/2	3	3022-068	112.25	—	—	—
1-1/8	2-7/8	11	3	3022-072	119.55	—	—	—
1-3/16	2-7/8	11	3	3022-076	126.60	—	—	—
1-1/4	3	11-1/2	4	3022-080	140.75	—	—	—
1-5/16	3	11-1/2	4	3022-084	151.75	—	—	—
1-3/8	3-1/4	12	4	3022-088	157.85	—	—	—
1-7/16	3-1/4	12	4	3022-092	161.15	—	—	—
1-1/2	3-1/2	12-1/2	4	3022-096	169.20	—	—	—

## Expansion – Straight Flute



Straight Shank



Taper Shank

DIAM.	FLUTE LG'TH	OVER. LG'TH	STRAIGHT SHANK		TAPER SHANK		
			ORDER NO.	PRICE EACH	TAPER SHANK NO.	ORDER NO.	PRICE EACH
3/8	1	7	3024-024	\$ 52.35	1	3025-024	\$ 59.00
13/32	1	7	3024-026	55.55	1	3025-026	60.80
7/16	1	7	3024-028	55.55	1	3025-028	60.80
15/32	1	7	3024-030	58.90	1	3025-030	63.75
1/2	1	8	3024-032	58.90	1	3025-032	63.75
17/32	1	8	3024-034	60.35	1	3025-034	65.70
9/16	1-1/8	8	3024-036	60.35	1	3025-036	65.70
19/32	1-1/8	8	3024-038	63.00	1	3025-038	68.35
5/8	1-1/4	9	3024-040	63.00	2	3025-040	68.35
21/32	1-1/4	9	3024-042	68.90	2	3025-042	76.95
11/16	1-1/4	9	3024-044	68.90	2	3025-044	76.95
23/32	1-1/4	9	3024-046	71.45	2	3025-046	77.15
3/4	1-3/8	9-1/2	3024-048	71.45	2	3025-048	77.15
25/32	1-3/8	9-1/2	3024-050	77.00	2	3025-050	82.85
13/16	1-3/8	9-1/2	3024-052	77.00	2	3025-052	82.85
27/32	1-3/8	9-1/2	3024-054	80.05	2	3025-054	86.35
7/8	1-1/2	10	3024-056	83.05	2	3025-056	89.60
29/32	1-1/2	10	3024-058	88.45	2	3025-058	94.75
15/16	1-1/2	10	3024-060	88.45	3	3025-060	94.75
31/32	1-1/2	10	3024-062	91.85	3	3025-062†	98.20
1	1-5/8	10-1/2	3024-064	91.85	3	3025-064	98.20
1-1/32	1-5/8	10-1/2	3024-066	100.65	3	3025-066	107.45
1-1/16	1-5/8	10-1/2	3024-068	100.65	3	3025-068	107.45
1-3/32	1-5/8	10-1/2	3024-070	100.65	3	3025-070	107.45
1-1/8	1-3/4	11	3024-072	100.65	3	3025-072	107.45
1-3/16	1-3/4	11	3024-076	109.85	3	3025-076	120.85
1-1/4	1-7/8	11-1/2	3024-080	109.85	4	3025-080	122.50
1-5/16	1-7/8	11-1/2	3024-084	121.75	4	3025-084	133.85
1-3/8	2	12	3024-088	127.50	4	3025-088	146.65
1-7/16	2	12	3024-092	150.70	4	3025-092	164.60
1-1/2	2-1/8	12-1/2	3024-096	155.10	4	3025-096	170.45
1-9/16	2-1/8	12-1/2	3024-100	203.65	4	3025-100	234.20
1-5/8	2-1/4	13	3024-104	203.65	4	3025-104	234.20
1-11/16	2-1/4	13	3024-108	225.55	4	3025-108	259.40
1-3/4	2-3/8	13-1/2	3024-112	225.55	4	3025-112	259.40
1-13/16	2-3/8	13-1/2	3024-116	267.10	4	3025-116	307.10
1-7/8	2-1/2	14	3024-120	267.10	4	3025-120	307.10
1-15/16	2-1/2	14	3024-124	291.80	4	3025-124	335.60
2	2-1/2	14	3024-128	291.80	4	3025-128	335.60

† Limited Quantities

## Taper Shank – RHS RHC & LHS RHC



DIAM.	FLUTE LG'TH	OVER. LG'TH	TAPER SHANK	RHS/RHC		LHS/RHC	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
9/32	1-1/2	6	1	3023-118	\$33.75	—	—
5/16	1-1/2	6	1	3023-120	33.75	—	—
11/32	1-1/2	6	1	3023-122	34.50	—	—
13/32	1-3/4	7	1	3023-126	36.75	3023-226	\$36.75
7/16	1-3/4	7	1	—	—	3023-228	39.10
15/32	1-3/4	7	1	3023-130	40.40	3023-230	40.40
1/2	2	8	1	3023-132	41.40	3023-232	41.40
17/32	2	8	1	3023-134	44.05	3023-234	44.05
9/16	2	8	1	—	—	3023-236	44.05
19/32	2	8	2	3023-138	46.80	—	—
5/8	2-1/4	9	2	—	—	3023-240	46.80
21/32	2-1/4	9	2	3023-142	47.60	—	—
11/16	2-1/4	9	2	3023-144	47.60	—	—
23/32	2-1/4	9	2	3023-146	49.50	3023-246	49.50
3/4	2-1/2	9-1/2	2	3023-148	49.50	3023-248	49.50
13/16	2-1/2	9-1/2	2	3023-152	50.65	—	—
7/8	2-5/8	10	2	—	—	3023-256	53.10
15/16	2-5/8	10	3	—	—	3023-260	65.65
1-1/8	2-7/8	11	3	3023-172	104.50	3023-272	104.50
1-1/4	3	11-1/2	4	3023-180	123.00	3023-280	123.00
1-3/8	3-1/4	12	4	—	—	3023-288	138.00
1-1/2	3-1/2	12-1/2	4	3023-196	147.90	3023-296	147.90

## Long – Straight Flute

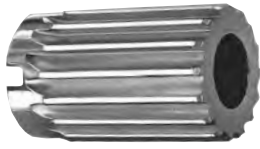


Straight Shank

DIAM.	FLUTE LG'TH	ORDER NO.	PRICE EACH	DIAM.	FLUTE LG'TH	ORDER NO.	PRICE EACH
1/4	1-1/2	3021-016	36.20	5/8	2	3021-040	\$53.80
9/32	1-1/2	3021-018	37.00	11/16	2	3021-044	54.75
5/16	1-1/2	3021-020	37.00	3/4	2	3021-048	57.30
11/32	1-1/2	3021-022	38.35	13/16	2	3021-052	59.25
3/8	1-3/4	3021-024	38.35	27/32	2	3021-054	61.65
13/32	1-3/4	3021-026	40.25	7/8	2-1/4	3021-056	63.95
7/16	1-3/4	3021-028	43.50	29/32	2-1/4	3021-058	74.45
15/32	1-3/4	3021-030	47.00	15/16	2-1/4	3021-060	74.45
1/2	2	3021-032	50.35	31/32	2-1/4	3021-062	78.00
9/16	2	3021-036	51.80	1	2-1/4	3021-064	78.00

# Shell Reamers

ROCK RIVER TOOL



**Straight Flute**



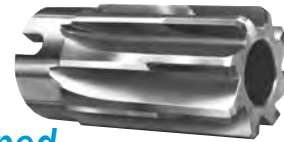
**Spiral Flute**

## High Speed Steel



3

DIAM.	OVER-ALL LENGTH	HOLE SIZE	ARBOR NO.	STRAIGHT FLUTE		SPIRAL FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4	2-1/4	3/8	4	2050-048	\$ 35.33	2051-048	\$ 43.15
13/16	2-1/2	1/2	5	2050-052	36.57	2051-052	43.73
7/8	2-1/2	1/2	5	2050-056	39.24	2051-056	44.83
15/16	2-1/2	1/2	5	2050-060	41.07	2051-060	45.93
1	2-1/2	1/2	5	2050-064	43.53	2051-064	49.25
1-1/16	2-3/4	5/8	6	2050-068	47.20	2051-068	52.87
1-1/8	2-3/4	5/8	6	2050-072	50.11	2051-072	55.15
1-3/16	2-3/4	5/8	6	2050-076	51.78	2051-076	57.06
1-1/4	2-3/4	5/8	6	2050-080	52.54	2051-080	59.55
1-5/16	3	3/4	7	2050-084	55.77	2051-084	62.06
1-3/8	3	3/4	7	2050-088	59.35	2051-088	65.30
1-7/16	3	3/4	7	2050-092	65.24	2051-092	72.03
1-1/2	3	3/4	7	2050-096	69.15	2051-096	76.05
1-9/16	3	3/4	7	2050-100	77.79	2051-100	85.24
1-5/8	3	3/4	7	2050-104	82.81	2051-104	92.98
1-11/16	3-1/2	1	8	2050-108	91.05	2051-108	101.79
1-3/4	3-1/2	1	8	2050-112	96.39	2051-112	108.02
1-13/16	3-1/2	1	8	2050-116	102.88	2051-116	115.75
1-7/8	3-1/2	1	8	2050-120	109.70	2051-120	122.74
1-15/16	3-1/2	1	8	2050-124	116.55	2051-124	130.83
2	3-1/2	1	8	2050-128	120.85	2051-128	134.46
2-1/16	3-3/4	1-1/4	9	2050-132	130.65	2051-132	146.94
2-1/8	3-3/4	1-1/4	9	2050-136	137.14	2051-136	153.98
2-3/16	3-3/4	1-1/4	9	2050-140	145.75	2051-140	163.94
2-1/4	3-3/4	1-1/4	9	2050-144	150.80	2051-144	169.07
2-5/16	3-3/4	1-1/4	9	2050-148	159.32	2051-148	179.03
2-3/8	3-3/4	1-1/4	9	2050-152	165.94	2051-152	186.35
2-7/16	3-3/4	1-1/4	9	2050-156	171.24	2051-156	193.80
2-1/2	3-3/4	1-1/4	9	2050-160	177.38	2051-160	199.13
2-9/16	4	1-1/2	10	2050-164	194.40	2051-164	215.55
2-5/8	4	1-1/2	10	2050-168	207.00	2051-168	223.56
2-11/16	4	1-1/2	10	2050-172	219.92	2051-172	231.46
2-3/4	4	1-1/2	10	2050-176	230.85	2051-176	250.88
2-13/16	4	1-1/2	10	2050-180	244.22	2051-180	269.55
2-7/8	4	1-1/2	10	2050-184	258.19	2051-184	278.82
2-15/16	4	1-1/2	10	2050-188	272.48	2051-188	292.50
3	4	1-1/2	10	2050-192	286.13	2051-192	308.61
3-1/16	4-1/2	1-3/4	11	2050-196	327.22	2051-196	339.27
3-1/8	4-1/2	1-3/4	11	2050-200	395.73	2051-200	399.91
3-3/16	4-1/2	1-3/4	11	2050-204	408.84	2051-204	421.02
3-1/4	4-1/2	1-3/4	11	2050-208	422.04	2051-208	441.73
3-5/16	4-1/2	1-3/4	11	2050-212	436.45	2051-212	457.56
3-3/8	4-1/2	1-3/4	11	2050-216	451.07	2051-216	474.11
3-7/16	4-1/2	1-3/4	11	2050-220	464.06	2051-220	487.20
3-1/2	4-1/2	1-3/4	11	2050-224	476.64	2051-224	500.40
3-9/16	5	2	12	2050-228	489.64	2051-228	513.57
3-5/8	5	2	12	2050-232	501.41	2051-232	526.18
3-11/16	5	2	12	2050-236	514.00	2051-236	539.88
3-3/4	5	2	12	2050-240	527.80	2051-240	552.97
3-13/16	5	2	12	2050-244	548.10	2051-244	573.68
3-7/8	5	2	12	2050-248	566.78	2051-248	594.79
3-15/16	5	2	12	2050-252	583.83	2051-252	613.47
4	5	2	12	2050-256	602.91	2051-256	632.14



## Carbide Tipped

2

DIAM.	NO. OF FLUTES	FLUTE LENGTH	OVER-ALL LENGTH	HOLE DIAM. LARGE END	FITS ARBOR NO.	ORDER NO.	PRICE EACH
3/4	6	1-7/16	2-1/4	3/8	4	1958-048	\$143.95
13/16	6	1-11/16	2-1/2	1/2	5	1958-052	146.75
7/8	6	1-11/16	2-1/2	1/2	5	1958-056	164.00
15/16	8	1-11/16	2-1/2	1/2	5	1958-060	164.00
1	8	1-11/16	2-1/2	1/2	5	1958-064	167.00
1-1/16	8	1-13/16	2-3/4	5/8	6	1958-068	172.80
1-1/8	8	1-13/16	2-3/4	5/8	6	1958-072	175.70
1-3/16	8	1-13/16	2-3/4	5/8	6	1958-076	178.70
1-1/4	8	1-13/16	2-3/4	5/8	6	1958-080	190.40
1-5/16	8	2	3	3/4	7	1958-084	193.25
1-3/8	8	2	3	3/4	7	1958-088	199.10
1-7/16	8	2	3	3/4	7	1958-092	205.00
1-1/2	8	2	3	3/4	7	1958-096	213.80
1-9/16	8	2	3	3/4	7	1958-100	247.50
1-5/8	8	2	3	3/4	7	1958-104	259.70
1-11/16	10	2-11/32	3-1/2	1	8	1958-108	281.15
1-3/4	10	2-11/32	3-1/2	1	8	1958-112	281.15
1-13/16	10	2-11/32	3-1/2	1	8	1958-116	302.50
1-7/8	10	2-11/32	3-1/2	1	8	1958-120	302.50
1-15/16	10	2-11/32	3-1/2	1	8	1958-124	323.95
2	10	2-11/32	3-1/2	1	8	1958-128	323.95
2-1/16	12	2-7/16	3-3/4	1-1/4	9	1958-132	348.35
2-1/8	12	2-7/16	3-3/4	1-1/4	9	1958-136	348.35
2-3/16	12	2-7/16	3-3/4	1-1/4	9	1958-140	378.90
2-1/4	12	2-7/16	3-3/4	1-1/4	9	1958-144	378.90
2-5/16	12	2-7/16	3-3/4	1-1/4	9	1958-148	400.30
2-3/8	12	2-7/16	3-3/4	1-1/4	9	1958-152	400.30
2-7/16	12	2-7/16	3-3/4	1-1/4	9	1958-156	421.75
2-1/2	12	2-7/16	3-3/4	1-1/4	9	1958-160	421.75

## Shell Reamer Arbors



**Straight Shank**



**Taper Shank**

3

SIZE	FITTING SIZE	OVER. LG'TH	STR. SHANK DIAM.	TAPER SHANK NO.	STR. SHANK ORDER NO.	PRICE EACH	TAPER SHANK ORDER NO.	PRICE EACH
3	1/2 to 5/8	8	7/8	1	3141-803	\$18.41	3141-823	\$24.51
4	21/32 to 25/32	9	1/2	2	3141-804	19.38	3141-824	25.80
5	13/16 to 1-1/32	9-1/2	5/8	2	3141-805	21.57	3141-825	28.35
6	1-1/16 to 1-9/32	10	3/4	3	3141-806	23.67	3141-826	30.94
7	1-5/16 to 1-21/32	11	7/8	3	3141-807	26.01	3141-827	33.66
8	1-11/16 to 2	12	1-1/8	4	3141-808	28.94	3141-828	38.25
9	2-1/16 to 2-1/2	13	1-3/8	4	3141-809	34.94	3141-829	48.75
10	2-9/16 to 3	14	1-5/8	5	3141-810	51.79	3141-830	63.50
11	3-1/16 to 3-1/2	15	2	5	3141-811	83.34	3141-831	101.32
12	3-9/16 to 4	16	2-1/8	5	3141-812	100.46	3141-832	111.69

# Taper Pipe Reamers— High Speed Steel

## Straight & Spiral Flute



SIZE	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER. LG'TH	STRAIGHT FLUTE		SPIRAL FLUTE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	.291	—	3/4	2	2221-004	\$ 10.35	2222-004	\$ 11.75
1/8	.362	.316	3/4	2-1/8	2221-008	10.35	2222-008	11.75
1/4	.472	.406	1-1/16	2-7/16	2221-016	12.35	2222-016	14.00
3/8	.606	.540	1-1/16	2-9/16	2221-024	13.40	2222-024	15.25
1/2	.751	.665	1-3/8	3-1/8	2221-032	16.80	2222-032	19.10
3/4	.962	.876	1-3/8	3-1/4	2221-048	24.55	2222-048	28.05
1	1.212	1.103	1-3/4	3-3/4	2221-064	35.90	2222-064	40.85
1-1/4	1.553	1.444	1-3/4	4	2221-080	59.45	2222-080	67.40
1-1/2	1.793	1.684	1-3/4	4-1/4	2221-096	77.50	2222-096	81.45
2	2.268	2.159	1-3/4	4-1/2	2221-128	110.15	2222-128	115.20
2-1/2	2.722	2.561	2-5/8	5-1/2	2221-160	256.70	2222-160	285.55
3	3.380	3.202	2-3/4	6	2221-192	285.55	2222-192	374.40
SETS								
SETS	4 pc.		3/8"–1"		2221-198	86.15	2222-198	98.10



Straight Flute



Spiral Flute

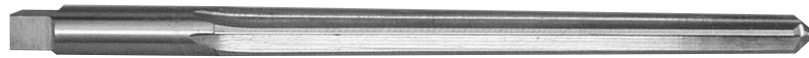


4-Pc. Straight Flute Set  
Order No. 2221-198



4-Pc. Spiral Flute Set  
Order No. 2222-198

# Taper Pin Reamers — High Speed Steel



Straight Flute



Spiral Flute



Helical Flute

SIZE	SHANK DIAM.	SMALL END	LARGE END	FLUTE LG'TH	OVER. LG'TH	STRAIGHT FLUTE		SPIRAL FLUTE		HELICAL FLUTE	
						ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7/0	5/64	.0497	.0666	13/16	1-13/16	2190-070	\$ 10.00	2191-070	\$ 10.35	2192-070	\$ 10.05
6/0	3/32	.0611	.0806	15/32	1-15/16	2190-060	10.00	2191-060	10.35	2192-060	8.65
5/0	7/64	.0719	.0966	1-3/16	2-3/16	2190-050	9.25	2191-050	10.00	2192-050	9.00
4/0	1/8	.0869	.1142	1-5/16	2-5/16	2190-040	9.25	2191-040	9.90	2192-040	9.00
3/0	9/64	.1029	.1302	1-5/16	2-5/16	2190-030	7.80	2191-030	8.55	2192-030	8.55
2/0	5/32	.1137	.1462	1-9/16	2-9/16	2190-020	7.00	2191-020	7.45	2192-020	7.85
0	11/64	.1287	.1638	1-11/16	2-15/16	2190-000	6.70	2191-000	7.20	2192-000	8.10
1	3/16	.1447	.1798	1-11/16	2-15/16	2190-001	6.55	2191-001	7.35	2192-001	8.20
2	13/64	.1605	.2008	1-15/16	3-3/16	2190-002	6.55	2191-002	7.40	2192-002	8.80
3	15/64	.1813	.2294	2-5/16	3-11/16	2190-003	6.55	2191-003	7.40	2192-003	8.80
4	17/64	.2071	.2604	2-9/16	4-1/16	2190-004	7.35	2191-004	7.90	2192-004	11.00
5	5/16	.2409	.2994	2-13/16	4-5/16	2190-005	7.80	2191-005	8.45	2192-005	12.30
6	23/64	.2773	.3540	3-11/16	5-7/16	2190-006	9.35	2191-006	10.35	2192-006	13.80
7	13/32	.3297	.4220	4-7/16	6-5/16	2190-007	11.95	2191-007	13.05	2192-007	16.70
8	7/16	.3971	.5050	5-3/16	7-3/16	2190-008	15.35	2191-008	16.80	2192-008	20.85
9	9/16	.4805	.6066	6-1/16	8-5/16	2190-009	18.60	2191-009	20.25	2192-009	24.00
10	5/8	.5799	.7216	6-13/16	9-5/16	2190-010	26.20	2191-010	29.55	2192-010	32.50
11	3/4	.706	.878	8-1/4	11-1/4	2190-011	60.00	2191-011	64.15	2192-011	72.20
12	15/16	.842	1.050	10	13-3/8	2190-012	87.10	2191-012	102.15	2192-012	114.95
13	1-1/16	1.009	1.259	12	16	2190-013	129.20	2191-013	143.90	2192-013	161.90
14	1-13/32	1.250	1.542	14	18-1/4	2190-014	172.35	2191-014	178.65	2192-014	201.00
SETS											
0-5		6 PCS.				2190-090	46.95	2191-090	46.95	2192-090	46.95
0-10		11 PCS.				2190-092	166.85	2191-092	166.85	2192-092	166.85



11 Pc. Set - Straight Flute  
Order No. 2190-092



# Hand Reamers— High Speed Steel



**Straight Flute**



**Spiral Flute**

DIAM.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	STRAIGHT FLUTE		SPIRAL FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	0.0625	1	2	2090-004†	\$10.15	2091-004†	\$10.95
5/64	0.0781	1	2	2090-005†	10.15	2091-005†	10.95
3/32	0.0938	1-1/4	2-1/2	2090-006†	10.15	2091-006†	10.95
7/64	0.1094	1-1/4	2-1/2	2090-007†	10.15	2091-007†	10.95
1/8	0.1250	1-1/2	3	2090-008	10.95	2091-008	11.22
9/64	0.1406	1-5/8	3-1/4	2090-009†	11.87	2091-009†	12.19
5/32	0.1562	1-5/8	3-1/4	2090-010	11.87	2091-010	12.19
11/64	0.1719	1-3/4	3-1/2	2090-011†	12.19	2091-011†	13.25
3/16	0.1875	1-3/4	3-1/2	2090-012	12.19	2091-012	13.25
13/64	0.2031	1-7/8	3-3/4	2090-013†	12.24	2091-013†	13.25
7/32	0.2188	1-7/8	3-3/4	2090-014	12.24	2091-014	13.25
15/64	0.2344	2	4	2090-015†	12.24	2091-015†	13.25
1/4	0.2500	2	4	2090-016	12.24	2091-016	13.25
17/64	0.2656	2-1/8	4-1/4	2090-017†	13.25	2091-017†	14.12
9/32	0.2812	2-1/8	4-1/4	2090-018	13.25	2091-018	14.12
19/64	0.2969	2-1/4	4-1/2	2090-019†	13.25	2091-019†	14.12
5/16	0.3135	2-1/4	4-1/2	2090-020	13.25	2091-020	14.12
21/64	0.3281	2-3/8	4-3/4	2090-021†	15.09	2091-021†	16.93
11/32	0.3438	2-3/8	4-3/4	2090-022	15.09	2091-022	16.93
23/64	0.3594	2-1/2	5	2090-023†	15.09	2091-023†	16.93
3/8	0.3750	2-1/2	5	2090-024	15.09	2091-024	16.93
25/64	0.3906	2-5/8	5-1/4	—	—	2091-025†	18.77
13/32	0.4062	2-5/8	5-1/4	2090-026	16.05	2091-026	18.77
27/64	0.4219	2-3/4	5-1/2	2090-027†	16.05	2091-027†	18.77
7/16	0.4375	2-3/4	5-1/2	2090-028	16.05	2091-028	18.77
29/64	0.4531	2-7/8	5-3/4	2090-029†	18.77	2091-029†	20.70
15/32	0.4688	2-7/8	5-3/4	2090-030	18.77	2091-030	20.70
31/64	0.4864	3	6	2090-031†	18.77	2091-031†	20.70
1/2	0.5000	3	6	2090-032	18.77	2091-032	20.70
17/32	0.5312	3-1/8	6-1/4	2090-034	20.98	2091-034	23.46
35/64	0.5469	3-1/4	6-1/2	2090-035†	20.98	2091-035†	23.46
9/16	0.5625	3-1/4	6-1/2	2090-036	20.98	2091-036	23.46
37/64	0.5781	3-3/8	6-3/4	2090-037†	22.31	2091-037†	25.35
19/32	0.5938	3-3/8	6-3/4	2090-038	22.31	2091-038	25.35

DIAM.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	STRAIGHT FLUTE		SPIRAL FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
39/64	0.6094	3-1/2	7	2090-039†	\$22.31	2091-039†	\$25.35
5/8	0.6250	3-1/2	7	2090-040	22.31	2091-040	25.35
21/32	0.6562	3-11/16	7-3/8	2090-042	24.29	2091-042	27.28
43/64	0.6719	3-7/8	7-3/4	—	—	2091-043†	27.28
11/16	0.6875	3-7/8	7-3/4	2090-044	24.29	2091-044	27.28
45/64	0.7031	4-1/16	8-1/8	2090-045†	26.27	2091-045†	29.07
23/32	0.7188	4-1/16	8-1/8	2090-046	26.27	2091-046	29.07
47/64	0.7344	4-3/16	8-3/8	—	—	2091-047†	29.07
3/4	0.7500	4-3/16	8-3/8	2090-048	26.27	2091-048	29.07
25/32	0.7812	4-3/8	8-3/4	—	—	2091-050†	37.86
51/64	0.7969	4-9/16	9-1/8	2090-051†	34.33	—	—
13/16	0.8125	4-9/16	9-1/8	2090-052	34.33	2091-052	37.86
53/64	0.8281	4-11/16	9-3/8	2090-053†	37.86	2091-053†	41.27
27/32	0.8438	4-11/16	9-3/8	2090-054†	POA	2091-054†	41.27
55/64	0.8594	4-7/8	9-3/4	2090-055†	37.86	2091-055†	41.27
7/8	0.8750	4-7/8	9-3/4	2090-056	37.86	2091-056	41.27
57/64	0.8906	5	10	2090-057†	42.62	2091-057†	47.26
29/32	0.9062	5	10	2090-058†	42.62	2091-058†	47.26
59/64	0.9219	5-1/8	10-1/4	2090-059†	42.62	2091-059†	POA
15/16	0.9375	5-1/8	10-1/4	2090-060	42.62	2091-060	47.26
61/64	0.9531	5-5/16	10-5/8	2090-061†	46.14	2091-061†	51.30
31/32	0.9688	5-5/16	10-5/8	2090-062†	46.14	2091-062†	51.30
63/64	0.9844	5-7/16	10-7/8	2090-063†	46.14	2091-063†	51.30
1	1.000	5-7/16	10-7/8	2090-064	46.14	2091-064	51.30
1-1/16	1.0625	5-5/8	11-1/4	—	—	2091-068†	56.11
1-1/8	1.1250	5-13/16	11-5/8	2090-072	56.67	2091-072	61.94
1-1/4	1.2500	6-1/8	12-1/4	2090-080	69.66	2091-080	77.28
1-5/16	1.3125	6-1/4	12-1/2	2090-084†	76.66	2091-084†	84.45
1-3/8	1.3750	6-5/16	12-5/8	2090-088	82.49	2091-088	92.06
1-7/16	1.4375	6-7/16	12-7/8	—	—	2091-092†	100.24
1-1/2	1.5000	6-1/2	13	2090-096	98.45	2091-096	108.42

† Limited Quantities

## Adjustable Hand Reamers



SIZE	RANGE FOR ADJUST.	OVER. LG'TH	ORDER NO.	PRICE EACH
8/A	1/4 - 9/32	3-1/4	2092-010	\$13.50
7/A	9/32 - 5/16	3-1/2	2092-012	13.50
6/A	5/16 - 11/32	4-1/8	2092-014	12.20
5/A	11/32 - 3/8	4-3/8	2092-016	12.20
4/A	3/8 - 13/32	4-3/4	2092-018	12.90
3/A	13/32 - 7/16	5	2092-020	13.70
2/A	7/16 - 15/32	5-1/4	2092-022	13.70
A	15/32 - 17/32	5-1/2	2092-024	14.10
B	17/32 - 19/32	5-3/4	2092-026	14.70
C	19/32 - 21/32	6-1/2	2092-028	15.70
D	21/32 - 23/32	6-3/4	2092-030	16.05

SIZE	RANGE FOR ADJUST.	OVER. LG'TH	ORDER NO.	PRICE EACH
E	23/32 - 25/32	7	2092-032	\$ 16.25
F	25/32 - 27/32	7-3/8	2092-034	16.75
G	27/32 - 15/16	8	2092-036	17.85
H	15/16 - 1-1/16	9	2092-038	20.25
I	1-1/16 - 1-3/16	10	2092-040	25.90
J	1-3/16 - 1-11/32	11	2092-042	29.65
K	1-11/32 - 1-1/2	12	2092-044	35.65
L	1-1/2 - 1-13/16	14	2092-046	53.65
M	1-13/16 - 2-7/32	16	2092-048	71.65
N	2-7/32 - 2-3/4	18	2092-050	133.35
O	2-3/4 - 3-11/32	20	2092-052	208.85

### Sets

SET RANGE	NO. OF PCS.	ORDER NO.	PRICE EACH
A - H	8	2092-082	\$ 91.30
A - K	11	2092-084	161.15
8/A - 5/A	4	2092-086	50.85
4/A - 2/A	3	2092-088	38.20
4/A - M	16	2092-090	349.65



# Expansion Hand Reamers

Straight & Spiral Flute, High Speed Steel



**Straight Flute**



**Spiral Flute**

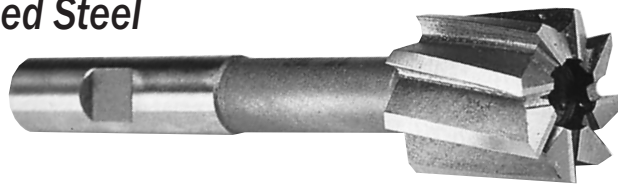
STRAIGHT FLUTE			SPIRAL FLUTE			
DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
9/32	1-3/4	4	2093-018	\$35.40	2094-018	\$37.20
5/16	1-3/4	4	2093-020	38.60	2094-020	42.50
11/32	1-3/4	4-1/4	2093-022	37.50	2094-022	39.40
3/8	1-3/4	4-1/4	2093-024	41.60	2094-024	46.20
13/32	1-3/4	4-1/2	2093-026	42.70	2094-026	47.70
7/16	1-3/4	4-1/2	2093-028	43.30	2094-028	47.70
15/32	1-13/16	5	2093-030	43.50	2094-030	49.30
1/2	1-13/16	5	2093-032	44.00	2094-032	49.30
17/32	2-1/8	5-1/2	2093-034	47.80	2094-034	52.70
9/16	2-1/8	5-1/2	2093-036	49.20	2094-036	52.70
19/32	2-1/2	6	2093-038	51.30	2094-038	56.50
5/8	2-1/2	6	2093-040	53.10	2094-040	56.50
21/32	2-1/2	6-1/4	2093-042	57.20	2094-042	65.10
11/16	2-1/2	6-1/4	2093-044	60.40	2094-044	65.10
23/32	2-11/16	6-9/16	2093-046	63.10	2094-046	72.00
3/4	2-11/16	6-9/16	2093-048	66.90	2094-048	72.00
25/32	3-1/16	7-1/16	2093-050	70.40	2094-050	76.40
13/16	3-1/16	7-1/16	2093-052	75.60	2094-052	79.50
27/32	3-5/16	7-1/2	2093-054	77.40	2094-054	82.00
7/8	3-5/16	7-1/2	2093-056	81.50	2094-056	85.20
29/32	3-9/16	7-7/8	2093-058	86.90	2094-058	98.40
15/16	3-9/16	7-7/8	2093-060	91.50	2094-060	98.40
31/32	3-3/4	8-3/8	2093-062	97.10	2094-062	102.60
1	3-3/4	8-3/8	2093-064	100.50	2094-064	107.90
1-1/32	4	8-11/16	2093-066†	111.70	2094-066†	118.20
1-1/16	4	8-11/16	2093-068	111.70	2094-068	118.20
1-3/32	4-1/8	9	2093-070†	119.60	2094-070†	121.40
1-1/8	4-1/8	9	2093-072	119.60	2094-072	121.40
1-5/32	4-1/4	9-3/8	2093-074†	130.50	2094-074†	129.70

STRAIGHT FLUTE			SPIRAL FLUTE			
DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-3/16	4-1/4	9-3/8	2093-076	\$130.50	2094-076	\$129.70
1-7/32	4-3/8	9-3/4	2093-078†	135.70	2094-078†	138.30
1-1/4	4-3/8	9-3/4	2093-080	135.70	2094-080	138.30
1-9/32	4-1/2	10-1/8	2093-082†	151.60	2094-082†	147.60
1-5/16	4-1/2	10-1/8	2093-084	151.60	2094-084	147.60
1-11/32	4-9/16	10-1/2	2093-086†	169.00	2094-086†	169.50
1-3/8	4-9/16	10-1/2	2093-088	169.00	2094-088	169.50
1-13/32	4-3/4	10-7/8	2093-090†	197.60	2094-090†	197.90
1-7/16	4-3/4	10-7/8	2093-092	197.60	2094-092	197.90
1-15/32	4-13/16	11-1/8	2093-094†	220.60	2094-094†	218.90
1-1/2	4-13/16	11-1/8	2093-096	220.60	2094-096	218.90
1-9/16	4-7/8	11-1/4	2093-100†	269.50	2094-100†	214.60
1-5/8	4-7/8	11-1/2	2093-104†	269.50	—	—
1-11/16	4-7/8	11-5/8	—	—	2094-108†	279.30
1-3/4	5	11-7/8	2093-112	277.40	2094-112	279.30
1-13/16	5	12-1/16	2093-116†	307.20	2094-116†	325.80
1-7/8	5	12-1/4	2093-120	307.20	2094-120	325.80
1-15/16	5	12-3/8	2093-124†	353.80	2094-124†	367.70
2	5	12-9/16	2093-128	353.80	2094-128	367.70
2-1/8	5-1/8	13-1/4	2093-136†	POA	2094-136†	POA
2-1/4	5-1/8	13-1/2	2093-144†	POA	—	—
2-3/8	5-1/4	14	2093-152†	POA	2094-152†	POA
2-1/2	5-3/8	14-1/2	—	—	2094-160†	POA
2-5/8	5-1/2	15	2093-168†	POA	2094-168†	POA
2-3/4	5-3/4	15-1/2	2093-176†	POA	2094-176†	POA
2-7/8	5-3/4	15-1/2	—	—	2094-184†	POA
3	6	16-1/2	2093-192†	POA	—	—

† Limited Quantities

# Jig Borer Reamers— RHS-RHC

Straight Shank, High Speed Steel



SIZES	DEC. EQUIV.	SHANK DIAM.	OVER. LG'TH	NO. OF FLUTES	ORDER NO.	PRICE EACH
1/8	.1250	3/8	2-9/16	4	2220-408	\$57.20
5/32	.1562	3/8	2-9/16	4	2220-410	57.20
3/16	.1875	3/8	2-13/16	4	2220-412	64.80
7/32	.2188	3/8	2-13/16	4	2220-414	64.80
1/4	.2500	3/8	3-5/16	4	2220-416	65.90
9/32	.2812	3/8	3-5/16	4	2220-418	65.90
5/16	.3125	3/8	3-9/16	6	2220-420	72.40
11/32	.3438	3/8	3-9/16	6	2220-422	72.40
3/8	.3750	3/8	3-9/16	6	2220-424	72.40
13/32	.4062	1/2	4-5/16	6	2220-426	83.80

SIZES	DEC. EQUIV.	SHANK DIAM.	OVER. LG'TH	NO. OF FLUTES	ORDER NO.	PRICE EACH
7/16	.4375	1/2	4-5/16	6	2220-428	\$83.80
15/32	.4688	1/2	4-5/16	6	2220-430	83.80
1/2	.5000	1/2	4-5/16	6	2220-432	83.80
9/16	.5625	1/2	4-5/16	6	2220-436	85.80
5/8	.6250	1/2	4-5/16	6	2220-440	104.80
11/16	.6875	1/2	4-5/16	6	2220-444	108.50
3/4	.7500	1/2	4-5/16	8	2220-448	113.30
13/16	.8125	1/2	4-5/16	8	2220-452	153.80
7/8	.8750	1/2	4-5/16	8	2220-456	156.10
15/16	.9375	1/2	4-5/16	8	2220-460	162.10
1	1.0000	1/2	4-5/16	8	2220-464	170.30

# Construction Reamers



**Pittsburg** ALLEGHANY *Spiral Flute*



**Pittsburg** ALLEGHANY *Helical Flute*



**Wayne Tool** *Spiral Flute*



**Wayne Tool** *Helical Flute*

The Ultra High Performance Round Shank Taper Reamer has a Ferritic Nitro Carburing treatment, giving a surface hardness of RC 75-80 without increasing brittleness, versus a normal hardness of RC 63-66. The bronze and black surface provides additional lubricity.

					<b>Pittsburg</b> ALLEGHANY				<b>Wayne Tool</b>				<b>Wayne Tool</b> HIGH PERFORMANCE			
					SPIRAL FLUTE		HELICAL FLUTE		SPIRAL FLUTE		HELICAL FLUTE		SPIRAL FLUTE		HELICAL FLUTE	
DIAM.	SHANK DIAM.	SHANK LG'TH	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	1-1/2	2-1/2	4-3/8	2161-116	\$17.11	2161-216	\$17.11	2160-912	\$26.70	2161-012	\$29.45	2161-412	\$29.65	2161-512	\$32.70
5/16	5/16	1-1/2	2-3/4	4-5/8	2161-120	17.11	2161-220	17.11	2160-920	27.75	2161-020	30.55	2161-420	30.80	2161-520	33.90
3/8	3/8	1-1/2	2-3/4	4-5/8	2161-124	17.11	2161-224	17.11	2160-924	27.75	2161-024	30.55	2161-424	30.80	2161-524	33.90
7/16	7/16	1-1/2	3-1/2	5-3/8	2161-128	20.12	2161-228	20.12	2160-928	30.55	2161-028	33.60	2161-428	33.90	2161-528	37.30
1/2	1/2	1-1/2	4	5-7/8	2161-132	20.12	2161-232	20.12	2160-932	33.10	2161-032	36.45	2161-432	36.75	2161-532	40.45
9/16	1/2	1-1/2	4	5-7/8	2161-136	21.17	2161-236	21.17	2160-936	35.15	2161-036	38.65	2161-436	39.00	2161-536	42.90
5/8	1/2	1-1/2	4-1/2	6-3/8	2161-140	23.32	2161-240	23.32	2160-940	38.35	2161-040	42.20	2161-440	52.85	2161-540	46.85
21/32	1/2	1-1/2	4-1/2	6-3/8	—	—	—	—	2160-942	42.65	2161-042	46.90	2161-442	47.30	2161-542	52.05
11/16	1/2	1-1/2	4-1/2	6-3/8	2161-144	25.67	2161-244	25.67	2160-944	42.65	2161-044	46.90	2161-444	47.30	2161-544	52.05
3/4	1/2	1-1/2	5	6-7/8	2161-148	31.49	2161-248	31.49	2160-948	51.15	2161-048	56.25	2161-448	56.75	2161-548	62.45
25/32	1/2	1-1/2	5	6-7/8	—	—	—	—	2160-950	51.15	2161-050	56.25	2161-450	56.75	2161-550	62.45
13/16	1/2	1-1/2	5	6-7/8	2161-152	34.12	2161-252	34.12	2160-952	51.15	2161-052	56.25	2161-452	56.75	2161-552	62.45
7/8	1/2	1-1/2	5	6-7/8	2161-156	37.87	2161-256	37.87	2160-956	57.80	2161-056	63.55	2161-456	64.15	2161-556	70.55
15/16	1/2	1-1/2	5	6-7/8	2161-160	39.02	2161-260	39.02	2160-960	57.80	2161-060	63.55	2161-460	64.15	2161-560	70.55
1	1/2	1-1/2	5	6-7/8	2161-164	43.30	2161-264	43.30	2160-964	68.95	2161-064	75.85	2161-464	76.55	2161-564	84.20
1-1/16	1/2	1-1/2	5	6-7/8	2161-168	47.58	2161-268	47.58	2160-968	78.90	2161-068	86.80	2161-468	87.60	2161-568	96.35
1-1/8	3/4	1-1/2	4-1/2	6-7/8	—	—	—	—	—	—	—	—	2161-472	102.45	2161-572	112.70
1-3/16	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-476	112.40	2161-576	123.65
1-1/4	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-480	120.40	2161-580	132.20
1-5/16	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-484	128.80	2161-584	133.45
1-3/8	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-488	141.70	2161-588	144.70
1-7/16	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-492	155.85	2161-592	159.05
1-1/2	3/4	1-1/2	4-1/4	6-7/8	—	—	—	—	—	—	—	—	2161-496	179.20	2161-596	183.40

# Erector Reamers



**Pittsburg** ALLEGHANY *Hex Shank*



**Wayne Tool** *Black Oxide*



**Wayne Tool** *Safety Spiral Flute*

The Safety First Erector Reamer is magnetic, which secures the reamer in sockets.



				<b>Pittsburg</b> ALLEGHANY		<b>Wayne Tool</b>			
REAMER DIA.	HEX SHANK INCHES	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	SPIRAL FLUTE ORDER NO.	PRICE EACH	SAFETY SPIRAL FLUTE ORDER NO.	PRICE EACH
11/16	1-1/16	4-1/2	6-1/2	2161-344	\$37.98	2161-644	\$49.70	2161-744	\$55.45
3/4	1-1/4	5"	7"	—	—	2161-648	59.55	2161-748	66.30
13/16	1-1/4	5"	7"	2161-352	39.36	2161-652	59.55	2161-752	66.30
7/8	1-7/16	5"	7"	—	—	2161-656	67.40	2161-756	74.90
15/16	1-7/16	5"	7"	2161-360	42.08	2161-660	67.40	2161-760	74.90
1"	1-7/16	5"	7"	—	—	2161-664	80.40	2161-764	89.25
1-1/16	1-5/8	5"	7"	2161-368	55.69	2161-668	89.50	2161-768	99.25
1-1/8	1-5/8	5"	7"	—	—	2161-672	103.40	2161-772	114.60
1-3/16	1-13/16	5"	7"	—	—	2161-676	111.55	2161-776	123.55
1-1/4	1-13/16	5"	7"	—	—	2161-680	121.30	2161-780	134.25
1-5/16	2"	5"	7-7/8	—	—	2161-684	133.40	2161-784	147.55

# Bridge Reamers— High Speed Steel



*Straight Flute - Taper Shank*



*Spiral Flute - Taper Shank*

DIAM.	FLUTE LENGTH	OVER-ALL LENGTH	TAPER SHANK NO.	STRAIGHT FLUTE		SPIRAL FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
13/32	4-3/8	8-1/4	2	2170-262	\$21.25	2180-262	\$19.40
7/16	4-3/8	8-1/4	2	2170-282	21.25	2180-282	19.40
15/32	5-1/8	9	2	2170-302	22.40	2180-302	21.20
1/2	5-1/8	9	2	2170-322	22.40	2180-322	21.20
17/32	5-1/8	9	2	2170-342	22.95	2180-342	22.25
9/16	5-1/8	9	2	2170-362	22.95	2180-362	22.25
19/32	6-1/8	10	2	2170-382†	17.40	2180-382†	17.55
5/8	6-1/8	10	2	2170-402	24.85	2180-402	25.10
21/32	6-1/8	10	2	2170-422†	18.25	—	—
21/32	7-1/8	11-3/4	3	—	—	2180-423†	21.55
11/16	7-1/8	11-3/4	3	2170-443	28.95	2180-443	30.80
23/32	7-3/8	12	3	2170-463†	21.85	—	—
3/4	7-3/8	12	3	2170-483	31.20	2180-483	33.60
25/32	7-3/8	12	3	2170-503†	23.30	—	—
13/16	7-3/8	12	3	2170-523	33.30	2180-523	34.85
27/32	7-3/8	12	3	2170-543†	27.15	2180-543†	28.15
7/8	7-3/8	12	3	2170-563	38.75	2180-563	40.20
29/32	7-3/8	12	3	2170-583†	26.40	2180-583†	28.35
15/16	7-3/8	12	3	2170-603	37.75	2180-603	40.50
31/32	7-3/8	12	3	2170-623†	30.45	—	—

† Limited Quantities

DIAM.	FLUTE LENGTH	OVER-ALL LENGTH	TAPER SHANK NO.	STRAIGHT FLUTE		SPIRAL FLUTE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	7-3/8	12	3	2170-643	\$ 43.50	2180-643	\$ 46.30
1-1/16	7-3/8	12	3	2170-683	48.00	2180-683	51.10
1-1/8	7-3/8	12	3	2170-723	53.70	2180-723	57.05
1-3/16	7-3/8	12	3	2170-763	59.85	2180-763	62.80
1-1/4	7-3/8	13	4	2170-804	65.75	2180-804	68.55
1-5/16	7-3/8	13	4	2170-844	75.80	2180-844	80.05
1-3/8	7-3/8	13	4	2170-884	78.75	2180-884	81.90
1-7/16	7-3/8	13	4	2170-924	82.35	2180-924	85.65
1-1/2	7-3/8	13	4	2170-964	87.20	2180-964	92.10
1-9/16	7-3/8	13	4	2171-004	114.13	2181-004	126.10
1-5/8	7-3/8	13	4	2171-044	114.13	2181-044	129.70
1-11/16	7-3/8	13	4	2171-084	120.01	2181-084	145.55
1-3/4	7-3/8	13	4	2171-124	145.19	2181-124	161.40
1-13/16	7-3/8	13	4	2171-164	145.19	2181-164	165.60
1-7/8	7-3/8	13	4	2171-204	145.19	2181-204	168.40
1-15/16	7-3/8	13	4	2171-244	167.84	2181-244	187.30
2	7-3/8	13	4	2171-282	167.84	2181-284	192.35

*Diameters through 4-1/2" Available On Request*

# Extra Long Bridge Reamers— 18" OAL

## Spiral Flute, Surface Treated



*Spiral Flute - Taper Shank*

Extra Length Bridge Reamers, made of high-speed steel, are especially designed for severe service and are particularly adapted for use in structural iron and steel, bridge erection, ship construction, where extreme precision is not required.

The cutting end of the flutes is tapered to permit the reamer to enter out-of-line holes often encountered in structural work.

The approx. length of the tapered section is 40% of the total flute length. The normal tolerance on the full diameter is greater than that used for other types of machine reamers.

Wayne Tool				
DIAM.	MORSE TAPER	FLUTE LG' TH.	ORDER NO.	PRICE EACH
13/16	3	13-3/8	2161-826	\$86.25
7/8	3	13-3/8	2161-828	98.05
15/16	3	13-3/8	2161-830	98.05
1"	3	13-3/8	2161-832	112.05
1-1/16	3	13-3/8	2161-834	122.95
1-1/8	3	13-3/8	2161-836	138.25
1-3/16	3	13-3/8	2161-838	153.30
1-1/4	4	12-3/8	2161-840	159.20
1-5/16	4	12-3/8	2161-842	183.10
1-3/8	4	12-3/8	2161-844	206.20
1-7/16	4	12-3/8	2161-846	214.40
1-1/2	4	12-3/8	2161-848	243.40
1-9/16	4	12-3/8	2161-850	292.50
1-5/8	4	12-3/8	2161-852	337.25
1-11/16	4	12-3/8	2161-854	565.70
1-3/4	4	12-3/8	2161-856	585.55
1-13/16	4	12-3/8	2161-858	605.40
1-7/8	4	12-3/8	2161-860	625.25
1-15/16	4	12-3/8	2161-862	645.10
2"	4	12-3/8	2161-864	664.95

# Die Maker's Reamers

## High Speed Steel



1

SIZE	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
AAA	.070	.055	1-1/8	2-1/4	2220-099	\$16.20
AA	.080	.065	1-1/8	2-1/4	2220-100	15.26
A	.090	.075	1-1/8	2-1/4	2220-101	14.66
C	.113	.095	1-3/8	2-1/2	2220-103	13.05
F	.148	.125	1-3/4	3	2220-106	9.24
G	.158	.135	1-3/4	3	2220-107	9.24
H	.169	.145	1-7/8	3-1/4	2220-108	10.89
I	.184	.160	1-7/8	3-1/4	2220-109	10.89
K	.219	.190	2-1/4	3-1/2	2220-111	13.20
L	.234	.205	2-1/4	3-1/2	2220-112	13.20
M	.252	.220	2-1/2	4	2220-113	13.20
N	.274	.235	3	4-1/2	2220-114	15.42
O	.296	.250	3-1/2	5	2220-115	16.29
P	.327	.275	4	5-1/2	2220-116	18.56
Q	.358	.300	4-1/2	6	2220-117	19.27

SIZE	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
R	.397	.335	4-3/4	6-1/2	2220-118	\$19.98
S	.425	.370	5	6-3/4	2220-119	20.72
T	.473	.405	5-1/4	7	2220-120	22.60
U	.511	.440	5-1/2	7-1/4	2220-121	23.44
V	.564	.483	6-1/4	8-3/8	2220-122	24.43
W	.613	.525	6-3/4	8-3/4	2220-123	27.73
X	.688	.574	7-1/4	9-1/2	2220-124	29.33
Y	.730	.629	7-3/4	10	2220-125	34.28
Z	.806	.699	8-1/4	10-1/2	2220-126	38.57

# Jobber Reamers— Taper Shank

## Straight & Spiral Flutes, High Speed Steel



2



Straight Flute



Spiral Flute

DIAM.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	SHANK NO.	STRAIGHT FLUTE		SPIRAL FLUTE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	.2500	2	5-3/16	1	2130-161	\$12.57	2140-161	\$12.57
17/64	.2656	2	5-3/16	1	2130-171	12.57	—	—
9/32	.2812	2	5-3/16	1	2130-181	12.57	2140-181	12.57
19/64	.2967	2-1/4	5-1/2	1	2130-191	12.57	—	—
5/16	.3125	2-1/4	5-1/2	1	2130-201	12.57	2140-201	12.57
21/64	.3281	2-1/4	5-1/2	1	2130-211	13.06	—	—
11/32	.3438	2-1/4	5-1/2	1	2130-221	13.06	2140-221	13.06
23/64	.3594	2-1/2	5-13/16	1	2130-231	13.06	—	—
3/8	.3750	2-1/2	5-13/16	1	2130-241	13.06	2140-241	13.06
25/64	.3906	2-1/2	5-13/16	1	2130-251	13.06	—	—
13/32	.4063	2-1/2	5-13/16	1	2130-261	13.06	2140-261	13.06
27/64	.4219	2-3/4	6-1/8	1	2130-271	13.06	—	—
7/16	.4375	2-3/4	6-1/8	1	2130-281	13.06	2140-281	13.06
29/64	.4531	2-3/4	6-1/8	1	2130-291	14.11	—	—
15/32	.4688	2-3/4	6-1/8	1	2130-301	14.11	2140-301	14.11
31/64	.4844	3	6-7/16	1	2130-311	15.05	—	—
1/2	.5000	3	6-7/16	1	2130-321	15.05	2140-321	15.05
33/64	.5156	3	6-7/16	1	2130-331	15.88	—	—
17/32	.5312	3	6-7/16	1	2130-341	15.88	2140-341	15.88
35/64	.5469	3-1/4	6-3/4	1	2130-351	17.26	—	—
9/16	.5625	3-1/4	6-3/4	1	2130-361	17.26	2140-361	17.26
37/64	.5781	3-1/4	6-3/4	1	2130-371	18.47	—	—
19/32	.5938	3-1/4	6-3/4	1	2130-381	18.47	2140-381	18.47
39/64	.6094	3-1/4	6-3/4	1	2130-391	19.08	—	—
5/8	.6250	3-1/2	7-9/16	2	2130-402	19.08	—	—
41/64	.6406	3-1/2	7-9/16	2	2130-412	19.95	—	—
21/32	.6562	3-1/2	7-9/16	2	2130-422	19.95	2140-422	19.95
11/16	.6875	3-7/8	8	2	2130-442	19.95	2140-442	19.95

DIAM.	DECM'L EQUIV.	FLUTE LG'TH	OVER. LG'TH	SHANK NO.	STRAIGHT FLUTE		SPIRAL FLUTE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
23/32	.7188	3-7/8	8	2	2130-462	\$21.16	2140-462	\$21.16
47/64	.7344	4-3/16	8-3/8	2	2130-472	22.26	—	—
3/4	.7500	4-3/16	8-3/8	2	—	—	2140-482	22.26
25/32	.7812	4-3/16	8-3/8	2	2130-502	22.98	—	—
13/16	.8125	4-9/16	8-13/16	2	2130-522	23.92	2140-522	23.92
27/32	.8438	4-9/16	8-13/16	2	2130-542	24.20	2140-542	24.20
55/64	.8594	4-9/16	8-13/16	2	2130-552	28.44	—	—
7/8	.8750	4-7/8	9-3/16	2	—	—	2140-562	28.44
29/32	.9062	4-7/8	9-3/16	2	2130-582	31.48	—	—
59/64	.9219	5-1/8	10	3	2130-593	31.48	—	—
15/16	.9375	5-1/8	10	3	2130-603	31.48	2140-603	31.48
61/64	.9331	5-1/8	10	3	2130-613	34.84	—	—
31/32	.9688	5-1/8	10	3	2130-623	34.84	—	—
63/64	.9844	5-1/8	10	3	2130-633	34.84	—	—
1	1.0000	5-7/16	10-3/8	3	—	—	2140-643	34.84
1-3/16	1.1875	6	11-1/8	3	2130-763	45.97	2140-763	45.97
1-5/16	1.3125	6-1/4	12-11/16	4	—	—	—	—
1-3/8	1.3750	6-5/16	12-13/16	4	2130-884	60.63	—	—
1-7/16	1.4375	6-7/16	13	4	2130-924	63.67	2140-924	63.67

Special Reamers From Prints  
Is Our Specialty!



# Taper Reamers



**GENERAL®**

## 1/8"- 5/8" x 3-1/2" Tapered Reamer



8

MFG. NO.	ORDER NO.	PRICE EACH
810131	6981-020	\$15.50

- Easy-to-use reamer is perfect for in-home plumbing, countersinking holes, deburring cut pipe, tubing or conduit.
- Precision hardened with ground cutting edges for durability.
- Heavy duty ergo-designed handle w/ free spinning comfort knob and 8-sided cushion grip.

## Repairman's Taper Reamers— Carbon Steel



Type T-5



Type 135 & 136

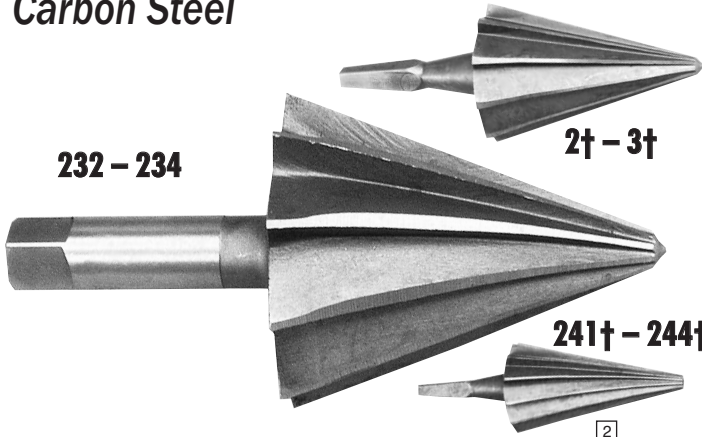
2

REAMER NO.	OVER-ALL LG'TH	DIAM. LARGE END	DIAM. SMALL END	ORDER NO.	PRICE EACH
T-5	5-1/2	1/2	1/8	2220-280	\$8.95
135	5-1/2	1/2	1/8	2220-282	8.20
136	6-5/8	1	7/16	2220-284	27.19

# Burring Reamers



## Carbon Steel



232 - 234

2† - 3†

241† - 244†

2

## Browne & Sharpe Taper Reamers— Square Shank High Speed Steel



Straight Flute



Spiral Flute

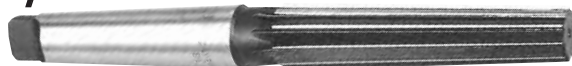
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ORDER NO.	DESCRIPTION	NO.	CAPACITY PIPE INCHES	DIAM. AT POINT	PRICE EACH
2223-106	Spiral Fluted	232	1/8 - 1	3/16	\$19.67
2223-108	1/2" Round	233	1/4 - 1-1/4	1/4	23.87
2223-110	Shank	234	1/4 - 2	1/4	40.23
2223-120	Spiral Fluted	254	1/4 - 2	1/4	53.49
2223-122	T-Handle Shank	257	1-1/2 - 3-1/2	1-1/2	252.37
2223-100†	Straight	2	1/8 - 1	3/16	11.16
2223-102†	Fluted Bit	3	1/4 - 1-1/4	1/4	13.50
2223-112†	Spiral Fluted	241	1/8 - 1/2	3/16	14.52
2223-114†	Bit Brace	242	1/8 - 1	3/16	17.94
2223-116†	Shank	243	1/4 - 1-1/4	1/4	22.56

TAPER NO.	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER. LG'TH	STRAIGHT FLUTE		SPIRAL FLUTE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3	.4510	.3099	3-3/8	5-1/2	2220-303	18.70	-	-
4	.5017	.3474	3-11/16	5-7/8	2220-304	\$19.65	-	-
5	.6145	.4474	4	6-3/8	2220-305	22.15	-	-
3	.6808	.4974	4-3/8	6-7/8	2220-306	23.35	-	-
12	1.844	1.500	8-1/4	11-3/8	2220-312	123.20	2220-332	\$141.70

† Limited Quantities

## Machine Taper Reamers—Taper Shank High Speed Steel



Straight Flute



Spiral Flute

† Limited Quantities

SIZE	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER-ALL LG'TH	MORSE TAPER SHANK	STRAIGHT FLUTE		SPIRAL FLUTE	
						ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0	.3674	.2503	2-1/4	5-11/32	0	2220-240	\$28.20	-	-
1	.5170	.3674	3	6-5/16	1	2220-241	33.30	-	-
2	.7444	.5696	3-1/2	7-3/8	2	2220-242	40.30	2220-262†	\$30.23
3	.9881	.7748	4-1/4	8-7/8	3	2220-243	55.70	2220-263†	41.78
4	1.2893	1.0167	5-1/4	10-7/8	4	2220-244	87.90	2220-264†	65.93
5	1.8005	1.4717	6-1/4	13-1/8	5	2220-245	179.40	2220-265†	134.55

2

## Morse Taper Reamers—Square Shank High Speed Steel



Finishing



Roughing

2

SIZE	DIAM. LARGE END	DIAM. SMALL END	FLUTE LG'TH	OVER. LG'TH	FINISH STR. FLUTE		ROUGH STR. FLUTE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0	.3674	.2503	2-1/4	3-3/4	2220-200	\$18.80	2220-210	\$22.40
1	.5170	.3674	3	5	2220-201	24.25	2220-211	28.35
2	.7444	.5696	3-1/2	6	2220-202	28.65	2220-212	33.60
3	.9881	.7748	4-1/4	7-1/4	2220-203	41.75	2220-213	49.00
4	1.2893	1.0167	5-1/4	8-1/2	2220-204	61.75	2220-214	71.85
5	1.8005	1.4717	6-1/4	9-3/4	2220-205	117.65	2220-215	138.05
6	2.555	2.112	8-1/2	12-1/4	2220-206	255.10	2220-216	298.47

# Counterbores— Short Set, Interchangeable Pilot

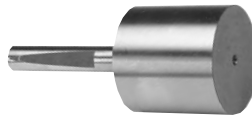
Short Set, High Speed Steel & Carbide Tipped



DIAM.	OVERALL LENGTH	NO. OF FLUTES	HOLE DIAM.	RANGE OF PILOT SIZES	Pittsburg ALLEGHANY HIGH SPEED STEEL				ROCK RIVER TOOL STEEL			ROCK RIVER TOOL CARBIDE TIPPED CAST IRON				
					STRAIGHT SHANK		TAPER SHANK		STRAIGHT SHANK	STRAIGHT SHANK	TAPER SHANK	STRAIGHT SHANK	STRAIGHT SHANK	TAPER SHANK		
					ORDER NO.	PRICE EACH	TAPER SHANK	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	TAPER SHANK	ORDER NO.	PRICE EACH
3/16	3	3	3/32	1/8 - 3/16	2230-012	\$17.10	—	—	—	—	—	—	—	—	—	—
13/64	3	3	3/32	1/8 - 3/16	2230-013	24.16	—	—	—	—	—	—	—	—	—	—
7/32	3	3	3/32	1/8 - 7/32	2230-014	16.15	—	—	—	—	—	—	—	—	—	—
15/64	3	3	3/32	1/8 - 7/32	2230-015	23.54	—	—	—	—	—	—	—	—	—	—
1/4	3-13/16	3	3/32	1/8 - 3/16	2230-016	16.15	1	2231-016	\$ 6.97	1951-016	\$ 64.50	1952-016	\$ 55.15	1	1953-016	\$ 64.50
17/64	3-13/16	3	3/32	1/8 - 1/4	2230-017	23.54	1	2231-017	21.21	—	—	—	—	—	—	—
9/32	3-13/16	3	3/32	1/8 - 7/32	2230-018	16.15	1	2231-018	16.97	—	—	—	—	—	—	—
19/64	3-13/16	3	3/32	1/8 - 9/32	2230-019	24.26	1	2231-019	POA	—	—	—	—	—	—	—
5/16	3-13/16	3	3/32	1/8 - 1/4	2230-020	16.42	1	2231-020	17.39	1951-020	70.55	1952-020	61.25	1	1953-020	70.55
21/64	3-13/16	3	3/32	1/8 - 5/16	2230-021	24.08	1	2231-021	21.74	—	—	—	—	—	—	—
11/32	3-13/16	3	3/32	1/8 - 9/32	2230-022	16.79	1	2231-022	17.39	—	—	—	—	—	—	—
23/64	3-13/16	3	3/32	1/8 - 11/32	2230-023	24.08	1	2231-023	21.74	—	—	—	—	—	—	—
3/8	4-1/16	3	5/32	3/16 - 5/16	2230-024	16.79	1	2231-024	17.39	1951-024	72.80	1952-024	64.90	1	1953-024	72.80
25/64	4-1/16	3	5/32	3/16 - 3/8	2230-025	24.86	1	2231-025	23.00	—	—	—	—	—	—	—
13/32	4-1/16	3	5/32	3/16 - 11/32	2230-026	16.93	1	2231-026	18.40	—	—	—	—	—	—	—
27/64	4-1/16	3	5/32	3/16 - 13/32	2230-027	24.86	1	2231-027	23.00	—	—	—	—	—	—	—
7/16	4-1/16	3	5/32	3/16 - 3/8	2230-028	16.93	1	2231-028	18.40	1951-028	74.80	1952-028	66.60	1	1953-028	74.80
29/64	4-1/16	3	5/32	3/16 - 7/16	2230-029	25.73	1	2231-029	24.21	—	—	—	—	—	—	—
15/32	4-5/16	3	3/16	1/4 - 13/32	2230-030	18.03	1	2231-030	19.37	—	—	—	—	—	—	—
31/64	4-5/16	3	3/16	3/16 - 15/32	2230-031	26.24	1	2231-031	24.21	—	—	—	—	—	—	—
1/2	4-5/16	3	3/16	1/4 - 7/16	2230-032	18.03	1	2231-032	19.37	1951-032	82.55	1952-032	73.95	1	1953-032	82.55
17/32	4-5/16	3	3/16	1/4 - 15/32	2230-034	19.96	1	2231-034	20.61	—	—	—	—	—	—	—
9/16	4-5/16	3	3/16	1/4 - 1/2	2230-036	19.96	1	2231-036	20.61	1951-036	84.10	1952-036	76.10	1	1953-036	84.10
19/32	5-1/8	3	3/16	1/4 - 17/32	2230-038	21.39	1	2231-038	23.18	—	—	—	—	—	—	—
5/8	5-1/8	3	3/16	1/4 - 9/16	2230-040	21.39	2	2231-040	23.18	1951-040	86.35	1952-040	76.85	2	1953-040	86.35
21/32	5-1/8	3	3/16	1/4 - 19/32	2230-042	23.64	2	2231-042	26.91	—	—	—	—	—	—	—
11/16	5-1/8	3	3/16	1/4 - 5/8	2230-044	23.64	2	2231-044	26.91	1951-044	91.10	1952-044	81.40	2	1953-044	91.10
23/32	5-3/8	3	1/4	5/16 - 21/32	2230-046	24.89	2	2231-046	27.72	—	—	—	—	—	—	—
3/4	5-3/8	3	1/4	5/16 - 11/16	2230-048	24.89	2	2231-048	27.72	1951-048	92.65	1952-048	83.25	2	1953-048	92.65
25/32	5-3/8	3	1/4	5/16 - 23/32	2230-050	28.12	2	2231-050	29.14	—	—	—	—	—	—	—
13/16	5-3/8	3	1/4	5/16 - 3/4	2230-052	28.12	2	2231-052	29.14	1951-052	94.30	1952-052	85.00	2	1953-052	94.30
27/32	5-3/8	3	1/4	5/16 - 25/32	2230-054	29.51	2	2231-054	30.56	—	—	—	—	—	—	—
7/8	5-3/8	3	1/4	5/16 - 13/16	2230-056	29.51	2	2231-056	30.56	1951-056	99.10	1952-056	90.10	2	1953-056	99.10
29/32	6-1/8	3	1/4	5/16 - 27/32	2230-058	30.90	2	2231-058	38.00	—	—	—	—	—	—	—
15/16	6-1/8	3	1/4	5/16 - 7/8	2230-060	30.90	3	2231-060	38.00	1951-060	101.80	1952-060	91.95	3	1953-060	101.80
31/32	6-3/8	3	5/16	3/8 - 29/32	2230-062	35.42	3	2231-062	38.24	—	—	—	—	—	—	—
1	6-3/8	3	5/16	3/8 - 15/16	2230-064	35.42	3	2231-064	38.24	1951-064	108.10	1952-064	94.60	3	1953-064	108.10
1-1/16	6-3/8	3	5/16	3/8 - 1	2230-068	45.46	3	2231-068	45.48	1951-068	109.50	1952-068	95.60	3	1953-068	109.50
1-1/8	6-3/8	3	5/16	3/8 - 1-1/16	2230-072	46.65	3	2231-072	45.48	1951-072	112.95	1952-072	98.05	3	1953-072	112.95
1-3/16	6-3/8	3	5/16	3/8 - 1-1/8	2230-076	49.18	3	2231-076	56.86	1951-076	116.80	1952-076	102.40	3	1953-076	116.80
1-1/4	6-5/8	5	3/8	7/16 - 1-3/16	2230-080	57.53	3	2231-080	58.14	1951-080	129.85	1952-080	114.05	3	1953-080	129.85
1-5/16	6-5/8	5	3/8	7/16 - 1-1/4	2230-084	60.66	3	2231-084	59.27	1951-084	139.20	1952-084	123.10	3	1953-084	139.20
1-3/8	6-5/8	5	3/8	7/16 - 1-5/16	2230-088	65.73	3	2231-088	63.87	1951-088	145.85	1952-088	129.50	3	1953-088	145.85
1-7/16	7-7/8	5	3/8	7/16 - 1-3/8	2230-092	73.53	3	2231-092	68.99	1951-092	162.25	1952-092	141.95	4	1953-092	162.25
1-1/2	7-7/8	5	3/8	7/16 - 1-7/16	2230-096	73.53	4	2231-096	71.78	1951-096	179.90	1952-096	158.15	4	1953-096	179.90
1-9/16	8-1/8	5	7/16	1/2 - 1-1/2	2230-100	92.50	4	2231-100	93.72	1951-100	184.50	1952-100	162.75	4	1953-100	184.50
1-5/8	8-1/8	5	7/16	1/2 - 1-9/16	2230-104	92.50	4	2231-104	94.67	1951-104	187.80	1952-104	166.20	4	1953-104	187.80
1-11/16	8-1/8	5	7/16	1/2 - 1-5/8	2230-108	99.61	4	2231-108	102.39	—	—	1952-108	198.85	4	1953-108	224.75
1-3/4	8-1/8	5	7/16	1/2 - 1-11/16	2230-112	99.61	4	2231-112	102.39	1951-112	224.75	1952-112	198.85	4	1953-112	224.75
1-13/16	8-1/8	5	7/16	1/2 - 1-3/4	2230-116	109.49	4	2231-116	112.24	—	—	1952-116	235.45	4	1953-116	266.00
1-7/8	8-1/8	5	7/16	1/2 - 1-13/16	2230-120	109.49	4	2231-120	112.24	—	—	1952-120	235.45	4	1953-120	266.00
1-15/16	8-1/8	5	7/16	1/2 - 1-7/8	2230-124	123.85	4	2231-124	126.84	—	—	1952-124	257.30	4	1953-124	290.60
2	8-3/8	5	1/2	9/16 - 1-15/16	2230-128	123.85	4	2231-128	126.84	1951-128	224.75	1952-128	257.30	4	1953-128	290.60
2-1/8	9-7/8	5	1/2	9/16 - 2-1/16	2230-136	192.93	5	2231-136	160.24	—	—	—	—	—	—	—
2-1/4	9-7/8	5	1/2	9/16 - 2-3/16	2230-144	206.18	5	2231-144	169.15	—	—	—	—	—	—	—
2-3/8	9-7/8	5	1/2	9/16 - 2-5/16	2230-152	220.79	5	2231-152	183.88	—	—	—	—	—	—	—
2-1/2	9-7/8	5	1/2	9/16 - 2-7/16	2230-160	234.79	5	2231-160	183.88	—	—	—	—	—	—	—
2-5/8	9-7/8	5	1/2	9/16 - 2-9/16	2230-168	287.61	5	2231-168	197.91	—	—	—	—	—	—	—
2-3/4	9-7/8	5	1/2	9/16 - 2-11/16	2230-176	304.79	5	2231-176	229.79	—	—	—	—	—	—	—
2-7/8	9-7/8	5	1/2	9/16 - 2-13/16	2230-184	317.18	5	2231-184	252.77	—	—	—	—	—	—	—
3	9-7/8	5	1/2	9/16 - 2-15/16	2230-192	328.82	5	2231-192	260.45	—	—	—	—	—	—	—

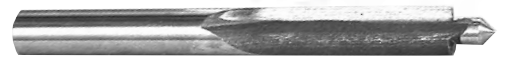
# Counterbores

## Pilots for Counterbores - Carbon Steel



## Solid Counterbores

Straight Shank - 2 Flute - High Speed Steel - For Fillister Head Machine Screws



Style A

SCREW SIZE	PILOT SIZE	CUTTING SIZE & SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
4	.111	.198	2-1/2	2237-304	\$4.17
6	.137	.241	2-1/2	2237-306	4.67

Straight Shank - 2 Flute - High Speed Steel - For Fillister Head Screws



Style B

PILOT & CUTTING SIZE	SHANK DIAMETER	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/4 x 13/32	5/16	3-5/8	2237-420	\$8.60
5/16 x 15/32	3/8	4	2237-424	8.98
3/8 x 19/32	7/16	4-3/8	2237-428	10.26
7/16 x 21/32	1/2	4-3/4	2237-432	11.60
1/2 x 25/32	9/16	5-1/4	2237-436	12.59

PILOT DIAM. (IN.)	SHANK DIAMETER (INCHES)										PRICE EACH
	3/32	1/8	5/32	3/16	1/4	5/16	3/8	7/16	1/2		
1/8	2241-008	2242-008	—	—	—	—	—	—	—	—	\$2.50
5/32	2241-010	2242-010	2243-010	—	—	—	—	—	—	—	2.50
3/16	2241-012	2242-012	2243-012	2244-012	—	—	—	—	—	—	2.50
7/32	2241-014	2242-014	2243-014	2244-014	—	—	—	—	—	—	2.50
1/4	2241-016	2242-016	2243-016	2244-016	2245-016	—	—	—	—	—	2.50
9/32	2241-018	2242-018	2243-018	2244-018	2245-018	—	—	—	—	—	2.50
5/16	2241-020	2242-020	2243-020	2244-020	2245-020	2246-020	—	—	—	—	3.45
11/32	2241-022	2242-022	2243-022	2244-022	2245-022	2246-022	—	—	—	—	3.65
3/8	2241-024	2242-024	2243-024	2244-024	2245-024	2246-024	2247-024	—	—	—	3.65
13/32	—	2242-026	2243-026	2244-026	2245-026	2246-026	2247-026	—	—	—	4.55
7/16	—	2242-028	2243-028	2244-028	2245-028	2246-028	2247-028	2248-028	—	—	4.55
15/32	—	2242-030	2243-030	2244-030	2245-030	2246-030	2247-030	—	—	—	4.55
1/2	—	2242-032	2243-031	2244-032	2245-032	2246-032	2247-032	2248-032	2249-032	—	4.55
17/32	—	2242-034	—	2244-034	2245-034	2246-034	2247-034	2248-034	2249-034	—	5.15
9/16	—	2242-036	—	2244-036	2245-036	2246-036	2247-036	2248-036	2249-036	—	5.15
19/32	—	—	—	2244-038	2245-038	2246-038	2247-038†	—	—	—	5.15
5/8	—	—	—	2244-040	2245-040	2246-040	2247-040	2248-040	2249-040	—	5.70
21/32	—	—	—	2244-042	2245-042	2246-042	2247-042†	2248-042	—	—	5.70
11/16	—	—	—	2244-044	2245-044	2246-044	2247-044	2248-044	2249-044	—	5.70
23/32	—	—	—	—	2245-046†	2246-046†	2247-046†	2248-046	—	—	5.70
3/4	—	—	—	2244-048	2245-048	2246-048	2247-048	2248-048	2249-048	—	5.70
25/32	—	—	—	—	2245-050†	2246-050†	2247-050†	2248-050	2249-050	—	6.35
13/16	—	—	—	—	2245-052	2246-052	2247-052	2248-052	2249-052	—	6.35
7/8	—	—	—	—	2245-056	2246-056	2247-056	2248-056	2249-056	—	6.35
15/16	—	—	—	—	2245-060	2246-060	2247-060	2248-060	2249-060	—	6.95
1	—	—	—	—	2245-064	2246-064	2247-064	2248-064	2249-064	—	7.20
1-1/16	—	—	—	—	—	2246-068	2247-068	2248-068	2249-068	—	8.65
1-1/8	—	—	—	—	—	2246-072	2247-072	2248-072	2249-072	—	9.75
1-3/16	—	—	—	—	—	2246-076	2247-076	2248-076	2249-076	—	10.35
1-1/4	—	—	—	—	—	2246-080	2247-080	2248-080	2249-080	—	10.80
1-5/16	—	—	—	—	—	—	2247-084	2248-084	2249-084	—	11.25
1-3/8	—	—	—	—	—	—	2247-088	2248-088	2249-088	—	12.10
1-7/16	—	—	—	—	—	—	2247-092	2248-092	2249-092	—	12.60
1-1/2	—	—	—	—	—	—	—	2248-096	2249-096	—	12.95
1-9/16	—	—	—	—	—	—	—	2248-100	2249-100	—	14.25
1-5/8	—	—	—	—	—	—	—	2248-104	2249-104	—	15.00
1-11/16	—	—	—	—	—	—	—	2248-108	2249-108	—	16.15
1-3/4	—	—	—	—	—	—	—	2248-112	2249-112	—	17.55
1-13/16	—	—	—	—	—	—	—	2248-116	2249-116	—	19.35
1-7/8	—	—	—	—	—	—	—	2248-120	2249-120	—	21.15
1-15/16	—	—	—	—	—	—	—	—	2249-124	—	22.50
2	—	—	—	—	—	—	—	—	2249-128	—	25.15

† Limited Quantities.

## Continuous Pilot Counterbores High-Speed Steel



### 1936 Series: Straight Shank - High Speed Steel

PILOT DIA.	CUTTER DIA.	FOR U.S.S. CAP SCREW	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH	PILOT DIA.	CUTTER DIA.	FOR U.S.S. CAP SCREW	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
.135	.230	6	7/32	3	2237-906	\$38.18	25/64	37/64	3/8	1/2	6-1/2	2237-925	\$49.90
.150	.242	6	7/32	3	2237-907	40.00	13/32	19/32	3/8	1/2	6-1/2	2237-926	47.62
.161	.274	8	1/4	3	2237-908	38.18	7/16	5/8	7/16	1/2	7	2237-928	59.43
.178	.286	8	1/4	3	2237-909	40.00	29/64	41/64	7/16	1/2	7	2237-929	59.43
.187	.316	10	5/16	3-1/2	2237-910	35.63	15/32	21/32	7/16	1/2	7	2237-930	59.43
.204	.328	10	5/16	3-1/2	2237-911	34.01	1/2	3/4	1/2	1/2	7-1/4	2237-932	66.33
.213	.348	12	11/32	3-1/2	2237-912	35.63	33/64	49/64	1/2	1/2	7-1/4	2237-933	66.33
.229	.360	12	11/32	3-1/2	2237-913	35.63	17/32	25/32	1/2	1/2	7-1/4	2237-934	62.11
1/4	3/8	1/4	3/8	5-3/4	2237-916	39.07	9/16	13/16	9/16	3/4	7-1/2	2237-936	74.30
17/64	25/64	1/4	3/8	5-3/4	2237-917	40.93	19/32	27/32	9/16	3/4	7-1/2	2237-937	79.36
9/32	13/32	1/4	3/8	5-3/4	2237-918	39.07	5/8	7/8	5/8	3/4	8-1/4	2237-940	91.94
5/16	7/16	5/16	7/16	6	2237-920	43.97	21/32	29/32	5/8	3/4	8-1/4	2237-941	91.94
21/64	29/64	5/16	7/16	6	2237-921	43.97	11/16	15/16	5/8	3/4	8-1/4	2237-942	100.00
11/32	15/32	5/16	7/16	6	2237-922	41.97	3/4	1	3/4	1	8-13/16	2237-948	97.84
3/8	9/16	3/8	1/2	6-1/2	2237-924	49.90	25/32	1-1/32	3/4	1	8-13/16	2237-949	116.56
							13/16	1-1/16	3/4	1	8-13/16	2237-950	122.59

### 1960 Series: Straight Shank - High Speed Steel

PILOT DIA.	CUTTER DIA.	FOR U.S.S. CAP SCREW	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH	PILOT DIA.	CUTTER DIA.	FOR U.S.S. CAP SCREW	SHANK DIA.	OVERALL LENGTH	ORDER NO.	PRICE EACH
5/16	15/32	5/16	7/16	6	2237-820	\$44.57	5/16	15/32	5/16	7/16	6	2237-821	44.57
21/64	31/64	5/16	7/16	6	2237-821	44.57	11/32	1/2	5/16	7/16	6	2237-822	41.73
7/16	21/32	7/16	1/2	7	2237-828	59.43	7/16	21/32	7/16	1/2	7	2237-828	59.43
29/64	43/64	7/16	1/2	7	2237-829	59.43	29/64	43/64	7/16	1/2	7	2237-829	59.43
15/32	11/16	7/16	1/2	7	2237-830	59.43	5/8	15/16	5/8	3/4	8-1/4	2237-840	97.16
21/32	31/32	5/8	3/4	8-1/4	2237-841	88.36	11/16	1	5/8	3/4	8-1/4	2237-842	100.00
3/4	1-1/8	3/4	1	8-13/16	2237-848	120.43	3/4	1-1/8	3/4	1	8-13/16	2237-848	120.43
25/32	1-5/32	3/4	1	8-13/16	2237-849	128.77	13/16	1-3/16	3/4	1	8-13/16	2237-850	128.21
1	1-1/2	1	1	8-13/16	2237-864	212.55	1	1-1/2	1	1	8-13/16	2237-864	212.55
1-1/16	1-9/16	1	1	8-13/16	2237-865	247.19	1-1/16	1-9/16	1	1	8-13/16	2237-865	247.19

## Huot Counterbore Dispenser



ORDER NO. 1919-336  
PRICE:.....  
\$ 93.50

All steel cabinet with vinyl drawer dividers to help protect and separate counterbores. Stackable with all Huot "Original" style dispensers. Holds continuous pilot counterbores sizes #4, #5, #6, #8, #10, #12, 1/4", 5/16", 3/8", 7/16", & 1/2". Dimensions: 14 5/8" W x 7 3/8" D x 7 3/4" H Ship Weight: 14 lbs.





# Counterbores

## Cap Screw Counterbores - High Speed Steel



1

SIZE/ APPLICATION	PILOT DIAM.	PILOT LG'TH.	FLUTE DIAM.	FLUTE LG'TH.	OAL	SH'K. DIAM.	ORDER NO.	PRICE EACH
#4 STD.	.1120		.1860				2237-003	\$21.85
#4 1/64 o/s	.1270	5/32	.2020	11/16	3-7/8	.1562	2237-002	21.85
#4 1/32 o/s	.1430		.2180				2237-001	21.85
#5 STD.	.1250		.2050				2237-006	21.85
#5 1/64 o/s	.1400	3/16	.2210	11/16	4-1/8	.1875	2237-005	21.85
#5 1/32 o/s	.1560		.2370				2237-004	21.85
#6 STD.	.1380		.2280				2237-009	22.10
#6 1/64 o/s	.1530	7/32	.2440	7/8	4-5/8	.2188	2237-008	22.10
#6 1/32 o/s	.1690		.2600				2237-007	22.10
#8 STD.	.1640		.2720				2237-012	23.90
#8 1/64 o/s	.1790	1/4	.2880	15/16	5	.2500	2237-011	23.90
#8 1/32 o/s	.1950		.3040				2237-010	23.90
#10 STD.	.1900		.3140				2237-015	24.65
#10 1/64 o/s	.2050	9/32	.3300	1-1/8	5-1/4	.2812	2237-014	24.65
#10 1/32 o/s	.2210		.3460				2237-013	24.65
1/4" STD.	.2500		.3820				2237-018	26.50
1/4" 1/64 o/s	.2650	5/16	.3980	1-5/16	5-5/8	.3125	2237-017	26.50
1/4" 1/32 o/s	.2810		.4140				2237-016	26.50
5/16" STD.	.3125		.4750				2237-021	32.00
5/16" 1/64 o/s	.3280	3/8	.4910	1-5/16	6-1/8	.3750	2237-020	32.00
5/16" 1/32 o/s	.3430		.5070				2237-019	32.00
3/8" STD.	.3750		.5720				2237-024	34.85
3/8" 1/64 o/s	.3900	1/2	.5880	1-5/8	6-1/2	.5000	2237-023	34.85
3/8" 1/32 o/s	.4060		.6040				2237-022	34.85
7/16" STD.	.4375		.6630				2237-027	44.25
7/16" 1/64 o/s	.4520	1/2	.6790	1-11/16	7	.5000	2237-026	44.25
7/16" 1/32 o/s	.4680		.6950				2237-025	44.25
1/2" STD.	.5000		.7570				2237-030	50.50
1/2" 1/64 o/s	.5150	1/2	.7730	2	7-1/2	.5000	2237-029	50.50
1/2" 1/32 o/s	.5310		.7890				2237-028	50.50
5/8" STD.	.6250		.9450				2237-033	89.50
5/8" 1/64 o/s	.6400	5/8	.9610	2	7-5/8	.6250	2237-032	89.50
5/8" 1/32 o/s	.6560		.9770				2237-031	89.50
3/4" STD.	.7500		1.1330				2237-036	102.35
3/4" 1/64 o/s	.7650	3/4	1.1490	2-1/8	7-3/4	.7500	2237-035	102.35
3/4" 1/32 o/s	.7810		1.1650				2237-034	102.35
7/8" STD.	.8750		1.3220				2237-039	125.25
7/8" 1/64 o/s	.8910	7/8	1.3380	2-1/8	8	.8750	2237-038	125.25
7/8" 1/32 o/s	.9060		1.3540				2237-037	125.25
1" STD.	1.000		1.5100				2237-042	158.10
1" 1/64 o/s	1.0150	1	1.5260	2-1/4	8-1/2	1.0000	2237-041	158.10
1" 1/32 o/s	1.0310		1.5420				2237-040	158.10

### SOCKET CAP SCREW COUNTERBORE SETS

10 counterbores 4-40 - 1/2"

**Standard Set:** Order No. 2237-047 **Set Price...**\$310.75

**1/64" Oversize Set:** Order No. 2237-046 **Set Price...**\$310.75

**1/32" Oversize Set:** Order No. 2237-045 **Set Price...**\$310.75

NEW ITEM



KOUNTERBORE

## Precision Cap Screw Counterbores - Cobalt High Speed Steel



### FEATURES:

- Micro-smooth CNC precision ground for precision smooth counterboring
- M-35 Cobalt – long tool life in all types of materials
- High performance cutting action due to secondary relief behind cutting edge margin
- Optimized helix for chip evacuation

3

SIZE/ APPLICATION	PILOT DIAM.	C'BORE DIAM.	SH'K. DIAM.	SH'K. OAL.	ORDER NO.	PRICE EACH
#4 STD.	.1120	.1860	5/32	3	2237-103	\$ 37.46
#4 1/64 o/s	.1270	.2020	5/32	3	2237-102	37.46
#4 1/32 o/s	.1430	.2170	5/32	3	2237-101	37.46
#5 STD.	.1250	.2050	3/16	3	2237-106	39.95
#5 1/64 o/s	.1400	.2210	3/16	3	2237-105	39.95
#5 1/32 o/s	.1560	.2370	3/16	3	2237-104	39.95
#6 STD.	.1380	.2280	7/32	3	2237-109	44.07
#6 1/64 o/s	.1530	.2440	7/32	3	2237-108	44.07
#6 1/32 o/s	.1690	.2600	7/32	3	2237-107	44.07
#8 STD.	.1640	.2720	1/4	3	2237-112	45.21
#8 1/64 o/s	.1790	.2880	1/4	3	2237-111	45.21
#8 1/32 o/s	.1950	.3040	1/4	3	2237-110	45.21
#10 STD.	.1900	.3140	9/32	4.5	2237-115	47.58
#10 1/64 o/s	.2050	.3300	9/32	4.5	2237-114	47.58
#10 1/32 o/s	.2210	.3460	9/32	4.5	2237-113	47.58
1/4" STD.	.2500	.3820	5/16	4.5	2237-118	48.11
1/4" 1/64 o/s	.2650	.3980	5/16	4.5	2237-117	48.11
1/4" 1/32 o/s	.2810	.4140	5/16	4.5	2237-116	48.11
5/16" STD.	.3125	.4750	3/8	4.5	2237-121	50.73
5/16" 1/64 o/s	.3280	.4910	3/8	4.5	2237-120	50.73
5/16" 1/32 o/s	.3430	.5070	3/8	4.5	2237-119	50.73
3/8" STD.	.3750	.5720	1/2	5	2237-124	57.48
3/8" 1/64 o/s	.3900	.5880	1/2	5	2237-123	57.48
3/8" 1/32 o/s	.4060	.6040	1/2	5	2237-122	57.48
7/16" STD.	.4375	.6630	1/2	5	2237-127	68.70
7/16" 1/64 o/s	.4520	.6790	1/2	5	2237-126	68.70
7/16" 1/32 o/s	.4680	.6950	1/2	5	2237-125	68.70
1/2" STD.	.5000	.7570	1/2	6	2237-130	75.96
1/2" 1/64 o/s	.5150	.7730	1/2	6	2237-129	75.96
1/2" 1/32 o/s	.5310	.7890	1/2	6	2237-128	75.96
5/8" STD.	.6250	.9450	5/8	6	2237-133	112.51
5/8" 1/64 o/s	.6400	.9610	5/8	6	2237-132	112.51
5/8" 1/32 o/s	.6560	.9770	5/8	6	2237-131	112.51
3/4" STD.	.7500	1.1870	3/4	7	2237-135	161.56
3/4" 1/32 o/s	.7810	1.2030	3/4	7	2237-134	161.56
7/8" STD.	.8910	1.3750	7/8	7	2237-137	246.43
7/8" 1/32 o/s	.9060	1.3910	7/8	7	2237-136	246.43
1" STD.	1.016	1.5620	1	7	2237-139	339.45
1" 1/32 o/s	1.0310	1.5880	1	7	2237-138	339.45

### PRECISION CAP SCREW COUNTERBORE SETS

7-pc. tool set: #6, #8, #10, 1/4", 5/16", 3/8", 1/2"

**Standard Set:** Order No. 2237-142 **Set Price:** \$369.15

**1/64" Oversize Set:** Order No. 2237-141 **Set Price:** \$369.15

**1/32" Oversize Set:** Order No. 2237-140 **Set Price:** \$369.15



# Counterbores

## Capscrew Counterbores

**Straight Shank - High Speed Steel** [3]



CAP SCREW SIZE	PILOT DIAM.	CUTTER DIAM.	SHANK DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
#5	.141	.221	3/16	3	2237-505	\$11.57
#6	.150	.242	7/32	3	2237-506	11.57
#8	11/64	19/64	1/4	3	2237-508	11.57
#10	13/64	21/64	5/16	3-1/2	2237-510	12.29
1/4	9/32	13/32	3/8	5	2237-616	14.45
5/16	11/32	1/2	7/16	5	2237-620	17.10
3/8	13/32	19/32	1/2	6	2237-624	17.78
7/16	15/32	11/16	1/2	7	2237-628	19.89
1/2*	17/32	25/32	1/2	7-1/2	2237-631	21.69
1/2	17/32	25/32	3/4	7-1/2	2237-632	21.69
1/2*	9/16	13/16	3/4	7-1/2	2237-633	24.89
5/8	21/32	31/32	3/4	7-1/2	2237-640	31.64
5/8*	11/16	1	3/4	7-1/2	2237-641	35.64
3/4	13/16	1-3/16	1	8	2237-648	42.80
7/8	15/16	1-3/8	1	8	2237-656	55.71
1	1-1/16	1-9/16	1	10	2237-664	77.49

### COUNTERBORE SETS



SETS	6 PC.	7 PC.	1/4-3/4	#6-1/2	2237-698	131.45
					2237-697	94.05

\*Not included in any set.

## Taper Shank - High Speed Steel



CAP SCREW SIZE	PILOT DIAM.	CUTTER DIAM.	SHANK TAPER	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/4	9/32	13/32	2MT	5-3/4	2237-716	\$16.65
5/16	11/32	1/2	2MT	6	2237-720	19.62
3/8	13/32	19/32	2MT	6-1/2	2237-724	22.28
7/16	15/32	11/16	2MT	7	2237-728	29.97
1/2	17/32	25/32	2MT	7-1/4	2237-732	30.83
5/8	21/32	31/32	2MT	7-1/2	2237-740	36.23
5/8	11/16	1	2MT	7-1/2	2237-741	41.49
3/4	13/16	1-3/16	3MT	9	2237-748	54.36
7/8	15/16	1-3/8	3MT	9	2237-756	74.75
1	1-1/16	1-9/16	3MT	10	2237-764	98.24

## Metric - Straight Shank - High Speed Steel

All Measurements (mm)



CAP SCREW SIZE	PILOT DIAM.	CUTTER DIAM.	ORDER NO.	PRICE EACH
M3	3.4	6	2232-030	\$12.29
M4	4.5	8	2232-040	13.32
M5	5.5	10	2232-050	17.10
M6	6.6	11	2232-060	18.86
M8	9	15	2232-080	18.86
M10	11	18	2232-100	20.75
M12	14	20	2232-120	22.50
M14	15	24	2232-140	25.56
M16	17	26	2232-160	30.42
M20	21	33	2232-200	56.52
TAPER SHANK - #2MT				
M14	15	24	2232-314	25.56
M16	17	26	2232-316	30.42
M20	21	33	2232-320	56.52

## Aircraft Counterbores & Spot Facers -

High Speed Steel



1/4" Shank Diameter [3]



Long Set [3]



SHANK SIZE						
DIAM.	OVER. LENGTH	DIAM.	LENGTH	NO. OF FLUTES	HOLE DIAM.	ORDER NO. PRICE EACH
1/4	2-3/8	1/4	1	4	3/32	2235-016 \$16.43
9/32	2-3/8	1/4	1	4	3/32	2235-018 15.26
5/16	2-3/8	1/4	1	4	3/32	2235-020 15.26
11/32	2-3/8	1/4	1	4	3/32	2235-022 15.48
3/8	2-3/8	1/4	1	4	3/32	2235-024 15.48
13/32	2-13/16	1/4	7/8	4	1/8	2235-026 16.16
7/16	2-13/16	1/4	7/8	4	1/8	2235-028 16.16
15/32	2-13/16	1/4	7/8	4	1/8	2235-030 17.06
1/2	2-13/16	1/4	7/8	4	1/8	2235-032 17.06
17/32	2-13/16	1/4	7/8	4	1/8	2235-034 20.97
9/16	2-13/16	1/4	7/8	4	1/8	2235-036 20.97
19/32	2-13/16	1/4	7/8	4	1/8	2235-038 22.05
5/8	2-13/16	1/4	7/8	4	1/8	2235-040 22.05
21/32	3-1/8	1/4	7/8	4	3/16	2235-042 23.63
11/16	3-1/8	1/4	7/8	4	3/16	2235-044 24.21
23/32	3-1/8	1/4	7/8	4	3/16	2235-046 25.29
3/4	3-1/8	1/4	7/8	4	3/16	2235-048 25.97
25/32	3-1/8	1/4	7/8	4	3/16	2235-050 27.27
13/16	3-1/8	1/4	7/8	4	3/16	2235-052 27.86
27/32	3-1/8	1/4	7/8	4	3/16	2235-054 29.16
7/8	3-1/8	1/4	7/8	4	3/16	2235-056 29.16
29/32	3-1/8	1/4	7/8	4	3/16	2235-058 31.46
15/16	3-1/8	1/4	7/8	4	3/16	2235-060 31.46
31/32	3-1/8	1/4	7/8	4	3/16	2235-062 33.30
1	3-1/8	1/4	7/8	4	3/16	2235-064 33.30

SHANK SIZE						
DIAM.	OVER. LENGTH	DIAM.	LENGTH	NO. OF FLUTES	HOLE DIAM.	ORDER NO. PRICE EACH
1/4	4	15/64	3-1/4	4	3/32	2236-016 \$18.38
9/32	4	17/64	3-1/4	4	3/32	2236-018 18.38
5/16	4	19/64	3-1/4	4	3/32	2236-020 19.66
11/32	4	5/16	3-1/4	4	3/32	2236-022 20.39
3/8	4	5/16	3-1/4	4	3/32	2236-024 20.89
13/32	4	5/16	3-1/4	4	1/8	2236-026 21.23
7/16	4	5/16	3-1/4	4	1/8	2236-028 21.67
15/32	4-1/4	7/16	3-1/16	4	1/8	2236-030 21.95
1/2	4-1/4	7/16	3-1/16	4	1/8	2236-032 22.23
17/32	4-1/4	1/2	3-1/16	4	1/8	2236-034 23.57
9/16	4-1/4	1/2	3-1/16	4	1/8	2236-036 24.47
19/32	4-1/4	1/2	3-1/16	4	1/8	2236-038 25.81
5/8	4-1/4	1/2	3-1/16	4	1/8	2236-040 26.09
21/32	5-3/8	1/2	3-5/8	4	3/16	2236-042 27.31
11/16	5-3/8	1/2	3-5/8	4	3/16	2236-044 27.87
23/32	5-3/8	1/2	3-5/8	4	3/16	2236-046 29.77
3/4	5-3/8	1/2	3-5/8	4	3/16	2236-048 30.83
25/32	5-3/8	1/2	3-5/8	4	3/16	2236-050 31.00
13/16	5-3/8	1/2	3-5/8	4	3/16	2236-052 32.45
27/32	5-3/8	1/2	3-5/8	4	3/16	2236-054 34.30
7/8	5-3/8	1/2	3-5/8	4	3/16	2236-056 35.53
29/32	5-3/8	1/2	3-5/8	4	3/16	2236-058 35.86
15/16	5-3/8	1/2	3-5/8	4	3/16	2236-060 37.09
31/32	5-3/8	1/2	3-5/8	4	3/16	2236-062 39.60
1	5-3/8	1/2	3-5/8	4	3/16	2236-064 40.61

# Triple Crown Series - High Performance Taps

REGAL CUTTING TOOLS

	BLUE RING TC-SS	YELLOW RING TC-LT	RED RING TC-HT
<b>Application</b>	For tough material. Up to HRc25. Steel, Al, Copper, Brass, Stainless Steel	For general purpose. Up to HRc35. Steel, Al alloy, Stainless Steel, Cast iron	For high tensile material Up to HRc44. Alloyed & Tool steel, Ni alloy, Ti alloy
<b>Material</b>	HSS-V3 HSS with V 3%	HSS-V M7	HSS-PM Powder Metal Steel
<b>Coating</b>	Steam homo	Steam homo	Steam homo
<b>Geometry</b>	Spiral Flute: USCTI 302A (Except with shorter thread L; 12p->8.5p) Semi-bottoming, High rake, 45° spiral flute Low chamfer relief  Spiral Point: USCTI 302A (Thread L : 12p) Plug, middle rake, High chamfer angle. Spiral Point Length : 5P~8P	Spiral Flute: USCTI 302A (Thread L: 12p) Bottoming, middle rake, 50° spiral flute Low chamfer relief  Spiral Point: USCTI 302A (Thread L : 12p) Plug, middle rake, High chamfer angle. Spiral Point Length : 5P~8P	Spiral Flute: USCTI 302A (Except with shorter thread L; 12p->8.5p) Semi-bottoming, Low rake, 15° spiral flute High chamfer relief  Spiral Point: USCTI 302A (Thread L : 12p) Plug, low rake, High chamfer angle. Spiral Point Length : 5P~8P
<b>Features/Benefits</b>	High wear resistance Good chip removal	Suitable for general- purpose operation.	Long tool life Good chip removal

## Recommended Speed Table

Material types	Stainless Steel					Carbon Steel						
	Free Machining	Ferritic	Austenitic	Martensitic	Precipitation Hardened	Free Machining	Low Carbon	Alloy-Low Carbon	Medium Carbon	High Carbon	Alloy-High Carbon	
Blue Ring Color Taps	25-50 SFM	35-50 SFM	SFM 15-25	25-50 SFM	25-50 SFM		20-50 SFM	20-50 SFM	15-25 SFM	20-40 SFM		
Yellow Ring Color Taps	15-35 SFM	25-35 SFM	SFM 15-25	15-35 SFM	15-35 SFM		60-90 SFM	30-60 SFM	26-45 SFM	20-50 SFM	25-40 SFM	15-20 SFM
Red Ring Color Taps		15-25 SFM	15-25 SFM	15-25 SFM	15-25 SFM	12-20 SFM				25-50 SFM	25-50 SFM	15-25 SFM
HSS	15-35 SFM	25-35 SFM	SFM 15-25	15-35 SFM	15-35 SFM		45-65 SFM	20-45 SFM	20-30 SFM	15-35 SFM	20-30 SFM	12-19 SFM

# CBA TAP SELECTION GUIDE

● Recommended  
X Suitable

Surface Treatment (Coating) TiN, TiCN, TiAlN coatings are available on request

	MATERIAL TYPES	HARDNESS HB	TENSILE STRENGTH	NORMAL CHIP FORM	SPEED FEET/MIN		RECOMMENDED TAP TYPE		
					STANDARD	COATED	RED BAND	BLUE BAND	YELLOW BAND
<b>Steel</b>	Free Cutting steels	120	25	extra long	40	60 - 90		●	X
	Structural steel, Case carburizing steel	200	45	middle/long	40	60 - 90		●	X
	Plain Carbon steel	250	55	long	32	60 - 80		●	X
	Alloy steel	>250	55	long	32	60 - 80	●		
	Alloy steel, Hardened and tempered steel	>250 350	>55 80	long	25	30 - 50	●		
	Alloy steel, Hardened and tempered steel	>350	>80	long	16	30 - 50	●		
<b>Stainless Steel</b>	Free machining Stainless steel	250	55	middle	30	60 - 80		●	
	Austenitic	250	55	long	20	30 - 50		●	
	Ferritic + Austenitic, Ferritic, Martensitic	300	65	long	18	25 - 50		●	
<b>Cast Iron</b>	Lamellar graphite	150	30	extra short	35	60 - 90			●
	Lamellar graphite	>150 300	>30 65	extra short	25	30 - 60			●
	Nodular graphite, Malleable Cast Iron	200	45	middle/short	35	60 - 90			●
	Nodular graphite Malleable Cast Iron	>200 300	>45 65	middle/short	25	30 - 60			●
<b>Titanium</b>	Titanium, unalloyed	200	45	extra long	25	30 - 50	●		
	Titanium, alloyed	270	60	middle/short	30	40 - 60	●	X	
	Titanium, alloyed	>270 350	>60 80	middle/short	15	20 - 40	●	X	
<b>Nickel</b>	Nickel, unalloyed	150	30	extra long	30	40 - 60	●	X	
	Nickel, alloyed	270	60	long	15	20 - 40	●	X	●
	Nickel, alloyed	>270 350	>60 80	long	12	15 - 35	●	X	●
<b>Copper</b>	Copper	100	20	extra long	35	50 - 80		●	X
	Beta Brass, Bronze	200	45	middle/short	100	140 - 180		●	X
	Alpha Brass	200	45	long	60	130 - 160		●	X
	High strength Bronze	470	100	short	15	20 - 40	●		
<b>Aluminium Magnesium</b>	Al, Mg, unalloyed	100	20	extra long	50	80 - 100		●	●
	Al alloyed Si < 0.5%	150	30	middle	100	140 - 170		●	●
	Al alloyed, Si > 0.5% < 10%	120	25	middle/short	60	100 - 120		●	●
	Al alloyed, Si > 10% Al-alloys, Mg-alloys	120	25	short	50	80 - 100		●	●
<b>Synthetic Materials</b>	Thermoplastics	-	-	extra long	90	-			●
	Thermosetting plastics	-	-	short	35	50 - 70			●
	Reinforced plastic materials	-	-	extra short	25	30 - 50	●		



# Triple Crown Series - High Performance Taps

REGAL CUTTING TOOLS 4

## Blue Band Spiral Point Taps - For Tough Materials



Blue TC-SS

SIZE	LIMIT	OAL	THD. LG'TH.	SHANK DIA.	UNC - COARSE PITCH THREADS			UNF - FINE PITCH THREADS		
					PER INCH	ORDER NO.	PRICE EACH	PER INCH	ORDER NO.	PRICE EACH
#6	GH3	2"	.413"	.141"	32	3621-001	\$6.45	-	-	-
#8	GH3	2-1/8	.453	.168	32	3621-013	6.45	-	-	-
#10	GH3	2-3/8	.531	.194	24	3621-025	6.45	32	3621-031	\$6.45
1/4"	GH3	2-1/2	.591	.255	20	3621-037	7.45	28	3621-043	7.45
5/16	GH3	2-23/32	.669	.318	18	3621-049	9.30	24	3621-055	9.30
3/8	GH3	2-15/16	.748	.381	16	3621-061	9.53	24	3621-067	9.53
7/16	GH3	3-5/32	.866	.323	14	3621-073	15.20	20	3621-079	15.20
1/2	GH3	3-3/8	.984	.367	13	3621-085	17.14	20	3621-091	17.14
5/8	GH3	3-13/16	1.083	.480	11	3621-109	17.63	18	3621-115	17.63
3/4	GH3	4-1/4	1.201	.590	10	3621-121	24.92	16	3621-127	24.92

### Applications:

- For tough material. Up to HRC25.
- Steel, Al, Copper Brass, Stainless Steel.

**Material:** HSS-V3 HSS with V 3%

**Coating:** Steam homo

**Geometry:** USCTI 302A (Thread L: 12p)

Plug, middle rake, High chamfer angle.

Spiral Point Length: 5P~8P

### Features:

- High wear resistance, good chip removal

## Blue Band Spiral Pointed Taps - Metric - For Tough Materials



Blue TC-SS

SIZE	LIMIT	PITCH	OAL	THD. LG'TH.	SHANK DIA.	ORDER NO.	PRICE EACH
3mm	D3	.50mm	1-15/16"	.374"	.141"	3623-007	\$10.28
4	D4	.70	2-1/8	.453	.168	3623-019	7.45
5	D4	.80	2-3/8	.531	.194	3623-031	8.62
6	D5	1.00	2-1/2	.591	.255	3623-043	8.62
8	D5	1.25	2-23/32	.669	.318	3623-067	10.97
10	D5	1.50	2-15/16	.748	.381	3623-079	17.48
12	D6	1.75	3-3/8	.984	.367	3623-091	19.80

### Applications:

- For tough material. Up to HRC25. Steel, Al, Copper Brass, Stainless Steel.

**Material:** HSS-V3 HSS with V 3%

**Coating:** Steam homo

**Geometry: Spiral Point:** USCTI 302A (Thread L: 12p) Plug, middle rake,

High chamfer angle. Spiral Point Length: 5P~8P

**Features:** High wear resistance, good chip removal

## Blue Band Spiral Flute Taps - For Tough Materials



Blue Band TC-SS

SIZE	LIMIT	OAL	SHANK DIA.	UNC - COARSE PITCH				UNF - FINE PITCH			
				THD. PER INCH	THD. LG'TH.	ORDER NO.	PRICE EACH	THD. PER INCH	THD. LG'TH.	ORDER NO.	PRICE EACH
#6	GH3	2"	.141"	32	.276"	3622-001	\$9.04	-	-	-	-
#8	GH3	2-1/8	.168	32	.276	3622-013	11.19	-	-	-	-
#10	GH3	2-3/8	.194	24	.354	3622-025	11.05	32	.276	3622-031	\$11.05
1/4"	GH3	2-1/2	.255	20	.453	3622-037	11.19	28	.354	3622-043	11.19
5/16	GH3	2-23/32	.318	18	.472	3622-049	14.27	24	.394	3622-055	14.27
3/8	GH3	2-15/16	.381	16	.551	3622-061	17.14	24	.394	3622-067	17.14
7/16	GH3	3-5/32	.323	14	.591	3622-073	25.70	-	-	-	-
1/2	GH3	3-3/8	.367	13	.630	3622-085	28.14	20	.472	3622-091	28.14
5/8	GH3	3-13/16	.480	11	.748	3622-109	30.77	18	.512	3622-115	30.77
3/4	GH3	4-1/4	.590	10	.827	3622-121	48.17	16	.591	3622-127	48.17

### Applications:

- For tough material. Up to HRC25.
- Steel, Al, Copper Brass, Stainless Steel.

**Material:** HSS-V3 HSS with V 3%

**Coating:** Steam homo

**Geometry: Spiral Flute:** USCTI 302A (Except

with shorter thread L; 12p->8.5p) Semi-bottoming,

high rake, 45° spiral flute, low chamfer relief.

### Features:

- High wear resistance, good chip removal

## Blue Band Spiral Fluted Taps - Metric - For Tough Materials



Blue TC-SS

SIZE	LIMIT	PITCH	OAL	THD. LG'TH.	SHANK DIA.	ORDER NO.	PRICE EACH
3mm	D3	.50mm	1-15/16"	.197"	.141"	3624-007	\$12.82
4	D3	.70	2-1/8	.276	.168	3624-019	12.82
5	D4	.80	2-3/8	.276	.194	3624-031	12.82
6	D4	1.00	2-1/2	.433	.255	3624-043	12.82
8	D5	1.25	2-23/32	.472	.318	3624-067	19.83
10	D5	1.50	2-15/16	.512	.381	3624-079	29.56
12	D6	1.75	3-3/8	.591	.367	3624-091	32.34

### Applications:

- For tough material. Up to HRC25. Steel, Al, Copper Brass, Stainless Steel.

**Material:** HSS-V3 HSS with V 3%

**Coating:** Steam homo

**Geometry: Spiral Flute:** USCTI 302A (Except with shorter thread L; 12p->8.5p)

Semi-bottoming, high rake, 45° spiral flute, low chamfer relief.

### Features:

- High wear resistance, good chip removal



# Triple Crown Series - High Performance Taps

REGAL CUTTING TOOLS 4

## Red Band Spiral Flute Taps - For High Tensile Materials



Red Band - TC-HT

SIZE	LIMIT	OAL	SHANK DIA.	UNC - COARSE PITCH				UNF - FINE PITCH			
				THD. PER INCH	THD. LG'TH.	ORDER NO.	PRICE EACH	THD. PER INCH	THD. LG'TH.	ORDER NO.	PRICE EACH
#6	GH3	2"	.141"	32	.276	3622-201	\$18.56	-	-	-	-
#8	GH3	2-1/8	.168	32	.276	3622-213	18.28	-	-	-	-
#10	GH3	2-3/8	.194	24	.354	3622-225	18.28	32	.276	3622-231	\$18.28
1/4"	GH3	2-1/2	.255	20	.433	3622-237	20.41	28	.354	3622-243	20.41
5/16	GH3	2-23/32	.318	18	.472	3622-249	22.40	24	.394	3622-255	22.40
3/8	GH3	2-15/16	.381	16	.551	3622-261	25.81	24	.394	3622-267	25.81
7/16	GH3	3-5/32	.323	14	.591	3622-273	36.17	20	.472	3622-279	36.17
1/2	GH3	3-3/8	.367	13	.630	3622-285	39.88	20	.472	3622-291	39.88
5/8	GH3	3-13/16	.480	11	.748	3622-309	90.25	18	.512	3622-315	90.25
3/4	GH3	4-1/4	.590	10	.827	3622-321	115.73	16	.591	3622-327	115.73

### Applications:

- For tapping high tensile materials up to HRC44.
- Alloyed & tool steel, Ni alloy, Ti alloy.

**Material:** HSS-PM Powder Metal Steel

**Coating:** Steam homo

**Geometry: Spiral Flute:** USCTI 302A (Except with shorter thread L; 12p->8.5p) Semi-bottoming, low rake, 15° spiral flute, high chamfer relief.

### Features:

- Long tool life, good chip removal

## Red Band Spiral Point Taps - For High Tensile Materials



Red TC-HT

SIZE	LIMIT	OAL	THD. LG'TH.	SHANK DIA.	UNC - COARSE PITCH			UNF - FINE PITCH		
					THD. PER INCH	ORDER NO.	PRICE EACH	THD. PER INCH	ORDER NO.	PRICE EACH
#6	GH3	2"	.413"	.141"	32	3621-201	\$13.16	-	-	-
#8	GH3	2-1/8	.453	.168	32	3621-213	13.16	-	-	-
#10	GH3	2-3/8	.531	.194	24	3621-225	13.16	32	3621-231	\$13.16
1/4"	GH3	2-1/2	.591	.255	20	3621-237	15.57	28	3621-243	15.57
5/16	GH3	2-23/32	.669	.318	18	3621-249	17.30	24	3621-255	17.30
3/8	GH3	2-15/16	.748	.381	16	3621-261	19.83	24	3621-267	19.83
7/16	GH3	3-5/32	.866	.323	14	3621-273	28.20	20	3621-279	28.20
1/2	GH3	3-3/8	.984	.367	13	3621-285	31.02	20	3621-291	31.02
5/8	GH3	3-13/16	1.083	.480	11	3621-309	71.40	18	3621-315	71.40
3/4	GH3	4-1/4	1.201	.590	10	3621-321	92.33	16	3621-327	92.33

### Applications:

- For tapping high tensile materials up to HRC44.
- Alloyed & tool steel, Ni alloy, Ti alloy.

**Material:** HSS-PM Powder Metal Steel

**Coating:** Steam homo

**Geometry: Spiral Flute:** USCTI 302A (Thread L: 12p) Plug, low rake; High chamfer angle. Spiral Point Length: 5P~8P

### Features:

- Long tool life, good chip removal

## Yellow Band Spiral Flute Taps - For General Ductile Materials



Yellow Band TC-LT

SIZE	LIMIT	OAL	THD. LG'TH.	SHANK DIA.	UNC - COARSE PITCH			UNF - FINE PITCH		
					THD. PER INCH	ORDER NO.	PRICE EACH	THD. PER INCH	ORDER NO.	PRICE EACH
#6	2B	2"	3/8"	.141"	32	3622-401	\$8.42	-	-	-
#8	2B	2-1/8	3/8	.168	32	3622-413	10.50	-	-	-
#10	2B	2-3/8	1/2	.194	24	3622-425	10.28	32	3622-431	\$10.28
1/4"	2B	2-1/2	5/8	.255	20	3622-437	10.50	28	3622-443	10.50
5/16	2B	2-23/32	11/16	.318	18	3622-449	14.27	24	3622-455	14.27
3/8	2B	2-15/16	3/4	.381	16	3622-461	17.17	24	3622-467	17.17
7/16	2B	3-5/32	7/8	.323	14	3622-473	25.70	-	-	-
1/2	2B	3-3/8	15/16	.367	13	3622-485	28.14	20	3622-491	28.14
5/8	2B	3-13/16	1-3/32	.480	11	3622-509	28.89	18	3622-515	28.89
3/4	2B	4-1/4	1-7/32	.590	10	3622-521	40.87	16	3622-527	40.87

### Applications:

- For general purpose.
- Steel, Al alloy, Stainless Steel, Cast Iron.

**Material:** HSS-V M7

**Coating:** Steam homo

**Geometry: Spiral Flute:** USCTI 302A (Thread L; 12p) Bottoming, middle rake, 50° spiral flute, low chamfer relief.

### Features:

- Suitable for general-purpose operation.

# High Performance Taps

## High Speed Steel— EV High Vanadium— Ground Thread, RH

2



**Features:** • Made of 4% Vanadium CPM - M4 Steel • Special Penta thread relief provide freer cutting • Designed for tougher, more abrasive materials up to 35 Rc

### Spiral Flute



**Applications:**

Soft Stainless Steel • Aluminum • Alloy Steel • Bronze • Annealed Tool Steel • Carbon Steels

**Features:**

- Designed for tough jobs in through hole tapping
- Blue Diamond surface treatment eliminates surface welding
- 30° spiral flute design provides excellent chip evacuation
- Better tool life • Bottom 1 to 2 thread chamfer

SIZE	NC NF	PITCH DIA.	NO. OF FLUTES	ORDER NO.	PRICE EACH
6-32	NC	H3	3	3872-060	\$17.80
8-32	NC	H3	3	3872-080	17.80
10-24	NC	H3	3	3872-100	17.80
10-32	NF	H3	3	3872-102	17.80
1/4-20	NC	H3	3	3872-160	19.55
1/4-28	NF	H3	3	3872-162	19.55
5/16-18	NC	H3	3	3872-200	21.55
5/16-24	NF	H3	3	3872-202	21.55
3/8-16	NC	H3	3	3872-240	25.20
3/8-24	NF	H3	3	3872-242	25.20
7/16-14	NC	H3	3	3872-280	39.85
7/16-20	NF	H3	3	3872-282	39.85
1/2-13	NC	H3	3	3872-320	47.55
1/2-20	NF	H3	3	3872-322	47.55
9/16-12	NC	H3	3	3872-360	53.80
9/16-18	NF	H3	3	3872-362	53.80
5/8-11	NC	H3	3	3872-400	68.05
5/8-18	NF	H3	3	3872-402	68.05
3/4-10	NC	H3	3	3872-480	95.75
3/4-16	NF	H3	3	3872-482	95.75
METRIC SIZES					
M3X0.5		D3	2	3872-530	27.00
M3.5X0.6		D4	3	3872-535	21.50
M4X0.7		D4	3	3872-540	21.50
M5X0.8		D4	3	3872-550	21.55
M6X1.0		D5	3	3872-560	23.65
M8X1.25		D5	3	3872-580	26.05
M10X1.5		D6	3	3872-600	47.80
M12X1.75		D6	3	3872-620	57.55
M14X2		D7	3	3872-640	65.15
M16X2		D7	3	3872-660	82.35

### Spiral Point



**Applications:**

Stainless steel up to 35 Rc • Alloy Steel • Annealed Tool Steel • Aluminum • Brass • Carbon Steels

**Features:**

- Blue Diamond surface treatment eliminates surface welding
- Spiral point taps shoot chips ahead of the cutting action, thus reducing loading and clogging in the flutes
- Used for production tapping in through hole applications

SIZE	NC NF	PITCH DIA.	NO. OF FLUTES	ORDER NO.	PRICE EACH
4-40	NC	H2	2	3873-040	\$14.20
5-40	NC	H2	2	3873-050	14.20
6-32	NC	H3	3	3873-060	11.60
8-32	NC	H3	3	3873-080	11.95
10-24	NC	H3	3	3873-100	12.35
10-32	NF	H3	3	3873-102	12.35
1/4-20	NC	H3	3	3873-160	12.60
1/4-28	NF	H3	3	3873-162	12.60
5/16-18	NC	H3	3	3873-200	15.15
5/16-24	NF	H3	3	3873-202	15.15
3/8-16	NC	H3	3	3873-240	16.70
3/8-24	NF	H3	3	3873-242	16.70
7/16-14	NC	H3	3	3873-280	18.10
7/16-20	NF	H3	3	3873-282	18.10
1/2-13	NC	H3	3	3873-320	31.40
1/2-20	NF	H3	3	3873-322	31.40
9/16-12	NC	H3	3	3873-360	42.50
9/16-18	NF	H3	3	3873-362	42.50
5/8-11	NC	H3	3	3873-400	53.10
5/8-18	NF	H3	3	3873-402	53.10
3/4-10	NC	H3	3	3873-480	73.60
3/4-16	NF	H3	3	3873-482	73.60
METRIC SIZES					
M3X0.5		D3	2	3873-530	17.10
M3.5X0.6		D4	3	3873-535	13.95
M4X0.7		D4	3	3873-540	14.40
M5X0.8		D4	3	3873-550	14.85
M6X1.0		D5	3	3873-560	15.20
M8X1.25		D5	3	3873-580	18.25
M10X1.5		D6	3	3873-600	32.50
M12X1.75		D6	3	3873-620	37.90
M14X2		D7	3	3873-640	51.30
M16X2		D7	3	3873-660	64.15

## CPM Tungsten Vanadium Taps - High Speed Steel



Spiral Flute - Bottom Style



Spiral Point - Plug Style



2

SIZE	GH	NO. OF FLUTES	SPIRAL POINT		SPIRAL FLUTE		
			ORDER NO.	PRICE EACH	NO. OF FLUTES	ORDER NO.	PRICE EACH
4-40	H2	2	3871-040	\$7.89	3	3870-040	\$12.19
6-32	H3	2	3871-060	7.89	3	3870-060	12.19
8-32	H3	3	3871-080	7.89	3	3870-080	12.19
10-24	H3	3	3871-100	7.89	3	3870-100	12.19
10-32	H3	3	3871-102	7.89	3	3870-102	12.19
1/4-20	H3	3	3871-160	8.62	3	3870-160	12.56
1/4-28	H3	3	3871-162	8.62	3	3870-162	12.56
5/16-18	H3	3	3871-200	9.42	3	3870-200	13.76
5/16-24	H3	3	3871-202	9.42	3	3870-202	13.76
3/8-16	H3	3	3871-240	11.21	3	3870-240	16.31

SIZE	GH	NO. OF FLUTES	SPIRAL POINT		SPIRAL FLUTE		
			ORDER NO.	PRICE EACH	NO. OF FLUTES	ORDER NO.	PRICE EACH
3/8-24	H3	3	3871-242	\$11.21	3	3870-242	\$16.31
7/16-14	H3	4	3871-280	14.36	4	3870-280	20.63
7/16-20	H3	4	3871-282	14.36	4	3870-282	20.63
1/2-13	H3	4	3871-320	17.13	4	3870-320	24.47
1/2-20	H3	4	3871-322	17.13	4	3870-322	24.47
5/8-11	H3	4	3871-400	32.65	4	3870-400	46.74
5/8-18	H3	4	3871-402	32.65	4	3870-402	46.74
3/4-10	H3	4	3871-480	42.20	4	3870-480	54.63
3/4-16	H3	4	3871-482	42.20	4	3870-482	54.63

# Hand Taps— Machine Screw Sizes

## High Speed Steel & TiN Coated



2



NOMINAL SIZE	H LIMITS	# OF FLT.	THR. LGTH.	OVERALL LGTH.	HIGH SPEED STEEL			PRICE EACH	SET ORDER NO.	PRICE EACH	TIN COATED		
					TAPER ORDER NO.	PLUG ORDER NO.	BOTTOM ORDER NO.				PLUG ORDER NO.	BOTTOM ORDER NO.	PRICE EACH
<b>0-80 UNF</b>	1	2	5/16	1-5/8	3740-113	3740-112	3740-111	\$8.00	3700-011	\$24.00	4160-112	4160-111	\$10.56
0-80 UNF	2	2	5/16	1-5/8	—	3740-122	3740-121	8.00	—	—	—	—	—
<b>1-64 UNC</b>	1	2	3/8	1-11/16	3740-313	3740-312	3740-311	7.50	3700-031	22.50	4160-312	4160-311	9.98
1-64 UNC	2	2	3/8	1-11/16	—	3740-322	—	7.50	—	—	—	—	—
<b>1-72 UNF</b>	1	2	3/8	1-11/16	3740-513	3740-512	3740-511	7.50	3700-051	22.50	4160-512	4160-511	9.98
1-72 UNF	2	2	3/8	1-11/16	—	3740-522	3740-521	7.50	—	—	—	—	—
2-56 UNC	1	3	7/16	1-3/4	3740-713	3740-712	3740-711	6.93	—	—	—	—	—
2-56 UNC	2	2	7/16	1-3/4	—	3750-722	3750-721	7.24	—	—	—	—	—
<b>2-56 UNC</b>	2	3	7/16	1-3/4	3740-723	3740-722	3740-721	6.41	3700-072	19.23	4160-722	4160-721	9.39
2-64 UNF	2	3	7/16	1-3/4	3740-923	3740-922	3740-921	6.93	3700-092	20.79	4160-922	4160-921	9.39
3-48 UNC	1	3	1/2	1-13/16	—	3741-121	—	5.51	—	—	—	—	—
3-48 UNC	2	2	1/2	1-13/16	—	3751-122	3751-121	5.81	—	—	—	—	—
<b>3-48 UNC</b>	2	3	1/2	1-13/16	3741-123	3741-122	3741-121	4.93	3700-112	14.79	4161-122	4161-121	7.26
3-56 UNF	2	3	1/2	1-13/16	3741-323	3741-322	3741-321	5.77	3700-132	17.31	4161-322	4161-321	7.87
4-40 UNC	1	2	9/16	1-7/8	—	3751-712	—	4.76	—	—	—	—	—
4-40 UNC	2	2	9/16	1-7/8	3751-723	3751-722	3751-721	4.56	—	—	—	—	—
<b>4-40 UNC</b>	2	3	9/16	1-7/8	3741-723	3741-722	3741-721	3.79	3700-172	11.37	4161-722	4161-721	6.28
4-48 UNC	2	3	9/16	1-7/8	3741-923	3741-922	3741-921	4.36	3700-192	13.08	4161-922	4161-921	6.61
4-36 NS	2	3	9/16	1-7/8	3741-523	3741-522	3741-521	4.36	—	—	—	—	—
5-40 UNC	1	3	5/8	1-15/16	—	3742-112	—	4.36	—	—	—	—	—
5-40 UNC	2	2	5/8	1-15/16	—	3752-122	3752-121	4.56	—	—	—	—	—
<b>5-40 UNC</b>	2	3	5/8	1-15/16	3742-123	3742-122	3742-121	3.89	3700-212	11.67	4162-122	4162-121	6.28
5-44 UNF	2	3	5/8	1-15/16	3742-323	3742-322	3742-321	4.36	3700-232	13.08	4162-322	4162-321	6.61
6-32 UNC	1	2	11/16	2	—	3752-512	—	3.98	—	—	—	—	—
6-32 UNC	1	3	11/16	2	3742-513	3742-512	3742-511	3.81	—	—	—	—	—
6-32 UNC	2	2	11/16	2	—	3752-522	3752-521	3.98	—	—	—	—	—
6-32 UNC	2	3	11/16	2	3742-523	3742-522	3742-521	3.32	—	—	—	—	—
6-32 UNC	3	2	11/16	2	—	3752-532	3752-531	3.44	—	—	—	—	—
<b>6-32 UNC</b>	3	3	11/16	2	3742-533	3742-532	3742-531	3.31	3700-253	9.93	4162-532	4162-531	5.26
6-40 UNF	1	3	11/16	2	—	3742-712	—	3.81	—	—	—	—	—
6-40 UNF	2	2	11/16	2	—	3752-722	—	3.98	—	—	—	—	—
<b>6-40 UNF</b>	2	3	11/16	2	3742-723	3742-722	3742-721	3.32	3700-272	9.96	4162-722	4162-721	5.48
8-32 UNC	1	2	3/4	2-1/8	—	3752-912	—	3.98	—	—	—	—	—
8-32 UNC	1	4	3/4	2-1/8	3742-913	3742-912	3742-911	3.81	—	—	—	—	—
8-32 UNC	2	2	3/4	2-1/8	—	3752-922	3752-921	3.98	—	—	—	—	—
8-32 UNC	2	3	3/4	2-1/8	—	3712-922	3712-921	3.98	—	—	—	—	—
8-32 UNC	2	4	3/4	2-1/8	3742-923	3742-922	3742-921	3.32	—	—	—	—	—
8-32 UNC	3	2	3/4	2-1/8	—	3752-932	3752-931	3.44	—	—	—	—	—
8-32 UNC	3	3	3/4	2-1/8	—	3712-932	3712-931	3.44	—	—	—	—	—
<b>8-32 UNC</b>	3	4	3/4	2-1/8	3742-933	3742-932	3742-931	3.12	3700-293	9.36	4162-932	4162-931	5.70
8-36 UNF	2	4	3/4	2-1/8	3743-123	3743-122	3743-121	3.32	3700-312	9.96	4163-122	4163-121	5.82
10-24 UNC	1	4	7/8	2-3/8	3743-313	3743-312	3743-311	3.39	—	—	—	—	—
10-24 UNC	2	2	7/8	2-3/8	—	3753-322	3753-321	3.98	—	—	—	—	—
10-24 UNC	2	3	7/8	2-3/8	—	3713-322	—	3.98	—	—	—	—	—
10-24 UNC	2	4	7/8	2-3/8	3743-323	3743-322	3743-321	3.39	—	—	—	—	—
10-24 UNC	3	2	7/8	2-3/8	—	3753-332	3753-331	3.54	—	—	—	—	—
10-24 UNC	3	3	7/8	2-3/8	—	3713-332	3713-331	3.54	—	—	—	—	—
<b>10-24 UNC</b>	3	4	7/8	2-3/8	3743-333	3743-332	3743-331	3.07	3700-333	9.21	4163-332	4163-331	5.82
10-32 UNF	1	2	7/8	2-3/8	—	3753-512	—	3.98	—	—	—	—	—
10-32 UNF	1	4	7/8	2-3/8	3743-513	3743-512	3743-511	3.39	—	—	—	—	—
10-32 UNF	2	2	7/8	2-3/8	—	3753-522	3753-521	3.98	—	—	—	—	—
10-32 UNF	2	3	7/8	2-3/8	—	3713-522	3713-521	3.98	—	—	—	—	—
10-32 UNF	2	4	7/8	2-3/8	3743-523	3743-522	3743-521	3.39	—	—	—	—	—
10-32 UNF	3	2	7/8	2-3/8	—	3753-532	3753-531	3.54	—	—	—	—	—
10-32 UNF	3	3	7/8	2-3/8	—	3713-532	3713-531	3.54	—	—	—	—	—
<b>10-32 UNF</b>	3	4	7/8	2-3/8	3743-533	3743-532	3743-531	3.07	3700-353	9.21	4163-532	4163-531	5.82
12-24 UNC	3	4	15/16	2-3/8	3743-733	3743-732	3743-731	3.33	3700-373	9.99	4163-732	4163-731	6.01
12-28 UNF	3	4	15/16	2-3/8	3743-933	3743-932	3743-931	3.69	3700-393	11.07	4163-932	4163-931	6.37

# Hand Taps— Fractional Sizes

## High Speed Steel & TiN Coated



ALLEGIANCE													BRUBAKER TOOL CORPORATION		
HIGH SPEED STEEL													TiN COATED		
NOMINAL SIZE	H LIMIT	# OF FLT.	THR. LGTH.	OVERALL LGTH.	TAPER ORDER NO.	PLUG ORDER NO.	BOTTOM ORDER NO.	PRICE EACH	SET ORDER NO.	PRICE EACH	PLUG ORDER NO.	BOTTOM ORDER NO.	PRICE EACH		
1/4-20 UNC	1	3	1	2-1/2	—	3714-112	—	\$4.62	—	—	—	—	—		
1/4-20 UNC	1	4	1	2-1/2	3744-113	3744-112	3744-111	4.42	—	—	—	—	—		
1/4-20 UNC	2	3	1	2-1/2	—	3714-122	—	4.62	—	—	—	—	—		
1/4-20 UNC	2	4	1	2-1/2	3744-123	3744-122	3744-121	4.23	—	—	—	—	—		
1/4-20 UNC	3	2	1	2-1/2	—	3754-132	3754-131	4.62	—	—	—	—	—		
1/4-20 UNC	3	3	1	2-1/2	—	3714-132	3714-131	4.62	—	—	—	—	—		
<b>1/4-20 UNC</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2-1/2</b>	<b>3744-133</b>	<b>3744-132</b>	<b>3744-131</b>	<b>3.29</b>	<b>3700-413</b>	<b>\$9.87</b>	<b>4164-132</b>	<b>4164-131</b>	<b>\$6.09</b>		
1/4-20 UNC	5	3	1	2-1/2	—	3714-152	—	4.62	—	—	—	—	—		
1/4-20 UNC	5	4	1	2-1/2	—	3744-152	3744-151	4.23	—	—	—	—	—		
1/4-20 UNC	11	4	1	2-1/2	—	3744-192	—	4.76	—	—	—	—	—		
1/4-28 UNF	1	4	1	2-1/2	—	3744-312	3744-311	4.23	—	—	—	—	—		
1/4-28 UNF	2	4	1	2-1/2	—	3744-322	3744-321	4.42	—	—	—	—	—		
1/4-28 UNF	3	2	1	2-1/2	—	3754-332	3754-331	4.62	—	—	—	—	—		
1/4-28 UNF	3	3	1	2-1/2	—	3714-332	3714-331	4.62	—	—	—	—	—		
<b>1/4-28 UNF</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2-1/2</b>	<b>3744-333</b>	<b>3744-332</b>	<b>3744-331</b>	<b>3.29</b>	<b>3700-433</b>	<b>\$9.87</b>	<b>4164-332</b>	<b>4164-331</b>	<b>6.09</b>		
1/4-28 UNF	4	4	1	2-1/2	—	3744-342	3744-341	4.42	—	—	—	—	—		
5/16-18 UNC	1	4	1-1/8	2-23/32	—	3744-512	3744-511	4.93	—	—	—	—	—		
5/16-18 UNC	2	4	1-1/8	2-23/32	—	3744-522	3744-521	4.93	—	—	—	—	—		
5/16-18 UNC	3	2	1-1/8	2-23/32	—	3754-632	3754-631	5.81	—	—	—	—	—		
5/16-18 UNC	3	3	1-1/8	2-23/32	—	3714-532	3714-531	5.15	—	—	—	—	—		
<b>5/16-18 UNC</b>	<b>3</b>	<b>4</b>	<b>1-1/8</b>	<b>2-23/32</b>	<b>3744-533</b>	<b>3744-532</b>	<b>3744-531</b>	<b>4.08</b>	<b>3700-453</b>	<b>12.24</b>	<b>4164-532</b>	<b>4164-531</b>	<b>7.26</b>		
5/16-18 UNC	5	4	1-1/8	2-23/32	—	3744-552	3744-551	4.93	—	—	—	—	—		
5/16-18 UNC	11	4	1-1/8	2-23/32	—	3744-592	—	5.99	—	—	—	—	—		
5/16-24 UNF	1	4	1-1/8	2-23/32	—	3744-712	3744-711	4.93	—	—	—	—	—		
5/16-24 UNF	2	4	1-1/8	2-23/32	—	3744-722	—	4.93	—	—	—	—	—		
5/16-24 UNF	3	3	1-1/8	2-23/32	—	3714-732	3714-731	5.15	—	—	—	—	—		
<b>5/16-24 UNF</b>	<b>3</b>	<b>4</b>	<b>1-1/8</b>	<b>2-23/32</b>	<b>3744-733</b>	<b>3744-732</b>	<b>3744-731</b>	<b>4.08</b>	<b>3700-473</b>	<b>12.24</b>	<b>4164-732</b>	<b>4164-731</b>	<b>7.32</b>		
5/16-24 UNF	4	4	1-1/8	2-23/32	—	3744-742	3744-741	4.93	—	—	—	—	—		
3/8-16 UNC	1	4	1-1/4	2-15/16	—	3744-912	3744-911	6.36	—	—	—	—	—		
3/8-16 UNC	2	4	1-1/4	2-15/16	—	3744-922	3744-921	5.57	—	—	—	—	—		
3/8-16 UNC	3	3	1-1/4	2-15/16	—	3714-932	3714-931	5.81	—	—	—	—	—		
<b>3/8-16 UNC</b>	<b>3</b>	<b>4</b>	<b>1-1/4</b>	<b>2-15/16</b>	<b>3744-933</b>	<b>3744-932</b>	<b>3744-931</b>	<b>4.60</b>	<b>3700-493</b>	<b>13.80</b>	<b>4164-932</b>	<b>4164-931</b>	<b>8.24</b>		
3/8-16 UNC	5	4	1-1/4	2-15/16	—	3744-952	3744-951	5.57	—	—	—	—	—		
3/8-16 UNC	11	4	1-1/4	2-15/16	—	3744-992	—	6.85	—	—	—	—	—		
3/8-24 UNF	1	4	1-1/4	2-15/16	—	3745-112	3745-111	6.36	—	—	—	—	—		
3/8-24 UNF	2	4	1-1/4	2-15/16	—	3745-122	3745-121	5.57	—	—	—	—	—		
3/8-24 UNF	3	3	1-1/4	2-15/16	—	3715-132	3715-131	6.65	—	—	—	—	—		
<b>3/8-24 UNF</b>	<b>3</b>	<b>4</b>	<b>1-1/4</b>	<b>2-15/16</b>	<b>3745-133</b>	<b>3745-132</b>	<b>3745-131</b>	<b>4.60</b>	<b>3700-513</b>	<b>13.80</b>	<b>4165-132</b>	<b>4165-131</b>	<b>8.24</b>		
3/8-24 UNF	4	4	1-1/4	2-15/16	—	3745-142	3745-141	5.57	—	—	—	—	—		
7/16-14 UNC	3	3	1-7/16	3-5/32	—	3715-332	—	9.67	—	—	—	—	—		
<b>7/16-14 UNC</b>	<b>3</b>	<b>4</b>	<b>1-7/16</b>	<b>3-5/32</b>	<b>3745-333</b>	<b>3745-332</b>	<b>3745-331</b>	<b>7.94</b>	<b>3700-533</b>	<b>23.82</b>	<b>4165-332</b>	<b>4165-331</b>	<b>13.68</b>		
7/16-14 UNC	5	4	1-7/16	3-5/32	—	3745-352	3745-351	9.26	—	—	—	—	—		
7/16-14 UNC	11	4	1-7/16	3-5/32	—	3745-392	—	9.97	—	—	—	—	—		
7/16-20 UNF	3	3	1-7/16	3-5/32	—	3715-532	—	9.67	—	—	—	—	—		
<b>7/16-20 UNF</b>	<b>3</b>	<b>4</b>	<b>1-7/16</b>	<b>3-5/32</b>	<b>3745-533</b>	<b>3745-532</b>	<b>3745-531</b>	<b>7.94</b>	<b>3700-553</b>	<b>23.82</b>	<b>4165-532</b>	<b>4165-531</b>	<b>13.68</b>		
7/16-20 UNF	5	4	1-7/16	3-5/32	—	3745-552	3745-551	9.26	—	—	—	—	—		
1/2-13 UNC	1	4	1-21/32	3-3/8	—	3745-712	—	10.89	—	—	—	—	—		
1/2-13 UNC	3	3	1-21/32	3-3/8	—	3715-732	3715-731	11.48	—	—	—	—	—		
<b>1/2-13 UNC</b>	<b>3</b>	<b>4</b>	<b>1-21/32</b>	<b>3-3/8</b>	<b>3745-733</b>	<b>3745-732</b>	<b>3745-731</b>	<b>8.25</b>	<b>3700-573</b>	<b>24.75</b>	<b>4165-732</b>	<b>4165-731</b>	<b>14.11</b>		
1/2-13 UNC	5	4	1-21/32	3-3/8	—	3745-752	3745-751	10.89	—	—	—	—	—		
1/2-13 UNC	11	4	1-21/32	3-3/8	—	3745-792	—	11.73	—	—	—	—	—		
1/2-20 UNF	1	4	1-21/32	3-3/8	—	3745-912	3745-911	10.89	—	—	—	—	—		
1/2-20 UNF	3	3	1-21/32	3-3/8	—	3715-932	—	11.48	—	—	—	—	—		
<b>1/2-20 UNF</b>	<b>3</b>	<b>4</b>	<b>1-21/32</b>	<b>3-3/8</b>	<b>3745-933</b>	<b>3745-932</b>	<b>3745-931</b>	<b>9.33</b>	<b>3700-593</b>	<b>27.99</b>	<b>4165-932</b>	<b>4165-931</b>	<b>15.32</b>		
1/2-20 UNF	5	4	1-21/32	3-3/8	—	3745-952	—	10.89	—	—	—	—	—		
<b>9/16-12 UNC</b>	<b>3</b>	<b>4</b>	<b>1-21/32</b>	<b>3-19/32</b>	<b>3746-133</b>	<b>3746-132</b>	<b>3746-131</b>	<b>13.82</b>	<b>3700-613</b>	<b>41.46</b>	<b>4166-132</b>	<b>4166-131</b>	<b>27.87</b>		
9/16-12 UNC	5	4	1-21/32	3-19/32	—	3746-152	—	16.11	—	—	—	—	—		
9/16-18 UNF	2	4	1-21/32	3-19/32	—	3746-322	—	16.11	—	—	—	—	—		
<b>9/16-18 UNF</b>	<b>3</b>	<b>4</b>	<b>1-21/32</b>	<b>3-19/32</b>	<b>3746-333</b>	<b>3746-332</b>	<b>3746-331</b>	<b>13.82</b>	<b>3700-633</b>	<b>41.46</b>	<b>4166-332</b>	<b>4166-331</b>	<b>27.87</b>		
9/16-18 UNF	5	4	1-21/32	3-19/32	—	3746-352	—	16.11	—	—	—	—	—		

Sizes in **Bold** will be furnished unless otherwise specified.

(Continued)



# Hand Taps— Fractional Sizes (Continued)

## High Speed Steel & TiN Coated



		ALLEGIANCE										BRUBAKER TOOL CORPORATION		
NOMINAL SIZE	H # OF LIMIT FLT.	THR. LGTH.	HIGH SPEED STEEL			PRICE EACH	SET ORDER NO.	PRICE EACH	TiN COATED					
			OVERALL LGTH.	TAPER ORDER NO.	PLUG ORDER NO.				BOTTOM ORDER NO.	PLUG ORDER NO.	BOTTOM ORDER NO.	PRICE EACH		
5/8-11 UNC	2 4	1-13/16	3-13/16	—	3746-522	—	\$20.47	—	—	—	—	—		
<b>5/8-11 UNC</b>	<b>3 4</b>	<b>1-13/16</b>	<b>3-13/16</b>	<b>3746-533</b>	<b>3746-532</b>	<b>3746-531</b>	<b>16.62</b>	<b>3700-653</b>	<b>\$49.86</b>	<b>4166-532</b>	<b>4166-531</b>	<b>\$31.12</b>		
5/8-11 UNC	5 4	1-13/16	3-13/16	—	3746-552	3746-551	20.47	—	—	—	—	—		
5/8-11 UNC	11 4	1-13/16	3-13/16	—	3746-592	—	22.06	—	—	—	—	—		
5/8-18 UNF	2 4	1-13/16	3-13/16	—	3746-722	—	20.47	—	—	—	—	—		
<b>5/8-18 UNF</b>	<b>3 4</b>	<b>1-13/16</b>	<b>3-13/16</b>	<b>3746-733</b>	<b>3746-732</b>	<b>3746-731</b>	<b>16.62</b>	<b>3700-673</b>	<b>49.86</b>	<b>4166-732</b>	<b>4166-731</b>	<b>31.12</b>		
5/8-18 UNF	5 4	1-13/16	3-13/16	—	3746-752	3746-751	20.47	—	—	—	—	—		
11/16-11 UNC	3 4	1-13/16	4-1/32	3746-933	3746-932	3746-931	20.62	3700-693	61.86	—	—	—		
11/16-16 UNF	3 4	1-13/16	4-1/32	3747-133	3747-132	3747-131	20.62	3700-713	61.86	—	—	—		
3/4-10 UNC	2 4	2	4-1/4	—	3747-322	—	26.88	—	—	—	—	—		
<b>3/4-10 UNC</b>	<b>3 4</b>	<b>2</b>	<b>4-1/4</b>	<b>3747-333</b>	<b>3747-332</b>	<b>3747-331</b>	<b>23.25</b>	<b>3700-733</b>	<b>69.75</b>	<b>4167-332</b>	<b>4167-331</b>	<b>40.16</b>		
3/4-10 UNC	5 4	2	4-1/4	—	3747-352	3747-351	26.88	—	—	—	—	—		
3/4-16 UNF	1 4	2	4-1/4	—	3747-512	—	26.88	—	—	—	—	—		
3/4-16 UNF	2 4	2	4-1/4	—	3747-522	—	26.88	—	—	—	—	—		
<b>3/4-16 UNF</b>	<b>3 4</b>	<b>2</b>	<b>4-1/4</b>	<b>3747-533</b>	<b>3747-532</b>	<b>3747-531</b>	<b>23.25</b>	<b>3700-753</b>	<b>69.75</b>	<b>4167-532</b>	<b>4167-531</b>	<b>40.16</b>		
3/4-16 UNF	5 4	2	4-1/4	—	3747-552	3747-551	26.88	—	—	—	—	—		
<b>7/8-9 UNC</b>	<b>4 4</b>	<b>2-7/32</b>	<b>4-11/16</b>	<b>3747-743</b>	<b>3747-742</b>	<b>3747-741</b>	<b>32.45</b>	<b>3700-744</b>	<b>97.35</b>	—	—	—		
7/8-9 UNC	6 4	2-7/32	4-11/16	—	3747-762	—	36.49	—	—	—	—	—		
7/8-14 UNF	2 4	2-7/32	4-11/16	—	3747-922	—	36.49	—	—	—	—	—		
<b>7/8-14 UNF</b>	<b>4 4</b>	<b>2-7/32</b>	<b>4-11/16</b>	<b>3747-943</b>	<b>3747-942</b>	<b>3747-941</b>	<b>32.45</b>	<b>3700-794</b>	<b>97.35</b>	—	—	—		
<b>1"-8 UNC</b>	<b>4 4</b>	<b>2-1/2</b>	<b>5-1/8</b>	<b>3748-143</b>	<b>3748-142</b>	<b>3748-141</b>	<b>43.13</b>	<b>3700-814</b>	<b>129.39</b>	—	—	—		
1"-8 UNC	6 4	2-1/2	5-1/8	—	3748-162	—	47.70	—	—	—	—	—		
1"-12 UNF	4 4	2-1/2	5-1/8	3748-343	3748-342	3748-341	44.52	3700-834	133.56	—	—	—		
1"-14 UNF	4 4	2-1/2	5-1/8	3748-543	3748-542	3748-541	44.52	3700-854	133.56	—	—	—		
1-1/8-7 UNC	4 4	2-9/16	5-7/16	3748-743	3748-742	3748-741	69.85	3700-874	209.55	—	—	—		
1-1/8-12 UNF	4 4	2-9/16	5-7/16	3748-943	3748-942	3748-941	79.24	3700-894	237.72	—	—	—		
1-1/4-7 UNC	4 4	2-9/16	5-3/4	3749-143	3749-142	3749-141	91.80	3700-914	275.40	—	—	—		
1-1/4-12 UNF	4 6	2-9/16	5-3/4	3749-343	3749-342	3749-341	99.96	3700-934	299.88	—	—	—		
1-3/8-6 UNC	4 4	3	6-1/6	3749-543	3749-542	3749-541	115.50	3700-954	346.50	—	—	—		
1-3/8-12 UNF	4 6	3	6-1/6	3749-743	3749-742	3749-741	124.53	3700-974	373.59	—	—	—		
1-1/2-6 UNC	4 4	3	6-3/8	3749-843	3749-842	3749-841	130.47	3700-984	391.41	—	—	—		
1-1/2-12 UNF	4 6	3	6-3/8	3749-943	3749-942	3749-941	140.74	3700-994	422.22	—	—	—		

# Ground Thread Hand Taps -

## NC, NF & NS - RH - High Speed Steel



Bottoming



Plug



Taper

3

2

Pittsburg <sup>®</sup> ALLEGHANY										BRUBAKER TOOL CORPORATION					
SIZE	NC NF NS	DIAM. LIMIT	NO. OF FLTS.	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE
0-80	NF	H1	2	3510-111	3510-112	3510-113	\$5.25	2300-011	\$15.75	3570-111	3570-112	3570-113	\$8.63	2302-011	\$25.89
0-80	NF	H2	2	3510-121	3510-122	3510-123	5.25	—	—	—	—	—	—	—	—
1-64	NC	H1	2	3510-311	3510-312	3510-313	4.88	2300-031	14.64	3570-311	3570-312	3570-313	8.05	2302-031	24.16
1-64	NC	H2	2	3510-321	3510-322	3510-323	4.88	—	—	—	—	—	—	—	—
1-72	NF	H1	2	3510-511	3510-512	3510-513	4.88	2300-051	14.64	3570-511	3570-512	3570-513	8.05	2302-051	24.16
1-72	NF	H2	2	3510-521	3510-522	3510-523	4.88	—	—	—	—	—	—	—	—
2-56	NC	H1	3	3510-711	3510-712	3510-713	4.23	2300-071	12.69	—	—	—	—	—	—
2-56	NC	H2	3	3510-721	3510-722	3510-723	4.23	2300-072	12.69	3570-721	3570-722	3570-723	6.93	2302-072	20.81
2-64	NF	H1	3	3510-911	3510-912	3510-913	4.23	—	—	—	—	—	—	—	—
2-64	NF	H2	3	3510-921	3510-922	3510-923	4.23	2300-092	12.69	3570-921	3570-922	3570-923	7.46	2302-092	22.41
3-48	NC	H1	3	3511-111	3511-112	3511-113	3.27	—	—	—	—	—	—	—	—
3-48	NC	H2	3	3511-121	3511-122	3511-123	3.27	2300-112	9.81	3571-121	3571-122	3571-123	5.33	2302-112	15.99
3-56	NF	H1	3	3511-311	3511-312	3511-313	3.27	—	—	—	—	—	—	—	—
3-56	NF	H2	3	3511-321	3511-322	3511-323	3.27	2300-132	9.81	3571-321	3571-322	3571-323	5.96	2302-132	17.87
4-40	NC	H1	3	3511-711	3511-712	3511-713	2.68	2300-171	8.04	3571-711	3571-712	3571-713	4.72	—	—
4-40	NC	H2	3	3511-721	3511-722	3511-723	2.68	2300-172	8.04	3571-721	3571-722	3571-723	4.40	2302-172	13.13
4-48	NF	H1	3	3511-911	3511-912	3511-913	2.68	—	—	—	—	—	—	—	—
4-48	NF	H2	3	3511-921	3511-922	3511-923	2.68	2300-192	8.04	3571-921	3571-922	3571-923	4.72	2302-192	14.15
4-36	NS	H1	3	3511-511	3511-512	3511-513	2.68	—	—	—	—	—	—	—	—
4-36	NS	H2	3	3511-521	3511-522	3511-523	2.68	2300-152	8.04	3571-521	3571-522	3571-523	4.72	2302-152	14.15
5-40	NC	H1	3	3512-111	3512-112	3512-113	2.68	—	—	—	—	—	—	—	—
5-40	NC	H2	3	3512-121	3512-122	3512-123	2.68	2300-212	8.04	3572-121	3572-122	3572-123	4.40	2302-212	13.13
5-44	NF	H1	3	3512-311	3512-312	3512-313	2.68	—	—	—	—	—	—	—	—
5-44	NF	H2	3	3512-321	3512-322	3512-323	2.68	2300-232	8.04	3572-321	3572-322	3572-323	4.72	2302-232	14.15
6-32	NC	H1	3	3512-511	3512-512	3512-513	2.09	2300-251	6.27	—	—	—	—	—	—
6-32	NC	H2	3	3512-521	3512-522	3512-523	2.09	2300-252	6.27	3572-521	3572-522	3572-523	3.54	2302-252	10.64
6-32	NC	H3	3	3512-531	3512-532	3512-533	2.09	2300-253	6.27	3572-531	3572-532	3572-533	3.34	2302-253	10.03
6-32	NC	H7	3	3512-571	3512-572	3512-573	2.09	—	—	—	—	—	—	—	—
6-40	NF	H1	3	3512-711	3512-712	3512-713	2.09	2300-271	6.27	—	—	—	—	—	—
6-40	NF	H2	3	3512-721	3512-722	3512-723	2.09	2300-272	6.27	3572-721	3572-722	3572-723	3.54	2302-272	10.64
8-32	NC	H1	4	3512-911	3512-912	3512-913	2.14	2300-291	6.42	—	—	—	—	—	—
8-32	NC	H2	4	3512-921	3512-922	3512-923	2.14	2300-292	6.42	3572-921	3572-922	3572-923	3.54	2302-292	10.64
8-32	NC	H3	4	3512-931	3512-932	3512-933	2.14	2300-293	6.42	3572-931	3572-932	3572-933	3.45	2302-293	10.35
8-32	NC	H7	4	3512-971	3512-972	3512-973	2.14	—	—	—	—	—	—	—	—
8-36	NF	H1	4	3513-111	3513-112	3513-113	2.14	—	—	—	—	—	—	—	—
8-36	NF	H2	4	3513-121	3513-122	3513-123	2.14	2300-312	6.42	3573-121	3573-122	3573-123	3.54	2302-312	10.64
10-24	NS	H1	4	3513-311	3513-312	3513-313	2.20	2300-331	6.60	—	—	—	—	—	—
10-24	NS	H2	4	3513-321	3513-322	3513-323	2.20	2300-332	6.60	—	—	—	—	—	—
10-24	NS	H3	4	3513-331	3513-332	3513-333	2.20	2300-333	6.60	3573-331	3573-332	3573-333	3.54	2302-333	10.64
10-24	NS	H7	4	3513-371	3513-372	3513-373	2.20	—	—	—	—	—	—	—	—
10-32	NF	H1	4	3513-511	3513-512	3513-513	2.20	2300-351	6.60	—	—	—	—	—	—
10-32	NF	H2	4	3513-521	3513-522	3513-523	2.20	2300-352	6.60	—	—	—	—	—	—
10-32	NF	H3	4	3513-531	3513-532	3513-533	2.20	2300-353	6.60	3573-531	3573-532	3573-533	3.54	2302-353	10.64
10-32	NF	H7	4	3513-571	3513-572	3513-573	2.20	—	—	—	—	—	—	—	—
12-24	NC	H2	4	3513-721	3513-722	3513-723	2.30	—	—	—	—	—	—	—	—
12-24	NC	H3	4	3513-731	3513-732	3513-733	2.30	2300-373	6.90	3573-731	3573-732	3573-733	3.76	2302-373	11.29
12-28	NF	H1	4	3513-911	3513-912	3513-913	2.30	2300-391	6.90	—	—	—	—	—	—
12-28	NF	H2	4	3513-921	3513-922	3513-923	2.30	—	—	—	—	—	—	—	—
12-28	NF	H3	4	3513-931	3513-932	3513-933	2.30	2300-393	6.90	3573-931	3573-932	3573-933	4.11	2302-393	12.31
14-20	NS	H3	4	3514-031	3514-032	3514-033	2.79	—	—	—	—	—	—	—	—

Alternate Flute Taps available upon request.

# Ground Thread Hand Taps -

## NC, NF & NS - RH - High Speed Steel



Bottoming



Plug



Taper

3

2

Pittsburg <sup>®</sup> ALLEGHANY										BRUBAKER TOOL CORPORATION					
SIZE	NC NF NS	DIAM. LIMIT	NO. OF FLTS.	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE
1/4-20	NC	H1	4	3514-111	3514-112	3514-113	\$ 2.21	2300-411	\$ 6.63	—	—	—	—	—	—
1/4-20	NC	H2	4	3514-121	3514-122	3514-123	2.21	2300-412	6.63	—	—	—	—	—	—
1/4-20	NC	H3	4	3514-131	3514-132	3514-133	2.21	2300-413	6.63	3574-131	3574-132	3574-133	\$3.83	2302-413	\$11.50
1/4-20	NC	H5	4	3514-151	3514-152	3514-153	2.21	2300-415	6.63	—	—	—	—	—	—
1/4-28	NF	H1	4	3514-311	3514-312	3514-313	2.21	2300-431	6.63	—	—	—	—	—	—
1/4-28	NF	H2	4	3514-321	3514-322	3514-323	2.21	2300-432	6.63	—	—	—	—	—	—
1/4-28	NF	H3	4	3514-331	3514-332	3514-333	2.21	2300-433	6.63	3574-331	3574-332	3574-333	3.83	2302-433	11.50
1/4-28	NF	H4	4	3514-341	3514-342	3514-343	2.21	2300-434	6.63	—	—	—	—	—	—
5/16-18	NC	H1	4	3514-511	3514-512	3514-513	2.65	2300-451	7.95	—	—	—	—	—	—
5/16-18	NC	H2	4	3514-521	3514-522	3514-523	2.65	2300-452	7.95	—	—	—	—	—	—
5/16-18	NC	H3	4	3514-531	3514-532	3514-533	2.65	2300-453	7.95	3574-531	3574-532	3574-533	4.72	2302-453	14.15
5/16-18	NC	H5	4	3514-551	3514-552	3514-553	2.65	2300-455	7.95	—	—	—	—	—	—
5/16-24	NF	H1	4	3514-711	3514-712	3514-713	2.65	2300-471	7.95	—	—	—	—	—	—
5/16-24	NF	H2	4	3514-721	3514-722	3514-723	2.65	2300-472	7.95	—	—	—	—	—	—
5/16-24	NF	H3	4	3514-731	3514-732	3514-733	2.65	2300-473	7.95	3574-731	3574-732	3574-733	4.79	2302-473	14.36
5/16-24	NF	H4	4	3514-741	3514-742	3514-743	2.65	2300-474	7.95	—	—	—	—	—	—
3/8-16	NC	H1	4	3514-911	3514-912	3514-913	2.99	2300-491	8.97	—	—	—	—	—	—
3/8-16	NC	H2	4	3514-921	3514-922	3514-923	2.99	2300-492	8.97	—	—	—	—	—	—
3/8-16	NC	H3	4	3514-931	3514-932	3514-933	2.99	2300-493	8.97	3574-931	3574-932	3574-933	5.32	2302-493	15.95
3/8-16	NC	H5	4	3514-951	3514-952	3514-953	2.99	2300-495	8.97	—	—	—	—	—	—
3/8-24	NF	H1	4	3515-111	3515-112	3515-113	2.99	2300-511	8.97	—	—	—	—	—	—
3/8-24	NF	H2	4	3515-121	3515-122	3515-123	2.99	2300-512	8.97	—	—	—	—	—	—
3/8-24	NF	H3	4	3515-131	3515-132	3515-133	2.99	2300-513	8.97	3575-131	3575-132	3575-133	5.32	2302-513	15.95
3/8-24	NF	H4	4	3515-141	3515-142	3515-143	2.99	2300-514	8.97	—	—	—	—	—	—
7/16-14	NC	H1	4	3515-311	3515-312	3515-313	5.04	—	—	—	—	—	—	—	—
7/16-14	NC	H2	4	3515-321	3515-322	3515-323	5.04	—	—	—	—	—	—	—	—
7/16-14	NC	H3	4	3515-331	3515-332	3515-333	5.04	2300-533	15.12	3575-331	3575-332	3575-333	9.16	2302-533	27.45
7/16-14	NC	H5	4	3515-351	3515-352	3515-353	5.04	2300-535	15.12	—	—	—	—	—	—
7/16-20	NF	H1	4	3515-521	3515-522	3515-523	5.04	—	—	—	—	—	—	—	—
7/16-20	NF	H2	4	3515-524	3515-525	3515-526	5.04	—	—	—	—	—	—	—	—
7/16-20	NF	H3	4	3515-531	3515-532	3515-533	5.04	2300-553	15.12	3575-531	3575-532	3575-533	9.16	2302-553	27.45
7/16-20	NF	H5	4	3515-551	3515-552	3515-553	5.04	2300-555	15.12	—	—	—	—	—	—
1/2-13	NC	H1	4	3515-711	3515-712	3515-713	5.49	2300-571	16.47	—	—	—	—	—	—
1/2-13	NC	H2	4	3515-721	3515-722	3515-723	5.49	—	—	—	—	—	—	—	—
1/2-13	NC	H3	4	3515-731	3515-732	3515-733	5.49	2300-573	16.47	3575-731	3575-732	3575-733	9.54	2302-573	28.63
1/2-13	NC	H5	4	3515-751	3515-752	3515-753	5.49	2300-575	16.47	—	—	—	—	—	—
1/2-20	NF	H1	4	3515-911	3515-912	3515-913	5.49	2300-591	16.47	—	—	—	—	—	—
1/2-20	NF	H2	4	3515-921	3515-922	3515-923	5.49	—	—	—	—	—	—	—	—
1/2-20	NF	H3	4	3515-931	3515-932	3515-933	5.49	2300-593	16.47	3575-931	3575-932	3575-933	10.78	2302-593	32.34
1/2-20	NF	H5	4	3515-951	3515-952	3515-953	5.49	2300-595	16.47	—	—	—	—	—	—
9/16-12	NC	H1	4	3516-111	3516-112	3516-113	8.79	—	—	—	—	—	—	—	—
9/16-12	NC	H2	4	3516-121	3516-122	3516-123	8.79	—	—	—	—	—	—	—	—
9/16-12	NC	H3	4	3516-131	3516-132	3516-133	8.79	2300-613	26.37	3576-131	3576-132	3576-133	16.00	2302-613	48.00
9/16-12	NC	H5	4	3516-151	3516-152	3516-153	8.79	2300-615	26.37	—	—	—	—	—	—
9/16-18	NF	H1	4	3516-311	3516-312	3516-313	8.79	—	—	—	—	—	—	—	—
9/16-18	NF	H2	4	3516-321	3516-322	3516-323	8.79	—	—	—	—	—	—	—	—
9/16-18	NF	H3	4	3516-331	3516-332	3516-333	8.79	2300-633	26.37	3576-331	3576-332	3576-333	16.00	2302-633	48.00
9/16-18	NF	H5	4	3516-351	3516-352	3516-353	8.79	—	—	—	—	—	—	—	—
5/8-11	NC	H1	4	3516-511	3516-512	3516-513	10.18	—	—	—	—	—	—	—	—
5/8-11	NC	H2	4	3516-521	3516-522	3516-523	10.18	2300-652	30.54	—	—	—	—	—	—
5/8-11	NC	H3	4	3516-531	3516-532	3516-533	10.18	2300-653	30.54	3576-531	3576-532	3576-533	19.19	2302-653	57.59
5/8-11	NC	H5	4	3516-551	3516-552	3516-553	10.18	2300-655	30.54	—	—	—	—	—	—
5/8-18	NF	H1	4	3516-711	3516-712	3516-713	10.18	—	—	—	—	—	—	—	—
5/8-18	NF	H2	4	3516-721	3516-722	3516-723	10.18	2300-672	30.54	—	—	—	—	—	—
5/8-18	NF	H3	4	3516-731	3516-732	3516-733	10.18	2300-673	30.54	3576-731	3576-732	3576-733	19.19	2302-673	57.59
5/8-18	NF	H5	4	3516-751	3516-752	3516-753	10.18	2300-675	30.54	—	—	—	—	—	—
11/16-11	NC	H3	4	3516-931	3516-932	3516-933	13.23	2300-693	39.69	3576-931	3576-932	3576-933	23.87	2302-693	71.60
11/16-16	NF	H3	4	3517-131	3517-132	3517-133	13.23	2300-713	39.69	3577-131	3577-132	3577-133	23.87	2302-713	71.60

Alternate Flute Taps available upon request.

(Continued)

# Ground Thread Hand Taps— NC, NF & NS

2



**BOTTOMING**

3



**PLUG**



**TAPER**

2

SIZE	NC NF NS	DIAM. LIMIT	NO. OF FLTS.	Pittsburg <sup>®</sup> ALLEGMANN					BRUBAKER TOOL CORPORATION						
				SETS			SETS		SETS			SETS			
				BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH	ORDER NO.	SET PRICE
3/4-10	NC	H1	4	3517-311	3517-312	3517-313	\$15.59	—	—	—	—	—	—	—	—
3/4-10	NC	H2	4	3517-321	3517-322	3517-323	15.59	2300-732	\$46.77	—	—	—	—	—	—
3/4-10	NC	H3	4	3517-331	3517-332	3517-333	15.59	2300-733	46.77	3577-331	3577-332	3577-333	\$26.88	2302-733	\$80.65
3/4-10	NC	H5	4	3517-351	3517-352	3517-353	15.59	2300-735	46.77	—	—	—	—	—	—
3/4-16	NF	H1	4	3517-511	3517-512	3517-513	15.59	2300-751	46.77	—	—	—	—	—	—
3/4-16	NF	H2	4	3517-521	3517-522	3517-523	15.59	2300-752	46.77	—	—	—	—	—	—
3/4-16	NF	H3	4	3517-531	3517-532	3517-533	15.59	2300-753	46.77	3577-531	3577-532	3577-533	26.88	2302-753	80.65
3/4-16	NF	H5	4	3517-551	3517-552	3517-553	15.59	2300-755	46.77	—	—	—	—	—	—
7/8-9	NC	H1	4	3517-711	3517-712	3517-713	19.55	—	—	—	—	—	—	—	—
7/8-9	NC	H2	4	3517-721	3517-722	3517-723	19.55	—	—	—	—	—	—	—	—
7/8-9	NC	H3	4	3517-731	3517-732	3517-733	19.55	—	—	—	—	—	—	—	—
7/8-9	NC	H4	4	3517-741	3517-742	3517-743	19.55	2300-774	58.65	3577-741	3577-742	3577-743	37.46	2302-774	112.38
7/8-9	NC	H6	4	3517-761	3517-762	3517-763	19.55	2300-776	58.65	—	—	—	—	—	—
7/8-14	NF	H1	4	3517-911	3517-912	3517-913	19.55	—	—	—	—	—	—	—	—
7/8-14	NF	H2	4	3517-921	3517-922	3517-923	19.55	2300-792	58.65	—	—	—	—	—	—
7/8-14	NF	H3	4	3517-931	3517-932	3517-933	19.55	—	—	—	—	—	—	—	—
7/8-14	NF	H4	4	3517-941	3517-942	3517-943	19.55	2300-794	58.65	3577-941	3577-942	3577-943	37.46	2302-794	112.38
7/8-14	NF	H6	4	3517-961	3517-962	3517-963	19.55	2300-796	58.65	—	—	—	—	—	—
1-8	NC	H1	4	3518-111	3518-112	3518-113	28.82	—	—	—	—	—	—	—	—
1-8	NC	H2	4	3518-121	3518-122	3518-123	28.82	—	—	—	—	—	—	—	—
1-8	NC	H3	4	3518-131	3518-132	3518-133	28.82	—	—	—	—	—	—	—	—
1-8	NC	H4	4	3518-141	3518-142	3518-143	28.82	2300-814	86.46	3578-141	3578-142	3578-143	49.81	2302-814	149.44
1-8	NC	H6	4	3518-161	3518-162	3518-163	28.82	2300-816	86.46	—	—	—	—	—	—
1-12	NF	H1	4	3518-311	3518-312	3518-313	28.82	—	—	—	—	—	—	—	—
1-12	NF	H2	4	3518-321	3518-322	3518-323	28.82	—	—	—	—	—	—	—	—
1-12	NF	H4	4	3518-341	3518-342	3518-343	28.82	2300-834	86.46	3578-341	3578-342	3578-343	51.40	2302-834	154.19
1-14	NS	H1	4	3518-511	3518-512	3518-513	28.82	—	—	—	—	—	—	—	—
1-14	NS	H2	4	—	—	—	—	—	—	—	—	—	—	—	—
1-14	NS	H4	4	3518-541	3518-542	3518-543	28.82	2300-854	86.46	3578-541	3578-542	3578-543	49.81	2302-854	149.44
1-14	NS	H6	4	—	—	—	—	—	—	—	—	—	—	—	—
1-1/8-7	NC	H4	4	3518-741	3518-742	3518-743	42.91	2300-874	128.73	3578-741	3578-742	3578-743	80.61	2302-874	241.82
1-1/8-12	NF	H4	4	3518-941	3518-942	3518-943	42.91	2300-894	128.73	3578-941	3578-942	3578-943	85.37	2302-894	256.13
1-1/4-7	NC	H4	4	3519-141	3519-142	3519-143	57.91	2300-914	173.73	3579-141	3579-142	3579-143	105.80	2302-914	317.40
1-1/4-12	NF	H4	6	3519-341	3519-342	3519-343	57.91	2300-934	173.73	3579-341	3579-342	3579-343	107.65	2302-934	322.96
1-3/8-6	NC	H4	4	3519-541	3519-542	3519-543	72.64	2300-954	217.92	3579-541	3579-542	3579-543	132.93	2302-954	398.78
1-3/8-12	NF	H4	6	3519-741	3519-742	3519-743	72.64	2300-974	217.92	3579-741	3579-742	3579-743	133.87	2302-974	401.61
1-1/2-6	NC	H4	4	3519-841	3519-842	3519-843	83.89	2300-984	251.67	3579-841	3579-842	3579-843	153.51	2302-984	460.53
1-1/2-12	NF	H4	6	3519-941	3519-942	3519-943	83.89	2300-994	251.67	3579-941	3579-942	3579-943	156.34	2302-994	468.99

Alternate Flute Taps available upon request.

## Combined Tap & Drill

### High Speed Steel



2

SIZE	OAL	DRILL LENGTH	THREAD LENGTH	ORDER NO.	PRICE EACH
4-40 NC	1-7/8	1/4	3/8	2333-001	\$12.70
4-48 NF	1-7/8	1/4	3/8	2333-008	12.70
5-40 NC	1-15/16	9/32	13/32	2333-015	12.70
5-44 NF	1-15/16	9/32	13/32	2333-022	12.70
6-32 NC	2	5/16	7/16	2333-030	11.76
6-40 NF	2	5/16	7/16	2333-036	11.76
8-32 NC	2-1/8	3/8	1/2	2333-044	11.76
8-36 NC	2-1/8	3/8	1/2	2333-051	11.76
10-24 NC	2-3/8	13/32	5/8	2333-058	12.16
10-32 NF	2-3/8	13/32	5/8	2333-065	12.16

SIZE	OAL	DRILL LENGTH	THREAD LENGTH	ORDER NO.	PRICE EACH
12-24 NC	2-3/8	15/32	21/32	2333-072	\$13.44
12-28 NF	2-3/8	15/32	21/32	2333-079	13.44
1/4-20 NC	2-1/2	17/32	25/32	2333-086	13.58
1/4-24 NF	2-1/2	17/32	25/32	2333-093	13.58
5/16-18 NC	2-27/32	11/16	15/16	2333-100	17.76
5/16-24 NF	2-27/32	11/16	15/16	2333-107	17.76
3/8-16 NC	3-3/8	13/16	1-1/16	2333-114	21.59
3/8-24 NF	3-3/8	13/16	1-1/16	2333-121	21.59
7/16-14 NC	3-3/4	1	1-1/4	2333-128	27.28
7/16-20 NF	3-3/4	1	1-1/4	2333-135	27.28
1/2-13 NC	4-1/16	1-1/8	1-3/8	2333-142	32.84
1/2-20 NF	4-1/16	1-1/8	1-3/8	2333-149	32.84



# Ground Thread Taps

For Cast Iron – High Speed Steel <sup>2</sup>



- Designed with flutes and cutting face for tapping cast iron
- Right hand ground thread

SIZE	GH	FLUTES	ORDER NO.		PRICE EACH	
			BOTTOM	PLUG		
10-24	NC	H3	4	4183-332	—	\$3.83
1/4-20	NC	H3	4	4184-131	4184-132	3.83
1/4-20	NC	H5	4	4184-151	4184-152	4.65
1/4-28	NF	H3	4	4184-331	4184-332	3.90
5/16-18	NC	H3	4	4184-531	4184-532	4.72
5/16-18	NC	H5	4	4184-551	4184-552	5.32
5/16-24	NF	H3	4	4184-731	4184-732	4.80
3/8-16	NC	H3	4	4184-931	4184-932	5.32
3/8-16	NC	H5	4	4184-951	4184-952	6.01
3/8-24	NF	H3	4	4185-131	4185-132	5.42
7/16-14	NC	H3	4	4185-331	4185-332	9.33
7/16-14	NC	H5	4	4185-351	4185-352	10.23
7/16-20	NF	H3	4	4185-531	4185-532	9.33
7/16-20	NF	H5	4	4185-551	—	10.23
1/2-13	NC	H3	4	4185-731	4185-732	9.72

SIZE	GH	FLUTES	ORDER NO.		PRICE EACH	
			BOTTOM	PLUG		
1/2-13	NC	H5	4	4185-751	4185-752	\$11.93
1/2-20	NF	H3	4	4185-931	4185-932	11.00
9/16-12	NC	H3	4	4186-131	4186-132	16.32
9/16-18	NF	H3	4	4186-331	4186-332	16.32
5/8-11	NC	H3	4	4186-531	4186-532	19.23
5/8-11	NC	H5	4	4186-551	4186-552	22.53
5/8-18	NF	H3	4	4186-731	4186-732	19.23
3/4-10	NC	H3	4	4187-331	4187-332	27.39
3/4-10	NC	H5	4	4187-351	4187-352	29.49
3/4-16	NF	H3	4	4187-531	4187-532	27.39

## Metric Sizes

SIZE	GH	FLUTES	ORDER NUMBER		PRICE EACH
			BOTTOM	PLUG	
6 x 1	D5	3	4187-945	4187-946	\$ 3.97
8 x 1.25	D5	4	4187-956	4187-957	4.54
10 x 1.5	D6	4	4187-969	4187-970	5.13
12 x 1.75	D6	4	—	4187-981	POA

Alternate Flute Taps available upon request.

# Carbon Steel Hand Taps

Right Hand For Hand Tapping Application <sup>3</sup>



Taper



Plug



Bottom

SIZE	NO. OF FLUTES	TAPER ORDER NO.	PLUG ORDER NO.	BOTTOMING ORDER NO.	PRICE EACH
4 - 40 NC	3	2320-058	2320-057	2320-056	\$0.93
4 - 48 NF	3	2320-064	2320-063	2320-062	0.93
5 - 40 NC	3	2320-076	2320-075	2320-074	0.93
5 - 44 NF	3	2320-082	2320-081	2320-080	0.93
6 - 32 NC	3	2320-088	2320-087	2320-086	0.93
6 - 36 NS	4	2320-100	2320-099	2320-098	2.25
6 - 40 NF	3	2320-094	2320-093	2320-092	0.93
8 - 32 NC	4	2320-106	2320-105	2320-104	0.93
8 - 36 NF	4	—	2320-111	—	0.93
8 - 40 NS	4	2320-118	2320-117	2320-116	2.45
10 - 24 NC	4	2320-124	2320-123	2320-122	0.93
10 - 32 NF	4	2320-135	2320-134	2320-133	0.93
12 - 24 NC	4	2320-141	2320-140	2320-139	0.93
12 - 28 NF	4	2320-147	2320-146	2320-145	0.93
12 - 32 NEF	4	2320-150	2320-149	2320-148	2.45
14 - 20 NF	4	2320-153	2320-152	2320-151	2.73
14 - 24 NC	4	2320-159	2320-158	2320-157	2.73
1/4 - 20 NC	4	2320-219	2320-218	2320-217	1.07
1/4 - 24 NS	4	2320-222	2320-221	2320-220	2.45
1/4 - 28 NF	4	2320-225	2320-224	2320-223	1.07
1/4 - 32 NEF	4	2320-231	2320-230	2320-229	2.45
5/16 - 18 NC	4	2320-237	2320-236	2320-235	1.17
5/16 - 24 NF	4	2320-243	2320-242	2320-241	1.17
5/16 - 32 NEF	4	2320-246	2320-245	2320-244	3.09

SIZE	NO. OF FLUTES	TAPER ORDER NO.	PLUG ORDER NO.	BOTTOMING ORDER NO.	PRICE EACH
3/8 - 16 NC	4	2320-249	2320-248	2320-247	\$1.30
3/8 - 24 NF	4	2320-255	2320-254	2320-253	1.30
7/16 - 14 NC	4	2320-261	2320-260	2320-259	1.62
7/16 - 20 NF	4	2320-267	2320-266	2320-265	1.62
1/2 - 13 NC	4	2320-273	2320-272	2320-271	1.62
1/2 - 20 NF	4	2320-279	2320-278	2320-277	1.62
9/16 - 12 NC	4	2320-285	2320-284	2320-283	1.90
9/16 - 18 NF	4	2320-291	2320-290	2320-289	1.90
5/8 - 11 NC	4	2320-297	2320-296	2320-295	2.22
5/8 - 18 NF	4	2320-303	2320-302	2320-301	2.22
3/4 - 10 NC	4	2320-321	2320-320	2320-319	3.81
3/4 - 16 NF	4	2320-327	2320-326	2320-325	3.81
7/8 - 9 NC	4	2320-333	2320-332	2320-331	4.60
7/8 - 14 NF	4	2320-339	2320-338	2320-337	4.60
1 - 8 NC	4	2320-345	2320-344	2320-343	5.57
1 - 12 NF	4	2320-351	2320-350	2320-349	5.57
1 - 14 NS	4	2320-357	2320-356	2320-355	5.57
1-1/8 - 7 NC	4	2320-363	2320-362	2320-361	12.43
1-1/8 - 12 NF	4	2320-366	2320-365	2320-364	12.43
1-1/4 - 7 NC	4	2320-372	2320-371	2320-370	15.70
1-1/4 - 12 NF	6	2320-378	2320-377	2320-376	15.70
1-3/8 - 6 NC	4	2320-384	2320-383	2320-382	21.59
1-3/8 - 12 NF	6	2320-390	2320-389	2320-388	21.59
1-1/2 - 6 NC	4	2320-396	2320-395	2320-394	25.49
1-1/2 - 12 NF	6	2320-402	2320-401	2320-400	25.49

## Ground Thread Taps



Bottom



Plug



Taper

### Hand Taps

2

NOMINAL SIZE	D LMT.	# OF FLT.	THR. LGTH.	OAL	ORDER NO.			PRICE EACH	SET ORDER NO.	SET PRICE T/P/B
					TAPER	PLUG	BOTTOM			
M1.6 x .35	3	2	5/16	1-5/8	3777-085	3777-084	3777-083	\$ 9.94	—	—
M1.8 x .35	3	2	3/8	1-11/16	3777-102	3777-101	3777-100	9.26	—	—
M2 x .4	3	3	7/16	1-3/4	3777-120	3777-119	3777-118	9.26	3780-015	\$27.78
M2.2 x .45	3	3	7/16	1-3/4	3777-147	3777-146	3777-145	7.98	—	—
M2.5 x .45	3	3	1/2	1-13/16	3777-174	3777-173	3777-172	6.84	—	—
M3 x .5	3	3	5/8	1-15/16	3777-228	3777-227	3777-226	5.45	3780-030	16.35
M3.5 x .6	4	3	11/16	2	3777-282	3777-281	3777-280	4.10	—	—
M4 x .7	4	4	3/4	2-1/8	3777-327	3777-326	3777-325	4.10	3780-040	12.30
M4.5 x .75	4	4	7/8	2-3/8	3777-354	3777-353	3777-352	4.10	—	—
M5 x .8	4	4	7/8	2-3/8	3777-390	3777-389	3777-388	4.10	3780-050	12.30
M6 x 1	5	4	1	2-1/2	3777-466	3777-465	3777-464	4.39	3780-055	13.17
M7 x 1	5	4	1-1/8	2-23/32	3777-525	3777-524	3777-523	5.45	3780-065	16.35
M8 x 1.25	5	4	1-1/8	2-23/32	3777-579	3777-578	3777-577	5.45	3780-070	16.35
M8 x 1	5	4	1-1/8	2-23/32	3777-570	3777-569	3777-568	5.45	—	—
M10 x 1.5	6	4	1-1/4	2-15/16	3777-696	3777-695	3777-694	10.45	3780-080	31.35
M10 x 1.25	5	4	1-1/4	2-15/16	3777-687	3777-686	3777-685	10.45	—	—
M12 x 1.75	6	4	1-21/32	3-3/8	3777-803	3777-802	3777-801	10.98	3780-090	32.94
M12 x 1.25	5	4	1-21/32	3-3/8	3777-780	3777-779	3777-778	12.39	—	—
M14 x 2	7	4	1-21/32	3-19/32	3777-965	3777-964	3777-963	18.40	3780-100	55.20
M14 x 1.5	6	4	1-21/32	3-19/32	3777-947	3777-946	3777-945	18.40	—	—

NOMINAL SIZE	D LMT.	# OF FLT.	THR. LGTH.	OAL	ORDER NO.			PRICE EACH	SET ORDER NO.	SET PRICE T/P/B
					TAPER	PLUG	BOTTOM			
M16 x 2	7	4	1-13/16	3-13/16	3778-072	3778-071	3778-070	\$22.04	3780-110	\$66.12
M16 x 1.5	6	4	1-13/16	3-13/16	3778-063	3778-062	3778-061	22.04	—	—
M18 x 2.5	7	4	1-13/16	4-1/32	3778-153	3778-152	3778-151	30.19	3780-120	90.57
M18 x 1.5	6	4	1-13/16	4-1/32	3778-135	3778-134	3778-133	30.19	—	—
M20 x 2.5	7	4	2	4-15/32	3778-243	3778-242	3778-241	34.00	3780-130	102.00
M20 x 1.5	6	4	2	4-15/32	3778-225	3778-224	3778-223	34.00	—	—
M22 x 2.5	7	4	2-7/32	4-11/16	3778-306	3778-305	3778-304	41.71	—	—
M22 x 1.5	6	4	2-7/32	4-11/16	3778-288	3778-287	3778-286	41.71	—	—
M24 x 3	8	4	2-7/32	4-29/32	3778-342	3778-341	3778-340	44.77	3780-150	134.31
M24 x 2	7	4	2-7/32	4-29/32	3778-324	3778-323	3778-322	44.77	—	—
M27 x 3	8	4	2-1/2	5-1/8	3778-468	3778-467	3778-466	73.82	—	—
M27 x 2	7	4	2-1/2	5-1/8	3778-459	3778-458	3778-457	73.82	—	—
M30 x 3.5	9	4	2-9/16	5-7/16	3778-565	3778-564	3778-563	107.60	3780-170	322.80
M30 x 2	7	4	2-9/16	5-7/16	3778-549	3778-548	3778-547	107.60	—	—
M33 x .35	9	4	2-9/16	5-3/4	3778-630	3778-629	3778-628	112.13	—	—
M33 x 2	7	4	2-9/16	5-3/4	3778-612	3778-611	3778-610	112.13	—	—
M36 x 4	9	4	3	6-1/16	3778-693	3778-692	3778-691	148.51	—	—
M36 x 3	8	4	3	6-1/16	3778-702	3778-701	3778-700	148.51	—	—
M39 x 4	9	6	3-3/16	6-11/16	3778-747	3778-746	3778-745	172.77	—	—
M39 x 3	8	6	3-3/16	6-11/16	3778-738	3778-737	3778-736	172.77	—	—

### Spiral Point— Plug Style



2

NOMINAL SIZE	D LIMITS	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
M1.6 x .35	3	2	5/16	1-5/8	3779-133	\$10.82
M1.8 x .35	3	2	3/8	1-11/16	3779-139	9.76
M2 x .4	3	2	7/16	1-3/4	3779-148	9.69
M2.2 x .45	3	2	7/16	1-3/4	3779-157	8.32
M2.5 x .45	3	2	1/2	1-13/16	3779-166	8.32
M3 x .5	3	2	5/8	1-15/16	3779-184	6.15
M3.5 x .6	4	2	11/16	2	3779-202	5.08
M4 x .7	4	2	3/4	2-1/8	3779-217	5.08
M4.5 x .75	4	2	7/8	2-3/8	3779-226	4.47
M5 x .8	4	2	7/8	2-3/8	3779-238	4.47
M6 x 1	5	2	1	2-1/2	3779-263	4.78

NOMINAL SIZE	D LIMITS	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
M7 x 1	5	2	1-1/8	2-23/32	3779-280	\$ 5.65
M8 x 1.25	5	2	1-1/8	2-23/32	3779-298	5.65
M8 x 1	5	2	1-1/8	2-23/32	3779-290	5.65
M10 x 1.5	6	3	1-1/4	2-15/16	3779-337	10.85
M10 x 1.25	5	3	1-1/4	2-15/16	3779-334	10.85
M12 x 1.75	6	3	1-21/32	3-3/8	3779-373	11.59
M12 x 1.25	5	3	1-21/32	3-3/8	3779-365	12.90
M14 x 2	7	3	1-21/32	3-19/32	3779-427	19.49
M14 x 1.5	6	3	1-21/32	3-19/32	3779-421	19.49
M16 x 2	7	3	1-13/16	3-13/16	3779-463	23.01
M16 x 1.5	6	3	1-13/16	3-13/16	3779-460	23.01
M18 x 2.5	7	4	1-13/16	4-1/32	3779-490	32.47
M20 x 2.5	7	3	2	4-15/32	3779-516	36.61

# Metric Hand Taps

## Ground Thread – High Speed Steel



**Plug**



**Bottom**



**Taper**



**Spiral Point**

SIZE	[3]			PRICE EACH	[3]		SIZE	[3]			PRICE EACH	[3]	
	PLUG ORDER NO.	BOTTOM ORDER NO.	TAPER ORDER NO.		ORDER NO.	PRICE EACH		PLUG ORDER NO.	BOTTOM ORDER NO.	TAPER ORDER NO.		ORDER NO.	PRICE EACH
1.6 x 0.35	2327-084	2327-083	—	\$6.42	2329-133	\$7.86	14.0 x 2.00	2327-963	2327-964	2327-965	\$11.01	2329-427	\$13.39
1.8 x 0.35	2327-100	2327-101	—	6.42	2329-139	7.86	16.0 x 1.00	2328-043	2328-044	2328-045	13.30	—	—
2.0 x 0.40	2327-118	2327-119	2327-120	6.50	2329-148	7.86	16.0 x 1.50	2328-061	2328-062	2328-063	13.43	2329-460	16.36
2.2 x 0.45	2327-145	2327-146	2327-147	5.53	2329-157	5.14	16.0 x 2.00	2328-070	2328-071	2328-072	13.43	2329-463	16.36
2.3 x 0.40	2327-163	2327-164	2327-165	4.64	—	—	18.0 x 1.00	2328-124	2328-123	2328-126	17.26	—	—
2.5 x 0.45	2327-172	2327-173	2327-174	4.25	2329-166	5.14	18.0 x 1.50	2328-133	2328-134	2328-135	17.43	—	—
2.6 x 0.45	2327-199	2327-200	2327-201	4.34	—	—	18.0 x 2.00	2328-142	2328-143	2328-144	17.26	—	—
3.0 x 0.35	2327-208	2327-209	2327-210	3.57	—	—	18.0 x 2.50	2328-151	2328-152	2328-153	17.43	2329-490	22.40
3.0 x 0.50	2327-226	2327-227	2327-228	3.57	2329-184	4.29	20.0 x 1.00	2328-205	2328-206	2328-207	24.27	—	—
3.5 x 0.60	2327-280	2327-281	2327-282	2.89	2329-202	4.04	20.0 x 1.50	2328-223	2328-224	2328-225	24.48	—	—
4.0 x 0.50	2327-316	2327-317	2327-318	2.85	—	—	20.0 x 2.00	2328-232	2328-233	2328-234	24.27	—	—
4.0 x 0.70	2327-325	2327-326	2327-327	2.89	2329-217	4.04	20.0 x 2.50	2328-241	2328-242	2328-243	24.48	2329-517	30.26
4.5 x 0.75	2327-352	2327-353	2327-354	2.89	2329-226	4.04	22.0 x 1.00	2328-268	2328-269	2328-270	25.59	—	—
5.0 x 0.50	2327-363	2327-363	2327-364	2.85	2329-229	3.74	22.0 x 1.50	2328-286	2328-287	2328-288	25.59	—	—
5.0 x 0.80	2327-388	2327-389	2327-390	2.89	2329-238	3.74	22.0 x 2.00	2328-295	2328-296	2328-297	25.42	—	—
5.0 x 0.90	2327-397	2327-398	2327-399	2.85	—	—	22.0 x 2.50	2328-304	2328-305	2328-306	25.59	—	—
5.5 x 0.90	2327-433	2327-434	2327-435	3.06	—	—	24.0 x 1.50	2328-315	2328-314	2328-316	30.18	—	—
6.0 x 0.50	2327-442	2327-443	2327-444	3.32	—	—	24.0 x 2.00	2328-322	2328-323	2328-324	30.18	—	—
6.0 x 0.75	2327-460	2327-461	2327-462	3.32	2329-267	4.30	24.0 x 3.00	2328-340	2328-341	2328-342	30.18	—	—
6.0 x 1.00	2327-464	2327-465	2327-466	3.10	2329-263	3.74	27.0 x 2.00	2328-457	2328-458	2328-459	44.80	—	—
6.3 x 1.00	2327-487	2327-488	2327-489	3.71	2329-271	4.30	27.0 x 3.00	2328-466	2328-467	2328-468	44.80	—	—
7.0 x 1.00	2327-523	2327-524	2327-525	3.36	2329-280	4.21	30.0 x 1.50	2328-538	2328-539	2328-540	56.91	—	—
8.0 x 0.75	2327-559	2327-560	2327-561	4.59	—	—	30.0 x 2.00	2328-547	2328-548	2328-549	56.91	—	—
8.0 x 1.00	2327-568	2327-569	2327-570	3.36	2329-290	4.21	30.0 x 3.50	2328-565	2328-563	2328-567	56.91	—	—
8.0 x 1.25	2327-577	2327-578	2327-579	3.36	2329-298	4.21	33.0 x 2.00	2328-610	2328-611	2328-612	62.22	—	—
9.0 x 1.00	2327-622	2327-623	2327-624	6.21	—	—	33.0 x 3.50	2328-628	2328-629	2328-630	62.22	—	—
9.0 x 1.25	2327-631	2327-632	2327-633	6.21	—	—	36.0 x 4.00	2328-691	2328-692	2328-693	83.68	—	—
10.0 x 0.75	2327-658	2327-659	2327-660	6.21	—	—	36.0 x 3.00	2328-700	2328-701	2328-702	83.68	—	—
10.0 x 1.00	2327-676	2327-677	2327-678	6.25	2329-331	7.61	39.0 x 3.00	2328-736	2328-737	2328-738	91.84	—	—
10.0 x 1.25	2327-685	2327-686	2327-687	6.25	2329-334	7.61	39.0 x 4.00	2328-745	2328-746	2328-747	91.84	—	—
10.0 x 1.50	2327-694	2327-695	2327-696	6.25	2329-337	7.61	42.0 x 4.50	2328-836	2328-837	2328-838	112.92	—	—
11.0 x 1.00	2327-712	2327-713	2327-714	7.23	—	—	45.0 x 4.50	2328-891	2328-890	2328-892	114.07	—	—
11.0 x 1.50	2327-739	2327-740	2327-741	7.23	—	—	48.0 x 5.00	2328-925	2328-926	2328-927	117.51	—	—
12.0 x 1.00	2327-775	2327-776	2327-777	7.23	—	—							
12.0 x 1.25	2327-778	2327-779	2327-780	7.31	2329-365	8.93							
12.0 x 1.50	2327-785	2327-784	2327-786	7.23	2329-367	8.93							
12.0 x 1.75	2327-801	2327-802	2327-803	7.31	2329-373	8.93							
14.0 x 1.00	2327-919	2327-920	2327-921	10.88	—	—							
14.0 x 1.25	2327-927	2327-928	2327-929	11.01	—	—							
14.0 x 1.50	2327-945	2327-946	2327-947	11.01	2329-421	13.39							

Any Size Not Shown, Available On Request



## Machine Screw Sizes

NOMINAL SIZE	H LIMITS	# OF FLUTES	OVERALL LENGTH	LENGTH	PLUG ORDER NO.	PRICE EACH	BOTTOM ORDER NO.	PRICE EACH
0-80 UNF	1	2	5/16	1-5/8	3720-112	\$9.91	3720-111	\$12.74
0-80 UNF	2	2	5/16	1-5/8	3720-122	9.91	3720-121	12.74
1-64 UNC	1	2	3/8	1-11/16	3720-312	8.92	—	—
1-64 UNC	2	2	3/8	1-11/16	3720-322	8.92	—	—
1-72 UNF	1	2	3/8	1-11/16	3720-512	8.92	—	—
1-72 UNF	2	2	3/8	1-11/16	3720-522	8.92	—	—
2-56 UNC	1	2	7/16	1-3/4	3720-712	8.61	3720-711	10.91
2-56 UNC	2	2	7/16	1-3/4	3720-722	7.07	3720-721	10.03
2-64 UNF	2	2	7/16	1-3/4	3720-922	8.61	—	—
3-48 UNC	2	2	1/2	1-13/16	3721-122	5.78	3721-121	9.11
3-56 UNF	1	2	1/2	1-13/16	3721-312	7.43	—	—
3-56 UNF	2	2	1/2	1-13/16	3721-322	6.43	—	—
4-40 UNC	1	2	9/16	1-7/8	3721-712	5.68	—	—
4-40 UNC	2	2	9/16	1-7/8	3721-722	4.73	3721-721	6.71
4-48 UNF	1	2	9/16	1-7/8	3721-912	5.68	—	—
4-48 UNF	2	2	9/16	1-7/8	3721-922	5.37	3721-921	6.91
4-36 UNF	2	2	9/16	1-7/8	3721-522	5.68	—	—

NOMINAL SIZE	H LIMITS	# OF FLUTES	OVERALL LENGTH	LENGTH	PLUG ORDER NO.	PRICE EACH	BOTTOM ORDER NO.	PRICE EACH
5-40 UNC	1	2	5/8	1-15/16	3722-112	\$5.68	—	—
5-40 UNC	2	2	5/8	1-15/16	3722-122	4.71	3722-121	\$6.91
5-44 UNF	2	2	5/8	1-15/16	3722-322	5.42	—	—
6-32 UNC	1	2	11/16	2	3722-512	4.65	—	—
6-32 UNC	2	2	11/16	2	3722-522	4.04	3722-521	5.54
6-32 UNC	3	2	11/16	2	3722-532	3.84	3722-531	5.54
6-40 UNF	2	2	11/16	2	3722-722	4.46	3722-721	6.32
8-32 UNC	1	2	3/4	2-1/8	3722-912	4.65	—	—
8-32 UNC	2	2	3/4	2-1/8	3722-922	4.08	3722-921	5.89
8-32 UNC	3	2	3/4	2-1/8	3722-932	3.81	3722-931	5.56
8-36 UNF	2	2	3/4	2-1/8	3723-122	4.46	—	—
10-24 UNC	1	2	7/8	2-3/8	3723-312	5.11	—	—
10-24 UNC	2	2	7/8	2-3/8	3723-322	4.65	3723-321	6.32
10-24 UNC	3	2	7/8	2-3/8	3723-332	3.81	3723-331	5.38
10-32 UNC	1	2	7/8	2-3/8	3723-512	4.65	3723-511	6.32
10-32 UNF	2	2	7/8	2-3/8	3723-522	4.08	3723-521	6.32
10-32 UNF	3	2	7/8	2-3/8	3723-532	3.81	3723-531	5.38
12-24 UNC	3	2	1	2-1/2	3723-732	4.46	3723-731	6.32
12-28 UNF	3	2	1	2-1/2	3723-932	4.46	—	—



## Fractional Sizes

NOMINAL SIZE	H LIMITS	# OF FLUTES	OVERALL LENGTH	LENGTH	PLUG ORDER NO.	PRICE EACH	BOTTOM ORDER NO.	PRICE EACH
1/4-20 UNC	1	2	1	2-1/2	3724-112	\$4.65	—	—
1/4-20 UNC	2	2	1	2-1/2	3724-122	4.65	—	—
1/4-20 UNC	3	2	1	2-1/2	3724-132	3.81	3724-131	\$5.56
1/4-20 UNC	5	2	1	2-1/2	3724-149	4.65	—	—
1/4-20 UNC	11	2	1	2-1/2	3724-192	5.50	—	—
1/4-20 UNC	3	3	1	2-1/2	3724-135	5.11	—	—
1/4-20 UNC	5	3	1	2-1/2	3724-152	5.11	—	—
1/4-28 UNF	1	2	1	2-1/2	3724-312	5.11	—	—
1/4-28 UNF	2	2	1	2-1/2	3724-322	4.65	—	—
1/4-28 UNF	3	2	1	2-1/2	3724-332	3.81	3724-331	6.32
1/4-28 UNF	4	2	1	2-1/2	3724-339	5.11	—	—
1/4-28 UNF	2	3	1	2-1/2	3724-325	5.11	—	—
1/4-28 UNF	4	3	1	2-1/2	3724-342	5.11	—	—
5/16-18 UNC	1	2	1-1/8	2-23/32	3724-512	5.83	—	—
5/16-18 UNC	2	2	1-1/8	2-23/32	3724-522	5.11	—	—
5/16-18 UNC	3	2	1-1/8	2-23/32	3724-532	4.16	3724-531	6.71
5/16-18 UNC	5	2	1-1/8	2-23/32	3724-549	5.11	—	—
5/16-18 UNC	11	2	1-1/8	2-23/32	3724-592	6.28	—	—
5/16-18 UNC	3	3	1-1/8	2-23/32	3724-535	5.83	—	—
5/16-18 UNC	5	3	1-1/8	2-23/32	3724-552	5.83	—	—
5/16-24 UNF	1	2	1-1/8	2-23/32	3724-712	5.83	—	—
5/16-24 UNF	2	2	1-1/8	2-23/32	3724-722	5.83	—	—
5/16-24 UNF	3	2	1-1/8	2-23/32	3724-732	4.16	3724-731	6.71
5/16-24 UNF	4	2	1-1/8	2-23/32	3724-742	5.83	—	—
5/16-24 UNF	2	3	1-1/8	2-23/32	3724-725	5.83	—	—
5/16-24 UNF	4	3	1-1/8	2-23/32	3724-745	5.83	—	—
3/8-16 UNC	1	3	1-1/4	2-15/16	3724-912	6.64	—	—
3/8-16 UNC	2	3	1-1/4	2-15/16	3724-922	6.08	—	—
3/8-16 UNC	3	3	1-1/4	2-15/16	3724-932	4.91	—	—
3/8-16 UNC	5	3	1-1/4	2-15/16	3724-952	6.64	—	—

NOMINAL SIZE	H LIMITS	# OF FLUTES	OVERALL LENGTH	LENGTH	PLUG ORDER NO.	PRICE EACH	BOTTOM ORDER NO.	PRICE EACH
3/8-16 UNC	11	3	1-1/4	2-15/16	3724-992	\$ 7.16	—	—
3/8-24 UNF	1	3	1-1/4	2-15/16	3725-112	6.64	—	—
3/8-24 UNF	2	3	1-1/4	2-15/16	3725-122	6.64	—	—
3/8-24 UNF	3	3	1-1/4	2-15/16	3725-132	5.30	—	—
3/8-24 UNF	4	3	1-1/4	2-15/16	3725-142	6.64	—	—
7/16-14 UNC	2	3	1-7/16	3-5/32	3725-322	9.83	—	—
7/16-14 UNC	3	3	1-7/16	3-5/32	3725-332	8.90	—	—
7/16-14 UNC	5	3	1-7/16	3-5/32	3725-352	9.83	—	—
7/16-14 UNC	11	3	1-7/16	3-5/32	3725-392	10.58	—	—
7/16-20 UNF	3	3	1-7/16	3-5/32	3725-532	8.90	—	—
7/16-20 UNF	5	3	1-7/16	3-5/32	3725-552	9.83	—	—
1/2-13 UNC	1	3	1-21/32	3-3/8	3725-712	11.88	—	—
1/2-13 UNC	2	3	1-21/32	3-3/8	3725-722	11.88	—	—
1/2-13 UNC	3	3	1-21/32	3-3/8	3725-732	9.32	—	—
1/2-13 UNC	5	3	1-21/32	3-3/8	3725-752	10.61	—	—
1/2-13 UNC	11	3	1-21/32	3-3/8	3725-792	12.80	—	—
1/2-20 UNF	1	3	1-21/32	3-3/8	3725-912	11.88	—	—
1/2-20 UNF	2	3	1-21/32	3-3/8	3725-922	11.88	—	—
1/2-20 UNF	3	3	1-21/32	3-3/8	3725-932	9.32	—	—
1/2-20 UNF	5	3	1-21/32	3-3/8	3725-952	11.88	—	—
9/16-12 UNC	3	3	1-21/32	3-19/32	3726-132	17.60	—	—
9/16-12 UNC	5	3	1-21/32	3-19/32	3726-152	18.86	—	—
5/8-11 UNC	3	3	1-13/16	3-3/16	3726-532	19.39	—	—
5/8-11 UNC	5	3	1-13/16	3-3/16	3726-552	20.32	—	—
5/8-11 UNC	11	3	1-13/16	3-3/16	3726-592	21.89	—	—
5/8-18 UNF	3	3	1-13/16	3-3/16	3726-732	19.39	—	—
3/4-10 UNC	3	3	2	4-1/4	3727-332	27.39	—	—
3/4-10 UNC	5	3	2	4-1/4	3727-352	28.70	—	—



# Spiral Point Taps



Ground Thread - High Speed Steel, TiN Coated



[3]

[2]

[2]

										
SIZE	GH	FLUTES	PLUG ORDER NO.	PRICE EACH	PLUG ORDER NO.	PRICE EACH	BOTT. ORDER NO.	PRICE EACH	PLUG - TiN COATED ORDER NO.	PRICE EACH
0-80 NF	1	2	3550-112	\$6.01	3610-112	\$10.67	—	—	—	—
0-80 NF	2	2	3550-122	6.01	3610-122	10.67	—	—	4170-122	\$12.61
1-64 NC	1	2	3550-312	5.82	3610-312	9.65	—	—	—	—
1-64 NC	2	2	3550-322	5.82	3610-322	9.65	3610-321	\$11.71	4170-322	11.57
1-72 NF	1	2	3550-512	5.82	3610-512	9.65	—	—	—	—
1-72 NF	2	2	3550-522	5.82	3610-522	9.65	—	—	4170-522	11.57
2-56 NC	1	2	3550-712	4.31	3610-712	9.23	—	—	—	—
2-56 NC	2	2	3550-722	4.31	3610-722	8.19	3610-721	10.30	4170-722	10.11
2-64 NF	1	2	3550-912	4.31	3610-912	9.23	—	—	—	—
2-64 NF	2	2	3550-922	4.31	3610-922	9.23	—	—	4170-922	11.16
3-48 NC	1	2	3551-112	3.34	3611-112	6.57	—	—	—	—
3-48 NC	2	2	3551-122	3.34	3611-122	6.57	3611-121	9.28	4171-122	8.49
3-56 NF	1	2	3551-312	3.34	3611-312	8.02	—	—	—	—
3-56 NF	2	2	3551-322	3.34	3611-322	7.32	—	—	4171-322	9.22
4-40 NC	1	2	3551-712	2.73	3611-712	6.09	3611-711	6.91	—	7.27
4-40 NC	2	2	3551-722	2.73	3611-722	5.26	3611-721	6.91	4171-722	7.15
4-36 NS	2	2	3551-522	3.15	3611-522	6.20	—	—	—	—
4-48 NF	1	2	3551-912	2.73	3611-912	6.30	—	—	—	—
4-48 NF	2	2	3551-922	2.73	3611-922	6.09	3611-921	7.08	4171-922	8.02
5-40 NC	1	2	3552-112	2.73	3612-112	6.09	—	—	—	—
5-40 NC	2	2	3552-122	2.73	3612-122	5.26	3612-121	7.08	4172-122	7.15
5-44 NF	1	2	3552-312	2.73	—	—	—	—	—	—
5-44 NF	2	2	3552-322	2.73	3612-322	6.09	3612-321	8.19	4172-322	8.02
6-32 NC	1	2	3552-512	2.28	3612-512	5.04	—	—	—	—
6-32 NC	2	2	3552-522	2.28	3612-522	4.43	3612-521	5.63	—	—
6-32 NC	3	2	3552-532	2.28	3612-532	4.43	3612-531	5.63	4172-532	6.34
6-32 NC	7	2	3552-572	2.76	3612-572	5.04	—	—	—	—
6-40 NF	1	2	3552-712	2.76	3612-712	5.04	—	—	—	—
6-40 NF	2	2	3552-722	2.76	3612-722	5.04	3612-721	6.45	4172-722	6.95
8-32 NC	1	2	3552-912	2.33	3612-912	5.04	—	—	—	—
8-32 NC	2	2	3552-922	2.33	3612-922	4.43	—	—	—	—
8-32 NC	3	2	3552-932	2.33	3612-932	4.43	3612-931	5.63	4172-932	6.70
8-32 NC	7	2	3552-972	2.76	3612-972	5.04	—	—	—	—
8-36 NF	1	2	3553-112	2.76	3613-112	5.04	—	—	—	—
8-36 NF	2	2	3553-122	2.76	3613-122	5.04	3613-121	6.01	4173-122	7.30
10-24 NC	1	2	3553-312	2.33	3613-312	5.48	3613-311	6.45	—	—
10-24 NC	2	2	3553-322	2.33	3613-322	5.04	—	—	—	—
10-24 NC	3	2	3553-332	2.33	3613-332	4.43	3613-331	5.48	4173-332	6.70
10-24 NC	7	2	3553-372	2.76	3613-372	5.48	—	—	—	—
10-32 NF	1	2	3553-512	2.33	3613-512	5.04	—	—	—	—
10-32 NF	2	2	3553-522	2.33	3613-522	4.43	—	—	—	—
10-32 NF	3	2	3553-532	2.33	3613-532	4.43	3613-531	5.48	4173-532	6.70
10-32 NF	7	2	3553-572	2.76	3613-572	5.48	—	—	—	—
12-24 NC	1	2	3553-712	2.53	3613-712	5.04	—	—	—	—
12-24 NC	3	2	3553-732	2.53	3613-732	5.04	—	—	4173-732	7.30
12-28 NF	3	2	3553-932	2.53	3613-932	5.04	—	—	4173-932	7.30
1/4-20 NC	1	2	3554-112	2.28	3614-112	5.04	—	—	—	—
1/4-20 NC	2	2	3554-122	2.28	3614-122	5.04	—	—	—	—
1/4-20 NC	3	2	3554-132	2.28	3614-132	4.43	3614-131	5.63	4174-132	6.70
1/4-20 NC	3	3	3554-135	2.52	3614-135	5.48	—	—	—	—
1/4-20 NC	5	2	3554-149	2.28	3614-152	5.04	—	—	—	—
1/4-20 NC	5	3	3554-152	2.52	3614-155	5.48	—	—	—	—
1/4-28 NF	1	2	3554-312	2.28	3614-312	5.48	—	—	—	—
1/4-28 NF	2	2	3554-322	2.28	3614-322	5.04	—	—	—	—
1/4-28 NF	2	3	3554-325	2.52	3614-325	5.48	—	—	—	—
1/4-28 NF	3	2	3554-332	2.28	3614-332	4.43	3614-331	6.45	4174-332	6.70

(continued)

# Spiral Point Taps — (Continued)



Ground Thread - High Speed Steel, TiN Coated



3

2

2

										
SIZE	GH	FLUTES	PLUG ORDER NO.	PRICE EACH	PLUG ORDER NO.	PRICE EACH	BOTT. ORDER NO.	PRICE EACH	PLUG - TIN COATED ORDER NO.	PRICE EACH
1/4-28 NF	4	2	3554-339	\$2.28	3614-342	\$5.48	—	—	—	—
1/4-28 NF	4	3	3554-342	2.52	3614-345	5.48	—	—	—	—
5/16-18 NC	1	2	3554-512	2.70	3614-512	6.30	—	—	—	—
5/16-18 NC	2	2	3554-522	2.70	3614-522	5.48	—	—	—	—
5/16-18 NF	3	2	3554-532	2.70	3614-532	4.79	3614-531	\$6.91	4174-532	\$7.32
5/16-18 NC	3	3	3554-535	2.92	3614-535	6.30	—	—	—	—
5/16-18 NC	5	2	3554-549	2.70	3614-552	5.48	—	—	—	—
5/16-18 NC	5	3	3554-552	2.92	3614-555	6.30	—	—	—	—
5/16-24 NF	1	2	3554-712	2.70	3614-712	6.30	—	—	—	—
5/16-24 NF	2	2	3554-722	2.70	3614-722	6.30	—	—	—	—
5/16-24 NF	2	3	3554-725	2.92	3614-725	6.30	—	—	—	—
5/16-24 NF	3	2	3554-732	2.70	3614-732	4.79	3614-731	6.91	4174-732	7.32
5/16-24 NF	4	2	3554-742	2.70	3614-742	6.30	—	—	—	—
5/16-24 NF	4	3	3554-745	2.92	3614-745	6.30	—	—	—	—
3/8-16 NC	1	3	3554-912	3.06	3614-912	7.17	—	—	—	—
3/8-16 NC	2	3	3554-922	3.06	3614-922	6.57	—	—	—	—
3/8-16 NC	3	3	3554-932	3.06	3614-932	5.67	—	—	4174-932	8.58
3/8-16 NC	5	3	3554-952	3.06	3614-952	7.17	—	—	—	—
3/8-24 NF	1	3	3555-112	3.06	3615-112	7.17	—	—	—	—
3/8-24 NF	2	3	3555-122	3.06	3615-122	7.17	—	—	—	—
3/8-24 NF	3	3	3555-132	3.06	3615-132	6.09	—	—	4175-132	9.03
3/8-24 NF	4	3	3555-142	3.06	3615-142	7.17	—	—	—	—
7/16-14 NC	2	3	3555-322	5.14	3615-322	10.58	—	—	—	—
7/16-14 NC	3	3	3555-332	5.14	3615-332	9.65	—	—	4175-332	14.20
7/16-14 NC	5	3	3555-352	5.14	3615-352	10.58	—	—	—	—
7/16-20 NF	2	3	3555-522	5.14	3615-522	10.58	—	—	—	—
7/16-20 NF	3	3	3555-532	5.14	3615-532	9.65	—	—	4175-532	14.20
7/16-20 NF	5	3	3555-552	5.14	3615-552	10.58	—	—	—	—
1/2-13 NC	1	3	3555-712	5.60	3615-712	12.82	—	—	—	—
1/2-13 NC	2	3	3555-722	5.60	3615-722	12.82	—	—	—	—
1/2-13 NC	3	3	3555-732	5.60	3615-732	9.83	—	—	4175-732	14.39
1/2-13 NC	5	3	3555-752	5.60	3615-752	11.54	—	—	—	—
1/2-20 NF	1	3	3555-912	5.60	3615-912	12.82	—	—	—	—
1/2-20 NF	2	3	3555-922	5.60	3615-922	12.82	—	—	—	—
1/2-20 NF	3	3	3555-932	5.60	3615-932	11.54	—	—	4175-932	16.06
1/2-20 NF	5	3	3555-952	5.60	3615-952	12.82	—	—	—	—
9/16-12 NC	3	3	3556-132	8.97	3616-132	16.05	—	—	—	—
9/16-18 NF	3	3	3556-332	8.97	—	—	—	—	—	—
5/8-11 NC	3	3	3556-532	12.76	3616-532	21.93	—	—	4176-532	33.26
5/8-11 NC	5	3	3556-552	12.76	3616-552	21.93	—	—	—	—
5/8-18 NF	3	3	3556-732	12.76	3616-732	21.93	—	—	4176-732	33.26
5/8-18 NF	5	3	3556-752	12.76	—	—	—	—	—	—
3/4-10 NC	3	3	3557-332	18.53	3617-332	30.90	—	—	4177-332	43.43
3/4-10 NC	5	3	3557-352	18.53	3617-352	30.90	—	—	—	—
3/4-16	3	3	3557-532	18.53	3617-532	30.90	—	—	4177-532	43.43
7/8-9 NC	4	3	3557-742	24.44	—	—	—	—	—	—
7/8-14 NF	4	3	3557-942	24.44	—	—	—	—	—	—
1-8 NC	4	3	3558-142	32.50	—	—	—	—	—	—
1-8 NC	6	3	3558-162	32.50	—	—	—	—	—	—
1-12 NF	4	3	3558-342	32.50	—	—	—	—	—	—
1-14 NS	4	3	3558-542	32.50	—	—	—	—	—	—

# Popular Special Thread Taps

## Right Hand, High Speed Steel



Bottom



Plug



Taper



Spiral Point-Plug

SIZE	GH LIMIT	Pittsburg ALLEGHANY			PRICE EACH	ALLEGIANCE			PRICE EACH	Pittsburg ALLEGHANY	
		BOTTOMING	PLUG	TAPER		BOTTOMING	PLUG	TAPER		PRICE EACH	SPIRAL POINT
1-56	1	—	—	—	—	3290-335	3290-336	3290-337	\$36.10	—	—
1-56	2	2340-335	2340-336	2340-337	\$9.20	—	—	—	—	2360-186	\$24.56
1-80	2	2340-350	2340-351	2340-352	9.20	3290-350†	3290-351†	3290-352†	24.50	2360-200	102.22
2-72	2	2340-454	2340-455	2340-456	9.20	3290-454†	3290-455†	3290-456†	23.80	2360-250	101.65
2-80	2	2340-470	2340-471	2340-472	9.20	3290-470†	3290-471†	3290-472†	23.80	2360-260	101.65
3-64	2	2340-535	2340-536	2340-537	9.20	3290-535†	3290-536†	3290-537†	20.40	2360-295	96.22
3-72	2	2340-550	2340-551	2340-552	10.60	3290-550†	3290-551†	3290-552†	20.40	2360-305	96.22
3-80	2	2340-570	2340-571	2340-572	10.60	3290-570†	3290-571†	3290-572†	20.40	2360-310	96.22
4-32	2	2340-615	2340-616	2340-617	9.85	3290-615	3290-616	3290-617	26.60	2360-336	92.94
4-56	2	2340-635	2340-636	2340-637	9.85	3290-635†	3290-636†	3290-637†	18.60	2360-350	92.94
4-64	2	2340-650	2340-651	2340-652	9.85	3290-650†	3290-651†	3290-652†	18.60	2360-355	92.94
4-80	2	2340-665	2340-666	2340-667	11.35	3290-665†	3290-666†	3290-667†	18.60	2360-365	92.94
5-32	2	2340-740	2340-741	2340-742	9.85	3290-740†	3290-741†	3290-742†	18.60	2360-400	92.94
5-36	2	2340-760	2340-761	2340-762	9.85	3290-760†	3290-761†	3290-762†	18.60	2360-405	92.94
5-48	2	2340-775	2340-776	2340-777	9.85	3290-775†	3290-776†	3290-777†	18.60	2360-415	92.94
5-80	2	2340-825	2340-826	2340-827	11.35	3290-825†	3290-826†	3290-827†	18.60	2360-440	92.94
6-36	2	2340-925	2340-926	2340-927	8.60	3290-925†	3290-926†	—	16.80	2360-482	90.56
6-48	2	2340-940	2340-941	2340-942	8.60	3290-940	3290-941	3290-942	18.80	2360-494	30.41
6-56	2	2340-955	2340-956	2340-957	10.15	3290-955†	3290-956†	—	16.80	2360-500	90.56
6-60	2	2340-970	2340-971	2340-972	10.15	3290-970†	3290-971†	—	16.80	2360-505	90.56
6-64	2	2340-985	2340-986	2340-987	11.65	3290-985†	3290-986†	—	16.80	2360-511	90.56
6-72	2	2340-996	2340-997	2340-998	11.65	3290-996†	3290-997†	—	16.80	2360-515	90.56
6-80	2	2341-006	2341-007	2341-008	11.65	3291-006†	3291-007†	3291-008†	16.80	2360-520	90.56
8-24	2	2341-148	2341-149	2341-150	7.55	—	—	—	—	—	—
8-24	3	—	—	—	—	3291-148	3291-149	3291-150	19.90	2360-605	90.56
8-30	2	2341-160	2341-161	2341-162	9.60	3291-160†	3291-161†	3291-162†	16.80	—	—
8-40	2	2341-175	2341-176	2341-177	8.95	3291-175	3291-176	3291-177	20.10	2360-621	32.08
8-48	2	2341-190	2341-191	2341-192	8.95	3291-190†	3291-191†	—	16.80	2360-628	90.56
8-56	2	2341-193	2341-194	2341-195	10.15	3291-193†	3291-194†	—	16.80	2360-636	90.56
8-60	2	2341-205	2341-206	2341-207	10.15	3291-205†	3291-206†	—	16.80	2360-640	90.56
8-64	2	2341-225	2341-226	2341-227	10.15	3291-225†	3291-226†	—	16.80	2360-644	90.56
8-80	2	2341-255	2341-256	2341-257	11.65	3291-255†	3291-256†	—	16.80	2360-660	90.56
10-28	3	2341-435	2341-436	2341-437	7.55	3291-435	3291-436	3291-437	20.40	2360-747	90.56
10-30	3	2341-450	2341-451	2341-452	9.60	3291-450	3291-451	3291-452	20.40	2360-749	90.56
10-36	2	2341-465	2341-466	2341-467	9.00	3291-465	3291-466	3291-467	19.90	2360-755	90.56
10-40	2	2341-480	2341-481	2341-482	9.00	3291-480	3291-481	3291-482	19.90	2360-759	32.50
10-44	2	2341-487	2341-488	2341-489	9.60	3291-487†	3291-488†	—	16.80	—	—
10-46	2	2341-493	2341-494	2341-495	11.05	3291-493†	3291-494†	—	16.80	—	—
10-48	2	2341-498	2341-496	2341-497	9.60	3291-496	3291-497	3291-498	19.90	2360-767	90.56
10-56	2	2341-505	2341-506	2341-507	9.60	3291-505	3291-506	3291-507	19.90	2360-775	90.56
10-60	2	2341-520	2341-521	2341-522	9.60	3291-520†	3291-521†	—	16.80	2360-779	90.56
10-64	2	2341-535	2341-536	2341-537	11.05	3291-535	3291-536	3291-537	19.90	2360-783	90.56
10-72	2	2341-550	2341-551	2341-552	9.60	3291-550†	3291-551†	—	16.80	2360-791	90.56
10-80	2	2341-565	2341-566	2341-567	11.05	3291-565†	3291-566†	—	16.80	2360-799	90.56
12-32	NEF 3	2341-710	2341-711	2341-712	5.10	3291-710	3291-711	3291-712	6.30	2360-896	14.32
12-36	2	2341-724	2341-725	2341-723	7.55	3291-723	3291-724	3291-725	20.60	2360-900	93.28
12-40	2	2341-743	2341-741	2341-742	7.55	3291-741†	3291-742†	—	17.50	2360-904	93.28
12-48	2	2341-755	2341-756	2341-757	7.55	3291-755†	3291-756†	—	17.50	2360-909	93.28
5/32-32	2	2343-825	2343-826	2343-827	7.85	3293-825	3293-826	3293-827	21.00	2362-060	90.56
3/16-24	3	2344-006	2344-007	2344-008	10.05	3294-006	3294-007	3294-008	21.00	2362-161	90.56
7/32-32	3	2344-240	2344-241	2344-242	7.85	3294-240	3294-241	3294-242	16.80	2362-280	93.96
7/32-40	2	2344-260	2344-261	2344-262	7.85	3294-260†	3294-261†	—	18.70	2362-285	93.96
1/4-24	3	2344-475	2344-476	2344-477	7.85	3294-475	3294-476	3294-477	13.00	2362-398	23.93
1/4-27	3	2344-485	2344-486	2344-487	7.85	3294-485	3294-486	3294-487	13.00	2362-402	93.96
1/4-32	NEF 3	2344-493	2344-491	2344-492	5.25	3294-490	3294-491	3294-492	6.50	2362-408	17.24
1/4-32	NEF 5	2344-494	2344-495	2344-505	6.55	—	—	—	—	2362-407	93.96
1/4-36	2	2344-506	2344-507	2344-508	8.35	3294-506	3294-507	3294-508	13.00	2362-411	16.62
1/4-40	2	2344-520	2344-521	2344-522	9.25	3294-520	3294-521	3294-522	13.00	2362-415	23.93
1/4-48	2	2344-535	2344-536	2344-537	9.25	3294-535	3294-536	3294-537	13.00	2362-423	93.96
1/4-56	2	2344-550	2344-551	2344-552	10.65	3294-550	3294-551	3294-552	13.00	2362-431	93.96
1/4-64	2	2344-580	2344-581	2344-582	10.65	3294-580†	3294-581†	—	13.00	2362-439	93.96
1/4-80	2	2344-620	2344-621	2344-622	10.65	3294-620	3294-621	3294-622	21.00	2362-455	93.96

† Limited Quantities

# Popular Special Thread Taps

## Right Hand, High Speed Steel



Bottom



Plug



Taper



Spiral Point- Plug

3

2

1

Pittsburg <sup>®</sup> ALLEGHANY						ALLEGIANC <sup>®</sup>				Pittsburg <sup>®</sup> ALLEGHANY	
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH	SPIRAL POINT	PRICE EACH
9/32-32	3	2344-880	2344-881	2344-882	\$7.85	3294-880	3294-881	3294-882	\$18.80	—	—
9/32-40	2	2344-900	2344-901	2344-902	7.85	3294-900†	3294-901†	—	19.10	2362-589	\$94.64
5/16-20	3	2345-070	2345-071	2345-072	7.85	3295-071	3295-072	3295-073	13.60	2362-700	94.64
5/16-27	3	2345-090	2345-091	2345-092	10.60	3295-090	3295-091	3295-092	13.60	2362-707	94.64
5/16-28	3	2345-111	2345-110	2345-109	10.60	3295-109	3295-110	3295-111	13.60	2362-709	94.64
5/16-32	NEF 3	2345-120	2345-121	2345-122	5.95	3295-120	3295-121	3295-122	7.40	2362-714	19.44
5/16-32	NEF 5	2345-126	2345-127	2345-128	7.45	—	—	—	—	2362-713	94.64
5/16-36	2	2345-135	2345-136	2345-137	8.35	3295-135†	3295-136†	—	19.10	—	—
5/16-40	2	2345-153	2345-151	2345-152	8.65	3295-150	3295-151	3295-152	13.60	2362-721	94.64
5/16-48	2	2345-165	2345-166	2345-167	10.85	—	3295-166†	—	19.10	2362-729	94.64
5/16-56	2	2345-186	2345-187	2345-188	12.50	3295-186†	3295-187†	—	19.10	2362-737	94.64
5/16-64	2	2345-200	2345-201	2345-202	10.85	3295-200†	3295-201†	—	19.10	2362-745	94.64
5/16-80	2	2345-230	2345-231	2345-232	10.85	3295-230†	3295-231†	—	19.10	2362-761	94.64
11/32-32	3	2345-470	2345-471	2345-472	7.85	3295-470	3295-471	3295-472	20.30	2362-884	98.26
3/8-14	3	2345-722	2345-723	2345-724	7.85	3295-722†	3295-723†	—	20.90	—	—
3/8-18	3	2345-725	2345-726	2345-727	7.85	3295-725	3295-726	3295-727	15.40	2363-013	98.26
3/8-20	3	2345-740	2345-741	2345-742	7.85	3295-741	3295-742	3295-743	15.00	2363-017	98.26
3/8-27	3	2345-760	2345-761	2345-762	7.85	3295-760	3295-761	3295-762	15.20	2363-025	98.26
3/8-28	3	2345-769	2345-770	2345-771	7.85	3295-769	3295-770	3295-771	15.20	2363-028	98.26
3/8-32	NEF 3	2345-781	2345-782	2345-783	6.65	3295-777	3295-778	3295-779	8.20	2363-031	21.84
3/8-32	NEF 5	2345-787	2345-788	2345-789	8.30	—	—	—	—	2363-035	98.26
3/8-36	2	2345-804	2345-805	2345-806	12.50	3295-804†	3295-805†	—	20.90	2363-040	98.26
3/8-40	2	2345-828	2345-829	2345-830	10.85	3295-828	3295-829	3295-830	15.20	2363-045	98.26
3/8-48	2	2345-852	2345-853	2345-854	10.85	3295-852	3295-853	3295-854	18.70	2363-055	98.26
3/8-56	2	2345-876	2345-877	2345-878	10.85	3295-876†	3295-877†	—	20.90	2363-065	98.26
3/8-64	2	2345-902	2345-903	2345-904	10.85	3295-902†	3295-903†	—	20.90	2363-075	98.26
3/8-72	2	2345-914	2345-915	2345-916	12.50	3295-914†	3295-915†	—	20.90	2363-085	98.26
3/8-80	2	2345-938	2345-939	2345-940	10.85	3295-938†	3295-939†	—	20.90	2363-095	98.26
13/32-20	3	2346-087	2346-088	2346-089	12.50	3296-087†	3296-088†	—	24.00	2363-190	101.43
13/32-32	3	2346-116	2346-117	2346-118	12.50	3296-116	3296-117	3296-118	22.50	2363-201	101.43
7/16-16	3	2346-300	2346-301	2346-302	10.65	3296-300	3296-301	3296-302	16.90	2363-303	101.43
7/16-18	3	2346-312	2346-313	2346-314	10.65	3296-312	3296-313	3296-314	16.90	2363-306	101.43
7/16-24	3	2346-324	2346-325	2346-326	9.25	3296-324	3296-325	3296-326	16.90	2363-314	101.43
7/16-27	3	2346-336	2346-337	2346-338	9.25	3296-336	3296-337	3296-338	16.90	2363-318	101.43
7/16-28	NEF 3	2346-351	2346-349	2346-350	8.15	3296-348	3296-349	3296-350	10.10	2363-321	101.43
7/16-28	NEF 5	2346-354	2346-355	2346-356	10.20	—	—	—	—	2363-324	101.43
7/16-32	3	2346-366	2346-367	2346-368	9.25	3296-366	3296-367	3296-368	16.90	2363-329	101.43
7/16-36	2	2346-400	2346-401	2346-402	12.10	3296-400†	3296-401†	—	24.00	2363-334	101.43
7/16-40	2	2346-415	2346-416	2346-417	9.25	3296-415	3296-416	3296-417	16.90	2363-339	101.43
7/16-48	2	2346-430	2346-431	2346-432	12.10	3296-430†	3296-431†	—	24.00	2363-349	101.43
7/16-56	2	2346-436	2346-437	2346-438	13.90	3296-436†	3296-437†	—	24.00	—	—
7/16-64	2	2346-450	2346-451	2346-452	13.90	3296-450†	3296-451†	—	24.00	2363-369	101.43
15/32-32	3	2346-660	2346-661	2346-662	11.80	3296-660	3296-661	3296-662	25.30	2363-468	43.79
1/2-12	3	2346-815	2346-816	2346-817	12.80	3296-815	3296-816	3296-817	19.90	2363-560	104.60
1/2-14	3	2346-820	2346-821	2346-822	12.50	3296-820	3296-821	3296-822	19.90	—	—
1/2-16	3	2346-832	2346-831	2346-830	12.90	3296-830	3296-831	3296-832	19.90	2363-565	104.60
1/2-18	3	2346-850	2346-851	2346-852	12.90	3296-850	3296-851	3296-852	19.90	2363-568	104.60
1/2-24	3	2346-865	2346-866	2346-867	12.90	3296-865	3296-866	3296-867	19.90	2363-577	104.60
1/2-27	3	2346-880	2346-881	2346-882	12.90	3296-880	3296-881	3296-882	19.90	2363-582	104.60
1/2-28	NEF 3	2346-895	2346-896	2346-897	9.80	3296-895	3296-896	3296-897	12.10	2363-585	26.75
1/2-28	NEF 5	2346-901	2346-902	2346-903	12.25	—	—	—	—	2363-588	104.60
1/2-32	3	2346-925	2346-926	2346-927	12.90	3296-925	3296-926	3296-927	19.90	2363-598	104.60
1/2-36	2	2346-940	2346-941	2346-942	14.85	—	—	—	—	2363-604	104.60
1/2-40	2	2346-965	2346-966	2346-964	12.90	3296-940	3296-941	3296-942	19.90	2363-610	104.60
1/2-48	2	2346-980	2346-981	2346-982	12.90	3296-980†	3296-981†	—	26.60	2363-620	104.60
1/2-56	2	2346-995	2346-996	2346-997	14.85	3296-995†	3296-996†	—	26.60	2363-630	104.60
1/2-60	2	2347-010	2347-011	2347-012	12.90	3297-010†	3297-011†	—	26.60	2363-635	104.60
1/2-64	2	2347-025	2347-026	2347-027	14.85	3297-025†	3297-026†	—	26.60	2363-640	104.60
9/16-16	3	2347-391	2347-392	2347-393	13.65	3297-391	3297-392	3297-393	21.80	2363-850	107.31
9/16-20	3	2347-406	2347-407	2347-408	13.65	3297-403	3297-404	3297-405	21.80	2363-855	38.14
9/16-24	NEF 3	2347-421	2347-422	2347-423	12.05	3297-421	3297-422	3297-423	14.90	2363-857	107.31
9/16-24	NEF 5	2347-427	2347-428	2347-429	15.05	—	—	—	—	—	—
9/16-27	3	2347-442	2347-443	2347-444	13.65	3297-442	3297-443	3297-444	21.80	2363-861	107.31
9/16-28	3	2347-457	2347-458	2347-459	13.65	3297-457†	3297-458†	—	29.00	2363-864	107.31
9/16-32	3	2347-472	2347-473	2347-474	13.65	3297-472	3297-473	3297-474	21.80	2363-870	107.31
9/16-40	2	2347-502	2347-503	2347-504	13.65	3297-502†	—	—	29.00	2363-880	107.31

SIZES NOT SHOWN AND U.S.A. MADE TAPS ARE P.O.A.

† Limited Quantities



# Popular Special Thread Taps

## Right Hand, High Speed Steel



Bottom



Plug



Taper



Spiral Point- Plug

3

2

1

SIZE	GH LIMIT	Pittsburg <sup>®</sup> ALLEGHANY				ALLEGIANCE <sup>®</sup>				Pittsburg <sup>®</sup> ALLEGHANY	
		BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH	SPIRAL POINT	PRICE EACH
5/8-10	3	2347-899	2347-900	2347-901	\$18.85	3297-901	3297-902	3297-903	\$32.00	2364-107	111.73
5/8-12	3	2347-915	2347-916	2347-917	16.40	3297-915	3297-916	3297-917	27.20	2364-109	111.73
5/8-14	3	2347-930	2347-931	2347-932	16.40	3297-930†	3297-931†	—	33.70	2364-111	111.73
5/8-16	3	2347-945	2347-946	2347-947	16.40	3297-945	3297-946	3297-947	27.20	2364-113	111.73
5/8-20	3	2347-957	2347-958	2347-959	16.40	3297-957	3297-958	3297-959	27.20	2364-117	111.73
5/8-24 NEF	3	2347-969	2347-970	2347-971	13.95	3297-969	3297-970	3297-971	17.20	2364-121	111.73
5/8-24 NEF	5	2347-975	2347-976	2347-977	17.45	—	—	—	—	2364-123	111.73
5/8-27	3	2347-987	2347-988	2347-989	16.40	3297-987	3297-988	3297-989	27.20	2364-127	111.73
5/8-28	3	2347-999	2348-000	2348-001	16.40	3298-000	3298-001	3298-002	27.20	2364-131	111.73
5/8-32	3	2348-011	2348-012	2348-013	16.40	3298-011	3298-012	3298-013	27.20	2364-136	111.73
5/8-36	2	2348-023	2348-024	2348-025	16.40	3298-024†	—	—	33.70	2364-140	111.73
5/8-40	2	2348-035	2348-036	2348-037	16.40	—	—	—	—	2364-145	111.73
11/16-12	3	2348-406	2348-407	2348-408	18.25	3298-406†	—	—	37.00	2364-367	116.26
11/16-14	3	2348-418	2348-419	2348-420	21.00	—	—	—	—	2364-369	116.26
11/16-18	3	2348-430	2348-431	2348-432	18.25	3298-430	3298-431	3298-432	30.80	2364-373	116.26
11/16-20	3	2348-442	2348-443	2348-444	18.25	3298-442	3298-443	3298-444	30.80	2364-375	116.26
11/16-24 NEF	3	2348-455	2348-456	2348-457	15.80	3298-455	3298-456	3298-457	19.50	2364-383	116.26
11/16-24 NEF	5	2348-461	2348-462	2348-463	19.75	—	—	—	—	2364-385	116.26
11/16-27	3	2348-473	2348-474	2348-475	18.25	3298-473†	—	—	37.00	2364-387	116.26
11/16-28	3	2348-485	2348-486	2348-487	21.00	3298-482	3298-483	3298-484	30.80	2364-390	116.26
11/16-32	3	2348-497	2348-498	2348-499	18.25	3298-497	3298-498	3298-499	30.80	2364-395	116.26
11/16-36	2	2348-509	2348-510	2348-511	18.25	—	—	—	—	2364-400	116.26
3/4-12	3	2348-898	2348-899	2348-900	18.55	—	—	—	—	2364-618	120.90
3/4-12	4	—	—	—	—	3298-898	3298-899	3298-900	34.10	—	—
3/4-14	3	2348-921	2348-922	2348-923	18.55	3298-921†	—	—	41.10	—	—
3/4-18	3	2348-915	2348-916	2348-917	18.55	3298-915	3298-916	3298-917	34.10	2364-626	120.90
3/4-20 NEF	3	2348-930	2348-931	2348-932	18.55	3298-930	3298-931	3298-932	22.90	2364-630	120.90
3/4-20 NEF	5	2348-936	2348-937	2348-938	23.20	—	—	—	—	2364-633	120.90
3/4-24	3	2348-951	2348-952	2348-953	18.55	3298-945	3298-946	3298-947	34.10	2364-640	120.90
3/4-27	3	2348-966	2348-967	2348-968	18.55	3298-966	3298-967	3298-968	34.10	2364-645	120.90
3/4-28	3	2348-981	2348-982	2348-983	18.55	—	—	—	—	2364-648	120.90
3/4-32	3	2348-996	2348-997	2348-998	18.55	3298-996	3298-997	3298-998	34.10	2364-654	120.90
3/4-40	2	2349-026	2349-027	2349-028	21.35	3299-026	3299-027	3299-028	39.80	2364-665	120.90
13/16-10	4	2349-500	2349-501	2349-502	24.00	3299-500	3299-501	3299-502	37.50	2364-912	129.39
13/16-12	4	2349-512	2349-513	2349-514	24.00	3299-512	3299-513	3299-514	37.50	2364-916	129.39
13/16-16	3	2349-525	2349-526	2349-527	24.00	3299-525	3299-526	3299-527	37.50	2364-921	129.39
13/16-18	3	2349-540	2349-541	2349-542	24.00	3299-540	3299-541	3299-542	37.50	2364-925	129.39
13/16-20 NEF	3	2349-555	2349-556	2349-557	22.85	3299-555	3299-556	3299-557	28.20	2364-929	129.39
13/16-20 NEF	5	2349-561	2349-562	2349-563	28.55	—	—	—	—	2364-932	129.39
13/16-24	3	2349-576	2349-577	2349-578	24.00	3299-576	3299-577	3299-578	37.50	2364-937	129.39
13/16-27	3	2349-591	2349-592	2349-593	26.75	—	—	—	—	2364-941	129.39
13/16-28	3	2349-606	2349-607	2349-608	26.75	—	—	—	—	2364-944	129.39
13/16-32	3	2349-621	2349-622	2349-623	26.75	—	—	—	—	2364-950	129.39
7/8-12	4	2350-029	2350-030	2350-031	25.05	3300-030	3300-031	3300-032	44.90	2365-180	135.39
7/8-16	3	2350-043	2350-044	2350-045	25.05	3300-043	3300-044	3300-045	44.90	2365-185	135.39
7/8-18	3	2350-055	2350-056	2350-057	25.05	3300-055	3300-056	3300-057	44.90	2365-189	135.39
7/8-20 NEF	3	2350-070	2350-071	2350-072	24.90	3300-070	3300-071	3300-072	30.80	2365-194	135.39
7/8-20 NEF	5	2350-076	2350-077	2350-078	31.15	—	—	—	—	2365-197	135.39
7/8-24	3	2350-091	2350-092	2350-093	25.05	3300-091	3300-092	3300-093	49.50	2365-203	135.39
7/8-27	3	2350-106	2350-107	2350-108	25.05	3300-106	3300-107	3300-108	49.50	2365-208	135.39
7/8-28	3	2350-121	2350-122	2350-123	25.05	3300-121†	—	—	51.60	2365-211	135.39
7/8-32	3	2350-136	2350-137	2350-138	25.05	3300-136	3300-137	3300-138	49.50	2365-216	135.39
7/8-36	3	2350-151	2350-152	2350-153	25.05	—	—	—	—	2365-221	135.39
7/8-40	3	2350-166	2350-167	2350-168	25.05	—	—	—	—	2365-226	135.39
15/16-12	4	2350-536	2350-537	2350-538	29.50	3300-536	3300-537	3300-538	47.10	2365-436	137.99
15/16-14	4	2350-551	2350-552	2350-553	33.90	3300-551	3300-552	3300-553	47.10	2365-438	137.99
15/16-16	3	2350-566	2350-567	2350-568	29.50	3300-566	3300-567	3300-568	47.10	2365-440	137.99
15/16-18	3	2350-581	2350-582	2350-583	29.50	3300-581	3300-582	3300-583	47.10	2365-442	137.99

† Limited Quantities

# Popular Special Thread Taps

## Right Hand, High Speed Steel



Bottom



Plug



Taper



Spiral Point- Plug

3

2

1

SIZE	GH LIMIT	Pittsburg <sup>®</sup> ALLEGHANY				ALLEGIANCE <sup>®</sup>				Pittsburg <sup>®</sup> ALLEGHANY	
		BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH	SPIRAL POINT	PRICE EACH
15/16-20 NEF	3	2350-596	2350-597	2350-598	\$28.05	3300-596	3300-597	3300-598	\$34.60	2365-444	137.99
15/16-20 NEF	5	2350-602	2350-603	2350-604	35.05	—	—	—	—	2365-447	137.99
15/16-24	3	2350-617	2350-618	2350-619	29.50	—	—	—	—	2365-452	137.99
15/16-27	3	2350-632	2350-633	2350-634	32.05	3300-632†	—	—	55.00	2365-457	137.99
15/16-28	3	2350-647	2350-648	2350-649	32.05	—	—	—	—	2365-460	137.99
15/16-32	3	2350-662	2350-663	2350-664	32.05	3300-662	3300-663	3300-664	52.30	2365-465	137.99
1-10	4	2351-034	2351-035	2351-036	33.80	3301-034	3301-035	3301-036	49.30	2365-694	150.22
1-16	3	2351-047	2351-048	2351-049	33.80	—	—	—	—	2365-702	150.22
1-16	4	—	—	—	—	3301-047	3301-048	3301-049	49.30	—	—
1-18	3	2351-060	2351-061	2351-062	33.80	3301-060	3301-061	3301-062	49.30	2365-705	150.22
1-20 NEF	3	2351-072	2351-073	2351-074	30.40	3301-072	3301-073	3301-074	42.60	2365-708	150.22
1-20 NEF	5	2351-078	2351-079	2351-080	38.00	—	—	—	—	2365-711	150.22
1-24	3	2351-090	2351-091	2351-092	33.80	3301-090	3301-091	3301-092	49.30	2365-716	150.22
1-27	3	2351-102	2351-103	2351-104	33.80	3301-102	3301-103	3301-104	49.30	2365-721	150.22
1-32	3	2351-114	2351-115	2351-116	33.80	3301-114	3301-115	3301-116	49.30	2365-727	150.22
1-36	3	2351-126	2351-127	2351-128	33.80	—	—	—	—	2365-733	150.22
1-40	3	2351-138	2351-139	2351-140	33.80	3301-138†	—	—	49.30	2365-739	150.22
1 1/16-8 **	5	2351-448	2351-449	2351-450	37.00	3301-448†	—	—	64.90	—	—
1 1/16-12 **	4	2351-462	2351-463	2351-464	37.00	—	—	—	—	—	—
1 1/16-12 **	5	—	—	—	—	3301-462	3301-463	3301-464	64.90	—	—
1 1/16-14	4	2351-474	2351-475	2351-476	41.20	—	—	—	—	—	—
1 1/16-14	5	—	—	—	—	3301-474	3301-475	3301-476	64.90	—	—
1 1/16-16	4	2351-486	2351-487	2351-488	41.20	3301-486	3301-487	3301-488	64.90	—	—
1 1/16-18 NEF	4	2351-498	2351-499	2351-500	39.15	3301-498	3301-499	3301-500	52.70	—	—
1 1/16-18 NEF	6	2351-504	2351-505	2351-506	48.95	—	—	—	—	—	—
1 1/16-20	4	2351-516	2351-517	2351-518	41.20	3301-516	3301-517	3301-518	80.30	—	—
1 1/16-24	4	2351-528	2351-529	2351-530	41.20	3301-528	3301-529	3301-530	80.30	—	—
1 1/16-32	4	2351-543	2351-544	2351-545	41.20	—	—	—	—	—	—
1 1/8-8 **	4	2351-738	2351-739	2351-740	37.00	—	—	—	—	—	—
1 1/8-8 **	5	—	—	—	—	3301-744	3301-745	3301-746	51.60	—	—
1 1/8-8 **	6	2351-741	2351-742	2351-743	37.00	—	—	—	—	—	—
1 1/8-10 **	4	2351-750	2351-751	2351-752	42.45	—	—	—	—	—	—
1 1/8-10 **	5	—	—	—	—	3301-750	3301-751	3301-752	102.10	—	—
1 1/8-14	4	2351-772	2351-773	2351-774	42.60	—	—	—	—	—	—
1 1/8-14	5	—	—	—	—	3301-772	3301-773	3301-774	82.40	—	—
1 1/8-16	4	2351-787	2351-788	2351-789	42.60	3301-787	3301-788	3301-789	54.00	—	—
1 1/8-18 NEF	4	2351-799	2351-800	2351-801	40.45	3301-799	3301-800	3301-801	53.80	—	—
1 1/8-18 NEF	6	2351-805	2351-806	2351-807	50.55	—	—	—	—	—	—
1 1/8-20	4	2351-817	2351-818	2351-819	42.60	3301-817	3301-818	3301-819	70.40	—	—
1 1/8-24	4	2351-829	2351-830	2351-831	42.60	3301-829	3301-830	3301-831	82.30	—	—
1 1/8-27	4	2351-842	2351-843	2351-844	42.60	—	—	—	—	—	—
1 1/8-32	4	2351-866	2351-867	2351-868	42.60	3301-866	3301-867	3301-868	82.30	—	—
1 3/16-8 **	4	2352-045	2352-046	2352-047	47.15	—	—	—	—	—	—
1 3/16-8 **	5	—	—	—	—	3302-045†	—	—	75.80	—	—
1 3/16-12 **	4	2352-060	2352-061	2352-062	47.15	—	—	—	—	—	—
1 3/16-12 **	5	—	—	—	—	3302-060	3302-061	3302-062	75.80	—	—
1 3/16-12 **	6	2352-066	2352-067	2352-068	47.15	—	—	—	—	—	—
1 3/16-14	4	2352-072	2352-073	2352-074	52.55	—	—	—	—	—	—
1 3/16-14	5	—	—	—	—	3302-072	3302-073	3302-074	88.40	—	—
1 3/16-14	6	2352-075	2352-076	2352-077	52.55	—	—	—	—	—	—
1 3/16-16	4	2352-078	2352-079	2352-080	52.55	3302-078	3302-079	3302-080	50.10	—	—
1 3/16-16	6	2352-081	2352-082	2352-083	52.55	—	—	—	—	—	—
1 3/16-18 NEF	4	2352-087	2352-088	2352-089	45.55	3302-087	3302-088	3302-089	44.30	—	—
1 3/16-18 NEF	6	2352-093	2352-094	2352-095	56.95	—	—	—	—	—	—
1 3/16-20	4	2352-105	2352-106	2352-107	54.20	3302-105	3302-106	3302-107	92.90	—	—
1 3/16-32	4	2352-135	2352-136	2352-137	54.35	—	—	—	—	—	—

\*\* LONG BLANK

† Limited Quantities

# Popular Special Thread Taps

## Right Hand, High Speed Steel



Bottom



Plug



Taper

3					2				
Pittsburg <sup>®</sup> ALLEGHANY					ALLEGIANCE <sup>®</sup>				
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH
1 1/4-8	** 4	2352-300	2352-301	2352-302	\$47.15	—	—	—	—
1 1/4-8	** 5	—	—	—	—	3302-303	3302-304	3302-305	\$62.90
1 1/4-8	** 8	2352-306	2352-307	2352-308	47.15	—	—	—	—
1 1/4-10	** 4	2352-312	2352-313	2352-314	47.15	—	—	—	—
1 1/4-10	** 5	—	—	—	—	3302-312	3302-313	3302-314	125.40
1 1/4-14	4	2352-336	2352-337	2352-338	54.20	—	—	—	—
1 1/4-14	5	—	—	—	—	3302-336	3302-337	3302-338	81.70
1 1/4-16	4	2352-348	2352-349	2352-350	54.20	3302-348	3302-349	3302-350	81.70
1 1/4-18	NEF 4	2352-360	2352-361	2352-362	51.50	3302-360	3302-361	3302-362	67.80
1 1/4-18	NEF 6	2352-366	2352-367	2352-368	64.40	—	—	—	—
1 1/4-20	4	2352-378	2352-379	2352-380	54.20	3302-378	3302-379	3302-380	86.00
1 1/4-24	4	2352-390	2352-391	2352-392	54.20	3302-390	3302-391	3302-392	99.40
1 1/4-32	4	2352-417	2352-418	2352-419	54.20	3302-417	3302-418	3302-419	99.40
1 1/4-40	4	2352-429	2352-430	2352-431	62.35	—	—	—	—
1 5/16-8	** 5	2352-546	2352-547	2352-548	59.30	—	3302-547†	—	77.10
1 5/16-12	** 4	2352-560	2352-561	2352-562	59.30	—	—	—	—
1 5/16-12	** 5	—	—	—	—	3302-560	3302-561	3302-562	77.10
1 5/16-14	4	2352-578	2352-579	2352-580	68.05	—	—	—	—
1 5/16-14	5	—	—	—	—	3302-578	3302-579	3302-580	106.30
1 5/16-16	4	2352-584	2352-585	2352-586	68.05	3302-584	3302-585	3302-586	90.90
1 5/16-18	NEF 4	2352-593	2352-594	2352-595	64.65	3302-593	3302-594	3302-595	90.90
1 5/16-18	NEF 6	2352-599	2352-600	2352-598	80.80	—	—	—	—
1 5/16-20	4	2352-611	2352-612	2352-613	68.05	3302-611	3302-612	3302-613	106.30
1 3/8-8	** 4	2352-800	2352-801	2352-802	59.30	—	—	—	—
1 3/8-8	** 5	—	—	—	—	3302-803	3302-804	3302-805	80.65
1 3/8-8	** 8	2352-806	2352-807	2352-808	59.30	—	—	—	—
1 3/8-14	4	2352-830	2352-831	2352-832	68.05	—	—	—	—
1 3/8-16	4	2352-842	2352-843	2352-844	68.05	3302-842	3302-843	3302-844	103.20
1 3/8-18	NEF 4	2352-854	2352-855	2352-856	64.65	3302-854	3302-855	3302-856	86.00
1 3/8-18	NEF 6	2352-860	2352-861	2352-862	80.80	—	—	—	—
1 3/8-20	4	2352-872	2352-873	2352-874	68.05	3302-872	3302-873	3302-874	116.20
1 3/8-24	4	2352-887	2352-888	2352-889	68.05	3302-887†	—	—	76.50
1 7/16-8	** 5	2353-045	2353-046	2353-047	82.95	3303-045†	—	—	122.80
1 7/16-12	** 4	2353-063	2353-064	2353-065	82.95	—	—	—	—
1 7/16-12	** 5	—	—	—	—	3303-063†	—	—	122.80
1 7/16-16	4	2353-087	2353-088	2353-089	82.95	—	—	—	—
1 7/16-18	4	2353-099	2353-100	2353-101	82.95	3303-099	3303-100	3303-101	103.60
1 7/16-18	6	2353-105	2353-106	2353-107	82.95	—	—	—	—
1 1/2-8	** 5	2353-286	2353-287	2353-288	76.70	3303-286	3303-287	3303-288	88.75
1 1/2-8	** 8	2353-290	2353-291	2353-292	76.70	—	—	—	—
1 1/2-10	** 4	2353-298	2353-299	2353-300	87.70	—	—	—	—
1 1/2-10	** 5	—	—	—	—	3303-298	3303-299	3303-300	122.80
1 1/2-14	4	2353-312	2353-313	2353-314	84.10	3303-312†	—	—	98.80
1 1/2-16	4	2353-325	2353-326	2353-327	84.10	3303-325	3303-326	3303-327	122.80
1 1/2-18	NEF 4	2353-331	2353-332	2353-333	79.90	3303-331	3303-332	3303-333	114.80
1 1/2-20	4	2353-339	2353-340	2353-341	84.10	3303-339	3303-340	3303-341	122.80
1 1/2-24	4	2353-353	2353-354	2353-355	84.10	3303-353	3303-354	3303-355	138.60
1 9/16-12	4	2353-660	2353-661	2353-662	89.55	—	—	—	—
1 9/16-16	5	2353-675	2353-676	2353-677	89.55	3303-675	3303-676	3303-677	168.80
1 9/16-18	4	2353-695	2353-696	2353-697	89.55	—	—	—	—
1 9/16-18	5	—	—	—	—	3303-695	3303-696	3303-697	124.80
1 9/16-20	4	2353-710	2353-711	2353-712	89.55	—	—	—	—
1 5/8-5 1/2	** 6	2353-876	2353-877	2353-878	99.65	—	—	—	—
1 5/8-5 1/2	** 7	—	—	—	—	3303-876	3303-877	3303-878	178.00
1 5/8-8	** 6	2353-888	2353-889	2353-890	99.65	3303-888	3303-889	3303-890	121.00
1 5/8-10	** 4	2353-900	2353-901	2353-902	96.25	—	—	—	—
1 5/8-12	6	2353-912	2353-913	2353-914	79.40	3303-912	3303-913	3303-914	114.00
1 5/8-16	4	2353-939	2353-940	2353-941	94.20	—	—	—	—
1 5/8-16	5	—	—	—	—	3303-939	3303-940	3303-941	143.20
1 5/8-18	5	—	—	—	—	3303-954	3303-955	3303-956	143.20
1 5/8-18	6	2353-954	2353-955	2353-956	94.20	—	—	—	—
1 5/8-20	6	2353-966	2353-967	2353-968	94.20	3303-966†	—	—	118.90

\*\* LONG BLANK

# Popular Special Thread Taps

## Right Hand, High Speed Steel



<b>Pittsburg<sup>®</sup></b> <small>ALLEGHANY</small>					<b>ALLEGIANCE<sup>®</sup></b>				
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH
1 5/8-24	6	2353-978	2353-979	2353-980	\$108.35	—	—	—	—
1 11/16-12	4	2354-095	2354-096	2354-097	94.20	3304-095†	—	—	\$124.90
1 11/16-16	4	2354-122	2354-123	2354-124	94.20	—	—	—	—
1 11/16-18	5	2354-134	2354-135	2354-136	94.20	—	—	—	—
1 11/16-20	6	2354-146	2354-147	2354-148	94.20	—	—	—	—
1 3/4-5 **	7	2354-206	2354-207	2354-208	103.40	3304-206	3304-207	3304-208	184.30
1 3/4-6 **	6	2354-218	2354-219	2354-220	103.40	—	—	—	—
1 3/4-8 **	6	2354-230	2354-231	2354-232	103.40	3304-230	3304-231	3304-232	137.10
1 3/4-8 **	8	2354-233	2354-234	2354-235	103.40	—	—	—	—
1 3/4-10	6	2354-242	2354-243	2354-244	103.40	3304-242	3304-243	3304-244	184.30
1 3/4-12	6	2354-254	2354-255	2354-256	103.40	3304-254	3304-255	3304-256	134.70
1 3/4-14	6	2354-266	2354-267	2354-268	103.40	3304-266†	—	—	124.90
1 3/4-16	5	—	—	—	—	3304-278	3304-279	3304-280	158.70
1 3/4-16	6	2354-278	2354-279	2354-280	103.40	—	—	—	—
1 3/4-18	5	2354-290	2354-291	2354-292	103.40	3304-290	3304-291	3304-292	171.20
1 3/4-20	5	2354-302	2354-303	2354-304	103.40	—	—	—	—
1 13/16-16	6	2354-428	2354-429	2354-430	113.55	—	—	—	—
1 13/16-18	6	2354-440	2354-441	2354-442	130.60	3304-440†	—	—	157.50
1 13/16-20	6	2354-452	2354-453	2354-454	130.60	—	—	—	—
1 7/8-5 **	6	2354-515	2354-516	2354-517	123.40	—	—	—	—
1 7/8-5 **	7	—	—	—	—	3304-515	3304-516	3304-517	203.30
1 7/8-8 **	6	2354-530	2354-531	2354-532	123.40	3304-530	3304-531	3304-532	161.30
1 7/8-12	6	2354-545	2354-546	2354-547	112.00	3304-545	3304-546	3304-547	144.10
1 7/8-16	5	—	—	—	—	3304-572	3304-573	3304-574	210.40
1 7/8-16	6	2354-572	2354-573	2354-574	119.90	—	—	—	—
1 7/8-18	6	2354-584	2354-585	2354-586	119.90	—	—	—	—
1 7/8-20	4	2354-599	2354-600	2354-601	119.90	—	—	—	—
1 15/16-12	6	2354-773	2354-774	2354-775	127.65	—	—	—	—
1 15/16-16	6	2354-797	2354-774	2354-775	127.65	—	—	—	—
1 15/16-18	6	2354-809	2354-810	2354-811	127.65	3304-809†	—	3304-811†	164.90
2-4 1/2 **	6	2354-894	2354-895	2354-896	131.35	—	—	—	—
2-4 1/2 **	7	—	—	—	—	3304-894	3304-895	3304-896	178.30
2-6 **	7	2354-910	2354-911	2354-912	131.35	—	—	—	—
2-8 **	6	2354-925	2354-926	2354-927	131.35	3304-925	3304-926	3304-927	169.30
2-10	6	2354-937	2354-938	2354-939	124.00	3304-937†	—	—	164.90
2-12	6	2354-949	2354-950	2354-951	124.00	3304-949	3304-950	3304-951	158.60
2-14	6	2354-961	2354-962	2354-963	124.00	—	—	—	—
2-16	5	—	—	—	—	3304-973	3304-974	3304-975	158.60
2-16	6	2354-973	2354-974	2354-975	129.85	—	—	—	—
2-18	6	2354-985	2354-986	2354-987	129.85	3304-985†	—	—	164.90
2-20	5	—	—	—	—	3304-997	3304-998	3304-999	198.10
2-20	6	2354-997	2354-998	2354-999	129.85	—	—	—	—
2 1/16-12	6	2355-116	2355-117	2355-118	113.05	—	—	—	—
2 1/16-14	6	2355-128	2355-129	2355-130	130.00	—	—	—	—
2 1/16-16	6	2355-140	2355-141	2355-142	130.00	—	—	—	—
2 1/8-8 **	6	2355-210	2355-211	2355-212	155.15	3305-210	3305-211	3305-212	193.55
2 1/8-12	6	2355-234	2355-235	2355-236	155.15	3305-234	3305-235	3305-236	212.50
2 1/8-16	5	—	—	—	—	3305-245	3305-246	3305-247	187.70
2 1/8-16	6	2355-250	2355-244	2355-245	159.55	—	—	—	—
2 1/8-18	6	2355-262	2355-263	2355-264	183.50	—	—	—	—
2 1/8-20	6	2355-274	2355-275	2355-276	183.50	—	—	—	—
2 1/4-1/2 **	7	2355-442	2355-443	2355-444	176.55	3305-442	3305-443	3305-444	276.40
2 1/4-8 **	6	2355-464	2355-465	2355-466	176.55	3305-464	3305-465	3305-466	225.80
2 1/4-12	6	2355-486	2355-487	2355-488	173.05	3305-486	3305-487	3305-488	219.90
2 1/4-12	8	2355-492	2355-493	2355-494	173.05	—	—	—	—
2 1/4-16	5	—	—	—	—	3305-516	3305-517	3305-518	193.60
2 1/4-16	6	2355-516	2355-517	2355-518	173.05	—	—	—	—
2 1/4-18	6	2355-531	2355-532	2355-533	173.05	—	—	—	—
2 1/4-20	6	2355-543	2355-544	2355-545	199.00	—	—	—	—
2 3/8-8 **	6	2355-695	2355-696	2355-697	198.90	3305-695	3305-696	3305-697	266.10
2 3/8-12	6	2355-720	2355-721	2355-722	198.90	3305-720	3305-721	3305-722	272.50
2 3/8-16	5	—	—	—	—	3305-735	3305-736	3305-737	225.80
2 3/8-16	6	2355-735	2355-736	2355-737	198.90	—	—	—	—
2 3/8-18	6	2355-750	2355-751	2355-752	228.75	—	—	—	—

\*\* LONG BLANK

† Limited Quantities



# Popular Special Thread Taps

Right Hand, High Speed Steel



Bottom



Plug



Taper

3

2

Pittsburg <sup>®</sup> ALLEGHANY					ALLEGIANCE <sup>®</sup>				
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH	BOTTOMING	PLUG	TAPER	PRICE EACH
2 1/2-4	** 7	2355-894	2355-895	2355-896	\$299.45	3305-894	3305-895	3305-896	\$322.00
2 1/2-8	** 6	2355-916	2355-917	2355-918	252.60	3305-916	3305-917	3305-918	306.50
2 1/2-12	6	2355-931	2355-932	2355-933	263.50	3305-931	3305-932	3305-933	268.90
2 1/2-16	5	2355-958	2355-959	2355-960	241.90	3305-958	3305-959	3305-960	260.10
2 1/2-18	6	2355-973	2355-974	2355-975	376.20	—	—	—	—
2 1/2-20	6	2355-988	2355-989	2355-990	376.20	—	—	—	—
2 5/8-8	** 8	2356-156	2356-157	2356-158	272.55	3306-156	3306-157	3306-158	330.70
2 5/8-12	7	2356-174	2356-175	2356-176	395.25	3306-174†	3306-175†	—	324.70
2 5/8-16	6	2356-198	2356-199	2356-200	395.25	—	—	—	—
2 5/8-18	5	2356-210	2356-211	2356-212	395.25	—	—	—	—
2 3/4-4	** 7	2356-308	2356-309	2356-310	576.40	3306-308†	3306-309†	3306-310†	427.80
2 3/4-8	** 8	2356-326	2356-327	2356-328	292.45	3306-320	3306-321	3306-322	354.85
2 3/4-12	5	2356-334	2356-335	2356-336	257.60	3306-334	3306-335	3306-336	324.70
2 3/4-16	6	2356-348	2356-349	2356-350	413.55	—	—	—	—
2 3/4-18	6	2356-360	2356-361	2356-362	413.55	—	—	—	—
2 7/8-8	** 8	2356-458	2356-459	2356-460	319.05	3306-458	3306-459	3306-460	387.10
2 7/8-12	6	2356-472	2356-473	2356-474	420.65	—	—	—	—
2 7/8-12	7	—	—	—	—	—	3306-473†	—	382.70
2 7/8-16	6	2356-490	2356-491	2356-492	420.65	—	—	—	—
3-4	** 9	2356-631	2356-632	2356-633	450.70	3306-631	3306-632	3306-633	484.60
3-8	** 8	2356-649	2356-650	2356-651	352.30	3306-649	3306-650	3306-651	427.45
3-12	7	2356-661	2356-662	2356-663	327.40	3306-661	3306-662	3306-663	382.65
3-16	7	2356-664	2356-665	2356-666	429.20	3306-664	3306-665	3306-666	461.50
3 1/8-12	7	2356-760	2356-761	2356-762	360.55	3306-760	3306-761	3306-762†	567.10
3 1/4-4	** 9	2356-818	2356-819	2356-820	711.30	3306-818†	3306-819†	3306-820†	583.90
3 1/4-8	** 8	2356-833	2356-834	2356-835	550.30	3306-833	3306-834	3306-835	567.30
3 1/4-12	7	2356-848	2356-849	2356-850	591.65	3306-848	3306-849	3306-850†	603.75
3 1/2-4	** 9	2357-059	2357-060	2357-061	690.50	3307-059	3307-060	3307-061†	742.45
3 1/2-8	** 8	2357-074	2357-075	2357-076	452.00	3307-074	3307-075	3307-076	630.35
3 1/2-12	7	2357-089	2357-090	2357-091	539.10	3307-089	3307-090	—	550.10
3 3/4-4	** 9	2357-252	2357-253	2357-254	712.45	3307-252	3307-253	—	766.05
3 3/4-8	** 8	2357-267	2357-268	2357-269	744.90	3307-267	3307-268	3307-269	767.95
3 3/4-12	7	2357-282	2357-283	2357-284	620.25	3307-282	3307-283	3307-284†	632.90
4-4	** 9	2357-412	2357-413	2357-414	925.15	3307-412	3307-413	3307-414†	994.80
4-8	** 8	2357-428	2357-429	2357-430	833.80	3307-428	3307-429	3307-430	859.60
4-12	7	2357-456	2357-457	2357-458	686.90	3307-456	3307-457	3307-458†	700.90

\*\* LONG BLANK

† Limited Quantities

# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
SEE PAGES 113-119

FOR 2 OR MORE PIECES,  
CALL FOR PRICE



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
9/64-40	GH2	2343-756	2343-757	2343-758	\$89.54
5/32-24	GH3	2343-822	2343-823	2343-824	89.54
5/32-38	GH3	2343-840	2343-841	2343-842	89.54
5/32-48	GH2	2343-850	2343-851	2343-852	89.54
5/32-50	GH2	2343-855	2343-856	2343-857	89.54
5/32-64	GH2	2343-862	2343-863	-	89.54
5/32-80	GH2	2343-865	2343-866	2343-867	89.54
11/64-24	GH3	2343-920	2343-921	2343-922	89.54
11/64-32	GH3	2343-930	2343-931	2343-932	89.54
11/64-38	GH3	2343-935	2343-936	2343-937	89.54
11/64-40	GH2	2343-940	2343-941	2343-942	89.54
11/64-80	GH2	2343-970	2343-971	2343-972	89.54
3/16-14	GH3	2343-976	2343-977	2343-978	89.54
3/16-16	GH3	2343-979	2343-980	2343-981	89.54
3/16-18	GH5	2343-982	2343-983	2343-984	89.54
3/16-18	GH3	2343-985	2343-986	2343-987	89.54
3/16-20	GH3	2343-988	2343-989	2343-990	89.54
3/16-26	GH3	2343-994	2343-995	2343-996	89.54
3/16-27	GH3	2344-010	2344-011	2344-012	89.54
13/16-25	GH3	2344-013	2344-014	2344-015	124.52
13/16-30	GH3	2344-030	2344-031	2344-032	124.52
3/16-48	GH2	2344-035	2344-036	2344-037	89.54
13/16-40	GH3	2344-040	2344-041	2344-042	124.52
13/16-48	GH2	2344-046	2344-047	2344-048	124.52
3/16-50	GH2	2344-050	2344-051	2344-052	89.54
13/64-24	GH3	2344-136	2344-137	2344-138	92.26
13/64-56	GH2	2344-150	2344-151	2344-152	92.26
7/32-26	GH3	2344-225	2344-226	2344-227	92.94
7/32-48	GH2	2344-234	2344-235	2344-236	92.94
7/32-38	GH3	2344-250	2344-251	2344-252	92.94
7/32-60	GH2	2344-270	2344-271	2344-272	92.94
7/32-72	GH3	2344-276	2344-277	2344-278	92.94
7/32-80	GH2	2344-280	2344-281	2344-282	92.94
15/64-20	GH3	2344-344	2344-345	2344-346	92.94
15/64-22	GH3	2344-347	2344-348	2344-350	92.94
15/64-24	GH3	-	2344-351	2344-352	92.94
15/64-28	GH3	2344-355	2344-356	2344-357	92.94
15/64-32	GH3	2344-360	2344-361	2344-362	92.94
15/64-36	GH3	2344-365	2344-366	2344-367	92.94
15/64-40	GH2	2344-370	2344-371	2344-372	92.94
15/64-64	GH2	2344-375	2344-376	2344-377	92.94
15/64-80	GH2	2344-380	2344-381	2344-382	92.94
1/4-10	GH3	2344-439	2344-440	2344-441	92.94
1/4-12	GH3	2344-445	2344-446	2344-447	92.94
1/4-18	GH3	2344-450	2344-448	2344-449	92.94
1/4-14	GH3	2344-451	2344-452	2344-453	92.94
1/4-16	GH3	2344-457	2344-458	2344-459	92.94
1/4-22	GH3	2344-463	2344-464	2344-465	92.94
1/4-23	GH3	2344-469	2344-470	2344-471	92.94
1/4-24	GH5	2344-478	2344-479	2344-480	92.94
1/4-26	GH3	2344-481	2344-482	2344-483	92.94
1/4-25	GH3	2344-488	2344-489	2344-490	92.94
1/4-34	GH2	2344-496	2344-497	2344-498	92.94
1/4-42	GH3	2344-511	2344-512	2344-513	92.94
1/4-44	GH3	2344-514	2344-515	2344-516	92.94
1/4-46	GH3	2344-517	2344-518	2344-519	92.94
1/4-50	GH2	2344-523	2344-524	2344-525	92.94
1/4-52	GH2	2344-529	2344-530	2344-531	92.94
1/4-120	GH2	2344-541	2344-542	2344-543	POA
1/4-96	GH	2344-626	2344-627	2344-628	POA
1/4-36	GH7	2344-699	2344-700	2344-701	92.94
17/64-28	GH3	2344-712	2344-713	2344-714	93.50
17/64-18	GH3	2344-716	2344-717	2344-718	93.50
17/64-20	GH3	2344-720	2344-721	2344-722	93.50
17/64-24	GH3	2344-724	2344-725	2344-726	93.50
17/64-28	GH3	2344-727	2344-728	2344-729	93.50
17/64-32	GH3	2344-730	2344-731	2344-732	93.50
17/64-36	GH3	2344-735	2344-736	2344-737	93.50
17/64-40	GH2	2344-740	2344-741	2344-742	93.50
9/32-16	GH3	2344-814	2344-815	2344-816	93.50

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
9/32-20	GH3	2344-825	2344-826	2344-827	\$93.50
9/32-26	GH3	2344-845	2344-846	2344-847	93.50
9/32-27	GH3	2344-860	2344-861	2344-862	93.50
9/32-32	GH5	2344-877	2344-878	2344-879	93.50
9/32-56	GH2	2344-895	2344-896	2344-897	93.50
9/32-64	GH2	2344-905	2344-906	2344-907	93.50
9/32-80	GH2	2344-912	2344-913	2344-914	93.50
9/32-48	GH2	2344-915	2344-916	2344-917	93.50
19/64-16	GH3	2344-918	2344-919	2344-920	93.50
19/64-34	2	2344-927	2344-928	2344-929	93.50
19/64-16	GH2	2344-972	2344-973	2344-974	93.50
19/64-18	GH3	2344-976	2344-977	2344-978	93.50
19/64-20	GH3	2344-980	2344-981	2344-982	93.50
19/64-24	GH3	-	2344-985	2344-986	93.50
19/64-28	GH3	2344-990	2344-991	2344-992	93.50
19/64-32	GH3	2344-996	2344-997	2344-998	93.50
19/64-34	GH2	2344-999	2344-500	2344-501	93.50
19/64-40	GH2	2345-002	2345-003	2345-004	93.50
5/16-10	GH3	2345-060	2345-061	2345-062	93.50
5/16-12	GH3	2345-066	2345-067	2345-068	93.50
5/16-14	GH3	2345-073	2345-074	2345-075	93.50
5/16-16	GH3	2345-077	2345-078	2345-079	93.50
5/16-22	GH3	2345-083	2345-084	2345-085	93.50
5/16-26	GH3	2345-089	2345-088	2345-087	93.50
5/16-30	GH3	2345-095	2345-096	2345-097	93.50
5/16-34	GH3	2345-100	2345-101	2345-102	93.50
5/16-42	GH2	2345-106	2345-107	2345-108	93.50
5/16-42	GH1	2345-112	2345-113	2345-114	93.50
5/16-44	GH2	2345-117	2345-118	2345-119	93.50
5/16-50	GH2	2345-123	2345-124	2345-125	93.50
5/16-52	GH2	2345-130	2345-131	2345-132	93.50
5/16-60	GH2	2345-142	2345-143	2345-144	93.50
5/16-72	GH2	2345-215	2345-216	2345-217	93.50
5/16-100	GH1	2345-148	2345-149	2345-150	POA
21/64-16	GH3	2345-340	2345-341	2345-342	97.13
21/64-18	GH3	2345-347	2345-348	2345-349	97.13
21/64-24	GH3	2345-355	2345-356	2345-357	97.13
21/64-28	GH3	2345-362	2345-363	2345-364	97.13
21/64-32	GH2	2345-365	2345-366	2345-367	97.13
21/64-32	GH3	-	2345-345	2345-346	97.13
21/64-36	GH3	2345-372	2345-373	2345-374	97.13
21/64-40	GH2	2345-378	2345-379	2345-380	97.13
21/64-40	GH3	2345-350	2345-351	2345-352	97.13
21/64-48	GH2	2345-384	2345-385	2345-386	97.13
21/64-64	GH2	2345-402	2345-403	2345-404	97.13
11/32-16	GH3	2345-432	2345-433	2345-434	97.13
11/32-18	GH3	2345-436	2345-437	2345-438	97.13
11/32-20	GH3	2345-440	2345-441	2345-442	97.13
11/32-22	GH3	2345-444	2345-445	2345-446	97.13
11/32-24	GH3	2345-448	2345-449	2345-450	97.13
11/32-26	GH3	2345-455	2345-456	2345-457	97.13
11/32-27	GH3	2345-462	2345-463	2345-464	97.13
11/32-28	GH3	2345-469	-	-	97.13
11/32-30	GH3	2345-474	2345-475	2345-476	97.13
11/32-36	GH3	2345-477	2345-478	2345-479	97.13
11/32-40	GH2	2345-484	2345-485	2345-486	97.13
11/32-48	GH2	2345-491	2345-492	2345-493	97.13
11/32-56	GH2	2345-498	2345-499	2345-500	97.13
11/32-60	GH2	2345-505	2345-506	2345-507	97.13
11/32-64	GH2	2345-512	2345-513	2345-514	97.13
11/32-72	GH2	2345-522	2345-523	2345-524	97.13
11/32-96	GH1	2345-540	2345-541	2345-542	POA
23/64-16	GH3	2345-620	2345-621	2345-622	96.90
23/64-24	GH3	2345-630	2345-631	2345-632	96.90
23/64-40	GH2	2345-648	2345-649	2345-650	96.90
3/8-10	GH3	2345-704	2345-705	2345-706	97.13
3/8-12	GH3	2345-710	2345-711	2345-712	97.13
3/8-13	GH3	2345-716	2345-717	2345-718	97.13

# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
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FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
3/8-18	GH1	2345-728	2345-729	2345-730	\$97.13
3/8-18	GH5	2345-731	2345-732	2345-733	97.13
3/8-22	GH3	2345-734	2345-735	2345-736	97.13
3/8-25	GH3	2345-743	2345-744	2345-745	97.13
3/8-26	GH3	2345-746	2345-747	2345-748	97.13
3/8-38	GH3	2345-752	2345-753	2345-754	97.13
3/8-27	GH5	2345-763	2345-764	2345-765	97.13
3/8-30	GH3	2345-773	2345-774	2345-775	97.13
3/8-32	GH2	2345-777	2345-778	2345-779	97.13
3/8-40	GH7	2345-831	2345-832	2345-833	97.13
3/8-42	GH2	2345-834	2345-835	2345-836	97.13
3/8-44	GH2	2345-840	2345-841	2345-842	97.13
3/8-46	GH2	2345-846	2345-847	2345-848	97.13
25/64-16	GH3	2345-984	2345-985	2345-986	100.18
25/64-20	GH3	2345-990	2345-991	2345-992	100.18
25/64-24	GH3	2345-997	2345-998	2345-999	100.18
25/64-27	GH3	2346-004	2346-005	2346-006	100.18
25/64-32	GH3	2346-011	2346-012	2346-013	100.18
25/64-40	GH2	2346-020	2346-021	2346-022	100.18
25/64-48	GH2	2346-023	2346-024	2346-025	100.18
25/64-64	GH2	2346-041	2346-042	2346-043	100.18
13/32-18	GH3	2346-081	2346-082	2346-083	100.18
13/32-24	GH3	2346-090	2346-091	2346-092	100.18
13/32-22	GH3	2346-093	2346-094	2346-095	100.18
13/32-26	GH3	2346-097	2346-098	2346-099	100.18
13/32-27	GH3	2346-104	2346-105	2346-106	100.18
13/32-28	GH4	2346-108	2346-109	2346-110	100.18
13/32-28	GH3	2346-111	2346-112	2346-113	100.18
13/32-36	GH3	2346-123	2346-124	2346-125	100.18
13/32-40	GH2	2346-130	2346-131	2346-132	100.18
13/32-48	GH2	2346-142	2346-143	2346-144	100.18
13/32-64	GH2	2346-152	2346-153	2346-154	100.18
27/64-14	GH3	2346-192	2346-193	2346-194	100.18
27/64-18	GH3	2346-198	2346-199	2346-200	100.18
27/64-20	GH3	2346-204	2346-205	2346-206	100.18
27/64-24	GH3	2346-211	2346-212	2346-213	100.18
27/64-28	GH3	2346-218	2346-219	2346-220	100.18
27/64-32	GH3	2346-225	2346-226	2346-227	100.18
27/64-36	GH3	2346-232	2346-233	2346-234	100.18
7/16-24	GH5	2346-237	-	-	100.18
27/64-48	GH2	2346-244	2346-245	2346-246	100.18
7/16-10	GH3	2346-288	2346-289	2346-290	100.18
7/16-12	GH3	2346-294	2346-295	2346-296	100.18
7/16-13	GH3	2346-297	2346-298	2346-299	100.18
7/16-16	GH5	2346-306	2346-307	2346-308	100.18
7/16-18	GH5	2346-315	2346-316	2346-317	100.18
7/16-22	GH3	2346-318	2346-319	2346-320	100.18
7/16-24	GH4	2346-328	2346-329	2346-330	100.18
7/16-26	GH3	2346-332	2346-333	2346-334	100.18
7/16-24	GH7	2346-339	2346-340	2346-341	100.18
7/16-27	GH5	2346-342	2346-343	2346-344	100.18
7/16-27	GH9	2346-345	2346-348	2346-347	100.18
7/16-30	GH3	2346-360	2346-361	2346-362	100.18
7/16-32	GH5	2346-373	2346-374	-	100.18
7/16-24	GH8	2346-379	2346-380	2346-381	100.18
7/16-24	GH9	2346-382	2346-383	2346-384	100.18
7/16-40	GH5	2346-418	2346-419	2346-420	100.18
7/16-44	GH2	2346-421	2346-422	2346-423	100.18
7/16-60	GH2	2346-442	2346-443	2346-444	100.18
7/16-80	GH2	2346-456	2346-457	2346-458	100.18
29/64-14	GH3	2346-520	2346-521	2346-522	102.90
29/64-20	GH3	2346-527	2346-528	2346-529	102.90
29/64-24	GH3	2346-535	2346-536	2346-537	102.90
29/64-36	GH3	2346-547	2346-548	2346-549	102.90
29/64-40	GH2	2346-554	2346-555	2346-556	102.90
29/64-64	GH2	2346-572	2346-573	2346-574	102.90
15/32-12	GH3	2346-600	2346-601	2346-602	102.90
15/32-13	GH3	2346-607	2346-608	2346-609	102.90
15/32-14	GH3	2346-613	2346-614	2346-615	102.90
15/32-16	GH3	2346-620	2346-621	2346-622	102.90

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
15/32-24	GH3	2346-641	2346-642	2346-643	\$102.90
15/32-28	GH3	2346-648	2346-649	2346-650	102.90
15/32-27	GH3	2346-655	2346-656	2346-657	102.90
15/32-36	GH3	2346-667	2346-668	2346-669	102.90
15/32-40	GH2	2346-673	2346-674	2346-675	102.90
31/64-12	GH3	2346-720	2346-721	2346-722	102.90
31/64-13	GH3	2346-728	2346-729	2346-730	102.90
31/64-14	GH3	2346-735	2346-736	2346-737	102.90
31/64-20	GH3	2346-742	2346-743	2346-744	102.90
31/64-26	GH3	2346-749	2346-750	2346-751	102.90
31/64-32	GH3	2346-761	2346-762	2346-763	102.90
1/2- 8	GH3	2346-800	2346-801	2346-802	102.90
1/2-10	GH3	2346-808	2346-809	2346-810	102.90
1/2-11	GH3	2346-812	2346-813	2346-814	102.90
1/2-26	GH3	2346-837	2346-838	2346-839	102.90
1/2-12	GH5	2346-840	2346-841	2346-842	102.90
1/2-16	GH5	-	2346-835	2346-836	102.90
1/2-18	GH7	2346-862	2346-863	2346-864	102.90
1/2-24	GH8	2346-870	2346-871	2346-872	102.90
1/2-25	GH3	2346-873	2346-874	2346-875	102.90
1/2-24	GH5	2346-876	2346-877	2346-878	102.90
1/2-34	GH3	2346-943	2346-944	2346-945	102.90
1/2-38	GH3	2346-949	2346-950	2346-951	102.90
1/2-44	GH3	2346-955	2346-956	2346-957	102.90
1/2-50	GH2	2346-961	2346-962	2346-963	102.90
1/2-54	GH2	2346-967	2346-968	2346-969	102.90
1/2-68	GH2	2347-031	-	2347-033	102.90
33/64-12	GH3	2347-080	2347-081	2347-082	105.05
33/64-13	GH3	2347-095	2347-096	2347-097	105.05
33/64-18	GH3	2347-102	2347-103	2347-104	105.05
33/64-20	GH3	2347-109	2347-110	2347-111	105.05
33/64-32	GH3	2347-127	2347-128	2347-129	105.05
33/64-80	GH2	2347-145	2347-146	2347-147	105.05
33/64-60	GH2	2347-151	2347-152	2347-153	105.05
17/32-12	GH3	2347-172	2347-173	2347-174	105.05
17/32-13	GH3	2347-179	2347-180	2347-181	105.05
17/32-16	GH3	2347-186	2347-187	2347-188	105.05
17/32-18	GH3	2347-193	2347-194	2347-195	105.05
17/32-20	GH3	2347-200	2347-201	2347-202	105.05
17/32-24	GH3	2347-207	2347-208	2347-209	105.05
17/32-27	GH3	2347-214	2347-215	2347-216	105.05
17/32-28	GH3	2347-221	2347-222	2347-223	105.05
17/32-32	GH3	2347-228	2347-229	2347-230	105.05
17/32-36	GH3	-	2347-232	-	105.05
17/32-40	GH2	2347-235	2347-236	2347-237	105.05
17/32-48	GH2	2347-242	2347-243	2347-244	105.05
17/32-64	GH2	2347-254	2347-255	2347-256	105.05
35/64-12	GH3	2347-304	2347-305	2347-306	105.05
35/64-18	GH3	2347-310	2347-311	2347-312	105.05
35/64-28	GH3	2347-316	2347-317	2347-318	105.05
9/16-10	GH3	2347-384	2347-385	-	105.05
9/16-16	GH1	2347-386	2347-387	2347-388	105.05
9/16-16	GH5	2347-397	2347-398	2347-399	105.05
9/16-20	GH12	2347-409	2347-410	2347-411	105.05
9/16-26	GH3	2347-418	2347-419	2347-420	105.05
9/16-27	GH5	2347-448	2347-449	2347-450	105.05
9/16-32	GH5	2347-478	2347-479	2347-480	105.05
9/16-32	GH7	2347-481	2347-482	2347-483	105.05
9/16-32	GH9	2347-484	2347-485	2347-486	105.05
9/16-36	GH2	2347-487	2347-488	2347-489	105.05
9/16-40	GH6	2347-514	2347-515	2347-516	105.05
9/16-48	GH2	2347-517	2347-518	2347-519	105.05
9/16-56	GH2	2347-523	2347-524	2347-525	105.05
9/16-24	GH2	2347-529	2347-530	2347-531	105.05
9/16-80	GH2	2347-542	2347-543	2347-544	POA
37/64-10	GH3	2347-592	2347-593	2347-594	109.35
37/64-12	GH3	2347-599	2347-600	2347-601	109.35
37/64-18	GH3	2347-606	2347-607	2347-608	109.35
37/64-40	GH2	2347-630	2347-631	2347-632	109.35
37/64-56	GH2	2347-648	2347-649	2347-650	109.35

# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
SEE PAGES 113-119

FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
19/32-11	GH3	2347-684	2347-685	2347-686	\$109.35
19/32-12	GH3	2347-691	2347-692	2347-693	109.35
19/32-16	GH3	2347-698	2347-699	2347-700	109.35
19/32-18	GH3	2347-705	2347-706	2347-707	109.35
19/32-20	GH3	2347-712	2347-713	2347-714	109.35
19/32-24	GH3	2347-719	2347-720	2347-721	109.35
19/32-27	GH3	2347-726	2347-727	2347-728	109.35
19/32-28	GH3	2347-733	2347-734	2347-735	109.35
19/32-32	GH3	2347-740	2347-741	2347-742	109.35
19/32-36	GH3	2347-747	2347-748	2347-749	109.35
19/32-40	GH2	2347-754	2347-755	2347-756	109.35
19/32-48	GH2	2347-761	2347-762	2347-763	109.35
19/32-64	GH2	2347-773	2347-774	2347-775	109.35
19/32-80	GH1	2347-790	2347-791	2347-792	109.35
39/64-11	GH3	2347-812	2347-813	2347-814	109.35
39/64-18	GH3	2347-819	2347-820	2347-821	109.35
5/8-8	GH3	2347-896	2347-897	2347-898	109.35
5/8-11.5	GH4	2347-905	2347-906	2347-907	109.35
5/8-9	GH3	2347-912	2347-913	2347-914	109.35
5/8-13	GH3	2347-921	2347-922	2347-923	109.35
5/8-25	GH3	2347-981	2347-982	2347-983	109.35
5/8-28	GH5	2348-002	2348-003	2348-004	109.35
5/8-30	GH3	2348-005	2348-006	2348-007	109.35
5/8-38	GH2	2348-029	2348-030	2348-031	109.35
5/8-44	GH2	2348-041	2348-042	2348-043	109.35
5/8-64	GH2	2348-071	2348-072	2348-073	109.35
5/8-80	GH2	2348-077	2348-078	2348-079	POA
3/4-32	GH5	2348-100	2348-101	2348-102	117.05
41/64-11	GH3	2348-135	2348-136	2348-137	113.09
41/64-18	GH3	2348-142	2348-143	2348-144	113.09
41/64-24	GH3	2348-154	2348-155	2348-156	113.09
41/64-32	GH3	2348-166	2348-167	2348-168	113.09
21/32-11	GH3	2348-208	2348-209	2348-210	113.09
21/32-12	GH3	2348-213	2348-214	2348-215	113.09
21/32-16	GH3	2348-219	2348-220	2348-221	113.09
21/32-18	GH3	2348-224	2348-225	2348-226	113.09
21/32-19	GH3	2348-227	2348-228	2348-229	113.09
21/32-20	GH3	-	2348-230	2348-231	113.09
21/32-24	GH3	2348-236	2348-237	2348-238	113.09
21/32-27	GH3	2348-241	2348-242	2348-243	113.09
21/32-28	GH3	2348-246	2348-247	2348-248	113.09
21/32-30	GH3	2348-251	2348-252	2348-253	113.09
21/32-32	GH3	2348-256	2348-257	2348-258	113.09
21/32-40	GH2	2348-268	2348-269	2348-270	113.09
21/32-48	GH2	2348-280	2348-281	2348-282	113.09
43/64-11	GH3	2348-324	2348-325	2348-326	113.09
43/64-16	GH3	2348-329	-	-	113.09
11/16-40	GH4	2348-330	2348-331	2348-332	113.09
11/16-10	GH3	2348-400	2348-401	2348-402	113.09
11/16-10	GH4	2348-403	2358-404	2348-405	113.09
11/16-13	GH3	2348-412	2348-413	2348-414	113.09
11/16-20	GH5	2348-448	2348-449	2348-450	113.09
11/16-22	GH3	2348-451	2348-452	2348-453	113.09
11/16-26	GH3	2348-470	2348-471	2348-472	113.09
11/16-28	GH5	2348-482	2348-483	2348-484	113.09
11/16-32	GH5	2348-500	2348-501	2348-502	113.09
11/16-40	GH2	2348-521	2348-522	2348-523	113.09
11/16-40	GH3	2348-527	2348-528	2348-529	113.09
11/16-48	GH2	2348-538	2348-539	2348-540	113.09
11/16-80	GH2	2348-544	2348-545	2348-546	POA
11/16-48	GH2	2348-550	2348-551	2348-552	113.09
45/64-11	GH3	2348-592	2348-593	2348-594	117.05
45/64-12	GH3	2348-599	2348-600	2348-601	117.05
45/64-16	GH3	2348-606	2348-607	2348-608	117.05
23/32-10	GH3	2348-672	2348-673	2348-674	117.05
23/32-11	GH3	2348-679	2348-680	2348-681	117.05
23/32-12	GH3	2348-686	2348-687	2348-688	117.05
23/32-14	GH3	2348-693	2348-694	2348-695	117.05
23/32-16	GH3	2348-700	2348-701	2348-702	117.05
23/32-18	GH3	2348-707	2348-708	2348-709	117.05

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
23/32-20	GH3	2348-712	2348-713	2348-714	\$117.05
23/32-24	GH3	2348-719	2348-720	2348-721	117.05
23/32-28	GH3	2348-726	2348-727	2348-728	117.05
23/32-30	GH3	2348-731	2348-732	2348-733	117.05
23/32-32	GH3	2348-736	2348-737	2348-738	117.05
23/32-40	GH2	2348-748	2348-749	2348-750	117.05
23/32-48	GH2	2348-760	2348-761	2348-762	117.05
47/64-10	GH3	2348-800	2348-801	2348-802	117.05
47/64-13	GH3	2348-805	2348-806	2348-807	117.05
47/64-16	GH3	2348-811	2348-812	2348-813	117.05
47/64-18	GH3	2348-817	2348-818	2348-819	117.05
47/64-40	GH2	2348-841	2348-842	2348-843	117.05
3/4-6	GH4	2348-880	2348-881	2348-882	117.05
3/4-8	GH3	2348-885	2348-886	2348-887	117.05
3/4-11	GH3	2348-894	2348-895	2348-896	117.05
3/4-13	GH3	2348-905	2348-906	2348-907	117.05
3/4-15	GH1	2348-909	2348-910	2348-911	117.05
3/4-15	GH3	2348-912	2348-913	2348-914	117.05
3/4-22	GH3	2348-942	2348-943	2348-944	117.05
3/4-24	GH5	2348-945	2348-946	2348-947	117.05
3/4-27	GH5	2348-969	2348-970	2348-971	117.05
3/4-30	GH3	2348-987	2348-988	2348-989	117.05
3/4-36	GH5	2349-014	2349-015	2349-016	117.05
3/4-60	GH2	2349-062	2349-063	2349-064	117.05
3/4-72	GH2	2349-074	2349-075	2349-076	POA
3/4-80	GH2	2349-077	2349-078	2349-079	POA
49/64-10	GH3	2349-178	2349-179	2349-180	124.52
49/64-16	GH3	2349-185	2349-186	2349-187	124.52
49/64-18	GH3	2349-190	2349-191	2349-192	124.52
49/64-20	GH3	2349-196	2349-197	2349-198	124.52
49/64-24	GH3	2349-203	2349-204	2349-205	124.52
49/64-32	GH3	2349-209	2349-210	2349-211	124.52
25/32-10	GH3	2349-268	2349-269	2349-270	124.52
25/32-12	GH3	2349-274	2349-275	2349-276	124.52
25/32-14	GH3	2349-280	2349-281	2349-282	124.52
25/32-16	GH3	2349-288	2349-289	2349-290	124.52
25/32-18	GH3	2349-294	2349-295	2349-296	124.52
25/32-20	GH3	2349-300	2349-301	2349-302	124.52
25/32-24	GH3	2349-308	2349-309	2349-310	124.52
25/32-27	GH3	2349-314	2349-315	2349-316	124.52
25/32-28	GH3	2349-320	2349-321	2349-322	124.52
25/32-40	GH2	2349-334	2349-335	2349-336	124.52
25/32-48	GH2	2349-346	2349-347	2349-348	124.52
51/64-17	GH3	2349-417	2349-418	2349-419	124.52
51/64-20	GH3	2349-423	2349-424	2349-425	124.52
13/16-8	GH3	2349-491	2349-492	2349-493	124.52
13/16-9	GH4	2349-497	2349-498	2349-499	124.52
13/16-11	GH5	2349-506	2349-507	2349-508	124.52
13/16-13	GH3	2349-518	2349-519	2349-520	124.52
13/16-16	GH5	2349-528	2349-529	2349-530	124.52
13/16-18	GH6	2349-543	2349-544	2349-545	124.52
13/16-27	GH5	2349-597	2349-598	2349-599	124.52
13/16-28	GH5	2349-612	2349-613	2349-614	124.52
13/16-32	GH6	2349-624	2349-625	2349-626	124.52
27/32-9	GH3	2349-804	2349-805	2349-806	130.18
27/32-12	GH3	2349-810	2349-811	2349-812	130.18
27/32-14	GH3	2349-816	2349-817	2349-818	130.18
27/32-16	GH3	2349-822	2349-823	2349-824	130.18
27/32-18	GH3	2349-828	2349-829	2349-830	130.18
27/32-20	GH3	2349-834	2349-835	2349-836	130.18
27/32-24	GH3	2349-841	2349-842	2349-843	130.18
27/32-27	GH3	2349-848	2349-849	2349-850	130.18
27/32-28	GH3	2349-854	2349-855	2349-856	130.18
27/32-32	GH3	2349-861	2349-862	2349-863	130.18
27/32-40	GH2	2349-873	2349-874	2349-875	130.18
27/32-48	GH2	2349-882	2349-883	2349-884	130.18
55/64-6	GH4	2349-920	2349-921	2349-922	130.18
55/64-9	GH4	2349-926	2349-927	2349-928	130.18
55/64-12	GH4	2349-932	2349-933	2349-934	130.18



# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
SEE PAGES 113-119

FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
55/64-14	GH4	2349-938	2349-939	2349-940	\$130.18
55/64-18	GH4	2349-945	2349-946	2349-947	130.18
55/64-20	GH3	2349-951	2349-952	2349-953	130.18
55/64-27	GH3	2349-959	2349-960	2349-961	130.18
55/64-32	GH3	2349-966	2349-967	2349-968	130.18
7/8-8	GH4	2350-010	2350-011	2350-012	130.18
7/8-10	GH4	2350-020	2350-021	2350-022	130.18
7/8-11	GH4	2350-023	2350-024	2350-025	130.18
7/8-10	GH5	2350-026	2350-027	2350-028	130.18
7/8-15	GH3	2350-035	2350-036	2350-037	130.18
7/8-18	GH5	2350-061	2350-062	2350-063	130.18
7/8-26	GH3	2350-097	2350-098	2350-099	130.18
7/8-30	GH3	2350-127	2350-128	2350-129	130.18
7/8-30	GH4	2350-130	2350-131	2350-132	130.18
7/8-40	GH5	2350-169	2350-170	2350-171	130.18
7/8-48	GH2	2350-176	2350-177	2350-178	130.18
7/8-50	GH2	2350-182	2350-183	2350-184	130.18
7/8-50	GH6	2350-185	2350-186	2350-187	130.18
57/64-14	GH4	2350-233	2350-234	2350-235	132.56
57/64-9	GH4	2350-236	2350-237	2350-238	132.56
57/64-18	GH3	2350-240	2350-241	2350-242	132.56
29/32-9	GH4	2350-316	2350-317	2350-318	132.56
29/32-11	GH4	2350-322	2350-324	2350-325	132.56
29/32-12	GH4	2350-328	2350-329	2350-330	132.56
29/32-14	GH4	2350-334	2350-335	2350-336	132.56
29/32-16	GH4	2350-340	2350-341	2350-342	132.56
29/32-18	GH4	2350-346	2350-347	2350-348	132.56
29/32-20	GH4	2350-352	2350-353	2350-354	132.56
29/32-27	GH4	2350-360	2350-361	2350-362	132.56
29/32-28	GH4	2350-366	2350-367	2350-368	132.56
29/32-32	GH4	2350-374	2350-375	2350-376	132.56
29/32-40	GH4	2350-386	2350-387	2350-388	132.56
59/64-16	GH4	2350-436	2350-437	2350-438	132.56
59/64-18	GH4	2350-442	2350-443	2350-444	132.56
15/16-6	GH4	2350-500	2350-501	2350-502	132.56
15/16-9	GH4	2350-521	2350-522	2350-523	132.56
15/16-9	GH6	2350-524	2350-525	2350-526	132.56
15/16-18	GH5	2350-587	2350-588	2350-589	132.56
15/16-27	GH5	2350-628	2350-629	2350-630	132.56
15/16-40	GH3	2350-669	2350-670	2350-671	132.56
15/16-48	GH3	2350-676	2350-677	2350-678	132.56
31/32-8	GH4	2350-804	2350-805	2350-806	143.54
31/32-12	GH4	2350-811	2350-812	2350-813	143.54
31/32-14	GH4	2350-817	2350-818	2350-819	143.54
31/32-16	GH4	2350-822	2350-823	2350-824	143.54
31/32-18	GH4	2350-828	2350-829	2350-830	143.54
31/32-24	GH4	2350-831	2350-832	2350-833	143.54
31/32-20	GH4	2350-834	2350-835	2350-836	143.54
31/32-28	GH4	2350-838	2350-839	2350-840	143.54
31/32-32	GH4	2350-845	2350-846	2350-847	143.54
31/32-40	GH4	2350-857	2350-858	2350-859	143.54
31/32-56	GH4	2350-875	2350-876	2350-877	143.54
63/64-14	CG	2350-881	2350-882	2350-883	143.54
1-6	GH4	2351-000	2351-001	2351-002	143.54
1-7	GH4	2351-007	2351-008	2351-009	143.54
10-9	GH4	2351-025	2351-026	2351-027	143.54
1-11	GH4	2351-040	2351-041	2351-042	143.54
1-18	GH6	2351-066	2351-067	2351-068	143.54
1-22	GH4	2351-085	2351-086	2351-087	143.54
1-28	GH1	2351-105	2351-106	2351-107	143.54
1 1/64-8	GH4	2351-224	2351-225	2351-226	161.80
1 1/64-12	GH4	2351-231	2351-232	2351-233	161.80
1 1/64-14	GH4	2351-236	2351-237	2351-238	146.66
1 1/32-8	GH4	2351-304	2351-305	2351-306	161.80
1 1/32-12	GH4	2351-311	2351-312	2351-313	161.80
1 1/32-14	GH4	2351-317	2351-318	2351-319	146.66
1 1/32-16	GH4	2351-322	2351-323	2351-324	146.66
1 1/32-20	GH4	2351-330	2351-331	2351-332	146.66
1 1/32-24	GH4	2351-337	2351-338	2351-339	146.66
1 1/32-32	GH4	2351-350	2351-351	2351-352	146.66

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1 3/64-7	H4	2351-430	2351-431	2351-432	\$161.80
1 1/16-7	H1	2351-442	2351-443	2351-444	161.80
1 1/16-11	H3	2351-454	2351-455	2351-456	161.80
1 1/16-12	H12	2351-465	2351-466	2351-467	161.80
1 1/16-13	H3	2351-468	2351-469	2351-470	161.80
1 1/16-16	H6	2351-492	2351-493	2351-494	146.66
1 1/16-26	H4	2351-531	2351-532	2351-533	146.66
1 1/16-27	CG	2351-534	2351-535	2351-536	146.66
1 1/16-28	H4	2351-537	2351-538	2351-539	146.66
1 1/16-40	H3	2351-549	2351-550	2351-551	146.66
1 1/16-40	H5	2351-555	2351-556	2351-557	146.66
1 1/16-48	H3	2351-561	2351-562	2351-563	146.66
1 5/64-20	GH5	2351-643	2351-644	2351-645	146.66
1 3/32-8	H4	2351-656	2351-657	2351-658	161.80
1 3/32-9	H4	2351-662	2351-663	2351-664	161.80
1 3/32-12	H4	2351-668	2351-669	2351-670	161.80
1 3/32-14	H4	2351-674	2351-675	2351-676	146.66
1 3/32-16	H4	2351-680	2351-681	2351-682	146.66
1 3/32-18	H4	2351-686	2351-687	2351-688	146.66
1 3/32-20	H4	2351-692	2351-693	2351-694	146.66
1 3/32-24	H4	2351-700	2351-701	2351-702	146.66
1 3/32-28	CG	2351-706	2351-707	2351-708	146.66
1 3/32-32	H4	2351-710	2351-711	2351-712	146.66
1 3/32-40	H4	2351-718	2351-719	2351-720	146.66
1 3/32-48	H4	2351-724	2351-725	2351-726	146.66
1 1/8-11	CG	2351-756	2351-757	2351-758	161.80
1 1/8-15	H4	2351-778	2351-779	2351-780	146.66
1 1/8-16	H6	2351-790	2351-791	2351-792	146.66
1 1/8-24	H6	2351-835	2351-836	2351-837	146.66
1 1/8-28	H4	2351-854	2351-855	2351-856	146.66
1 1/8-36	H3	2351-872	2351-873	2351-874	146.66
1 1/8-40	H4	2351-880	2351-881	2351-882	146.66
1 1/8-48	H3	2351-886	2351-887	2351-888	146.66
1 9/64-7	H4	2351-901	2351-902	2351-903	181.61
1 9/64-12	H4	2351-907	2351-908	2351-909	181.61
1 5/32-7	H4	2351-924	2351-925	2351-926	181.61
1 5/32-10	H4	2351-931	2351-932	2351-933	181.61
1 5/32-12	H4	2351-937	2351-938	2351-939	181.61
1 5/32-14	H4	2351-940	2351-941	2351-942	162.18
1 5/32-18	H4	2351-945	2351-946	2351-947	162.18
1 5/32-20	H4	2351-951	2351-952	2351-953	162.18
1 5/32-24	H4	2351-959	2351-960	2351-961	162.18
1 5/32-28	H4	2351-966	2351-967	2351-968	162.18
1 5/32-30	H4	2351-972	2351-973	2351-974	162.18
1 5/32-32	H4	2351-978	2351-979	2351-980	162.18
1 3/16-30	H4	2352-141	2352-142	2352-143	162.18
1 3/16-40	H3	2352-144	2352-145	2352-146	162.18
1 7/32-7	H4	2352-216	2352-217	2352-218	181.61
1 7/32-12	H4	2352-224	2352-225	2352-226	181.61
1 7/32-14	H4	2352-230	2352-231	2352-232	162.18
1 7/32-18	H4	2352-236	2352-237	2352-238	162.18
1 7/32-20	H4	2352-242	2352-243	2352-244	162.18
1 17/64-12	H4	2352-403	2352-404	2352-405	201.97
1 1/4-30	GH4	2352-411	2352-412	2352-413	162.18
1 1/4-48	GH3	2352-437	2352-438	2352-439	162.18
1 9/32-7	H4	2352-460	2352-461	2352-462	201.97
1 9/32-12	H4	2352-468	2352-469	2352-470	201.97
1 9/32-18	H4	2352-476	2352-477	2352-478	174.83
1 9/32-24	H4	2352-484	2352-485	2352-486	174.83
1 19/64-12	H4	2352-502	2352-503	2352-504	174.83
1 5/16-7	GH4	2352-543	2352-544	2352-545	201.97
1 5/16-9	CG	2352-552	2352-553	-	201.97
1 5/16-9	CG	2352-554	-	-	201.97
1 5/16-10	GH4	2352-555	2352-556	2352-557	201.97
1 5/16-12	H10	2352-572	2352-573	2352-574	201.97
1 21/64-12	H6	2352-601	2352-602	2352-603	201.97
1 5/16-20	H6	2352-617	2352-618	2352-619	174.83
1 5/16-24	H4	2352-626	2352-627	2352-628	174.83

# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
SEE PAGES 113-119

FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1 5/16-28	H4	2352-629	2352-630	2352-631	\$174.83
1 5/16-32	H3	2352-632	2352-633	2352-634	174.83
1 5/16-40	H4	2352-635	2352-636	2352-637	174.83
1 5/16-48	H4	2352-638	2352-639	2352-640	174.83
1 11/32-7	H4	2352-716	2352-717	2352-718	201.97
1 11/32-12	H4	2352-724	2352-725	2352-726	201.97
1 11/32-14	H4	2352-731	2352-732	2352-733	174.83
1 11/32-18	H4	2352-739	2352-740	2352-741	174.83
1 11/32-19	H4	2352-744	2352-745	2352-746	174.83
1 11/32-32	H4	2352-759	2352-760	2352-761	174.83
1 3/8-16	GH6	2352-845	2352-846	2352-847	174.83
1 3/8-16	H18	2352-848	2352-849	2352-850	174.83
1 3/8-27	GH4	2352-893	2352-894	2352-895	174.83
1 3/8-40	GH4	2352-911	2352-912	2352-913	174.83
1 25/64-6	H4	2352-945	2352-946	2352-947	229.64
1 25/64-12	H4	2352-948	2352-949	2352-950	229.64
1 13/32-6	H4	2352-960	2352-961	2352-962	229.64
1 13/32-7	H4	2352-966	2352-967	2352-968	229.64
1 13/32-8	H4	2352-972	2352-973	2352-974	229.64
1 13/32-12	H4	2352-979	2352-980	2352-981	229.64
1 13/32-18	H4	2352-987	2352-988	2352-989	185.81
1 13/32-20	H4	2352-993	2352-994	2352-995	185.81
1 7/16-6	H4	2353-039	2353-040	2353-041	229.64
1 7/16-10	H4	2353-051	2353-052	2353-053	229.64
1 7/16-14	H4	2353-075	2353-076	2353-077	229.64
1 7/16-16	H11	2353-094	2353-095	2353-096	185.81
1 7/16-24	H4	2353-111	2353-112	2353-113	185.81
1 7/16-28	H4	2353-114	2353-115	2353-116	185.81
1 7/16-32	H4	2353-117	2353-118	2353-119	185.81
1 7/16-40	H4	2353-120	2353-121	2353-122	185.81
1 15/32-12	H5	2353-199	2353-200	2353-201	229.64
1 1/2-7	GH5	2353-280	2353-281	2353-282	229.64
1 1/2-9	GH4	2353-295	2353-296	2353-297	229.64
1 1/2-13	GH4	2353-304	2353-305	2353-306	229.64
1 1/2-27	GH4	2353-359	2353-360	2353-361	185.76
1 33/64-6	H4	2353-460	2353-461	2353-462	252.56
1 33/64-12	H4	2353-469	2353-470	2353-471	223.63
1 17/32-6	H4	2353-540	2353-541	2353-542	252.56
1 17/32-7	H4	2353-546	2353-547	2353-548	223.63
1 17/32-8	GH4	2353-552	2353-553	2353-554	252.56
1 17/32-12	H4	2353-560	2353-561	2353-562	223.63
1 17/32-16	H4	2353-568	2353-569	2353-570	223.63
1 17/32-18	H4	2353-576	2353-577	2353-578	223.63
1 17/32-20	H4	2353-584	2353-585	2353-586	223.63
1 9/16-6	H7	2353-600	2353-601	2353-602	252.56
1 9/16-8	H6	2353-606	2353-607	2353-608	252.56
1 9/16-10	H6	2353-612	2353-613	2353-614	223.63
1 9/16-14	H6	2353-666	2353-667	2353-668	223.63
1 9/16-16	H7	2353-681	2353-682	2353-683	223.63
1 9/16-32	H4	2353-731	2353-732	2353-733	223.63
1 39/64-8	H4	2353-796	2353-797	2353-798	252.56
1 5/8-7	GH6	2353-882	2353-883	2353-884	252.56
1 5/8-10	GH8	2353-906	2353-907	2353-908	223.63
1 5/8-11.5	CG	2353-909	2353-910	2353-911	223.63
1 5/8-14	GH6	2353-924	2353-925	2353-926	223.63
1 5/8-28	GH4	2353-984	2353-985	2353-986	223.63
1 5/8-32	GH4	2353-990	2353-991	2353-992	223.63
1 5/8-40	GH4	2353-996	2353-997	2353-998	223.63
1 21/32-5.5	H4	2354-055	2354-056	2354-057	284.96
1 21/32-48	H4	2354-060	2354-061	2354-062	235.14
1 43/64-5	H4	2354-063	2354-064	2354-065	284.96
1 11/16-8	H6	2354-069	2354-070	2354-071	235.14
1 11/16-10	H6	2354-075	2354-076	2354-077	235.14
1 11/16-14	H6	2354-107	2354-108	2354-109	235.14
1 47/64-7	H7	2354-187	2354-188	2354-189	284.96
1 47/64-10	H4	2354-190	2354-191	2354-192	284.96
1 3/4-7	GH4	2354-224	2354-225	2354-226	284.96
1 3/4-12	GH8	2354-257	2354-258	2354-259	235.14
1 3/4-40	GH4	2354-323	2354-324	2354-325	235.14
1 25/32-5	H4	2354-370	2354-371	2354-372	304.96

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1 13/16-11	H4	2354-401	2354-402	2354-403	\$246.19
1 13/16-12	H6	2354-404	2354-405	2354-406	246.19
1 13/16-14	H6	2354-416	2354-417	2354-418	246.19
1 13/16-24	H4	2354-458	2354-459	2354-460	246.19
1 13/16-32	H4	2354-464	2354-465	2354-466	246.19
1 53/64-11	H4	2354-490	2354-491	2354-492	246.19
1 27/32-32	H4	2354-496	2354-497	2354-498	246.19
1 7/8-6	GH6	2354-521	2354-522	2354-523	304.96
1 7/8-10	GH8	2354-539	2354-540	2354-541	246.19
1 7/8-9	GH6	2354-542	2354-543	2354-544	335.52
1 7/8-12	H11	2354-551	2354-552	2354-553	246.19
1 7/8-14	GH6	2354-561	2354-562	2354-560	246.19
1 7/8-24	GH6	2354-617	2354-618	2354-619	246.19
1 7/8-32	GH4	2354-623	2354-624	2354-625	246.19
1 7/8-40	GH4	2354-629	2354-630	2354-631	246.19
1 29/32-18	H4	2354-672	2354-673	2354-674	257.76
1 15/16-4.5	H7	2354-700	2354-701	2354-702	317.55
1 15/16-8	H6	2354-706	2354-707	2354-708	317.55
1 15/16-10	H6	2354-712	2354-713	2354-714	257.76
1 29/32-32	H4	2354-730	2354-731	2354-732	257.76
1 15/16-14	H6	2354-785	2354-786	2354-787	257.76
1 15/16-20	H6	2354-821	2354-822	2354-823	257.76
1 15/16-32	H5	2354-827	2354-828	2354-829	257.76
1 15/16-40	H5	2354-833	2354-834	2354-835	257.76
2-16	GH9	2354-979	2354-980	2354-981	257.76
2-28	GH5	2355-021	2355-022	2355-023	257.76
2-32	GH5	2355-036	2355-037	2355-038	257.76
2-40	GH4	2355-042	2355-043	2355-044	257.76
2 1/16-8	GH	2355-100	2355-101	2355-102	343.87
2 1/16-10	H6	2355-106	2355-107	2355-108	308.23
2 1/16-18	H6	2355-146	2355-147	2355-148	308.23
2 1/16-20	H5	2355-152	2355-153	2355-154	308.23
2 1/16-24	H5	2355-155	2355-156	2355-157	308.23
2 7/64-12	H4	2355-180	2355-181	2355-182	308.23
2 1/8-6	GH6	2355-200	-	-	343.87
2 1/8-4.5	H6	2355-201	2355-202	2355-203	343.87
2 1/8-4.5	H9	2355-204	2355-205	2355-206	343.87
2 1/8-10	GH6	2355-222	2355-223	2355-224	308.23
2 1/8-12	GH8	2355-240	2355-241	2355-242	308.23
2 5/32-12	CG	2355-251	2355-252	2355-253	331.16
2 1/8-24	GH6	2355-280	2355-281	2355-282	308.23
2 1/8-32	GH5	2355-286	2355-287	2355-288	308.23
2 3/16-4.5	H7	2355-300	2355-301	2355-302	428.44
2 3/16-10	H	2355-306	2355-307	2355-308	331.16
2 3/16-12	H6	2355-372	2355-373	2355-374	331.16
2 3/16-14	H6	2355-384	2355-385	2355-386	331.16
2 3/16-16	H6	2355-390	2355-391	2355-392	331.16
2 3/16-18	H6	2355-396	2355-397	2355-398	331.16
2 3/16-20	H6	2355-402	2355-403	2355-404	331.16
2 3/16-24	H6	2355-408	2355-409	2355-410	331.16
2 15/64-12	H4	2355-430	2355-431	2355-432	331.16
2 1/4-5	GH5	2355-451	2355-452	2355-453	428.44
2 1/4-10	CG	2355-473	2355-474	2355-475	331.16
2 5/16-12	H6	2355-616	2355-617	2355-618	349.92
2 5/16-14	H6	2355-628	2355-629	2355-630	349.92
2 5/16-18	H6	2355-643	2355-644	2355-645	349.92
2 5/16-20	H6	2355-649	2355-650	2355-651	349.92
2 5/16-24	H6	2355-655	2355-656	2355-657	349.92
2 3/8-4	GH6	2355-680	2355-681	2355-682	447.67
2 3/8-4	GH8	2355-686	2355-687	2355-688	447.67
2 3/8-10	GH6	2355-707	2355-708	2355-709	349.92
2 3/8-24	GH6	2355-771	2355-772	2355-773	349.92
2 3/8-32	GH5	2355-777	2355-778	2355-779	349.92
2 31/64-12	H4	2355-880	2355-881	2355-882	387.86
2 7/16-6	GH8	2355-888	2355-889	2355-890	449.39
2 7/16-12	H4	2355-891	2355-892	2355-893	387.86
2 1/2-6	GH7	2355-900	2355-901	2355-902	449.39
2 1/2-7	GH7	2355-906	2355-907	2355-908	449.39

# Full Special Hand Taps

Right Hand, High Speed Steel

POPULAR SPECIAL TAPS  
SEE PAGES 113-119

FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper



SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
2 1/2-10	GH4	2355-922	2355-923	2355-924	\$387.86
2 1/2-14	GH6	-	2355-944	2355-945	387.86
2 1/2-16	GH7	2355-961	2355-962	2355-964	387.86
2 1/2-24	GH6	2355-994	2355-995	2355-996	387.86
2 1/2-28	GH7	2356-000	2356-001	2356-002	387.86
2 1/2-32	GH6	2356-006	2356-007	2356-008	387.86
2 9/16-12	H6	2356-070	2356-071	2356-072	407.46
2 9/16-14	H6	2356-080	2356-081	2356-082	407.46
2 9/16-14	H6	2356-086	2356-087	2356-088	407.46
2 9/16-16	H6	2356-092	2356-093	2356-094	407.46
2 9/16-18	H6	2356-098	2356-099	2356-100	407.46
2 5/8-4	GH9	2356-140	2356-141	2356-142	480.05
2 5/8-4	GH9	2356-147	2356-148	2356-149	480.05
2 5/8-10	GH6	2356-165	2356-166	2356-167	407.46
2 5/8-14	GH6	2356-186	2356-187	2356-188	407.46
2 3/4-10	CG	2356-331	2356-332	2356-333	426.35
2 3/4-14	GH	2356-340	2356-341	2356-342	426.35
2 3/4-14	CG	2356-345	2356-346	2356-347	426.35
2 7/8-4	GH9	2356-400	2356-401	2356-402	618.80
2 7/8-5	GH8	2356-406	2356-407	2356-408	618.80
2 7/8-6	GH8	2356-412	2356-413	2356-414	618.80
2 7/8-10	GH7	2356-465	2356-466	2356-467	433.65
2 7/8-14	GH6	2356-485	2356-486	2356-487	433.65
2 7/8-32	GH7	2356-520	2356-521	2356-522	433.65
2 15/16-12	H6	2356-615	2356-616	2356-617	331.16
2 15/16-16	H7	2356-618	2356-619	2356-620	331.16
2 15/16-20	H5	2356-625	2356-626	2356-627	331.16
3-3 1/2	H10	2356-628	2356-629	2356-630	653.97

SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
3-6	GH6	2356-638	2356-639	2356-640	\$653.97
3 1/16-16	H7	2356-702	2356-703	2356-704	697.89
3 1/16-20	H7	2356-705	2356-706	2356-707	697.89
3 3/16-16	H7	2356-822	2356-823	2356-824	589.60
3 1/4-10	GH7	2356-840	2356-841	2356-842	589.60
3 1/4-14	GH6	2356-855	2356-856	2356-857	589.60
3 1/4-24	GH7	2356-862	2356-863	2356-864	589.60
3 5/16-12	H8	2356-896	2356-897	2356-898	616.87
3 3/8-10	GH8	2356-992	2356-993	2356-994	616.87
3 3/8-16	GH7	2357-002	2357-003	2357-004	616.87
3 3/8-18	GH7	2357-008	2357-009	2357-010	616.87
3 3/8-24	GH7	2357-015	2357-016	2357-017	616.87
3 1/2-4	GH12	2357-080	2357-081	2357-082	858.55
3 1/2-16	GH7	2357-099	2357-100	2357-101	645.40
3 5/8-8	GH8	2357-184	2357-185	2357-186	969.01
3 5/8-12	GH5	2357-195	2357-196	2357-197	674.80
3 5/8-16	GH7	2357-204	2357-205	2357-206	674.80
3 9/16-12	CG	2357-222	2357-223	2357-224	706.22
3 3/4-16	GH7	2357-295	2357-296	2357-297	706.22
3 7/8-6	GH9	2357-345	2357-346	2357-347	1065.29
3 7/8-8	GH8	2357-350	2357-351	2357-352	1065.29
3 7/8-12	GH7	2357-360	2357-361	2357-362	739.83
3 7/8-16	GH8	2357-369	2357-370	2357-371	739.83
4 1/4-8	GH4	2357-525	2357-526	2357-527	POA
4 7/16-4	H13	2357-534	2357-535	2357-536	POA
4 1/2-4	GH13	2357-570	2357-571	2357-572	POA
4 1/2-6	GH13	2357-576	2357-577	2357-578	POA
4 1/2-8	H10	2357-580	2357-581	2357-582	POA
5-10	GH13	2357-590	2357-591	2357-592	POA
5-1/2-8	GH8	2357-650	2357-651	2357-652	POA

## Locknut Thread Taps & Dies

Right Hand



1

1

2

2

LOCKNUT NO.	SIZE	CARBON STEEL BOTTOM TAPS		HIGH SPEED PLUG TAPS		CARBON STEEL HEX DIES		HIGH SPEED HEX DIES	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
N-00	0.391-32	-	-	2332-001	\$ 68.50	2487-001	\$ 46.90	2487-051	\$ 75.50
N-01	0.496-32	-	-	2332-002	71.80	2487-002	49.70	2487-052	77.30
N-02	0.586-32	-	-	2332-003	76.80	2487-003	51.50	2487-053	81.10
N-03	0.664-32	-	-	2332-004	79.40	2487-004	53.70	2487-054	82.70
N-04	0.781-32	-	-	2332-005	89.20	2487-005	58.00	2487-055	86.40
N-05	0.969-32	-	-	2332-006	105.60	2487-006	60.30	2487-056	90.80
N-06	1.173-18	-	-	2332-007	117.20	2487-007	74.80	2487-057	114.00
N-07	1.376-18	-	-	2332-008	136.90	2487-008	78.40	2487-058	118.80
N-08	1.563-18	-	-	2332-009	189.60	2487-009	185.30	2487-059	245.90
N-09	1.767-18	-	-	2332-010	214.40	2487-010	228.40	2487-060	264.10
N-10	1.967-18	-	-	2332-011	222.50	2487-011	274.00	2487-061	312.50
N-11	2.157-18	-	-	2332-012	296.80	2487-012	289.30	2487-062	328.90
N-12	2.360-18	-	-	2332-013	313.30	2487-013	327.10	2487-063	371.90
N-13	2.548-18	-	-	2332-014	387.40	2487-014	348.40	2487-064	389.60
N-14	2.751-18	-	-	2332-015	428.80	2487-015	350.90	2487-065	398.40
N-15	2.933-12	-	-	2332-016	453.50	2487-016	520.40	2487-066	566.30
N-16	3.137-12	-	-	2332-017	544.30	2487-017	524.80	2487-067	582.30
N-17	3.340-12	2332-118†	\$ 342.39	2332-018	568.80	2487-018	533.90	2487-068	612.90
N-18	3.527-12	2332-119†	374.54	2332-019	634.80	2487-019	690.60	2487-069	819.60
N-19	3.730-12	2332-120†	391.98	2332-020	676.10	2487-020	699.60	2487-070	846.10
N-20	3.918-12	2332-121†	430.01	2332-021	742.00	2487-021	719.30	2487-071	880.90
N-21	4.122-12	2332-122†	468.75	2332-022	POA	2487-022	POA	2487-072	POA
N-22	4.325-12	2332-123†	519.50	2332-023	POA	2487-023	POA	2487-073	POA
N-24	4.716-12	2332-124†	576.65	2332-024	POA	2487-024	POA	2487-074	POA
N-26	5.106-12	2332-125†	630.00	2332-025	POA	2487-025	POA	2487-075	POA
N-28	5.497-12	2332-126†	699.50	2332-026	POA	2487-026	POA	2487-076	POA
N-30	5.888-12	2332-127†	768.75	2332-027	POA	2487-027	POA	2487-077	POA
N-32	6.284-8	2332-128†	1330.90	2332-028	POA	2487-028	POA	2487-078	POA
N-34	6.659-8	2332-129†	1818.75	2332-029	POA	2487-029	POA	2487-079	POA

† Limited Quantities

# Optional Flute Taps— Ground Thread Taps

## High Speed Steel



Pittsburg ALLEGHANY							BRUBAKER TOOL CORPORATION			Pittsburg ALLEGHANY							BRUBAKER TOOL CORPORATION		
SIZE	GH	FLTS.	ORDER NO.		PRICE EACH	ORDER NO.		PRICE EACH	SIZE	GH	FLTS.	ORDER NO.		PRICE EACH	ORDER NO.		PRICE EACH		
			Bottom	Plug		Bottom	Plug					Bottom	Plug		Bottom	Plug			
2-56	NC	1	2	-	3530-712†	\$3.31	-	-				-	3533-522†	\$1.68	3593-521	3593-522	\$4.11		
2-56	NC	2	2	-	3530-722†	3.31	3590-721	3590-722	\$7.46			-	3533-532†	POA	3593-531	3593-532	3.67		
3-48	NC	2	2	3531-121†	3531-122†	2.54	3591-121	3591-122	6.04			3543-521†	3543-522†	1.68	3603-521	3603-522	4.11		
4-40	NC	1	2	3531-711†	3531-712†	1.93	-	3591-712	4.91			3543-531†	3543-532†	1.68	3603-531	3603-532	3.67		
4-40	NC	2	2	3531-721†	-	1.93	3591-721	3591-722	4.72			-	3543-572†	1.68	3603-571	3603-572	4.11		
5-40	NC	2	2	3532-121†	3532-122†	2.01	3592-121	3592-122	4.72			3534-131†	-	1.62	3594-131	3594-132	4.79		
5-44	NF	2	2	-	-	-	-	3592-322	4.72			3544-111†	3544-112†	1.62	-	3604-112	4.79		
6-32	NC	1	2	3532-511†	3532-512†	1.63	-	3592-512	4.11			3544-121†	3544-122†	1.62	-	3604-122	4.79		
6-32	NC	2	2	-	-	-	3592-521	3592-522	4.11			3544-131†	-	1.62	3604-131	3604-132	4.58		
6-32	NC	3	2	-	-	-	3592-531	3592-532	3.54			3544-151†	-	1.62	3604-151	3604-152	4.79		
6-40	NF	2	2	3532-721†	3532-722†	1.63	-	3592-722	4.11			3534-331†	-	1.62	3594-331	3594-332	4.79		
8-32	NC	1	2	3532-911†	3532-912†	1.63	-	3592-912	4.11			3544-331†	3544-332†	1.62	3604-331	3604-332	4.79		
8-32	NC	2	2	-	-	-	3592-921	3592-922	4.11			-	-	-	3594-531	3594-532	6.01		
8-32	NC	3	2	-	-	-	3592-931	3592-932	3.54			3544-531†	3544-532†	1.96	3604-531	3604-532	5.32		
8-32	NC	1	3	3542-911†	3542-912†	1.63	3602-911	3602-912	4.11			-	-	-	3604-551	3604-552	6.01		
8-32	NC	2	3	3542-921†	-	1.63	3602-921	3602-922	4.11			-	-	-	3604-731	3604-732	5.32		
8-32	NC	3	3	3542-931	3542-932†	1.63	3602-931	3602-932	3.54			3544-911†	3544-912†	2.19	-	3604-912	6.89		
8-32	NC	7	3	-	-	-	3602-971	3602-972	4.11			-	-	-	3604-931	3604-932	6.01		
10-24	NC	1	2	3533-311†	3533-312†	1.68	-	3603-312	4.11			-	-	-	3604-951	3604-952	6.89		
10-24	NC	2	2	-	3533-322†	1.68	3593-321	3593-322	4.11			3545-131†	3545-132†	POA	3605-131	3605-132	6.89		
10-24	NC	3	2	-	-	-	3593-331	3593-332	3.67			3545-331†	3545-332†	3.77	-	3605-332	10.04		
10-24	NC	2	3	3543-321†	-	1.68	-	3603-322	4.11			3545-531†	3545-532-	3.77	-	3605-532	10.04		
10-24	NC	3	3	3543-331†	3543-332†	1.68	3603-331	3603-332	3.67			3545-731†	-	3.97	3605-731	3605-732	11.71		
10-24	NC	7	3	-	-	-	3603-371	3603-372	4.11			3545-931†	3545-932†	3.97	-	3605-932	11.71		
10-32	NC	1	2	3533-511†	3533-512†	1.68	3593-511	3593-512	4.11										

† Limited Quantity.

## +.005 Oversize Taps

### Ground Thread - High Speed Steel



Plug



Spiral Point

Bottom & Taper Chamfer Available on Request

SIZE	PLUG STYLE		SPIRAL POINT STYLE		
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
5-40	NC	2308-101	\$3.37	2309-101	\$3.47
5-44	NF	2308-110	3.37	2309-107	3.47
6-32	NC	2308-119	3.04	2309-114	3.47
6-40	NF	2308-128	3.04	2309-121	3.47
8-32	NC	2308-137	3.04	2309-128	3.47
8-36	NF	2308-146	3.04	2309-135	3.47
10-24	NC	2308-155	3.04	2309-142	3.47
10-32	NC	2308-164	3.04	2309-149	3.47
1/4-20	NC	2308-191	3.23	2309-170	3.66
1/4-28	NF	2308-200	3.23	2309-177	3.66
5/16-18	NC	2308-209	3.85	2309-184	4.13
5/16-24	NF	2308-218	3.85	2309-191	4.13
3/8-16	NC	2308-227	4.32	2309-198	4.66
3/8-24	NF	2308-236	4.32	2309-205	4.66

SIZE	PLUG STYLE		SPIRAL POINT STYLE		
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
7/16-14	NC	2308-245	\$7.84	2309-212	\$ 7.84
7/16-20	NF	2308-254	7.84	2309-219	7.84
1/2-13	NC	2308-263	7.70	2309-226	8.22
1/2-20	NF	2308-272	7.70	2309-233	8.22
9/16-12	NC	2308-281	15.25	2309-240	16.15
9/16-18	NF	2308-290	15.25	2309-247	16.15
5/8-11	NC	2308-299	14.63	2309-254	21.80
5/8-18	NF	2308-308	14.63	2309-261	21.76
3/4-10	NC	2308-335	22.33	2309-282	28.69
3/4-16	NF	2308-344	22.33	2309-289	28.69
7/8-9	NC	2308-353	26.13	2309-296	33.35
7/8-14	NF	2308-362	26.13	2309-303	33.35
1-8	NC	2308-371	36.15	2309-310	44.46
1-12	NF	2308-380	36.15	2309-317	44.46
1-14	NS	2308-389	36.15	2309-324	44.46



# Spiral Fluted Taps

## High Speed Steel



Slow Spiral - 30°



Fast Spiral - 48° - 52°

		30 DEGREE - SLOW SPIRAL			48-52 DEGREE - FAST SPIRAL							
		Pittsburg ALLEGHANY			Pittsburg ALLEGHANY							
		ORDER NO.			ORDER NO.							
SIZE	GH	FLUTES	PLUG	BOTTOM	PRICE EACH	FLUTES	PLUG	BOTTOM	PRICE EACH	ORDER NO.	PRICE EACH	
										BRUBAKER TOOL POWERLATOR		
3-48	2	2	—	—	—	2	—	—	—	2307-502	2307-501	\$12.21
4-40	2	2	2306-122	2306-123	\$5.14	2	2307-122	2307-123	\$5.63	2307-523	2307-522	10.04
5-40	2	2	2306-136	2306-137	5.14	2	2307-136	2307-137	5.63	2307-537	2307-536	10.04
5-44	2	2	—	—	—	2	2307-143	2307-144	5.63	—	—	—
6-32	2	2	2306-150	2306-151	3.98	2	2307-150	2307-151	4.51	2307-551	2307-550	10.04
6-32	3	2	—	—	—	2	—	—	—	2307-554	2307-553	8.15
6-40	3	2	2306-157	2306-158	3.98	2	—	—	—	—	—	—
8-32	3	2	2306-164	2306-165	3.98	3	2307-164	2307-165	4.51	2307-569	2307-568	8.15
8-36	3	2	2306-171	2306-172	3.98	3	—	—	—	—	—	—
10-24	3	2	2306-178	2306-179	3.98	3	2307-178	2307-179	4.51	2307-579	2307-578	8.15
10-32	3	2	2306-186	2306-187	3.98	3	2307-186	2307-187	4.51	2307-587	2307-586	8.15
12-24	3	2	2306-193	2306-194	4.27	3	2307-193	2307-194	4.85	2307-594	2307-593	8.84
1/4-20	3	3	2306-200	2306-201	4.27	3	2307-207	2307-208	4.85	2307-608	2307-607	8.84
1/4-28	3	3	2306-214	2306-215	4.27	3	2307-214	2307-215	4.85	2307-615	2307-614	8.84
5/16-18	3	3	2306-221	2306-222	5.43	3	2307-221	2307-222	6.16	2307-622	2307-621	10.90
5/16-24	3	3	2306-228	2306-229	5.43	3	2307-228	2307-229	6.16	2307-629	2307-628	10.90
3/8-16	3	3	2306-235	2306-236	6.26	3	2307-235	2307-236	6.84	2307-636	2307-635	12.57
3/8-24	3	3	2306-242	2306-243	6.26	3	2307-242	2307-243	6.84	2307-643	2307-642	12.57
7/16-14	3	3	2306-254	2306-255	9.65	3	2307-254	2307-255	10.52	2307-655	2307-654	18.81
7/16-20	3	3	2306-261	2306-262	9.65	3	2307-261	2307-262	10.52	2307-662	2307-661	18.81
1/2-13	3	3	2306-268	2306-269	11.59	3	2307-268	2307-269	12.51	2307-669	2307-668	22.69
1/2-20	3	3	2306-275	2306-276	11.59	3	2307-275	2307-276	12.51	2307-676	2307-675	22.69
5/8-11	3	3	—	—	—	4	2307-282	2307-283	20.08	—	—	—
3/4-10	3	3	—	—	—	4	2307-289	2307-290	27.55	—	—	—

# Metric - Fast Spiral

- Ground thread • High Speed Steel



		Pittsburg ALLEGHANY			ALLEGIANCE			
NOMINAL SIZE AND PITCH	D LIMIT	FLUTE NO.	PLUG ORDER NO.	PRICE EACH	BOTT. ORDER NO.	PRICE EACH	PLUG ORDER NO.	PRICE EACH
3 x 0.5	D3	2	3782-227	\$5.09	3781-226	\$10.03	3781-227	\$10.03
3.5 x 0.6	D4	3	3782-281	5.65	3781-280	8.18	3781-281	8.18
4 x 0.7	D4	3	3782-326	4.32	3781-325	8.18	3781-326	8.18
4.5 x 0.75	D4	3	3782-353	5.65	3781-352	8.18	3781-353	8.18
5 x 0.8	D4	3	3782-389	4.32	3781-388	8.18	3781-389	8.18
6 x 1	D5	3	3782-465	4.32	3781-464	8.90	3781-465	8.90
7 x 1	D5	3	3782-524	4.76	3781-523	10.93	3781-524	10.93
8 x 1	D5	3	3782-569	4.87	3781-568	10.93	3781-569	10.93
8 x 1.25	D5	3	3782-578	5.31	3781-577	10.93	3781-578	10.93
10 x 1.25	D5	3	3782-686	6.20	3781-685	18.91	3781-686	18.91
10 x 1.5	D6	3	3782-695	6.75	3781-694	18.91	3781-695	18.91
12 x 1.25	D5	3	3782-779	9.96	3781-778	23.50	3781-779	23.50
12 x 1.75	D6	3	3782-802	11.07	3781-801	22.79	3781-802	22.79
14 x 1.5	D6	3	3782-946	15.61	—	—	—	—
14 x 2	D7	3	3782-964	15.61	—	—	—	—
16 x 1.5	D6	4	3783-062	18.93	—	—	—	—
16 x 2	D7	7	3783-071	18.93	—	—	—	—

# Left Hand Taps

## Ground Thread – High Speed Steel



[3]

[2]

Pittsburg ALLEGHANY										ALLEGIANCE					
ORDER NUMBER										ORDER NUMBER					
SIZE	GH	FLUTES	BOTTOM	PLUG	TAPER	PRICE EACH	SET ORDER NO.	PRICE EACH	BOTTOM	PLUG	TAPER	PRICE EACH	SET ORDER NO.	PRICE EACH	
6-32	NC	3	3	3522-531	3522-532	3522-533	\$3.59	2301-253	\$10.77	3792-531	3792-532	3792-533	\$ 3.89	-	-
8-32	NC	3	4	3522-931	3522-932	3522-933	3.64	2301-293	10.92	3792-931	3792-932	3792-933	4.18	-	-
10-24	NC	3	4	3523-331	3523-332	3523-333	3.69	2301-333	11.07	3793-331	3793-332	3793-333	4.18	-	-
10-32	NC	3	4	3523-531	3523-532	3523-533	3.69	2301-353	11.07	3793-531	3793-532	3793-533	4.18	-	-
1/4-20	NC	3	4	3524-131	3524-132	3524-133	3.73	2301-413	11.19	3794-131	3794-132	3794-133	5.04	3791-413	\$15.12
1/4-28	NF	3	4	3524-331	3524-332	3524-333	3.73	2301-433	11.19	3794-331	3794-332	3794-333	5.04	-	-
5/16-18	NC	3	4	3524-531	3524-532	3524-533	4.56	2301-453	13.68	3794-531	3794-532	3794-533	5.58	3791-453	16.74
5/16-24	NF	3	4	3524-731	3524-732	3524-733	4.56	2301-473	13.68	3794-731	3794-732	3794-733	5.58	3791-473	16.74
3/8-16	NC	3	4	3524-931	3524-932	3524-933	5.00	2301-493	15.00	3794-931	3794-932	3794-933	7.53	3791-493	22.59
3/8-24	NF	3	4	3525-131	3525-132	3525-133	5.00	2301-513	15.00	3795-131	3795-132	3795-133	7.53	3791-513	22.59
7/16-14	NC	3	4	3525-331	3525-332	3525-333	8.49	2301-533	25.47	3795-331	3795-332	3795-333	11.02	3791-533	33.06
7/16-20	NF	3	4	3525-531	3525-532	3525-533	8.49	2301-553	25.47	3795-531	3795-532	3795-533	11.02	3791-553	33.06
1/2-13	NC	3	4	3525-731	3525-732	3525-733	8.83	2301-573	26.49	3795-731	3795-732	3795-733	12.98	3791-573	38.94
1/2-20	NF	3	4	3525-931	3525-932	3525-933	8.83	2301-593	26.49	3795-931	3795-932	3795-933	12.98	3791-593	38.94
9/16-12	NC	3	4	3526-131	3526-132	3526-133	13.00	2301-613	39.00	3796-131	3796-132	3796-133	19.16	3791-613	57.48
9/16-18	NF	3	4	3526-331	3526-332	3526-333	13.00	2301-633	39.00	3796-331	3796-332	3796-333	19.16	3791-633	57.48
5/8-11	NC	3	4	3526-531	3526-532	3526-533	15.08	2301-653	45.24	3796-531	3796-532	3796-533	24.29	3791-653	72.87
5/8-18	NF	3	4	3526-731	3526-732	3526-733	15.08	2301-673	45.24	3796-731	3796-732	3796-733	24.29	3791-673	72.87
11/16-11	NC	3	4	3526-931	3526-932	3526-933	16.73	-	-	3796-931	3796-932	3796-933	28.09	-	-
11/16-16	NF	3	4	3527-131	3527-132	3527-133	16.73	-	-	3797-131	3797-132	3797-133	28.09	-	-
3/4-10	NC	3	4	3527-331	3527-332	3527-333	20.90	2301-733	62.70	3797-331	3797-332	3797-333	31.84	3791-733	95.52
3/4-16	NF	3	4	3527-531	3527-532	3527-533	20.90	2301-753	62.70	3797-531	3797-532	3797-533	31.84	3791-753	95.52
7/8-9	NC	4	4	3527-741	3527-742	3527-743	29.00	2301-774	87.00	3797-741	3797-742	3797-743	43.11	3791-774	129.33
7/8-14	NF	4	4	3527-941	3527-942	3527-943	29.00	2301-794	87.00	3797-941	3797-942	3797-943	43.11	3791-794	129.33
1-8	NC	4	4	3528-141	3528-142	3528-143	38.70	2301-814	116.10	3798-141	3798-142	3798-143	57.09	3791-814	171.27
1-12	NF	4	4	3528-341	3528-342	3528-343	38.70	2301-834	116.10	3798-341	3798-342	3798-343	57.09	3791-834	171.27
1-14	NS	4	4	3528-541	3528-542	3528-543	38.70	2301-854	116.10	3798-541	3798-542	3798-543	57.09	3791-854	171.27
1-1/8-7	NC	4	4	3528-741	3528-742	3528-743	59.85	-	-	3798-741	3798-742	3798-743	84.98	-	-
1-1/8-12	NF	4	4	3528-941	3528-942	3528-943	59.85	-	-	3798-941	3798-942	3798-943	84.98	-	-
1-1/4-7	NC	4	4	3529-041	3529-042	3529-043	78.72	-	-	3799-041	3799-042	3799-043	107.26	-	-
1-1/4-12	NF	4	6	3529-141	3529-142	3529-143	78.72	-	-	3799-141	3799-142	3799-143	107.26	-	-
1-3/8-6	NC	4	4	3529-541	3529-542	3529-543	98.60	-	-	3799-541	3799-542	3799-543	133.59	-	-
1-3/8-12	NF	4	6	3529-741	3529-742	3529-743	98.60	-	-	3799-741	3799-742	3799-743	133.59	-	-
1-1/2-6	NC	4	4	3529-841	3529-842	3529-843	113.93	-	-	3799-841	3799-842	3799-843	155.58	-	-
1-1/2-12	NF	4	6	3529-941	3529-942	3529-943	113.93	-	-	3799-941	3799-942	3799-943	155.58	-	-

## Left Hand Metric Taps [2]

Pittsburg ALLEGHANY						ALLEGIANCE			
ORDER NUMBER						ORDER NUMBER			
SIZE	PITCH DIA LIMIT	FLUTE NO.	BOTT. ORDER NO.	PLUG ORDER NO.	PRICE EACH	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH
M3.5 x 0.60	D4	3	-	-	-	3789-028	3789-029	3789-030	\$4.79
M4.0 x 0.70	D4	4	-	3787-326†	\$4.05	3789-034	3789-035	3789-036	4.79
M5.0 x 0.80	D4	4	3787-388†	3787-389†	4.05	3789-043	3789-044	3789-045	4.79
M6.0 x 1.00	D5	4	3787-464†	3787-465†	4.34	3789-058	3789-059	3789-060	5.62
M7.0 x 1.00	D5	4	3787-523†	-	5.04	3789-064	3789-065	3789-066	6.23
M8.0 x 1.00	D5	4	-	-	-	3789-070	3789-071	3789-072	6.23
M8.0 x 1.25	D5	4	3787-577†	3787-578†	4.71	3789-073	3789-074	3789-075	6.23
M10.0 x 1.25	D5	4	3787-685†	3787-686†	9.45	3789-088	3789-089	3789-090	11.75
M10.0 x 1.50	D6	4	3787-694†	3787-695†	8.82	3789-091	3789-092	3789-093	11.75
M12.0 x 1.25	D5	4	-	3787-779†	11.03	3789-103	3789-104	3789-105	13.84
M12.0 x 1.75	D6	4	-	-	-	3789-109	3789-110	3789-111	13.84
M14.0 x 1.50	D6	4	3787-945†	3787-946†	15.51	3789-118	3789-119	3789-120	20.49
M14.0 x 2.00	D7	4	3787-963†	3787-964†	15.51	3789-121	3789-122	3789-123	20.49
M16.0 x 1.50	D6	4	3788-061†	-	20.33	3789-130	3789-131	3789-132	25.99
M16.0 x 2.00	D7	4	3788-070†	-	18.96	3789-133	3789-134	3789-135	25.99
M18.0 x 1.50	D6	4	-	-	-	3789-139	3789-140	3789-141	34.09
M18.0 x 2.50	D7	4	-	-	-	3789-145	3789-146	3789-147	34.09
M20.0 x 1.50	D6	4	-	-	-	3789-151	3789-152	3789-153	46.07
M20.0 x 2.50	D7	4	-	-	-	3789-157	3789-158	3789-159	46.07
M22.0 x 1.50	D6	4	-	-	-	3789-163	3789-164	3789-165	46.07
M22.0 x 2.50	D7	4	3788-241†	3788-242†	34.62	3789-169	3789-170	3789-171	46.07
M24.0 x 2.00	D7	4	-	-	-	3789-178	3789-179	3789-180	60.50
M24.0 x 3.00	D8	4	-	-	-	3789-181	3789-182	3789-183	60.50

† Limited Quantities

## Left Hand Spiral Point Taps [2]

Pittsburg ALLEGHANY						ALLEGIANCE			
ORDER NUMBER						ORDER NUMBER			
NOMINAL SIZE AND PITCH	D FLUTE LIMIT	FLUTE NO.	BOTT. ORDER NO.	PLUG ORDER NO.	PRICE EACH	BOTT. ORDER NO.	PLUG ORDER NO.	TAPER ORDER NO.	PRICE EACH
6-32	3	2	-	-	-	2390-616†	-	-	\$5.56
8-32	3	2	-	-	-	-	-	-	-
10-24	3	2	-	-	-	-	-	-	-
10-32	3	2	-	-	-	-	-	-	-
1/4-20	3	2	2392-396†	-	5.88	-	-	-	-
1/4-28	3	2	-	-	-	-	-	-	-
5/16-18	3	2	-	-	-	-	-	-	-
5/16-24	3	2	2392-703†	-	6.78	-	-	-	-
3/8-16	3	3	2393-015†	-	7.89	-	-	-	-
3/8-24	3	3	-	-	-	-	-	-	-
7/16-14	3	3	-	-	-	-	-	-	-
1/2-13	3	3	-	-	-	-	-	-	-
1/2-20	3	3	-	-	-	-	-	-	-
5/8-11	3	3	-	-	-	-	-	-	-

# Left Hand Special Hand Taps

## High Speed Steel

**FOR 2 OR MORE PIECES,  
CALL FOR PRICE**

1



Bottom



Plug



Taper

Pittsburg® ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
00-90	GH2	2370-165	2370-166	2370-167	POA
00-96	GH1	2370-181	2370-182	2370-183	POA
1-56	GH1	2370-335	2370-336	2370-337	100.75
2-44	GH1	2370-427	2370-428	2370-429	100.18
2-56	GH1	2370-442	2370-443	2370-444	100.18
2-64	GH2	2370-448	2370-449	2370-450	100.18
3-36	GH2	2370-510	2370-511	2370-512	95.09
3-48	GH2	2370-519	2370-520	2370-521	95.09
4-32	GH1	2370-615	2370-616	2370-617	91.81
4-36	GH2	2370-621	2370-622	2370-623	91.81
4-48	GH2	2370-627	2370-628	2370-629	91.81
4-64	GH1	2370-650	2370-651	2370-652	91.81
4-72	GH1	2370-653	2370-654	2370-655	91.81
4-80	GH1	2370-665	2370-666	2370-667	91.81
5-24	GH3	2370-742	2370-743	2370-744	91.81
5-36	GH2	2370-760	2370-761	2370-762	91.81
5-40	GH2	2370-770	2370-771	2370-772	91.81
5-48	GH2	2370-775	2370-776	2370-777	91.81
5-44	GH2	2370-778	2370-779	2370-780	91.81
5-64	GH2	2370-805	2370-806	2370-807	91.81
5-72	GH2	2370-808	2370-809	2370-810	91.81
5-80	GH2	2370-825	2370-826	2370-827	91.81
6-24	GH3	2370-916	2370-917	2370-918	89.54
6-36	GH1	2370-925	2370-926	2370-927	89.54
6-40	GH2	2370-931	2370-932	2370-933	89.54
6-56	GH2	2370-955	2370-956	2370-957	89.54
6-64	GH2	2370-985	2370-986	2370-987	89.54
8-24	GH3	2371-148	2371-149	2371-150	89.54
8-32	GH2	2371-155	2371-156	2371-157	89.54
8-36	GH1	2371-172	2371-173	2371-174	89.54
8-40	GH2	2371-175	2371-176	2371-177	89.54
8-48	GH2	2371-190	2371-191	2371-192	89.54
8-56	GH2	2371-193	2371-194	2371-195	89.54
8-60	GH2	2371-205	2371-206	2371-207	89.54
8-64	GH2	2371-222	2371-223	2371-224	89.54
8-80	GH2	2371-255	2371-256	2371-257	89.54
9-46	GH2	2371-396	2371-397	2371-398	89.54
10-24	GH4	2371-426	2371-427	2371-428	89.54
10-28	GH2	2371-435	2371-436	2371-437	89.54
10-38	GH2	2371-438	2371-439	2371-440	89.54
10-32	GH2	2371-454	2371-455	2371-456	89.54
10-34	GH2	2371-459	2371-460	2371-461	89.54
10-36	GH2	2371-465	2371-466	2371-467	89.54
10-40	GH2	2371-480	2371-481	2371-482	89.54
10-44	GH2	2371-487	2371-488	2371-489	89.54
10-46	GH2	2371-493	2371-494	2371-495	89.54
10-48	GH2	2371-496	2371-497	2371-498	89.54
10-56	GH2	2371-505	2371-506	2371-507	89.54
10-96	GH1	2371-510	2371-511	2371-512	89.54
10-80	GH2	2371-565	2371-566	2371-567	89.54
12-32	GH3	2371-710	2371-711	2371-712	92.26
12-40	GH2	2371-741	2371-742	2371-743	92.26
12-46	GH2	2371-745	2371-746	2371-747	92.26
14-24	GH3	2371-951	2371-952	2371-953	92.94
100-100	GH2	2373-001	2373-002	2373-003	95.09
3/16-40	GH3	2373-424	2373-425	2373-426	89.54
5/32-32	GH3	2373-825	2373-826	2373-827	89.54
5/32-36	GH1	2373-836	2373-837	2373-838	89.54
5/32-40	GH2	2373-845	2373-846	2373-847	89.54
3/16-24	GH2	2374-006	2374-007	2374-008	89.54
3/16-32	GH2	2374-020	2374-021	2374-022	89.54
3/16-48	GH3	2374-035	2374-036	2374-037	89.54
7/32-20	GH3	2374-214	2374-215	2374-216	92.94
7/32-24	GH3	2374-220	2374-221	2374-222	92.94
7/32-28	GH3	2374-230	2374-231	2374-232	92.94
7/32-32	GH3	2374-240	2374-241	2374-242	92.94
7/32-36	GH3	2374-245	2374-246	2374-247	92.94
7/32-40	GH3	2374-260	2374-261	2374-262	92.94
7/32-64	GH3	2374-273	2374-274	2374-275	92.94
1/4 12	GH3	2374-445	2374-446	2374-447	92.94

Pittsburg® ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1/4-14	GH3	2374-451	2374-452	2374-453	\$92.94
1/4-16	GH3	2374-457	2374-458	2374-459	92.94
1/4-18	GH3	2374-450	2374-449	2374-448	92.94
1/4-22	GH3	2374-463	2374-464	2374-465	92.94
1/4-23	GH3	2374-469	2374-470	2374-471	92.94
1/4-24	GH3	2374-475	2374-476	2374-477	92.94
1/4-25	GH3	2374-488	2374-489	2374-490	92.94
1/4-26	GH3	2374-481	2374-482	2374-483	92.94
1/4-27	GH1	2374-485	2374-486	2374-487	92.94
1/4-28	GH3	2374-478	2374-479	2374-480	92.94
1/4-30	GH3	2374-491	2374-492	2374-493	92.94
1/4-32	GH2	2374-505	2374-506	2374-507	92.94
1/4-36	GH2	2374-510	2374-511	2374-512	92.94
1/4-40	GH2	2374-520	2374-521	2374-522	92.94
1/4-44	GH3	2374-514	2374-515	2374-516	92.94
1/4-48	GH2	2374-535	2374-536	2374-537	92.94
1/4-56	GH3	2374-550	2374-551	2374-552	92.94
1/4-60	GH1	2374-565	2374-566	2374-567	92.94
1/4-64	GH2	2374-580	2374-581	2374-582	92.94
1/4-80	GH2	2374-620	2374-621	2374-622	92.94
9/32-32	GH2	2374-880	2374-881	2374-882	93.50
9/32-40	GH2	2374-900	2374-901	2374-902	93.50
5/16-12	GH3	2375-066	2375-067	2375-068	93.50
5/16-14	GH3	2375-073	2375-074	2375-075	93.50
5/16-16	GH3	2375-077	2375-078	2375-079	93.50
5/16-20	GH3	2375-070	2375-071	2375-072	93.50
5/16-27	GH3	2375-090	2375-091	2375-092	93.50
5/16-28	GH3	2375-111	2375-112	2375-113	93.50
5/16-30	GH1	2375-095	2375-096	2375-097	93.50
5/16-32	GH3	2375-120	2375-121	2375-122	93.50
5/16-42	GH2	2375-106	2375-107	2375-108	93.50
5/16-44	GH2	2375-117	2375-118	2375-119	93.50
5/16-50	GH2	2375-123	2375-124	2375-125	93.50
5/16-36	GH4	2375-135	2375-136	2375-137	93.50
5/16-40	GH3	2375-153	2375-154	2375-155	93.50
5/16-48	GH2	2375-165	2375-166	2375-167	93.50
5/16-64	GH2	2375-200	2375-201	2375-202	93.50
5/16-80	GH3	2375-230	2375-231	2375-232	93.50
11/32-24	GH3	2375-448	2375-449	2375-450	97.13
11/32-28	GH3	2375-467	2375-468	2375-469	97.13
11/32-32	GH3	2375-470	2375-471	2375-472	97.13
11/32-40	GH2	2375-484	2375-485	2375-486	97.13
3/8-9	GH3	2375-707	2375-708	2375-709	97.13
3/8-10	GH3	2375-704	2375-705	2375-706	97.13
3/8-11	GH3	2375-713	2375-714	2375-715	97.13
3/8-12	GH3	2375-710	2375-711	2375-712	97.13
3/8-14	GH3	2375-722	2375-723	2375-724	97.13
3/8-18	GH3	2375-728	2375-729	2375-730	97.13
3/8-20	GH2	2375-740	2375-741	2375-742	97.13
3/8-25	GH3	2375-743	2375-744	2375-745	97.13
3/8-26	GH3	2375-746	2375-747	2375-748	97.13
3/8-27	GH3	2375-760	2375-761	2375-762	97.13
3/8-28	GH3	2375-769	2375-770	2375-771	97.13
3/8-32	GH3	2375-777	2375-778	2375-779	97.13
3/8-36	GH2	2375-804	2375-805	2375-806	97.13
3/8-40	GH3	2375-828	2375-829	2375-830	97.13
25/64-16	GH3	2375-984	2375-985	2375-986	100.18
13/32-16	GH3	2376-076	2376-077	2376-078	100.18
13/32-18	GH3	2376-081	2376-082	2376-083	100.18
13/32-20	GH2	2376-087	2376-088	2376-089	100.18
13/32-24	GH3	2376-090	2376-091	2376-092	100.18
13/32-32	GH3	2376-116	2376-117	2376-118	100.18
27/64-32	GH3	2376-225	2376-226	2376-227	100.18
7/16-10	GH3	2376-288	2376-289	2376-290	100.18
7/16-12	GH3	2376-294	2376-295	2376-296	100.18
7/16-13	GH3	2376-297	2376-298	2376-299	100.18
7/16-16	GH3	2376-300	2376-301	2376-302	100.18
7/16-18	GH3	2376-312	2376-313	2376-314	100.18
7/16-20	GH8	2376-315	2376-316	2376-317	100.18
7/16-20	GH9	2376-318	2376-319	2376-320	100.18

# Left Hand Special Hand Taps

High Speed Steel

FOR 2 OR MORE PIECES,  
CALL FOR PRICE



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
7/16-20	GH13	2376-321	2376-322	2376-323	\$100.18
7/16-24	GH3	2376-324	2376-325	2376-326	100.18
7/16-27	GH3	2376-336	2376-337	2376-338	100.18
7/16-28	GH3	2376-349	2376-350	2376-351	100.18
7/16-32	GH3	2376-366	2376-367	2376-368	100.18
7/16-36	GH3	2376-400	2376-401	2376-402	100.18
7/16-40	GH3	2376-415	2376-416	2376-417	100.18
15/32-18	GH3	2376-627	2376-628	2376-629	102.90
15/32-20	GH3	2376-634	2376-635	2376-636	102.90
15/32-24	GH3	2376-641	2376-642	2376-643	102.90
15/32-32	GH3	2376-660	2376-661	2376-662	102.90
15/32-36	GH3	2376-667	2376-668	2376-669	102.90
15/32-40	GH2	2376-673	2376-674	2376-675	102.90
1/2-10	GH3	2376-808	2376-809	2376-810	102.90
1/2-11	GH3	2376-812	2376-813	2376-814	102.90
1/2-12	GH3	2376-815	2376-816	2376-817	102.90
1/2-14	GH3	2376-820	2376-821	2376-822	102.90
1/2-22	GH3	2376-826	2376-827	2376-828	102.90
1/2-16	GH3	2376-830	2376-831	2376-832	102.90
1/2-26	GH3	2376-837	2376-838	2376-839	102.90
1/2-13	GH1	3525-711	3525-712	3525-713	POA
1/2-18	GH3	2376-850	2376-851	2376-852	102.90
1/2-24	GH3	2376-865	2376-866	2376-867	102.90
1/2-27	GH3	2376-880	2376-881	2376-882	102.90
1/2-28	GH3	2376-895	2376-896	2376-897	102.90
1/2-32	GH3	2376-925	2376-926	2376-927	102.90
1/2-36	GH3	2376-940	2376-941	2376-942	102.90
1/2-44	GH3	2376-955	2376-956	2376-957	102.90
1/2-50	GH3	2376-961	2376-962	2376-963	102.90
1/2-40	GH3	2376-965	2376-966	2376-967	102.90
1/2-64	GH1	2377-025	2377-026	2377-027	102.90
1/2-68	GH3	2377-031	2377-032	2377-033	102.90
1/2-80	GH2	2377-064	2377-065	2377-066	102.90
33/64-13	GH3	2377-095	2377-096	2377-097	105.05
37/64-18	GH3	2377-102	2377-103	2377-104	105.05
17/32-13	GH3	2377-179	2377-180	2377-181	105.05
17/32-20	GH3	2377-200	2377-201	2377-202	105.05
9/16-8	GH4	2377-380	2377-381	2377-382	105.05
9/16-10	GH5	2377-383	2377-384	2377-385	105.05
9/16-11	GH3	2377-386	2377-387	2377-388	105.05
9/16-12	GH5	2377-389	2377-390	2377-391	105.05
9/16-14	GH3	2377-392	2377-393	2377-394	105.05
9/16-16	GH3	2377-399	2377-400	2377-401	105.05
9/16-20	GH3	2377-409	2377-410	2377-411	105.05
9/16-20	GH20	-	2377-415	-	105.05
9/16-24	GH3	2377-421	2377-422	2377-423	105.05
9/16-27	GH3	2377-442	2377-443	2377-444	105.05
9/16-28	GH3	2377-457	2377-458	2377-459	105.05
9/16-32	GH3	2377-472	2377-473	2377-474	105.05
9/16-40	GH3	2377-502	2377-503	2377-504	105.05
19/32-32	GH3	2377-740	2377-741	2377-742	109.35
5/8-9	GH3	2377-899	2377-900	2377-901	109.35
5/8-10	GH3	2377-902	2377-903	2377-904	109.35
5/8-11.5	GH3	2377-905	2377-906	2377-907	109.35
5/8-12	GH3	2377-915	2377-916	2377-917	109.35
5/8-14	GH3	2377-930	2377-931	2377-932	109.35
5/8-16	GH3	2377-945	2377-946	2377-947	109.35
5/8-18	GH1	2377-948	2377-949	2377-950	109.35
5/8-20	GH3	2377-957	2377-958	2377-959	109.35
5/8-24	GH3	2377-969	2377-970	2377-971	109.35
5/8-27	GH3	2377-987	2377-988	2377-989	109.35
5/8-28	GH3	2377-999	2378-000	2378-001	109.35
5/8-32	GH3	2378-011	2378-012	2378-013	109.35
5/8-40	GH3	2378-035	2378-036	2378-037	109.35
41/64-11	GH3	2378-135	2378-136	2378-137	113.09
41/64-18	GH3	2378-142	2378-143	2378-144	113.09
11/16-10	GH3	2378-400	2378-401	2378-402	113.09
11/16-11	GH3	2378-403	-	-	P.O.A.
11/16-12	GH3	2378-406	2378-407	2378-408	113.09
11/16-14	GH3	2378-418	2378-419	2378-420	113.09
11/16-18	GH3	2378-430	2378-431	2378-432	113.09
11/16-20	GH3	2378-442	2378-443	2378-444	113.09
11/16-24	GH3	2378-455	2378-456	2378-457	113.09
11/16-24	GH5	2378-461	2378-462	2378-463	113.09
11/16-32	GH3	2378-497	2378-498	2378-499	113.09

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
11/16-40	GH2	2378-521	2378-522	2378-523	\$113.09
23/32-12	GH3	2378-686	2378-687	2378-688	117.05
3/4-8	GH4	2378-885	2378-886	2378-887	117.05
3/4-10	GH1	2378-888	2378-889	2378-890	117.05
3/4-10	GH5	2378-891	2378-892	2378-893	117.05
3/4-11	GH3	2378-894	2378-895	2378-896	117.05
3/4-12	GH3	2378-898	2378-899	2378-900	117.05
3/4-16	GH11	2378-912	2378-913	-	117.05
3/4-18	GH3	2378-915	2378-916	2378-917	117.05
3/4-14	GH3	2378-921	2378-922	2378-923	117.05
3/4-20	GH3	2378-930	2378-931	2378-932	117.05
3/4-24	GH3	2378-951	2378-952	2378-953	117.05
3/4-27	GH3	2378-981	2378-982	2378-983	117.05
3/4-28	GH3	2378-984	2378-985	2378-986	117.05
3/4-32	GH3	2378-996	2378-997	2378-998	117.05
3/4-40	GH3	2379-026	2379-027	2379-028	117.05
49/64-10	GH3	2379-178	2379-179	2379-180	124.52
49/64-12	GH3	2379-181	2379-182	2379-183	124.52
25/32-18	GH5	2379-288	2379-289	2379-290	124.52
25/32-32	GH3	2379-327	2379-328	2379-329	124.52
13/16-10	GH4	2379-500	2379-501	2379-502	124.52
13/16-12	GH3	2379-512	2379-513	2379-514	124.52
13/16-12	GH5	2379-515	2379-516	2379-517	124.52
13/16-14	GH3	2379-521	2379-522	2379-523	124.52
13/16-16	GH4	2379-525	2379-526	2379-527	124.52
13/16-16	GH5	2379-528	2379-529	2379-530	124.52
13/16-18	GH3	2379-540	2379-541	2379-542	124.52
13/16-20	GH2	2379-555	2379-556	2379-557	124.52
13/16-24	GH3	2379-576	2379-577	2379-578	124.52
13/16-32	GH2	2379-621	2379-622	2379-623	124.52
7/8-9	GH3	2380-016	2380-017	2380-018	130.18
7/8-9	GH6	2380-010	2380-011	2380-012	130.18
7/8-9	GH12	2380-013	2380-014	2380-015	130.18
7/8-10	GH3	2380-020	2380-021	2380-022	130.18
7/8-11	GH3	2380-023	2380-024	2380-025	130.18
7/8-12	GH5	2380-029	2380-030	2380-031	130.18
7/8-14	GH7	2380-032	2380-033	2380-034	130.18
7/8-14	GH12	2380-035	2380-036	2380-037	130.18
7/8-14	GH6	2380-038	2380-039	2380-040	130.18
7/8-18	GH4	2380-055	2380-056	2380-057	130.18
7/8-20	GH3	2380-070	2380-071	2380-072	130.18
7/8-24	GH7	2380-091	2380-092	2380-093	130.18
7/8-24	GH3	2380-094	2380-095	2380-096	130.18
7/8-24	GH4	2380-097	2380-098	2380-099	130.18
7/8-27	GH3	2380-106	2380-107	2380-108	130.18
7/8-28	GH3	2380-121	2380-122	2380-123	130.18
7/8-32	GH3	2380-136	2380-137	2380-138	130.18
7/8-40	GH3	2380-166	2380-167	2380-168	130.18
57/64-9	GH4	2380-236	2380-237	2380-238	132.56
29/32-9	GH4	2380-316	2380-317	2380-318	132.56
29/32-14	GH4	2380-334	2380-335	2380-336	132.56
29/32-14	GH5	2380-337	2380-338	2380-339	132.56
29/32-18	GH3	2380-346	2380-347	2380-348	132.56
29/32-32	GH3	2380-374	2380-375	2380-376	132.56
15/16-9	GH3	2380-524	2380-525	2380-526	132.56
15/16-12	GH4	2380-536	2380-537	2380-538	132.56
15/16-14	GH4	2380-551	2380-552	2380-553	132.56
15/16-16	GH4	2380-566	2380-567	2380-568	132.56
15/16-18	GH4	2380-584	2380-585	2380-586	132.56
15/16-20	GH4	2380-596	2380-597	2380-598	132.56
15/16-24	GH4	2380-617	2380-618	2380-619	132.56
15/16-32	GH3	2380-662	2380-663	2380-664	132.56
15/16-40	GH3	2380-669	2380-670	2380-671	132.56
31/32-32	GH3	2380-845	2380-846	2380-847	143.54
1-8	GH12	2381-013	2381-014	2381-015	143.54
1-9	GH4	2381-025	2381-026	2381-027	143.54
1-10	GH4	2381-041	2381-042	2381-043	143.54
1-16	GH4	2381-047	2381-048	2381-049	143.54
1-18	GH4	2381-060	2381-061	2381-062	143.54
1-20	GH3	2381-072	2381-073	2381-074	143.54
1-24	GH3	2381-090	2381-091	2381-092	143.54
1-27	GH3	2381-102	2381-103	2381-104	143.54
1-28	GH3	2381-110	2381-111	2381-112	143.54
1-32	GH3	2381-114	2381-115	2381-116	143.54



# Left Hand Special Hand Taps

High Speed Steel

FOR 2 OR MORE PIECES,  
CALL FOR PRICE

1



Bottom



Plug



Taper

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1-29	GH3	2381-120	2381-121	2381-122	\$143.54
1-40	GH3	2381-138	2381-139	2381-140	143.54
1 1/64-8	GH4	2381-224	2381-225	2381-226	161.80
1 1/64-14	GH4	2381-236	2381-237	2381-238	146.66
1 1/32-8	GH4	2381-304	2381-305	2381-306	161.80
1 1/32-14	GH4	2381-317	2381-318	2381-319	146.66
1 1/16-12	GH4	2381-462	2381-463	2381-464	161.80
1 1/16-14	GH4	2381-474	2381-475	2381-476	146.66
1 1/16-16	GH5	2381-486	2381-487	2381-488	146.66
1 1/16-18	GH4	2381-498	2381-499	2381-500	146.66
1 1/16-20	GH4	2381-516	2381-517	2381-518	146.66
1 1/16-24	GH4	2381-528	2381-529	2381-530	146.66
1 1/8-6	GH4	2381-731	2381-732	2381-733	161.80
1 1/8-7	GH1	2381-734	2381-735	2381-736	161.80
1 1/8-8	GH4	2381-738	2381-739	2381-740	161.80
1 1/8-10	GH4	2381-750	2381-751	2381-752	161.80
1 1/8-12	GH3	-	-	2381-765	161.80
1 1/8-14	GH5	2381-772	2381-773	2381-774	146.66
1 1/8-16	GH3	2381-787	2381-788	2381-789	146.66
1 1/8-18	GH3	2381-799	2381-800	2381-801	146.66
1 1/8-20	GH4	2381-817	2381-818	2381-819	146.66
1 1/8-24	GH4	2381-829	2381-830	2381-831	146.66
1 1/8-28	GH4	2381-854	2381-855	2381-856	146.66
1 1/8-32	GH4	2381-866	2381-867	2381-868	146.66
1 1/8-40	GH3	2381-880	2381-881	2381-882	146.66
1 11/64-18	GH4	2381-886	2381-887	2381-888	162.18
1 3/16-8	GH4	2382-045	2382-046	2382-047	181.61
1 3/16-10	GH4	2382-051	2382-052	2382-053	181.61
1 3/16-12	GH4	2382-060	2382-061	2382-062	181.61
1 3/16-14	GH4	2382-072	2382-073	2382-074	162.18
1 3/16-16	GH4	2382-078	2382-079	2382-080	162.18
1 3/16-18	GH4	2382-087	2382-088	2382-089	162.18
1 3/16-20	GH4	2382-105	2382-106	2382-107	162.18
1 3/16-24	GH4	2382-120	2382-121	2382-122	162.18
1 1/4-6	GH4	2382-290	2382-291	2382-292	181.61
1 1/4-8	GH4	2382-300	2382-301	2382-302	181.61
1 1/4-10	GH4	2382-312	2382-313	2382-314	181.61
1 1/4-14	GH4	2382-336	2382-337	2382-338	162.18
1 1/4-16	GH4	2382-348	2382-349	2382-350	162.18
1 1/4-18	GH4	2382-360	2382-361	2382-362	162.18
1 1/4-20	GH3	2382-378	2382-379	2382-380	162.18
1 1/4-24	GH4	2382-390	2382-391	2382-392	162.18
1 1/4-32	GH4	2382-417	2382-418	2382-419	162.18
1 1/4-40	GH3	2382-429	2382-430	2382-431	162.18
1 9/32-20	GH2	2382-479	2382-480	2382-481	162.18
1 5/16-7	GH4	2382-540	2382-541	2382-542	201.97
1 5/16-8	GH6	2382-546	2382-547	2382-548	201.97
1 5/16-12	GH4	2382-572	2382-573	2382-574	201.97
1 5/16-14	GH2	2382-578	2382-579	2382-580	174.83
1 5/16-16	GH2	2382-584	2382-585	2382-586	174.83
1 5/16-18	GH2	2382-593	2382-594	2382-595	174.83
1 5/16-20	GH4	2382-611	2382-612	2382-613	174.83
1 5/16-24	GH4	2382-626	2382-627	2382-628	174.83
1 3/8-5	GH1	2382-790	2382-791	2382-792	201.97
1 3/8-8	GH4	2382-800	2382-800	2382-800	201.97
1 3/8-10	GH4	2382-812	2382-813	2382-814	201.97
1 3/8-14	GH2	2382-830	2382-831	2382-832	174.83
1 3/8-14	GH4	2382-833	2382-834	2382-835	174.83
1 3/8-16	GH3	2382-842	2382-843	2382-844	174.83
1 3/8-18	GH4	2382-854	2382-855	2382-856	174.83
1 3/8-20	GH4	2382-872	2382-873	2382-874	174.83
1 3/8-24	GH4	2382-887	2382-888	2382-889	174.83
1 3/8-32	GH4	2382-905	2382-906	2382-907	174.83
1 7/16-10	GH5	2383-051	2383-052	2383-053	229.64
1 7/16-12	GH4	2383-063	2383-064	2383-065	229.64
1 7/16-16	GH4	2383-087	2383-088	2383-089	185.81
1 7/16-18	GH4	2383-099	2383-100	2383-101	185.81
1 7/16-20	GH4	2383-108	2383-109	2383-110	185.81
1 1/2-8	GH4	2383-286	2383-286	2383-286	229.64
1 1/2-10	GH4	2383-298	2383-299	2383-300	229.64
1 1/2-14	GH4	2383-312	2383-313	2383-314	185.81
1 1/2-14	GH5	2383-315	2383-316	2383-317	185.81
1 1/2-16	GH6	2383-325	2383-326	2383-327	185.81
1 1/2-18	GH4	2383-331	2383-332	2383-333	185.81

Pittsburg <sup>®</sup> ALLEGHANY					
SIZE	GH LIMIT	BOTTOMING	PLUG	TAPER	PRICE EACH
1 1/2-20	GH4	2383-339	2383-340	2383-341	\$185.81
1 1/2-24	GH4	2383-353	2383-354	2383-355	185.81
1 9/16-8	GH4	2383-606	2383-607	2383-608	252.56
1 9/16-12	GH6	2383-660	2383-661	2383-662	223.63
1 9/16-16	GH5	2383-675	2383-676	2383-677	223.63
1 9/16-18	GH6	2383-695	2383-696	2383-697	223.63
1 9/16-20	GH8	2383-710	2383-711	2383-712	223.63
1 5/8-5	GH6	2383-870	2383-871	2383-872	252.56
1 5/8-5.5	GH6	2383-876	2383-877	2383-878	252.56
1 5/8-6	GH7	2383-882	2383-883	2383-884	252.56
1 5/8-8	GH4	2383-888	2383-889	2383-890	252.56
1 5/8-10	GH6	2383-900	2383-901	2383-902	223.63
1 5/8-12	GH5	2383-912	2383-913	2383-914	223.63
1 5/8-14	GH6	2383-924	2383-925	2383-926	223.63
1 5/8-16	GH6	2383-939	2383-940	2383-941	223.63
1 5/8-18	GH5	2383-954	2383-955	2383-956	223.63
1 5/8-20	GH5	2383-966	2383-967	2383-968	223.63
1 5/8-24	GH3	2383-978	2383-979	2383-980	223.63
1 11/16-10	GH4	2384-075	2384-076	2384-077	235.14
1 11/16-12	GH4	2384-095	2384-096	2384-097	235.14
1 11/16-16	GH4	2384-122	2384-123	2384-124	235.14
1 11/16-24	GH4	2384-161	2384-162	2384-163	235.14
1 3/4-5	GH5	2384-206	2384-207	2384-208	284.96
1 3/4-8	GH6	2384-230	2384-231	2384-232	284.96
1 3/4-10	GH5	2384-242	2384-243	2384-244	284.96
1 3/4-12	GH5	2384-254	2384-255	2384-256	235.14
1 3/4-16	GH5	2384-278	2384-279	2384-280	235.14
1 3/4-18	GH6	2384-290	2384-291	2384-292	235.14
1 3/4-20	GH8	2384-302	2384-303	2384-304	235.14
1 3/4-24	GH6	2384-308	2384-309	2384-310	235.14
1 13/16-20	GH4	2384-452	2384-453	2384-454	246.19
1 7/8-5	GH7	2384-515	2384-516	2384-517	304.96
1 7/8-8	GH7	2384-530	2384-531	2384-532	304.96
1 7/8-10	GH7	2384-536	2384-537	2384-538	246.19
1 7/8-12	GH5	2384-551	2384-552	2384-553	246.19
1 7/8-16	GH5	2384-572	2384-573	2384-574	246.19
1 7/8-18	GH5	2384-584	2384-585	2384-586	246.19
1 7/8-20	GH5	2384-599	2384-600	2384-601	246.19
1 29/32-20	GH5	2384-679	2384-680	2384-681	257.76
1 15/16-10	GH6	2384-712	2384-713	2384-714	257.76
1 15/16-12	GH6	2384-773	2384-774	2384-775	257.76
1 15/16-16	GH6	2384-797	2384-798	2384-799	257.76
1 15/16-18	GH6	2384-809	2384-810	2384-811	257.76
1 15/16-20	GH6	2384-821	2384-822	2384-823	257.76
2-6	GH6	2384-910	2384-911	2384-912	317.55
2-8	GH6	2384-925	2384-926	2384-927	317.55
2-10	GH6	2384-937	2384-938	2384-939	257.76
2-12	GH6	2384-949	2384-950	2384-951	257.76
2-14	GH6	2384-961	2384-962	2384-963	257.76
2-16	GH6	2384-973	2384-974	2384-975	257.76
2-18	GH6	2384-985	2384-986	2384-987	257.76
2-20	GH6	2384-997	2384-998	2384-999	257.76
2 1/8-12	GH5	2385-234	2385-235	2385-236	308.23
2 1/8-16	GH6	2385-243	2385-244	2385-245	308.23
2 1/4-4.5	GH5	2385-442	2385-443	2385-444	428.44
2-4.5	GH6	2385-445	2385-446	2385-447	428.44
2 1/4-5	GH5	2385-486	2385-487	2385-488	428.44
2 1/4-16	GH5	2385-516	2385-517	2385-518	331.16
2 7/32-20	GH5	2385-524	2385-525	2385-526	331.16
2 5/16-24	GH5	2385-641	2385-642	2385-643	349.92
2 3/8-16	GH6	2385-735	2385-736	2385-737	349.92
2 1/2-8	GH5	2385-916	2385-917	2385-918	448.95
2 1/2-12	GH5	2385-931	2385-932	2385-933	387.86
2 1/2-16	GH6	2385-958	2385-959	2385-960	387.86
2 5/8-16	GH5	2386-198	2386-199	2386-200	407.46
2 11/16-16	GH6	2386-248	2386-249	2386-250	426.35
2 3/4-4	GH8	2386-308	2386-309	2386-310	594.24
2 3/4-8	GH6	2386-320	2386-321	2386-322	594.24
2 3/4-12	GH6	2386-334	2386-335	2386-336	426.35
2 3/4-20	GH6	2386-370	2386-371	2386-372	426.35
2 7/8-24	GH6	2386-465	2386-466	2386-467	433.65
3-8	GH6	2386-643	2386-644	2386-645	653.97
3-12	GH6	2386-661	2386-662	2386-663	469.72
3-16	GH6	2386-676	2386-677	2386-678	469.72
3 1/4-6	GH6	-	2386-681	-	733.31

# STI—Screw Thread Insert Taps

1

## High Speed Steel



## Spiral Point Plug Taps



SIZE	GH	# OF FLTS.	BOT	PLUG	PRICE EACH
2-56	2	3	3560-721	3560-722	\$10.62
3-48	2	3	3561-121	3561-122	17.31
3-56	2	3	3561-321	3561-322	17.31
4-40	1	3	3561-711	3561-712	7.25
4-40	2	3	3561-721	3561-722	7.25
4-48	2	3	3561-921	3561-922	7.25
5-40	2	3	3562-121	3562-122	7.25
6-32	2	3	3562-521	3562-522	5.90
6-32	3	3	3562-531	3562-532	7.18
6-40	2	3	3562-721	3562-722	5.90
8-32	2	4	3562-921	3562-922	6.05
8-32	3	4	3562-931	3562-932	6.05
10-24	2	4	3563-321	3563-322	6.20
10-24	3	4	3563-331	3563-332	6.20
10-32	2	4	3563-521	3563-522	6.20
10-32	3	4	3563-531	3563-532	6.20
12-24	3	4	3563-731	3563-732	6.60
1/4-20	2	4	3564-121	3564-122	6.20
1/4-20	3	4	3564-131	3564-132	6.20
1/4-28	2	4	3564-321	3564-322	6.20
1/4-28	3	4	3564-331	3564-332	6.20

SIZE	GH	# OF FLTS.	BOT	PLUG	PRICE EACH
5/16-18	3	4	3564-531	3564-532	7.65
5/16-24	3	4	3564-731	3564-732	7.65
3/8-16	3	4	3564-931	3564-932	8.65
3/8-24	3	4	3565-131	3565-132	8.65
7/16-14	3	4	3565-331	3565-332	12.80
7/16-20	3	4	3565-531	3565-532	12.80
1/2-13	3	4	3565-731	3565-732	15.60
1/2-20	3	4	3565-931	3565-932	15.60
9/16-12	3	4	3566-131	3566-132	25.80
9/16-18	3	4	3566-331	3566-332	25.80
5/8-11	3	4	3566-531	3566-532	30.65
5/8-18	3	4	3566-731	3566-732	30.65
3/4-10	3	4	3567-331	3567-332	43.05
3/4-16	3	4	3567-531	3567-532	43.05
7/8-9	4	4	3567-741	3567-742	58.15
7/8-14	4	4	3567-941	3567-942	58.15
1-8	4	4	3568-141	3568-142	77.70
1-12	4	4	3568-341	3568-342	77.70
1-14	4	4	3568-541	3568-542	77.70

SIZE	GH	# OF FLTS.	PLUG	PRICE EACH
2-56	2	2	3580-722†	\$8.50
4-40	1	2	3581-712	8.50
5-40	1	2	3582-112	8.50
6-32	2	2	3582-522	6.90
6-32	3	2	3582-532†	6.90
6-40	2	2	3582-722	6.90
8-32	2	2	3582-922	7.10
8-32	3	2	3582-932	7.10
10-24	2	2	3583-322	7.20
10-32	2	2	3583-522	7.20
12-24	2	2	3583-722	7.70
1/4-20	2	4	3584-122	7.20
1/4-20	3	4	3584-132	7.20
1/4-28	2	4	3584-322	7.20
1/4-28	3	4	3584-332	7.20
5/16-18	3	4	3584-532	8.80
5/16-24	2	4	3584-722	8.80
3/8-16	3	4	3584-932	9.95
3/8-24	2	4	3585-122	9.95
7/16-14	3	4	3585-332	16.70
7/16-20	3	4	3585-532	16.70
1/2-13	3	4	3585-732	16.95
1/2-20	3	4	3586-132	16.95

† Limited Quantities

# Metric STI—Screw Thread Insert Taps

## High Speed Steel



SIZE	BOTTOM ORDER NO.	PLUG ORDER NO.	PRICE EACH
2.0 X 0.40	3637-118	3637-119	\$23.19
2.2 X 0.45	3637-145	3637-146	11.72
2.5 X 0.45	3637-172	3637-173	11.72
3.0 X 0.50	3637-227	3637-228	9.15
3.5 X 0.60	3637-281	3637-282	7.30
4.0 X 0.70	3637-326	3637-327	7.30
5.0 X 0.80	3637-389	3637-390	7.30
6.0 X 1.00	3637-465	3637-466	7.30
7.0 X 1.00	3637-524	3637-525	7.60
8.0 X 1.00	3637-568	3637-569	8.20
8.0 X 1.25	3637-576	3637-577	8.20
9.0 X 1.00	3637-622	3637-623	32.01
9.0 X 1.25	3637-631	3637-632	13.10
10.0 X 1.0	3637-676	3637-677	16.05
10.0 X 1.25	3637-685	3637-686	16.05
10.0 X 1.50	3637-694	3637-695	16.05
11.0 X 1.0	3637-712	3637-713	18.00
11.0 X 1.25	3637-730	3637-731	18.00
11.0 X 1.50	3637-739	3637-740	18.00
12.0 X 1.25	3637-778	3637-779	18.85

SIZE	BOTTOM ORDER NO.	PLUG ORDER NO.	PRICE EACH
12.0 X 1.50	3637-784	3637-785	\$18.85
12.0 X 1.75	3637-801	3637-802	18.85
14.0 X 1.25	3637-927	3637-928	44.08
14.0 X 1.50	3637-945	3637-946	27.75
14.0 X 2.00	3637-963	3637-964	27.75
16.0 X 1.50	3638-061	3638-062	36.60
16.0 X 2.00	3638-070	3638-071	36.60
18.0 X 1.50	3638-133	3638-134	47.40
18.0 X 2.00	3638-142	3638-143	59.82
18.0 X 2.50	3638-151	3638-152	47.40
20.0 X 1.50	3638-223	3638-224	64.85
20.0 X 2.00	3638-232	3638-233	74.74
20.0 X 2.50	3638-241	3638-242	64.85
22.0 X 1.50	3638-286	3638-287	90.47
22.0 X 2.00	3638-295	3638-296	90.47
22.0 X 2.50	3638-304	3638-305	90.47
24.0 X 1.50	3638-314	3638-315	106.92
24.0 X 2.00	3638-322	3638-323	106.90
24.0 X 3.00	3638-340	3638-341	106.92

# Thread Forming Taps

High Speed Steel

2



SIZE	H-LIMIT	BOTTOM ORDER NO.	PLUG ORDER NO.	PRICE EACH
0-80	H2	6370-121	—	\$11.04
1-64	H2	6370-321	—	11.04
1-72	H2	6370-521	—	11.04
2-56	H2	6370-721	—	10.97
2-56	H3	6370-731	—	10.97
2-64	H2	6370-921	6370-922	10.97
2-64	H3	6370-931	—	10.97
3-48	H3	6371-131	—	10.97
3-56	H3	6371-331	—	10.97
4-40	H3	6371-731	6371-732	9.89
4-40	H5	6371-751	6371-752	9.89
4-48	H3	6371-931	6371-932	9.89
5-40	H3	6372-131	6372-132	9.89
5-40	H5	6372-151	6372-152	9.89
5-44	H3	6372-331	6372-332	9.89
6-32	H3	6372-531	6372-532	8.15
6-32	H5	6372-551	6372-552	8.15
6-40	H3	6372-731	6372-732	8.15
6-40	H5	6372-751	6372-752	8.15
8-32	H3	6372-931	6372-932	8.15
8-32	H5	6372-951	6372-952	8.15
8-36	H3	6373-131	6373-132	8.15
10-24	H4	6373-341	6373-342	8.15

SIZE	H-LIMIT	BOTTOM ORDER NO.	PLUG ORDER NO.	PRICE EACH
10-24	H6	6373-361	6373-362	\$ 8.15
10-32	H4	6373-541	6373-542	8.15
10-32	H6	6373-561	6373-562	8.15
12-24	H4	6373-741	6373-742	8.15
12-24	H6	6373-761	6373-762	8.15
12-28	H4	6373-941	6373-942	8.15
1/4-20	H4	6374-141	6374-142	8.65
1/4-20	H6	6374-161	6374-162	8.65
1/4-28	H4	6374-341	6374-342	8.65
5/16-18	H5	6374-551	6374-552	9.61
5/16-18	H7	6374-571	6374-572	9.61
5/16-24	H5	6374-751	6374-752	9.61
5/16-24	H7	6374-771	6374-772	9.61
3/8-16	H5	6374-951	6374-952	9.61
3/8-16	H7	6374-971	6374-972	10.97
3/8-24	H5	6375-151	6375-152	10.97
3/8-24	H7	6375-171	6375-172	10.97
7/16-14	H5	6375-351	6375-352	16.70
7/16-14	H8	6375-381	6375-382	16.70
7/16-20	H5	6375-551	6375-552	16.70
1/2-13	H5	6375-751	6375-752	18.66
1/2-13	H8	6375-781	6375-782	18.66
1/2-20	H5	6375-951	6375-952	18.66

# Pulley Taps

Plug Chamfer - High Speed Steel

3



SIZE	GH	NO. OF FLUTES	THREAD LENGTH	SHANK DIA.	4" OAL		6" OAL		8" OAL		10" OAL		12" OAL	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0-80	2	3	5/16	.141	2323-002†	\$7.30	-	-	-	-	-	-	-	-
2-56	2	3	7/16	.141	2323-017†	7.30	-	-	-	-	-	-	-	-
2-64	2	3	7/16	.141	2323-027†	7.30	2323-032†	\$7.90	-	-	-	-	-	-
3-48	2	3	1/2	.141	-	-	2323-042†	7.90	-	-	-	-	-	-
3-56	2	3	1/2	.141	2323-052†	7.30	2323-057†	7.90	-	-	-	-	-	-
4-40	2	3	9/16	.141	2323-062†	7.30	2323-067†	7.90	-	-	-	-	-	-
4-48	2	3	9/16	.141	-	-	2323-077†	7.90	-	-	-	-	-	-
5-40	2	3	5/8	.141	2323-082†	7.30	2323-087†	7.90	-	-	-	-	-	-
5-44	2	3	5/8	.141	-	-	2323-097†	7.90	-	-	-	-	-	-
6-32	1	2	11/16	.141	-	-	-	-	2323-111†	\$10.40	-	-	-	-
6-32	3	3	11/16	.141	2323-102†	8.10	2323-107	8.80	-	-	-	-	-	-
6-40	2	3	11/16	.141	-	-	2323-127†	8.80	-	-	-	-	-	-
8-32	3	4	3/4	.168	2323-132†	8.10	2323-137	8.80	2323-142†	10.40	-	-	-	-
8-36	3	4	3/4	.168	-	-	2323-147†	8.80	-	-	-	-	-	-
10-24	3	4	7/8	.194	2323-152†	8.10	2323-157	8.80	2323-162†	10.40	-	-	-	-
10-32	3	4	7/8	.194	2323-167†	8.10	2323-172	8.80	2323-177	10.40	-	-	-	-
12-24	3	4	15/16	.220	2323-182†	9.40	-	-	2323-192†	12.60	-	-	-	-
12-28	3	4	15/16	.220	2323-196†	9.40	2323-202†	10.20	2323-207†	12.60	-	-	-	-
1/4-20	3	4	1"	.255	-	-	2323-277	10.90	2323-282	13.40	-	-	-	-
1/4-28	3	4	1"	.255	-	-	2323-297	10.90	2323-302	13.40	2323-307†	\$20.90	2323-312†	\$29.10
5/16-18	3	4	1-1/8	.318	-	-	2323-317	11.50	2323-322	13.90	2323-327†	21.20	2323-332†	30.70
5/16-24	3	4	1-1/8	.318	-	-	2323-337	11.50	2323-342	13.90	2323-347†	21.20	2323-352†	30.70
3/8-16	3	4	1-1/4	.381	-	-	2323-357	12.60	2323-362	15.40	2323-367	22.70	2323-372	28.70
3/8-24	3	4	1-1/4	.381	-	-	2323-377	12.60	2323-382	15.40	2323-387	22.70	2323-392	28.40
7/16-14	3	4	1-7/16	.444	-	-	2323-397	13.90	2323-402	17.45	2323-407	28.10	2323-412	31.20
7/16-20	3	4	1-7/16	.444	-	-	2323-417	13.90	2323-422	17.45	2323-427	28.10	2323-432	31.70
1/2-13	3	4	1-21/32	.507	-	-	2323-442	17.45	2323-437	23.60	2323-447	32.40	2323-452	39.90
1/2-20	3	4	1-21/32	.507	-	-	2323-457	17.45	2323-462	23.60	2323-467	32.40	2323-472	39.90
9/16-12	3	4	1-21/32	.570	-	-	2323-477	21.20	2323-482	26.50	2323-487	37.60	2323-492	44.00
9/16-18	3	4	1-21/32	.570	-	-	2323-497	21.20	2323-502	26.50	2323-507	37.60	2323-512	44.00
5/8-11	3	4	1-13/16	.633	-	-	2323-517	24.60	2323-522	30.75	2323-527	43.70	2323-532	51.10
5/8-18	3	4	1-13/16	.633	-	-	2323-537	24.60	2323-542	30.75	2323-547	43.70	2323-552	51.10
3/4-10	3	4	2"	.759	-	-	2323-557	31.80	2323-562	38.50	2323-567	51.30	2323-572	61.00
3/4-16	3	4	2"	.759	-	-	2323-577	31.80	2323-582	38.50	2323-587	51.30	2323-592	61.00

# Pulley & Extension Taps

Plug Chamfer - High Speed Steel **ALLEGIANCE** <sup>2</sup>  MADE IN U.S.A.



Type: E= Extension P= Pulley \* Small Shank † Limited Quantities

SIZE	GH	# OF FLUTES	THREAD LENGTH	SHK. DIA.	TYPE E/P	6" OAL		8" OAL	
						ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6-32	3	3	11/16	.141	P	3763-107	\$24.39	-	-
8-32	3	4	3/4	.168	P	3763-137	24.39	-	-
10-24	3	4	7/8	.194	P	3763-157	24.39	-	-
10-32	3	4	7/8	.194	P	3763-172	24.39	-	-
1/4-20	3	4	1	.185*	E	3763-219	20.56	-	-
1/4-20	3	4	1	.255	P	3764-277	20.56	3764-282	\$25.60
1/4-28	3	4	1	.255	P	3764-297	20.56	-	-
5/16-18	3	4	1-1/8	.240*	E	3763-319	22.38	-	-
5/16-18	3	4	1-1/8	.318	P	3764-317	22.38	3764-322	26.59
5/16-24	3	4	1-1/8	.318	P	3764-337	22.38	-	-
3/8-16	3	4	1-1/4	.275*	E	3763-359	24.22	-	-
3/8-16	3	4	1-1/4	.381	P	3764-357	24.22	3764-362	27.29
3/8-24	3	4	1-1/4	.381	P	3764-377	24.22	-	-
7/16-14	3	4	1-7/16	.323	E	3763-397	25.48	-	-
7/16-14	3	4	1-7/16	.444	P	-	-	3764-402	32.76
7/16-20	3	4	1-7/16	.323	E	3763-417	25.48	-	-
1/2-13	3	4	1-21/32	.367	E	3763-437	32.05	-	-
1/2-13	3	4	1-21/32	.507	P	-	-	3764-437	37.78
1/2-20	3	4	1-21/32	.367	E	3763-457	32.05	-	-
9/16-12	3	4	1-21/32	.429	E	3763-477	53.42	-	-
9/16-18	3	4	1-21/32	.429	E	3763-497	53.42	-	-
5/8-11	3	4	1-13/16	.480	E	3763-517	59.16	-	-
5/8-18	3	4	1-13/16	.480	E	3763-537	59.16	-	-
3/4-10	3	4	2	.590	E	3763-557	68.39	-	-

# Pulley Taps - Bottom Chamfer

High Speed Steel

<sup>3</sup> **Pittsburg ALLEGHANY**



SIZE	GH	NO. OF FLUTES	THREAD LENGTH	SHANK DIA.	6" OAL		8" OAL	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4-40	2	3	9/16	.141	2323-066†	\$8.90	-	-
6-32	1	2	11/16	.141	-	-	2323-110†	\$11.70
8-32	1	2	3/4	.168	2323-135†	9.90	2323-140†	11.70
8-32	3	4	3/4	.168	2323-136	9.90	-	-
8-36	3	4	3/4	.168	2323-147†	8.80	-	-
10-24	1	2	7/8	.194	-	-	2323-161†	11.70
10-24	3	4	7/8	.194	2323-156	9.90	-	-
10-32	1	2	7/8	.194	-	-	2323-176†	11.70
10-32	2	4	7/8	.194	2323-170†	9.90	-	-
10-32	3	4	7/8	.194	2323-171	9.90	-	-
12-24	1	2	15/16	.220	2323-186†	11.50	2323-191†	14.20
12-24	3	4	15/16	.220	2323-187†	11.50	-	-
12-28	3	4	15/16	.220	2323-201†	11.50	-	-
1/4-20	3	4	1"	.255	2323-276	12.30	2323-281	15.10
5/16-18	3	4	1-1/8	.318	2323-316	12.90	2323-321	15.60
3/8-16	3	4	1-1/4	.381	2323-356	14.20	2323-361	17.30
7/16-14	3	4	1-7/16	.444	2323-396	15.60	2323-401	19.60
1/2-13	3	4	1-21/32	.507	2323-440	19.60	2323-441	26.50

† Limited Quantities

# Spiral Point Pulley Taps - Plug Chamfer - High Speed Steel



SIZE	GH	NO. OF FLUTES	THREAD LENGTH	SHANK DIA.	Pittsburg ALLEGHANY				ALLEGIANCE			
					4" OAL		6" OAL		8" OAL		6" OAL	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0-80	2	2	5/16	.141	2325-002†	\$8.55	-	-	-	-	-	-
1-64	2	2	3/8	.141	2325-010†	8.55	-	-	-	-	-	-
1-72	2	2	3/8	.141	2325-018†	8.55	-	-	-	-	-	-
2-56	2	2	7/16	.141	2325-026†	8.55	2325-028†	\$9.30	-	-	-	-
2-64	2	2	7/16	.141	2325-034†	8.55	-	-	-	-	-	-
3-48	1	2	1/2	.141	2325-042†	8.55	-	-	-	-	-	-
3-48	2	2	1/2	.141	-	-	2325-044†	9.30	-	-	-	-
3-56	2	2	1/2	.141	-	-	2325-052†	9.30	-	-	-	-
4-36	2	2	9/16	.141	-	-	2325-060†	9.30	-	-	-	-
4-40	2	2	9/16	.141	2325-066†	8.55	-	-	-	-	-	-
5-40	3	2	5/8	.141	-	-	2325-084†	9.30	-	-	-	-
6-32	1	2	11/16	.141	-	-	-	-	2325-102†	\$11.90	-	-
6-32	3	2	11/16	.141	2325-098	9.50	2325-100	10.30	-	-	3763-600	\$26.25
6-40	1	2	11/16	.141	-	-	2325-108†	10.30	-	-	-	-
8-32	1	2	3/4	.168	-	-	-	-	2325-118†	11.90	-	-
8-32	3	2	3/4	.168	2325-114	9.50	2325-116	10.30	-	-	3763-616	26.25
8-36	2	2	3/4	.168	2325-122†	9.50	-	-	-	-	-	-
8-36	3	2	3/4	.168	-	-	2325-124†	10.30	-	-	-	-
10-24	1	2	7/8	.194	-	-	-	-	2325-134†	11.90	-	-
10-24	3	2	7/8	.194	2325-130	9.50	2325-132	10.30	-	-	3763-632	25.79
10-32	1	2	7/8	.194	-	-	-	-	2325-142†	11.90	-	-
10-32	3	2	7/8	.194	2325-138	9.50	2325-140	10.30	-	-	3763-640	25.79
12-24	1	2	15/16	.220	-	-	2325-148†	10.30	2325-150†	11.90	-	-
12-24	3	2	15/16	.220	2325-146†	9.50	-	-	-	-	-	-
12-28	3	2	15/16	.220	2325-154†	9.50	2325-156†	10.30	-	-	-	-
1/4-20	3	2	1"	.255	2325-162	12.10	2325-164	13.10	2325-166	18.50	3763-664	22.52
1/4-28	3	2	1"	.255	2325-170	12.10	2325-172	13.10	2325-174	18.90	3763-672	22.52
5/16-18	3	2	1-1/8	.318	2325-178	12.70	2325-180	13.80	2325-182	18.70	3763-680	23.44
5/16-24	3	2	1-1/8	.318	2325-186	12.70	2325-188	13.80	2325-190	19.10	3763-688	23.44
3/8-16	3	3	1-1/4	.381	2325-194	13.90	2325-196	15.10	2325-198	20.80	3763-696	25.65
3/8-24	3	3	1-1/4	.381	2325-202	13.90	2325-204	15.10	2325-206	21.30	3763-704	25.65
7/16-14	3	3	1-7/16	.444	-	-	2325-212	16.60	2325-214	23.50	-	-
7/16-20	3	3	1-7/16	.444	-	-	2325-220	16.60	2325-222	23.50	-	-
1/2-13	3	3	1-21/32	.507	-	-	2325-228	19.20	2325-230	27.50	-	-
1/2-20	3	3	1-21/32	.507	-	-	2325-236	19.20	2325-238	27.50	-	-
5/8-11	3	3	1-13/16	.633	-	-	2325-246	30.40	2325-248	40.80	-	-
5/8-18	3	3	1-13/16	.633	-	-	2325-254	30.40	2325-256	40.80	-	-

† Limited Quantities



# Extension Hand Taps

Small Shank - High Speed Steel



SIZE	GH	NO. OF FLUTES	THREAD LENGTH	SHANK DIA.	6" OAL BOTTOMING		6" OAL PLUG		8" OAL PLUG	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4-36	2	3	9/16	.080	2324-059†	11.10	2324-060†	\$9.90	-	-
4-40	2	3	9/16	.080	2324-066†	11.10	2324-067†	9.90	-	-
5-40	2	3	5/8	.093	2324-086†	11.10	2324-087†	9.90	-	-
5-44	2	3	5/8	.093	2324-096†	11.10	2324-097†	9.90	-	-
6-32	2	3	11/16	.097	-	-	2324-103†	11.00	-	-
6-32	3	3	11/16	.097	-	-	2324-107	11.00	-	-
6-40	2	3	11/16	.097	2324-126†	12.40	2324-127†	11.00	-	-
8-32	3	3	3/4	.123	2324-136	12.40	2324-137	11.00	-	-
10-24	3	3	7/8	.136	2324-156	12.40	2324-157	11.00	-	-
10-32	3	3	7/8	.136	2324-171	12.40	2324-172	11.00	-	-
12-24	3	4	15/16	.168	2324-187†	14.40	-	-	-	-
12-28	3	4	15/16	.168	2324-201†	14.40	2324-202†	12.80	-	-
14-20	3	4	1"	.185	2324-207†	14.40	-	-	-	-
14-24	3	4	1"	.185	2324-211†	14.40	-	-	-	-
1/4-20	3	4	1"	.185	2324-216	15.40	2324-217	13.70	-	-
1/4-28	3	4	1"	.185	-	-	2324-297	13.70	-	-
5/16-18	3	4	1-1/8	.240	2324-316	16.20	2324-317	14.40	-	-
5/16-24	3	4	1-1/8	.240	-	-	2324-337	14.40	-	-
3/8-16	3	4	1-1/4	.275	2324-356	17.70	2324-357	15.80	2324-362	19.30
3/8-24	3	4	1-1/4	.275	-	-	2324-377	15.80	-	-
7/16-14	3	4	1-7/16	.323	-	-	2324-397	17.40	2324-402†	21.90
7/16-20	3	4	1-7/16	.323	2324-416†	19.50	2324-417	17.40	2324-422†	21.90
1/2-13	3	4	1-21/32	.367	2324-436	24.60	2324-437	21.90	2324-442	29.50
1/2-20	3	4	1-21/32	.367	-	-	2324-457	21.90	2324-462†	29.50
5/8-11	3	4	1-13/16	.480	-	-	2324-517	30.80	2324-522	38.50
5/8-18	3	4	1-13/16	.480	-	-	2324-537	30.80	-	-
3/4-10	3	4	2"	.590	-	-	2324-557	39.80	2324-562	48.20
3/4-16	3	4	2"	.590	-	-	2324-577	39.80	2324-582†	48.20

† Limited Quantities

# Spiral Point Extension Taps

6" OAL - Small Shank - High Speed Steel



3

2

SIZE	GH	# OF FLTS.	TH'D LGTH.	SHK. DIA.	Pittsburg ALLEGHANY		ALLEGIANCE	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4-48	2	2	9/16	.080	2325-576†	\$44.60	-	-
5-40	2	2	5/8	.093	2325-584†	11.70	-	-
5-44	2	2	5/8	.093	2325-592†	11.70	-	-
6-32	2	2	11/16	.097	2325-600†	12.90	-	-
6-32	3	2	11/16	.097	2325-602	12.90	-	-
8-32	3	2	3/4	.123	2325-616	12.90	-	-
10-24	3	2	7/8	.136	2325-632	12.90	-	-
10-32	3	2	7/8	.136	2325-640	12.90	-	-
12-24	2	2	15/16	.168	2325-648†	12.90	-	-
12-28	3	2	15/16	.168	2325-656†	12.90	-	-
1/4-20	3	2	1"	.185	2325-664	16.40	3763-665	\$25.33
1/4-28	3	2	1"	.185	2325-672	16.40	-	-
5/16-18	3	2	1-1/8	.240	2325-680	17.30	3763-681	24.87
5/16-24	1	2	1-1/8	.240	2325-688†	17.30	-	-
5/16-24	3	2	1-1/8	.240	2325-689	17.30	-	-
3/8-16	3	3	1-1/4	.275	2325-696	18.90	3763-697	27.75
3/8-24	3	3	1-1/4	.275	2325-704	18.90	-	-
7/16-14	3	3	1-7/16	.323	2325-712	20.80	3763-712	26.88
7/16-20	1	3	1-7/16	.323	2325-718†	20.80	-	-
7/16-20	3	3	1-7/16	.323	2325-720	20.80	3763-720	26.88
1/2-13	3	3	1-21/32	.367	2325-728	24.00	3763-728	34.38
1/2-20	3	3	1-21/32	.367	2325-736	24.00	3763-736	34.38

† Limited Quantities

# Nut Taps—Taper Chamfer

High Speed Steel



3

2

SIZE	GH	THREAD LENGTH	OVERALL LENGTH	Pittsburg ALLEGHANY		ALLEGIANCE	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4-20	3	1-5/8	5	2326-185	\$9.28	3765-185	\$39.44
1/4-28	3	1-5/8	5	2326-187	9.28	-	-
5/16-18	3	1-13/16	5-1/2	2326-192	11.07	3765-192	44.66
5/16-24	3	1-13/16	5-1/2	2326-195	11.07	-	-
3/8-16	3	2	6	2326-199	12.29	3765-199	52.74
3/8-24	3	2	6	2326-206	12.29	-	-
7/16-14	3	2-3/8	6-1/2	2326-213	16.25	-	-
7/16-20	3	2-3/8	6-1/2	2326-220	16.25	-	-
1/2-13	3	2-1/2	7	2326-227	18.44	3765-227	68.20
1/2-20	3	2-1/2	7	2326-234	18.44	-	-
9/16-12	3	2-3/4	7-1/2	2326-241	20.35	-	-
9/16-18	3	2-3/4	7-1/2	2326-248	20.35	-	-
5/8-11	3	3	8	2326-255	24.85	-	-
5/8-18	3	3	8	2326-262	24.85	-	-
3/4-10	3	3-3/4	9	2326-269	51.07	-	-
3/4-16	3	3-3/4	9	2326-276	51.07	-	-
7/8-9	3	3-5/8	10	2326-283	71.40	-	-
7/8-14	3	3-5/8	10	2326-290	71.40	-	-
1-8	3	4	11	2326-297	88.86	-	-
1-12	3	4	11	2326-304	88.86	-	-

# Taper Pipe Taps

## Taper Pipe Taps

ANPT, NPT & NPTF Dryseal -  
Ground Thread



3

2

2

SIZE	NO. OF FLUTES	THREAD LG'TH	OVERALL LENGTH	Pittsburg ALLEGHANY			PRICE EACH	ALLEGIANCER <sup>®</sup>			BRUBAKER TOOL CORPORATION			
				ANPT ORDER NO.	NPT ORDER NO.	NPTF ORDER NO.		NPT ORDER NO.	NPTF ORDER NO.	PRICE EACH	ANPT ORDER NO.	NPT ORDER NO.	NPTF ORDER NO.	PRICE EACH
1/16-27	4	11/16	2-1/8	2312-001	2312-002	2312-003	\$ 7.79	3762-202	3762-203	\$ 13.37	2312-201	2312-202	2312-203	\$16.00
1/8-27*	4	3/4	2-1/8	2312-007	2312-008	2312-009	7.79	3762-208	3762-209	13.37	2312-207	2312-208	2312-209	16.00
1/8-27	4	3/4	2-1/8	2312-010	2312-011	2312-012	7.79	3762-212	3762-213	13.37	2312-210	2312-211	2312-212	16.00
1/4-18	4	1-1/16	2-7/16	2312-016	2312-017	2312-018	8.92	3762-217	3762-218	15.17	2312-216	2312-217	2312-218	17.71
3/8-18	4	1-1/16	2-9/16	2312-022	2312-023	2312-024	11.66	3762-223	3762-224	19.14	2312-222	2312-223	2312-224	23.32
1/2-14	4	1-3/8	3-1/8	2312-028	2312-029	2312-030	19.94	3762-229	3762-230	31.12	2312-228	2312-229	2312-230	37.08
3/4-14	5	1-3/8	3-1/4	2312-034	2312-035	2312-036	27.29	3762-235	3762-236	44.38	2312-234	2312-235	2312-236	51.87
1-11-1/2	5	1-3/4	3-3/4	2312-040	2312-041	2312-042	44.74	3762-241	3762-242	67.26	2312-240	2312-241	2312-242	78.83
1-1/4-11-1/2	5	1-3/4	4	2312-046	2312-047	2312-048	61.89	3762-247	3762-248	96.56	2312-246	2312-247	2312-248	112.34
1-1/2-11-1/2	7	1-3/4	4-1/4	2312-049	2312-050	2312-051	86.19	3762-250	3762-251	129.68	2312-249	2312-250	2312-251	150.70
2-11-1/2	7	1-3/4	4-1/2	2312-055	2312-056	2312-057	140.86	3762-256	3762-257	168.64	2312-255	2312-256	2312-257	204.99
2-1/2-8	8	2-9/16	5-1/2	—	2312-062	2312-063	244.62	—	3762-263	292.80	—	—	—	—
3-8	8	2-5/8	6	—	2312-068	2312-069	401.93	—	3762-269	536.46	—	—	—	—
3-1/2-8	8	2-3/4	6-1/2	—	2312-074	2312-075	586.26	—	3762-275	704.34	—	—	—	—
4-8	10	3	7	—	2312-080	2312-081	746.43	—	3762-281	873.37	—	—	—	—

\* Large Shank

## Taper Pipe Taps For Cast Iron

NPT & NPTF Dryseal  
Ground Thread -  
High Speed Steel



- Designed with flutes and cutting face for tapping cast iron
- Large shank design

2

SIZE	NO. OF FLUTES	THREAD LG'TH	OVERALL LENGTH	FOR CAST IRON		
				NPT ORDER NO.	NPTF ORDER NO.	PRICE EACH
1/16-27	4	11/16	2-1/8	—	—	—
1/8-27*	4	3/4	2-1/8	2312-408	2312-409	\$ 16.32
1/8-27	4	3/4	2-1/8	2312-411	2312-412	16.32
1/4-18	4	1-1/16	2-7/16	2312-417	2312-418	18.05
3/8-18	4	1-1/16	2-9/16	2312-423	2312-424	23.78
1/2-14	4	1-3/8	3-1/8	2312-429	2312-430	37.80
3/4-14	5	1-3/8	3-1/4	2312-435	2312-436	52.87
1-11-1/2	5	1-3/4	3-3/4	2312-441	2312-442	80.35
1-1/4-11-1/2	5	1-3/4	4	2312-447	2312-448	114.52
1-1/2-11-1/2	7	1-3/4	4-1/4	2312-450	2312-451	153.62
2-11-1/2	7	1-3/4	4-1/2	2312-456	2312-457	208.96

\* Large Shank

## Left Hand Taper Pipe Taps

NPT & NPTF Dryseal  
Ground Thread  
High Speed Steel



3

SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	LH NPT ORDER NO.	LH NPTF ORDER NO.	PRICE EACH
1/16-27	4	11/16	2-1/8	2313-001	2313-002	\$ 14.10
1/8-27*	4	3/4	2-1/8	2313-005	2313-006	14.10
1/8-27	4	3/4	2-1/8	2313-007	2313-008	14.10
1/4-18	4	1-1/16	2-7/16	2313-011	2313-012	16.80
3/8-18	4	1-1/16	2-9/16	2313-015	2313-016	21.70
1/2-14	4	1-3/8	3-1/8	2313-019	2313-020	30.40
3/4-14	5	1-3/8	3-1/4	2313-023	2313-024	44.90
1-11-1/2	5	1-3/4	3-3/4	2313-027	2313-028	72.20
1-1/4-11-1/2	5	1-3/4	4	2313-031	2313-032	103.20
1-1/2-11-1/2	7	1-3/4	4-1/4	2313-035	2313-036	134.20
2-11-1/2	7	1-3/4	4-1/2	2313-039	2313-040	238.30
2-1/2-8	8	2-9/16	5-1/2	2313-043	2313-044	510.45
3-8	8	2-5/8	6	2313-047	2313-048	701.65
3-1/2-8	8	2-3/4	6-1/2	2313-051	2313-052	855.75
4-8	10	3	7	2313-055	2313-056	1009.85

\* Large Shank

## Spiral Flute Taper Pipe Taps - HSS



- Used in ductile or stringy material to aid chip ejection.

2

SIZE	NO. OF FLUTES	NPT ORDER NO.	NPTF ORDER NO.	PRICE EACH
1/8-27*	4	2312-508	2312-509	\$24.88
1/4-18	4	2312-517	2312-518	28.66
3/8-18	4	2312-523	2312-524	35.88
1/2-14	4	2312-529	2312-530	45.05
3/4-14	5	2312-535	2312-536	68.16
1-11-1/2	5	2312-541	2312-542	120.05

\* Large Shank Only

# Pipe Taps



## Taper Pipe Taps

NPT - Cut Thread - Carbon Steel



3

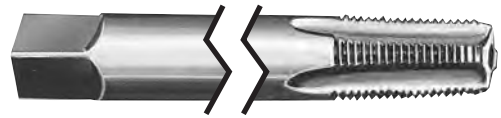
SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/8-27*	4	3/4	2-1/8	2322-040	\$ 2.46
1/8-27	4	3/4	2-1/8	2322-041	2.46
1/4-18	4	1-1/16	2-1/8	2322-042	3.79
3/8-18	4	1-1/16	2-9/16	2322-044	5.03
1/2-14	4	1-3/8	3-1/8	2322-046	6.59
3/4-14	5	1-3/8	3-1/4	2322-048	9.40
1-11-1/2	5	1-3/4	3-3/4	2322-050	18.19
1-1/4-11-1/2	5	1-3/4	4	2322-052	28.88
1-1/2-11-1/2	7	1-3/4	4-1/4	2322-054	42.08
2-11-1/2	7	1-3/4	4-1/2	2322-056	65.40
2-1/2-8	8	2-9/16	5-1/2	2322-058	172.64
3-8	8	2-5/8	6	2322-060	245.88

Sizes available to 6" Diameter - POA

\* Large Shank

## Extra Long Taper Pipe Taps

NPT - Ground Thread - High Speed Steel



3

SIZE	4" OAL		6" OAL		12" OAL	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16-27	2318-001†	\$14.91	2318-003†	\$18.61	2318-009†	\$35.09
1/8-27	2318-011	14.91	2318-013	18.61	2318-019†	38.94
1/4-18	2318-021	19.14	2318-023	22.36	2318-029	58.63
3/8-18	2318-032†	22.80	2318-034	25.80	2318-040	91.74
1/2-1/4	—	—	2318-042	34.49	2318-048	110.44
3/4-14	—	—	2318-050	50.37	2318-056	151.25
1-11-1/2	—	—	2318-058	65.79	2318-065	198.33
1-1/4-11-1/2	—	—	2318-067	159.89	2318-073	241.56
1-1/2-11-1/2	—	—	2318-075	211.42	2318-081	294.47

8" and 10" OAL available on request.

† Limited Quantities

## Combined Pipe Tap and Drill

NPT - High Speed Steel



1

SIZE	NO. OF FLUTES	OVERALL LENGTH	DRILL LENGTH	THREAD LENGTH	DRILL SIZE	ORDER NO.	PRICE EACH
1/16-27	4	2-13/16	11/16	11/16	D	2334-001	\$ 34.03
1/8-27	4	2-7/8	3/4	3/4	R	2334-002	42.91
1/4-18	4	3-5/16	7/8	1-1/16	7/16	2334-004	48.69
3/8-18	4	3-1/2	15/16	1-1/16	37/64	2334-005	56.17
1/2-14	4	4-3/8	1-1/4	1-3/8	45/64	2334-006	85.41
3/4-14	5	4-9/16	1-5/16	1-3/8	39/64	2334-007	119.22
1-11-1/2	4	5-3/8	1-5/8	1-3/4	1-5/32	2334-008	178.89

## Brubaker Interrupted Thread Taper Pipe Taps

NPT & NPTF Dryseal

Ground Thread - High Speed Steel



MADE IN U.S.A.



2

SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	INTERRUPTED THREAD		PRICE EACH
				NPT ORDER NO.	NPTF ORDER NO.	
1/8-27*	4	3/4	2-1/8	2316-205	2316-206	\$ 25.28
1/8-27	4	3/4	2-1/8	2316-207	2316-208	25.28
1/4-18	4	1-1/16	2-7/16	2316-211	2316-212	28.07
3/8-18	4	1-1/16	2-9/16	2316-215	2316-216	35.41
1/2-14	4	1-3/8	3-1/8	2316-219	2316-220	56.49
3/4-14	5	1-3/8	3-1/4	2316-223	2316-224	80.35
1-11-1/2	5	1-3/4	3-3/4	2316-227	2316-228	123.10
1-1/4-11-1/2	5	1-3/4	4	2316-231	2316-232	172.68
1-1/2-11-1/2	7	1-3/4	4-1/4	2316-235	2316-236	232.80
2-11-1/2	7	1-3/4	4-1/2	2316-239	2316-240	313.91

\* Large Shank

## ALLEGIANCE® Interrupted Thread Taper Pipe Taps



MADE IN U.S.A.

NPT & NPTF Dryseal

Ground Thread

High Speed Steel



2

NOMINAL SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	SHANK DIA.	NO. OF FLUTES	INTERRUPTED THREAD		PRICE EACH
						NPT ORDER NO.	NPTF ORDER NO.	
1/16-27	4	11/16	2-1/8	.3125	5	—	—	—
1/8-27* (Lg)	4	3/4	2-1/8	.4375	5	3762-308	3762-309	\$ 22.85
1/8-27* (Sm)	4	3/4	2-1/8	.3125	5	3762-312	3762-313	22.85
1/4-18	4	1-1/16	2-7/16	.5625	5	3762-317	3762-318	25.39
3/8-18	4	1-1/16	2-9/16	.7000	5	3762-323	3762-324	31.98
1/2-14	4	1-3/8	3-1/8	.6875	5	3762-329	3762-330	51.08
3/4-14	5	1-3/8	3-1/4	.9063	5	3762-335	3762-336	72.64
1"-11-1/2	5	1-3/4	3-3/4	1.1250	5	3762-341	3762-342	111.44
1-1/4-11-1/2	5	1-3/4	4	1.3125	5	3762-347	3762-348	156.24
1-1/2-11-1/2	7	1-3/4	4-1/4	1.5000	7	3762-350	—	210.71
2"-11-1/2	7	1-3/4	4-1/2	1.8750	7	3762-356	—	283.96

## Pittsburg Allegheny Interrupted Thread Taper Pipe Taps

NPT & NPTF Dryseal

High Speed Steel



3

SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	INTERRUPTED THREAD		PRICE EACH
				NPT ORDER NO.	NPTF ORDER NO.	
1/16-27	4	11/16	2-1/8	2316-001	2316-002	\$ 12.15
1/8-27*	4	3/4	2-1/8	2316-005	2316-006	12.15
1/8-27	4	3/4	2-1/8	2316-007	2316-008	12.15
1/4-18	4	1-1/16	2-7/16	2316-011	2316-012	13.46
3/8-18	4	1-1/16	2-9/16	2316-015	2316-016	18.81
1/2-14	4	1-3/8	3-1/8	2316-019	2316-020	29.93
3/4-14	5	1-3/8	3-1/4	2316-023	2316-024	42.57
1-11-1/2	5	1-3/4	3-3/4	2316-027	2316-028	65.25
1-1/4-11-1/2	5	1-3/4	4	2316-031	2316-032	91.40
1-1/2-11-1/2	7	1-3/4	4-1/4	2316-035	2316-036	123.35
2-11-1/2	7	1-3/4	4-1/2	2316-039	2316-040	166.50

\* Large Shank

# Straight Pipe Taps

## **Pittsburg** ALLEGHANY *Straight Pipe Taps*

**NPS & NPSF Dryseal - Ground Thread - High Speed Steel**



3

SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	NPS ORDER NO.	NPSF ORDER NO.	PRICE EACH
1/16-27	4	11/16	2-1/8	2314-001	2314-002	\$ 9.26
1/8-27*	4	3/4	2-1/8	2314-013	2314-015	9.26
1/8-27	4	3/4	2-1/8	2314-014	2314-016	9.26
1/4-18	4	1-1/16	2-7/16	2314-027	2314-028	10.24
3/8-18	4	1-1/16	2-9/16	2314-039	2314-040	14.26
1/2-14	4	1-3/8	3-1/8	2314-051	2314-052	22.54
3/4-14	5	1-3/8	3-1/4	2314-063	2314-064	33.12
1-11-1/2	5	1-3/4	3-3/4	2314-075	2314-076	50.27
1-1/4-11-1/2	5	1-3/4	4	2314-087	2314-088	87.29
1-1/2-11-1/2	7	1-3/4	4-1/4	2314-096	2314-097	116.50
2-11-1/2	7	1-3/4	4-1/2	2314-104	2314-105	211.29
2-1/2-8	8	2-9/16	5-1/2	2314-112	2314-113	434.24
3-8	8	2-5/8	6	2314-120	2314-121	579.03
3-1/2-8	8	2-3/4	6-1/2	2314-128	-	759.80
4-8	10	3	7	2314-136	-	940.70

\* Large Shank

## **Pittsburg** ALLEGHANY *Straight Pipe Tap*

**NH - Garden Hose Ground Thread High Speed Steel**



2

SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	ORDER NO.	PRICE EACH
3/4-11-1/2	5	1-3/8	3-1/4	2314-060	\$80.90

## **ALLEGIANCE** *Straight Pipe Taps*

**NPS & NPSF Dryseal - Ground Thread - High Speed Steel**



MADE IN U.S.A.



2

NOMINAL SIZE	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	SHANK DIA.	NPS	NPSF	PRICE EACH
					ORDER NO.	ORDER NO.	
1/8-27* (Lg)	4	3/4	2-1/8	.4375	3762-408	3762-409	\$15.66
1/8-27* (Sm)	4	3/4	2-1/8	.3125	3762-412	3762-413	15.66
1/4-18	4	1-1/16	2-7/16	.5625	3762-417	3762-418	17.39
3/8-18	4	1-1/16	2-9/16	.7000	3762-423	3762-424	22.73
1/2-14	4	1-3/8	3-1/8	.6875	3762-429	3762-430	36.32
3/4-14	5	1-3/8	3-1/4	.9063	3762-435	3762-436	50.83
1-11-1/2	5	1-3/4	3-3/4	1.1250	3762-441	-	77.19

\* Unless specified, large shanks will be supplied.

## *Brubaker Straight Pipe Taps*

**NPS & NPSF Dryseal - Ground Thread - High Speed Steel**



2

SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	NPS ORDER NO.	NPSF ORDER NO.	PRICE EACH
1/8-27*	4	3/4	2-1/8	2314-213	2314-214	\$17.66
1/4-18	4	1-1/16	2-7/16	2314-227	2314-228	19.67
3/8-18	4	1-1/16	2-9/16	2314-239	2314-240	26.42
1/2-14	4	1-3/8	3-1/8	2314-251	2314-252	40.93
3/4-14	5	1-3/8	3-1/4	2314-263	2314-264	57.35
1-11-1/2	5	1-3/4	3-3/4	2314-275	2314-276	87.03

\* Large Shank

## **Pittsburg** ALLEGHANY *Left Hand Straight Pipe Taps*

**NPS & NPSF Dryseal - Ground Thread - High Speed Steel**



2

SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	LH NPS ORDER NO.	LH NPSF ORDER NO.	PRICE EACH
1/16-27	4	11/16	2-1/8	2315-001	2315-002	\$ 39.35
1/8-27*	4	3/4	2-1/8	2315-003	2315-004	43.50
1/8-27	4	3/4	2-1/8	2315-005	2315-006	43.50
1/4-18	4	1-1/16	2-7/16	2315-009	2315-010	51.85
3/8-18	4	1-1/16	2-9/16	2315-013	2315-014	60.15
1/2-14	4	1-3/8	3-1/8	2315-017	2315-018	79.90
3/4-14	5	1-3/8	3-1/4	2315-021	2315-022	110.25
1-11-1/2	5	1-3/4	3-3/4	2315-025	2315-026	140.55
1-1/4-11-1/2	5	1-3/4	4	2315-029	2315-030	202.10
1-1/2-11-1/2	7	1-3/4	4-1/4	2315-033	2315-034	244.55
2-11-1/2	7	1-3/4	4-1/2	2315-037	2315-038	318.75
2-1/2-8	8	2-9/16	5-1/2	2315-041	2315-042	510.45
3-8	8	2-5/8	6	2315-045	2315-046	701.65
3-1/2-8	8	2-3/4	6-1/2	2315-049	2315-050	855.75
4-8	10	3	7	2315-053	2315-054	1009.85

\* Large Shank



# British Thread Taps & Dies

2

## 55° Whitworth Thread - High Speed Steel

### Hand Taps Right Hand



SIZE		PLUG TAP		BOTTOM TAP		SPIRAL POINT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8-40	BSW	2319-204	\$ 6.11	2319-204B	\$ 6.11	2319-304	\$ 10.49
5/32-32	BSW	2319-205	7.80	2319-205B	7.80	—	—
3/16-24	BSW	2319-206	6.01	2319-206B	6.01	2319-306	6.86
3/16-32	BSF	2319-207	7.94	2319-207B	7.94	2319-307	9.07
1/4-20	BSW	2319-208	6.11	2319-208B	6.11	2319-308	8.16
1/4-26	BSF	2319-209	6.74	2319-209B	6.74	2319-309	9.58
5/16-18	BSW	2319-210	6.74	2319-210B	6.74	2319-310	10.66
5/16-22	BSF	2319-211	8.17	2319-211B	8.17	2319-311	10.37
3/8-16	BSW	2319-212	9.10	2319-212B	9.10	2319-312	13.78
3/8-20	BSF	2319-213	10.16	2319-213B	10.16	2319-313	14.85
7/16-14	BSW	2319-214	13.09	2319-214B	13.09	2319-314	17.51
7/16-18	BSF	2319-215	14.21	2319-215B	14.21	2319-315	22.51
1/2-12	BSW	2319-216	13.40	2319-216B	13.40	2319-316	19.50
1/2-16	BSF	2319-217	16.21	2319-217B	16.21	2319-317	21.15
9/16-12	BSW	2319-218	23.50	2319-218B	23.50	2319-318	28.85
9/16-16	BSF	2319-219	23.44	2319-219B	23.44	2319-319	29.36
5/8-11	BSW	2319-220	17.89	2319-220B	17.89	2319-320	29.31
5/8-14	BSF	2319-221	23.44	2319-221B	23.44	2319-321	29.31
3/4-10	BSW	2319-223	26.25	2319-223B	26.25	2319-322	45.12
3/4-12	BSF	2319-224	34.67	2319-224B	34.67	2319-323	44.95
7/8-9	BSW	2319-225	43.33	2319-225B	43.33	2319-324	55.95
7/8-11	BSF	2319-226	47.01	2319-226B	47.01	2319-325	55.66
1"-8	BSW	2319-227	53.56	2319-227B	53.56	2319-326	68.81
1-10	BSF	2319-228	58.05	2319-228B	58.05	2319-327	68.81
1-1/8-7	BSW	2319-229	84.43	2319-229B	84.43	—	—
1-1/8-9	BSF	2319-230	84.12	2319-230B	84.12	—	—
1-1/4-7	BSW	2319-231	101.39	2319-231B	101.39	—	—
1-1/4-9	BSF	2319-232	101.07	2319-232B	101.07	—	—
1-1/2-6	BSW	2319-233	156.50	2319-233B	156.50	—	—
1-1/2-8	BSF	2319-234	156.75	2319-234B	156.75	—	—
2-4-1/2	BSW	2319-235	370.87	2319-235B	370.87	—	—
2-7	BSF	2319-236	372.43	2319-236B	372.43	—	—

Spiral Flute available on request.

### Round Adjustable & Hexagon Rethreading Dies - Right Hand



SIZE		O.D.	H.S. ROUND ADJ.		CS HEX.	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8-40	BSW	13/16	2437-207	\$ 20.90	—	—
3/16-24	BSW	13/16	2437-213	20.90	—	—
1/4-20	BSW	1	2437-225	20.90	2485-017	\$ 23.50
1/4-26	BSF	1	2437-229	23.70	2485-021	24.50
5/16-18	BSW	1	2437-237	23.70	2485-029	27.30
5/16-22	BSF	1	2437-241	24.70	2485-033	28.70
3/8-16	BSW	1	2437-246	23.70	2485-037	31.80
3/8-20	BSF	1	2437-249	24.70	2485-041	33.30
7/16-14	BSW	1-1/2	2437-256	43.80	2485-045	36.90
7/16-18	BSF	1-1/2	2437-260	50.20	2485-049	42.30
1/2-12	BSW	1-1/2	2437-261	43.80	2485-053	40.10
1/2-16	BSF	1-1/2	2437-266	64.40	2485-057	41.80
9/16-12	BSW	1-1/2	2437-270	43.80	2485-061	49.50
9/16-16	BSF	1-1/2	2437-273	50.20	2485-065	51.60
5/8-11	BSW	1-1/2	2437-276	43.80	2485-069	49.50
5/8-14	BSF	1-1/2	2437-279	45.70	2485-073	51.60
3/4-10	BSW	2	2437-288	60.70	2485-081	58.60
3/4-12	BSF	2	2437-291	63.30	2485-085	61.40
7/8-9	BSW	2	2437-300	60.70	2485-089	68.20
7/8-11	BSF	2	2437-303	69.80	2485-093	71.60
1"-8	BSW	2	2437-315	60.70	2485-097	91.40
1-10	BSF	2	2437-318	70.00	2485-101	95.70
1-1/8-7	BSW	3	2437-325	253.80	2485-109	166.50
1-1/8-9	BSF	3	2437-328	264.50	2485-113	POA
1-1/4-7	BSW	3	2437-331	184.50	2485-117	166.50
1-1/4-9	BSF	3	2437-334	192.20	2485-121	POA
1-1/2-6	BSW	3	2437-342	184.50	2485-133	203.00
1-1/2-8	BSF	3	2437-345	192.20	2485-137	203.00
1-5/8-5	BSF	3	2437-348	POA	2485-145	POA
1-5/8-8	BSF	3	—	—	2485-149	POA
1-3/4-5	BSW	3	2437-354†	POA	2485-153	POA
1-3/4-7	BSF	3	2437-357†	POA	2485-157	POA
2-4-1/2	BSW	3	2437-363†	POA	2485-169	POA
2-7	BSF	3	2437-366†	POA	2485-173	POA

Sizes not shown - P.O.A.

† Limited Quantities



## British Thread Pipe Taps

### BSPP & BSPT

#### Ground Thread - High Speed Steel



SIZE	NO. OF FLUTES	THREAD LG'TH	OAL	BSPP STRAIGHT		BSPT TAPER	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8-28*	4	3/4	2-1/8	2319-103	\$ 6.90	2319-002	\$ 13.70
1/8-28	4	3/4	2-1/8	2319-102	6.90	2319-003	13.70
1/4-19	4	1-1/16	2-7/16	2319-104	10.45	2319-004	19.40
3/8-19	4	1-1/16	2-9/16	2319-105	13.80	2319-005	22.85
1/2-14	4	1-3/8	3-1/8	2319-106	20.70	2319-006	37.10
5/8-14	4	1-3/8	3-3/16	2319-107	32.30	2319-007	42.15
3/4-14	4	1-3/8	3-1/4	2319-108	29.20	2319-008	47.20
7/8-14	4	1-9/16	3-1/2	2319-109	47.60	2319-009	52.00
1-11	6	1-3/4	3-3/4	2319-110	46.15	2319-010	56.80
1-1/4-11	6	1-3/4	4	2319-111	89.45	2319-011	110.05
1-1/2-11	6	1-3/4	4-1/4	2319-112	107.60	2319-012	131.40
1-3/4-11	6	1-3/4	4-3/8	2319-113	197.10	2319-013	POA
2-11	6	1-3/4	4-1/2	2319-114	195.90	2319-014	271.95
2-1/4-11	6	2-1/8	5	2319-115	416.30	—	—

\* Large Shank.

Sizes through 4 inch diameter: POA

## British Thread Pipe Dies

### BSPP & BSPT Round

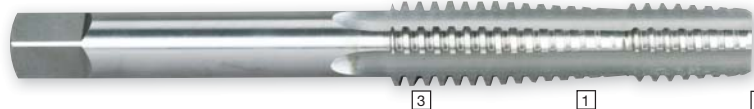
#### Adjustable Die High Speed Steel

SIZE	O.D.	BSPP		BSPT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16-28	1"	2438-101	\$ 25.90	2438-102	POA
1/8-28	1"	2438-105	25.90	2438-106	POA
1/8-28	1-1/2"	2438-109	48.60	2438-110	POA
1/4-19	1-1/2"	2438-113	62.60	2438-114	POA
3/8-19	1-1/2"	2438-117	47.70	2438-118	POA
1/2-14	2"	2438-121	66.40	2438-122	POA
5/8-14	2"	2438-125	66.40	2438-126	POA
3/4-14	2"	2438-129	66.40	2438-130	POA
1-11	3"	2438-137	200.60	2438-139	POA
1-1/4-11	3"	2438-145	200.60	2438-146	POA
1-1/2-11	4"	2438-149	POA	2438-150	POA
2-11	4"	2438-157	POA	2438-158	POA

# Acme Taps & Dies

## Tandem Acme Taps

Right Hand & Left Hand – Class 2G – High Speed Steel



SIZE & PITCH	OVERALL LENGTH	THR'D LENGTH	MAX. DEPTH OF NUT		Pittsburg <sup>®</sup> ALLEGHANY		ALLEGIANCE <sup>®</sup> AMERICAN MADE			
			BRONZE & STEEL	BRASS & CAST IRON	RIGHT HAND	LEFT HAND	RIGHT HAND	LEFT HAND		
3/8-12	5	2-1/2	1	1-1/2	2331-001	\$51.26	2331-051	\$70.00	-	-
7/16-12	5	2-1/2	1	1-1/2	2331-002	51.26	2331-052†	70.00	2331-022†	\$80.85
1/2-8	5	2-9/16	1	1-1/2	-	-	2331-125	217.75	-	-
1/2-10	5	2-9/16	1	1-1/2	2331-003	51.26	2331-053	72.30	2331-023	87.90
5/8-8	6-1/4	3-3/16	1-1/4	1-7/8	2331-004	71.42	2331-054	90.70	2331-024	104.00
5/8-16	6-1/4	3-3/16	1-1/4	1-7/8	-	-	2331-136	229.15	-	-
3/4-5	7-15/16	4-5/16	1-1/2	2-1/4	-	-	2331-141	264.90	-	-
3/4-6	7-15/16	4-5/16	1-1/2	2-1/4	2331-005	98.50	2331-055	104.80	2331-025	114.30
3/4-7	4-5/16	1-1/2	2-1/4	-	-	-	2331-143	264.90	-	-
3/4-8	7-15/16	4-5/16	1-1/2	2-1/4	-	-	2331-144	264.90	-	-
7/8-6	8-5/8	4-3/8	1-3/4	2-5/8	2331-006	101.95	2331-056	121.70	2331-026	132.75
7/8-8	8-5/8	4-3/8	1-3/4	2-5/8	-	-	2331-152	269.75	-	-
7/8-10	8-5/8	4-3/8	1-3/4	2-5/8	-	-	2331-154	269.75	-	-
1-4	10-1/8	5-1/4	2	3	-	-	2331-160	362.40	-	-
1-5	10-1/8	5-1/4	2	3	2331-007	118.08	2331-057	136.75	2331-027	149.20
1-6	10-1/8	5-1/4	2	3	-	-	2331-162	362.40	-	-
1-8	10-1/8	5-1/4	2	3	-	-	2331-164	362.40	-	-
1-10	10-1/8	5-1/4	2	3	-	-	2331-166	362.40	-	-
1-1/8-5	10-3/4	5-1/4	2-1/4	3-1/8	2331-008	137.09	2331-058	147.35	2331-028	160.75
1-1/4-5	11-1/8	5-1/4	2-1/2	3-3/4	2331-009	145.15	2331-059	177.40	2331-029	207.95
1-3/8-4	12-1/4	5-7/8	2-3/4	4-1/8	2331-010	169.34	2331-060	204.35	2331-030	243.65
1-1/2-4	12-5/8	5-7/8	3	4-1/2	2331-011	179.14	2331-061	235.95	2331-031	262.15

† Limited Quantities. Sizes not shown – POA.

## Special Acme Taps

29° Right Hand & Left Hand

Table 302 – Hand Tap Dimensions  
Ground Thread – High Speed Steel



DIA.	THREAD LENGTH	OVERALL LENGTH	QUANTITY – PRICE				EACH
			1	2	3-5	6-11	
1/4	1	2-1/2					
5/16	1-1/8	2-23/32					
3/8	1-1/4	2-15/16					
7/16	1-7/16	3-5/32					
1/2	1-21/32	3-3/8					
9/16	1-21/32	3-19/32					
5/8	1-13/16	3-13/16					
11/16	1-13/16	4-1/32					
3/4	2	4-1/4					
13/16	2	4-15/32					
7/8	2-7/32	4-11/16					
15/16	2-7/32	4-29/32					
1	2-1/2	5-1/8					
1-1/8	2-9/16	5-7/16					
1-1/4	2-9/16	5-3/4					
1-3/8	3	6-1/16					
1-1/2	3	6-3/8					

**P.O.A.**  
**Roughers**  
**&**  
**Finishers**  
**In**  
**Stock**

## Acme Thread Round Adjustable Dies - High Speed Steel



SIZE & PITCH	O.D.	RIGHT HAND		LEFT HAND	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4-16	1	2439-005	\$109.20	2439-405	\$109.20
5/16-14	1	2439-010	109.20	2439-410	109.20
3/8-12	1	2439-015†	109.20	-	-
3/8-10	1 1/2	2439-025	139.20	2439-425	139.20
3/8-12	1 1/2	2439-027	139.20	2439-427	139.20
7/16-8	1 1/2	2439-033	139.20	2439-433	139.20
7/16-10	1 1/2	2439-035	139.20	2439-435	139.20
7/16-12	1 1/2	2439-037	139.20	2439-437	139.20
1/2-8	1 1/2	2439-047	139.20	2439-447	139.20
1/2-10	1 1/2	2439-049	139.20	2439-449	139.20
1/2-12	1 1/2	2439-051	139.20	2439-451	139.20
5/8-6	2	2439-070	181.20	2439-470	181.20
5/8-8	2	2439-072	181.20	2439-472	181.20
5/8-10	2	-	-	2439-474	181.20
3/4-5	2	2439-084	181.20	2439-484	181.20
3/4-6	2	2439-085	181.20	2439-485	181.20
3/4-8	2	2439-087	181.20	2439-487	181.20
3/4-10	2	2439-089	181.20	2439-489	181.20
7/8-5	2	2439-100	192.00	2439-500	192.00
7/8-6	2	2439-101	192.00	2439-501	192.00
7/8-8	2	-	-	2439-503	192.00
3/4-5	2 1/2	2439-125	256.80	-	-
3/4-6	2 1/2	2439-126	256.80	-	-
1-4	2 1/2	2439-136	256.80	2439-536	256.80
1-5	2 1/2	2439-137	256.80	2439-537	256.80
1-6	2 1/2	2439-138	256.80	2439-538	256.80
1-8	2 1/2	-	-	2439-540	256.80
1-10	2 1/2	-	-	2439-542	256.80
1-1/8-4	2 1/2	2439-170	267.60	2439-570	267.60
1-1/8-5	2 1/2	2439-171	267.60	2439-571	267.60
1-1/8-6	2 1/2	2439-172	267.60	2439-572	267.60
1-1/4-4	2 1/2	2439-182	267.60	2439-582	267.60
1-1/4-5	2 1/2	2439-183	267.60	2439-583	267.60
1-1/4-6	2 1/2	-	-	2439-584	267.60
1-3/8-4	2 1/2	2439-194	304.80	2439-594	304.80
1-3/8-5	2 1/2	2439-195	304.80	2439-595	304.80
1-1/2-4	2 1/2	2439-206	304.80	2439-606	304.80
1-1/2-5	2 1/2	2439-207	304.80	2439-607	304.80
1-3/8-4	3	2439-243	506.40	2439-643	506.40
1-1/2-4	3	2439-293	506.40	2439-693	506.40

† Limited Quantities. Sizes not shown – POA.

## Acme Thread Hexagon Rethreading Dies Carbon Steel



SIZE & PITCH	ORDER NO.	RIGHT HAND		LEFT HAND	
		PRICE EACH	ORDER NO.	PRICE EACH	
1/4 - 16	2486-001	\$84.00	2486-301	\$84.00	
5/16 - 14	2486-007	85.20	2486-307	85.20	
3/8 - 12	2486-020	85.20	2486-320	85.20	
7/16 - 12	2486-038	85.20	2486-338	85.20	
1/2 - 10	2486-050	96.00	2486-350	96.00	
5/8 - 8	2486-067	100.80	2486-367	100.80	
3/4 - 6	2486-085	105.60	2486-385	105.60	
7/8 - 6	2486-115	109.20	2486-415	109.20	
1 - 5	2486-133	116.40	2486-433	116.40	
1-1/8 - 5	2486-169	121.20	2486-469	121.20	
1-1/4 - 5	2486-193	142.80	2486-493	142.80	
1-3/8 - 4	2486-205	147.60	2486-505	147.60	
1-1/2 - 4	2486-223	152.40	2486-523	152.40	

Size not shown – POA.

# High Speed Steel Round Adjustable Dies

## Right Hand & Left Hand – NC, NF, & NS



1				8				8				1				8				8										
ALLEGIANCE AMERICAN MADE				Pittsburg ALLEGIANCE				ALLEGIANCE AMERICAN MADE				Pittsburg ALLEGIANCE				ALLEGIANCE AMERICAN MADE				Pittsburg ALLEGIANCE										
RIGHT HAND				RIGHT HAND				LEFT HAND				RIGHT HAND				RIGHT HAND				LEFT HAND										
SIZE	NC NF NS	O.D.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0-80	NF	5/8	-	-	2450-144†	\$3.20	-	-	-	-	-	-	7/16-14	NC	1-1/2	2420-154	\$37.30	2430-154	\$11.90	2473-302	\$15.20									
1-72	NF	5/8	-	-	2450-202†	3.20	-	-	-	-	-	-	7/16-20	NF	1-1/2	2420-155	37.30	2430-155	11.90	2473-317	15.20									
2-56	NC	5/8	-	-	2450-232†	3.20	-	-	-	-	-	-	1/2-13	NC	1-1/2	2420-156	37.30	2430-156	11.90	2473-567	15.20									
2-64	NF	5/8	-	-	2450-240†	3.20	-	-	-	-	-	-	1/2-20	NF	1-1/2	2420-157	37.30	2430-157	11.90	2473-585	15.20									
3-48	NC	5/8	-	-	2450-285†	3.20	-	-	-	-	-	-	9/16-12	NC	1-1/2	2420-158	37.30	2430-158	11.90	2473-845	15.20									
3-56	NF	5/8	-	-	2450-293†	3.20	-	-	-	-	-	-	9/16-18	NF	1-1/2	2420-159	37.30	2430-159	11.90	2473-859	15.20									
4-36	NS	5/8	-	-	2450-340†	3.20	-	-	-	-	-	-	5/8-11	NC	1-1/2	2420-160	37.30	2430-160	11.90	2474-110	15.20									
4-40	NC	5/8	-	-	2450-349†	3.20	-	-	-	-	-	-	5/8-18	NF	1-1/2	2420-161	37.30	2430-161	11.90	2474-130	15.20									
4-48	NF	5/8	-	-	2450-358†	3.20	-	-	-	-	-	-	11/16-11	NC	1-1/2	-	-	2454-367	11.90	2474-368	15.20									
5-40	NC	5/8	-	-	2450-409†	3.20	-	-	-	-	-	-	11/16-16	NF	1-1/2	-	-	2454-382	11.90	2474-376	15.20									
5-44	NF	5/8	-	-	2450-415†	3.20	-	-	-	-	-	-	3/4-10	NC	1-1/2	2420-168	43.20	2454-618	11.90	2474-619	15.20									
6-32	NC	5/8	-	-	2450-481†	3.20	-	-	-	-	-	-	3/4-16	NF	1-1/2	2420-169	43.20	2454-643	11.90	2474-638	15.20									
8-32	NC	5/8	-	-	2450-623†	3.20	-	-	-	-	-	-	1/4-20	NC	2	-	-	2452-400	20.90	2472-401	26.20									
8-36	NF	5/8	-	-	2450-629†	3.20	-	-	-	-	-	-	1/4-28	NF	2	-	-	2452-428	20.90	2472-424	26.20									
10-24	NC	5/8	-	-	2450-741†	3.20	-	-	-	-	-	-	5/16-18	NC	2	-	-	2452-705	20.90	2472-708	26.20									
10-32	NF	5/8	-	-	2450-760	3.20	-	-	-	-	-	-	5/16-24	NF	2	-	-	2452-717	20.90	2472-721	26.20									
0-80	NC	13/16	-	-	2450-146	5.20	2470-142	\$5.20	2470-142	\$5.20	2470-142	\$5.20	3/8-16	NC	2	-	-	2453-017	20.90	2473-018	26.20									
1-64	NC	13/16	-	-	2450-197	5.20	2470-190	5.20	2470-190	5.20	2470-190	5.20	3/8-24	NF	2	-	-	2453-038	20.90	2473-039	26.20									
1-72	NF	13/16	-	-	2450-204	5.20	2470-199	5.20	2470-199	5.20	2470-199	5.20	7/16-14	NC	2	-	-	2453-307	20.90	2473-304	26.20									
2-56	NC	13/16	-	-	2450-233	5.20	2470-230	5.20	2470-230	5.20	2470-230	5.20	7/16-20	NF	2	-	-	2453-322	20.90	2473-319	26.20									
2-64	NF	13/16	-	-	2450-242	5.20	2470-240	5.20	2470-240	5.20	2470-240	5.20	1/2-13	NC	2	-	-	2453-568	20.90	2473-569	26.20									
3-48	NC	13/16	-	-	2450-286	5.20	2470-280	5.20	2470-280	5.20	2470-280	5.20	1/2-20	NF	2	-	-	2453-588	20.90	2473-587	26.20									
3-56	NF	13/16	-	-	2450-295	5.20	2470-290	5.20	2470-290	5.20	2470-290	5.20	9/16-12	NC	2	-	-	2453-851	20.90	2473-847	26.20									
4-36	NS	13/16	-	-	2450-342	5.20	2470-340	5.20	2470-340	5.20	2470-340	5.20	9/16-18	NF	2	-	-	2453-864	20.90	2473-861	26.20									
4-40	NC	13/16	-	-	2450-351	4.00	2470-345	5.20	2470-345	5.20	2470-345	5.20	5/8-11	NC	2	2420-162	53.70	2430-162	20.90	2474-112	26.20									
4-48	NF	13/16	-	-	2450-359	4.00	2470-355	5.20	2470-355	5.20	2470-355	5.20	5/8-18	NF	2	2420-163	53.70	2430-163	20.90	2474-132	26.20									
5-40	NC	13/16	2420-101	\$19.80	2430-101	4.00	2470-408	5.20	2470-408	5.20	2470-408	5.20	11/16-11	NC	2	-	-	2454-369	20.90	2474-370	26.20									
5-44	NF	13/16	2420-102	19.80	2430-102	4.00	2470-415	5.20	2470-415	5.20	2470-415	5.20	11/16-16	NF	2	-	-	2454-384	20.90	2474-378	26.20									
6-32	NC	13/16	2420-103	19.80	2430-103	4.00	2470-475	5.20	2470-475	5.20	2470-475	5.20	3/4-10	NC	2	2420-164	53.70	2430-164	20.90	2474-623	26.20									
6-40	NF	13/16	2420-104	19.80	2430-104	4.00	2470-490	5.20	2470-490	5.20	2470-490	5.20	3/4-16	NF	2	2420-165	53.70	2430-165	20.90	2474-640	26.20									
8-32	NC	13/16	2420-105	19.80	2430-105	4.00	2470-617	5.20	2470-617	5.20	2470-617	5.20	7/8-9	NC	2	2420-166	57.20	2430-166	20.90	2475-178	26.20									
8-36	NF	13/16	2420-106	19.80	2430-106	4.00	2470-624	5.20	2470-624	5.20	2470-624	5.20	7/8-14	NF	2	2420-167	57.20	2430-167	20.90	2475-189	26.20									
10-24	NC	13/16	2420-107	19.80	2430-107	4.00	2470-740	5.20	2470-740	5.20	2470-740	5.20	1-8	NC	2	2420-170	57.20	2455-696	20.90	2475-694	26.20									
10-32	NF	13/16	2420-108	19.80	2430-108	4.00	2470-753	5.20	2470-753	5.20	2470-753	5.20	1-12	NF	2	2420-171	57.20	2455-710	20.90	2475-703	26.20									
12-24	NC	13/16	2420-109	19.80	2430-109	4.00	2470-885	5.20	2470-885	5.20	2470-885	5.20	1-14	NS	2	2420-172	57.20	2455-719	20.90	2475-708	26.20									
12-28	NF	13/16	2420-110	19.80	2430-110	4.00	2470-892	5.20	2470-892	5.20	2470-892	5.20	1 1/8- 7	NC	2	-	-	2456-044	20.90	-	-									
1/4-20	NC	13/16	2420-111	19.80	2430-111	4.00	2472-395	5.20	2472-395	5.20	2472-395	5.20	1 1/8-12	NF	2	-	-	2456-062	20.90	-	-									
1/4-28	NF	13/16	2420-112	19.80	2430-112	4.00	2472-418	5.20	2472-418	5.20	2472-418	5.20	1/2-13	NC	2-1/2	-	-	2453-569†	42.70	-	-									
5/16-18	NC	13/16	2420-113	19.80	2430-113	4.00	2472-700	5.20	2472-700	5.20	2472-700	5.20	1/2-20	NF	2-1/2	-	-	2453-590†	42.70	-	-									
5/16-24	NF	13/16	2420-114	19.80	2430-114	4.00	2472-715	5.20	2472-715	5.20	2472-715	5.20	9/16-12	NC	2-1/2	-	-	2453-852†	42.70	-	-									
2-56	NC	1	-	-	2450-235	6.50	-	-	-	-	-	-	9/16-18	NF	2-1/2	-	-	2453-865†	42.70	-	-									
2-64	NF	1	-	-	2450-244	6.50	-	-	-	-	-	-	5/8-11	NC	2-1/2	-	-	2454-117†	42.70	2474-114†	43.10									
3-48	NC	1	-	-	2450-288	6.50	-	-	-	-	-	-	5/8-18	NF	2-1/2	-	-	2454-139†	42.70	-	-									
3-56	NF	1	-	-	2450-297	6.50	-	-	-	-	-	-	3/4-10	NC	2-1/2	-	-	2454-622	42.70	2474-625	43.10									
4-36	NS	1	-	-	2450-344	6.50	-	-	-	-	-	-	3/4-16	NF	2-1/2	-	-	2454-646	42.70	2474-642	43.10									
4-40	NC	1	-	-	2450-353	5.50	2470-347	6.50	2470-347	6.50	2470-347	6.50	7/8- 9	NC	2-1/2	-	-	2455-179	42.70	2475-180	43.10									
4-48	NF	1	-	-	2450-360	5.50	2470-357	6.50	2470-357	6.50	2470-357	6.50	7/8-14	NF	2-1/2	-	-	2455-191	42.70	2475-191	43.10									
5-40	NC	1	-	-	2450-410	5.50	2470-410	6.50	2470-410	6.50	2470-410	6.50	1-8	NC	2-1/2	-	-	2455-698	42.70	2475-696	43.10									
5-44	NF	1	-	-	2450-416	5.50	2470-417	6.50	2470-417	6.50	2470-417	6.50	1-12	NF	2-1/2	-	-	2455-712	42.70	2475-705	43.10									
6-32	NC	1	2420-115	24.50	2430-115	5.50	2470-477	6.50	2470-477	6.50	2470-477	6.50	1-14	NS	2-1/2	-	-	2455-721	42.70	2475-710	43.10									
6-40	NF	1	2420-115	24.50	2450-502	5.50	2470-492	6.50	2470-492	6.50	2470-492	6.50	1-1/8-7	NC	2-1/2	2420-180	67.70	2456-046	42.70	2476-045	43.10									
8-32	NC	1	2420-116	24.50	2430-116	5.50	2470-619	6.50	2470-619	6.50	2470-619	6.50	1-1/8-12	NF	2-1/2	2420-181	67.70	2456-064	42.70	2476-056	43.10									
8-36	NF	1	2420-117	24.50	2450-630	5.50	2470-626	6.50	2470-626	6.50	2470-626	6.50	1-1/4-7	NC	2-1/2	2420-182	67.70	2456-328	42.70	2476-327	43.10									
10-24	NC	1	2420-117	24.50	2430-117	5.50	2470-742	6.50	2470-742	6.50	2470-742	6.50	1-1/4-12	NF	2-1/2	2420-183	67.70	2456-343	42.70	2476-338	43.10									
10-32	NF	1	2420-118	24.50	2430-118	5.50	2470-755	6.50	2470-755	6.50	2470-755	6.50	1-3/8-6	NC	2-1/2	-	-	2456-574	42.70	2476-575	43.10									
12-24	NC	1	2420-119	24.50	2430-119	5.50	2470-887	6.50	2470-887	6.50	2470-887	6.50	1-3/8-12	NF	2-1/2	-	-	2456-589	42.70	2476-586	43.10									
12-28	NF	1	2420-177	24.50	2450-899	5.50	2470-894	6.50	2470-894	6.50	2470-894	6.50	1-1/2-6	NC	2-1/2	-	-	2456-830	42.70	2476-830	43.10									
1/4-2																														

# Popular Special R.H. Round Adjustable Dies

High Speed Steel



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SIZE	O.D.	ORDER NUMBER	PRICE EACH
0-72	5/8	2450-136†	\$3.20
5-48	5/8	2450-419†	3.20
5-80	5/8	2450-178†	3.20
1-56	13/16	2450-190	5.70
1-80	13/16	2450-209	5.70
2-72	13/16	2450-249	5.70
2-80	13/16	2450-255	5.70
3-64	13/16	2450-303	5.70
3-72	13/16	2450-308	5.70
3-80	13/16	2450-313	5.70
4-32	13/16	2450-336	5.70
4-56	13/16	2450-364	5.70
4-60	13/16	2450-368	5.70
4-64	13/16	2450-372	5.70
4-72	13/16	2450-376	5.70
4-80	13/16	2450-380	5.70
5-32	13/16	2450-400	5.70
5-48	13/16	2450-420	5.70
5-56	13/16	2450-426	5.70
5-60	13/16	2450-431	5.70
5-64	13/16	2450-435	5.70
5-72	13/16	2450-439	5.70
5-80	13/16	2450-443	5.70
6-36	13/16	2450-488	5.70
6-48	13/16	2450-513	5.70
6-56	13/16	2450-519	5.70
6-60	13/16	2450-525	5.70
6-64	13/16	2450-529	5.70
6-72	13/16	2450-533	5.70
6-80	13/16	2450-537	5.70
8-24	13/16	2450-606	5.70
8-30	13/16	2450-619	5.70
8-40	13/16	2450-637	5.70
8-48	13/16	2450-647	5.70
8-56	13/16	2450-652	5.70
8-60	13/16	2450-656	5.70
8-64	13/16	2450-660	5.70
8-80	13/16	2450-668	5.70
10-28	13/16	2450-751	5.70
10-30	13/16	2450-756	5.70
10-36	13/16	2450-767	5.70
10-40	13/16	2450-774	5.70
10-48	13/16	2450-781	5.70
10-56	13/16	2450-796	5.70
10-60	13/16	2450-799	5.70
10-64	13/16	2450-803	5.70
10-72	13/16	2450-807	5.70
10-80	13/16	2450-811	5.70
12-30	13/16	2450-902	5.70
12-32 NEF	13/16	2450-906	5.70
12-36	13/16	2450-913	5.70
12-40	13/16	2450-917	5.70
12-48	13/16	2450-921	5.70
12-56	13/16	2450-925	5.70
5/32-32	13/16	2452-062	5.70
7/32-32	13/16	2452-282	5.70
1/4-24	13/16	2452-410	5.70
1/4-32 NEF	13/16	2452-434	5.70
1/4-40	13/16	2452-449	5.70
5/16-32 NEF	13/16	2452-738	5.70
4-56	1	2450-365	7.10
4-64	1	2450-373	7.10
4-80	1	2450-381	7.10
5-32	1	2450-401	7.10
5-36	1	2450-406	7.10
5-48	1	2450-421	7.10
5-56	1	2450-427	7.10
6-36	1	2450-489	7.10
6-48	1	2450-514	7.10
6-56	1	2450-520	7.10
8-24	1	2450-607	7.10
8-30	1	2450-620	7.10
8-40	1	2450-638	7.10

† Limited Quantities

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SIZE	O.D.	ORDER NUMBER	PRICE EACH
10-28	1	2450-752	\$7.10
10-30	1	2450-757	7.10
10-36	1	2450-768	7.10
10-40	1	2450-775	7.10
10-44	1	2450-778	7.10
10-60	1	2450-800	7.10
10-64	1	2450-804	7.10
12-32 NEF	1	2450-907	7.10
12-36	1	2450-914	7.10
12-40	1	2450-918	7.10
12-48	1	2450-922	7.10
1/4-16	1	2452-394	7.10
1/4-18	1	2452-397	7.10
1/4-22	1	2452-404	7.10
1/4-24	1	2452-411	7.10
1/4-26	1	2452-419	7.10
1/4-27	1	2452-422	7.10
1/4-30	1	2452-431	7.10
1/4-32 NEF	1	2452-435	7.10
1/4-36	1	2452-441	7.10
1/4-40	1	2452-450	7.10
1/4-48	1	2452-463	7.10
1/4-56	1	2452-475	7.10
1/4-60	1	2452-479	7.10
1/4-64	1	2452-484	7.10
1/4-72	1	2452-492	7.10
1/4-80	1	2452-500	7.10
9/32-32	1	2452-588	7.10
5/16-16	1	2452-699	7.10
5/16-20	1	2452-708	7.10
5/16-22	1	2452-713	7.10
5/16-27	1	2452-723	7.10
5/16-28	1	2452-728	7.10
5/16-30	1	2452-733	7.10
5/16-32 NEF	1	2452-739	7.10
5/16-36	1	2452-749	7.10
5/16-40	1	2452-754	7.10
5/16-48	1	2452-768	7.10
5/16-56	1	2452-778	7.10
5/16-64	1	2452-786	7.10
5/16-80	1	2452-802	7.10
11/32-32	1	2452-889	7.10
3/8-14	1	2453-011	7.10
3/8-18	1	2453-020	7.10
3/8-20	1	2453-025	7.10
3/8-27	1	2453-047	7.10
3/8-28	1	2453-052	7.10
3/8-30	1	2453-057	7.10
3/8-32 NEF	1	2453-062	7.10
3/8-36	1	2453-069	7.10
3/8-40	1	2453-077	7.10
3/8-48	1	2453-089	7.10
3/8-56	1	2453-103	7.10
3/8-64	1	2453-110	7.10
3/8-72	1	2453-116	7.10
3/8-80	1	2453-122	7.10
13/32-32	1	2453-203	7.10
7/16-12	1	2453-298	7.10
7/16-16	1	2453-310	7.10
7/16-18	1	2453-315	7.10
7/16-24	1	2453-328	7.10
7/16-27	1	2453-337	7.10
7/16-28 NEF	1	2453-342	7.10
7/16-30	1	2453-349	7.10
7/16-32	1	2453-354	7.10
7/16-36	1	2453-360	7.10
7/16-40	1	2453-366	7.10
7/16-48	1	2453-373	7.10
7/16-56	1	2453-380	7.10
7/16-64	1	2453-387	7.10
1/2-12	1	2453-558	7.10
1/2-14	1	2453-571	7.10
1/2-16	1	2453-575	7.10

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SIZE	O.D.	ORDER NUMBER	PRICE EACH
1/2-18	1	2453-580	\$7.10
1/2-24	1	2453-597	7.10
1/2-27	1	2453-612	7.10
1/2-28 NEF	1	2453-617	7.10
1/2-30	1	2453-623	7.10
1/2-32	1	2453-628	7.10
1/2-36	1	2453-636	7.10
1/2-40	1	2453-644	7.10
1/2-48	1	2453-651	7.10
1/2-56	1	2453-663	7.10
1/4-24	1-1/2	2452-413	17.50
1/4-27	1-1/2	2452-424	17.50
1/4-32 NEF	1-1/2	2452-437	17.50
1/4-36	1-1/2	2452-443	17.50
1/4-40	1-1/2	2452-452	17.50
5/16-20	1-1/2	2452-710	17.50
5/16-27	1-1/2	2452-725	17.50
5/16-28	1-1/2	2452-730	17.50
5/16-30	1-1/2	2452-735	17.50
5/16-32 NEF	1-1/2	2452-741	17.50
5/16-40	1-1/2	2452-756	17.50
11/32-32	1-1/2	2452-891	17.50
3/8-14	1-1/2	2453-012	17.50
3/8-18	1-1/2	2453-022	17.50
3/8-20	1-1/2	2453-029	17.50
3/8-27	1-1/2	2453-049	17.50
3/8-28	1-1/2	2453-054	17.50
3/8-30	1-1/2	2453-059	17.50
3/8-32 NEF	1-1/2	2453-064	17.50
3/8-36	1-1/2	2453-071	17.50
3/8-40	1-1/2	2453-079	17.50
3/8-48	1-1/2	2453-091	17.50
13/32-32	1-1/2	2453-205	17.50
7/16-12	1-1/2	2453-300	17.50
7/16-16	1-1/2	2453-312	17.50
7/16-18	1-1/2	2453-317	17.50
7/16-24	1-1/2	2453-330	17.50
7/16-27	1-1/2	2453-339	17.50
7/16-28 NEF	1-1/2	2453-344	17.50
7/16-30	1-1/2	2453-351	17.50
7/16-32	1-1/2	2453-356	17.50
7/16-36	1-1/2	2453-362	17.50
7/16-40	1-1/2	2453-368	17.50
7/16-48	1-1/2	2453-375	17.50
15/32-32	1-1/2	2453-480	17.50
1/2-12	1-1/2	2453-559	17.50
1/2-14	1-1/2	2453-572	17.50
1/2-16	1-1/2	2453-577	17.50
1/2-18	1-1/2	2453-582	17.50
1/2-24	1-1/2	2453-599	17.50
1/2-27	1-1/2	2453-614	17.50
1/2-28 NEF	1-1/2	2453-620	17.50
1/2-30	1-1/2	2453-625	17.50
1/2-32	1-1/2	2453-630	17.50
1/2-36	1-1/2	2453-638	17.50
1/2-40	1-1/2	2453-646	17.50
1/2-48	1-1/2	2453-653	17.50
1/2-56	1-1/2	2453-665	17.50
1/2-64	1-1/2	2453-671	17.50
9/16-14	1-1/2	2453-858	17.50
9/16-16	1-1/2	2453-861	17.50
9/16-20	1-1/2	2453-868	17.50
9/16-24 NEF	1-1/2	2453-874	17.50
9/16-27	1-1/2	2453-886	17.50
9/16-28	1-1/2	2453-889	17.50
9/16-32	1-1/2	2453-895	17.50
9/16-36	1-1/2	2453-900	17.50
9/16-40	1-1/2	2453-905	17.50
9/16-48	1-1/2	2453-911	17.50
5/8-10	1-1/2	2454-111	17.50
5/8-12	1-1/2	2454-120	17.50
5/8-14	1-1/2	2454-130	17.50
5/8-16	1-1/2	2454-133	17.50
5/8-20	1-1/2	2454-142	17.50

(continued)



# Popular Special R.H. Round Adjustable Dies

High Speed Steel



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SIZE	O.D.	ORDER NUMBER	PRICE EACH
5/8-24 NEF	1-1/2	2454-150	\$17.50
5/8-27	1-1/2	2454-161	17.50
5/8-28	1-1/2	2454-166	17.50
5/8-32	1-1/2	2454-174	17.50
5/8-36	1-1/2	2454-180	17.50
5/8-40	1-1/2	2454-185	17.50
5/8-48	1-1/2	2454-190	17.50
5/8-56	1-1/2	2454-195	17.50
5/8-64	1-1/2	2454-200	17.50
11/16-12	1-1/2	2454-372	17.50
11/16-14	1-1/2	2454-377	17.50
11/16-18	1-1/2	2454-387	17.50
11/16-20	1-1/2	2454-392	17.50
11/16-24 NEF	1-1/2	2454-398	17.50
11/16-27	1-1/2	2454-407	17.50
11/16-28	1-1/2	2454-412	17.50
11/16-32	1-1/2	2454-418	17.50
11/16-40	1-1/2	2454-429	17.50
3/4-12	1-1/2	2454-630	17.50
3/4-14	1-1/2	2454-635	17.50
3/4-18	1-1/2	2454-649	17.50
3/4-20 NEF	1-1/2	2454-654	17.50
3/4-24	1-1/2	2454-664	17.50
3/4-27	1-1/2	2454-675	17.50
3/4-28	1-1/2	2454-680	17.50
3/4-32	1-1/2	2454-688	17.50
3/4-40	1-1/2	2454-698	17.50
3/4-48	1-1/2	2454-706	17.50
1/2-12	2	2453-561	32.50
1/2-32	2	2453-632	32.50
9/16-20	2	2453-869	32.50
9/16-24 NEF	2	2453-876	32.50
5/8-12	2	2454-122	32.50
5/8-20	2	2454-144	32.50
5/8-24 NEF	2	2454-152	32.50
5/8-27	2	2454-163	32.50
5/8-32	2	2454-176	32.50
11/16-12	2	2454-374	32.50
11/16-14	2	2454-379	32.50
11/16-18	2	2454-389	32.50
11/16-20	2	2454-394	32.50
11/16-24 NEF	2	2454-400	32.50
11/16-27	2	2454-409	32.50
11/16-32	2	2454-420	32.50
11/16-36	2	2454-425	32.50
11/16-40	2	2454-431	32.50
3/4-12	2	2454-632	32.50
3/4-14	2	2454-637	32.50
3/4-18	2	2454-651	32.50
3/4-20 NEF	2	2454-656	32.50
3/4-24	2	2454-666	32.50
3/4-27	2	2454-677	32.50
3/4-28	2	2454-682	32.50
3/4-32	2	2454-690	32.50
3/4-36	2	2454-694	32.50
3/4-40	2	2454-700	32.50
3/4-48	2	2454-708	32.50
13/16-10	2	2454-916	32.50
13/16-12	2	2454-919	32.50
13/16-14	2	2454-925	32.50
13/16-16	2	2454-928	32.50
13/16-18	2	2454-931	32.50
13/16-20 NEF	2	2454-934	32.50
13/16-24	2	2454-939	32.50
13/16-27	2	2454-944	32.50
13/16-28	2	2454-947	32.50
13/16-32	2	2454-953	32.50
7/8-10	2	2455-184	32.50
7/8-12	2	2455-187	32.50
7/8-16	2	2455-196	32.50
7/8-18	2	2455-201	32.50
7/8-20 NEF	2	2455-206	32.50
7/8-24	2	2455-211	32.50
7/8-27	2	2455-219	32.50

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SIZE	O.D.	ORDER NUMBER	PRICE EACH
7/8-28	2	2455-225	\$32.50
7/8-32	2	2455-231	32.50
7/8-36	2	2455-235	32.50
7/8-40	2	2455-240	32.50
15/16-12	2	2455-442	32.50
15/16-14	2	2455-445	32.50
15/16-16	2	2455-448	32.50
15/16-18	2	2455-451	32.50
15/16-20 NEF	2	2455-454	32.50
15/16-24	2	2455-462	32.50
15/16-27	2	2455-468	32.50
15/16-28	2	2455-471	32.50
15/16-32	2	2455-476	32.50
1-10	2	2455-704	32.50
1-16	2	2455-726	32.50
1-18	2	2455-733	32.50
1-20 NEF	2	2455-739	32.50
1-24	2	2455-748	32.50
1-27	2	2455-754	32.50
1-28	2	2455-761	32.50
1-32	2	2455-767	32.50
1-36	2	2455-774	32.50
1-40	2	2455-779	32.50
1-1/16-8	2	2455-902	32.50
1-1/16-12	2	2455-916	32.50
1-1/16-16	2	2455-925	32.50
1-1/16-18 NEF	2	2455-934	32.50
1-1/16-20	2	2455-939	32.50
1-1/16-24	2	2455-949	32.50
1-1/16-32	2	2455-964	32.50
1-1/8-8	2	2456-051	32.50
1-1/8-16	2	2456-076	32.50
1-1/8-18 NEF	2	2456-083	32.50
1-1/8-20	2	2456-090	32.50
1-1/8-24	2	2456-097	32.50
7/16-12	2-1/2	2453-303†	48.20
3/4-20 NEF	2-1/2	2454-658	48.20
7/8-27	2-1/2	2455-221	48.20
15/16-20 NEF	2-1/2	2455-456	48.20
1-10	2-1/2	2455-706	48.20
1-16	2-1/2	2455-728	48.20
1-18	2-1/2	2455-735	48.20
1-20 NEF	2-1/2	2455-741	48.20
1-27	2-1/2	2455-756	48.20
1-32	2-1/2	2455-769	48.20
1-1/16-8	2-1/2	2455-904	48.20
1-1/16-12	2-1/2	2455-918	48.20
1-1/16-14	2-1/2	2455-922	48.20
1-1/16-16	2-1/2	2455-927	48.20
1-1/16-18 NEF	2-1/2	2455-936	48.20
1-1/16-20	2-1/2	2455-941	48.20
1-1/16-24	2-1/2	2455-951	48.20
1-1/16-32	2-1/2	2455-966	48.20
1-1/8-8	2-1/2	2456-053	48.20
1-1/8-10	2-1/2	2456-059	48.20
1-1/8-14	2-1/2	2456-070	48.20
1-1/8-16	2-1/2	2456-078	48.20
1-1/8-18 NEF	2-1/2	2456-085	48.20
1-1/8-20	2-1/2	2456-092	48.20
1-1/8-24	2-1/2	2456-099	48.20
1-1/8-27	2-1/2	2456-105	48.20
1-1/8-32	2-1/2	2456-113	48.20
1-3/16-8	2-1/2	2456-198	48.20
1-3/16-12	2-1/2	2456-204	48.20
1-3/16-14	2-1/2	2456-207	48.20
1-3/16-16	2-1/2	2456-210	48.20
1-3/16-18 NEF	2-1/2	2456-215	48.20
1-3/16-20	2-1/2	2456-220	48.20
1-3/16-32	2-1/2	2456-237	48.20
1-1/4-8	2-1/2	2456-333	48.20
1-1/4-10	2-1/2	2456-338	48.20
1-1/4-14	2-1/2	2456-347	48.20
1-1/4-16	2-1/2	2456-351	48.20

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SIZE	O.D.	ORDER NUMBER	PRICE EACH
1-1/4-18 NEF	2-1/2	2456-358	\$48.20
1-1/4-20	2-1/2	2456-363	48.20
1-1/4-24	2-1/2	2456-369	48.20
1-1/4-32	2-1/2	2456-382	48.20
1-1/4-40	2-1/2	2456-390	48.20
1-5/16-8	2-1/2	2456-455	48.20
1-5/16-12	2-1/2	2456-461	48.20
1-5/16-14	2-1/2	2456-466	48.20
1-5/16-16	2-1/2	2456-471	48.20
1-5/16-18 NEF	2-1/2	2456-476	48.20
1-5/16-20	2-1/2	2456-481	48.20
1-3/8-8	2-1/2	2456-579	48.20
1-3/8-10	2-1/2	2456-584	48.20
1-3/8-14	2-1/2	2456-594	48.20
1-3/8-16	2-1/2	2456-597	48.20
1-3/8-18 NEF	2-1/2	2456-602	48.20
1-3/8-20	2-1/2	2456-607	48.20
1-3/8-24	2-1/2	2456-614	48.20
1-7/16-8	2-1/2	2456-710	48.20
1-7/16-12	2-1/2	2456-716	48.20
1-7/16-16	2-1/2	2456-724	48.20
1-7/16-18	2-1/2	2456-729	48.20
1-7/16-20	2-1/2	2456-734	48.20
1-7/16-24	2-1/2	2456-740	48.20
1-1/2-8	2-1/2	2456-835	48.20
1-1/2-10	2-1/2	2456-840	48.20
1-1/2-14	2-1/2	2456-850	48.20
1-1/2-16	2-1/2	2456-855	48.20
1-1/2-18 NEF	2-1/2	2456-860	48.20
1-1/2-20	2-1/2	2456-865	48.20
1-1/2-24	2-1/2	2456-872	48.20
1-1/2-28	2-1/2	2456-883	48.20
1-1/2-32	2-1/2	2456-888	48.20
1-1/2-40	2-1/2	2456-896	48.20
15/16-20 NEF	3	2455-458†	79.50
1-16	3	2455-730	79.50
1-20 NEF	3	2455-743	79.50
1-27	3	2455-758	79.50
1-1/16-20	3	2455-943	79.50
1-1/16-32	3	2455-968	79.50
1-1/8-8	3	2456-055	79.50
1-1/8-16	3	2456-080	79.50
1-1/8-18 NEF	3	2456-087	79.50
1-3/16-18 NEF	3	2456-217	79.50
1-3/16-20	3	2456-222	79.50
1-1/4-8	3	2456-335	79.50
1-1/4-10	3	2456-340	79.50
1-1/4-16	3	2456-353	79.50
1-1/4-18 NEF	3	2456-360	79.50
1-1/4-20	3	2456-365	79.50
1-1/4-32	3	2456-384	79.50
1-5/16-12	3	2456-463	79.50
1-5/16-14	3	2456-468	79.50
1-5/16-16	3	2456-473	79.50
1-5/16-18 NEF	3	2456-478	79.50
1-5/16-20	3	2456-483	79.50
1-3/8-8	3	2456-581	79.50
1-3/8-10	3	2456-586	79.50
1-3/8-16	3	2456-599	79.50
1-3/8-18 NEF	3	2456-604	79.50
1-3/8-20	3	2456-609	79.50
1-3/8-24	3	2456-616	79.50
1-7/16-12	3	2456-718	79.50
1-7/16-16	3	2456-726	79.50
1-7/16-18	3	2456-731	79.50
1-7/16-20	3	2456-736	79.50
1-1/2-8	3	2456-837	79.50
1-1/2-10	3	2456-842	79.50
1-1/2-14	3	2456-852	79.50
1-1/2-16	3	2456-857	79.50
1-1/2-18 NEF	3	2456-862	79.50
1-1/2-20	3	2456-867	79.50
1-1/2-24	3	2456-874	79.50

† Limited Quantities

(continued)

# Popular Special R.H. Round Adjustable Dies

High Speed Steel



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SIZE	O.D.	ORDER NUMBER	PRICE EACH
1-9/16-12	3	2457-020	\$79.50
1-9/16-16	3	2457-026	79.50
1-9/16-18	3	2457-029	79.50
1-9/16-20	3	2457-031	79.50
1-5/8-5-1/2	3	2457-137	79.50
1-5/8-8	3	2457-143	79.50
1-5/8-10	3	2457-146	79.50
1-5/8-12	3	2457-152	79.50
1-5/8-14	3	2457-157	79.50
1-5/8-16	3	2457-160	79.50
1-5/8-18	3	2457-163	79.50
1-5/8-20	3	2457-166	79.50
1-5/8-24	3	2457-173	79.50
1-11/16-12	3	2457-236	79.50
1-11/16-16	3	2457-242	79.50
1-11/16-18	3	2457-246	79.50
1-11/16-20	3	2457-250	79.50
1-3/4-5	3	2457-298	79.50
1-3/4-6	3	2457-301	79.50
1-3/4-8	3	2457-307	79.50
1-3/4-10	3	2457-310	79.50
1-3/4-12	3	2457-315	79.50
1-3/4-14	3	2457-318	79.50
1-3/4-16	3	2457-321	79.50
1-3/4-18	3	2457-326	79.50
1-3/4-20	3	2457-329	79.50
1-3/4-24	3	2457-336	79.50
1-13/16-12	3	2457-389	79.50
1-13/16-16	3	2457-395	79.50
1-13/16-18	3	2457-398	79.50
1-7/8-5	3	2457-449	79.50
1-7/8-8	3	2457-457	79.50
1-7/8-10	3	2457-462	79.50
1-7/8-12	3	2457-465	79.50
1-7/8-14	3	2457-470	79.50
1-7/8-16	3	2457-475	79.50
1-7/8-18	3	2457-480	79.50
1-7/8-20	3	2457-483	79.50
1-15/16-12	3	2457-578	79.50
1-15/16-16	3	2457-583	79.50
1-15/16-18	3	2457-588	79.50
2-4-1/2	3	2457-640	79.50
2-6	3	2457-646	79.50
2-8	3	2457-649	79.50
2-10	3	2457-654	79.50
2-12	3	2457-659	79.50
2-14	3	2457-666	79.50
2-16	3	2457-671	79.50
2-18	3	2457-674	79.50
2-20	3	2457-681	79.50
1-5/8-20	3-1/2	2457-168†	79.50
1-11/16-20	3-1/2	2457-252†	79.50
1-11/16-24	3-1/2	2457-259†	79.50
1-3/4-24	3-1/2	2457-338†	79.50
1-13/16-12	3-1/2	2457-391†	79.50
1-13/16-20	3-1/2	2457-402†	79.50
1-7/8-5	3-1/2	2457-451†	79.50
1-7/8-14	3-1/2	2457-472†	79.50
1-15/16-18	3-1/2	2457-590†	79.50
2-14	3-1/2	2457-668†	79.50
2-18	3-1/2	2457-676†	79.50
2-20	3-1/2	2457-683†	79.50
2-1/8-8	3-1/2	2457-796†	79.50
2-1/8-16	3-1/2	2457-813†	79.50
1-3/4-10	4	2457-312†	131.30

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SIZE	O.D.	ORDER NUMBER	PRICE EACH
2-12	4	2457-663	\$131.30
2-18	4	2457-678	131.30
2-1/8-8	4	2457-798	131.30
2-1/8-12	4	2457-806	131.30
2-1/8-16	4	2457-815	131.30
2-1/8-18	4	2457-819	131.30
2-1/4-4-1/2	4	2457-916	131.30
2-1/4-8	4	2457-924	131.30
2-1/4-12	4	2457-930	131.30
2-1/4-16	4	2457-936	131.30
2-1/4-18	4	2457-939	131.30
2-1/4-20	4	2457-942	131.30
2-3/8-8	4	2458-040	131.30
2-3/8-12	4	2458-046	131.30
2-3/8-16	4	2458-053	131.30
2-3/8-18	4	2458-058	131.30
2-3/8-20	4	2458-061	131.30
2-1/2-4	4	2458-150	131.30
2-1/2-8	4	2458-156	131.30
2-1/2-12	4	2458-164	131.30
2-1/2-16	4	2458-172	131.30
2-1/2-18	4	2458-176	131.30
2-1/2-20	4	2458-180	131.30
2-5/8-12	4	2458-288	131.30
2-5/8-16	4	2458-298	131.30
2-3/8-16	5	2458-054	333.20
2-5/8-8	5	2458-281	333.20
2-5/8-12	5	2458-291	333.20
2-5/8-14	5	2458-295	333.20
2-5/8-16	5	2458-299	333.20
2-5/8-18	5	2458-303	333.20
2-3/4-4	5	2458-370	333.20
2-3/4-8	5	2458-375	333.20
2-3/4-12	5	2458-381	333.20
2-3/4-16	5	2458-390	333.20
2-7/8-8	5	2458-443	333.20
2-7/8-12	5	2458-449	333.20
2-7/8-18	5	2458-458	333.20
3-4	5	2458-539	333.20
3-8	5	2458-545	333.20
3-12	5	2458-553	333.20
3-16	5	2458-557	333.20
3-18	5	2458-561	333.20
3-1/8-4	5	2458-595	333.20
3-1/8-8	5	2458-599	333.20
3-1/8-12	5	2458-606	333.20
3-1/4-4	5	2458-640	333.20
3-1/4-8	5	2458-645	333.20
3-1/4-12	5	2458-650	333.20
3-3/8-8	5	2458-738	333.20
3-3/8-12	5	2458-742	333.20
3-1/2-4	5	2458-775	333.20
3-1/2-8	5	2458-780	333.20
3-1/2-12	5	2458-785	333.20
3-5/8-8	5	2458-840	333.20
3-5/8-12	5	2458-845	333.20
3-3/4-4	6	2458-880	597.70
3-3/4-8	6	2458-885	597.70
3-3/4-12	6	2458-890	597.70
3-7/8-8	6	2458-930	597.70
3-7/8-12	6	2458-935	597.70
4-4	6	2458-970	597.70
4-8	6	2458-975	597.70
4-12	6	2458-980	597.70

† Limited Quantities

**BRITISH - LEFT HAND - ACME : MULTIPLE LEAD THREADS ARE IN STOCK FOR IMMEDIATE DELIVERY. SIZES NOT LISTED AND U.S.A. MANUFACTURED DIES ARE QUOTED UPON REQUEST**

# Full Special Round Adjustable Dies

Right Hand, High Speed Steel

When inquiring, please specify size and quantity.

**POPULAR SPECIAL  
ROUND DIES  
SEE PAGES 142-144**



SIZE	13/16 OD	1" OD	1-1/2" OD	PRICE EACH
00-90	2450-090	-	-	POA
0-90	2450-155	-	-	POA
2-96	2450-265	-	-	POA
3-40	2450-280	-	-	POA
3-60	2450-301	-	-	POA
4-60	-	2450-369	-	POA
4-72	-	2450-377	-	POA
4-90	2450-384	2450-385	-	POA
5-60	-	2450-432	-	POA
5-64	-	2450-436	-	POA
5-72	-	2450-440	-	POA
5-80	-	2450-444	-	POA
5-100	-	2450-460	-	POA
6-24	2450-465	2450-466	-	POA
6-28	2450-470	-	-	POA
6-30	2450-476	-	-	POA
6-38	2450-495	2450-496	-	POA
6-42	-	2450-506	-	POA
6-44	-	2450-508	-	POA
6-64	-	2450-530	-	POA
6-72	-	2450-534	-	POA
6-80	-	2450-538	-	POA
7-30	-	2450-547	-	POA
7-32	2450-550	2450-551	-	POA
7-36	2450-554	2450-555	-	POA
7-40	2450-558	2450-559	-	POA
7-48	2450-567	-	-	POA
7-64	2450-578	2450-579	-	POA
8-26	2450-610	2450-611	-	POA
8-28	-	2450-615	-	POA
8-44	-	2450-644	-	POA
8-48	-	2450-648	-	POA
8-56	-	2450-653	-	POA
8-60	-	2450-657	-	POA
8-64	-	2450-661	-	POA
8-72	2450-664	2450-665	-	POA
8-90	2450-673	-	-	POA
9-24	2450-696	2450-697	-	POA
9-30	-	2450-704	-	POA
9-32	2450-707	2450-708	-	POA
9-36	-	2450-712	-	POA
9-40	2450-718	2450-719	-	POA
9-56	2450-722	-	-	POA
10-20	2450-735	-	-	POA
10-38	-	2450-771	-	POA
10-48	-	2450-782	-	POA
10-50	-	2450-786	-	POA
10-52	2450-789	2450-790	-	POA
10-56	-	2450-797	-	POA
10-72	-	2450-808	-	POA
10-80	-	2450-812	-	POA
10-96	-	2450-815	-	POA
11-24	-	2450-845	-	POA
11-28	-	2450-849	-	POA
11-32	-	2450-852	-	POA
11-36	-	2450-856	-	POA
11-40	-	2450-860	-	POA
11-48	-	2450-868	-	POA
12-64	-	2450-930	-	POA
12-72	-	2450-933	-	POA
12-80	-	2450-937	-	POA
13-28	-	2450-961	-	POA
14-18	2450-993	-	-	POA
14-20	2450-997	2450-998	-	POA
14-24	2451-005	2451-006	-	POA
14-28	2451-012	-	-	POA
14-32	-	2451-017	-	POA
14-64	-	2451-028	-	POA
15-20	-	-	2451-049	POA
16-20	2451-100	-	-	POA
16-22	-	2451-104	-	POA
16-36	-	2451-118	-	POA
16-40	-	2451-123	-	POA
18-32	-	2451-215	-	POA
1/16-64	2451-791	-	-	POA

SIZE	5/8 OD	13/16 OD	1" OD	1-1/2" OD	PRICE EACH
3/32-32	-	2451-870	-	-	POA
3/32-48	-	2451-879	-	-	POA
3/32-50	-	2451-882	-	-	POA
3/32-80	-	2451-896	-	-	POA
.100-100	2451-915	2451-917	-	-	POA
1/8-44	-	2451-975	-	-	POA
1/8-100	-	2451-995	-	-	POA
9/64-40	-	2452-018	-	-	POA
5/32-32	-	-	2452-063	-	POA
5/32-36	-	2452-067	2452-068	-	POA
5/32-40	2452-071	2452-072	2452-073	-	POA
5/32-50	-	-	2452-077	-	POA
5/32-60	-	2452-082	-	-	POA
5/32-64	-	-	2452-085	-	POA
5/32-80	-	2452-090	-	-	POA
11/64-40	-	2452-116	-	-	POA
3/16-18	-	2452-155	-	-	POA
3/16-20	-	2452-159	-	-	POA
3/16-24	-	2452-162	2452-163	-	POA
3/16-28	-	2452-168	-	-	POA
3/16-32	-	2452-172	2452-173	-	POA
3/16-40	-	-	2452-181	-	POA
3/16-48	-	2452-186	-	-	POA
3/16-50	-	-	2452-190	-	POA
3/16-56	-	2452-194	-	-	POA
3/16-60	-	2452-196	-	-	POA
3/16-64	-	2452-198	-	-	POA
3/16-72	-	2452-202	-	-	POA
3/16-80	-	-	2452-206	-	POA
3/16-100	-	2452-214	-	-	POA
13/64-48	-	2452-235	-	-	POA
7/32-20	-	-	2452-272	-	POA
7/32-24	-	2452-274	-	-	POA
7/32-28	-	2452-277	-	-	POA
7/32-32	-	-	2452-283	-	POA
7/32-36	-	2452-287	-	-	POA
7/32-40	-	2452-291	2452-292	-	POA
7/32-48	-	2452-296	2452-297	-	POA
7/32-60	-	2452-302	2452-303	-	POA
7/32-64	-	-	2452-307	-	POA
7/32-72	-	2452-310	-	-	POA
7/32-80	-	-	2452-315	-	POA
15/64-28	-	2452-340	-	-	POA
15/64-64	-	-	2452-354	-	POA
15/64-80	-	2452-360	-	-	POA
1/4-10	-	-	2452-384	-	POA
1/4-12	-	-	2452-388	-	POA
1/4-14	-	-	2452-391	-	POA
1/4-23	-	-	2452-407	-	POA
1/4-25	-	-	2452-416	-	POA
1/4-38	-	-	2452-446	-	POA
1/4-42	-	-	2452-455	-	POA
1/4-44	-	-	-	2452-459	POA
1/4-46	-	-	2452-461	-	POA
1/4-50	-	-	2452-467	-	POA
1/4-52	-	-	2452-470	-	POA
1/4-64	-	2452-483	-	-	POA
17/64-20	-	-	2452-511	-	POA
17/64-24	-	2452-516	-	-	POA
17/64-28	-	2452-520	-	-	POA
17/64-32	-	-	2452-525	-	POA
17/64-40	-	-	2452-550	-	POA
9/32-20	-	-	2452-570	-	POA
9/32-24	-	-	2452-575	-	POA
9/32-27	-	-	2452-580	-	POA
9/32-28	-	-	2452-583	-	POA
9/32-36	-	-	2452-593	-	POA
9/32-40	-	-	2452-598	-	POA
9/32-48	-	-	2452-606	-	POA
9/32-56	-	-	2452-614	-	POA
9/32-64	-	-	2452-622	-	POA
19/64-24	-	-	2452-650	-	POA
19/64-32	-	-	2452-658	-	POA
19/64-64	-	-	-	2452-668	POA
5/16-10	-	-	2452-690	-	POA
5/16-12	-	-	2452-693	-	POA
5/16-14	-	-	2452-696	-	POA
5/16-16	-	-	-	2452-701	POA
5/16-26	-	-	2452-720	-	POA

† Limited Quantities

# Full Special Round Adjustable Dies

Right Hand, High Speed Steel

When inquiring, please specify size and quantity.

**POPULAR SPECIAL  
ROUND DIES  
SEE PAGES 142-144**



SIZE	1" OD	1 1/2" OD	2" OD	PRICE EACH
5/16-32 NEF	-	-	2452-743	POA
5/16-34	2452-746	-	-	POA
5/16-42	2452-759	-	-	POA
5/16-44	2452-762	-	-	POA
5/16-46	2452-765	-	-	POA
5/16-50	2452-771	-	-	POA
5/16-72	2452-794	-	-	POA
5/16-100	2452-812	-	-	POA
21/64-36	2452-830	-	-	POA
11/32-18	2452-868	-	-	POA
11/32-20	2452-871	-	-	POA
11/32-24	2452-876	-	-	POA
11/32-27	2452-881	-	-	POA
11/32-28	2452-884	-	-	POA
11/32-36	-	2452-897	-	POA
11/32-40	2452-902	-	-	POA
11/32-48	2452-910	-	-	POA
11/32-56	2452-918	-	-	POA
11/32-60	2452-923	-	-	POA
11/32-64	2452-928	-	-	POA
3/8-10	2453-005	-	-	POA
3/8-12	2453-008	-	-	POA
3/8-20	-	-	2453-031	POA
3/8-22	2453-034	-	-	POA
3/8-25	2453-041	-	-	POA
3/8-26	2453-044	-	-	POA
3/8-38	2453-074	-	-	POA
3/8-44	2453-084	-	-	POA
3/8-50	-	2453-095	-	POA
3/8-52	2453-098	-	-	POA
3/8-80	-	2453-124	-	POA
25/64-27	2453-132	-	-	POA
25/64-32	-	2453-137	-	POA
25/64-40	2453-141	-	-	POA
25/64-48	2453-149	-	-	POA
13/32-16	-	2453-180	-	POA
13/32-20	2453-184	-	-	POA
13/32-24	2453-188	2453-190	-	POA
13/32-26	-	2453-194	-	POA
13/32-27	2453-196	-	-	POA
13/32-28	2453-199	-	-	POA
13/32-36	2453-209	2453-211	-	POA
13/32-40	2453-215	-	-	POA
13/32-48	2453-220	-	-	POA
27/64-20	-	2453-249	-	POA
27/64-36	2453-258	-	-	POA
27/64-48	2453-260	-	-	POA
7/16- 8	-	2453-292	-	POA
7/16-10	-	2453-295	-	POA
7/16-22	2453-325	-	-	POA
7/16-26	-	2453-334	-	POA
7/16-28 NEF	-	-	2453-346	POA
7/16-56	-	2453-382	-	POA
7/16-64	-	2453-388	-	POA
15/32-14	-	2453-450	-	POA
15/32-18	-	2453-455	-	POA
15/32-20	2453-458	2453-460	-	POA
15/32-24	2453-465	2453-467	-	POA
15/32-27	2453-471	2453-473	-	POA
15/32-28	2453-476	-	-	POA
15/32-36	-	2453-485	-	POA
15/32-40	2453-489	2453-491	-	POA
1/2- 8	-	2453-550	-	POA
1/2-10	2453-552	2453-553	-	POA
1/2-11	-	2453-556	-	POA
1/2-22	2453-593	-	-	POA
1/2-25	2453-602	2453-604	2453-606	POA
1/2-26	-	2453-609	-	POA
1/2-28 WT	2453-618	-	-	POA
1/2-38	2453-641	-	-	POA
1/2-50	2453-656	2453-658	-	POA
1/2-60	-	2453-668	-	POA
1/2-68	2453-674	2453-675	-	POA
1/2-70	-	2453-678	-	POA
1/2-72	-	2453-681	-	POA
1/2-80	-	2453-685	-	POA
17/32-12	-	2453-735	-	POA
17/32-13	-	2453-738	-	POA

SIZE	1 1/2" OD	2" OD	PRICE EACH
17/32-18	2453-743	-	POA
17/32-20	2453-746	-	POA
17/32-24	2453-751	-	POA
17/32-27	2453-755	-	POA
17/32-28	2453-758	-	POA
17/32-32	2453-762	-	POA
17/32-36	2453-765	-	POA
17/32-40	2453-767	-	POA
17/32-48	2453-772	-	POA
35/64-28	2453-808	-	POA
9/16-10	2453-845	-	POA
9/16-11	2453-848	-	POA
9/16-13	2453-855	-	POA
9/16-25	2453-879	-	POA
9/16-26 WT	2453-882	-	POA
9/16-30	2453-892	-	POA
9/16-80	2453-935	-	POA
37/64-40	2453-965	-	POA
19/32-18	2454-000	-	POA
19/32-20	2454-003	-	POA
19/32-24	2454-008	-	POA
19/32-27	2454-012	-	POA
19/32-28	2454-015	-	POA
19/32-32	2454-020	-	POA
19/32-40	2454-026	-	POA
19/32-48	2454-032	-	POA
19/32-64	2454-042	-	POA
5/8- 8	2454-105	-	POA
5/8- 9	2454-108	-	POA
5/8-13	2454-125	2454-127	POA
5/8-22	2454-147	-	POA
5/8-25	-	2454-155	POA
5/8-26	2454-158	-	POA
5/8-30	2454-169	2454-171	POA
21/32-11	2454-261	-	POA
21/32-18	2454-266	-	POA
21/32-20	2454-269	-	POA
21/32-24	2454-273	-	POA
21/32-32	2454-279	2454-281	POA
21/32-40	2454-288	2454-290	POA
0.669-20	2454-310	-	POA
11/16-28	-	2454-414	POA
11/16-48	2454-436	2454-438	POA
23/32-18	2454-507	-	POA
23/32-20	-	2454-510	POA
23/32-24	-	2454-515	POA
23/32-32	-	2454-522	POA
23/32-40	-	2454-529	POA
23/32-48	-	2454-535	POA
3/4- 8	2454-613	2454-615	POA
3/4-10 NC	-	2454-621*	20.90
3/4-11 1/2	-	2454-627	POA
3/4-15	2454-640	-	POA
3/4-22	2454-661	-	POA
3/4-25	-	2454-669	POA
3/4-26	-	2454-672	POA
3/4-30	-	2454-685	POA
3/4-56	-	2454-714	POA
3/4-64	-	2454-719	POA
3/4-72	-	2454-724	POA
25/32- 9	-	2454-792	POA
25/32-10	-	2454-795	POA
25/32-16	-	2454-804	POA
25/32-18	-	2454-807	POA
25/32-20	-	2454-810	POA
25/32-24	-	2454-815	POA
25/32-40	-	2454-830	POA
13/16- 9	-	2454-913	POA
13/16-13	-	2454-922	POA
13/16-40	-	2454-966	POA
27/32-20	-	2455-074	POA
27/32-32	-	2455-084	POA
27/32-40	-	2455-091	POA
27/32-48	-	2455-098	POA
7/8- 8	-	2455-175	POA
7/8-26	-	2455-215	POA
7/8-26 WT	-	2455-216	POA
7/8-30	-	2455-228	POA
7/8-48	-	2455-249	POA

WT - Whitworth Thread

\* 2 1/4" OD (DISCONTINUED)

(continued)



# Full Special Round Adjustable Dies

Right Hand, High Speed Steel

When inquiring, please specify size and quantity.

**POPULAR SPECIAL  
ROUND DIES  
SEE PAGES 142-144**



SIZE	2" OD	2 1/2" OD	3" OD	4" OD	PRICE EACH
29/32-14	2455-330	-	-	-	POA
29/32-18	2455-336	-	-	-	POA
29/32-20	2455-339	-	-	-	POA
29/32-24	2455-343	-	-	-	POA
29/32-32	2455-349	-	-	-	POA
15/16- 6	2455-430	-	-	-	POA
15/16- 9	2455-436	-	-	-	POA
15/16-10	2455-439	-	-	-	POA
15/16-26	2455-465	-	-	-	POA
15/16-40	2455-485	-	-	-	POA
15/16-48	2455-494	-	-	-	POA
31/32-16	2455-583	-	-	-	POA
31/32-20	2455-586	-	-	-	POA
1-14	2455-720*	-	-	-	POA
1-26	2455-751	-	-	-	POA
1-30	2455-764	-	-	-	POA
1-48	2455-792	-	-	-	POA
1-56	2455-800	-	-	-	POA
1-64	2455-810	-	-	-	POA
1 1/32-14	2455-840	-	-	-	POA
1 1/16-10	2455-907	2455-909	-	-	POA
1 1/16-11	-	-	2455-913	-	POA
1 1/16-17	-	-	2455-931	-	POA
1 1/16-22	2455-946	-	-	-	POA
1 1/16-27	-	2455-955	-	-	POA
1 1/16-28	2455-958	2455-960	-	-	POA
1 1/16-40	-	2455-972	-	-	POA
1 1/16-48	-	2455-980	-	-	POA
1 3/32-18	2456-010	-	-	-	POA
1 3/32-32	2456-025	-	-	-	POA
1 1/8-15	-	2456-073	-	-	POA
1 1/8-28	-	2456-108	-	-	POA
1 1/8-40	2456-114	2456-121	-	-	POA
1 9/64-12	-	2456-130	-	-	POA
1 5/32-18	2456-145	-	-	-	POA
1 5/32-20	2456-148	-	-	-	POA
1 5/32-24	2456-153	2456-155	-	-	POA
1 5/32-32	2456-162	-	-	-	POA
1 3/16-10	-	2456-201	-	-	POA
1 3/16-18 NEF	2456-213*	-	-	-	POA
1 3/16-24	-	2456-227	-	-	POA
1 3/16-28	-	2456-232	-	-	POA
1 3/16-40	-	2456-246	-	-	POA
1 1/4-26	-	2456-371	-	-	POA
1 1/4-26 WT	-	2456-372	-	-	POA
1 1/4-27	-	2456-375	-	-	POA
1 1/4-28	-	2456-378	-	-	POA
1 5/16-10	-	2456-458	-	-	POA
1 5/16-24	-	2456-488	-	-	POA
1 5/16-28	-	2456-493	-	-	POA
1 5/16-32	-	2456-498	-	-	POA
1 5/16-40	-	2456-506	-	-	POA
1 3/8-27	-	2456-618	-	-	POA
1 3/8-28	-	2456-621	-	-	POA
1 3/8-32	-	2456-626	-	-	POA
1 3/8-40	-	2456-633	-	-	POA
1 7/16-10	-	2456-713	-	-	POA
1 7/16-14	-	2456-721	-	-	POA
1 7/16-26	-	2456-743	-	-	POA
1 7/16-28	-	2456-745	-	-	POA
1 7/16-32	-	2456-750	-	2456-753	POA
1 7/16-40	-	2456-760	-	-	POA
1 15/32-24	-	2456-797	-	-	POA
1 1/2-26 WT	-	-	2456-877	-	POA
1 1/2-27	-	2456-880	-	-	POA
1 9/16- 8	-	2457-015	-	-	POA
1 9/16-14	-	2457-023	-	-	POA
1 9/16-24	-	2457-037	-	-	POA
1 9/16-32	-	2457-045	-	-	POA

\* 2 1/4" OD (Limited Quantities) WT - Whitworth Thread

SIZE	3" OD	3 1/2" OD†	4" OD	5" OD	6" OD	PRICE EACH
1 5/8- 6	2457-140	-	-	-	-	POA
1 5/8-11 1/2	2457-149	-	-	-	-	POA
1 5/8-32	2457-181	-	-	-	-	POA
1 5/8-40	2457-190	-	-	-	-	POA
1 11/16- 6	2457-228	-	-	-	-	POA
1 11/16- 8	2457-231	-	-	-	-	POA
1 11/16-14	2457-239	-	-	-	-	POA
1 3/4- 7	2457-304	-	-	-	-	POA
1 3/4-16	-	-	2457-323	-	-	POA
1 3/4-32	2457-346	-	-	-	-	POA
1 3/4-40	2457-354	-	-	-	-	POA
1 13/16-32	2457-413	-	-	-	-	POA
1 7/8- 6	2457-454	-	-	-	-	POA
1 7/8-24	2457-490	-	-	-	-	POA
1 29/32-18	-	-	2457-525	-	-	POA
1 15/16-20	2457-593	-	-	-	-	POA
2-24	2457-688	-	-	-	-	POA
2-27	2457-693	-	-	-	-	POA
2-32	2457-700	-	-	-	-	POA
2 1/16-12	-	2457-740	2457-742	-	-	POA
2 1/16-16	-	-	2457-748	-	-	POA
2 1/16-18	-	2457-752	-	-	-	POA
2 1/16-20	-	2457-756	-	-	-	POA
2 1/16-24	-	-	2457-762	-	-	POA
2 1/8- 4 1/2	-	2457-791	-	-	-	POA
2 1/8-10	-	2457-801	-	-	-	POA
2 1/8-20	-	2457-823	-	-	-	POA
2 1/8-24	-	2457-829	-	-	-	POA
2 3/16-12	-	-	2457-870	-	-	POA
2 3/16-14	-	-	2457-873	-	-	POA
2 3/16-16	-	-	2457-876	-	-	POA
2 1/4- 6	-	-	-	2457-921	-	POA
2 1/4-10	-	-	2457-927	-	-	POA
2 1/4-14	-	-	2457-933	-	-	POA
2 1/4-24	-	-	2457-950	-	-	POA
2 9/32-24	-	2457-980	-	-	-	POA
2 5/16-12	-	-	2457-996	-	-	POA
2 5/16-16	-	-	2458-002	-	-	POA
2 5/16-18	-	-	2458-005	-	-	POA
2 5/16-20	-	-	2458-008	-	-	POA
2 3/8- 4	-	-	2458-035	-	-	POA
2 3/8-10	-	-	2458-043	-	-	POA
2 3/8-14	-	-	2458-049	-	-	POA
2 7/16-12	-	-	2458-108	-	-	POA
2 7/16-20	-	-	2458-118	-	-	POA
2 1/2-10	-	-	2458-160	-	-	POA
2 1/2-14	-	-	2458-168	-	-	POA
2 9/16-12	-	-	2458-236	-	-	POA
2 9/16-24	-	-	2458-245	-	-	POA
2 5/8- 4	-	-	-	2458-275	-	POA
2 5/8-10	-	-	-	2458-285	-	POA
2 3/4-10	-	-	-	2458-379	-	POA
2 3/4-14	-	-	-	2458-385	-	POA
2 3/4-18	-	-	-	2458-395	-	POA
2 3/4-24	-	-	-	2458-400	-	POA
2 7/8-10	-	-	-	2458-446	-	POA
2 15/16-12	-	-	-	2458-490	-	POA
3-10	-	-	-	2458-549	-	POA
3 1/8-16	-	-	-	2458-611	-	POA
3 1/8-18	-	-	-	2458-615	-	POA
3 1/4- 6	-	-	-	-	2458-643	POA
3 1/4-16	-	-	-	2458-655	-	POA
3 1/2-16	-	-	-	2458-790	-	POA
3 5/8-16	-	-	-	2458-850	-	POA
3 3/4-16	-	-	-	-	2458-895	POA
3 7/8-16	-	-	-	-	2458-940	POA
4-16	-	-	-	-	2458-985	POA
4 1/8-12	-	-	-	-	2459-015	POA

† Limited Quantities

# Standard Metric Round Adjustable Dies

Right Hand – High Speed Steel



SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
1.6 x 0.35	13/16	2431-078	\$5.70
1.8 x 0.35	13/16	2431-090	5.70
2.0 x 0.40	13/16	2431-108	5.70
2.2 x 0.45	13/16	2431-126	5.70
2.5 x 0.45	13/16	2431-144	5.70
3.0 x 0.50	13/16	2431-174	5.70
3.5 x 0.60	13/16	2431-198	5.70
4.0 x 0.50	13/16	2431-207	5.70
4.0 x 0.70	13/16	2431-210	5.70
4.5 x 0.75	13/16	2431-222	5.70
5.0 x 0.80	13/16	2431-228	5.70
6.0 x 1.00	13/16	2431-234	5.70
6.3 x 1.00	13/16	2431-240	5.70
7.0 x 1.00	13/16	2431-246	5.70
8.0 x 1.00	13/16	2431-252	5.70
8.0 x 1.25	13/16	2431-258	5.70
1.6 x 0.35	1	2431-264	6.50
1.8 x 0.35	1	2431-270	6.50
2.0 x 0.40	1	2431-276	6.50
2.2 x 0.45	1	2431-282	6.50
2.3 x 0.40	1	2431-285	6.50
2.5 x 0.45	1	2431-288	6.50
2.6 x 0.45	1	2431-291	6.50
3.0 x 0.50	1	2431-294	6.50
3.0 x 0.60	1	2431-300	6.50
3.5 x 0.60	1	2431-306	6.50
4.0 x 0.50	1	2431-318	6.50
4.0 x 0.70	1	2431-324	6.50
4.5 x 0.50	1	2431-336	6.50
4.5 x 0.75	1	2431-342	6.50
5.0 x 0.50	1	2431-348	6.50
5.0 x 0.80	1	2431-360	6.50
5.0 x 0.90	1	2431-366	6.50
5.0 x 1.00	1	2431-372	6.50
5.5 x 0.90	1	2431-384	6.50
3.5 x 0.50	1	2431-304	6.50
6.0 x 0.50	1	2431-390	6.50
6.0 x 0.75	1	2431-402	6.50
6.0 x 1.00	1	2431-408	6.50
6.0 x 1.25	1	2431-414	6.50

SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
6.3 x 1.00	1	2431-426	\$6.50
7.0 x 0.75	1	2431-438	6.50
7.0 x 1.00	1	2431-444	6.50
8.0 x 0.75	1	2431-474	6.50
8.0 x 1.00	1	2431-480	6.50
8.0 x 1.25	1	2431-486	6.50
9.0 x 1.00	1	2431-504	6.50
9.0 x 1.25	1	2431-510	6.50
10.0 x 0.75	1	2431-516	6.50
10.0 x 1.00	1	2431-528	6.50
10.0 x 1.25	1	2431-534	6.50
10.0 x 1.50	1	2431-540	6.50
11.0 x 1.50	1	2431-558	6.50
12.0 x 1.25	1	2431-576	6.50
12.0 x 1.75	1	2431-588	6.50
6.0 x 1.00	1 1/2	2431-600	13.40
7.0 x 1.00	1 1/2	2431-606	13.40
8.0 x 1.00	1 1/2	2431-612	13.40
8.0 x 1.25	1 1/2	2431-618	13.40
9.0 x 1.25	1 1/2	2431-624	13.40
10.0 x 0.75	1 1/2	2431-636	13.40
10.0 x 1.00	1 1/2	2431-642	13.40
10.0 x 1.25	1 1/2	2431-648	13.40
10.0 x 1.50	1 1/2	2431-654	13.40
11.0 x 1.00	1 1/2	2431-660	13.40
11.0 x 1.50	1 1/2	2431-672	13.40
12.0 x 1.00	1 1/2	2431-678	13.40
12.0 x 1.25	1 1/2	2431-684	13.40
12.0 x 1.50	1 1/2	2431-690	13.40
12.0 x 1.75	1 1/2	2431-696	13.40
14.0 x 1.00	1 1/2	2431-744	13.40
14.0 x 1.25	1 1/2	2431-750	13.40
14.0 x 1.50	1 1/2	2431-756	13.40
14.0 x 2.00	1 1/2	2431-768	13.40
16.0 x 1.00	1 1/2	2431-828	13.40
16.0 x 1.50	1 1/2	2431-840	13.40
16.0 x 2.00	1 1/2	2431-846	13.40
18.0 x 1.00	1 1/2	2431-951	13.40
18.0 x 1.50	1 1/2	2431-882	13.40

SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
18.0 x 2.00	1 1/2	2431-894	\$13.40
18.0 x 2.50	1 1/2	2431-988	13.40
20.0 x 1.00	1 1/2	2432-000	13.40
20.0 x 1.50	1 1/2	2431-906	13.40
20.0 x 2.50	1 1/2	2431-912	13.40
14.0 x 1.25	2	2431-924	24.70
16.0 x 1.50	2	2431-930	24.70
16.0 x 2.00	2	2431-936	24.70
18.0 x 1.50	2	2431-960	24.70
18.0 x 2.00	2	2431-966	24.70
18.0 x 2.50	2	2431-972	24.70
20.0 x 1.50	2	2432-008	24.70
20.0 x 2.00	2	2432-014	24.70
20.0 x 2.50	2	2432-020	24.70
22.0 x 1.00	2	2432-032	24.70
22.0 x 1.50	2	2432-040	24.70
22.0 x 2.00	2	2432-045	24.70
22.0 x 2.50	2	2432-050	24.70
24.0 x 1.50	2	2432-074	24.70
24.0 x 2.00	2	2432-080	24.70
24.0 x 3.00	2	2432-086	24.70
27.0 x 2.00	2	2432-141	24.70
27.0 x 3.00	2	2432-143	24.70
30.0 x 1.50	2	2432-156	24.70
30.0 x 2.00	2	2432-158	24.70
30.0 x 3.50	2	2432-198	24.70
27.0 x 2.00	2 1/2	2432-170	50.40
27.0 x 3.00	2 1/2	2432-176	50.40
30.0 x 2.00	2 1/2	2432-194	50.40
30.0 x 3.50	2 1/2	2432-200	50.40
33.0 x 2.00	2 1/2	2432-218	50.40
33.0 x 3.50	2 1/2	2432-224	50.40
36.0 x 3.00	2 1/2	2432-254	50.40
36.0 x 4.00	2 1/2	2432-260	50.40
39.0 x 3.00	3	2432-374	86.40
39.0 x 4.00	3	2432-380	86.40
42.0 x 4.50	3	2432-408	86.40
45.0 x 4.50	3	2432-438	86.40
48.0 x 5.00	3	2432-464	86.40

# Special Metric Round Adjustable Dies

Right Hand – HSS Any size not listed available on request. Many special sizes in stock.



SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
1.0 x 0.20	13/16	2431-030	\$6.40
1.0 x 0.25	13/16	2431-042	6.40
1.2 x 0.20	13/16	2431-048	6.40
1.4 x 0.20	13/16	2431-054	6.40
1.5 x 0.30	13/16	2431-066	6.40
1.7 x 0.20	13/16	2431-084	6.40
2.0 x 0.20	13/16	2431-096	6.40
2.0 x 0.25	13/16	2431-102	6.40
2.0 x 0.50	13/16	2431-120	6.40
2.3 x 0.25	13/16	2431-132	6.40
2.3 x 0.40	13/16	2431-138	6.40
2.5 x 0.50	13/16	2431-150	6.40
2.6 x 0.35	13/16	2431-156	6.40
3.0 x 0.60	13/16	2431-176	6.40
3.5 x 0.35	13/16	2431-192	6.40
4.0 x 0.35	13/16	2431-204	6.40
4.0 x 0.75	13/16	2431-212	6.40
4.0 x 0.75	1	2431-330	7.10
5.0 x 0.75	1	2431-354	7.10
5.5 x 0.75	1	2431-378	7.10
6.0 x 1.50	1	2431-420	7.10
7.0 x 1.25	1	2431-450	7.10
8.0 x 0.50	1	2431-462	7.10
8.0 x 1.50	1	2431-492	7.10
9.0 x 0.75	1	2431-498	7.10
10.0 x 1.75	1	2431-546	7.10

SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
11.0 x 0.50	1	2431-550	\$7.10
11.0 x 0.75	1	2431-552	7.10
12.0 x 0.75	1	2431-564	7.10
12.0 x 1.00	1	2431-572	7.10
12.0 x 1.50	1	2431-582	7.10
11.0 x 1.25	1 1/2	2431-666	17.50
12.0 x 2.00	1 1/2	2431-702	17.50
13.0 x 1.00	1 1/2	2431-711	17.50
13.0 x 1.50	1 1/2	2431-713	17.50
13.0 x 1.75	1 1/2	2431-720	17.50
13.0 x 2.00	1 1/2	2431-725	17.50
14.0 x 1.75	1 1/2	2431-760	17.50
15.0 x 0.75	1 1/2	2431-786	17.50
15.0 x 1.00	1 1/2	2431-792	17.50
15.0 x 1.50	1 1/2	2431-798	17.50
15.0 x 1.75	1 1/2	2431-804	17.50
15.0 x 2.00	1 1/2	2431-810	17.50
16.0 x 0.75	1 1/2	2431-820	17.50
16.0 x 1.25	1 1/2	2431-834	17.50
17.0 x 0.75	1 1/2	2431-852	17.50
17.0 x 1.00	1 1/2	2431-858	17.50
17.0 x 1.25	1 1/2	2431-864	17.50
17.0 x 1.50	1 1/2	2431-870	17.50
17.0 x 2.00	1 1/2	2431-876	17.50
18.0 x 1.75	1 1/2	2431-888	17.50
18.0 x 1.00	2	2431-954	32.50
20.0 x 1.00	2	2432-002	32.50

SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
23.0 x 1.50	2	2432-059	\$32.50
24.0 x 1.00	2	2432-062	32.50
25.0 x 1.00	2	2432-092	32.50
25.0 x 1.25	2	2432-104	32.50
25.0 x 1.50	2	2432-098	32.50
25.0 x 2.00	2	2432-110	32.50
26.0 x 1.50	2	2432-124	32.50
26.0 x 2.00	2	2432-128	32.50
27.0 x 1.00	2	2432-134	32.50
28.0 x 1.50	2	2432-150	32.50
28.0 x 1.50	2 1/2	2432-153	65.50
30.0 x 1.00	2 1/2	2432-182	65.50
30.0 x 1.50	2 1/2	2432-188	65.50
36.0 x 2.00	2 1/2	2432-248	65.50
34.0 x 1.50	2 1/2	2432-230	65.50
34.0 x 3.50	2 1/2	2432-233	65.50
35.0 x 1.50	2 1/2	2432-236	65.50
36.0 x 1.50	2 1/2	2432-242	65.50
38.0 x 4.00	2 1/2	2432-272	65.50
39.0 x 1.50	3	2432-368	115.60
40.0 x 1.50	3	2432-386	115.60
42.0 x 1.50	3	2432-398	115.60
42.0 x 3.00	3	2432-404	115.60
45.0 x 1.50	3	2432-428	115.60
48.0 x 3.00	3	2432-458	115.60

# Left Hand Metric Round Adjustable Dies

High Speed Steel



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SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
3.0 x 0.50	1	2433-294	\$9.70
3.5 x 0.60	1	2433-306	9.70
4.0 x 0.70	1	2433-334	9.70
4.5 x 0.75	1	2433-342	9.70
5.0 x 0.80	1	2433-360	9.70
6.0 x 1.00	1	2433-408	9.70
7.0 x 1.00	1	2433-444	9.70
8.0 x 1.00	1	2433-480	9.70
8.0 x 1.25	1	2433-485	9.70
10.0 x 1.25	1	2433-535	9.70
10.0 x 1.50	1	2433-540	9.70
12.0 x 1.25	1	2433-582	9.70
12.0 x 1.75	1	2433-588	9.70
14.0 x 2.00	1	2433-600†	9.70

SIZE	OUTSIDE DIAM.	ORDER NO.	PRICE EACH
12.0 x 1.25	1 1/2	2433-684	\$19.40
12.0 x 1.75	1 1/2	2433-696	19.40
14.0 x 1.50	1 1/2	2433-756	19.40
14.0 x 2.00	1 1/2	2433-760	19.40
16.0 x 1.50	1 1/2	2433-840	19.40
16.0 x 2.00	1 1/2	2433-846	19.40
18.0 x 1.50	1 1/2	2433-882	19.40
18.0 x 2.50	1 1/2	2433-988	19.40
20.0 x 2.50	2	2434-020	61.50
22.0 x 2.50	2	2434-050	61.50
24.0 x 3.00	2	2434-086	61.50
27.0 x 3.00	2 1/2	2434-176	94.50
30.0 x 3.50	2 1/2	2434-224	94.50

† Limited Quantities

# Hexagon Rethreading Dies

Carbon Steel & High Speed Steel – NC, NF & NS



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SIZE	NC NF NS	CARBON STEEL		HSS	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2-56	NC	2490-230	\$3.18	-	-
2-64	NF	2490-240	3.49	-	-
3-48	NC	2490-280	3.49	-	-
3-56	NF	2490-290	3.49	-	-
4-40	NC	2490-345	2.40	2482-184	\$5.67
4-48	NF	2490-353	2.40	-	-
5-40	NC	2490-410	2.40	2482-186	5.67
5-44	NF	2490-415	2.40	-	-
6-32	NC	2490-475	2.40	2482-188	5.67
6-40	NF	2490-485	2.40	-	-
8-32	NC	2490-615	2.40	2482-190	5.67
8-36	NF	2490-620	2.40	-	-
10-24	NC	2490-740	2.40	2482-192	6.08
10-32	NF	2490-751	2.40	2482-194	6.08
12-24	NC	2490-885	2.40	2482-196	6.08
12-28	NF	2490-890	2.40	-	-
1/4-20	NC	2482-101	2.40	2482-201	6.87
1/4-28	NF	2482-102	2.40	2482-202	6.87
5/16-18	NC	2482-103	2.79	2482-203	7.31
5/16-24	NF	2482-104	2.79	2482-204	7.31
3/8-16	NC	2482-105	3.19	2482-205	8.15
3/8-24	NF	2482-106	3.19	2482-206	8.15
7/16-14	NC	2482-107	3.36	2482-207	9.07
7/16-20	NF	2482-108	3.36	2482-208	9.07

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SIZE	NC NF NS	CARBON STEEL		HSS	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/2-13	NC	2482-109	\$3.83	2482-209	\$10.17
1/2-20	NF	2482-110	3.83	2482-210	10.17
9/16-12	NC	2482-111	4.39	2482-211	10.62
9/16-18	NF	2482-112	4.39	2482-212	10.62
5/8-11	NC	2482-113	5.16	2482-213	13.24
5/8-18	NF	2482-114	5.16	2482-214	13.24
11/16-11	NC	2482-115	6.36	2482-215	15.82
11/16-16	NF	2482-116	6.36	2482-216	15.82
3/4-10	NC	2482-117	6.36	2482-217	17.59
3/4-16	NF	2482-118	6.36	2482-218	17.59
7/8-9	NC	2482-119	7.97	2482-219	19.47
7/8-14	NF	2482-120	7.97	2482-220	19.47
1-8	NC	2482-121	9.15	2482-221	21.25
1-12	NF	2482-122	9.15	2482-222	21.25
1-14	NS	2482-123	9.15	2482-223	21.25
1-1/8-7	NC	2482-124	11.15	2482-224	24.97
1-1/8-12	NF	2482-125	11.15	2482-225	24.97
1-1/4-7	NC	2482-126	13.90	2482-226	27.66
1-1/4-12	NF	2482-127	13.90	2482-227	27.66
1-3/8-6	NC	2482-128	15.88	2482-228	52.26
1-3/8-12	NF	2482-129	15.88	2482-229	52.26
1-1/2-6	NC	2482-130	19.47	2482-230	57.21
1-1/2-12	NF	2482-131	19.47	2482-231	57.21

# Metric Hexagon Dies

Right Hand – Carbon Steel



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## Standard Metric Sizes

SIZE	ORDER NO.	PRICE EACH
M 3.0 X 0.50	2483-090	\$2.40
M 3.5 X 0.60	2483-097	2.40
M 4.0 X 0.07	2483-101	2.40
M 4.5 X 0.75	2483-104	2.40
M 5.0 X 0.80	2483-106	2.40
M 6.0 X 1.00	2483-111	2.40
M 6.3 X 1.00	2483-116	2.40
M 7.0 X 1.00	2483-121	2.77
M 8.0 X 1.00	2483-126	2.77
M 8.0 X 1.25	2483-131	2.77
M 9.0 X 1.00	2483-139	3.19
M 9.0 X 1.25	2483-140	3.19
M 10.0 X 1.00	2483-146	3.19
M 10.0 X 1.25	2483-151	3.19
M 10.0 X 1.50	2483-156	3.19

SIZE	ORDER NO.	PRICE EACH
M 12.0 x 1.25	2483-171	\$3.83
M 12.0 x 1.50	2483-173	3.83
M 12.0 x 1.75	2483-176	3.83
M 14.0 x 1.25	2483-186	3.83
M 14.0 x 1.50	2483-191	3.83
M 14.0 x 2.00	2483-196	3.83
M 16.0 x 1.50	2483-206	5.16
M 16.0 x 2.00	2483-211	5.16
M 18.0 x 1.50	2483-226	6.36
M 18.0 x 2.50	2483-236	6.36
M 20.0 x 1.50	2483-246	6.36
M 20.0 x 2.50	2483-251	6.36
M 22.0 x 1.50	2483-261	7.97
M 22.0 x 2.50	2483-266	7.97

SIZE	ORDER NO.	PRICE EACH
M 24.0 x 1.50	2483-271	\$10.30
M 24.0 x 2.00	2483-276	10.30
M 24.0 x 3.00	2483-281	10.30
M 27.0 x 2.00	2483-301	11.15
M 27.0 x 3.00	2483-306	11.15
M 30.0 x 1.50	2483-316	11.15
M 30.0 x 2.00	2483-321	11.15
M 30.0 x 3.50	2483-326	11.15
M 33.0 x 2.00	2483-331	15.88
M 33.0 x 3.50	2483-336	15.88
M 36.0 x 3.00	2483-343	20.42
M 36.0 x 4.00	2483-346	20.42
M 39.0 x 3.00	2483-354	24.71
M 39.0 x 4.00	2483-355	24.71

## Special Metric Sizes

SIZE	ORDER NO.	PRICE EACH
M 2.0 X 0.45	2483-086	\$3.46
M 3.0 X 0.60	2483-091	3.46
M 4.0 X 0.75	2483-099	3.46
M 5.5 X 0.90	2483-109	3.46
M 8.0 X 1.50	2483-136	3.85
M11.0 X 1.00	2483-159	5.08
M11.0 X 1.25	2483-161	5.08
M12.0 X 1.00	2483-166	5.91
M14.0 X 1.00	2483-181	5.91
M15.0 X 1.50	2483-199	7.62
M15.0 X 1.75	2483-201	7.62
M16.0 X 1.00	2483-202	7.62
M16.0 X 1.25	2483-203	7.62
M17.0 X 1.00	2483-216	10.17

SIZE	ORDER NO.	PRICE EACH
M17.0 X 1.50	2483-221	\$10.17
M18.0 X 1.75	2483-231	10.17
M20.0 X 1.00	2483-241	10.17
M20.0 X 1.25	2483-243	10.17
M22.0 X 1.00	2483-253	11.50
M22.0 X 2.00	2483-264	11.50
M24.0 X 2.50	2483-279	14.79
M25.0 X 1.50	2483-286	14.79
M25.0 X 2.00	2483-288	14.79
M26.0 X 1.50	2483-291	14.79
M26.0 X 3.00	2483-296	14.79
M27.0 X 1.50	2483-299	17.84
M28.0 X 1.50	2483-308	17.84
M28.0 X 2.00	2483-309	17.84

SIZE	ORDER NO.	PRICE EACH
M 28.0 X 3.00	2483-311	\$17.84
M 30.0 X 3.00	2483-324	17.84
M 32.0 X 1.50	2483-327	22.24
M 33.0 X 1.50	2483-329	23.30
M 35.0 X 1.50	2483-341	23.30
M 36.0 X 1.50	2483-342	31.56
M 39.0 X 1.50	2483-352	33.36
M 40.0 X 1.50	2483-353	33.58
M 40.0 X 2.00	2483-356	33.58
M 42.0 X 1.50	2483-358	33.58
M 42.0 X 4.50	2483-359	33.58
M 45.0 X 1.50	2483-361	37.26
M 50.0 X 1.50	2483-366	44.03
M 60.0 X 2.00	2483-386	POA

# Hexagon Rethreading Dies- Left Hand

Carbon Steel & High Speed Steel – NC, NF & NS



3

SIZE	NC NF NS	CARBON STEEL		HSS		SIZE	NC NF NS	CARBON STEEL		HSS		SIZE	NC NF NS	CARBON STEEL		HSS	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH			ORDER NO.	PRICE EACH		
4-40	NC	2510-345	POA	-	-	5/16-18	NC	2512-698	\$2.87	2522-698	POA	3/4-10	NC	2514-617	\$6.53	2524-617	POA
4-48	NF	2510-353	POA	-	-	5/16-24	NF	2512-706	2.87	2522-706	POA	3/4-16	NF	2514-626	6.53	2524-626	POA
5-40	NC	2510-410	POA	-	-	3/8-16	NC	2513-010	3.29	2523-010	POA	7/8-9	NC	2515-177	8.22	2525-177	POA
5-44	NF	2510-415	POA	-	-	3/8-24	NF	2513-026	3.29	2523-026	POA	7/8-14	NF	2515-185	8.22	2525-185	POA
6-32	NC	2510-475	POA	-	-	7/16-14	NC	2513-300	3.47	2523-300	POA	1-8	NC	2515-697	10.64	2525-697	POA
6-40	NF	2510-485	POA	-	-	7/16-20	NF	2513-313	3.47	2523-313	POA	1-12	NF	2515-703	10.64	2525-703	POA
8-32	NC	2510-615	POA	-	-	1/2-13	NC	2513-562	3.94	2523-562	POA	1-14	NS	2515-706	10.64	2525-706	POA
8-36	NF	2510-620	POA	-	-	1/2-20	NF	2513-575	3.94	2523-575	POA	1-1/8-7	NC	2516-050	11.53	-	-
10-24	NC	2510-740	POA	-	-	9/16-12	NC	2513-845	4.91	2523-845	POA	1-1/8-12	NF	2516-059	11.53	-	-
10-32	NF	2510-751	POA	-	-	9/16-18	NF	2513-852	4.91	2523-852	POA	1-1/4-7	NC	2516-327	14.34	2526-327	POA
12-24	NC	2510-885	POA	-	-	5/8-11	NC	2514-111	5.29	2524-111	POA	1-1/4-12	NF	2516-337	14.34	2526-337	POA
12-28	NF	2510-890	POA	-	-	5/8-18	NF	2514-125	5.29	2524-125	POA	1-3/8-6	NC	2516-577	18.63	2526-577	POA
1/4-20	NC	2512-403	\$2.47	2522-403	POA	11/16-11	NC	2514-367	6.87	2524-367	POA	1-3/8-12	NF	2516-592	18.63	2526-592	POA
1/4-28	NF	2512-417	2.47	2522-417	POA	11/16-16	NF	2514-375	6.87	2524-375	POA	1-1/2-6	NC	2516-832	21.10	2526-832	POA
												1-1/2-12	NF	2516-847	21.10	2526-847	POA



# Popular Special Hexagon Dies

## Carbon Steel - Right Hand



3

CARBON STEEL RIGHT HAND		
SIZE	ORDER NO.	PRICE EACH
4-32	2490-335	\$3.50
6-36	2490-480	3.50
12-32	2490-895	3.50
14-20	2491-005	3.50
1/4-24	2492-410	3.50
1/4-27	2492-415	3.50
1/4-32	2492-425	3.50
1/4-36	2492-430	3.50
1/4-40	2492-435	3.50
1/4-48	2492-445	3.50
9/32-32	2492-585	3.97
5/16-20	2492-702	3.97
5/16-27	2492-710	3.97
5/16-28	2492-713	3.97
5/16-32	2492-723	3.97
5/16-40	2492-733	3.97
3/8-18	2493-015	4.18
3/8-20	2493-020	4.18
3/8-27	2493-033	4.18
3/8-28	2493-036	4.18
3/8-32	2493-046	4.18
3/8-40	2493-055	4.18
3/8-48	2493-065	4.18
7/16-16	2493-305	4.71
7/16-18	2493-310	4.71
7/16-24	2493-320	4.71
7/16-27	2493-325	4.71
7/16-28	2493-330	4.71
7/16-32	2493-340	4.71
7/16-40	2493-350	4.71
1/2-12	2493-560	5.59
1/2-14	2493-564	5.59
1/2-16	2493-568	5.59
1/2-18	2493-572	5.59
1/2-24	2493-582	5.59
1/2-27	2493-589	5.59
1/2-28	2493-592	5.59
1/2-32	2493-600	5.59
1/2-40	2493-610	5.59
9/16-16	2493-850	6.42
9/16-20	2493-855	6.42
9/16-24	2493-860	6.42
9/16-27	2493-868	6.42
9/16-32	2493-876	6.42
9/16-40	2493-986	6.42
5/8-10	2494-109	7.06
5/8-12	2494-113	7.06
5/8-14	2494-119	7.06
5/8-16	2494-123	7.06
5/8-20	2494-128	7.06
5/8-24	2494-133	7.06
5/8-27	2494-139	7.06
5/8-28	2494-142	7.06
5/8-32	2494-147	7.06
5/8-40	2494-157	7.06

CARBON STEEL RIGHT HAND		
SIZE	ORDER NO.	PRICE EACH
11/16-14	2494-373	\$8.70
11/16-18	2494-378	8.70
11/16-20	2494-382	8.70
11/16-24	2494-387	8.70
11/16-27	2494-392	8.70
11/16-28	2494-395	8.70
11/16-32	2494-400	8.70
3/4-12	2494-620	8.70
3/4-18	2494-629	8.70
3/4-20	2494-633	8.70
3/4-24	2494-638	8.70
3/4-27	2494-645	8.70
3/4-32	2494-653	8.70
13/16-10	2494-915	9.34
13/16-12	2494-920	9.34
13/16-16	2494-930	9.34
13/16-18	2494-935	9.34
13/16-20	2494-940	9.34
13/16-24	2494-945	9.34
13/16-27	2494-950	9.34
13/16-28	2494-955	9.34
13/16-32	2494-960	9.34
7/8-10	2495-179	9.49
7/8-12	2495-183	9.49
7/8-16	2495-187	9.49
7/8-18	2495-191	9.49
7/8-20	2495-195	9.49
7/8-24	2495-201	9.49
7/8-27	2495-208	9.49
7/8-28	2495-211	9.49
7/8-32	2495-217	9.49
7/8-40	2495-227	9.49
15/16-12	2495-445	12.12
15/16-16	2495-451	12.12
15/16-18	2495-455	12.12
15/16-20	2495-459	12.12
15/16-24	2495-465	12.12
15/16-27	2495-470	12.12
15/16-32	2495-477	12.12
1-10	2495-700	12.12
1-16	2495-709	12.12
1-18	2495-713	12.12
1-20	2495-717	12.12
1-24	2495-723	12.12
1-27	2495-728	12.12
1-32	2495-737	12.12
1 1/16-12	2495-911	15.20
1 1/16-14	2495-915	15.20
1 1/16-16	2495-919	15.20
1 1/16-18	2495-923	15.20
1 1/16-20	2495-927	15.20
1 1/16-24	2495-933	15.20
1 1/8-8	2496-052	15.20
1 1/8-10	2496-056	15.20
1 1/8-14	2496-062	15.20

CARBON STEEL RIGHT HAND		
SIZE	ORDER NO.	PRICE EACH
1 1/8-16	2496-066	\$15.20
1 1/8-18	2496-070	15.20
1 1/8-20	2496-074	15.20
1 3/16-8	2496-198	15.89
1 3/16-12	2496-206	15.89
1 3/16-16	2496-214	15.89
1 3/16-18	2496-218	15.89
1 1/4-8	2496-330	15.89
1 1/4-10	2496-334	15.89
1 1/4-14	2496-340	15.89
1 1/4-16	2496-344	15.89
1 1/4-18	2496-348	15.89
1 1/4-20	2496-352	15.89
1 5/16-8	2496-458	18.14
1 5/16-12	2496-466	18.14
1 5/16-18	2496-478	18.14
1 3/8-8	2496-583	18.14
1 3/8-10	2496-589	18.14
1 3/8-16	2496-599	18.14
1 3/8-18	2496-600	18.14
1 3/8-20	2496-605	18.14
1 7/16-8	2496-713	25.31
1 7/16-12	2496-721	25.31
1 7/16-16	2496-729	25.31
1 7/16-18	2496-733	25.31
1 1/2-8	2496-838	25.31
1 1/2-14	2496-850	25.31
1 1/2-16	2496-854	25.31
1 1/2-18	2496-858a	25.31
1 1/2-20	2496-862	25.31
1 5/8-5 1/2	2497-138	37.05
1 5/8-8	2497-145	37.05
1 5/8-12	2497-153	37.05
1 5/8-14	2497-157	37.05
1 5/8-16	2497-161	37.05
1 5/8-18	2497-165	37.05
1 5/8-20	2497-169	37.05
1 3/4-5	2497-298	37.05
1 3/4-6	2497-301	37.05
1 3/4-8	2497-307	37.05
1 3/4-10	2497-311	37.05
1 3/4-12	2497-315	60.27
1 3/4-16	2497-323	37.05
1 3/4-18	2497-327	37.05
1 3/4-20	2497-331	37.05
1 7/8-5	2497-448	42.78
1 7/8-8	2497-455	42.78
1 7/8-12	2497-463	42.78
1 7/8-14	2497-467	42.78
1 7/8-16	2497-471	42.78
1 7/8-18	2497-475	42.78
1 7/8-20	2497-479	42.78
2-4 1/2	2497-640	50.51
2-8	2497-650	50.51
2-12	2497-660	50.51

CARBON STEEL RIGHT HAND		
SIZE	ORDER NO.	PRICE EACH
2-16	2497-668	\$50.51
2-18	2497-672	50.51
2-20	2497-676	50.51
2 1/8-8	2497-800	50.51
2 1/8-12	2497-808	50.51
2 1/8-16	2497-816	50.51
2 1/4-4 1/2	2497-918	83.55
2 1/4-8	2497-926	50.51
2 1/4-12	2497-934	50.51
2 1/4-16	2497-942	50.51
2 1/4-18	2497-946	50.51
2 3/8-8	2498-040	84.05
2 3/8-12	2498-048	84.05
2 3/8-16	2498-056	84.05
2 1/2-4	2498-150	84.05
2 1/2-8	2498-163	84.05
2 1/2-12	2498-171	84.05
2 1/2-16	2498-179	84.05
2 5/8-4	2498-275	99.78
2 5/8-8	2498-281	99.78
2 5/8-12	2498-289	99.78
2 3/4-8	2498-370	99.78
2 3/4-8	2498-376	99.78
2 3/4-12	2498-384	99.78
2 7/8-8	2498-450	142.42
2 7/8-12	2498-455	142.42
3-4	2498-537	165.14
3-8	2498-545	165.14
3-12	2498-553	165.14
3-16	2498-559	165.14
3 1/8-4	2498-595	181.79
3 1/8-8	2498-600	181.79
3 1/8-12	2498-605	181.79
3 1/4-4	2498-642	181.79
3 1/4-8	2498-650	181.79
3 1/4-12	2498-655	181.79
3 3/8-8	2498-735	181.79
3 3/8-12	2498-740	181.79
3 1/2-4	2498-775	207.73
3 1/2-8	2498-785	207.73
3 1/2-12	2498-790	207.73
3 5/8-8	2498-840	313.83
3 5/8-12	2498-845	313.83
3 3/4-4	2498-880	349.42
3 3/4-8	2498-885	349.42
3 3/4-12	2498-890	349.42
3 7/8-12	2498-935	387.92
4-4	2498-970	343.78
4-8	2498-975	343.78
4-12	2498-980	343.78
4 1/4-12	2499-025	425.57
4 1/2-8	2499-105	445.73
4 1/2-12	2499-110	445.73
5-12	2499-185	525.25

**We stock RH & LH, Carbon Steel & High Speed, Screw Machine, Fractional, and Decimal Size Special Hex Dies. Price on application.**

# Full Special Hexagon Dies

Right & Left Hand

Please specify quantity when ordering.

**POPULAR SPECIAL CARBON  
STEEL R.H. HEX DIES  
SEE PAGE 150**



CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND		CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND		
SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
4-36	2490-340	POA	-	-	-	-	5/8-16	See Popular Specials	-	-	-	2514-123	POA	
5-32	2490-400	POA	-	-	-	-	5/8-20	See Popular Specials	2504-128	POA	-	2514-128	POA	
5-64	-	-	2500-435	POA	-	-	5/8-24	See Popular Specials	2504-135	POA	-	2514-133	POA	
6-36	See Popular Specials	-	-	-	2510-480	POA	5/8-32	See Popular Specials	2504-147	POA	-	2514-147	POA	
8-40	2490-625	POA	2500-625	POA	2510-625	POA	21/32-20	2494-270	POA	-	-	-	-	
10-28	2490-745	POA	-	-	-	-	21/32-32	2494-280	POA	-	-	-	-	
10-30	2490-748	POA	-	-	-	-	11/16-10	2494-365	POA	-	-	-	-	
12-56	2490-915	POA	-	-	-	-	11/16-12	2494-369	POA	-	-	-	-	
12-60	2490-920	POA	-	-	-	-	11/16-18	See Popular Specials	2504-378	POA	2514-378	POA		
14-24	2491-010	POA	-	-	-	-	11/16-20	See Popular Specials	2504-382	POA	2514-382	POA		
1/16-64	2491-795	POA	-	-	-	-	11/16-24	See Popular Specials	2504-387	POA	2514-387	POA		
3/32-48	2491-885	POA	-	-	-	-	11/16-40	2494-410	POA	-	-	-	-	
5/32-32	2492-060	POA	-	-	-	-	3/4-8	2494-615	POA	2504-615	POA	-	-	
5/32-36	2492-065	POA	-	-	-	-	3/4-12	See Popular Specials	-	-	2514-620	POA		
3/16-24	2492-165	POA	-	-	-	-	3/4-14	2494-624	POA	-	-	2514-624	POA	
3/16-32	2492-175	POA	-	-	-	-	3/4-18	See Popular Specials	-	-	2514-629	POA		
7/32-24	2492-275	POA	-	-	-	-	3/4-20	See Popular Specials	2504-633	POA	2514-633	POA		
7/32-32	2492-285	POA	-	-	-	-	3/4-24	See Popular Specials	-	-	2514-638	POA		
1/4-16	2492-395	POA	-	-	-	-	3/4-25	2494-641	POA	-	-	-	-	
1/4-18	2492-400	POA	-	-	-	-	3/4-28	2494-648	POA	-	-	-	-	
1/4-24	See Popular Specials	-	2502-410	POA	2512-410	POA	3/4-32	See Popular Specials	2504-653	POA	-	-	-	
1/4-26	-	-	-	-	2512-413	POA	3/4-40	2494-663	POA	-	-	-	-	
1/4-27	See Popular Specials	-	-	-	2512-415	POA	25/32-9	2494-790	POA	-	-	-	-	
1/4-30	2492-420	POA	-	-	-	-	25/32-16	2494-800	POA	-	-	-	-	
1/4-32	See Popular Specials	-	2502-425	POA	2512-425	POA	13/16-8	2494-910	POA	-	-	-	-	
1/4-36	See Popular Specials	-	-	-	2512-430	POA	13/16-10	See Popular Specials	2504-915	POA	2514-915	POA		
1/4-40	See Popular Specials	-	-	-	2512-435	POA	13/16-14	2494-925	POA	-	-	-	-	
5/16-20	See Popular Specials	-	2502-702	POA	2512-702	POA	13/16-16	See Popular Specials	-	-	2514-930	POA		
5/16-30	2492-718	POA	-	-	-	-	13/16-18	See Popular Specials	-	-	2514-935	POA		
5/16-32	See Popular Specials	-	2502-723	POA	2512-723	POA	13/16-20	See Popular Specials	2504-940	POA	2514-940	POA		
5/16-40	See Popular Specials	-	-	-	2512-733	POA	13/16-24	See Popular Specials	-	-	2514-945	POA		
5/16-50	-	-	2502-744	POA	-	-	13/16-40	2494-970	POA	-	-	-	-	
21/64-20	2492-825	POA	-	-	-	-	7/8-8	2495-175	POA	-	-	-	-	
11/32-24	2492-876	POA	-	-	-	-	7/8-12	See Popular Specials	-	-	2515-183	POA		
3/8-18	See Popular Specials	-	2503-015	POA	-	-	7/8-16	See Popular Specials	-	-	2515-187	POA		
3/8-20	See Popular Specials	-	2503-020	POA	2513-020	POA	7/8-18	See Popular Specials	-	-	2515-191	POA		
3/8-26	2493-030	POA	-	-	-	-	7/8-20	See Popular Specials	2505-195	POA	2515-195	POA		
3/8-28	See Popular Specials	-	2503-036	POA	-	-	7/8-24	See Popular Specials	-	-	2515-201	POA		
3/8-30	2493-041	POA	-	-	-	-	7/8-25	2495-204	POA	-	-	-	-	
3/8-32	See Popular Specials	-	2503-046	POA	2513-046	POA	15/16-8	2495-435	POA	-	-	-	-	
3/8-40	See Popular Specials	-	-	-	2513-055	POA	15/16-9	2495-438	POA	-	-	-	-	
13/32-28	2493-197	POA	-	-	-	-	15/16-10	2495-441	POA	-	-	-	-	
13/32-40	2493-210	POA	-	-	-	-	15/16-12	See Popular Specials	-	-	2515-445	POA		
17/64-36	2493-265	POA	-	-	-	-	15/16-16	See Popular Specials	2505-451	POA	2515-451	POA		
7/16-18	See Popular Specials	-	-	-	2513-310	POA	15/16-18	See Popular Specials	-	-	2515-455	POA		
7/16-24	See Popular Specials	-	2503-320	POA	2513-320	POA	15/16-20	See Popular Specials	2505-459	POA	2515-459	POA		
7/16-28	See Popular Specials	-	2503-330	POA	2513-330	POA	15/16-32	See Popular Specials	2505-477	POA	-	-		
7/16-30	2493-335	POA	-	-	-	-	31/32-12	2495-580	POA	-	-	-	-	
7/16-32	See Popular Specials	-	-	-	2513-340	POA	1-7	2495-695	POA	-	-	-	-	
7/16-40	See Popular Specials	-	-	-	2513-350	POA	1-10	See Popular Specials	-	-	2515-700	POA		
1/2-12	See Popular Specials	-	2503-560	POA	-	-	1-16	See Popular Specials	2505-709	POA	2515-709	POA		
1/2-16	See Popular Specials	-	-	-	2513-568	POA	1-18	See Popular Specials	2505-713	POA	2515-713	POA		
1/2-18	See Popular Specials	-	-	-	2513-572	POA	1-20	See Popular Specials	2505-717	POA	2515-717	POA		
1/2-22	2493-578	POA	-	-	-	-	1-24	See Popular Specials	-	-	2515-723	POA		
1/2-24	See Popular Specials	-	-	-	2513-582	POA	1-28	2495-731	POA	-	-	-	-	
1/2-25	2493-585	POA	-	-	-	-	1-32	See Popular Specials	2505-737	POA	-	-	-	-
1/2-27	See Popular Specials	-	2503-589	POA	2513-589	POA	1-40	2495-747	POA	-	-	-	-	
1/2-28	See Popular Specials	-	2503-592	POA	2513-592	POA	1 1/32-12	2495-836	POA	-	-	-	-	
1/2-30	2493-596	POA	-	-	-	-	1 1/16-7	2495-900	POA	2505-900	POA	-	-	
1/2-32	See Popular Specials	-	-	-	2513-600	POA	1 1/16-8	2495-903	POA	-	-	2515-903	POA	
1/2-40	See Popular Specials	-	-	-	2513-610	POA	1 1/16-10	2495-907	POA	-	-	-	-	
9/16-8	2493-840	POA	-	-	-	-	1 1/16-12	See Popular Specials	2505-911	POA	2515-911	POA		
9/16-16	See Popular Specials	-	-	-	2513-850	POA	1 1/16-18	See Popular Specials	2505-923	POA	-	-	-	-
9/16-20	See Popular Specials	-	2503-855	POA	2513-855	POA	1 1/16-20	See Popular Specials	2505-927	POA	-	-	-	-
9/16-24	See Popular Specials	-	2503-860	POA	2513-860	POA	1 1/16-32	2495-943	POA	-	-	-	-	
9/16-25	2493-863	POA	2503-863	POA	-	-	1 1/8-5	2496-045	POA	-	-	-	-	
9/16-28	2493-871	POA	-	-	-	-	1 1/8-6	2496-048	POA	-	-	-	-	
9/16-32	See Popular Specials	-	2503-876	POA	2513-876	POA	1 1/8-8	See Popular Specials	2506-052	POA	2516-052	POA		
5/8-8	2494-105	POA	-	-	-	-	1 1/8-10	See Popular Specials	-	-	2516-056	POA		
5/8-12	See Popular Specials	-	-	-	2514-113	POA	1 1/8-16	See Popular Specials	2506-066	POA	2516-066	POA		
5/8-13	2494-116	POA	-	-	-	-	1 1/8-18	See Popular Specials	2506-070	POA	2516-070	POA		

(continued)

# Full Special Hexagon Dies

## Right & Left Hand

Please specify quantity when ordering.

**POPULAR SPECIAL CARBON  
STEEL R.H. HEX DIES  
SEE PAGE 150**



CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND		CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND	
SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1 1/8-20	See Popular Specials		2506-074	POA	2516-074	POA	1 11/16-5	2497-225	POA	-	-	-	-
1 1/8-24	2496-080	POA	-	-	-	-	1 11/16-8	2497-230	POA	-	-	-	-
1 1/8-32	2496-090	POA	-	-	-	-	1 11/16-12	2497-235	POA	-	-	-	-
1 5/32-14	2496-145	POA	-	-	-	-	1 11/16-16	2497-240	POA	-	-	-	-
1 5/32-18	2496-150	POA	-	-	-	-	1 11/16-18	2497-245	POA	-	-	2517-245	POA
1 5/32-32	2496-165	POA	-	-	-	-	1 3/4-5	See Popular Specials		2507-298	POA	2517-298	POA
1 3/16-7	2496-195	POA	-	-	-	-	1 3/4-7	2497-304	POA	-	-	-	-
1 3/16-8	See Popular Specials		-	-	2516-198	POA	1 3/4-8	See Popular Specials		2507-307	POA	2517-307	POA
1 3/16-10	2496-202	POA	-	-	2516-202	POA	1 3/4-10	See Popular Specials		2507-311	POA	-	-
1 3/16-12	See Popular Specials		-	-	2516-206	POA	1 3/4-12	See Popular Specials		2507-315	POA	2517-315	POA
1 3/16-14	2496-210	POA	-	-	2516-210	POA	1 3/4-14	2497-319	POA	-	-	-	-
1 3/16-18	See Popular Specials		2506-218	POA	-	-	1 3/4-16	See Popular Specials		-	-	2517-323	POA
1 3/16-20	2496-222	POA	-	-	-	-	1 13/16-12	2497-390	POA	-	-	-	-
1 3/16-24	2496-228	POA	-	-	-	-	1 13/16-16	2497-395	POA	-	-	-	-
1 3/16-32	2496-238	POA	-	-	-	-	1 7/8-5	See Popular Specials		2507-448	POA	2517-448	POA
1 1/4-8	See Popular Specials		2506-330	POA	2516-330	POA	1 7/8-6	2497-451	POA	2507-451	POA	-	-
1 1/4-10	See Popular Specials		2506-334	POA	2516-334	POA	1 7/8-8	See Popular Specials		2507-455	POA	2517-455	POA
1 1/4-16	See Popular Specials		2506-344	POA	2516-344	POA	1 7/8-10	2497-459	POA	2507-459	POA	2517-459	POA
1 1/4-18	See Popular Specials		2506-348	POA	2516-348	POA	1 7/8-12	See Popular Specials		2507-463	POA	2517-463	POA
1 1/4-20	See Popular Specials		-	-	2516-352	POA	1 7/8-16	See Popular Specials		2507-471	POA	2517-471	POA
1 1/4-24	2496-358	POA	-	-	-	-	1 15/16-8	2497-575	POA	-	-	2517-575	POA
1 1/4-27	2496-363	POA	-	-	-	-	1 15/16-10	-	-	-	-	2517-577	POA
1 1/4-28	2496-366	POA	-	-	-	-	1 15/16-12	2497-580	POA	-	-	-	-
1 1/4-32	2496-372	POA	-	-	-	-	1 15/16-16	2497-585	POA	-	-	-	-
1 5/16-7	2496-455	POA	-	-	-	-	1 15/16-18	2497-590	POA	-	-	-	-
1 5/16-8	See Popular Specials		-	-	2516-458	POA	2-4	-	-	2507-640	POA	-	-
1 5/16-10	2496-462	POA	-	-	-	-	2-4 1/2	See Popular Specials		2507-641	POA	2517-640	POA
1 5/16-12	See Popular Specials		2506-466	POA	2516-466	POA	2-5	2497-643	POA	-	-	-	-
1 5/16-14	2496-470	POA	-	-	-	-	2-6	2497-646	POA	-	-	2517-646	POA
1 5/16-16	2496-474	POA	-	-	2516-474	POA	2-8	See Popular Specials		2507-650	POA	2517-650	POA
1 5/16-18	See Popular Specials		2506-478	POA	-	-	2-10	2497-654	POA	2507-654	POA	2517-654	POA
1 5/16-20	2496-482	POA	2506-482	POA	2516-482	POA	2-11	2497-657	POA	-	-	-	-
1 5/16-24	2496-488	POA	-	-	-	-	2-12	See Popular Specials		2507-660	POA	2517-660	POA
1 5/16-32	2496-498	POA	-	-	-	-	2-14	2497-664	POA	-	-	-	-
1 3/8-7	2496-580	POA	-	-	-	-	2-16	See Popular Specials		-	-	2517-668	POA
1 3/8-8	See Popular Specials		2506-583	POA	2516-583	POA	2-20	See Popular Specials		2507-668	POA	-	-
1 3/8-9	2496-586	POA	-	-	-	-	2 1/16-12	2497-745	POA	-	-	-	-
1 3/8-14	2496-595	POA	-	-	-	-	2 1/16-16	2497-750	POA	-	-	-	-
1 3/8-16	See Popular Specials		-	-	2516-599	POA	2 1/16-40	2497-768	POA	-	-	-	-
1 3/8-18	See Popular Specials		2506-601	POA	2516-602	POA	2 1/8-4 1/2	2497-795	POA	2507-795	POA	-	-
1 3/8-20	See Popular Specials		-	-	2516-605	POA	2 1/8-8	See Popular Specials		2507-800	POA	2517-800	POA
1 3/8-24	2496-611	POA	2506-611	POA	-	-	2 1/8-10	2497-804	POA	-	-	-	-
1 3/8-32	2496-621	POA	-	-	-	-	2 1/8-12	See Popular Specials		2507-808	POA	2517-808	POA
1 7/16-7	2496-710	POA	-	-	-	-	2 1/8-14	2497-812	POA	-	-	-	-
1 7/16-10	2496-717	POA	-	-	-	-	2 1/8-18	2497-820	POA	-	-	-	-
1 7/16-12	See Popular Specials		2506-721	POA	2516-721	POA	2 1/8-20	2497-824	POA	-	-	-	-
1 7/16-14	2496-725	POA	-	-	-	-	2 3/16-8	2497-870	POA	-	-	-	-
1 7/16-18	See Popular Specials		2506-733	POA	2516-733	POA	2 3/16-12	2497-875	POA	-	-	-	-
1 7/16-20	2496-737	POA	-	-	-	-	2 3/16-16	2497-880	POA	-	-	-	-
1 7/16-24	2496-743	POA	-	-	-	-	2 3/16-18	2497-884	POA	-	-	-	-
1 7/16-32	2496-753	POA	-	-	-	-	2 3/16-20	2497-888	POA	2507-888	POA	-	-
1 1/2-7	2496-835	POA	-	-	-	-	2 1/4-4	2497-915	POA	-	-	-	-
1 1/2-8	See Popular Specials		2506-838	POA	2516-838	POA	2 1/4-4 1/2	See Popular Specials		2507-918	POA	2517-918	POA
1 1/2-9	2496-841	POA	-	-	-	-	2 1/4-6	2497-922	POA	-	-	-	-
1 1/2-10	2496-844	POA	-	-	2516-844	POA	2 1/4-8	See Popular Specials		2507-926	POA	2517-926	POA
1 1/2-16	See Popular Specials		-	-	2516-854	POA	2 1/4-10	2497-930	POA	-	-	-	-
1 1/2-18	See Popular Specials		2506-858	POA	2516-858	POA	2 1/4-12	See Popular Specials		2507-934	POA	2517-934	POA
1 1/2-20	See Popular Specials		-	-	2516-862	POA	2 1/4-14	2497-938	POA	-	-	-	-
1 1/2-24	2496-868	POA	-	-	-	-	2 1/4-20	2497-950	POA	-	-	-	-
1 1/2-32	2496-878	POA	-	-	-	-	2 5/16-12	2498-000	POA	-	-	2518-000	POA
1 9/16-8	2497-015	POA	-	-	-	-	2 3/8-4	2498-035	POA	-	-	-	-
1 9/16-12	2497-020	POA	-	-	-	-	2 3/8-8	See Popular Specials		2508-040	POA	-	-
1 9/16-14	2497-024	POA	-	-	-	-	2 3/8-10	2498-044	POA	2508-044	POA	-	-
1 9/16-16	2497-028	POA	-	-	-	-	2 3/8-12	See Popular Specials		2508-048	POA	2518-048	POA
1 9/16-18	-	-	2507-032	POA	2517-031	POA	2 3/8-14	2498-052	POA	-	-	-	-
1 9/16-20	2497-034	POA	-	-	-	-	2 3/8-18	2498-060	POA	-	-	-	-
1 5/8-5	2497-135	POA	-	-	-	-	2 3/8-20	2498-064	POA	-	-	-	-
1 5/8-5 1/2	See Popular Specials		2507-138	POA	2517-138	POA	2 7/16-12	2498-110	POA	-	-	-	-
1 5/8-6	2497-141	POA	-	-	-	-	2 1/2-4	See Popular Specials		2508-150	POA	2518-150	POA
1 5/8-8	See Popular Specials		2507-145	POA	2517-145	POA	2 1/2-4 1/2	2498-153	POA	-	-	-	-
1 5/8-10	2497-149	POA	-	-	-	-	2 1/2-5	2498-156	POA	-	-	-	-
1 5/8-12	See Popular Specials		2507-153	POA	2517-153	POA	2 1/2-6	2498-159	POA	-	-	-	-
1 5/8-16	See Popular Specials		-	-	2517-161	POA							

(continued)

# Full Special Hexagon Dies

Right & Left Hand (Continued)

Please specify quantity when ordering.

**POPULAR SPECIAL CARBON  
STEEL R.H. HEX DIES  
SEE PAGE 150**



CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND		CARBON STEEL RIGHT HAND			H.S.S. RIGHT HAND		CARBON STEEL LEFT HAND	
SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2 1/2-8	See Popular Specials		2508-163	POA	2518-163	POA	3 1/2-4	See Popular Specials	-	-	-	2518-775	POA
2 1/2-10	2498-167	POA	-	-	-	-	3 1/2-6	2498-780	POA	-	-	-	-
2 1/2-12	See Popular Specials		2508-171	POA	2518-171	POA	3 1/2-8	See Popular Specials	2508-785	POA	-	-	-
2 1/2-14	2498-175	POA	-	-	-	-	3 1/2-12	See Popular Specials	2508-790	POA	-	2518-790	POA
2 1/2-16	See Popular Specials		2508-179	POA	-	-	3 1/2-16	2498-795	POA	-	-	-	-
2 1/2-18	2498-183	POA	-	-	-	-	3 5/8-12	See Popular Specials	-	-	-	2518-845	POA
2 9/16-8	-	-	2508-235	POA	-	-	3 5/8-16	2498-850	POA	-	-	-	-
2 9/16-18	2498-240	POA	-	-	-	-	3 3/4-16	2498-895	POA	-	-	-	-
2 5/8-8	See Popular Specials		2508-281	POA	-	-	3 3/4-18	2498-900	POA	-	-	-	-
2 5/8-10	2498-285	POA	-	-	-	-	4-3 1/4	2498-965	POA	-	-	-	-
2 5/8-14	2498-293	POA	-	-	-	-	4-4	See Popular Specials	-	-	-	2518-970	POA
2 5/8-16	2498-297	POA	2508-297	POA	-	-	4-12	See Popular Specials	-	-	-	2518-980	POA
2 11/16-8	2498-325	POA	-	-	-	-	4-16	2498-985	POA	-	-	-	-
2 3/4-4	See Popular Specials		2508-370	POA	2518-370	POA	4 1/4-4	2499-015	POA	-	-	-	-
2 3/4-8	See Popular Specials		2508-376	POA	2518-376	POA	4 1/4-8	2499-020	POA	-	-	2518-650	POA
2 3/4-10	2498-380	POA	-	-	-	-	4 1/4-12	See Popular Specials	2509-025	POA	-	-	-
2 3/4-12	See Popular Specials		2508-384	POA	2518-384	POA	4 3/8-8	2499-070	POA	-	-	-	-
2 3/4-14	2498-388	POA	-	-	-	-	4 3/8-12	2499-075	POA	-	-	-	-
2 3/4-16	2498-392	POA	-	-	-	-	4 1/2-4	2499-100	POA	-	-	2519-100	POA
2 3/4-18	2498-396	POA	-	-	-	-	4 3/4-4	2499-130	POA	-	-	-	-
2 7/8-4	2498-440	POA	-	-	-	-	4 3/4-8	2499-135	POA	-	-	-	-
2 7/8-6	2498-445	POA	-	-	-	-	4 3/4-12	2499-140	POA	2509-140	POA	-	-
2 7/8-8	See Popular Specials		2508-450	POA	-	-	5-4	2499-170	POA	-	-	-	-
2 7/8-16	2498-460	POA	-	-	-	-	5-6	2499-175	POA	-	-	-	-
3-3 1/2	2498-535	POA	-	-	-	-	5-8	2499-180	POA	-	-	-	-
3-4	See Popular Specials		2508-537	POA	2518-537	POA	5 1/4-4	2499-200	POA	-	-	-	-
3-6	2498-541	POA	-	-	-	-	5 1/4-8	2499-205	POA	-	-	-	-
3-8	See Popular Specials		2508-545	POA	-	-	5 1/4-12	2499-210	POA	-	-	-	-
3-10	2498-549	POA	-	-	-	-	5 1/2-4	2499-240	POA	-	-	-	-
3-12	See Popular Specials		2508-553	POA	2518-553	POA	5 1/2-8	2499-245	POA	-	-	-	-
3-16	See Popular Specials		-	-	2518-559	POA	5 1/2-12	2499-250	POA	-	-	-	-
3 1/8-16	2498-610	POA	-	-	-	-	5 3/4-6	2499-280	POA	-	-	-	-
3 1/8-18	2498-615	POA	-	-	-	-	5 3/4-8	2499-285	POA	-	-	-	-
3 1/8-20	2498-620	POA	-	-	-	-	5 3/4-12	2499-290	POA	-	-	-	-
3 1/4-4	See Popular Specials		2508-642	POA	2518-642	POA	6-4	2499-305	POA	-	-	-	-
3 1/4-6	2498-646	POA	-	-	-	-	6-8	2499-310	POA	-	-	-	-
3 1/4-12	See Popular Specials		-	-	2518-655	POA	6-12	2499-315	POA	-	-	-	-
3 1/4-16	2498-660	POA	-	-	-	-	6 3/8-12	2499-380	POA	-	-	-	-

## Square Bolt Dies

Carbon Steel

SIZE	SQUARE SIZE	THICKNESS	ORDER NO.	PRICE EACH
1/4-20	2-1/2	1/2	2530-001	\$ 18.00
5/16-18	2-1/2	1/2	2530-004	18.00
3/8-16	2-1/2	1/2	2530-006	18.00
7/16-14	2-1/2	1/2	2530-008	18.00
1/2-13	2-1/2	3/4	2530-010	27.00
5/8-11	2-1/2	3/4	2530-014	27.00
3/4-10	2-1/2	3/4	2530-016	27.00
7/8-9	2-1/2	3/4	2530-018	27.00



2

SIZE	SQUARE SIZE	THICKNESS	ORDER NO.	PRICE EACH
1-8	2-1/2	1	2530-020	\$ 29.00
1-1/8-7	2-1/2	1	2530-023	29.00
1-1/4-7	2-1/2	1	2530-025	29.00
1-3/8-6	2-1/2	1	2530-027	29.00
1-1/2-6	3	1	2530-030	44.00
1-3/4-5	3	1-1/4	2530-034	49.00
2-4-1/2	3-3/4	2	2530-036	73.00

Left Hand, Special Square Sizes and High Speed Steel Dies are available on request.



# Pipe Dies



## Round Adjustable NPT (Taper Pipe) & NPS (Straight Pipe) Right Hand – High Speed Steel



8

SIZE	OD	NPT TAPER		NPS STRAIGHT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16-27	1	2436-102	\$ 7.00	2436-101	\$ 7.00
1/8-27	1	2436-106	7.00	2436-105	7.00
1/8-27	1-1/2	2436-110	16.10	2436-109	16.50
1/4-18	1-1/2	2436-118	16.10	2436-119	16.50
3/8-18	1-1/2	2436-126	16.10	2436-125	16.50
1/4-18	2	2436-122	28.20	2436-121	30.50
3/8-18	2	2436-130	28.20	2436-129	30.50
1/2-14	2	2436-134	28.20	2436-133	30.50
3/4-14	2	2436-142	28.20	2436-141	30.50
3/4-14	2-1/2	2436-146	40.10	2436-145	48.20
1-11-1/2	2-1/2	2436-154	40.10	2436-153	48.20
1-11-1/2	3	2436-158	81.60	2436-157	91.70
1-1/4-11-1/2	3	2436-162	81.60	2436-161	91.70
1-1/2-11-1/2	3	2436-170	81.60	2436-169	91.70
1-1/2-11-1/2	4	2436-172	188.00	2436-171	225.60
2-11-1/2	4	2436-178	188.00	2436-177	225.60
2-1/2-8	5	2436-182	293.00	2436-181	351.60
3-8	5	2436-188	293.00	2436-187	351.60

## Left Hand Round Adjustable NPT (Taper Pipe) & NPS (Straight Pipe) High Speed Steel



2

SIZE	OD	LEFT HAND NPT TAPER		LEFT HAND NPS STRAIGHT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16-27	1	2436-302	\$78.00	2436-301	\$78.00
1/8-27	1	2436-306	78.00	2436-305	78.00
1/8-27	1-1/2	2436-310	99.60	2436-309	99.60
1/4-18	1-1/2	2436-318	99.60	2436-317	99.60
3/8-18	1-1/2	2436-330	99.60	2436-329	99.60
1/4-18	2	2436-322	117.60	2436-321	117.60
3/8-18	2	2436-334	117.60	2436-333	117.60
1/2-14	2	2436-338	127.20	2436-337	127.20
3/4-14	2	2436-346	127.20	2436-345	127.20
3/4-14	2-1/2	2436-350	166.80	2436-349	166.80
1-11-1/2	2-1/2	2436-358	174.00	2436-357	174.00
1-11-1/2	3	2436-362	289.20	2436-361	289.20
1-1/4-11-1/2	3	2436-366	289.20	2436-365	289.20
1-1/2-11-1/2	3	2436-374	375.60	2436-373	375.60
1-1/2-11-1/2	4	2436-382	446.40	2436-381	446.40
2-1/2-8	5	2436-385	660.00	2436-386	792.00
3-8	5	2436-392	823.20	2436-391	686.40

## Hexagon Rethreading Dies NPT (Taper Pipe) NPS (Straight Pipe) Right Hand – Carbon Steel



8

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8

SIZE	Pittsburg ALLEGHANY		Pittsburg AMERICAN MADE		Pittsburg ALLEGHANY	
	NPT ORDER NUMBER	PRICE EACH	NPT ORDER NUMBER	PRICE EACH	NPS ORDER NUMBER	PRICE EACH
1/16-27	2484-002	\$ 3.26	-	-	2484-001	\$3.46
1/8-27	2484-006	3.30	2483-906	\$ 10.17	2484-005	3.46
1/4-18	2484-018	3.39	2483-918	11.29	2484-017	4.44
3/8-18	2484-030	4.46	2483-930	15.60	2484-029	5.62
1/2-14	2484-034	6.83	2483-934	22.56	2484-033	7.58
3/4-14	2484-042	9.38	2483-942	27.88	2484-041	9.93
1-11-1/2	2484-054	13.03	2483-954	53.98	2484-053	13.06
1-1/4-11-1/2	2484-062	28.31	-	-	-	-
1-1/2-11-1/2	2484-070	33.89	-	-	-	-
2-11-1/2	2484-078	72.94	-	-	-	-
2-1/2-8	2484-082	139.37	-	-	-	-
3-8	2484-087	312.84	-	-	-	-
3-1/2-8	2484-092	447.82	-	-	-	-
4-8	2484-097	619.97	-	-	-	-

Left Hand Sizes – POA

## Hexagon Rethreading Dies NPT (Taper Pipe), Right Hand – High Speed Steel



8

SIZE	ORDER NUMBER	PRICE EACH
1/16-27	2484-102	\$8.81
1/8-27	2484-106	8.81
1/4-18	2484-118	19.30
3/8-18	2484-130	23.62
1/2-14	2484-134	34.05
3/4-14	2484-142	65.48
1-11-1/2	2484-154	92.34
1-1/4-11-1/2	2484-162	123.83
1-1/2-11-1/2	2484-170	180.14

## Round Adjustable Die NPSH Pipe–Garden Hose High Speed Steel



8

SIZE	O.D.	ORDER NUMBER	PRICE EACH
3/4-11-1/2	2"	2436-143	\$123.70
3/4-11-1/2	2-1/2	2436-144	162.20

## Square Pipe Dies NPT (Taper Pipe) Right Hand – Carbon Steel –



Left Hand Threads, Special Square Sizes and High Speed Steel Dies are available on request.

2

SIZE	BLANK NO.	SQUARE SIZE	ORDER NO.	PRICE EACH
1/8-27	0	2 x 1/2	2531-009	\$26.00
1/4-18	0	2 x 1/2	2531-016	26.00
3/8-18	0	2 x 1/2	2531-030	26.00
1/2-14	0	2 x 1/2	2531-047	26.00
1/8-27	1	2-1/2 x 3/4	2531-011	31.50
1/4-18	1	2-1/2 x 3/4	2531-019	31.50
3/8-18	1	2-1/2 x 3/4	2531-036	31.50
1/2-14	1	2-1/2 x 3/4	2531-050	31.50
3/4-14	1	2-1/2 x 3/4	2531-061	31.50
1-11-1/2	1	2-1/2 x 3/4	2531-072	31.50
1/2-14	1-1/2	3 x 3/4	2531-053	36.70
3/4-14	1-1/2	3 x 3/4	2531-064	36.70
1-11-1/2	1-1/2	3 x 3/4	2531-075	36.70
1-1/4-11-1/2	1-1/2	3 x 3/4	2531-086	36.70
1-11-1/2	2	4 x 1	2531-078	48.50
1-1/4-11-1/2	2	4 x 1	2531-092	48.50
1-1/2-11-1/2	2	4 x 1	2531-100	48.50
2-11-1/2	2	4 x 1	2531-105	48.50

# Tap & Die Sets— Round Dies

## 39 Pieces - Round Adj. Dies #4 THRU 1/2"

Taps & 1' Round Adjustable Dies

- Plastic Storage Case Included
- Contains one Plug Tap and Round Die in the following thread:



**Carbon Steel**

**IRWIN HANSON**  
Order No. 2591-585  
Price Each: \$203.45

**Pittsburg**  
ALLEGHANY  
Order No. 2591-505  
Price Each: \$70.50

**High Speed Steel**

**IRWIN HANSON**  
Order No. 2591-655  
Price Each: \$555.24

**Pittsburg**  
ALLEGHANY  
Order No. 2591-507  
Price Each: \$150.00

MACH. SCREW	THREAD SIZES FRACTIONAL	FRACTIONAL
4-40 NC	1/4"-20 NC	7/16"-14 NC
6-32 NC	1/4"-28 NF	7/16"-20 NF
8-32 NC	5/16"-18 NC	1/2"-13 NC
10-24 NC	5/16"-24 NF	1/2"-20 NF
10-32 NF	3/8"-16 NC	Pipe
12-24 NC	3/8"-24 NF	1/8"-27 NPT

### THREADING TOOLS

Adj. Die Stock - 1" Round Dies  
T-Handle Wrench - Taps No. 0 - 1/4"  
Adj. Handle Tap Wrench - Taps No. 0 - 1/2"  
18 Leaf Standard Thread Pitch Gage

## 39 Pieces - Solid Round Dies #4 THRU 1/2"

Taps & 1" Solid Round Dies

- Plastic Storage Case Included
- Contains one Plug Tap and Round Die in the following thread:



**Carbon Steel**

**IRWIN HANSON**  
Order No. 2591-599 Price Each: \$142.76

MACH. SCREW	THREAD SIZES FRACTIONAL	FRACTIONAL
4-40 NC	1/4"-20 NC	7/16"-14 NC
6-32 NC	1/4"-28 NF	7/16"-20 NF
8-32 NC	5/16"-18 NC	1/2"-13 NC
10-24 NC	5/16"-24 NF	1/2"-20 NF
10-32 NF	3/8"-16 NC	Pipe
12-24 NC	3/8"-24 NF	1/8"-27 NPT

### THREADING TOOLS

Adj. Die Stock - 1" Round Dies  
T-Handle Wrench - Taps No. 0 - 1/4"  
Adj. Handle Tap Wrench - Taps No. 0 - 1/2"  
18 Leaf Standard Thread Pitch Gage

## 64 Pieces #4 THRU 1"

Adjustable/Solid Round Die Super Set - Carbon Steel

- Plastic Storage Case Included
- Contains one Plug Tap and Round Die in the following thread:



**IRWIN HANSON**

Order No. 2591-635 Price Each: \$735.30

**Pittsburg**  
ALLEGHANY Order No. 2591-510 Price Each: \$210.70

MACH. SCREW	THREAD SIZES FRACTIONAL	FRACTIONAL & PIPE
1" Adj. Round	1" Adj. Round	1-1/2" Adj. Round
4-40 NC	1/4"-20 NC	5/8"-11 NC
6-32 NC	1/4"-28 NF	5/8"-18 NF
8-32 NC	5/16"-18 NC	3/4"-10 NC
10-24 NC	5/16"-24 NF	3/4"-16 NF
10-32 NF	3/8"-16 NC	2" Adj. Round
12-24 NC	3/8"-24 NF	7/8"-9 NC
	7/16"-14 NC	7/8"-14 NF
	7/16"-20 NF	1"-8 NC
	1/2"-13 NC	1"-12 NS
	1/2"-20 NF	1" Solid Round
	1-1/2" Adj. Round	Pipe-1/8"-27 NPT
	9/16"-12 NC	1-1/2" Solid Round
	9/16"-18 NF	Pipe-1/4"-18 NPT

### THREADING TOOLS

Adj. Die Stock - 1 Adj. Round Dies  
Adj. Die Stock - 1-1/2" Adj. Round Dies  
Adj. Die Stock - 2" Adj. Round Dies  
Adj. Handle Tap Wrench - Taps 0 to 1/2"  
Adj. Handle Tap Wrench - Taps 1/4" to 1"  
T-Handle Wrench - Taps No. 0 to 1/4"  
18 Leaf Standard Thread Pitch Gage

## 41 Pieces 1/4 THRU 3/4"

Carbon Steel Tap & Adjustable/Solid Round 1-1/2" Die Super Set

- Plastic Storage Case Included
- Contains one Plug Tap and Round Die in the following thread:



**Carbon Steel**

**IRWIN HANSON**  
Order No. 2591-600  
Price Each: \$371.94

**High Speed Steel**

**IRWIN HANSON**  
Order No. 2591-660  
Price Each: \$1024.70

FRACTIONAL	THREAD SIZES FRACTIONAL	FRACTIONAL
1/4"-20 NC	7/16"-14 NC	5/8"-11 NC
1/4"-28 NF	7/16"-20 NF	5/8"-18 NF
5/16"-18 NC	1/2"-13 NC	3/4"-10 NC
5/16"-24 NF	1/2"-20 NF	3/4"-16 NF
3/8"-16 NC	9/16"-12 NC	Pipe-1/8"-27 NPT
3/8"-24 NF	9/16"-18 NF	Pipe-1/4"-18 NPT

### THREADING TOOLS

Adj. Die Stock - 1-1/2" Round Dies  
T-Handle Wrench - Taps No. 1/4" to 1/2"  
Adj. Handle Tap Wrench - Taps 1/4" to 1"  
18 Leaf Standard Thread Pitch Gage

# Tap & Die Sets

**IRWIN. HANSON.**

**117 Pieces  
#4 THRU 1/2"  
Fractional/Metric**



**Carbon Steel  
IRWIN. HANSON.**

Order No. 2591-598 Price Each: \$403.90 [2]

- Plastic storage case included
- Contains one Plug Tap and Hexagon Re-threading Die in the following thread:

MACH. SCREW	THREAD SIZES	
	FRACTIONAL	FRACTIONAL & PIPE
4-40 NC	3/8"-24 NF	7 mm - 1.00
6-32 NC	7/16"-14 NC	8 mm - 1.00
8-32 NC	7/16"-20 NF	8 mm - 1.25
10-24 NC	1/2"-13 NC	9 mm - 1.00
10-32 NF	1/2"-20 NF	9 mm - 1.25
12-24 NC	Metric	10 mm - 1.25
Fractional	3 mm - 0.50	10 mm - 1.50
1/4"-20 NC	4 mm - 0.70	11 mm - 1.50
1/4"-28 NF	4 mm - 0.75	12 mm - 1.50
5/16"-18 NC	5 mm - 0.80	12 mm - 1.75
5/16"-24 NF	5 mm - 0.90	Pipe-1/8"-27 NPT
3/8"-16 NC	6 mm - 1.00	Pipe-1/4"-18 BSP

**SPIRAL FLUTE SCREW EXTRACTOR**

EX-1, EX-2, EX-3, EX-4, EX-5

**THREADING TOOLS**

- Adj. Die Stock - 1 Dies
- Plain Die Stock - 5/8" Hex Dies
- Adj. Handle Tap Wrench - Taps 0 to 1/2"
- 2-in-1 Tap Wrench - Taps 1/4" to 1/2"
- T-Handle Wrench - Taps No. 0 to 1/4"
- 16 Leaf Metric Thread Pitch Gage
- 18 Leaf Standard Thread Pitch Gage
- Empty Plastic Case

**DRILL BITS**

0.003, 0.007, 0.009, 0.0016, 0.0019, 0.0020, 0.0021, 0.0025, 0.0029, 0.0030, 0.0036, 0.0039, 0.0043, Letter B, Letter F, Letter H, Letter I, Letter J, Letter O, Letter Q, Letter R, Letter S, Letter U, Letter Z, 5/64", 7/64", 5/32", 1/4", 19/64", 5/16", 21/64", 3/8", 25/64", 13/32", 27/64", 29/64"

**GEARWRENCH**

**11-pc. Master Ratcheting  
Tap & Die Drive Tool Set**



- Set includes: Large & Medium Ratcheting "T" Wrench, Large Locking Tap Adapter, Large Hex Die Adapter, Medium & Small Tap Adapter, Medium Die Adapter, Male Extension Adapter, Female Extension Adapter, Sliding T for Adapters, 4mm Hex Key
- Order No. 7442-469 Price Each: \$135.88 [3]

**GEARWRENCH**

**5 Pc. Medium Ratcheting  
Tap and Die Drive Tool Set**



- Set includes: Tap and Die Ratcheting "T" Wrench, Small & Medium Tap Adapters, Medium Hex Die Adapter, Sliding "T" for Adapters
- Order No. 7442-470 Price Each: \$58.81 [3]

**GEARWRENCH**

**4-pc. Large Ratcheting T-Wrench  
Drive Tool Set**



- Large Ratcheting "T" Wrench, Large Locking Tap Adapter, Large Hex Die Adapter, 4mm Hex Key
- Order No. 7442-471 Price Each: \$81.57 [3]



# Tap & Die Sets

2

## 66 Pieces #4 THRU 1" Taps & 1" Hexagon Dies

- Plastic storage cases
- Contains one Tap and Hexagon Re-threading Die in the following thread:



MACH. SCREW/FRACTIONAL	THREAD SIZES	
	FRACTIONAL	PIPE
4-40 NC	7/16"-14 NC	1/8"-27 NPT
6-32 NC	7/16"-20 NF	1/4"-18 NPT
8-32 NC	1/2"-13 NC	
10-24 NC	1/2"-20 NF	
10-32 NF	9/16"-12 NC	
12-24 NC	9/16"-12 NF	
	5/8"-11 NC	
	5/8"-18 NF	
Fractional	3/4"-10 NC	
1/4"-20 NC	3/4"-16 NF	
1/4"-28 NF	7/8"-9 NC	
5/16"-18 NC	7/8"-14 NF	
5/16"-24 NF	1"-8 NC	
3/8"-16 NC	1"-8 NC	
3/8"-24 NF	1"-12 NS	

### THREADING TOOLS

- Adj. Die Stock - 1" Dies
- Plain Die Stock 5/8" Hex Dies
- Adj. Die Stock - 1-7/16" Hex Dies
- Adj. Die Stock - 1-13/16" Hex Dies
- Adj. Handle Tap Wrench - Taps 0 to 1/2"
- Adj. Handle Tap Wrench - Taps 1/4" to 1"
- T-Handle Wrench - Taps No. 0 to 1/4"
- 18 Leaf Standard Thread Pitch Gage

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-625  
Price Each: \$531.78

## 76 Pieces #4 THRU 1/2" Fractional/Metric

- Plastic storage case included
- Contains one Tap and Hexagon Re-threading Die in the following thread:



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-597  
Price Each: \$269.62

MACH. SCREW	THREAD SIZES	
	FRACTIONAL/METRIC	METRIC & PIPE
4-40 NC	3/8"-24 NF	7 mm - 1.00
6-32 NC	7/16"-14 NC	8 mm - 1.00
8-32 NC	7/16"-20 NF	8 mm - 1.25
10-24 NC	1/2"-13 NC	9 mm - 1.00
10-32 NF	1/2"-20 NF	9 mm - 1.25
12-24 NC	Metric	10 mm - 1.25
Fractional	3 mm - 0.50	10 mm - 1.50
1/4"-20 NC	4 mm - 0.70	11 mm - 1.50
1/4"-28 NF	4 mm - 0.75	12 mm - 1.50
5/16"-18 NC	5 mm - 0.80	12 mm - 1.75
5/16"-24 NF	5 mm - 0.90	Pipe-1/8"-27 NPT
3/8"-16 NC	6 mm - 1.00	Pipe-1/4"-18 BSP

### THREADING TOOLS

- Adj. Die Stock - 1 Dies
- Plain Die Stock - 5/8" Hex Dies
- Adj. Handle Tap Wrench - Taps 0 to 1/2"
- Adj. Handle Tap Wrench - Taps 1/4" to 1/2"
- T-Handle Wrench - Taps No. 0 to 1/4"
- 16 Leaf Metric Thread Pitch Gage
- 18 Leaf Standard Thread Pitch Gage
- Empty Plastic Case

## 16 Pieces - Re-threading Hex Die Set Fractional

- Wooden storage case
- Contains one of each re-threading Hex Die in the following thread:



THREAD SIZES NC	
1/4"-20 NC	1/2"-13 NC
5/16"-18 NC	9/16"-12 NC
3/8"-16 NC	5/8"-11 NC
7/16"-14 NC	3/4"-10 NC
NF	
1/4"-28 NF	1/2"-20 NF
5/16"-24 NF	9/16"-18 NF
3/8"-24 NF	5/8"-18 NF
7/16"-20 NF	3/4"-16 NF

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-575 Price Each: \$170.72

## 12 Pieces - Taps & Re-threading Pipe Die Sets Fractional/Metric

- Wooden storage case
- Contains one tap and one of each re-threading Hex Die in the following thread:



THREAD SIZES NPT	
1/8"-27 NPT	1/2"-14 NPT
1/4"-18 NPT	3/4"-14 NPT
3/8"-18 NPT	1"-11-1/2 NPT

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-645 Price Each: \$221.14

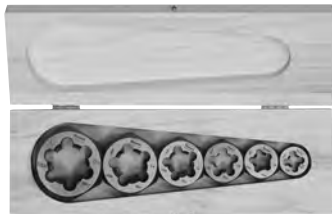
**Pittsburg ALLEGHANY**  
Order No. 2591-508 Price Each: \$77.50  
**High Speed Steel**

**IRWIN HANSON**  
Order No. 2591-650 Price Each: \$357.98

**Pittsburg ALLEGHANY**  
Order No. 2591-509 Price Each: \$158.90

## 6 Pieces - Re-threading Hex Pipe Die Set Fractional

- Wooden storage case
- Contains one of each re-threading Hex Die in the following thread:



DIE SIZES NPT	
1/8" - 27 NPT	1/2" - 14 NPT
1/4" - 18 NPT	3/4" - 14 NPT
3/8" - 18 NPT	1" - 11-1/2 NPT

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-644 Price Each: \$136.31

## 10 Pieces - Re-threading Hex Die Sets-NC & NF Fractional

- Wooden storage case
- Contains one of each re-threading Hex Die in the following thread:



THREAD SIZES NC	
1/4"-20 NC	9/16"-12 NC
5/16"-18 NC	5/8"-11 NC
3/8"-16 NC	3/4"-10 NC
7/16"-14 NC	7/8"-9 NC
1/2"-13 NC	1"-8 NC
NF	
1/4"-28 NF	9/16"-18 NF
5/16"-24 NF	5/8"-18 NF
3/8"-24 NF	3/4"-16 NF
7/16"-20 NF	7/8"-14 NF
1/2"-20 NF	1"-12 NF

**NC - Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-555 Price Each: \$129.50

**Pittsburg ALLEGHANY** Order No. 2591-500 Price Each: \$50.80

**NF - Carbon Steel**  
**IRWIN HANSON** Order No. 2591-565 Price Each: \$129.50



# Tap & Die Sets—Hex Dies



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-596 Price Each: \$37.30

## 12 Pieces 6-32 THRU 1/4"

Taps & 5/8" Hex Dies

- Carded set
- Top 5 machine screw & fractional sizes
- Contains one Tap and Hexagon Die in the following thread:

THREAD SIZES	
MACH. SCREW	FRACTIONAL
6-32 NC	1/4"-20 NC
8-32 NC	
10-24 NC	
10-32 NF	
THREADING TOOLS	
Plain Die Stock - 5/8" Hex Dies	
T-Handle Wrench - Taps No. 0 - 1/4"	



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-595 Price Each: \$49.57

## 12 Pieces Fractional 1/4" THRU 1/2"

Taps & 1" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hexagon Die in the following thread:

THREAD SIZES	
FRACTIONAL	FRACTIONAL
1/4"-20 NC	1/2"-13 NC
5/16"-18 NC	
3/8"-16 NC	
7/16"-14 NC	
THREADING TOOLS	
Plain Die Stock - 1" Dies	
Offset Adj. Tap Wrench - Taps No. 0 - 1/2"	



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-594 Price Each: \$96.45

## 24 Pieces Fractional 1/4" - 1/2"

Taps & 1" Hex Dies

- Plastic storage case
- Contains one Plug Tap and Hexagon Die in the following thread:

THREAD SIZES	
FRACTIONAL	FRACTIONAL
1/4"-20 NC	7/16"-14 NC
1/4"-28 NF	7/16"-20 NF
5/16"-18 NC	1/2"-13 NC
5/16"-24 NF	1/2"-20 NF
3/8"-16 NC	Pipe
3/8"-24 NF	1/8"-27 NPT
THREADING TOOLS	
Plain Die Stock - 1" Round Dies	
Offset Adj. Tap Wrench - Taps No. 0 - 1/2"	



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-615 Price Each: \$371.42

## 25 Pieces Fractional 9/16" - 1"

Taps & 1-7/16" & 1-13/16" Hex Dies

- Plastic storage case
- Contains one Tap and Hexagon Die in the following thread:

THREAD SIZES	
FRACTIONAL	FRACTIONAL
9/16"-12 NC	7/8"-9 NC
9/16"-18 NF	7/8"-14 NF
5/8"-11 NC	1"-8 NC
5/8"-18 NF	1"-14 NS
3/4"-10 NC	Pipe
3/4"-16 NF	1/4"-18 NPT
THREADING TOOLS	
Adj. Die Stock: 1-7/16" Hex Dies	
Adj. Die Stock: 1-13/16" Hex Dies	
Adj. Tap Wrench - Tap No. 1/4-1"	



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-665 Price Each: \$143.86

## 41 Pieces #4 THRU 1/2"

Taps & 5/8" & 1" Hex Dies

- Plastic storage case
- Contains one Tap and Hex Die in the following thread:

MACH. SCREW	THREAD SIZES	
	FRACTIONAL	FRAC./PIPE
4-40 NC	1/4"-20 NC	7/16"-14 NC
6-32 NC	1/4"-28 NF	7/16"-20 NF
8-32 NC	5/16"-18 NC	1/2"-13 NC
10-24 NC	5/16"-24 NF	1/2"-20 NF
10-32 NF	3/8"-16 NC	Pipe
12-24 NC	3/8"-24 NF	1/8"-27 NPT
THREADING TOOLS		
Adj. Die Stock- 1" Dies / Plain Die Stock 5/8" Hex Dies		
Adj. Tap Wrench- Taps No. 0 to 1/4"		
2-in-1 Tap Wrench- 1/4" to 1/2"		
18-Leaf Std. Thread Pitch Gauge		



**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-593 Price Each: \$298.07

## 53 Pieces #6 THRU 3/4"

Taps & 1" & 1-7/16" Hex Dies

- Plastic storage case
- Contains one Tap and Hexagon Die in the following thread:

MACH. SCREW	THREAD SIZES	
	FRACTIONAL	FRAC./PIPE
6-32 NC	1/4"-20 NC	9/16"-12 NC
8-32 NC	1/4"-28 NF	9/16"-18 NF
10-24 NC	5/16"-18 NC	5/8"-11 NC
10-32 NF	5/16"-24 NF	5/8"-18 NF
12-24 NC	3/8"-16 NC	3/4"-10 NC
	3/8"-24 NF	3/4"-16 NF
	7/16"-14 NC	
	7/16"-20 NF	Pipe
	1/2"-13 NC	1/8"-27 NPT
	1/2"-20 NF	1/4"-18 NPT
THREADING TOOLS		
Adj. Die Stock- 1" Dies / Adj. Die Stock 1-7/16" Hex Dies		
T-Handle Wrench - Taps No. 0 to 1/4"		
(2) Adj. Tap Wrenches- Taps No. 0 to 1/2", 1/4"-1"		
18-Leaf Std. Thread Pitch Gauge		

# Tap & Die Sets—Hex Dies—Metric



## 24 Pieces 3mm to 12mm

### Taps & 1" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

THREAD SIZES FRACTIONAL	
3 mm - 0.50	9 mm - 1.25
4 mm - 0.70	10 mm - 1.50
5 mm - 0.80	12 mm - 1.50
6 mm - 1.00	12 mm - 1.75
7 mm - 1.00	Pipe
8 mm - 1.25	1/8"-28 BSP

THREADING TOOLS
Plain Die Stock: 1" Dies
Offset Adj. Tap Wrench - Taps No. 0 to 1/2"

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-520 Price Each: \$93.69



## 25 Pieces 14mm to 24mm

### Taps & 1-7/16" & 1-13/16" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

THREAD SIZES FRACTIONAL	
14 mm - 1.25	18 mm - 2.50
14 mm - 1.50	20 mm - 2.50
14 mm - 2.00	22 mm - 1.50
16 mm - 1.50	24 mm - 2.00
16 mm - 2.00	24 mm - 3.00
18 mm - 1.50	

THREADING TOOLS
Adj. Die Stock: 1-7/16" Hex Dies
Adj. Die Stock: 1-13/16" Hex Dies
Adj. Handle Tap Wrench - Taps No. 1/4-1"

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-592  
Price Each: \$371.42



## 41 Pieces 3mm to 12mm

### Taps & 5/8" & 1" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

THREAD SIZES FRACTIONAL	
3 mm - 0.50	9 mm - 1.00
4 mm - 0.75	9 mm - 1.25
5 mm - 0.80	10 mm - 1.25
5 mm - 0.90	11 mm - 1.50
6 mm - 1.00	12 mm - 1.50
7 mm - 1.00	12 mm - 1.75
8 mm - 1.00	Pipe
8 mm - 1.25	1/8"-28 BSP

THREADING TOOLS
Adj. Die Stock: 1" Dies
Plain Die Stock: 5/8" Hex Dies
Adj. Handle Tap Wrench - Taps No. 0 to 1/2"
2-in-1 Tap Wrench- 1/4" to 1/2"
16-Leaf Metric Thread Pitch Gauge

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-605 Price Each: \$160.40



## 41 Pieces Fractional/Metric

### Taps & 5/8" & 1" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

MACH. SCREW/FRACTIONAL	THREAD SIZES FRAC./METRIC	METRIC
6-32 NC	7/16"-14 NC	7 mm - 1.00
8-32 NC	1/2"-13 NC	8 mm - 1.25
10-24 NC	1/8"-27 NPT	10 mm - 1.25
Fractional	Metric	10 mm - 1.50
1/4"-20 NC	4 mm - 0.75	12 mm - 1.75
5/16"-18 NC	5 mm - 0.80	
3/8"-16 NC	6 mm - 1.00	

THREADING TOOLS
Adj. Die Stock- 1" Dies / Plain Die Stock 5/8" Hex Dies
Adj. Tap Wrench- Taps No. 0 to 1/2"
T-handle Tap Wrench- Taps No. 0 to 1/4"
2-in-1 Tap Wrench- Taps 1/4" to 1/2"
Std. & Metric Thread Pitch Gauge

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-591  
Price Each: \$160.40



## 53 Pieces 3mm to 18mm

### Taps & 1" & 1-7/16" Hex Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

THREAD SIZES METRIC		
3 mm - 0.50	9 mm - 1.25	16 mm - 1.50
4 mm - 0.70	10 mm - 1.25	16 mm - 2.00
5 mm - 0.80	10 mm - 1.50	18 mm - 1.50
5 mm - 0.90	11 mm - 1.50	18 mm - 2.50
6 mm - 1.00	12 mm - 1.50	
7 mm - 1.00	12 mm - 1.75	Pipe
8 mm - 1.25	14 mm - 1.25	1/8"-28 BSP
9 mm - 1.00	14 mm - 2.00	1/4"-19 BSP

THREADING TOOLS
Adj. Die Stock: 1" Dies/ Adj. Die Stock: Hex Dies
T-handle Wrench- Taps No. 0 to 1/4"
T-handle Wrench- Taps No. 0 to 1/2"
Adj. Handle Tap Wrench -Taps 1/4 to 1"
16-Leaf Metric Thread Pitch Gauge

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-606  
Price Each: \$321.32



## 66 Pieces 3 mm to 24 mm

### Taps & 5/8", 1", 1-7/16", 1-13/16" Solid Round Dies

- Plastic Storage Case Included
- Contains one Tap and Hex Die in the following thread:

THREAD SIZES METRIC		
3 mm - 0.50	9 mm - 1.25	16 mm - 2.00
4 mm - 0.70	10 mm - 1.25	18 mm - 1.50
4 mm - 0.75	10 mm - 1.50	18 mm - 2.50
5 mm - 0.80	11 mm - 1.50	20 mm - 2.50
5 mm - 0.90	12 mm - 1.50	22 mm - 1.50
6 mm - 1.00	12 mm - 1.75	24 mm - 2.00
7 mm - 1.00	14 mm - 1.25	24 mm - 3.00
8 mm - 1.00	14 mm - 1.50	
8 mm - 1.25	14 mm - 2.00	Pipe
9 mm - 1.00	16 mm - 1.50	1/8"-28 BSP

THREADING TOOLS
Adj. Die Stock - 1 Dies
Adj. Die Stock - 1-7/16" Dies
Adj. Die Stock - 1-3/16" Dies
Plain Die Stock - 5/8" Hex Dies
Adj. Handle Tap Wrench - Taps 0 to 1/2"
Adj. Handle Tap Wrench - Taps 1/4" to 1"
2-in-1 Tap Wrench - Taps 1/4" to 1/2"
16 Leaf Metric Thread Pitch Gauge

**Carbon Steel**  
**IRWIN HANSON**  
Order No. 2591-612  
Price Each: \$531.78

# Extractors

## IRWIN. HANSON. Straight Flute Extractors



• Will not expand material being removed, resulting in easier removal

DESC.	DRILL TO USE	FOR SCREW & BOLT SIZES	ORDER NO.	PRICE EACH
ST-1	9/64"	3/16-5/16", 5-8mm, No. 10	2591-361	\$ 2.15
ST-2	3/16"	3/8", 10mm	2591-362	2.30
ST-3	15/64"	7/16" and 1/8" NPT, 10mm, 1/8" BSP	2591-363	2.57
ST-4	5/16"	1/2"-9/16" and 1/4" NPT, 12-14mm, 1/4" BSP	2591-364	3.02
ST-5	3/8"	5/8" and 3/8" NPT, 16mm, 3/8" BSP	2591-365	4.45
ST-6	15/32"	3/4" and 1/2" NPT, 20mm, 1/2" BSP	2591-366	6.61
ST-7	9/16"	7/8", 22mm, 5/8" BSP	2591-367	8.04
SETS				
5-pc. set		ST-1 - ST-5	2591-370	16.32
6-pc. set		ST-1 - ST-6	2591-372	22.08

## Screw Extractors Spiral Flute



EXTR. NO.	DRILL TO USE	FOR SCREW & BOLT SIZES	FOR PIPE SIZES	ORDER NO.	PRICE EACH
1	5/64	3/16-1/4	. . .	2591-210	\$ 0.68
2	7/64	1/4-5/16	. . .	2591-212	0.87
3	5/32	5/16-7/16	. . .	2591-214	1.02
4	1/4	7/16-9/16	. . .	2591-216	1.43
5	17/64	9/16-3/4	1/8	2591-218	1.68
5-1/4	23/64	11/16-15/16	1/4	2591-220	4.08
6	13/32	3/4-1	. . .	2591-222	3.43
6-3/8	31/64	15/16-1-1/8	3/8	2591-224	13.30
7	17/32	1-1-3/8	. . .	2591-226	6.06
7-1/2	39/64	1-1/8-1-1/2	1/2	2591-228	14.68
8	13/16	1-3/8-1-3/4	3/4	2591-230	7.86
9	1-1/16	1-3/4-2-1/8	1	2591-232	10.57
10	1-5/16	2-1/8-2-1/2	1-1/4	2591-234	21.59
11	1-9/16	2-1/2-3	1-1/2	2591-236	29.11
12	1-15/16	3-3-1/2	2	2591-238	38.10

## IRWIN. HANSON. Spiral Extractor & Drill Bit Combo Packs



10-piece Vinyl Pouch Set

DESCRIPTION	DRILL BITS
EX-1	5/64"
EX-2	7/64"
EX-3	5/32"
EX-4	1/4"
EX-5	19/64"
ORDER NO.	PRICE EACH
2591-398	\$ 35.49

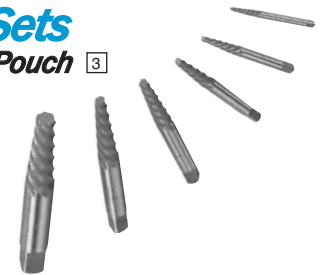


10-piece Metal Index Set

DESCRIPTION	DRILL BITS
EX-1	5/64"
EX-2	7/64"
EX-3	5/32"
EX-4	1/4"
EX-5	19/64"
ORDER NO.	PRICE EACH
2591-399	\$ 50.25

## Screw Extractor Sets Supplied In Plastic Case/Pouch

EXTRACTORS INCLUDED	ORDER NUMBER	PRICE EACH
1,2,3,4,5+	2591-245	\$ 5.43
1,2,3,4,5,6+	2591-246	8.84
6,7,8,9	2591-247	24.93
1,2,3,4,5,6,7,8,9	2591-248	29.59
4,5,6	2591-249	6.57



## IRWIN. HANSON. Spiral Flute Extractors



DESC.	DRILL TO USE	FOR SCREW & BOLT SIZES	ORDER NO.	PRICE EACH
EX-1	5/64"	3/32"-5/32", 2.5mm-4mm, No. 3-6	2591-381	\$ 1.72
EX-2	7/64"	5/32"-7/32", 4mm-6mm, No. 6-12	2591-382	1.96
EX-3	5/32"	7/32"-9/32", 6mm-8mm, No. 12	2591-383	2.04
EX-4	1/4"	9/32"-3/8", 1/8" NPT, 1/8" BSP 8mm-10mm	2591-384	2.33
EX-5	19/64"	3/8"-5/8", 1/4" NPT, 1/4" BSP, 10mm-16mm	2591-385	3.09
EX-6	13/32"	5/8"-7/8", 3/8" NPT, 3/8" BSP, 16mm-22mm	2591-386	6.61
EX-7	17/32"	7/8"-1-1/8", 1/2" NPT, 1/2" BSP, 22mm-27mm	2591-387	12.60
EX-8	13/16"	1-1/8"-1-3/8", 3/4" NPT, 3/4" BSP, 27mm-36mm	2591-388	16.75
EX-9	1-1/16"	1-3/8"-2", 1" NPT, 1" BSP, 36mm-52mm	2591-389	22.60
EX-10	1-15/16"	2-1/8"-2-1/2", 1-1/4" NPT, 1-1/4" BSP, 52mm-68mm	2591-390	37.53
SETS				
4-pc set:		EX-2 - EX-5	2591-394	9.48
5-pc set:		EX-1 - EX-5	2591-395	12.95
6-pc set:		EX-1 - EX-6	2591-396	19.43
9-pc set:		EX-1 - EX-9	2591-397	69.66

## Pittsburg Allegheny 10-Piece Extractor Set Spiral Flute & Drill Bit

Set Includes:  
Screw extractor sizes: No. 1 - 5  
with left-hand spiral HS drill sizes:  
5/64, 7/64, 5/32, 1/4, 17/64, & 13/32

Order No. 2591-250  
Price Each \$18.05





# Extractors

## IRWIN. Bolt Extractors

HANSON.

### Fractional 9-piece Set 2

REMOVES METRIC SIZE BOLTS	REMOVES FRACTIONAL SIZE BOLTS	DRIVE SIZE
-	1/4"	3/8"
8 mm	5/16"	3/8"
-	3/8"	3/8"
11 mm	7/16"	3/8"
-	1/2"	3/8"
14 mm	9/16"	3/8"
16 mm	5/8"	3/8"
-	11/16"	3/8"
19 mm	3/4"	1/2"



Order No. 2591-440 Price Each \$110.25

### Individual Sizes

REMOVES METRIC SIZE BOLTS	REMOVES FRACTIONAL SIZE BOLTS	DRIVE SIZE	ORDER NO.	PRICE EACH
-	1/4"	3/8"	2591-421	\$ 10.20
8 mm	5/16"	3/8"	2591-422	10.20
-	3/8"	3/8"	2591-423	10.20
10 mm	-	3/8"	2591-424	10.20
11 mm	7/16"	3/8"	2591-425	10.79
12 mm	-	3/8"	2591-426	10.79
-	1/2"	3/8"	2591-427	10.79
13 mm	-	3/8"	2591-428	10.79
14 mm	9/16"	3/8"	2591-429	13.19
16 mm	5/8"	3/8"	2591-430	13.19
17 mm	-	3/8"	2591-431	14.99
-	11/16"	3/8"	2591-432	14.99
19 mm	3/4"	1/2"	2591-433	17.98
19 mm	3/4"	1/2"	2591-434	21.58
21 mm	13/16"	1/2"	2591-435	21.58
22 mm	7/8"	1/2"	2591-436	21.58
24 mm	15/16"	1/2"	2591-437	21.58
-	1"	1/2"	2591-438	21.58

- Reversal spiral flutes are designed to bite down to produce maximum gripping power
- High carbon steel ensures longer life and greater durability
- Universal lobular design fits all types of fasteners
- 3/8" square drive for use with hand ratchets, impact sockets and air ratchets; hex flats for use with flat wrench, adj. wrench, sockets, or VISE-GRIP locking pliers

**NEW ITEM**

IRWIN.  
HANSON.

## 13-pc. Professionals Industrial Bolt Extractor Set

Order No. 2591-442 2  
Price Each \$158.22



REMOVES METRIC SIZE BOLTS	REMOVES FRACTIONAL SIZE BOLTS	DRIVE SIZE
-	1/4"	3/8"
8 mm	5/16"	3/8"
-	3/8"	3/8"
10 mm	-	3/8"
11 mm	7/16"	3/8"
12 mm	-	3/8"
-	1/2"	3/8"
13 mm	-	3/8"
14 mm	9/16"	3/8"
16 mm	5/8"	3/8"
17 mm	-	3/8"
-	11/16"	3/8"
19 mm	3/4"	3/8"

IRWIN.  
HANSON.

## Lugnut Specialty Set

REMOVES METRIC SIZE BOLTS	REMOVES FRACTIONAL SIZE BOLTS	DRIVE SIZE
19 mm	3/4"	1/2"
21 mm	13/16"	1/2"
22 mm	7/8"	1/2"
24 mm	15/16"	1/2"
-	1"	1/2"



Order No. 2591-444 Price Each \$107.85

## IRWIN. Hex Head Multi Spline

HANSON.

2



DESC.	HEX HEAD SIZE	BOLT DIA.	REC. DRILL BIT DIA.	ORDER NO.	PRICE EACH
1/8"	1/2"	#12	1/8"	2591-451	\$ 2.79
5/32"	1/2"	1/4"	5/32"	2591-452	2.79
3/16"	1/2"	5/16"	3/16"	2591-453	2.79
7/32"	1/2"	3/8"	7/32"	2591-454	2.79
1/4"	1/2"	7/16"	1/4"	2591-455	2.79
9/32"	1/2"	1/2"	9/32"	2591-456	2.79
5/16"	1/2"	9/16"	5/16"	2591-457	2.79
11/32"	1/2"	5/8"	11/32"	2591-458	2.79
3/8"	1/2"	11/16"	3/8"	2591-459	2.79
13/32"	1/2"	3/4"	13/32"	2591-460	2.79
7/16"	5/8"	13/16"	7/16"	2591-461	3.07
15/32"	5/8"	7/8"	15/32"	2591-462	3.07
1/2"	5/8"	15/16"	1/2"	2591-463	3.07
17/32"	3/4"	1"	17/32"	2591-464	3.18
9/16"	3/4"	1-1/16"	9/16"	2591-465	3.18
19/32"	3/4"	1-1/8"	19/32"	2591-466	3.18
5/8"	3/4"	1-1/4"	5/8"	2591-467	3.18
21/32"	7/8"	1-5/16"	21/32"	2591-468	3.38
11/16"	7/8"	1-5/16"	11/16"	2591-469	3.38
23/32"	7/8"	1-3/8"	23/32"	2591-470	3.38
3/4"	7/8"	1-7/16"	3/4"	2591-471	3.38
25/32"	1"	1-1/2"	25/32"	2591-472	4.02
13/16"	1"	1-9/16"	13/16"	2591-473	4.02
27/32"	1"	1-5/8"	27/32"	2591-474	4.02
7/8"	1"	1-11/16"	7/8"	2591-475	4.02

- Aggressive left-hand spiral design provides extra gripping power
- Designed to remove broken studs, bolts, socket screws and fittings for high-torque applications
- Constructed of high-carbon steel for strength under stressful conditions
- Designed for use with socket or flat wrenches



10-pc set:  
1/8" to 13/32"

SETS		ORDER NO.	PRICE EACH
10-pc set:	1/8" to 13/32"	2591-480	31.91
15-pc set:	1/8" to 9/16"	2591-482	46.76
25-pc set:	1/8" to 7/8"	2591-484	82.13

## WALTON REPS- Pipe, Stud & Screw Extractors



- Four point grip, which assures strong bite
- Shallow grip which lessens expansion and jamming
- Instant release from bite after job is completed
- Rust-resistant black oxide finish

With REPS extractors on hand, you are assured that expensive machinery will not be damaged by makeshift methods of removing broken pipes and studs. REPS extractors work by pulling, rather than reaming, and are designed for strength, durability, and easy handling.

### Individual Sizes

Standard extractors are for right-hand pipe & studs. Left hand available upon request. 6

EXTRACTOR NO.	FOR PIPE SIZES	FOR SCREW OR STUD SIZES	ORDER NO.	PRICE EACH
1	1/8"	3/8"	3153-001	\$ 5.90
2	1/4"	1/2"	3153-002	10.25
3	3/8"	5/8" or 3/4"	3153-003	11.75
4	1/2"	-	3153-004	14.35
10	-	7/8" or 1"	3153-010	17.70
5	3/4"	1-1/8" or 1-1/4"	3153-005	20.10
6	1"	1-1/2" or 1-3/4"	3153-006	26.80
7	1-1/4"	2"	3153-007	37.75
8	1-1/2"	2-1/4" or 2-1/2"	3153-008	62.25
9	2"	3" or 3-1/2"	3153-009	100.60

### Sets

MFG. NO.	EXTRACTORS INCLUDED	ORDER NUMBER	PRICE EACH
205	1,2,3,4,5	3153-705	\$ 75.05
206	1,2,3,4,5,6	3153-706	101.90
207	1,2,3,4,10,5,6	3153-707	119.55
210	1 each all 10	3153-710	336.25





## Tap Extractors for Machine Screw and Hand Taps

## Standard Sets

WALTON TAP EXTRACTOR SIZE	COMPLETE TAP EXTRACTOR					EXTRA FINGERS					EXTRA COLLAR OR SLEEVE (EACH)	EXTRA HOLDER (EACH)
	6-FLUTE	4-FLUTE	3-FLUTE	2-FLUTE	NET PRICE EACH	6-FLUTE	4-FLUTE	3-FLUTE	2-FLUTE	NET PRICE EACH		
#4 (3mm)	—	—	3149-304	3149-204	\$11.25	—	—	3150-304	3150-204	\$0.46		
#5 (1/8") (3.2mm)	—	—	3149-305	3149-205	11.25	—	—	3150-305	3150-205	0.46		
#6 (3.5mm)	—	3149-406	3149-306	3149-206	11.25	—	3150-406	3150-306	3150-206	0.46		
#8 (4mm)	—	3149-408	3149-308	3149-208	11.25	—	3150-408	3150-308	3150-208	0.46		
#10 (3/16") (5mm)	—	3149-410	3149-310	3149-210	11.25	—	3150-410	3150-310	3150-210	0.64		
#12 (5.5mm)	—	3149-412	3149-312	3149-212	11.55	—	3150-412	3150-312	3150-212	0.64		
1/4" (6mm)	—	3149-416	3149-316	3149-216	11.55	—	3150-416	3150-316	3150-216	0.80		
9/32" (7mm)	—	3149-418	—	—	11.55	—	3150-418	—	—	0.80		
5/16" (7mm, 8mm)	—	3149-420	3149-320	3149-220	12.10	—	3150-420	3150-320	3150-220	0.90		
11/32"	—	3149-422	—	—	12.10	—	3150-422	—	—	0.90	P.	P.
3/8" (9mm, 10mm)	—	3149-424	3149-324	3149-224	12.10	—	3150-424	3150-324	3150-224	0.90		
13/32" (10mm)	—	3149-426	—	—	12.70	—	3150-426	—	—	0.93	O.	O.
7/16" (11mm)	—	3149-428	3149-328	3149-228	12.70	—	3150-428	3150-328	3150-228	0.93		
1/2" (12mm)	—	3149-432	3149-332	3149-232	13.50	—	3150-432	3150-332	3150-232	1.17		
9/16" (14mm)	—	3149-436	3149-336	—	18.60	—	3150-436	3150-336	—	1.34	A.	A.
5/8" (16mm)	—	3149-440	3149-340	—	20.20	—	3150-440	3150-340	—	1.67		
11/16" (18mm)	—	3149-444	—	—	22.40	—	3150-444	—	—	1.67		
3/4" (18mm, 20mm)	—	3149-448	3149-348	—	24.85	—	3150-448	3150-348	—	1.81		
7/8" (22mm)	—	3149-456	3149-356	—	26.95	—	3150-456	3150-356	—	2.35		
1" (25mm)	—	3149-464	3149-364	—	30.25	—	3150-464	3150-364	—	2.35		
1-1/8" (28mm)	3149-672	3149-472	—	—	71.55	3150-672	3150-472	—	—	4.84		
1-1/4" (32mm)	3149-680	3149-480	—	—	81.65	3150-680	3150-480	—	—	5.77		
1-3/8" (35mm)	3149-688	3149-488	—	—	91.80	3150-688	3150-488	—	—	5.77		
1-1/2" (38mm)	3149-696	3149-496	—	—	102.40	3150-696	3150-496	—	—	6.77		

<b>Set No. 1</b> 3/16, 1/4, 5/16, 3/8, 7/16, 1/2 #3153-501 .....\$74.80
<b>Set No. 2</b> 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 #3153-502 .....\$83.85
<b>Set No. 3</b> 5/16, 3/8, 7/16, 1/2, 9/16, 5/8 #3153-503 .....\$90.95
<b>Set No. 11</b> 1/8*, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1 #3153-511 .....\$189.00
<b>Set No. 13</b> 4-5-6-8-10-12-1/4-5/16-3/8- 7/16-1/2-5/8-3/4 #3153-513 .....\$176.35
<b>Set No. 15</b> 4-5-6-8-10-12-1/4-5/16-3/8- 7/16-1/2-5/8-3/4-7/8, 1 #3153-515 .....\$233.40

Sets packed in sturdy compartmented case at no extra cost. Refer to catalog #778 for sizes and flute styles in each standard set.

May be specified in \* other flute styles at same price.

EDP Part Number shown indicates available flute style for each size. Parts are not interchangeable between flute styles. 4-Flute style supplied, unless otherwise specified.

## Tap Extractors for S.T.I. Taps



## Tap Extractors for Pipe Taps



WALTON STI TAP EXTRACTOR SIZE	COMPLETE TAP EXTRACTOR				EXTRA FINGERS			
	4-FLUTE	3-FLUTE	2-FLUTE	NET PRICE EACH	4-FLUTE	3-FLUTE	2-FLUTE	NET PRICE EACH
#4	—	3151-304	3151-204	\$ 14.95	—	3152-304	3152-204	\$0.64
#5	—	3151-305	3151-205	14.95	—	3152-305	3152-205	0.64
#6	—	3151-306	3151-206	14.95	—	3152-306	3152-206	0.64
#8	—	3151-308	3151-208	14.95	—	3152-308	3152-208	0.99
#10	3151-110	3151-310	3151-210	14.95	3152-110	3152-310	3152-210	0.99
#12	—	3151-312	3151-212	14.95	—	3152-312	3152-212	0.99
1/4"	3151-116	3151-316	3151-216	15.70	3152-116	3152-316	3152-216	1.18
5/16"	3151-120	3151-320	—	16.10	3152-120	3152-320	—	1.18
3/8"	3151-124	3151-324	—	17.80	3152-124	3152-324	—	1.67
7/16"	3151-128	—	—	19.55	3152-128	—	—	1.92
1/2"	3151-132	—	—	21.15	3152-132	—	—	1.92
9/16"	3151-136	—	—	22.80	3152-136	—	—	2.08
5/8"	3151-140	—	—	23.60	3152-140	—	—	2.08

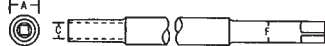
WALTON PIPE TAP EXTRACTOR SIZE	COMPLETE TAP EXTRACTOR			EXTRA FINGERS		
	5-FLUTE	4-FLUTE	NET PRICE EACH	5-FLUTE	4-FLUTE	NET PRICE EACH
1/8"	3151-508	3151-408	\$ 15.45	3152-508	3152-408	\$1.14
1/4"	3151-516	3151-416	18.30	3152-516	3152-416	1.59
3/8"	3151-525	3151-424	22.45	3152-524	3152-424	2.00
1/2"	3151-532	3151-432	25.55	3152-532	3152-432	2.25
3/4"	3151-548	—	32.95	3152-548	—	2.80
1"	3151-564	—	39.20	3152-564	—	4.82

Designed specifically to remove broken Pipe Taps. Orders for Extractors and Extra Fingers must clearly state PIPE TAP and must specify 4-FLUTE or 5-FLUTE.

Designed specifically to remove broken HELICAL COIL WIRE SCREW THREAD INSERT (STI) Taps. Orders for Extractors and Extra Fingers must clearly state STI TAPS or TAPS FOR HELICAL COIL WIRE SCREW THREAD INSERTS and must specify 4-FLUTE, 3-FLUTE, OR 2-FLUTE.

## Tap Extensions for Machine and Hand Tapping

Style B



TAP SIZE	EDP NO.	A	C	F	PRICE EACH
#0-#6	3154-106	5/16	.142	.255	\$27.80
#8	3154-108	3/8	.169	.255	30.00
#10 (3/16")	3154-110	3/8	.195	.255	31.80
#12	3154-112	7/16	.221	.255	32.70
1/4"	3154-116	7/16	.256	.381	34.35
5/16"	3154-120	1/2	.319	.381	36.15
3/8"	3154-124	5/8	.382	.367	39.60
7/16"	3154-128	5/8	.324	.381	41.40
1/2"	3154-132	5/8	.368	.381	43.30
<b>SET NO. 9 3153-509 SET OF 9 EXTENSIONS ABOVE</b>					
9/16"	3154-136	11/16	.430	.428	\$48.75
5/8"	3154-140	3/4	.481	.479	51.95
3/4"	3154-148	7/8	.591	.589	63.40
7/8"	3154-156	1-1/16	.698	.696	75.90
1"	3154-162	1-1/16	.801	.799	85.75

## Tap Extensions for Hand Tapping Only

Style A



TAP SIZE	EDP NO.	SQUARE TAP SHANK	SQUARE SOCKET OPENING	NET PRICE PER SET
#10 (3/16")	3154-010	.152	.154	\$ 26.95
1/4"	3154-016	.191	.193	28.60
5/16"	3154-020	.238	.242	30.95
3/8" (.206 sq.)	3154-024	.206	.210	33.20
3/8" (.286 sq.)	3154-025	.286	.290	35.30
7/16"	3154-028	.242	.246	35.95
1/2"	3154-032	.275	.279	38.25
5/8"	3154-040	.360	.364	41.80
3/4"	3154-048	.442	.446	62.75
7/8"	3154-056	.523	.527	73.10
1"	3154-064	.600	.604	89.80

All dimensions in inches. Each set contains two 5" long extensions.

All dimensions in inches.

Set No. 9 packed in a sturdy plastic case at no extra cost.

## Tap Extensions for Pipe Taps

Style B

PIPE TAP SIZE	EDP NO.	NET PRICE EACH
1/16" & 1/8"	3154-200	\$67.65
1/8"	3154-208	72.30
1/4"	3154-216	76.80
3/8"	3154-224	82.95
1/2"	3154-232	91.95

**Empty Plastic Set Case**  
Order No. 3154-410  
Price Each...\$14.30

## Spare Parts for all Style "B" Tap Extensions

HEX KEY SIZE	EDP NO.	EACH
.050	3154-300	\$1.15
5/64"	3154-305	1.35
1/8"	3154-308	1.40
5/32"	3154-310	1.55

SET SCREW SIZE	EDP NO.	EACH
#3-48 x 3/32"	3154-401	\$0.65
#8-36 x 1/8"	3154-402	0.60
1/4-28 x 3/16"	3154-403	0.60
5/16-24 x 1/4"	3154-404	0.75



# Kits and Insert Packets

## The Recoil System...

- Provides stronger and more efficient threads.
- Creates superior threads with greater holding power.
- Is quick and easy to use.
- Is the simple way to repair stripped or damaged threads.
- Saves time and money.
- Is suitable for new applications requiring strong threads.
- Is ideal for alloys and other light materials.
- Simplifies changeover from imperial to metric, and vice versa.
- Installed inserts meet current military and aviation standards.
- Inserts are interchangeable with other brands of helically wound inserts.

- Inserts are manufactured from type 304 (18-8) stainless steel.
- Inserts are available to meet the following military standards and specifications: MS 122076 series, MS 124651 series, MS 21209, MIL-1-8846, SBAC standards, DTD-734, Defense Standards, on request.

The Recoil system consists of Recoil stainless steel helically wound precision inserts, high-quality HSS taps and installation tools. Inserts are available in both free-running or locking types in a wide range of imperial, metric and spark plug sizes.

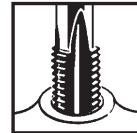
## How Recoil Works...

### Drill...



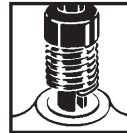
Drill to clear out the damaged thread (if necessary).

### Tap ...



Thread insert tap supplied. Tap thread should match up with bolt.

### Install...



Wind insert in with light downward pressure until 1/4 to 1/2 turn below surface, driving tang towards bottom of hole.

### Tang Removal...



Remove tool and sit back on top of tang. Tap down sharply. Do not try to twist tang off. Sparkplug and fine threads, use long nose pliers and pull tang out.



## Recoil Threaded Inserts 4

Recoil repair kits consist of high quality taps, insertion tool, inserts and instructions.



### Kits

REPAIR KIT SIZE	ORDER NO.	PRICE EACH
2-56UNC	3536-070	\$ 36.66
3-48UNC	3536-080	36.66
3-56UNF	3536-090	38.26
4-40UNC	3536-100	35.13
4-48UNF	3536-105	38.26
5-40UNC	3536-108	35.13
6-32UNC	3536-110	31.47
6-40UNC	3536-115	38.26
8-32UNC	3536-120	31.70
8-36UNF	3536-125	38.26
10-24UNC	3536-130	33.30
10-32UNF	3536-138	36.78
12-24UNC	3536-148	33.59
1/4-20UNC	3536-158	34.01
1/4-28UNF	3536-166	37.14
5/16-18UNC	3536-186	36.37
5/16-24UNF	3536-192	38.14
3/8-16UNC	3536-212	39.85
3/8-24UNF	3536-220	42.04
7/16-14UNC	3536-240	41.62
7/16-20UNF	3536-246	43.81
1/2-13UNC	3536-266	49.47
1/2-20UNF	3536-273	51.66
9/16-12UNC	3536-280	61.87
9/16-18UNF	3536-283	69.84
5/8-11UNC	3536-293	71.50
5/8-18UNF	3536-296	75.57
3/4-16UNF	3536-300	88.32
3/4-10UNC	3536-303	87.14
7/8-9UNC	3536-305	142.23
7/8-14UNF	3536-306	163.89
1-8UNC	3536-308	178.95
1-12UNF	3536-309	210.71
1-14UNF	3536-310	210.71
1-1/8-7UNC	3536-312	216.97
1-1/8-12UNF	3536-313	235.15
1-1/4-7UNC	3536-315	254.22
1-1/4-12UNF	3536-316	263.96
1-3/8-6UNC	3536-318	284.92
1-3/8-12UNF	3536-319	297.62
1-1/2-6UNC	3536-321	316.74
1-1/2-12UNF	3536-322	331.86

### Insert Packets 1.5 d

PACKET SIZE	ORDER NO.	PKG. QTY.	PRICE P/PKG.
2-56 x 1.5D	3536-390	10	\$ 4.58
3-48 x 1.5D	3536-393	10	4.58
3-56 x 1.5D	3536-394	10	4.29
4-40 x 1.5D	3536-400	10	4.29
4-48 x 1.5D	3536-403	10	4.29
5-40 x 1.5D	3536-407	10	4.29
6-32 x 1.5D	3536-410	10	4.29
6-40 x 1.5D	3536-415	10	4.29
8-32 x 1.5D	3536-420	10	4.29
8-36 x 1.5D	3536-423	10	4.29
10-24 x 1.5D	3536-427	10	4.29
10-32 x 1.5D	3536-430	10	4.29
1/4-20 x 1.5D	3536-434	10	4.29
12-24 x 1.5D	3536-435	10	5.74
1/4-28 x 1.5D	3536-438	10	4.29
5/16-18 x 1.5D	3536-458	10	5.65
5/16-24 x 1.5D	3536-466	10	5.65
3/8-16 x 1.5D	3536-486	10	6.68
3/8-24 x 1.5D	3536-492	10	6.68
7/16-14 x 1.5D	3536-512	10	7.40
7/16-20 x 1.5D	3536-520	10	7.40
1/2-13 x 1.5D	3536-540	10	10.84
1/2-20 x 1.5D	3536-546	10	10.84
9/16-12 x 1.5D	3536-556	5	10.15
9/16-18 x 1.5D	3536-558	5	10.15
5/8-11 x 1.5D	3536-566	5	12.99
5/8-18 x 1.5D	3536-570	5	12.99
3/4-10 x 1.5D	3536-573	5	18.89
3/4-16 x 1.5D	3536-593	5	18.89
7/8-9 x 1.5D	3536-597	3	15.06
7/8-14 x 1.5D	3536-599	3	15.06
1-8 x 1.5D	3536-601	3	19.78
1-12 x 1.5D	3536-602	3	19.78
1-14 x 1.5D	3536-603	3	19.78
1-1/8-7 x 1.5D	3536-610	1	12.95
1-1/8-12 x 1.5D	3536-611	1	12.95
1-1/2-12 x 1.5D	3536-612	1	19.49
1-1/4-7 x 1.5D	3536-614	1	14.43
1-1/4-12 x 1.5D	3536-615	1	14.43
1-3/8-6 x 1.5D	3536-617	1	16.10
1-3/8-12 x 1.5D	3536-618	1	16.10
1-1/2-6 x 1.5D	3536-620	1	19.49

## Metric Threaded Insert Kits 4



Spark plug kits include a pilot nose tap which guides and cuts the larger size, ensuring accurate alignment. No drilling is required.

SIZE	ORDER NO.	PRICE EACH
M3 x 0.50	3536-335	\$53.73
M4 x 0.70	3536-339	37.43
M5 x 0.80	3536-341	37.02
M6 x 1.00	3536-343	37.37
M8 x 1.00	3536-351	44.34
M8 x 1.25	3536-353	38.38
M10 x 1.25	3536-361	54.61
M10 x 1.50	3536-363	42.21
M12 x 1.25	3536-369	58.74
M12 x 1.50	3536-371	58.74
M12 x 1.75	3536-373	51.95
<b>SPARK PLUG KITS</b>		
M10 x 1.00	3536-359	\$66.83
M12 x 1.25	3536-325	73.50
M14 x 1.25	3536-323	95.70
M18 x 1.50	3536-324	97.89

## Metric Threaded Insert Packets 4



SIZE	ORDER NO.	PKG. QTY.	PRICE P/PKG.
M 3x 0.50 x 1.5D	3536-621	10	\$ 4.29
M 4 x 0.70 x 1.5D	3536-622	10	4.29
M 5 x 0.80 x 1.5D	3536-624	10	4.29
M 6 x 1.00 x 1.5D	3536-623	10	4.29
M 8 x 1.00 x 1.5D	3536-631	10	5.65
M 8 x 1.25 x 1.5D	3536-633	10	5.65
M10 x 1.00 x 1.5D	3536-637	10	7.15
M10 x 1.25 x 1.5D	3536-641	10	7.15
M10 x 1.50 x 1.5D	3536-643	10	7.15
M12 x 1.25 x 1.5D	3536-647	10	10.84
M12 x 1.50 x 1.5D	3536-651	10	10.84
M12 x 1.75 x 1.5D	3536-653	10	10.84
<b>SPARK PLUG THREADED INSERT PACKETS</b>			
M10 x 1.00 x 1/2	3536-640	10	\$5.96
M12 x 1.25 x 1/2	3536-649	10	7.38
M12 x 1.25 x 3/4	3536-650	10	8.74
M14 x 1.25 x 3/8	3536-663	10	5.96
M14 x 1.25 x 1/2	3536-664	10	8.74
M14 x 1.25 x 3/4	3536-665	10	12.75
M18 x 1.50 x 1/2	3536-683	10	5.96

## Recoil Range Kits 4

SIZE	ORDER NO.	PRICE EACH
UNC 1/4-1/2	3536-700	\$196.14
UNF 1/4-1/2	3536-701	202.08
M5X .8-12 X 1.75	3536-702	196.38



# Keyserts & Installation Tools

## The Solid Alternative for Thread Repair

Keyserts are solid, one-piece, key-locking inserts used to repair damaged threads for use in original equipment. The keysert locking keys provide a positive mechanical lock which prevents rotation due to vibration or torsion.

2



### FEATURES:

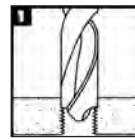
- Installed with standard drills and taps • Easy installation
- May be used in many materials; aluminum, magnesium, and cold rolled steel
- Easy to remove



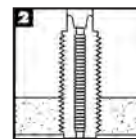
## Heavy Duty Keyserts - Inch Sizes - Carbon Steel

I.D. INTERNAL THREAD	TAP DRILL SIZE	O.D. EXT. THREAD	LENGTH	CARBON STEEL INSERT		INSTALLATION TOOL	
				PART NO.	PRICE EACH	PART NO.	PRICE EACH
8-32	I	5/16-18	0.31	3536-808	\$2.47	3537-308	\$24.12
10-24	Q	3/8-16	0.31	3536-810	1.43	3537-310	20.36
10-32	Q	3/8-16	0.31	3536-811	1.43		
1/4-20	X	7/16-14	0.37	3536-816	1.48	3537-316	18.64
1/4-28	X	7/16-14	0.37	3536-817	1.48		
5/16-18	29/64	1/2-13	0.43	3536-820	1.59	3537-320	22.40
5/16-24	29/64	1/2-13	0.43	3536-821	1.59		
3/8-16	33/64	9/16-12	0.50	3536-824	1.78		
3/8-24	33/64	9/16-12	0.50	3536-825	1.78	3537-324	22.40
7/16-14	37/64	5/8-11	0.62	3536-828	2.34		
7/16-20	37/64	5/8-11	0.62	3536-829	2.38		
1/2-13	45/64	3/4-16	0.62	3536-832	2.73		
1/2-20	45/64	3/4-16	0.62	3536-833	2.73	3537-332	24.40
9/16-12	45/64	3/4-16	0.81	3536-836	3.89		
9/16-18	45/64	3/4-16	0.81	3536-837	3.89		
5/8-11	53/64	7/8-14	0.87	3536-840	4.86	3537-340	24.40
5/8-18	53/64	7/8-14	0.87	3536-841	4.99		
3/4-10	11/16	11/8-12	1.12	3536-848	7.42		
3/4-16	11/16	11/8-12	1.12	3536-849	7.42	3537-348	28.86
7/8-9	13/16	11/4-12	1.25	3536-856	9.54		
7/8-14	13/16	11/4-12	1.25	3536-857	9.54		
1-8	15/16	13/8-12	1.37	3536-864	21.48		
1-12	15/16	13/8-12	1.37	3536-865	21.48	3537-364	28.86
1-14	15/16	13/8-12	1.37	3536-866	21.48		

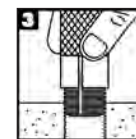
### Installation



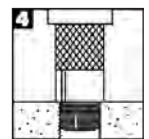
1 Drill out old threads w/std. drill. Chamfer hole w/standard countersink (82-100°).



2 Tap new threads with a std. tap.



3 Screw in the insert until slightly below the surface.

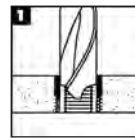


4 Drive keys down with several hammer taps on the proper installation tool.

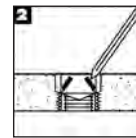
## Thin Wall Keyserts - Inch Sizes - Carbon Steel

I.D. INTERNAL THREAD	TAP DRILL SIZE	O.D. EXT. THREAD	LENGTH	CARBON STEEL INSERT		INSTALLATION TOOL	
				PART NO.	PRICE EACH	PART NO.	PRICE EACH
10-24	I	5/16-18	0.31	3536-910	\$1.43	3537-310	\$20.36
10-32	I	5/16-18	0.31	3536-911	1.43		
1/4-20	Q	3/8-16	0.37	3536-916	1.48	3537-316	18.64
1/4-28	Q	3/8-16	0.37	3536-917	1.48		
5/16-18	X	7/16-14	0.43	3536-920	1.59	3537-320	22.40
5/16-24	X	7/16-14	0.43	3536-921	1.59		
3/8-16	29/64	1/2-13	0.50	3536-924	1.78		
3/8-24	29/64	1/2-13	0.50	3536-925	1.78	3537-324	22.40
7/16-14	33/64	9/16-12	0.56	3536-928	2.34		
7/16-20	33/64	9/16-12	0.56	3536-929	2.38		
1/2-13	37/64	5/8-11	0.62	3536-932	2.73		
1/2-20	37/64	5/8-11	0.62	3536-933	2.73	3537-332	24.40

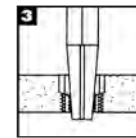
### Removal



1 Drill out material between keys and internal thread with std. drill to spec. depth.



2 Deflect keys inward and break off.



3 Remove using an E-Z out or similar type tool.



4 Same size replacement insert may be installed in the original hole.

### Important Note:

Keyserts are not recommended for use in brittle materials, like cast iron or plastic

## Thin Wall Keyserts - Metric Sizes - Carbon Steel

I.D. INTERNAL THREAD	TAP DRILL SIZE	O.D. EXT. THREAD	LENGTH	CARBON STEEL INSERT		INSTALLATION TOOL	
				PART NO.	PRICE EACH	PART NO.	PRICE EACH
M5-0.8	6.9	M8-1.25	6.90	3537-058	\$2.10	3537-310	\$20.36
M6-1	8.8	M10-1.25	8.80	3537-060	2.18	3537-316	18.64
M8-1.25	10.8	M12-1.25	10.80	3537-082	2.35		
M8-1.00	10.8	M12-1.25	10.80	3537-080	2.88	3537-320	22.40
M10-1.5	12.8	M14-1.5	12.80	3537-105	2.92		
M10-1.25	12.8	M14-1.5	12.80	3537-102	3.74	3537-324	22.40
M12-1.75	14.75	M16-1.5	14.75	3537-127	3.42		
M12-1.25	14.75	M16-1.5	14.75	3537-122	4.27	3537-332	24.40



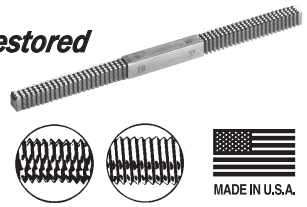
# Thread Restorers

**NEW ITEM**

## Thread Restorers

**Battered Bolt Or Pipe Threads Restored Quickly Without Changing Fit**

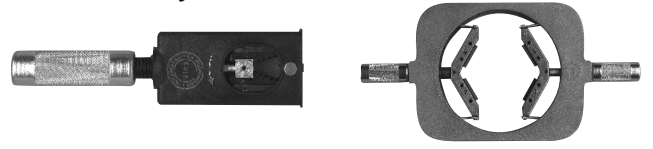
A few easy passes with the appropriate THREAD RESTORER over damaged threads will restore the thread without reducing the diameter. Since only the displaced metal is removed the original fit is preserved. Any bolt or pipe of the corresponding thread regardless of diameter may be repaired instantly.



1

FOR	TOOL NO.	THREAD SIZES ON EACH TOOL	ORDER NO.	PRICE EACH
BOLTS	1-NU	11, 12, 13, 14, 16, 18, 20 & 24	2591-075	\$ 8.60
	2-NU	9, 10, 12, 16, 20, 27, 28 & 32	2591-077	8.60
PIPE (External)	5-NU	8, 10, 11-1/2 & 14	2591-081	22.00
	7-NU	8 & 27	2591-085	8.60
PIPE (Internal)	8-NU	0.75mm, 1.00mm, 1.25mm, 1.50mm, 1.75mm, 2.00mm, 2.50mm, 3.00mm	2591-087	8.60
SINGLE	11-NU	11	2591-091	18.00
	12-NU	12	2591-093	18.00
	13-NU	13	2591-095	18.00
PITCH	14-NU	14	2591-097	18.00
	16-NU	16	2591-099	18.00
EXTERNAL BOLTS	18-NU	18	2591-101	18.00
	20-NU	20	2591-103	18.00
	24-NU	24	2591-105	18.00
AND	27-NU	27	2591-107	18.00
	28-NU	28	2591-109	18.00
PIPE	32-NU	32	2591-111	18.00

## Buckingham Thread Restorers



Model 6103

Model 62070

Just one tool, with the standard set of die blades, handles SAE, USS, NPT or Metric type threads in any pitch from 6 to 28 threads to the inch - right or left hand threads - in any outside diameter within its specified limits, all without changing a die.

**Model 6103** automatically adjusts to SAE, USS, NPT and metric threads with pitches of 6 to 28 per inch and right or left handed threading. Has an outside diameter capacity of 1/4" to 1".

**Model 6203** - Outside diameter capacity of 1/4" to 1". Has maximum handle swing of 3 in. for work in closely confined areas. For such applications as cylinder head studs, "U" bolts, wheel lugs, etc.

**Model 62070** has a plain guide die blade which allows dies to pass over key ways and milled flats on threaded parts. Outside diameter capacity of 4" to 6".

**Model 62040** - Outside diameter capacity of 1" to 29/16". Same general design as 62070

**Model 61060** - Outside diameter capacity of 1-3/4" to 4". Same general design as 62070

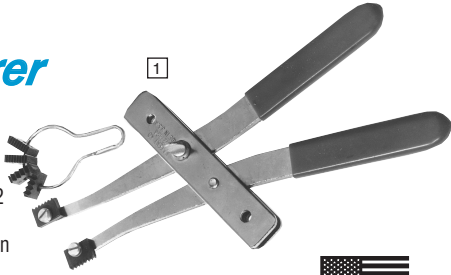
**Model 63060 for sanitary (dairy & plumbing industry)**

1

MODEL	WEIGHT	OUTSIDE DIA. CAPACITY	MAX. HANDLE SWING	WORKING DIST. FROM SHLDRS.	ORDER NO.	PRICE EACH
6103	1 lb., .50 kg	1/4"-1" (6-25mm)	7" (18cm)	1/2" (13mm)	2591-060	\$80.30
6203	1-1/4 lb., 52 kg	1/4"-1" (6-25mm)	3" (8cm)	1/2" (13mm)	2591-061	157.85
62040	2-3/4 lb., 1.24 kg	1"-2-9/16" (25-62mm)	5-1/4" (13cm)	5/16" (8mm)	2591-062	257.45
61060	3-3/4 lb., 1.69 kg	1-3/4"-4" (44.5-102mm)	7" (18cm)	5/16" (8mm)	2591-063	321.35
62070	4-1/2 lb., 2.02 kg	4"-6" (102-152mm)	8" (20cm)	5/16" (8mm)	2591-064	410.20
63060	3-3/4 lb., 1.69 kg	1-3/4"-4" (44.5-102mm)	7" (18cm)	5/16" (8mm)	2591-066	184.65

## Internal Thread Restorer

This No. 50 Tool Set will clean and restore all internal pipe threads from 3/4" thru 6". Includes 3 Pair Bits: 14TPI for 3/4" Dia. Pipe, 11-1/2 TPI for 1" to 2" Dia., 8TPI for 2-1/4" thru 6". Bits for other TPI available on request.



**Order No. 2591-120** .....  
**Price Each \$24.00**



## Thread Restorer Sets

1

**For Internal & External Threads**

### Super Set for Inch & Metric - 53 Pieces

**Thread Restorer files** No. 1 (11, 12, 13, 14, 16, 18, 20, 24) & 8 (all pitches 0.75 to 3.0mm) with 2 plastic file handles.  
**Rethread Dies:** 1/4-20NC & 28NF, 5/16-18NC & 24NF, 3/8-16NC & 24NF, 7/16-14NC & 20NF, 1/2-13NC & 20NF, 9/16-12NC & 18NF, 5/8-11NC & 18NF, 3/4-10NC, 16NF & 3/4-20.  
**Rethread Taps:** 1/4-20NC & 28NF, 5/16-11NC & 18NF, 3/8-16NC & 24NF, 7/16-14NC & 20NF, 1/2-13NC & 20NF, 9/16-12NC & 18NF.  
**Metric Rethread Taps & Dies:** 6mm x 1.00, 8mm x 1.25, 10mm x 1.25, 10mm x 1.50, 12mm x 1.25, 12mm x 1.50, 12mm x 1.75.  
**Additional Metric Rethread Dies:** 6mm x 1.25, 7mm x 1.00, 8mm x 1.00, 8mm x 1.50, 10mm x 1.00, 14mm x 1.25, 14mm x 1.50, 20mm x 1.50.

**Order No. 2591-118...Price Each \$113.00**

### Standard Inch & Metric Set - 42 Pieces

**Thread Restorer files** No. 1 (11, 12, 13, 14, 16, 18, 20, 24) & 8 (all pitches 0.75 to 3.0mm) with 2 plastic file handles.  
**Rethread Dies:** 1/4-20NC & 28NF, 5/16-18NC & 24NF, 3/8-16NC & 24NF, 7/16-14NC & 20NF, 1/2-13NC & 20NF, 9/16-12NC & 18NF, 5/8-11NC & 18NF.  
**Rethread Taps:** 1/4-20NC & 28NF, 5/16-11NC & 18NF, 3/8-16NC & 24NF, 7/16-14NC & 20NF, 1/2-13NC & 20NF, 9/16-12NC & 18NF.  
**Rethread Taps & Dies:** 6mm x 1.00, 8mm x 1.25, 10mm x 1.25, 10mm x 1.50, 12mm x 1.25, 12mm x 1.50, 12mm x 1.75.

**Order No. 2591-117...Price Each \$88.00**

### Metric Set - 23 Pieces



**Thread Restorer files** No. 8 (all pitches 0.75 to 3.0mm) with plastic file handle.  
**Rethread Taps & Dies:** 6mm x 1.00, 8mm x 1.25, 10mm x 1.25, 10mm x 1.50, 12mm x 1.25, 12mm x 1.50, 12mm x 1.75.  
**Additional Metric Rethread Dies:** 6mm x 1.25, 7mm x 1.00, 8mm x 1.00, 8mm x 1.50, 10mm x 1.00, 14mm x 1.25, 14mm x 1.50, 20mm x 1.50.

**Order No. 2591-116...Price Each \$57.00**

### Inch Set - 18 Pieces

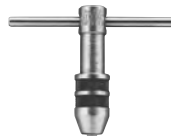
**Thread Restorer files** No. 1 (11, 12, 13, 14, 16, 18, 20, 24) & 2 (9, 10, 12, 16, 20, 27, 28, 32).  
**Rethread Dies:** 1/4-20NC & 28NF, 5/16-18NC & 24NF, 3/8-16NC & 24NF, 7/16-14NC & 20NF, 1/2-13NC & 20NF, 9/16-12NC & 18NF, 5/8-11NC & 18NF, 3/4-10NC, 16NF.

**Order No. 2591-114...Price Each \$42.00**



# Tap & Die Accessories

## T-Handle Tap Wrenches



**GENERAL®**



FRACTIONAL TAPS	MACHINE SCREW TAPS	STANDARD TYPE		PRECISION TYPE	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
Slip Handle 1/16 to 5/32 5/32 to 1/4 1/4 to 1/2	0 to 8	2591-168	\$2.95	2591-169	\$ 4.10
	0 to 14	2591-172	3.45	2591-170	5.20
	12 to 14	2591-173	4.50	2591-171	7.60
Ratchet Type 1/16 to 5/32 5/32 to 1/4 1/4 to 1/2 5/32 to 1/4 (13" OAL) 1/4 to 1/2 (13" OAL)	0 to 14	—	—	2591-167	10.30
	12 to 14	—	—	2591-176	10.60
	—	—	—	2591-177	13.15
	—	—	—	2591-165	23.25
	—	—	—	2591-166	26.15
Long Slip Handle 5/32 to 1/4 (13" OAL) 1/4 to 1/2 (13" OAL)	0 to 14	—	—	2591-174	21.20
	12 to 14	—	—	2591-175	22.35

## PLAIN TAP WRENCHES

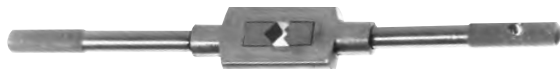
- No. 163 has rigid T-handle.
- Nos. 164 and 166 have sliding T-handle for fitting into tight spaces with greater leverage.

MODEL	TAP CAPACITY (NOS. AND INCHES)	LENGTH	ORDER NO.	PRICE
<b>PLAIN TYPE</b>				
163	No. 0 to No. 8 (1.6 to 4mm)	2-1/4"	6931-212	\$13.30
164	No. 0 to 1/4" (1.6 to 6.3mm)	2-3/4"	6931-215	14.66
166	No. 12 to 1/2" (6 to 12.5mm)	3-3/4"	6931-218	17.65
<b>RATCHET TYPE</b>				
160R	No. 0 to No. 8 (1.6 to 4mm)	2-3/4"	6931-200	\$36.87
161R	No. 0 to No. 1/4" (1.6 to 6.3mm)	3-1/2"	6931-203	36.91
162R	No. 12 to 1/2" (6 to 12.5mm)	4-1/4"	6931-209	46.94

## REVERSIBLE RATCHET TAP WRENCHES

- Ratchet can be set for right or left hand operation or locked for non ratchet use.
- Self centering hardened tool steel jaws and knurled tool chuck sleeve provide positive grip on taps, reamers, and small tools.
- Replacement jaws available; specify tool number.
- No. 161R conforms to government specifications GGG-W-680a.

## Straight Tap Wrenches



OLD NO.	CAPACITY HAND REAMERS	CAPACITY - (TAP SIZES)			ORDER NO.	PRICE EACH
		FRACTIONAL TAPS	MACHINE SCREW TAPS	PIPE REAMERS		
0	1/8 to 21/64	1/16 to 1/4	0 to 14	—	2591-151	\$ 4.00
14	1/8 to 25/64	1/16 to 3/8	0 to 14	—	2591-152	5.80
15	11/64 to 7/16	5/32 to 1/2	7 to 14	1/8	2591-153	6.25
13	11/64 to 41/64	5/32 to 3/4	7 to 14	1/8 to 1/4	2591-154	10.55
7	9/32 to 29/32	1/4 to 1-1/8	—	1/8 to 3/4	2591-155	17.75
8	37/64 to 1-11/32	3/4 to 1-5/8	—	3/8 to 1-1/4	2591-157	46.15
22	7/8 to 1-1/8	1 to 2-1/2	—	3/4 to 2	2591-159	94.90
24	1-7/16 to 3	1-3/4 to 4	—	1-1/2 to 4	2591-160	142.85

## Hex & Round Die Adapters



I.D.	ORDER NO.	PRICE EACH
13/16	2591-011	\$6.50
1	2591-012	7.50
1-5/16	2591-013†	7.50
1-1/2	2591-014	9.40
2	2591-015	11.10
2-1/2	2591-016	16.30
3	2591-017	24.80
3-1/2	2591-018†	25.85
6	2591-021†	58.35

ROUND		ORDER NO.	PRICE EACH
FROM	TO		
13/16	1-5/16	2591-001†	\$ 8.70
1	1-5/16	2591-002†	8.70
1	2	2591-004†	9.80
1-1/2	2-1/2	2591-006†	10.40
2-1/2	3	2591-007†	12.30

† Limited Quantities

## 3 Screw Type Die Stocks



O.D. OF DIE	ORDER NUMBER	PRICE EACH
5/8	2591-180	\$ 3.25
13/16	2591-181	3.25
1	2591-182	4.20
1-1/2	2591-185	5.90
2	2591-186	7.90
2-1/2	2591-188	15.75
3	2591-189	19.70
3-1/2	2591-190	33.85
4	2591-191	40.35
5	2591-192	93.60
6	2591-193	225.40

## Tap Extensions



	ORDER NO.	PRICE EACH
0 to 1/4 (7-3/4" OAL)	2591-178	\$14.20
12 to 1/2 (10-3/4" OAL)	2591-179	17.80

## Die Holder



SIZE	SHANK DIAM.	BODY DIAM.	ORDER NO.	PRICE EACH
13/16	1/2	1-1/2	2591-145	\$13.60
1	1/2	1-1/2	2591-146	13.60
1-1/2	3/4	2	2591-147	17.40

## WALTON

### Piloted Spindle Tapper

A versatile tool that reduces tap breakage while improving thread quality and accuracy.

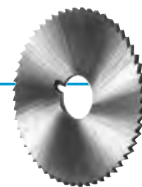
TAPPER NO.	EDP NO.	TAP SIZE CAPACITY	NET PRICE EACH
176	3153-730	No. 0 to 1/4" 1.5-6mm	\$35.80
276	3153-731	No. 12 to 1/2" 6-12mm	45.90

### Piloted Spindle Imported Tapper

TAP SIZE CAPACITY	ORDER NO.	PRICE EACH
1/16-1/4	3109-925	\$10.35
1/4-1/2	3109-930	13.05

# Plain Metal Slitting Saws

## Hollow Ground - High Speed Steel



2



Used for medium, deep cutting, and cut off operations.

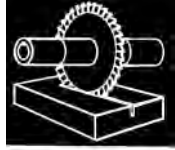
DIA.	THICK-NESS	HOLE	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
1-1/4	1/32	1/2	-	-	2755-282	\$10.30	-	-
1-1/4	1/16	1/2	-	-	2755-284	10.30	-	-
1-1/2	1/32	1/2	-	-	2755-302	12.78	2750-302	\$ 8.12
1-1/2	1/16	1/2	-	-	2755-304	12.78	-	-
1-1/2	3/32	1/2	-	-	2755-306	13.56	-	-
1-3/4	1/64	1/2	-	-	-	-	2750-501	8.12
1-3/4	1/32	1/2	2750-502	\$18.81	2755-502	14.79	-	-
1-3/4	3/64	1/2	-	-	-	-	2750-503	8.12
1-3/4	1/16	1/2	-	-	2755-504	14.79	2750-504	8.12
1-3/4	3/32	1/2	-	-	2755-506	15.27	2750-506	8.12
1-3/4	7/64	1/2	-	-	-	-	2750-507	8.12
1-3/4	1/8	1/2	-	-	2755-508	16.03	-	-
1-3/4	1/64	5/8	-	-	-	-	2750-701	8.12
1-3/4	3/64	5/8	-	-	-	-	2750-703	8.12
1-3/4	1/16	5/8	-	-	-	-	2750-704	8.12
1-3/4	3/32	5/8	-	-	-	-	2750-706	8.12
1-3/4	7/64	5/8	-	-	-	-	2750-707	8.12
1-3/4	1/8	5/8	-	-	-	-	2750-708	8.12
1-3/4	5/32	5/8	-	-	-	-	2750-710	8.12
1-3/4	3/16	5/8	-	-	-	-	2750-712	8.12
1-3/4	1/64	3/4	-	-	-	-	2750-901	8.12
1-3/4	1/32	3/4	-	-	-	-	2750-902	8.12
1-3/4	3/64	3/4	-	-	-	-	2750-903	8.12
1-3/4	1/16	3/4	-	-	-	-	2750-904	8.12
1-3/4	3/32	3/4	-	-	-	-	2750-906	8.12
1-3/4	7/64	3/4	-	-	-	-	2750-907	8.12
1-3/4	1/8	3/4	-	-	-	-	2750-908	8.12
1-3/4	5/32	3/4	-	-	-	-	2750-910	8.12
1-3/4	3/16	3/4	-	-	-	-	2750-912	8.12
1-3/4	1/64	1	-	-	-	-	2751-101	8.12
1-3/4	1/32	1	-	-	-	-	2751-102	8.12
1-3/4	3/64	1	-	-	-	-	2751-103	8.12
1-3/4	1/16	1	-	-	-	-	2751-104	8.12
1-3/4	3/32	1	-	-	-	-	2751-106	8.12
1-3/4	7/64	1	-	-	-	-	2751-107	8.12
1-3/4	1/8	1	-	-	-	-	2751-110	8.12
1-3/4	5/32	1	-	-	-	-	2751-118	8.12
1-3/4	3/16	1	-	-	-	-	2751-112	8.12
2	1/32	1/2	-	-	2756-302	16.03	-	-
2	1/16	1/2	2751-304	16.65	2756-304	16.03	-	-
2	3/32	1/2	2751-306	17.80	2756-306	17.74	-	-
2	1/8	1/2	2751-308	18.81	2756-308	18.50	-	-
2	5/32	1/2	-	-	2756-310	19.75	-	-
2-1/4	1/64	3/4	-	-	-	-	2751-501	8.12
2-1/4	1/32	3/4	-	-	-	-	2751-502	8.12
2-1/4	3/64	3/4	-	-	-	-	2751-503	8.12
2-1/4	1/16	3/4	-	-	-	-	2751-504	8.12
2-1/4	3/32	3/4	-	-	-	-	2751-506	8.12
2-1/4	7/64	3/4	-	-	-	-	2751-507	8.12
2-1/4	1/8	3/4	-	-	-	-	2751-508	8.12
2-1/4	5/32	3/4	-	-	-	-	2751-510	8.12
2-1/4	3/16	3/4	-	-	-	-	2751-512	8.12
2-1/4	1/64	1	-	-	-	-	2751-701	8.12
2-1/4	1/32	1	-	-	-	-	2751-702	8.12
2-1/4	3/64	1	-	-	-	-	2751-703	8.12
2-1/4	1/16	1	-	-	-	-	2751-704	8.12
2-1/4	3/32	1	-	-	-	-	2751-706	8.12
2-1/4	7/64	1	-	-	-	-	2751-707	8.12
2-1/4	1/8	1	-	-	-	-	2751-708	8.12
2-1/4	5/32	1	-	-	-	-	2751-710	8.12
2-1/4	3/16	1	-	-	-	-	2751-712	8.12
2-1/2	1/32	1/2	-	-	-	-	2751-802	8.12
2-1/2	1/32	7/8	2751-902	18.81	2756-902	20.61	-	-
2-1/2	3/64	7/8	2751-903	18.81	2756-903	20.61	-	-
2-1/2	1/16	7/8	2751-904	18.81	2756-904	20.61	-	-
2-1/2	3/32	7/8	2751-906	18.81	2756-907	21.58	-	-
2-1/2	1/8	7/8	2751-908	18.81	2756-908	22.34	-	-
3	1/64	1	2752-201	35.08	-	-	-	-
3	1/32	1	2752-202	20.59	2757-202	23.81	-	-
3	3/64	1	2752-203	20.59	2757-203	23.81	-	-
3	1/16	1	2752-204	21.86	2757-204	24.57	-	-
3	5/64	1	2752-205	21.86	-	-	-	-
3	3/32	1	2752-206	21.86	2757-206	26.47	-	-
3	7/64	1	2752-207	22.50	-	-	-	-
3	1/8	1	2752-208	22.50	2757-208	26.97	-	-
3	9/64	1	2752-209	23.39	-	-	-	-
3	5/32	1	2752-210	23.39	2757-210	32.51	-	-

DIA.	THICK-NESS	HOLE	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
3	11/64	1	-	-	-	-	2752-211	\$10.97
3	3/16	1	2752-212	\$25.30	-	-	-	-
3	17/64	1	-	-	-	-	2752-217	10.97
3-1/2	1/32	1	-	-	-	-	2752-402	29.24
3-1/2	5/32	1	-	-	-	-	2752-410	36.86
3-1/2	3/16	1	-	-	-	-	2752-412	36.86
4	1/64	1	2752-601	47.79	-	-	-	-
4	1/32	1	2752-602	29.24	2757-602	\$30.40	-	-
4	3/64	1	2752-603	30.25	2757-603	31.27	-	-
4	1/16	1	2752-604	30.25	2757-604	32.51	-	-
4	5/64	1	2752-605	31.90	-	-	-	-
4	3/32	1	2752-606	31.90	2757-606	35.36	-	-
4	7/64	1	2752-607	33.68	-	-	-	-
4	1/8	1	2752-608	33.68	2757-608	41.96	-	-
4	9/64	1	2752-609	34.96	-	-	-	-
4	5/32	1	2752-610	34.96	2757-610	53.36	-	-
4	11/64	1	-	-	-	-	2752-611	15.94
4	3/16	1	2752-612	36.86	2757-612	58.19	-	-
4-1/2	1/32	1	-	-	-	-	2752-902	47.79
4-1/2	3/64	1	-	-	-	-	2752-903	40.42
4-1/2	1/16	1	-	-	-	-	2752-904	40.42
4-1/2	5/32	1	-	-	-	-	2752-910	19.93
4-1/2	3/16	1	-	-	-	-	2752-912	19.93
5	3/64	1	2753-103	40.42	-	-	-	-
5	1/16	1	2753-104	40.42	2758-104	42.84	-	-
5	5/64	1	2753-105	42.84	-	-	-	-
5	3/32	1	2753-106	44.11	2758-106	50.14	-	-
5	7/64	1	2753-107	46.01	-	-	-	-
5	1/8	1	2753-108	46.01	2758-108	59.59	-	-
5	9/64	1	2753-109	48.81	-	-	-	-
5	5/32	1	2753-110	48.81	2758-110	74.93	-	-
5	3/16	1	2753-112	51.73	2758-112	78.31	-	-
5	1/16	1-1/4	2753-304	40.42	-	-	-	-
5	3/32	1-1/4	2753-306	44.11	-	-	-	-
5	1/8	1-1/4	2753-308	46.01	2758-308	59.59	-	-
5	5/32	1-1/4	2753-310	48.81	-	-	-	-
5	3/16	1-1/4	2753-312	51.73	-	-	-	-
6	3/64	1	2753-503	60.12	-	-	-	-
6	1/16	1	2753-504	52.88	-	-	-	-
6	5/64	1	2753-505	56.18	-	-	-	-
6	3/32	1	2753-506	61.14	-	-	-	-
6	7/64	1	2753-507	66.86	-	-	-	-
6	1/8	1	2753-508	63.17	-	-	-	-
6	9/64	1	2753-509	67.37	-	-	-	-
6	5/32	1	2753-510	73.60	-	-	-	-
6	3/16	1	2753-512	75.50	-	-	-	-
6	7/32	1	-	-	-	-	2753-514	32.70
6	5/16	1	-	-	-	-	2753-520	32.70
6	1/16	1-1/4	2753-704	52.88	-	-	-	-
6	3/32	1-1/4	2753-706	61.01	-	-	-	-
6	1/8	1-1/4	2753-708	63.17	-	-	-	-
6	5/32	1-1/4	2753-710	73.34	-	-	-	-
6	3/16	1-1/4	2753-712	75.50	-	-	-	-
6	7/32	1-1/4	-	-	-	-	2753-714	32.70
7	1/8	1	-	-	-	-	2754-008	27.38
8	1/8	1	2754-208	132.83	-	-	-	-
8	3/16	1	2754-212	149.36	-	-	-	-
8	5/64	1-1/4	-	-	-	-	2754-405	51.50
8	3/32	1-1/4	2754-406	118.98	-	-	-	-
8	1/8	1-1/4	2754-408	132.83	-	-	-	-
8	3/16	1-1/4	2754-412	149.36	-	-	-	-
8	7/32	1-1/4	-	-	-	-	2754-414	64.57
10	3/32	1-1/4	2754-906	196.39	-	-	-	-
10	1/8	1-1/4	2754-908	196.39	-	-	-	-
10	3/16	1-1/4	2754-912	237.06	-	-	-	-
10	1/4	1-1/4	2754-916	237.06	-	-	-	-
12	5/16	1-1/4	-	-	-	-	2755-220	102.50
12	3/8	1-1/4	-	-	-	-	2755-224	102.50

# Metal Slitting Saws

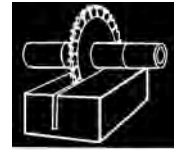


## Side Chip — High Speed Steel



- For deep slotting & cut off operations

## Staggered Tooth — High Speed Steel



- For deep slotting & heavy duty cutting

DIAM.	THICK-NESS	HOLE	SIDE CHIP ORDER NO.	PRICE EACH	ST'GD. TOOTH ORDER NO.	PRICE EACH
2-1/2	1/16	7/8	2781-041	\$48.81	-	-
2-1/2	3/32	7/8	2781-061	49.01	-	-
2-1/2	3/32	1	2781-062	48.97	-	-
2-1/2	1/8	7/8	2781-081	50.00	-	-
3	1/16	1	2782-041	55.74	-	-
3	5/64	1	2782-051	55.74	-	-
3	3/32	1	2782-061	57.12	-	-
3	7/64	1	2782-071	57.93	-	-
3	1/8	1	2782-081	58.12	-	-
3	9/64	1	2782-091	59.64	-	-
3	5/32	1	2782-101	60.92	-	-
3	11/64	1	2782-111	62.08	-	-
3	3/16	1	2782-121	63.10	2791-121	\$66.98
3	7/32	1	-	-	2791-141	68.87
3	1/4	1	-	-	2791-161	71.58
4	1/16	1	2783-041	86.87	-	-
4	5/64	1	2783-051	77.32	-	-
4	3/32	1	2783-061	79.18	-	-
4	7/64	1	2783-071	80.91	-	-
4	1/8	1	2783-081	80.85	2792-081	93.38
4	9/64	1	2783-091	82.91	2792-091	95.67
4	9/64	1-1/4	-	-	2792-092	95.73
4	5/32	1	2783-101	86.03	2792-101	97.75
4	11/64	1	2783-111	86.77	2792-111	99.08
4	3/16	1	2783-121	88.54	2792-121	99.62
4	7/32	1	2783-141	90.06	2792-141	93.54
4	1/4	1	2783-161	94.70	2792-161	97.47
5	1/16	1	2784-041	115.53	-	-
5	3/32	1	2784-061	104.03	-	-
5	1/8	1	2784-081	106.48	-	-
5	1/8	1-1/4	2784-082	110.32	-	-
5	5/32	1	2784-101	116.62	-	-
5	3/16	1	2784-121	121.41	2793-121	132.06
5	7/32	1	2784-141	125.71	-	-
5	1/4	1	2784-161	130.57	2793-161	134.95
5	1/4	1-1/4	-	-	2793-162	131.31
5	9/32	1	-	-	2793-181†	44.85
5	9/32	1-1/4	-	-	2793-182†	44.85
5	5/16	1	-	-	2793-201†	44.85

DIAM.	THICK-NESS	HOLE	SIDE CHIP ORDER NO.	PRICE EACH	ST'GD. TOOTH ORDER NO.	PRICE EACH
6	3/32	1	2785-061	\$136.49	-	-
6	3/32	1-1/4	2785-062	136.30	-	-
6	1/8	1	2785-081	141.09	-	-
6	1/8	1-1/4	2785-082	141.16	2794-081	\$150.08
6	9/64	1-1/4	2785-092†	51.06	-	-
6	5/32	1	2785-101	151.83	2794-101	160.03
6	5/32	1-1/4	2785-102†	51.06	-	-
6	3/16	1	2785-121	155.51	2794-121	167.37
6	3/16	1-1/4	2785-122	155.51	2794-122	168.50
6	1/4	1	2785-161	168.47	2794-161	173.55
6	1/4	1-1/4	2785-162†	60.02	2794-162	172.10
6	9/32	1	-	-	2794-181†	60.79
6	9/32	1-1/4	-	-	2794-182†	60.79
6	5/16	1	-	-	2794-201†	60.79
6	5/16	1-1/4	-	-	2794-202†	60.79
8	1/8	1	2786-081†	92.99	-	-
8	1/8	1-1/4	2786-082	242.75	-	-
8	9/64	1-1/4	-	-	2795-091†	111.13
8	3/16	1	-	-	2795-121	293.88
8	3/16	1-1/4	2786-122	273.02	2795-122	292.79
8	7/32	1-1/4	2786-142†	103.24	2795-142†	114.98
8	1/4	1-1/4	2786-162†	103.24	2795-162	321.09
8	9/32	1-1/4	-	-	2795-182†	114.98
8	11/32	1-1/4	-	-	2795-222†	114.98
10	3/16	1-1/4	-	-	2796-121	504.49
10	7/32	1-1/4	2787-141†	203.37	-	-
10	1/4	1-1/4	-	-	2796-161	498.31
10	5/16	1-1/4	-	-	2796-201†	196.95
10	3/8	1-1/4	2787-241†	203.37	2796-241†	183.76
12	3/16	1-1/2	2788-122†	651.38	2797-121†	664.41
12	1/4	1-1/4	2788-161†	821.50	-	-
12	5/16	1-1/4	2788-201†	871.28	-	-
12	5/16	1-1/2	2788-202†	871.28	2797-201†	888.71
12	3/8	1-1/4	2788-241†	989.11	-	-
12	3/8	1-1/2	-	-	2797-241†	1008.90

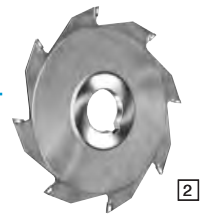
† Limited Quantities

# Carbide Tipped Slitting Saws

## Standard Tooth — General Purpose for Non-Ferrous Metals



## Coarse Tooth — For Stainless, Non-Ferrous, Cast Iron, Steel

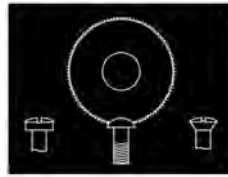
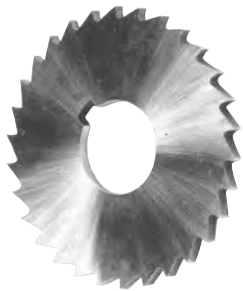


DIAM.	THICK-NESS	HOLE	NO. OF TEETH	ORDER NO.	PRICE EACH
3	5/32	1	12	3032-021†	\$76.88
4	5/32	1	14	3032-661†	96.30
4	3/16	1	14	3032-681†	100.50
5	1/16	1	16	3033-881†	105.25
5	3/32	1	16	3033-261†	108.00
5	3/16	1	16	3033-321†	127.88
5	3/16	1-1/4	16	3033-322†	127.88
6	1/16	1	18	3033-881†	94.50
6	1/16	1-1/4	18	3033-882†	94.50
6	3/32	1-1/4	18	3033-902†	122.50
6	1/8	1	18	3033-921†	134.88
6	3/16	1-1/4	18	3033-962†	147.25

† Limited Quantities

DIAM.	FACE WIDTH	ARBOR HOLE	NO. OF TEETH	FOR STAINLESS STEEL			FOR NON-FERROUS			CAST IRON		STEEL	
				ORDER NO.	PRICE EACH	NO. OF TEETH	ORDER NO.	PRICE EACH	NO. OF TEETH	ORDER NO.	ORDER NO.	PRICE EACH	
3	3/32	1	8	3856-671	\$130.70	-	-	-	-	-	-	-	
3	1/8	1	8	3856-672	135.70	-	-	-	-	-	-	-	
3	3/16	1	8	3856-673	140.95	-	-	-	-	-	-	-	
4	3/32	1	10	3856-674	188.10	6	3856-501	\$150.15	-	-	-	-	
4	1/8	1	10	3856-675	190.50	6	3856-502	154.55	8	3856-026	3856-546	\$182.85	
4	3/16	1	10	3856-676	193.10	6	3856-503	156.90	8	3856-027	3856-547	197.05	
5	3/32	1	12	3856-677	255.70	-	-	-	-	-	-	-	
5	1/8	1	12	3856-678	261.00	-	-	-	-	-	-	-	
5	3/16	1	12	3856-679	271.45	-	-	-	-	-	-	-	
6	1/8	1-1/4	14	3856-680	305.35	8	3856-504	221.20	12	3856-028	3856-548	318.00	
6	3/16	1-1/4	14	3856-681	313.20	-	-	-	12	3856-029	3856-549	328.50	
6	1/4	1-1/4	14	3856-682	318.35	-	-	-	12	3856-030	3856-550	335.35	
8	1/8	1-1/4	-	-	-	10	3856-505	282.75	-	-	-	-	
8	3/16	1-1/4	-	-	-	-	-	-	16	3856-031	3856-551	452.05	
8	1/4	1-1/4	-	-	-	-	-	-	16	3856-032	3856-552	469.35	

# Screw Slotting Saws— High Speed Steel



For slotting screw heads and shallow cuts

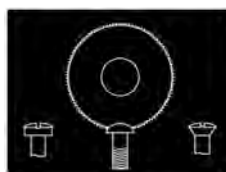
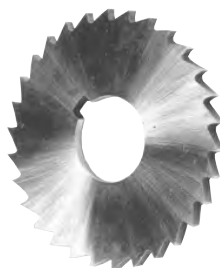
DIA.	THICK-NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
1-3/4	.006	5/8	90	-	-	2763-110	\$ 13.91	-	-
1-3/4	.006	5/8	132	-	-	2763-111	13.91	-	-
1-3/4	.008	5/8	90	-	-	2763-114	12.92	2760-114	\$ 5.33
1-3/4	.008	5/8	132	-	-	2763-115	12.92	-	-
1-3/4	.010	5/8	90	-	-	2763-118	11.91	2760-118	5.00
1-3/4	.010	5/8	132	-	-	2763-119	11.91	-	-
1-3/4	.012	5/8	90	-	-	2763-120	11.56	-	-
1-3/4	.012	5/8	132	-	-	2763-122	11.56	-	-
1-3/4	.013	5/8	90	-	-	-	-	2760-124	4.52
1-3/4	.014	5/8	90	-	-	2763-126	10.67	2760-126	3.66
1-3/4	.014	5/8	132	-	-	2763-128	10.67	-	-
1-3/4	.016	5/8	90	-	-	2763-130	10.67	2760-130	3.56
1-3/4	.016	5/8	132	-	-	2763-132	10.67	-	-
1-3/4	.018	5/8	90	-	-	2763-134	10.07	2760-134	3.46
1-3/4	.018	5/8	132	-	-	2763-136	10.07	-	-
1-3/4	.020	5/8	90	2760-138	\$ 7.70	2763-138	9.70	-	-
1-3/4	.020	5/8	132	-	-	2763-140	9.70	-	-
1-3/4	.023	5/8	90	2760-144	7.70	2763-144	9.70	-	-
1-3/4	.023	5/8	132	-	-	2763-146	9.70	-	-
1-3/4	.025	5/8	90	2760-148	7.70	2763-148	9.70	-	-
1-3/4	.025	5/8	132	-	-	2763-150	9.70	-	-
1-3/4	.028	5/8	60	-	-	-	-	2760-154	3.34
1-3/4	.028	5/8	90	2760-156	7.70	2763-156	9.70	-	-
1-3/4	.028	5/8	132	-	-	2763-158	9.70	-	-
1-3/4	.032	5/8	90	2760-164	7.70	2763-164	9.82	-	-
1-3/4	.032	5/8	132	-	-	2763-166	9.82	-	-
1-3/4	.036	5/8	90	2760-172	8.01	2763-172	10.18	-	-
1-3/4	.036	5/8	132	-	-	2763-174	10.18	-	-
1-3/4	.040	5/8	90	2760-180	8.01	2763-180	10.18	-	-
1-3/4	.040	5/8	132	-	-	2763-182	10.18	-	-
1-3/4	.045	5/8	90	2760-190	8.01	2763-190	10.18	-	-
1-3/4	.045	5/8	132	-	-	2763-192	10.18	-	-
1-3/4	.051	5/8	90	2760-199	8.01	2763-199	10.18	-	-
1-3/4	.051	5/8	132	-	-	2763-201	10.18	-	-
1-3/4	.057	5/8	90	2760-211	8.46	2763-211	11.67	-	-
1-3/4	.057	5/8	132	-	-	2763-213	11.67	-	-
1-3/4	.064	5/8	90	2760-225	9.02	2763-225	11.91	-	-
1-3/4	.064	5/8	132	-	-	2763-227	11.91	-	-
1-3/4	.072	5/8	90	2760-232	9.02	-	-	-	-
2-1/4	.006	5/8	60	-	-	2763-391	16.85	2760-391	5.56
2-1/4	.006	5/8	132	-	-	2763-392	16.85	-	-
2-1/4	.008	5/8	60	-	-	2763-395	14.89	2760-395	5.56
2-1/4	.008	5/8	132	-	-	2763-397	14.89	-	-
2-1/4	.010	5/8	60	-	-	2763-399	12.92	2760-399	7.38
2-1/4	.010	5/8	132	-	-	2763-400	12.92	-	-
2-1/4	.012	5/8	60	-	-	2763-402	12.40	-	-
2-1/4	.012	5/8	132	-	-	2763-404	12.40	-	-
2-1/4	.013	5/8	60	-	-	-	-	2760-405	5.30
2-1/4	.014	5/8	60	-	-	2763-406	11.79	2760-406	5.30
2-1/4	.014	5/8	132	-	-	2763-408	11.79	-	-
2-1/4	.016	5/8	60	-	-	2763-410	11.43	2760-410	5.30
2-1/4	.016	5/8	132	-	-	2763-412	11.43	-	-
2-1/4	.018	5/8	60	-	-	2763-414	10.18	2760-414	4.39
2-1/4	.018	5/8	132	-	-	2763-416	10.18	-	-
2-1/4	.020	5/8	60	2760-418	10.17	2763-418	9.92	-	-
2-1/4	.020	5/8	132	-	-	2763-420	9.92	-	-
2-1/4	.023	5/8	60	2760-424	10.17	2763-424	9.92	-	-
2-1/4	.023	5/8	132	-	-	2763-426	9.92	-	-
2-1/4	.025	5/8	60	2760-428	10.17	2763-428	9.92	-	-
2-1/4	.025	5/8	132	-	-	2763-430	9.92	-	-
2-1/4	.028	5/8	60	2760-434	9.60	2763-434	9.92	-	-
2-1/4	.028	5/8	132	-	-	2763-436	9.92	-	-
2-1/4	.032	5/8	60	2760-438	9.60	2763-438	11.56	-	-
2-1/4	.032	5/8	132	-	-	2763-440	11.56	-	-
2-1/4	.036	5/8	60	2760-446	9.60	2763-446	11.56	-	-
2-1/4	.036	5/8	132	-	-	2763-448	11.56	-	-

DIA.	THICK-NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
2-1/4	.040	5/8	60	2760-454	\$ 10.17	2763-454	\$ 11.56	-	-
2-1/4	.040	5/8	132	-	-	2763-456	11.56	-	-
2-1/4	.045	5/8	60	2760-464	10.68	2763-464	12.40	-	-
2-1/4	.045	5/8	132	-	-	2763-466	12.40	-	-
2-1/4	.051	5/8	60	2760-468	10.68	2763-468	12.40	-	-
2-1/4	.051	5/8	90	-	-	-	-	2760-465	\$ 4.63
2-1/4	.051	5/8	132	-	-	2763-470	12.40	-	-
2-1/4	.057	5/8	60	2760-475	10.68	2763-475	13.31	-	-
2-1/4	.057	5/8	132	-	-	2763-477	13.31	-	-
2-1/4	.064	5/8	60	2760-485	10.68	2763-485	13.31	-	-
2-1/4	.064	5/8	132	-	-	2763-487	13.31	-	-
2-1/4	.072	5/8	60	2760-495	10.68	2763-495	15.41	-	-
2-1/4	.081	5/8	60	2760-505	11.44	2763-505	16.11	-	-
2-1/4	.091	5/8	60	2760-515	12.33	2763-515	17.37	-	-
2-1/4	.102	5/8	60	2760-525	13.35	2763-525	18.60	-	-
2-1/4	.035	3/4	44	-	-	-	-	2760-625	4.15
2-1/4	.071	3/4	44	-	-	-	-	-	-
2-1/4	.064	3/4	60	-	-	-	-	2760-655	4.63
2-1/4	.081	3/4	44	-	-	-	-	2760-665	4.95
2-1/4	.102	3/4	44	-	-	-	-	2760-675	5.80
2-1/4	.128	3/4	44	-	-	-	-	2760-685	5.80
2-1/4	.182	3/4	56	-	-	-	-	2760-695	5.80
2-1/4	.016	1	44	-	-	-	-	2760-805	5.30
2-1/4	.025	1	44	-	-	-	-	2760-821	4.39
2-1/4	.144	1	44	-	-	-	-	2760-871	5.80
2-1/4	.162	1	44	-	-	-	-	2760-881	5.80
2-1/4	.182	1	44	-	-	-	-	2760-891	5.80
2-3/4	.006	1/2	72	-	-	-	-	2760-991	8.92
2-3/4	.008	1/2	72	-	-	-	-	2760-995	8.92
2-3/4	.010	1/2	72	-	-	-	-	2760-999	8.92
2-3/4	.013	1/2	72	-	-	-	-	2761-005	8.12
2-3/4	.014	1/2	72	-	-	-	-	2761-007	7.64
2-3/4	.018	1/2	72	-	-	-	-	2761-015	6.69
2-3/4	.020	1/2	72	-	-	-	-	2761-019	4.63
2-3/4	.023	1/2	72	-	-	-	-	2761-025	4.63
2-3/4	.025	1/2	72	-	-	-	-	2761-029	4.63
2-3/4	.028	1/2	72	-	-	-	-	2761-035	4.63
2-3/4	.036	1/2	72	-	-	-	-	2761-051	4.63
2-3/4	.040	1/2	72	-	-	-	-	2761-059	4.63
2-3/4	.045	1/2	72	-	-	-	-	2761-069	5.56
2-3/4	.051	1/2	72	-	-	-	-	2761-079	5.56
2-3/4	.057	1/2	72	-	-	-	-	2761-089	5.56
2-3/4	.064	1/2	72	-	-	-	-	2761-099	5.56
2-3/4	.010	5/8	72	-	-	-	-	2761-199	8.92
2-3/4	.013	5/8	72	-	-	-	-	2761-205	8.12
2-3/4	.014	5/8	72	-	-	-	-	2761-207	7.64
2-3/4	.018	5/8	72	-	-	-	-	2761-215	6.69
2-3/4	.020	5/8	72	-	-	-	-	2761-219	4.63
2-3/4	.023	5/8	72	-	-	-	-	2761-223	4.63
2-3/4	.025	5/8	72	-	-	-	-	2761-225	4.63
2-3/4	.028	5/8	72	-	-	-	-	2761-231	4.63
2-3/4	.036	5/8	72	-	-	-	-	2761-247	4.63
2-3/4	.040	5/8	72	-	-	-	-	2761-255	4.63
2-3/4	.064	5/8	72	-	-	-	-	2761-285	5.56
2-3/4	.006	3/4	72	-	-	2764-385	19.37	2761-385	8.92
2-3/4	.008	3/4	72	-	-	2764-389	16.85	2761-389	8.92
2-3/4	.010	3/4	72	-	-	2764-393	14.52	2761-393	8.92
2-3/4	.012	3/4	72	-	-	2764-395	13.65	-	-
2-3/4	.013	3/4	72	-	-	-	-	2761-399	7.64
2-3/4	.014	3/4	72	-	-	2764-401	12.92	2761-401	7.64
2-3/4	.016	3/4	72	-	-	2764-405	11.79	2761-405	7.08
2-3/4	.018	3/4	72	-	-	2764-409	11.43	2761-409	6.69
2-3/4	.020	3/4	72	2761-413	10.68	2764-413	10.18	-	-
2-3/4	.023	3/4	72	2761-419	10.68	2764-419	10.18	-	-
2-3/4	.025	3/4	72	2761-426	10.68	2764-426	10.18	-	-
2-3/4	.028	3/4	56	-	-	2764-432	4.18	-	-
2-3/4	.028	3/4	72	2761-436	10.68	2764-436	10.18	-	-
2-3/4	.032	3/4	56	-	-	-	-	2761-444	4.63
2-3/4	.032	3/4	72	2761-447	10.68	2764-447	11.91	-	-
2-3/4	.036	3/4	56	-	-	-	-	2761-455	4.63
2-3/4	.036	3/4	72	2761-458	10.68	2764-458	11.91	-	-



# Screw Slotting Saws, (Continued)

## High Speed Steel



For slotting screw heads and shallow cuts

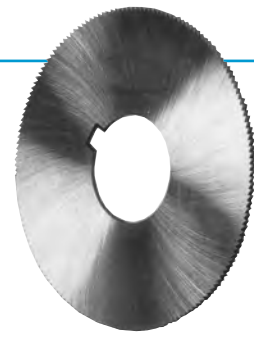
2

DIA.	THICK- NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
2-3/4	.040	3/4	56	-	-	-	-	2764-466	\$ 4.90
2-3/4	.040	3/4	72	2761-469	\$ 10.68	2764-469	\$ 11.91	-	-
2-3/4	.045	3/4	56	-	-	-	-	2764-479	5.36
2-3/4	.045	3/4	72	2761-482	12.84	2764-482	13.03	-	-
2-3/4	.051	3/4	56	-	-	-	-	2761-492	5.56
2-3/4	.051	3/4	72	2761-497	12.84	2764-497	13.79	-	-
2-3/4	.057	3/4	56	-	-	-	-	2761-507	5.56
2-3/4	.057	3/4	72	2761-510	12.84	2764-510	14.51	-	-
2-3/4	.064	3/4	56	-	-	-	-	2761-520	5.56
2-3/4	.064	3/4	72	2761-523	12.84	2764-523	14.89	-	-
2-3/4	.072	3/4	72	2761-536	12.84	2764-536	16.03	-	-
2-3/4	.081	3/4	56	-	-	-	-	2764-546	6.72
2-3/4	.081	3/4	72	2761-549	14.87	2764-549	16.38	-	-
2-3/4	.091	3/4	56	-	-	-	-	2764-559	7.19
2-3/4	.091	3/4	72	2761-563	16.14	2764-563	17.52	-	-
2-3/4	.102	3/4	56	-	-	-	-	2764-573	7.95
2-3/4	.102	3/4	72	2761-576	16.91	2764-576	19.37	-	-
2-3/4	.114	3/4	56	-	-	-	-	2764-586	9.69
2-3/4	.114	3/4	72	2761-589	17.41	2764-589	23.61	-	-
2-3/4	.128	3/4	72	2761-602	17.92	2764-602	25.32	-	-
2-3/4	.162	3/4	56	-	-	-	-	2761-622	9.76
2-3/4	.162	3/4	72	2761-625	22.50	-	-	-	-
2-3/4	.182	3/4	72	2761-629	26.44	-	-	-	-
2-3/4	.006	1	72	-	-	2764-725	19.37	2761-725	8.92
2-3/4	.008	1	72	-	-	2764-729	16.85	2761-729	8.92
2-3/4	.010	1	72	-	-	2764-733	14.52	-	-
2-3/4	.013	1	72	-	-	-	-	2761-739	8.12
2-3/4	.014	1	72	-	-	2764-744	12.92	2761-744	7.64
2-3/4	.016	1	72	-	-	2764-748	11.79	2761-748	7.08
2-3/4	.018	1	72	-	-	2764-752	11.43	2761-752	6.69
2-3/4	.020	1	36	-	-	-	-	2761-754	4.63
2-3/4	.020	1	56	-	-	-	-	2761-756	10.68
2-3/4	.020	1	72	2761-759	10.68	2764-759	10.18	-	-
2-3/4	.023	1	56	2761-765	10.68	2764-765	10.18	-	-
2-3/4	.023	1	72	2761-769	10.68	2764-769	10.18	-	-
2-3/4	.025	1	44	-	-	-	-	2761-775	4.63
2-3/4	.025	1	56	2761-779	10.68	2764-779	10.18	-	-
2-3/4	.025	1	72	2761-782	10.68	2764-782	10.18	-	-
2-3/4	.028	1	56	2761-786	10.68	2764-786	10.18	-	-
2-3/4	.028	1	72	2761-789	10.68	2764-789	10.18	-	-
2-3/4	.032	1	56	2761-799	10.68	2764-799	11.91	-	-
2-3/4	.032	1	72	2761-802	10.68	2764-802	11.91	-	-
2-3/4	.036	1	56	2761-810	10.68	2764-810	11.91	-	-
2-3/4	.036	1	72	2761-813	10.68	2764-813	11.91	-	-
2-3/4	.040	1	56	2761-821	10.68	2764-821	11.91	-	-
2-3/4	.040	1	72	2761-824	10.68	2764-824	11.91	-	-
2-3/4	.045	1	56	2761-834	12.84	2764-834	13.03	-	-
2-3/4	.045	1	72	2761-837	12.84	2764-837	13.03	-	-
2-3/4	.051	1	56	2761-847	12.84	2764-847	13.79	-	-
2-3/4	.051	1	72	2761-850	12.84	2764-850	13.79	-	-
2-3/4	.057	1	56	2761-863	12.84	2764-863	14.51	-	-

DIA.	THICK- NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
2-3/4	.057	1	72	2761-869	\$12.84	2764-869	\$14.51	-	-
2-3/4	.064	1	56	2761-879	12.84	2764-879	14.89	-	-
2-3/4	.064	1	72	2761-882	12.84	2764-882	14.89	-	-
2-3/4	.072	1	56	2761-892	12.84	2764-892	16.03	-	-
2-3/4	.072	1	72	2761-896	12.84	2764-896	16.03	-	-
2-3/4	.081	1	56	2761-996	14.87	2764-996	16.38	-	-
2-3/4	.081	1	72	2761-999	14.87	2764-999	16.38	-	-
2-3/4	.091	1	56	2762-009	16.14	2765-009	17.52	-	-
2-3/4	.091	1	72	2762-012	16.14	2765-012	17.52	-	-
2-3/4	.102	1	56	2762-022	16.91	2765-022	19.37	-	-
2-3/4	.102	1	72	2762-025	16.91	2765-025	19.37	-	-
2-3/4	.114	1	56	2762-035	17.41	2765-035	23.61	-	-
2-3/4	.114	1	72	2762-038	17.41	2765-038	23.61	-	-
2-3/4	.128	1	56	2762-048	17.92	2765-048	25.32	-	-
2-3/4	.128	1	72	2762-051	17.92	2765-051	25.32	-	-
2-3/4	.144	1	56	2762-061	20.59	-	-	-	-
2-3/4	.144	1	72	2762-064	20.59	2765-064	28.42	-	-
2-3/4	.162	1	56	2762-074	22.50	-	-	-	-
2-3/4	.162	1	72	2762-077	22.50	2765-077	30.04	-	-
2-3/4	.182	1	56	-	-	-	-	2762-087	\$11.43
2-3/4	.182	1	72	2762-090	26.44	2765-090	34.13	-	-
3	.128	1/2	56	-	-	-	-	2762-190	7.79
3	.018	3/4	56	-	-	-	-	2762-200	6.69
3	.020	3/4	72	-	-	-	-	2762-204	4.63
3	.023	3/4	56	-	-	-	-	2762-210	4.63
3	.023	3/4	72	-	-	-	-	2762-213	4.63
3	.025	3/4	72	-	-	-	-	2762-217	4.63
3	.035	3/4	56	-	-	-	-	2762-236	4.63
3	.035	3/4	72	-	-	-	-	2762-239	4.63
3	.036	3/4	56	-	-	-	-	2762-241	4.63
3	.036	3/4	72	-	-	-	-	2762-244	4.63
3	.040	3/4	56	-	-	-	-	2762-252	4.63
3	.040	3/4	72	-	-	-	-	2762-255	4.63
3	.045	3/4	56	-	-	-	-	2762-265	5.56
3	.045	3/4	72	-	-	-	-	2762-268	5.56
3	.072	3/4	56	-	-	-	-	2762-278	5.56
3	.072	3/4	72	-	-	-	-	2762-281	5.56
3	.081	3/4	56	-	-	-	-	2762-291	6.46
3	.081	3/4	72	-	-	-	-	2762-294	6.46
3	.091	3/4	56	-	-	-	-	2762-295	6.97
3	.091	3/4	72	-	-	-	-	2762-298	6.97
3	.023	1	72	-	-	-	-	2762-404	4.63
3	.144	1	56	-	-	-	-	2762-542	8.93
3	.144	1	72	-	-	-	-	2762-552	8.93
3	.182	1	72	-	-	-	-	2762-572	11.43

# Jewelers Saws – High Speed Steel

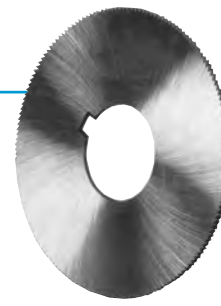
2



DIA.	THICK- NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
1	.032	1/4	76	2770-010	\$5.94	2775-001	\$ 6.11	-	-
1	.028	1/4	76	2770-020	5.94	2775-002	6.11	-	-
1	.025	1/4	76	2770-030	4.85	2775-003	5.33	-	-
1	.023	1/4	76	2770-040	4.85	2775-004	5.33	-	-
1	.020	1/4	76	2770-050	5.33	2775-005	5.33	-	-
1	.018	1/4	76	2770-060	5.33	2775-006	5.33	-	-
1	.016	1/4	76	2770-070	5.94	2775-007	5.96	-	-
1	.014	1/4	76	2770-080	6.21	2775-008	5.96	-	-
1	.012	1/4	98	2770-090	6.74	2775-009	5.96	-	-
1	.010	1/4	98	2770-100	6.74	2775-010	5.96	-	-
1	.008	1/4	98	2770-110	8.71	2775-011	6.59	-	-
1	.006	1/4	98	-	-	2775-012	7.82	2770-120	\$ 3.77
1	.032	5/16	76	-	-	-	-	2770-130	2.57
1	.028	5/16	76	-	-	-	-	2770-140	2.57
1	.025	5/16	76	-	-	-	-	2770-150	2.10
1	.023	5/16	76	-	-	-	-	2770-160	2.10
1	.020	5/16	76	-	-	-	-	2770-170	2.30
1	.018	5/16	76	-	-	-	-	2770-180	2.30
1	.016	5/16	76	-	-	-	-	2770-190	2.57
1	.014	5/16	76	-	-	-	-	2770-200	2.69
1	.012	5/16	98	-	-	-	-	2770-210	2.92
1	.010	5/16	98	-	-	-	-	2770-220	2.92
1	.008	5/16	98	-	-	-	-	2770-230	3.77
1	.006	5/16	98	-	-	-	-	2770-240	3.77
1	.032	3/8	76	2770-250	5.94	2775-025	6.11	-	-
1	.028	3/8	76	2770-260	5.94	2775-026	6.11	-	-
1	.025	3/8	76	2770-270	4.85	2775-027	5.33	-	-
1	.023	3/8	76	2770-280	4.85	2775-028	5.33	-	-
1	.020	3/8	76	2770-290	5.33	2775-029	5.33	-	-
1	.018	3/8	76	2770-300	5.33	2775-030	5.33	-	-
1	.016	3/8	76	2770-310	5.94	2775-031	5.96	-	-
1	.014	3/8	76	2770-320	6.21	2775-032	5.96	-	-
1	.012	3/8	98	2770-330	6.74	2775-033	5.96	-	-
1	.010	3/8	98	2770-340	6.74	2775-034	5.96	-	-
1	.008	3/8	98	2770-350	8.71	2775-035	6.59	-	-
1	.006	3/8	98	-	-	2775-036	7.82	-	-
1	.032	1/2	76	-	-	-	-	2770-370	2.57
1	.025	1/2	76	-	-	-	-	2770-390	2.10
1	.023	1/2	76	-	-	-	-	2770-400	2.10
1	.020	1/2	76	-	-	-	-	2770-410	2.30
1	.018	1/2	76	-	-	-	-	2770-420	2.30
1	.016	1/2	76	-	-	-	-	2770-430	2.57
1	.014	1/2	76	-	-	-	-	2770-440	2.69
1	.012	1/2	98	-	-	-	-	2770-450	2.92
1	.010	1/2	98	-	-	-	-	2770-460	2.92
1	.008	1/2	98	-	-	-	-	2770-470	3.77
1-1/4	.032	5/16	98	2770-490	6.21	2775-049	6.46	-	-
1-1/4	.028	5/16	98	-	-	2775-050	6.46	2770-500	2.69
1-1/4	.025	5/16	98	2770-510	5.94	2775-051	5.96	-	-
1-1/4	.023	5/16	98	2770-520	5.94	2775-052	5.96	-	-
1-1/4	.020	5/16	98	2770-530	6.21	2775-053	6.11	-	-
1-1/4	.018	5/16	98	2770-540	6.74	2775-054	6.46	-	-
1-1/4	.016	5/16	98	-	-	2775-055	6.46	2770-550	2.92
1-1/4	.014	5/16	98	-	-	2775-056	6.71	2770-560	3.18
1-1/4	.012	5/16	120	2775-057	6.71	-	-	2770-570	3.28
1-1/4	.010	5/16	120	2770-580	9.41	2775-058	7.22	-	-
1-1/4	.008	5/16	120	2775-059	7.82	-	-	2770-590	4.45
1-1/4	.006	5/16	120	-	-	2775-060	9.34	2770-600	4.45
1-1/4	.032	3/8	98	2770-610	6.21	2775-061	6.46	-	-
1-1/4	.028	3/8	98	2770-620	6.21	2775-062	6.46	-	-
1-1/4	.025	3/8	98	2770-630	5.94	2775-063	5.96	-	-
1-1/4	.023	3/8	98	2770-640	5.94	2775-064	5.96	-	-
1-1/4	.020	3/8	98	2770-650	6.21	2775-065	6.11	-	-
1-1/4	.018	3/8	98	2770-660	6.74	2775-066	6.46	-	-
1-1/4	.016	3/8	98	2770-670	6.74	2775-067	6.46	-	-
1-1/4	.014	3/8	98	2770-680	7.31	2775-068	6.71	-	-
1-1/4	.012	3/8	120	2770-690	7.57	2775-069	6.71	-	-
1-1/4	.010	3/8	120	2770-700	9.41	2775-070	7.22	-	-
1-1/4	.008	3/8	120	2770-710	10.30	2775-071	7.82	-	-
1-1/4	.006	3/8	120	-	-	2775-072	9.34	-	-
1-1/4	.032	1/2	98	2770-730	6.21	2775-073	6.46	-	-
1-1/4	.028	1/2	98	2770-740	6.21	2775-074	6.46	-	-
1-1/4	.025	1/2	98	2775-075	5.96	-	-	2770-750	2.57
1-1/4	.023	1/2	98	2775-076	5.96	-	-	2770-760	2.57
1-1/4	.020	1/2	98	2770-770	6.21	2775-077	6.11	-	-
1-1/4	.018	1/2	98	2770-780	6.74	2775-078	6.46	-	-

DIA.	THICK- NESS	HOLE	TEETH	Pittsburg ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
1-1/4	.016	1/2	98	2770-790	\$ 6.74	2775-079	\$ 6.46	-	-
1-1/4	.014	1/2	98	2770-800	7.31	2775-080	6.71	-	-
1-1/4	.012	1/2	120	2770-810	7.57	2775-081	6.71	-	-
1-1/4	.010	1/2	120	2770-820	9.41	2775-082	7.22	-	-
1-1/4	.008	1/2	120	2770-830	10.30	2775-083	7.82	-	-
1-1/4	.006	1/2	120	-	-	2775-084	9.34	2770-840	\$ 4.45
1-1/2	.032	3/8	110	2770-850	7.70	2775-085	6.71	-	-
1-1/2	.028	3/8	110	2770-860	6.74	2775-086	6.71	-	-
1-1/2	.025	3/8	110	2770-870	6.74	2775-087	6.59	-	-
1-1/2	.023	3/8	110	2770-880	6.12	2775-088	6.59	-	-
1-1/2	.020	3/8	110	2770-890	6.74	2775-089	6.59	-	-
1-1/2	.018	3/8	110	2770-900	7.31	2775-090	6.59	-	-
1-1/2	.016	3/8	110	2770-910	7.57	2775-091	7.22	-	-
1-1/2	.014	3/8	110	2770-920	8.08	2775-092	7.71	-	-
1-1/2	.012	3/8	140	2770-930	8.71	2775-093	7.93	-	-
1-1/2	.010	3/8	140	2770-940	12.27	2775-094	9.34	-	-
1-1/2	.008	3/8	140	2770-950	12.71	2775-095	9.92	-	-
1-1/2	.006	3/8	140	-	-	2775-096	10.67	2770-960	5.50
1-1/2	.032	1/2	110	2770-970	7.70	2775-097	6.71	-	-
1-1/2	.028	1/2	110	2770-980	6.74	2775-098	6.71	-	-
1-1/2	.025	1/2	110	2770-990	6.74	2775-099	6.59	-	-
1-1/2	.023	1/2	110	2771-000	6.74	2775-100	6.59	-	-
1-1/2	.020	1/2	110	2771-010	6.74	2775-101	6.59	-	-
1-1/2	.018	1/2	110	2771-020	7.31	2775-102	6.59	-	-
1-1/2	.016	1/2	110	2771-030	7.57	2775-103	7.22	-	-
1-1/2	.014	1/2	110	2771-040	8.08	2775-104	7.71	-	-
1-1/2	.012	1/2	140	2771-050	8.71	2775-105	7.93	-	-
1-1/2	.010	1/2	140	2771-060	12.27	2775-106	9.34	-	-
1-1/2	.008	1/2	140	2771-070	12.71	2775-107	9.92	-	-
1-1/2	.006	1/2	140	-	-	2775-108	10.67	2771-080	5.50
1-3/4	.032	3/8	132	2771-090	7.31	2775-109	7.22	-	-
1-3/4	.028	3/8	132	2775-110	7.22	-	-	2771-100	3.18
1-3/4	.025	3/8	132	2771-110	6.74	2775-111	7.09	-	-
1-3/4	.023	3/8	132	2775-112	7.09	-	-	2771-120	2.92
1-3/4	.020	3/8	132	2771-130	7.57	2775-113	7.71	-	-
1-3/4	.018	3/8	132	2771-140	8.08	2775-114	7.82	-	-
1-3/4	.016	3/8	132	2775-115	7.93	-	-	2771-150	3.77
1-3/4	.014	3/8	132	2771-160	9.02	2775-116	7.93	-	-
1-3/4	.012	3/8	160	2771-170	12.48	2775-117	8.47	-	-
1-3/4	.010	3/8	160	2771-180	12.71	2775-118	9.70	-	-
1-3/4	.008	3/8	160	2775-119	10.18	-	-	2771-190	5.92
1-3/4	.006	3/8	160	-	-	2775-120	11.67	2771-200	5.92
1-3/4	.032	1/2	132	2771-210	7.31	2775-121	7.22	-	-
1-3/4	.028	1/2	132	2771-220	7.31	2775-122	7.22	-	-
1-3/4	.025	1/2	132	2771-230	6.74	2775-123	7.09	-	-
1-3/4	.023	1/2	132	2771-240	6.74	2775-124	7.09	-	-
1-3/4	.020	1/2	132	2771-250	7.57	2775-125	7.71	-	-
1-3/4	.018	1/2	132	2771-260	8.08	2775-126	7.82	-	-
1-3/4	.016	1/2	132	2771-270	8.71	2775-127	7.93	-	-
1-3/4	.014	1/2	132	2771-280	9.02	2775-128	7.93	-	-
1-3/4	.012	1/2	160	2771-290	12.48	2775-129	8.47	-	-
1-3/4	.010	1/2	160	2771-300	12.71	2775-130	9.70	-	-
1-3/4	.008	1/2	160	2771-310	13.73	2775-131	10.18	-	-
1-3/4	.006	1/2	160	-	-	2775-132	11.67	2771-320	5.92
2	.057	3/8	110	2771-330	10.37	2775-133	10.18	-	-
2	.051	3/8	110	2771-340	10.37	2775-134	10.18	-	-
2	.045	3/8	110	2771-350	9.28	2775-135	9.92	-	-
2	.040	3/8	110	2771-360	9.28	2775-136</			

# Jewelers Saws – High Speed Steel (Continued)



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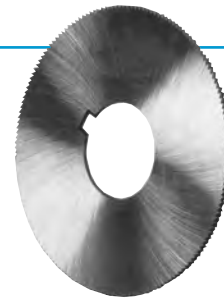
DIA.	THICK-NESS	HOLE	TEETH	Pittsburgh ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
2	.018	3/8	152	2771-430	\$ 9.28	2775-143	\$ 9.70	-	-
2	.016	3/8	152	2771-440	10.37	2775-144	10.07	-	-
2	.014	3/8	152	2771-450	11.19	2775-145	11.43	-	-
2	.012	3/8	190	2771-460	14.24	2775-146	11.63	-	-
2	.010	3/8	190	2771-470	15.25	2775-147	11.89	-	-
2	.008	3/8	190	2771-480	15.76	2775-148	13.15	-	-
2	.006	3/8	190	-	-	2775-149	14.08	2771-490	\$ 6.84
2	.057	1/2	110	2771-500	10.37	2775-150	10.18	-	-
2	.051	1/2	110	2771-510	10.37	2775-151	10.18	-	-
2	.045	1/2	110	2771-520	9.28	2775-152	9.92	-	-
2	.040	1/2	110	2771-530	9.28	2775-153	9.92	-	-
2	.035	1/2	110	2771-540	8.71	2775-154	9.77	-	-
2	.032	1/2	110	2771-550	8.71	2775-155	9.57	-	-
2	.028	1/2	152	2771-560	8.71	2775-156	8.47	-	-
2	.025	1/2	152	2771-570	8.71	2775-157	8.47	-	-
2	.023	1/2	152	2771-580	8.08	2775-158	8.47	-	-
2	.020	1/2	152	2771-590	8.71	2775-159	8.47	-	-
2	.018	1/2	152	2771-600	9.28	2775-160	9.70	-	-
2	.016	1/2	152	2771-610	10.37	2775-161	10.07	-	-
2	.014	1/2	152	2771-620	11.19	2775-162	11.43	-	-
2	.012	1/2	190	2771-630	14.24	2775-163	11.63	-	-
2	.010	1/2	190	2771-640	15.25	2775-164	11.89	-	-
2	.008	1/2	190	2771-650	15.76	2775-165	13.15	-	-
2	.006	1/2	190	-	-	2775-166	14.08	-	-
2-1/4	.032	1/2	168	-	-	-	-	2771-670	4.84
2-1/4	.025	1/2	168	-	-	-	-	2771-680	4.84
2-1/4	.018	1/2	168	-	-	-	-	2771-710	4.84
2-1/4	.016	1/2	168	-	-	-	-	2771-720	4.84
2-1/4	.014	1/2	168	-	-	-	-	2771-730	6.77
2-1/4	.012	1/2	210	-	-	-	-	2771-740	6.77
2-1/4	.010	1/2	210	2771-750	19.19	-	-	-	-
2-1/2	.057	1/2	140	2771-760	12.53	2775-176	12.92	-	-
2-1/2	.051	1/2	140	2771-770	12.53	2775-177	12.92	-	-
2-1/2	.045	1/2	140	2771-780	11.76	2775-178	11.91	-	-
2-1/2	.040	1/2	140	2771-790	11.76	2775-179	11.91	-	-
2-1/2	.035	1/2	140	2771-800	11.19	2775-180	11.66	-	-
2-1/2	.032	1/2	140	2771-810	10.37	2775-181	10.18	-	-
2-1/2	.028	1/2	190	2771-820	10.37	2775-182	11.66	-	-
2-1/2	.025	1/2	190	2771-830	9.28	2775-183	9.70	-	-
2-1/2	.023	1/2	190	2771-840	9.28	2775-184	9.70	-	-
2-1/2	.020	1/2	190	2771-850	9.98	2775-185	10.07	-	-
2-1/2	.018	1/2	190	2771-860	10.68	2775-186	10.67	-	-
2-1/2	.016	1/2	190	2771-870	12.53	2775-187	11.66	-	-
2-1/2	.014	1/2	190	2771-880	15.25	2775-188	11.91	-	-
2-1/2	.012	1/2	240	2771-890	16.78	2775-189	12.89	-	-
2-1/2	.010	1/2	240	2771-900	19.19	2775-190	15.17	-	-
2-1/2	.008	1/2	240	-	-	2775-191	18.45	-	-
2-1/2	.006	1/2	240	-	-	2775-192	21.24	-	-
3	.057	1/2	168	2771-930	14.74	2775-193	15.27	-	-
3	.051	1/2	168	2771-940	14.74	2775-194	15.27	-	-
3	.045	1/2	168	2771-950	13.86	2775-195	14.51	-	-
3	.040	1/2	168	2771-960	13.86	2775-196	14.51	-	-
3	.035	1/2	168	2771-970	13.86	2775-197	14.51	-	-
3	.032	1/2	168	2771-980	12.53	2775-198	13.65	-	-
3	.028	1/2	230	2771-990	12.53	2775-199	13.65	-	-
3	.025	1/2	230	2772-000	11.19	2775-200	11.91	-	-
3	.023	1/2	230	2772-010	11.19	2775-201	11.91	-	-
3	.020	1/2	230	2772-020	12.33	2775-202	12.92	-	-
3	.018	1/2	230	2772-030	14.87	2775-203	13.91	-	-
3	.016	1/2	230	2772-040	16.78	2775-204	15.27	-	-
3	.014	1/2	230	2772-050	19.58	2775-205	16.03	-	-
3	.012	1/2	280	2772-060	19.58	2775-206	16.45	-	-
3	.010	1/2	280	2772-070	21.99	2775-207	18.45	-	-
3	.008	1/2	280	-	-	2775-208	24.05	2772-080	9.53
3	.006	1/2	280	-	-	2775-209	27.57	2772-090	9.53
3	.057	3/4	168	-	-	-	-	2772-100	6.40
3	.051	3/4	168	-	-	-	-	2772-110	6.40
3	.045	3/4	168	-	-	-	-	2772-120	6.02
3	.040	3/4	168	-	-	-	-	2772-130	6.02
3	.035	3/4	168	-	-	-	-	2772-140	6.02
3	.032	3/4	168	-	-	-	-	2772-150	5.43
3	.028	3/4	230	-	-	-	-	2772-160	5.43
3	.025	3/4	230	-	-	-	-	2772-170	4.84
3	.023	3/4	230	-	-	-	-	2772-180	4.84
3	.020	3/4	230	-	-	-	-	2772-190	5.33
3	.018	3/4	230	-	-	-	-	2772-200	6.31
3	.016	3/4	230	-	-	-	-	2772-210	6.99
3	.014	3/4	230	-	-	-	-	2772-220	8.48
3	.012	3/4	280	-	-	-	-	2772-230	8.48
3	.010	3/4	280	-	-	-	-	2772-240	9.53
3	.008	3/4	280	-	-	-	-	2772-250	9.53

DIA.	THICK-NESS	HOLE	TEETH	Pittsburgh ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
3	.006	3/4	280	-	-	-	-	2772-260	\$ 9.53
3	.057	1	168	2772-271	\$ 14.74	2775-227	\$ 15.27	-	-
3	.053	1	168	-	-	-	-	2772-277	6.40
3	.051	1	168	2772-280	14.74	2775-228	15.27	-	-
3	.048	1	168	-	-	-	-	2772-285	6.40
3	.045	1	168	2772-290	13.86	2775-229	14.51	-	-
3	.043	1	168	-	-	-	-	2772-295	6.02
3	.040	1	168	2772-300	13.86	2775-230	14.51	-	-
3	.036	1	168	-	-	-	-	2772-305	6.02
3	.035	1	168	2772-310	13.86	2775-231	14.51	-	-
3	.032	1	168	2772-320	12.53	2775-232	13.65	-	-
3	.028	1	230	2772-330	12.53	2775-233	13.65	-	-
3	.025	1	230	2772-340	11.19	2775-234	11.91	-	-
3	.023	1	230	2772-350	11.19	2775-235	11.91	-	-
3	.020	1	230	2772-360	12.33	2775-236	12.92	-	-
3	.018	1	230	2772-370	14.87	2775-237	13.91	-	-
3	.017	1	168	-	-	-	-	2772-375	6.46
3	.016	1	230	2772-380	16.78	2775-238	15.27	-	-
3	.014	1	230	2772-390	19.58	2775-239	16.03	-	-
3	.012	1	280	2772-400	19.58	2775-240	16.45	-	-
3	.010	1	280	2772-410	21.99	2775-241	18.45	-	-
3	.008	1	280	-	-	2775-242	24.05	2772-420	9.53
3	.006	1	280	-	-	2775-243	27.57	2772-430	9.53
4	.064	1/2	220	2772-440	23.90	2775-244	25.44	-	-
4	.057	1/2	220	2772-450	23.90	2775-245	25.44	-	-
4	.051	1/2	220	2772-460	23.39	2775-246	24.72	-	-
4	.045	1/2	220	-	-	2775-247	24.72	2772-470	10.12
4	.040	1/2	220	2772-480	21.10	2775-248	21.84	-	-
4	.035	1/2	220	2772-490	21.10	2775-249	21.84	-	-
4	.032	1/2	220	2772-500	20.34	2775-250	21.36	-	-
4	.028	1/2	310	2772-510	18.69	2775-251	18.77	-	-
4	.025	1/2	310	2772-520	18.69	2775-252	18.77	-	-
4	.023	1/2	310	2772-530	20.34	2775-253	21.51	-	-
4	.020	1/2	310	2772-540	25.42	2775-254	22.48	-	-
4	.018	1/2	310	2772-550	26.82	2775-255	24.21	-	-
4	.016	1/2	310	2772-560	27.33	2775-256	25.32	-	-
4	.014	1/2	310	-	-	2775-257	26.47	2772-570	11.83
4	.012	1/2	310	-	-	2775-258	29.56	2772-580	11.83
4	.064	3/4	220	-	-	-	-	2772-590	10.35
4	.057	3/4	220	-	-	-	-	2772-600	10.35
4	.051	3/4	220	-	-	-	-	2772-610	10.12
4	.045	3/4	220	-	-	-	-	2772-620	10.12
4	.040	3/4	220	-	-	-	-	2772-630	9.14
4	.035	3/4	220	-	-	-	-	2772-640	9.14
4	.032	3/4	220	-	-	-	-	2772-650	8.82
4	.028	3/4	310	-	-	-	-	2772-660	8.10
4	.025	3/4	310	-	-	-	-	2772-670	8.10
4	.023	3/4	310	-	-	-	-	2772-680	8.82
4	.020	3/4	310	-	-	-	-	2772-690	11.02
4	.018	3/4	310	-	-	-	-	2772-700	11.59
4	.016	3/4	310	-	-	-	-	2772-710	12.40
4	.014	3/4	310	-	-	-	-	2772-720	12.40
4	.012	3/4	310	-	-	-	-	2772-730	12.40
4	.064	1	220	2772-740	23.90	2775-274	25.44	-	-
4	.057	1	220	2772-750	23.90	2775-275	25.44	-	-
4	.051	1	220	2772-760	23.39	2775-276	24.72	-	-
4	.045	1	220	2772-770	23.39	2775-277	24.72	-	-
4	.040								

# Jewelers Saws

## High Speed Steel (Continued)

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DIA.	THICKNESS	HOLE	TEETH	Pittsburgh ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
5	.064	1/2	280	2772-890	\$ 33.30	2775-289	\$ 33.25	-	-
5	.057	1/2	280	2772-900	33.30	2775-290	33.25	-	-
5	.051	1/2	280	2772-910	32.29	2775-291	32.90	-	-
5	.045	1/2	280	2772-920	32.29	2775-292	32.90	-	-
5	.040	1/2	280	2772-930	28.73	2775-293	29.56	-	-
5	.035	1/2	280	2772-940	28.73	2775-294	29.56	-	-
5	.032	1/2	280	2772-950	28.73	2775-295	29.56	-	-
5	.028	1/2	280	2772-960	34.07	2775-296	30.17	-	-
5	.025	1/2	380	2772-970	34.07	2775-297	30.17	-	-
5	.020	1/2	380	-	-	2775-298	33.25	-	-
5	.018	1/2	380	-	-	2775-299	34.86	-	-
5	.016	1/2	380	-	-	2775-300	36.22	-	-
5	.064	3/4	280	-	-	-	-	2773-010	\$14.40
5	.057	3/4	280	-	-	-	-	2773-020	14.40
5	.051	3/4	280	-	-	-	-	2773-030	13.99
5	.045	3/4	280	-	-	-	-	2773-040	13.99
5	.040	3/4	280	-	-	-	-	2773-050	12.46
5	.035	3/4	280	-	-	-	-	2773-060	12.46
5	.032	3/4	280	-	-	-	-	2773-070	12.46
5	.025	3/4	380	-	-	-	-	2773-090	14.77
5	.020	3/4	380	-	-	-	-	2773-100	14.77
5	.018	3/4	380	-	-	-	-	2773-110	14.77
5	.016	3/4	380	-	-	-	-	2773-120	14.77
5	.064	1	280	2773-130	33.30	2775-313	33.25	-	-
5	.062	1	280	-	-	-	-	2773-135	14.40
5	.057	1	280	2773-140	33.30	2775-314	33.25	-	-
5	.051	1	280	2773-150	32.29	2775-315	32.90	-	-
5	.045	1	280	2773-160	32.29	2775-316	32.90	-	-
5	.040	1	280	2773-170	28.73	2775-317	29.56	-	-
5	.035	1	280	2773-180	28.73	2775-318	29.56	-	-
5	.032	1	280	2773-190	28.73	2775-319	29.56	-	-
5	.028	1	280	2773-200	34.07	2775-320	30.17	-	-
5	.025	1	380	2773-220	34.07	2775-321	30.17	-	-
5	.023	1	380	-	-	2775-322	31.92	-	-
5	.020	1	380	-	-	2775-323	33.25	-	-
5	.018	1	380	-	-	2775-324	34.86	2773-240	14.77
5	.016	1	380	-	-	2775-325	36.22	2773-250	14.77
6	.128	1/2	232	2773-260	39.98	2775-326	66.67	-	-
6	.114	1/2	232	-	-	2775-327	66.67	2773-270	36.55
6	.102	1/2	232	2773-280	25.26	2775-328	54.86	-	-
6	.091	1/2	232	2773-290	52.37	2775-329	54.86	-	-
6	.081	1/2	232	2773-300	48.05	2775-330	52.11	-	-
6	.072	1/2	232	2773-310	20.81	2775-331	52.11	-	-
6	.064	1/2	232	2773-320	46.52	2775-332	44.18	-	-
6	.057	1/2	232	-	-	2775-333	44.18	2773-330	20.14
6	.051	1/2	232	2773-340	\$46.52	2775-334	44.18	-	-
6	.045	1/2	340	2773-350	42.07	2775-335	40.95	-	-
6	.040	1/2	340	2773-360	46.52	2775-336	40.95	-	-
6	.035	1/2	340	-	-	2775-337	40.83	2773-370	20.14

DIA.	THICKNESS	HOLE	TEETH	Pittsburgh ORDER NO.	PRICE EACH	USA ORDER NO.	PRICE EACH	CLOSEOUT ORDER NO.	PRICE EACH
6	.032	1/2	340	-	-	2775-338	\$ 40.95	-	-
6	.028	1/2	340	-	-	2775-339	44.18	-	-
6	.025	1/2	460	-	-	2775-340	47.89	-	-
6	.023	1/2	460	-	-	2775-341	52.27	2773-410	\$20.14
6	.020	1/2	460	-	-	2775-342	53.62	2773-420	20.14
6	.128	3/4	232	-	-	-	-	2773-430	39.98
6	.114	3/4	232	-	-	-	-	2773-440	36.55
6	.102	3/4	232	-	-	-	-	2773-450	25.26
6	.091	3/4	232	-	-	-	-	2773-460	22.65
6	.081	3/4	232	-	-	-	-	2773-470	20.81
6	.072	3/4	232	-	-	-	-	2773-480	20.81
6	.064	3/4	232	-	-	-	-	2773-490	20.14
6	.057	3/4	232	-	-	-	-	2773-500	20.14
6	.051	3/4	232	-	-	-	-	2773-510	20.14
6	.045	3/4	340	-	-	-	-	2773-520	18.20
6	.040	3/4	340	-	-	-	-	2773-530	20.14
6	.035	3/4	340	-	-	-	-	2773-540	20.14
6	.028	3/4	340	-	-	-	-	2773-560	20.14
6	.023	3/4	460	-	-	-	-	2773-580	20.14
6	.020	3/4	460	-	-	-	-	2773-590	20.14
6	.128	1	232	2773-600	92.28	2775-360	66.67	-	-
6	.114	1	232	2773-610	84.40	2775-361	66.67	-	-
6	.102	1	232	2773-620	58.34	2775-362	54.86	-	-
6	.091	1	232	2773-630	52.37	2775-363	54.86	-	-
6	.081	1	232	2773-640	48.05	2775-364	52.11	-	-
6	.072	1	232	2773-650	48.05	2775-365	52.11	-	-
6	.064	1	232	2773-660	46.52	2775-366	44.18	-	-
6	.057	1	232	2773-670	46.52	2775-367	44.18	-	-
6	.051	1	232	2773-680	46.52	2775-368	44.18	-	-
6	.045	1	340	2773-690	42.07	2775-369	40.95	-	-
6	.040	1	340	2773-700	46.52	2775-370	40.95	-	-
6	.035	1	340	2773-710	46.52	2775-371	40.83	-	-
6	.032	1	340	-	-	2775-372	40.95	-	-
6	.028	1	340	-	-	2775-373	44.18	-	-
6	.025	1	460	-	-	2775-374	47.89	-	-
6	.023	1	460	-	-	2775-375	52.27	2773-750	20.14
6	.020	1	460	-	-	2775-376	53.62	-	-
8	.093	1	460	-	-	-	-	2773-770	51.50
8	.045	1	460	-	-	-	-	2773-780	51.50

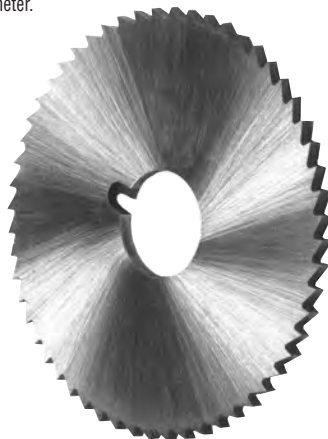
## Solid Carbide Slitting Saws

To Order: Specify saw diameter, thickness and hole diameter.

Example: 1 x .020 x 5/16.

Tolerances: Saw Diameter Plus/Minus .015  
Hole Diameter Plus .0002 to .0004.  
Thickness Plus/Minus .00025

- These special order items are non-returnable.
- A written confirmation is required.
- All orders subject to factory over and under allowances made.



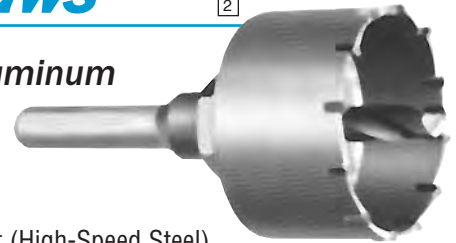
DIAM.	THICKNESS	HOLE DIA.	TEETH	PRICE EACH
1/4	.005-.035	1/8	10	POA
5/16	.005-.035	1/8	12	POA
3/8	.005-.045	1/8	14	POA
1/2	.005-.045	3/16	14	POA
9/16	.005-.045	3/16	16	POA
5/8	.005-.062	1/4	16	POA
3/4	.006-.062	1/4	18	POA
7/8	.006-.062	5/16	18	POA
1	.008-.062	5/16 & 3/8	20	POA
1-1/4	.010-.062	5/16, 3/8 & 1/2	24	POA
1-1/2	.010-.070	1/2	32	POA
1-3/4	.010-.070	1/2	32	POA
2	.012-.065	1/2 & 5/8	36	POA
2-1/4	.015-.065	1/2 & 5/8	40	POA
2-1/2	.015-.065	5/8 & 1	48	POA
2-3/4	.015-.065	5/8 & 1	60	POA
3	.015-.065	1	60	POA
3-1/4	.020-.065	1	72	POA
3-1/2	.020-.080	1	72	POA
3-3/4	.020-.080	1	84	POA
4	.020-.080	1	96	POA
5	.030-.125	1	110	POA
6	.060-.156	1	120	POA



# RELTON Brazed-Carbide Hole Saws

2

**Will cut:** • Carbon Steel • Cast Iron • Stainless Steel • Aluminum  
• Hard Rubber • Titanium • Formica



## Metal-Cutting HS Series

1" Drilling Depth Standard

Complete Saw Includes: • Hole Saw cutter-head • Shank (HS-S4 or HS-S6) • Pilot (High-Speed Steel)

DIAMETER	COMPLETE W/SHANK & PILOT				CUTTER-HEAD ONLY				REPLACEMENT SHANKS			REPLACEMENT PILOTS										
	MODEL NO.	ORDER NO.	WT. (lbs.)	PRICE EACH	MODEL NO.	ORDER NO.	WT. (lbs.)	PRICE EACH	MODEL NO.	ORDER NO.	PRICE EACH	MODEL NO.	ORDER NO.	WT. (lbs.)	PRICE EACH							
3/4" 7/8"	HS-12	3110-012	0.4	\$ 66.00	HS-12HO	3110-112	0.3	\$42.00	S-12	3110-615	\$13.00	SP-41	3110-625	0.1	\$ 8.00							
	HS-14	3110-014	0.4	68.00	HS-14HO	3110-114	0.3	44.00								(See at right for specs)						
1" 1-1/8" 1-1/4" 1-3/8" 1-1/2" 1-5/8" 1-3/4" 1-7/8"	HS-16	3110-016	0.6	69.00	HS-16HO	3110-116	0.3	45.00	HS-S4	3110-616	13.00					High Speed Steel 1/4" Diameter - 1" DD						
	HS-18	3110-018	0.7	70.00	HS-18HO	3110-118	0.4	46.00									(Supplied w/ complete saw)					
	HS-20	3110-020	0.7	73.00	HS-20HO	3110-120	0.4	49.00	HS-S47	3110-614	18.00											
	HS-22	3110-022	0.8	75.00	HS-22HO	3110-122	0.4	51.00									HS-S410	3110-613	23.00			
	HS-24	3110-024	0.9	77.00	HS-24HO	3110-124	0.4	53.00	(See at right for specs)													
	HS-26	3110-026	1.0	79.00	HS-26HO	3110-126	0.5	55.00	ES-41	3110-618	\$ 3.00											
	HS-28	3110-028	1.1	80.00	HS-28HO	3110-128	0.6	56.00														
	HS-30	3110-030	1.1	89.00	HS-30HO	3110-130	0.6	65.00														
2" 2-1/8" 2-1/4" 2-3/8" 2-1/2" 2-3/4" 3" 3-1/4" 3-1/2" 4"	HS-32	3110-032	1.1	90.00	HS-32HO	3110-132	0.6	66.00								HS-S6	3110-617	\$13.00	SP-61	3110-627	0.1	\$ 8.00
	HS-34	3110-034	1.3	92.00	HS-34HO	3110-134	0.7	68.00														
	HS-36	3110-036	1.4	94.00	HS-36HO	3110-136	0.8	70.00				HS-S67	3110-612	18.00								
	HS-38	3110-038	1.4	97.00	HS-38HO	3110-138	0.8	73.00	HS-S610	3110-611	23.00											
	HS-40	3110-040	1.6	98.00	HS-40HO	3110-140	0.8	74.00				(See at right for specs)										
	HS-44	3110-044	1.6	101.00	HS-44HO	3110-144	0.8	77.00	ES-41	3110-618	\$ 3.00											
	HS-48	3110-048	1.7	111.00	HS-48HO	3110-148	1.7	87.00														
	HS-52	3110-052	1.9	119.00	HS-52HO	3110-152	1.6	95.00														
HS-56	3110-056	2.3	125.00	HS-56HO	3110-156	1.9	101.00															
HS-64	3110-064	2.6	143.00	HS-64HO	3110-164	2.2	119.00															

## Hole Saw Shank Specifications

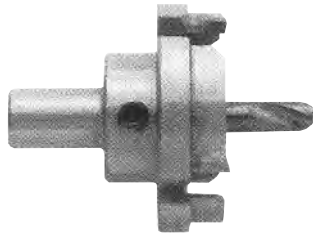
**HS-S4 Series Shanks:**  
• 3/4-10 threads  
• 1/4" pilot hole  
• 1/2" round shank w/3 flats  
**HS-S4** - 3" OAL ... Wt. 0.4  
**HS-S47** - 7" OAL ... Wt. 0.8  
**HS-S410** - 10" OAL .Wt. 1.2

**S-12 Shank:**  
• 1/2-13 threads  
• 1/4" pilot hole  
• 3/8" round shank w/3 flats  
• 3" OAL .....Wt. 0.4

**HS-S6 Series Shanks**  
• 3/4-10 threads  
• 3/8" pilot hole  
• 1/2" round shank w/3 flats  
• **HS-S6** - 3" OAL ... Wt. 0.5  
• **HS-S67** - 7" OAL ... Wt. 0.8  
• **HS-S610** - 10" OAL Wt. 1.2

# Brazed-Carbide Thin-Gauge Hole Cutters

AVAILABLE SIZES				
DIAM.	MODEL NO.	ORDER NO.	WT. (lbs.)	PRICE EACH
3/4"	TG-12	3110-712	0.2	\$50.00
13/16"	TG-13	3110-713	0.2	51.00
7/8"	TG-14	3110-714	0.2	52.00
1"	TG-16	3110-716	0.3	54.00
1-1/16"	TG-17	3110-717	0.3	57.00
1-1/8"	TG-18	3110-718	0.3	58.00
1-7/32"	TG-19	3110-719	0.3	59.00
1-1/4"	TG-20	3110-720	0.3	61.00
1-5/16"	TG-21	3110-721	0.3	62.00
1-3/8"	TG-22	3110-722	0.3	63.00
1-7/16"	TG-23	3110-723	0.3	64.00
1-1/2"	TG-24	3110-724	0.3	69.00
1-5/8"	TG-26	3110-726	0.3	77.00
1-3/4"	TG-28	3110-728	0.4	80.00
2-1/2"	TG-32	3110-732	0.4	84.00
2-1/8"	TG-34	3110-734	0.4	95.00
2-1/4"	TG-36	3110-736	0.5	96.00
2-3/8"	TG-38	3110-738	0.5	97.00
2-1/2"	TG-40	3110-740	0.5	99.00



REPLACEMENT PILOTS				
DIAM.	MODEL NO.	ORDER NO.	WT. (lbs.)	PRICE EACH
1/4"	TGP-4	3110-710	0.1	\$8.00

- For materials up to 1/4" thick
- Excellent for all materials:
  - Sheet metal
  - Stainless steel
  - Thin plastics
- Smooth clean holes
- Easy plug removal
- Non-removable shank
- Special sizes on request!

# IRWIN. Circular Saws For Wood



- 10" 80T**
- #400 grit diamond ground teeth for a smooth finish
  - Precision tensioned & balanced blade for an accurate cut
  - Construction grade carbide teeth for longer life
  - Thin kerf for fast cuts

Order No. 3255-440 Price Each: \$62.21



- #25150**
- The best value for an economy blade
  - Corrosion resistant coating helps prevent rusting
  - Precision ground teeth for smooth, accurate cuts
  - Slots for Straighter Cuts

Order No. 3255-445 Price Each: \$4.78

# Annular Cutters



## Unibor Annular Cutters, Made in England

Annular cutters are very efficient at cutting a hole through steel. They remove only a narrow wall of material, leaving behind a slug which is ejected at the end of the cut. When compared to a twist drill, annular cutters use far less energy and time to do the same work.

Unibor M35 Cobalt cutters offer up to 30% longer life when compared with standard high speed steel. Cobalt cutters feature a heavier wall thickness of 0.265".

Unibor cutters are fully ground and resharpenable.

Cutters from 3/4" to 1-7/16" diameter are typically supplied with a 3/4" Weldon shank.

SIZE	HIGH SPEED STEEL				M35 - 5% COBALT					
	1" LENGTH		2" LENGTH		1" LENGTH		2" LENGTH		3" LENGTH	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7/16	2855-114	\$ 18.30	2855-214	\$ 27.80	2855-314	\$ 23.50	2855-414	\$ 32.60	-	-
1/2	2855-116	18.30	2855-216	27.80	2855-316	23.50	2855-416	32.60	-	-
9/16	2855-118	19.50	2855-218	27.80	2855-318	25.60	2855-418	36.10	-	-
5/8	2855-120	21.90	2855-220	30.10	2855-320	28.80	2855-420	38.60	-	-
11/16	2855-122	22.40	2855-222	33.30	2855-322	29.40	2855-422	43.60	-	-
3/4	2855-124	24.20	2855-224	35.80	2855-324	31.70	2855-424	47.00	2855-524	\$ 77.30
13/16	2855-126	25.60	2855-226	38.30	2855-326	33.60	2855-426	50.40	2855-526	83.90
7/8	2855-128	27.50	2855-228	41.00	2855-328	36.10	2855-428	53.80	2855-528	89.00
15/16	2855-130	30.00	2855-230	44.50	2855-330	39.40	2855-430	58.40	2855-530	95.30
1	2855-132	32.00	2855-232	48.00	2855-332	42.00	2855-432	63.00	2855-532	105.00
1-1/16	2855-134	32.80	2855-234	49.90	2855-334	43.00	2855-434	65.40	2855-534	113.50
1-1/8	2855-136	37.80	2855-236	57.00	2855-336	49.60	2855-436	74.80	2855-536	124.60
1-3/16	2855-138	39.60	2855-238	58.90	2855-338	52.00	2855-438	77.30	2855-538	127.00
1-1/4	2855-140	42.80	2855-240	61.40	2855-340	53.80	2855-440	80.60	2855-540	134.40
1-5/16	2855-142	44.70	2855-242	63.70	2855-342	56.70	2855-442	83.60	2855-542	136.50
1-3/8	2855-144	55.60	2855-244	68.80	2855-344	72.70	2855-444	89.00	2855-544	138.50
1-7/16	2855-146	62.60	2855-246	76.20	2855-346	82.20	2855-446	100.00	2855-546	146.20
1-1/2	2855-148	65.30	2855-248	81.90	2855-348	85.70	2855-448	107.50	2855-548	155.30
1-9/16	2855-150	73.60	2855-250	91.50	2855-350	96.60	2855-450	120.10	2855-550	173.40
1-5/8	2855-152	76.20	2855-252	98.60	2855-352	100.00	2855-452	129.40	2855-552	186.80
1-11/16	2855-154	80.60	2855-254	101.80	2855-354	105.80	2855-454	133.60	2855-554	192.90
1-3/4	2855-156	85.80	2855-256	108.20	2855-356	112.60	2855-456	142.00	2855-556	205.00
1-13/16	2855-158	89.00	2855-258	112.60	2855-358	116.80	2855-458	147.80	2855-558	213.50
1-7/8	2855-160	93.40	2855-260	121.00	2855-360	122.60	2855-460	158.80	2855-560	229.30
1-15/16	2855-162	99.80	2855-262	127.40	2855-362	131.00	2855-462	167.20	2855-562	241.40
2	2855-164	102.10	2855-264	133.80	2855-364	134.00	2855-464	175.60	2855-564	253.50
2-1/16	-	-	-	-	2855-366	186.40	2855-466	209.00	2855-566	263.30
2-1/8	-	-	-	-	2855-368	199.20	2855-468	217.20	2855-568	274.80
2-3/16	-	-	-	-	2855-370	205.50	2855-470	229.70	2855-570	279.90
2-1/4	-	-	-	-	2855-372	207.10	2855-472	235.80	2855-572	287.40
2-5/16	-	-	-	-	2855-374	213.70	2855-474	239.40	2855-574	293.90
2-3/8	-	-	-	-	2855-376	218.30	2855-476	242.80	2855-576	299.50
2-7/16	-	-	-	-	2855-378	223.00	2855-478	252.30	2855-578	307.90
2-1/2	-	-	-	-	2855-380	228.60	2855-480	264.10	2855-580	315.40
2-9/16	-	-	-	-	2855-382	233.30	2855-482	280.40	2855-582	328.40
2-5/8	-	-	-	-	2855-384	252.00	2855-484	285.90	2855-584	335.90
2-11/16	-	-	-	-	2855-386	254.60	2855-486	291.70	2855-586	342.40
2-3/4	-	-	-	-	2855-388	268.70	2855-488	297.60	2855-588	349.90
2-13/16	-	-	-	-	2855-390	283.20	2855-490	326.60	2855-590	353.60
2-7/8	-	-	-	-	2855-392	286.10	2855-492	331.70	2855-592	361.10
2-15/16	-	-	-	-	2855-394	290.30	2855-494	342.60	2855-594	367.60
3	-	-	-	-	2855-396	293.20	2855-496	346.80	2855-596	372.30

# Mag Drills



## Model EQ35N Portable Magnetic Drill

- High-Torque motor
- Safety interlocked controls
- Supplied coolant system
- Lightweight
- QuickHitch arbor
- Includes: Warranty, Carrying case, Allen keys, Safety strap & guard, Cutting oil

- POWER: 1.5 hp
- ELECTRIC MOTOR: 1100 watts, 120V, 10 amps
- SPEED: (no load) 450 rpm
- HEIGHT: 14" • WEIGHT: 25 lbs.
- MAGNETIC DIMENSIONS: 6-1/4" x 3-1/8" x 2"
- MAGNETIC ADHESION: 1300 lbs.
- STROKE: 4-3/4" • CUTTING THICKNESS: 1/2" - 2"

Order No. 2854-800 Price Each: \$ 821.40



## Model EQ50 Portable Magnetic Drill

- Integral arbor support
- Solid state electronic control panel
- Supplied coolant system
- Quick conversion to twist drilling
- Available with reverse
- POWER: 1.5 hp
- ELECTRIC MOTOR: 1100 watts, 110V, 9 amps
- SPEED: (no load) 280/500 rpm
- HEIGHT: 15-1/2" • WEIGHT: 40 lbs.
- MAGNETIC DIMENSIONS: 7-3/8" x 4" x 2-3/8"
- MAGNETIC ADHESION: 2000 lbs.
- STROKE: 6-5/8" • MORSE TAPER: 2
- CUTTING THICKNESS: 1/2" - 2"

Order No. 2854-805 Price Each: \$ 1339.30



## Model EQ100 Portable Magnetic Drill

- Integral arbor support
- Solid state electronic control panel
- Supplied coolant system
- Variable speed control
- Quick conversion to twist drilling
- Two gear ranges • Available swivel base
- 4" broaching capacity • QuickHitch arbor
- Available with reverse
- POWER: 2.4 hp
- ELECTRIC MOTOR: 1800 watts, 110V, 10.6 amps
- SPEED: (no load) 40-130 rpm, 145-430 rpm
- HEIGHT: 21" • WEIGHT: 58 lbs.
- MAGNETIC DIMENSIONS: 7-1/2" x 4" x 2-1/2"
- MAGNETIC ADHESION: 4000 lbs.
- STROKE: 4-3/4" • MORSE TAPER: 3
- CUTTING THICKNESS: 1/2" - 3"

Order No. 2854-810 Price Each: \$1517.90

SIZE	USE ARBOR	BI-METAL		CARBIDE TIPPED	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
9/16		3660-036	\$4.46	3660-409	\$ 9.21
5/8		3660-040	4.46	3660-410	9.21
11/16		3660-044	4.46	3660-411	9.21
3/4		3660-048	4.46	3660-412	9.21
13/16	3661-313	3660-052	4.46	3660-413	9.68
7/8	3661-316	3660-056	4.58	3660-414	9.68
15/16	3661-319	3660-060	4.58	3660-415	9.68
1		3660-064	4.69	3660-416	10.22
1-1/16		3660-068	5.02	3660-417	10.22
1-1/8		3660-072	5.02	3660-418	10.64
1-3/16		3660-076	5.02	3660-419	11.49
1-1/4		3660-080	5.02	3660-420	11.49
1-5/16		3660-084	5.02	3660-421	11.49
1-3/8		3660-088	5.02	3660-422	12.24
1-7/16		3660-092	5.02	3660-423	12.24
1-1/2		3660-096	5.02	3660-424	12.82
1-9/16		3660-100	5.02	3660-425	13.34
1-5/8		3660-104	5.02	3660-426	13.34
1-11/16	3661-314	3660-108	5.02	3660-427	13.34
1-3/4	3661-315	3660-112	6.47	3660-428	13.68
1-13/16	3661-317	3660-116	6.47	3660-429	13.68
1-7/8	3661-318	3660-120	6.47	3660-430	14.63
2		3660-128	6.47	3660-432	15.54
2-1/16		3660-132	6.47	3660-433	15.54
2-1/8		3660-136	7.85	3660-434	16.03
2-1/4		3660-144	7.85	3660-436	17.75

SIZE	USE ARBOR	BI-METAL		CARBIDE TIPPED	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2-5/16		3660-148	\$ 7.85	3660-437	\$17.75
2-3/8		3660-152	7.85	3660-438	18.39
2-1/2		3660-160	8.66	3660-440	19.01
2-9/16		3660-164	8.66	3660-441	19.01
2-5/8		3660-168	8.66	3660-442	19.97
2-3/4		3660-176	8.66	3660-444	20.68
2-7/8		3660-184	8.66	3660-446	20.68
3		3660-192	9.63	3660-448	22.22
3-1/8	3661-314	3660-200	9.63	3660-450	22.22
3-1/4	3661-315	3660-208	9.63	3660-452	26.89
3-3/8	3661-317	3660-216	9.63	3660-454	27.87
3-1/2	3661-318	3660-224	9.63	3660-456	28.87
3-5/8		3660-232	11.15	3660-458	29.88
3-3/4		3660-240	12.22	3660-460	31.03
3-7/8		3660-248	12.94	3660-462	31.03
4		3660-256	13.58	3660-464	33.01
4-1/8		3660-264	14.57	3660-466	35.60
4-1/4		3660-272	17.08	3660-468	36.98
4-3/8		3660-280	19.75	3660-470	41.97
4-1/2		3660-288	21.92	3660-472	46.75
4-3/4		3660-304	24.35	3660-476	51.77
5		3660-320	26.79	3660-480	57.61
5-1/4		3660-336	29.19	3660-484	62.60
5-1/2		3660-352	31.47	3660-488	64.57
5-3/4		3660-368	33.59	3660-492	69.43
6		3660-384	36.01	3660-496	73.02

## Bi-Metal Holesaws

- Create clean, accurate holes in most machinable materials
- High speed cutting edge is electron-beam welded to tough alloy back
- Knockout holes allow for easy core removal
- Diameters from 9/16" to 6"
- Cutting depth for all diameters is 1-1/2"



## Carbide-Tipped Holesaws

- Carbide saws cut clean holes in ceramics, brick, slate, laminate, fiberglass, and hardwood
- Carbide tips are fusion welded to alloy back
- Knockout holes allow for easy core removal
- Diameters from 9/16" to 6"
- Cutting depth for all diameters is 1-1/2"



## Arbors/Accessories

 7/16" Hex Shank

Order No. 3661-313 Price Each...\$6.52

 11/32" Hex Shank Quick Change

Order No. 3661-318 Price Each...\$10.09

 5/16" Hex

Order No. 3661-319 Price Each...\$6.83

 1/4" Triangular Shank

Order No. 3661-316 Price Each...\$4.52

 5/8" Hex Shank Quick Change

Order No. 3661-315 Price Each...\$10.09

 7/16" Hex Shank Quick Change

Order No. 3661-314 Price Each...\$10.09

 7/16" Hex

Order No. 3661-317 Price Each...\$11.86

 **Pilot Drills**

1/4" diameter- Order No. 3661-576 Price Each...\$2.38

1/4" diameter- Carbide Tipped

Order No. 3661-620 Price Each...\$10.43

## Driving Plates

DESCRIPTION	ORDER NO.	PRICE EACH
Fits Hole Saws 3"-4 1/8"	3661-635	\$10.43

## Adapter

Arbor Adapter- Adapts 1/2-20 holesaws (9/16" to 1-3/16") thread arbor to accommodate 5/8-18 thread holesaw (1-1/4" to 6")

Order No. 3661-642 Price Each...\$2.62

12" Extension for Arbors  
Order No. 3661-120 Price Each...\$9.40



### 7-pc. Bi-Metal Professional Hole Saw Kit



Assortment of holesaws:  
7/8", 1", 1-1/8", 1-1/4", 1-1/2"

Arbors: 3661-316

Order No. 3661-995 Price Each.....\$32.33

### 9-pc. Bi-Metal Plumber's HoleSaw Kit



Assortment of holesaws:  
3/4", 7/8", 1", 1-1/8", 1-1/2", 1-3/4", 2-1/4"

Arbors: 3661-316, 3661-314

Extensions: 3661-120

Order No. 3662-005 Price Each...\$64.22

### 9-pc. Bi-Metal Electrician's Hole Saw Kit



Assortment of holesaws:

7/8", 1-1/8", 1-3/8", 1-3/4", 2", 2-1/2"

Arbors: 3661-316, 3661-314

Extensions: 3661-120

Order No. 3662-000  
Price Each...\$74.24

### 13-piece Bi-Metal Professional Hole Saw Kit



Assortment of holesaws:  
3/4", 7/8", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2"

Arbors: 3661-316, 3661-314

Adapter: 3661-642 Drills: 3661-576

Order No. 3662-007 Price Each...\$ 77.79

### 17 Piece Bi-Metal General Maintenance Kit



Assortment of holesaws:  
5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/2", 3"

Arbors: 3661-316, 3661-314

Adapter: 3661-642 Drills: 3661-576

Order No. 3662-010 Price Each...\$98.06

### 21-pc. Bi-Metal Professional Hole Saw Kit



Assortment of holesaws: 3/4", 7/8", 1", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2", 3", 3-1/4", 3-5/8", 3-3/4", 4-1/8", 4-3/4"

Arbors: 3661-316, 3661-314

Adapter: 3661-642 Drills: 3661-576

Order No. 3662-012  
Price Each...\$ 189.68

### 7-pc. Carbide-Tipped Professional Hole Saw Kit



Assortment of holesaws:  
7/8", 1", 1-1/8", 1-1/4", 1-1/4", 2", 2-1/4", 2-1/2"

Arbors: 3661-316, Adapter: 3661-642

Order No. 3662-014 Price Each...\$ 62.18

### 13-pc. Carbide-Tipped Professional Hole Saw Kit

Assortment of holesaws:  
3/4", 7/8", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2"

Arbors: 3661-316, 3661-314

Fits Holesaws 9/16"-1-3/16", 1-1/4"-6"

Carbide-Tipped Pilot Drills: 3661-620

Order No. 3662-016  
Price Each...\$ 148.24







# Reciprocating Saw Blades

**More strength, power and precision.**

Bahco by Snap-on reciprocating sawblades make it easier to cut precisely and safely through virtually any material.



## Bi-Metal Blade, Straight Type

For straight and quick cutting of metal, plastic, laminates, and wood with nails.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
4	6	5	3692-506	\$ 7.68
4	10	5	3692-510†	7.46
4	14	5	3692-514	7.68
4	18	5	3692-518	7.68
4	24	5	3692-524	7.68
6	6	5	3692-536	10.27
6	8/12	5	3692-538	10.27
6	10	5	3692-540	10.27
6	14	5	3692-544	10.27
6	18	5	3692-548	10.27
6	24	5	3692-554	10.27
9	8/12	5	3692-568	13.17
9	10	5	3692-570	13.17
9	14	5	3692-574	13.17
9	18	5	3692-578	13.17
12	14	5	3692-584	16.84
12	18	5	3692-588	16.84

† Limited Quantities

## Carbide-Tipped Reciprocating Saw Blades



Blade with carbide tipped teeth for cutting bricks, porous concrete, fiberglass, plastic laminates, cement board, plywood, cast aluminum, rubber, & hardwoods.

† Limited Quantities

Blade Length	TPI	Pack Qty	Order No.	Price Each
<b>Slope Type</b>				
6	6	1	3692-706	\$ 14.56
<b>Straight Type</b>				
9	3	1	3692-723	14.12
9	6	1	3692-726†	21.65
12	3	1	3692-733	18.47
12	6	1	3692-736†	29.03

† Limited Quantities

## Carbide-Grit Reciprocating Saw Blades, Straight Type



Blade with carbide grit cutting edge designed for precision cutting of extremely hard materials: glass, glazed tiles, ceramics, fiberglass, cast iron, clay pipe, stone, bricks, plaster, and marble.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
4	0	2	3692-754	\$ 8.37
6	0	2	3692-756	7.80

## Sets

**Bi-Metal Reciprocating Saw Blade Sets**

### 5-piece Set

(Includes: 1 each: 4" Bimetal-Straight Cut 14 TPI, Bimetal-Straight Cut 24 TPI, Bimetal-Scroll Cut, Bimetal-Slope Cut, Wood Cutting Blade)

Order No. 3692-770 \$ 11.42

### 10-piece Set

(Includes: 1 each: 4" Bimetal-Straight Cut 6 TPI, 4" Bimetal-Straight Cut 24 TPI, 6" Bimetal-Straight Cut 10 TPI, 6" Bimetal-Straight Cut 18 TPI, 6" Bimetal-Straight Cut 24 TPI, 4" Bimetal-Scroll Cut 10 TPI, 4" Bimetal-Scroll Cut 18 TPI, 6" Bimetal-Slope Cut 5/8 TPI, 6" Wood Cutting Blade 7 TPI)

Order No. 3692-775 \$ 18.91



## Bi-Metal Blade, Slope Type

For all-round cutting of metal, plastic, laminates, and wood with nails.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
6	5/8	5	3692-605	\$ 10.27
9	6	5	3692-610	13.17
12	6	5	3692-616	16.84
12	8/12	5	3692-618	16.84

## Bi-Metal Reciprocating Saw Blades, Scroll Type



For contour sawing of metal, plastic, laminates, and wood with nails.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
4	14	5	3692-634	\$ 7.99
4	18	5	3692-638	7.99
6	4/6	5	3692-644	10.27

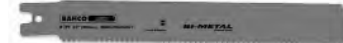
## Bi-Metal Reciprocating Saw Blades, Demolition



Extra heavy-duty bi-metal blade with coarse teeth for building and demolition work. Blade thickness is increased 0.62" (1.6mm) for greater strength to cut any building material, even heavy wood with large dimension nails.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
6	5/8	5	3692-655	\$ 10.97
9	5/8	5	3692-660	14.18
12	5/8	5	3692-665	17.63

## Bi-Metal Reciprocating Saw Blades, Tube Cutting



Extra heavy-duty bi-metal blade with coarse teeth for cutting metal tubing and other demanding metal work. U-shaped fitting provides extra strength when secured to reciprocating saw.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
8	8	5	3692-675†	\$ 22.28
12	8	5	3692-680†	36.55

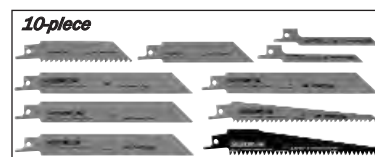
† Limited Quantities

## Wood Cutting Reciprocating Saw Blades, Slope Type



Blades with special teeth for general wood cutting. The teeth allow faster cross cutting and ripping compared to traditional blades. Blade coating minimizes friction to further increase cutting speed and ease.

Blade Length	TPI	Pack Qty	Order No.	Price Per Pack
6	7	5	3692-685	\$ 16.26
9	7	5	3692-690	19.83
12	7	5	3692-695	22.64





# Hacksaw Blades

## Power Hacksaw Blades

2



SIZE	TEETH/INCH	<b>Pittsburg</b> ALLEGHANY ORDER NO.	PRICE EACH
12 x 5/8 x .032	14T	3811-200	\$2.25
12 x 5/8 x .032	18T	3811-205	2.25
12 x 1 x .050	10T	3811-210	4.90
12 x 1 x .050	14T	3811-215	4.90
14 x 1 x .050	10T	3811-400	5.70
14 x 1 x .050	14T	3811-405	5.70
14 x 1-1/4 x .062	6T	3811-410	9.05
14 x 1-1/4 x .062	10T	3811-415	9.05
14 x 1-1/4 x .065	4T	3811-435†	5.81
14 x 1-1/2 x .075	6T	3811-425	9.70
17 x 1 x .050	10T	3811-700	9.80
17 x 1 x .050	14T	3811-705	9.80
17 x 1-1/4 x .062	4T	3811-720†	6.84
17 x 1-1/4 x .062	6T	3811-710	10.65
17 x 1-1/4 x .062	10T	3811-715	10.65
17 x 1-1/4 x .065	10T	3811-725†	6.84
18 x 1-1/4 x .062	4T	3811-830†	7.36
18 x 1-1/4 x .062	6T	3811-800	11.55

† Limited Quantities

SIZE	TEETH/INCH	<b>Pittsburg</b> ALLEGHANY ORDER NO.	PRICE EACH
18 x 1-1/4 x .062	10T	3811-805	\$11.55
18 x 1-1/4 x .065	4T	3811-835†	7.36
18 x 1-1/4 x .065	10T	3811-840†	7.36
18 x 1-1/2 x .075	4T	3811-810	16.05
18 x 1-1/2 x .075	6T	3811-815	16.05
18 x 1-3/4 x .088	4T	3811-860	20.90
18 x 1-3/4 x .088	6T	3811-865	20.90
21 x 1-3/4 x .088	4T	3812-120	25.05
21 x 1-3/4 x .088	6T	3812-125	25.05
21 x 2 x .072	6T	3812-115†	17.10
24 x 1-3/4 x .088	4T	3812-415	29.05
24 x 1-3/4 x .088	6T	3812-420	29.05
24 x 1-7/8 x .050	4T	3812-405†	20.82
24 x 1-7/8 x .075	4T	3812-410†	20.82
24 x 1-7/8 x .088	6T	3812-412†	20.82
24 x 2 x .100	4T	3812-430	36.35
24 x 2 x .100	6T	3812-435	36.35

† Limited Quantities

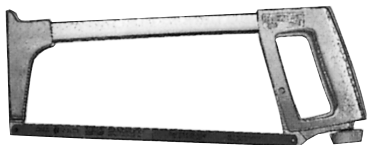
## Hand Hacksaw Blades

SIZE	TEETH/INCH	HSS ORDER NO.	USA PRICE P/10	HSS ORDER NO.	<b>Pittsburg</b> ALLEGHANY PRICE EACH	BI-METAL ORDER NO.	<b>BAHCO</b> PRICE P/10	BI-METAL ORDER NO.	<b>Pittsburg</b> ALLEGHANY PRICE EACH	CS ORDER NO.	USA PRICE P/10
10 x 1/2 x .025	18	3671-018†	\$ 7.84	—	—	3672-018	\$14.49	—	—	3681-018†	\$2.96
10 x 1/2 x .025	24	3671-024†	7.84	3821-024†	\$0.52	3672-024	14.49	—	—	3681-024†	2.96
10 x 1/2 x .025	32	3671-032†	7.84	—	—	3672-032	14.49	—	—	3681-032†	2.96
12 x 1/2 x .025	14	3671-214†	10.59	3821-214	0.85	3672-214	14.49	—	—	3681-214†	2.96
12 x 1/2 x .025	18	3671-218†	10.59	3821-218	0.85	3672-218	14.46	3821-318	\$0.80	3681-218†	2.96
12 x 1/2 x .025	24	—	—	3821-224	0.85	3672-224	14.46	3821-324	0.80	3681-224†	2.96
12 x 1/2 x .025	32	3671-232†	10.59	3821-232	0.85	3672-232	14.46	3821-332	0.80	3681-232†	2.96

† Limited Quantities

## Hacksaws

### Traditional Hand Hacksaw



Allows very high blade tension for accurate and fast cuts. Strong rectangular back section for blade storage with easy-to-handle retaining screws. Can also be used as a compass saw. Alternative 55° blade mounting for flush cutting. Supplied with a reliable and shatterproof 12" SANDFLEX® bi-metal blade, 24 TPI.

Order No. 3671-004  
Price Ea. .... \$28.58

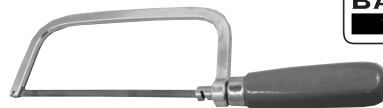
### Professional Hacksaw - Import



Professional all metal hacksaw frame. Fits 10" and 12" blades. Comes with 12" Bi-Metal blade. Import

Order No. 3671-010  
Price Ea. .... \$10.80

### Mini Hacksaw



Simple and quick, twist-action, blade-tensioning handle, made of beech wood and orange lacquered. Complete with 6", 32 TPI blade for metal cutting.

Order No. 3671-003  
Price Ea. .... \$9.66

### Mini Extendable Hacksaw



A mini hacksaw frame that is ideal for hard-to-reach areas. Shipped complete with a 10" "Sandflex" bi-metal blade, 24 TPI. Blade position adjusts for maximum versatility.

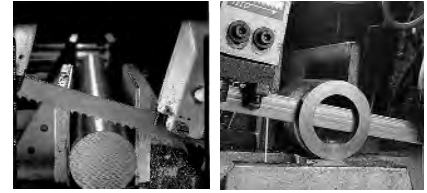
Order No. 3671-002  
Price Ea. .... \$12.75

# Bandsaw Blades

## 3851 Sandflex Cobra



- For cutting various types of material from Aluminum to stainless steels.
- Works well on solids and interrupted shapes
- M42 high speed steel tooth tips offer heat and wear resistance for long blade life.
- New stronger tooth design gives maximum cutting performance.
- Wide range of tooth styles available to suit many different applications.



2

LENGTH	WIDTH	THICK	TEETH	T/TYPE	ORDER NO.	PRICE EACH
5'	1/2"	.020	10-14	Combo	3656-100	\$28.65
5' 4-1/2"	1/2"	.020	10-14	Combo	3656-103	30.42
5' 4-1/2"	1/2"	.020	14-18	Combo	3656-104	30.42
5' 8"	1/2"	.020	10-14	Combo	3656-105	32.18
6' 9"	1/2"	.020	10-14	Combo	3656-106	35.71
7' 9"	1/2"	.020	10-14	Combo	3656-108	39.24
7' 9"	1/2"	.020	14-18	Combo	3656-109	39.24
7' 9"	3/4"	.035	4-6	Combo	3656-111	44.70
7' 9"	3/4"	.035	5-8	Combo	3656-112	44.70
7' 9"	3/4"	.035	6-10	Combo	3656-113	44.70
7' 9"	3/4"	.035	8-12	Combo	3656-114	44.70
7' 9"	3/4"	.035	10-14	Combo	3656-115	44.70
8' 5"	3/4"	.035	10-14	Combo	3656-116	46.82
8' 10-1/2"	3/4"	.035	10-14	Combo	3656-117	48.92
9'	3/4"	.035	5-8	Combo	3656-118	48.92
9'	3/4"	.035	6-10	Combo	3656-119	48.92
9'	3/4"	.035	10-14	Combo	3656-120	48.92
10' 5"	3/4"	.035	8-12	Combo	3656-123	55.24
10' 5"	3/4"	.035	10-14	Combo	3656-124	55.24
10' 9"	3/4"	.035	4-6	Combo	3656-125	57.34
10' 9"	3/4"	.035	6-10	Combo	3656-126	57.34
10' 10-1/2"	3/4"	.035	5-8	Combo	3656-128	57.34
10' 10-1/2"	3/4"	.035	6-10	Combo	3656-129	57.34
10' 10-1/2"	3/4"	.035	8-12	Combo	3656-130	57.34
10' 10-1/2"	3/4"	.035	10-14	Combo	3656-131	57.34
10' 10-1/2"	1"	.035	4-6	Combo	3656-134	62.04
10' 10-1/2"	1"	.035	5-8	Combo	3656-135	62.04
10' 10-1/2"	1"	.035	6-10	Combo	3656-136	62.04
10' 10-1/2"	1"	.035	8-12	Combo	3656-137	62.04
10' 10-1/2"	1"	.035	10-14	Combo	3656-138	62.04
11'	1"	.035	4-6	Combo	3656-140	62.04
11'	1"	.035	5-8	Combo	3656-141	62.04
11'	1"	.035	6-10	Combo	3656-142	62.04
11'	1"	.035	8-12	Combo	3656-143	62.04

LENGTH	WIDTH	THICK	TEETH	T/TYPE	ORDER NO.	PRICE EACH
11' 6"	3/4"	.035	4-6	Combo	3656-146	\$59.46
11' 6"	3/4"	.035	5-8	Combo	3656-147	59.46
11' 6"	3/4"	.035	6-10	Combo	3656-148	59.46
11' 6"	3/4"	.035	8-12	Combo	3656-149	59.46
11' 6"	3/4"	.035	10-14	Combo	3656-150	59.46
11' 6"	1"	.035	5-8	Combo	3656-153	64.27
11' 6"	1"	.035	6-10	Combo	3656-154	64.27
11' 6"	1"	.035	8-12	Combo	3656-155	64.27
11' 6"	1"	.035	10-14	Combo	3656-156	64.27
12'	1"	.035	3-4	Combo	3656-158	66.50
12'	1"	.035	4-6	Combo	3656-159	66.50
12'	1"	.035	5-8	Combo	3656-160	66.50
12'	1"	.035	6-10	Combo	3656-161	66.50
12'	1"	.035	8-12	Combo	3656-162	66.50
12'	1"	.035	10-14	Combo	3656-163	66.50
12'	1-1/4"	.042	3-4	Combo	3656-164	79.38
12'	1-1/4"	.042	4-6	Combo	3656-165	79.38
12'	1-1/4"	.042	5-8	Combo	3656-166	79.38
12' 6"	1/2"	.020	10-14	Combo	3656-168	55.14
12' 6"	1"	.035	4-6	Combo	3656-169	68.73
12' 6"	1"	.035	5-8	Combo	3656-170	68.73
12' 6"	1"	.035	6-10	Combo	3656-171	68.73
12' 6"	1"	.035	8-12	Combo	3656-172	68.73
12' 6"	1"	.035	10-14	Combo	3656-173	68.73
13' 6"	1"	.035	4-6	Combo	3656-174	73.18
13' 6"	1"	.035	5-8	Combo	3656-175	73.18
13' 6"	1"	.035	6-10	Combo	3656-176	73.18
13' 6"	1"	.035	8-12	Combo	3656-177	73.18
13' 6"	1-1/4"	.042	4-6	Combo	3656-178	87.50
13' 6"	1-1/4"	.042	5-8	Combo	3656-179	87.50
13' 11"	1"	.035	5-8	Combo	3656-182	75.41
13' 11"	1"	.035	6-10	Combo	3656-183	75.41
13' 11"	1"	.035	8-12	Combo	3656-184	75.41
13' 11"	1"	.035	10-14	Combo	3656-185	75.41
14' 6"	3/4"	.035	5-8	Combo	3656-186	72.10
14' 6"	3/4"	.035	6-10	Combo	3656-187	72.10
14' 6"	3/4"	.035	10-14	Combo	3656-188	72.10

LENGTH	WIDTH	THICK	TEETH	T/TYPE	ORDER NO.	PRICE EACH
14' 6"	1"	.035	3-4	Combo	3656-190	\$77.64
14' 6"	1"	.035	4-6	Combo	3656-191	77.64
14' 6"	1"	.035	5-8	Combo	3656-192	77.64
14' 6"	1"	.035	6-10	Combo	3656-193	77.64
14' 6"	1"	.035	8-12	Combo	3656-194	77.64
14' 6"	1"	.035	10-14	Combo	3656-195	77.64
14' 6"	1-1/4"	.042	3-4	Combo	3656-196	92.91
14' 6"	1-1/4"	.042	4-6	Combo	3656-197	92.91
14' 6"	1-1/4"	.042	5-8	Combo	3656-198	92.91
14' 8"	3/4"	.035	5-8	Combo	3656-202	74.20
14' 8"	3/4"	.035	6-10	Combo	3656-203	74.20
14' 8"	3/4"	.035	8-12	Combo	3656-204	74.20
14' 8"	3/4"	.035	10-14	Combo	3656-205	74.20
15'	1-1/4"	.042	3-4	Combo	3656-206	95.61
15'	1-1/4"	.042	4-6	Combo	3656-207	95.61
15'	1-1/4"	.042	5-8	Combo	3656-208	95.61
15' 6"	1"	.035	3-4	Combo	3656-209	82.10
15' 6"	1-1/4"	.042	4-6	Combo	3656-210	98.32
15' 8"	1-1/4"	.042	4-6	Combo	3656-211	101.01
16'	1-1/4"	.042	4-6	Combo	3656-213	101.01
17' 6"	1-1/2"	.050	3-4	Combo	3656-215	131.22
18'	1-1/2"	.050	4-6	Combo	3656-216	134.52

Other Bandsaw Blade grades available on request  
Sandvik 100' & 250' coils available on request

## Portable Bandsaw Blades

### Super Cobalt - Bimetal

- Multi-Purpose / Jobshop Cutting for Portable Hand Held Machines
- Multi purpose tooth shape provides excellent cuts in a wide variety of applications.
- M42 tooth tips offer heat and wear resistance for long blade life.
- Tough impact-resistant teeth delivers long life an exceptionally clean cuts with a range of materials, including thin wall tubes.
- Pre-welded loops supplied in 5 pack sleeves.



2

LENGTH	WIDTH	THICK	TEETH	T/TYPE	PKG. QTY.	ORDER NO.	PKG. PRICE
3' 8 1/4"	1/2"	.020	10	Regular	5	3659-031	\$28.56
3' 8 1/4"	1/2"	.020	14	Regular	5	3659-032	28.56
3' 8 1/4"	1/2"	.020	18	Regular	5	3659-033	28.56
3' 8 1/4"	1/2"	.020	24	Regular	5	3659-034	28.56
3' 8 1/4"	1/2"	.020	10-14	Combo	5	3659-035	28.56
3' 8 1/4"	1/2"	.020	14-18	Combo	5	3659-036	28.56



## Easy Cut Bandsaw Blades

Milford's exclusive one blade for maintenance and general purpose bandsawing.

- Easy Cut blades cut almost anything - without changing blades!
- Tool Steel, Mild Steel, Stainless Steel, Aluminum, Copper, Brass, Wood, Plastic, Sheet Metal, Tubing, Solids
- Reduce Inventory! Reduce Expensive blade changes! Reduce machine down Time!
- Ordering is easy:



1. Tell us the width of your blade.
2. Tell us the length of your blade.

Blades for small and large work pieces available on request

AVAILABLE SIZES WIDTH/THICKNESS	MEDIUM WORKPIECE SIZE RANGE	PRICE
1/2" x .025"	.08" - 1-1/2"	PRICED TO YOUR SPECIFICATIONS
3/4" x .035"	.08" - 3"	
1" x .035"	1/8" - 5"	
1-1/4" x .042"	3-1/8" - 6"	

# Side Milling Cutters—Straight Tooth

## High Speed Steel



† Limited Quantities

		Pittsburg <sup>®</sup>		FD	
DIAM.	FACE WIDTH HOLE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2	3/16 1/2	2810-010	\$21.55	2814-010	\$33.60
2	1/4 1/2	2810-020	21.55	2814-020	34.85
2	3/8 1/2	2810-030	24.95	2814-030	38.15
2	3/16 5/8	2810-040	18.15	2814-040	33.60
2	1/4 5/8	2810-050	19.35	2814-050	34.85
2	3/8 5/8	2810-060	18.15	2814-060	38.15
2	1/4 7/8	2810-070	21.55	—	—
2	5/16 7/8	2810-080	23.20	—	—
2	3/8 7/8	2810-090	24.95	—	—
2	7/16 7/8	2810-100	26.50	—	—
2-1/2	1/4 7/8	2810-120	24.35	2814-120	40.10
2-1/2	5/16 7/8	2810-130	25.25	2814-130	42.15
2-1/2	3/8 7/8	2810-140	27.20	2814-140	45.15
2-1/2	1/2 7/8	2810-160	27.70	2814-160	45.70
2-1/2	3/16 1	2810-170	28.85	—	—
2-1/2	1/4 1	2810-180	28.85	2814-180	55.30
2-1/2	5/16 1	2810-190	30.00	2814-190	57.90
2-1/2	3/8 1	2810-200	32.30	2814-200	60.80
2-1/2	7/16 1	2810-210	32.80	2814-210	63.25
2-1/2	1/2 1	2810-220	32.80	2814-220	65.30
2-1/2	5/8 1	2810-230	33.65	2814-230	75.15
3	3/16 1	2810-240	33.45	2814-240	43.90
3	7/32 1	2810-250	31.35	2814-250	55.50
3	1/4 1	2810-260	28.15	2814-260	41.40
3	9/32 1	2810-270	34.20	2814-270	59.30
3	5/16 1	2810-280	31.45	2814-280	47.95
3	11/32 1	2810-290	36.10	2814-290	67.25
3	3/8 1	2810-300	31.45	2814-300	52.05
3	13/32 1	2810-310	38.40	2814-310	68.20
3	7/16 1	2810-320	33.30	2814-320	55.15
3	1/2 1	2810-330	33.75	2814-330	52.80
3	9/16 1	2810-340	42.15	2814-340	65.50
3	5/8 1	2810-350	44.15	2814-350	68.70
3	11/16 1	2810-360	46.40	2814-360	68.15
3	3/4 1	2810-370	48.75	2814-370	72.45
3	13/16 1	2810-380	51.10	2814-380	79.15
3	7/8 1	2810-390	53.70	2814-390	86.90
3	15/16 1	2810-400†	29.65	2814-400	90.05
3	1 1	2810-410	59.10	2814-410	91.80
3	1/4 1-1/4	2810-420	33.45	2814-420	41.40
3	5/16 1-1/4	2810-430†	16.15	2814-430	47.95
3	3/8 1-1/4	2810-440	37.25	2814-440	52.05
3	7/16 1-1/4	2810-450†	17.80	2814-450	55.15
3	1/2 1-1/4	2810-460	40.10	2814-460	52.80
3	5/8 1-1/4	2810-470†	21.25	2814-470	68.70
3	3/4 1-1/4	2810-480	48.75	2814-480	72.45
3	7/8 1-1/4	—	—	2814-490	86.90
3	1 1-1/4	—	—	2814-500	95.10
3-1/2	3/16 1	—	—	2814-510	52.40
3-1/2	1/4 1	—	—	2814-520	64.30
3-1/2	5/16 1	2810-530†	22.65	2814-530	73.85
3-1/2	3/8 1	—	—	2814-540	75.05
3-1/2	7/16 1	2810-550†	26.80	2814-550	77.90
3-1/2	1/2 1	—	—	2814-560	78.20
3-1/2	5/8 1	2810-570†	31.10	2814-570	85.55
3-1/2	3/4 1	2810-580†	31.10	2814-580	88.55
3-1/2	7/8 1	2810-590†	34.95	2814-590	95.20
3-1/2	1 1	2810-600†	34.95	2814-600	98.65
3-1/2	7/16 1-1/4	—	—	2814-610	77.90
3-1/2	1/2 1-1/4	—	—	2814-620	78.20
4	3/16 1	2810-630	45.05	—	—
4	7/32 1	2810-640	45.05	—	—
4	1/4 1	2810-650	38.00	2814-650	59.20
4	9/32 1	2810-660	45.10	—	—
4	5/16 1	2810-670	41.00	2814-670	74.20
4	11/32 1	2810-680	50.00	2814-680	79.30
4	3/8 1	2810-690	41.00	2814-690	66.50
4	13/32 1	2810-710†	26.80	2814-710	87.15
4	7/16 1	2810-700	54.70	2814-700	83.40
4	1/2 1	2810-720	45.70	2814-720	74.65
4	9/16 1	2810-730†	28.85	2814-730	90.35
4	5/8 1	2810-740	50.95	2814-740	85.60
4	11/16 1	2810-750†	31.10	2814-750	99.15
4	3/4 1	2810-760	54.25	2814-760	92.65
4	13/16 1	2810-770†	34.95	2814-770	104.70

		Pittsburg <sup>®</sup>		FD	
DIAM.	FACE WIDTH HOLE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	7/8 1	2810-780	\$60.00	2814-780	\$101.75
4	15/16 1	2810-790†	40.75	2814-790	121.90
4	1 1	2810-800	83.35	2814-800	128.25
4	3/16 1-1/4	2810-810	45.05	—	—
4	7/32 1-1/4	2810-820	45.05	—	—
4	1/4 1-1/4	2810-830	45.05	—	—
4	9/32 1-1/4	2810-840†	31.35	2814-840	78.00
4	5/16 1-1/4	2810-850	48.35	2814-850	74.20
4	11/32 1-1/4	2810-860	50.05	2814-860	79.30
4	3/8 1-1/4	2810-870	51.70	2814-870	81.90
4	7/16 1-1/4	2810-880	54.70	2814-880	83.40
4	13/32 1-1/4	2810-890†	26.80	2814-890	87.15
4	1/2 1-1/4	2810-900	45.70	—	—
4	9/16 1-1/4	2810-910	50.95	2814-910	90.35
4	5/8 1-1/4	2810-920	50.95	2814-920	85.60
4	11/16 1-1/4	2810-930	66.25	—	—
4	3/4 1-1/4	2810-940	54.25	2814-940	92.65
4	13/16 1-1/4	2810-950†	34.95	—	—
4	7/8 1-1/4	2810-960	60.00	2814-960	101.75
4	15/16 1-1/4	2810-970†	40.75	2814-970	121.90
4	1 1-1/4	2810-980	83.35	2814-980	128.25
4	1-1/8 1-1/4	2810-990	91.65	—	—
4	1-1/4 1-1/4	2811-000	100.85	—	—
4-1/2	3/8 1-1/4	—	—	2815-020	87.80
4-1/2	1/2 1-1/4	2811-030†	36.25	2815-030	97.20
5	1/4 1	2811-040	62.60	2815-040	97.00
5	9/32 1	2811-050	64.10	2815-050	104.60
5	5/16 1	2811-060	65.70	2815-060	98.75
5	11/32 1	2811-070†	36.25	2815-070	105.05
5	3/8 1	2811-080	69.00	2815-080	105.65
5	13/32 1	2811-090	70.75	2815-090	112.20
5	7/16 1	2811-100	61.95	2815-100	113.70
5	1/2 1	2811-110	61.95	2815-110	101.85
5	9/16 1	2811-120†	40.10	2815-120	126.15
5	5/8 1	2811-130	66.60	2815-130	112.70
5	11/16 1	2811-140	90.60	2815-140	133.80
5	3/4 1	2811-150	77.25	2815-150	128.00
5	13/16 1	2811-160†	46.75	2815-160	143.55
5	7/8 1	2811-170†	53.95	2815-170	167.85
5	15/16 1	2811-180†	53.95	2815-180	152.30
5	1 1	2811-190†	53.95	2815-190	160.15
5	1/4 1-1/4	2811-200	62.60	2815-200	97.00
5	9/32 1-1/4	2811-210	70.60	2815-210	104.60
5	5/16 1-1/4	2811-220	65.70	2815-220	98.75
5	11/32 1-1/4	2811-230†	34.95	2815-230	105.05
5	3/8 1-1/4	2811-240	69.00	2815-240	105.65
5	13/32 1-1/4	2811-250†	36.25	2815-250	112.20
5	7/16 1-1/4	2811-260	72.55	2815-260	113.70
5	1/2 1-1/4	2811-270	70.35	2815-270	101.85
5	9/16 1-1/4	2811-280	81.00	2815-280	126.15
5	5/8 1-1/4	2811-290	66.60	2815-290	112.70
5	11/16 1-1/4	2811-300†	45.85	2815-300	133.80
5	3/4 1-1/4	2811-310	77.25	2815-310	128.00
5	13/16 1-1/4	2811-320†	46.75	2815-320	143.55
5	7/8 1-1/4	2811-330†	53.95	2815-330	167.85
5	15/16 1-1/4	2811-340†	53.95	—	—
5	1 1-1/4	2811-350	91.30	2815-350	153.15
5	1-1/8 1-1/4	2811-360†	65.95	—	—
5	1-1/4 1-1/4	2811-370†	65.95	—	—
5	1-1/2 1-1/4	2811-380†	65.95	—	—
6	3/16 1	2811-390†	46.75	—	—
6	1/4 1	2811-400	80.75	2815-400	119.20
6	5/16 1	2811-410	80.05	2815-410	131.55
6	3/8 1	2811-420	90.85	2815-420	140.85
6	7/16 1	2811-430	96.15	2815-430	145.55
6	1/2 1	2811-440	85.20	2815-440	131.10
6	9/16 1	2811-450	105.80	2815-450	161.85
6	5/8 1	—	—	2815-460	170.20
6	11/16 1	2811-470†	56.55	2815-470	178.55
6	3/4 1	2811-480	109.30	2815-480	169.05
6	13/16 1	2811-490†	65.95	2815-490	194.00
6	7/8 1	2811-500†	73.40	2815-500	201.40
6	15/16 1	2811-510†	90.30	2815-510	209.65
6	1 1	2811-520†	73.40	2815-520	217.65
6	1-1/4 1	2811-530†	83.45	—	—
6	3/16 1-1/4	2811-540†	46.75	—	—
6	1/4 1-1/4	2811-550	80.75	2815-550	119.20
6	9/32 1-1/4	2811-560	83.30	2815-560	132.85
6	5/16 1-1/4	2811-570	85.80	2815-570	136.80
6	11/32 1-1/4	2811-580	88.25	2815-580	145.95
6	3/8 1-1/4	2811-590	90.85	2815-590	146.45
6	13/32 1-1/4	—	—	2815-600	154.50
6	7/16 1-1/4	2811-610	95.90	2815-610	148.75
6	1/2 1-1/4	2811-620	85.20	2815-620	131.10
6	9/16 1-1/4	2811-630	99.05	2815-630	158.90
6	5/8 1-1/4	2811-640	93.30	2815-640	144.00
6	11/16 1-1/4	2811-650†	56.55	2815-650	174.00
6	3/4 1-1/4	2811-660	109.30	2815-660	169.05
6	13/16 1-1/4	2811-670†	65.95	2815-670	187.05

		Pittsburg <sup>®</sup>		FD	
DIAM.	FACE WIDTH HOLE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6	7/8 1-1/4	2811-680†	\$73.40	2815-680	\$193.20
6	15/16 1-1/4	2811-690†	73.40	2815-690	204.95
6	1 1-1/4	2811-700	138.40	2815-700	199.35
6	1-1/8 1-1/4	2811-710	90.20	—	—
7	3/4 1	2811-740†	96.55	—	—
7	1 1	2811-750†	112.70	—	—
7	1/4 1-1/4	—	—	2815-760	188.90
7	5/16 1-1/4	2811-770†	81.25	2815-770	



# Side Milling Cutters — Staggered Tooth

High Speed Steel



		Pittsburg <sup>®</sup> ALLEGHANY		FD		
DIAM.	FACE WIDTH	HOLE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2-1/2	3/16	7/8	2820-010	\$32.45	—	—
2-1/2	1/4	7/8	2820-020	25.95	2824-020	\$50.90
2-1/2	5/16	7/8	2820-030	27.40	2824-030	50.30
2-1/2	3/8	7/8	2820-040	29.95	2824-040	57.75
2-1/2	7/16	7/8	2820-050†	18.15	—	—
2-1/2	1/2	7/8	2820-060	31.85	2824-060	60.65
2-1/2	1/4	1	—	—	2824-070	63.15
2-1/2	7/16	1	—	—	2824-080	73.05
2-1/2	1/2	1	—	—	2824-090	75.20
3	3/16	1	2820-100	28.25	2824-100	49.40
3	7/32	1	2820-110	31.20	2824-110	65.75
3	1/4	1	2820-120	31.20	2824-120	53.00
3	9/32	1	2820-130	33.30	2824-130	66.85
3	5/16	1	2820-140	33.30	2824-140	59.20
3	11/32	1	2820-150†	20.15	2824-150	67.15
3	3/8	1	2820-160	34.30	2824-160	60.25
3	13/32	1	2820-165†	21.50	2824-165	72.45
3	7/16	1	2820-170	38.30	2824-170	72.35
3	1/2	1	2820-180	38.30	2824-180	72.85
3	9/16	1	2820-190	43.15	2824-190	77.70
3	5/8	1	2820-200	43.15	2824-200	84.65
3	11/16	1	2820-210†	25.75	2824-210	87.30
3	3/4	1	2820-220	47.80	2824-220	90.25
3	13/16	1	2820-230†	30.75	2824-230	92.80
3	7/8	1	2820-240†	30.75	2824-240	96.15
3	15/16	1	2820-250†	38.95	2824-250	103.15
3	1	1	2820-260	73.00	2824-260	101.00
3	3/16	1-1/4	2820-270	37.25	2824-270	59.20
3	7/32	1-1/4	2820-280†	18.15	2824-280	65.75
3	1/4	1-1/4	2820-290	41.10	2824-290	61.15
3	9/32	1-1/4	2820-300†	19.25	2824-300	66.85
3	5/16	1-1/4	2820-310†	19.25	2824-310	66.30
3	11/32	1-1/4	2820-320†	20.15	2824-320	67.15
3	3/8	1-1/4	2820-330	45.35	2824-330	68.70
3	13/32	1-1/4	2820-340†	21.50	2824-340	72.45
3	7/16	1-1/4	2820-350†	21.50	2824-350	72.35
3	1/2	1-1/4	2820-360	36.50	2824-360	64.40
3	9/16	1-1/4	2820-370†	24.00	2824-370	77.70
3	5/8	1-1/4	2820-380	41.10	2824-380	74.50
3	11/16	1-1/4	2820-390†	25.75	2824-390	87.30
3	3/4	1-1/4	2820-400	45.55	2824-400	80.75
3	13/16	1-1/4	2820-410	60.10	2824-410	92.80
3	7/8	1-1/4	2820-420†	30.75	2824-420	96.15
3	15/16	1-1/4	2820-430†	38.95	2824-430	103.15
3	1	1-1/4	2820-440	73.00	2824-440	101.00
3	1-1/8	1-1/4	2820-450†	40.10	—	—
3	1-1/4	1-1/4	2820-460†	40.10	—	—
3-1/2	1/4	1	2820-480	55.10	2824-480	90.75
3-1/2	5/16	1	2820-500	58.40	2824-500	96.05
3-1/2	11/32	1	2820-510†	29.65	—	—
3-1/2	3/8	1	2820-520	64.70	2824-520	91.45
3-1/2	7/16	1	2820-540†	34.05	—	—
3-1/2	1/2	1	2820-550	70.20	2824-550	97.90
3-1/2	5/8	1	2820-570	77.70	2824-570	107.65
3-1/2	11/16	1	2820-580†	40.10	2824-580	115.05
3-1/2	3/4	1	—	—	2824-590	115.05
3-1/2	1/4	1-1/4	—	—	2824-600	90.75
3-1/2	5/16	1-1/4	2820-610†	29.65	2824-610	96.05
3-1/2	3/8	1-1/4	2820-620†	29.65	2824-620	91.45
3-1/2	7/16	1-1/4	2820-630†	34.05	2824-630	65.35
3-1/2	1/2	1-1/4	—	—	2824-640	108.40
3-1/2	9/16	1-1/4	—	—	2824-650	110.45
3-1/2	5/8	1-1/4	—	—	2824-660	110.70
3-1/2	11/16	1-1/4	—	—	2824-670	117.45
3-1/2	3/4	1-1/4	—	—	2824-680	120.00
3-1/2	13/16	1-1/4	—	—	2824-690	123.65
3-1/2	7/8	1-1/4	2820-700†	43.05	2824-700	128.05
3-1/2	15/16	1-1/4	—	—	2824-710	142.05
3-1/2	1	1-1/4	2820-720†	46.75	2824-720	148.95
4	3/16	1	2820-730	51.40	2824-730	81.05
4	7/32	1	2820-740	58.25	2824-740	89.00
4	1/4	1	2820-750	47.60	2824-750	87.45
4	9/32	1	2820-760	62.85	2824-760	90.65
4	5/16	1	2820-770	48.25	2824-770	90.95
4	11/32	1	2820-780	64.50	2824-780	98.50
4	3/8	1	2820-790	50.05	2824-790	95.30
4	13/32	1	—	—	2824-800	101.15
4	7/16	1	2820-810	53.35	2824-810	102.30
4	1/2	1	2820-820	56.40	2824-820	104.95
4	9/16	1	2820-830	76.30	2824-830	112.90
4	5/8	1	2820-840	65.15	2824-840	116.80
4	11/16	1	2820-850†	40.10	2824-850	125.75

		Pittsburg <sup>®</sup> ALLEGHANY		FD		
DIAM.	FACE WIDTH	HOLE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	3/4	1	2820-860	\$68.40	2824-860	\$128.80
4	13/16	1	2820-870	92.55	2824-870	134.00
4	7/8	1	2820-880†	43.05	2824-880	134.10
4	15/16	1	2820-890†	46.75	2824-890	150.85
4	1	1	2820-900	109.30	2824-900	157.95
4	3/16	1-1/4	2820-910	56.75	2824-910	81.05
4	7/32	1-1/4	2820-920	47.60	2824-920	89.00
4	1/4	1-1/4	2820-930	45.35	2824-930	77.10
4	9/32	1-1/4	2820-940	48.25	2824-940	90.65
4	5/16	1-1/4	2820-950	45.95	2824-950	78.35
4	11/32	1-1/4	2820-960	POA	2824-960	98.50
4	3/8	1-1/4	2820-970	47.65	2824-970	80.00
4	13/32	1-1/4	2820-980	53.35	2824-980	101.15
4	7/16	1-1/4	2820-990	50.85	2824-990	86.80
4	1/2	1-1/4	2821-000	53.75	2825-000	90.55
4	9/16	1-1/4	2821-010	65.15	2825-010	112.90
4	5/8	1-1/4	2821-020	62.00	2825-020	104.30
4	11/16	1-1/4	2821-030†	40.10	2825-030	125.75
4	3/4	1-1/4	2821-040	65.15	2825-040	111.25
4	13/16	1-1/4	2821-050†	43.05	2825-050	134.00
4	7/8	1-1/4	—	—	2825-060	117.45
4	15/16	1-1/4	2821-070†	46.75	2825-070	150.85
4	1	1-1/4	2821-080	110.15	2825-080	157.95
4	1-1/8	1-1/4	2821-090†	54.15	2825-090	170.60
4	1-3/16	1-1/4	2821-100†	58.30	2825-100	170.60
4	1-1/4	1-1/4	2821-110†	64.00	2825-110	176.10
4	1-1/2	1-1/4	—	—	2825-120	204.40
4-1/2	1/4	1-1/4	2821-150†	43.05	—	—
4-1/2	5/16	1-1/4	2821-160†	45.65	—	—
4-1/2	7/8	1-1/4	2821-220†	63.10	—	—
4-1/2	1	1-1/4	2821-230†	70.30	—	—
5	7/32	1	—	—	2825-250	127.40
5	1/4	1	2821-260	69.05	2825-260	121.40
5	9/32	1	—	—	2825-270	136.40
5	5/16	1	2821-280	83.45	2825-280	133.15
5	11/32	1	2821-290†	45.65	2825-290	144.00
5	3/8	1	2821-300	87.90	2825-300	142.00
5	13/32	1	—	—	2825-310	153.65
5	7/16	1	2821-320	77.50	2825-320	155.70
5	1/2	1	2821-330	77.50	2825-330	156.75
5	9/16	1	2821-340†	49.15	2825-340	159.75
5	5/8	1	2821-350	85.50	2825-350	138.15
5	11/16	1	2821-360†	81.05	2825-360	171.50
5	3/4	1	2821-370	93.50	2825-370	151.85
5	13/16	1	2821-380†	63.10	2825-380	187.90
5	7/8	1	2821-390	135.20	2825-390	194.40
5	7/32	1-1/4	—	—	2825-410	127.40
5	1/4	1-1/4	2821-420	70.95	2825-420	121.40
5	9/32	1-1/4	—	—	2825-430	136.40
5	5/16	1-1/4	2821-440	70.95	2825-440	133.15
5	11/32	1-1/4	2821-450†	45.65	2825-450	144.00
5	3/8	1-1/4	2821-460	70.95	2825-460	142.00
5	13/32	1-1/4	—	—	2825-470	153.65
5	7/16	1-1/4	2821-480	92.50	2825-480	155.70
5	1/2	1-1/4	2821-490	73.80	2825-490	125.00
5	9/16	1-1/4	2821-500†	49.15	2825-500	159.75
5	5/8	1-1/4	2821-510	81.45	2825-510	138.15
5	11/16	1-1/4	2821-520	81.45	2825-520	171.50
5	3/4	1-1/4	2821-530	89.05	2825-530	151.85
5	13/16	1-1/4	—	—	2825-540	187.90
5	7/8	1-1/4	2821-550†	63.10	2825-550	194.40
5	15/16	1-1/4	2821-560†	70.30	2825-560	208.60
5	1	1-1/4	2821-570	142.60	2825-570	208.60
6	3/16	1	2821-580†	55.45	—	—
6	1/4	1	2821-590	105.15	2825-590	164.10
6	9/32	1	—	—	2825-600	183.50
6	5/16	1	2821-610	105.15	2825-610	171.05
6	11/32	1	2821-620†	59.75	2825-620	192.50
6	3/8	1	2821-630	88.10	2825-630	181.30
6	7/16	1	2821-640	99.65	2825-640	190.85
6	1/2	1	2821-650	99.65	2825-650	189.25
6	9/16	1	2821-660†	65.95	2825-660	203.70
6	5/8	1	—	—	2825-670	185.90
6	11/16	1	—	—	2825-680	231.90
6	3/4	1	2821-690	126.20	2825-690	204.75
6	13/16	1	2821-700†	92.60	2825-700	248.50
6	7/8	1	2821-710	193.60	2825-710	239.00
6	15/16	1	2821-720†	99.60	—	—
6	1	1	2821-730†	122.60	—	—
6	7/32	1-1/4	—	—	2825-745	171.50
6	1/4	1-1/4	2821-750	85.25	2825-750	160.20
6	9/32	1-1/4	2821-760	80.10	28	



# Cutters

## Single Angle



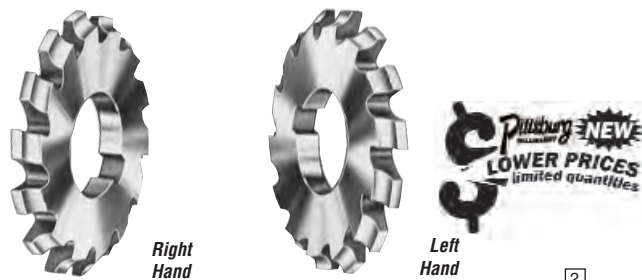
DIAM.	FACE WIDTH	ARBOR HOLE	45°		60°		PRICE EACH
			R.H. ORDER NO.	L.H. ORDER NO.	R.H. ORDER NO.	L.H. ORDER NO.	
2-1/2	1/2	7/8	-	2831-210	2831-410	2831-610	\$ 16.05
2-3/4	1/2	1	-	-	-	2831-620	16.60
3	1/2	1	-	-	-	2831-625	33.65
3	3/4	1	-	-	2831-440	2831-640	36.85
3	1/2	1-1/4	2831-050	2831-250	-	2831-650	18.45
3	5/8	1-1/4	2831-060	2831-260	2831-460	2831-660	33.65
3	3/4	1-1/4	-	-	2831-470	2831-670	36.85
4	1/2	1-1/4	-	2831-280	-	2831-680	47.40
4	3/4	1-1/4	-	2831-290	2831-490	2831-690	56.30
4	1	1-1/4	-	-	-	2831-700	62.15
4-1/2	1/2	1-1/4	-	2831-305	-	-	62.15
5	3/4	1-1/4	-	2831-310	2831-510	-	68.20
5	1	1-1/4	2831-120	2831-320	2831-520	2831-720	81.75
6	3/4	1-1/4	-	2831-330	2831-530	2831-730	97.65
6	1	1-1/4	-	2831-340	-	2831-740	122.40
6	1-1/4	1-1/4	-	2831-350	-	2831-750	206.35

## Double Angle



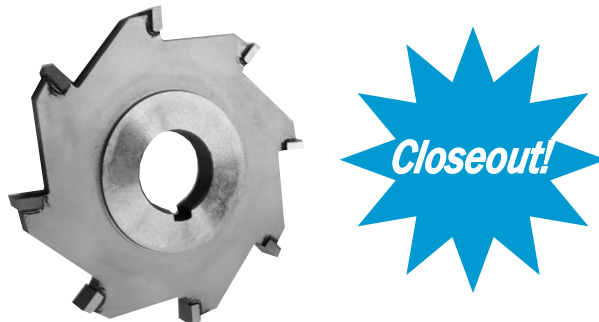
DIAM.	FACE WIDTH	ARBOR HOLE	45°	60°	90°	PRICE EACH
			ORDER NO.	ORDER NO.	ORDER NO.	
3	5/8	1	-	2835-220	2835-420	POA
3	3/4	1-1/4	-	2835-245	2835-445	\$38.05
4	1/2	1	2835-035	-	-	49.05
4	1	1-1/4	2835-070	2835-270	-	POA
5	3/4	1-1/4	2835-080	2835-280	2835-480	POA
5	1	1-1/4	2835-090	2835-290	2835-490	POA
6	3/4	1-1/4	2835-100	2835-300	2835-500	101.80
6	1	1-1/4	-	2835-310	2835-510	POA
6	1-1/4	1-1/4	2835-115	2835-315	2835-515	126.15
6	1-1/2	1-1/4	2835-120	2835-320	2835-520	155.60

## Corner Rounding - Arbor Type



CIRCLE RADIUS	CUT. DIAM.	ARBOR HOLE	R.H. ORDER NO.	PRICE EACH	L.H. ORDER NO.	PRICE EACH
1/8	2	7/8	2834-010	\$ 16.80	2834-310	\$ 16.80
1/8	2-1/2	1	2834-020	20.35	2834-320	20.35
3/16	2-1/2	1	2834-040	POA	2834-340	POA
1/4	2-1/4	7/8	2834-050	21.75	2834-350	POA
1/4	3	1	2834-060	POA	2834-360	POA
5/16	2-3/4	1	2834-070	49.30	2834-370	49.30
5/16	3	1	2834-080	55.60	2834-380	55.60
3/8	3	1	2834-090	35.60	2834-390	35.60
3/8	3-3/4	1-1/4	2834-100	39.85	2834-400	39.85
7/16	3-1/4	1	2834-110	68.00	2834-410	68.00
1/2	3-1/4	1	2834-120	POA	2834-420	48.60
1/2	4-1/2	1-1/4	2834-130	54.90	2834-430	54.90
9/16	3-1/2	1	2834-140	69.15	2834-440	69.15
5/8	3-1/2	1	2834-150	55.60	2834-450	55.60
5/8	4-1/4	1-1/4	2834-160	POA	2834-460	61.65
3/4	3-3/4	1	2834-166	POA	2834-465	POA
3/4	4-1/4	1-1/4	2834-170	POA	2834-470	POA
7/8	4-1/2	1-1/4	2834-180	129.40	2834-480	129.40
1	4-1/2	1-1/4	2834-190	POA	2834-490	150.00

## Carbide Tipped Milling Cutters



DIA.	FACE WIDTH	ARBOR HOLE	NO. OF TEETH	FOR CAST IRON		FOR STEEL	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	3/8	1	6	3856-908*	\$171.15	-	-
4	5/8	1-1/4	10	3035-302	110.50	3035-324	\$121.10
4	3/4	1-1/4	10	3035-304	110.50	3035-336	122.60
5	9/16	1-1/4	12	-	-	3035-348	129.95
5	5/8	1-1/4	12	3035-308	135.75	3035-360	152.55
5	3/4	1-1/4	12	3035-310	153.75	3035-372	168.80
6	5/8	1-1/4	12	-	-	3035-392	170.95
6	3/4	1-1/4	12	3035-316	188.00	3035-408	194.70
6	1	1-1/4	12	3035-320	205.65	3035-432	213.05

# Involute Gear Cutters

## High Speed Steel

2



### RANGE OF CUTTERS:

Finishing Gear Milling Cutters are made with eight cutters for each pitch and are adapted to cut from a pinion of 12 teeth to a rack. The individual cutters for each pitch have a range as follows:

#### No. 1

will cut gears from 135 teeth to a rack

#### No. 2

will cut gears from 55 teeth to 134 teeth

#### No. 3

will cut gears from 35 teeth to 54 teeth

#### No. 4

will cut gears from 26 teeth to 34 teeth

#### No. 5

will cut gears from 21 teeth to 25 teeth

#### No. 6

will cut gears from 17 teeth to 20 teeth

#### No. 7

will cut gears from 14 teeth to 16 teeth

#### No. 8

will cut gears from 12 teeth to 13 teeth

DIAM. PITCH	CUT. DIAM.	ARBOR HOLE	14 - 1/2° PRESSURE ANGLE								PRICE EACH
			1	2	3	4	5	6	7	8	
1	8-1/2	2	2840-010†	2840-020	2840-030	2840-040	2840-050	2840-060	2840-070	2840-080	\$969.25
1-1/4	7-3/4	2	2840-090	2840-100	2840-110	2840-120	2840-130	2840-140	2840-150	2840-160	662.50
1-1/2	7	1-3/4	2840-170	2840-180	2840-190	2840-200	2840-210	2840-220	2840-230	2840-240	486.00
1-3/4	6-1/2	1-3/4	2840-250	2840-260	2840-270	2840-280	2840-290	2840-300	2840-310	2840-320	404.70
2	5-3/4	1-1/2	2840-330	2840-340	2840-350	2840-360	2840-370	2840-380	2840-390	2840-400	152.95
2-1/2	5-3/4	1-1/2	2840-410	-	2840-430	2840-440	2840-450	-	2840-470	2840-480	120.35
3	5-1/4	1-1/2	2840-490	2840-500	2840-510	2840-520	2840-530	2840-540	2840-550	2840-560	89.30
3	4-3/4	1-1/4	2840-570	-	2840-590	2840-600	2840-610	-	-	2840-640	83.45
4	4-1/2	1-1/2	2840-650	2840-660	2840-670	2840-680	2840-690	2840-700	2840-710	2840-720	62.55
4	4-1/4	1-1/4	2840-730	2840-740	2840-750	2840-760	2840-770	2840-780	2840-790	2840-800	59.10
4	3-5/8	1	2840-810	2840-820	2840-830	2840-840	2840-850	2840-860	-	2840-880	51.50
5	3-3/4	1-1/4	-	2840-900	2840-910	2840-920	2840-930	-	2840-950	2840-960	46.25
5	3-3/8	1	2840-970	2840-980	2840-990	2841-000	2841-010	2841-020	2841-030	2841-040	44.60
6	3-1/2	1-1/4	2841-050	2841-060	2841-070	2841-080	2841-090	2841-100	2841-110	2841-120	41.80
6	3-1/8	1	2841-130	-	-	2841-160	2841-170	-	-	2841-200	36.80
7	3-3/8	1-1/4	2841-210	2841-220	2841-230	2841-240	2841-250	2841-260	2841-270	2841-280	41.80
7	2-7/8	1	2841-290	2841-300	2841-310	-	2841-330	2841-340	2841-350	2841-360	36.80
8	3-1/4	1-1/4	2841-370	2841-380	2841-390	-	-	2841-420	2841-430	2841-440	34.80
9	2-3/4	1	2841-530	2841-540	2841-550	2841-560	2841-570	2841-580	2841-590	2841-600	30.00
10	3	1-1/4	-	-	-	-	2841-650	2841-660	2841-670	2841-680	31.35
10	2-3/4	1	-	-	-	-	-	-	2841-750	2841-760	27.05
10	2-3/8	7/8	-	-	-	-	-	-	-	2841-840	24.30
11	2-3/8	7/8	2841-850	2841-860	2841-870	2841-880	2841-890	2841-900	-	2841-920	24.30
12	2-7/8	1-1/4	-	2841-940	-	-	2841-970	2841-980	2841-990	2842-000	28.45
12	2-5/8	1	2842-010	-	-	-	-	-	-	-	24.00
12	2-1/4	7/8	2842-090	-	2842-110	-	-	-	-	-	21.25
14	2-1/2	1	2842-170	-	-	2842-200	2842-210	2842-220	-	2842-240	24.30
14	2-1/8	7/8	2842-250	-	2842-270	-	2842-290	-	2842-310	-	20.55
16	2-1/2	1	-	2842-340	-	-	2842-370	-	-	2842-400	24.30
16	2-1/8	7/8	2842-410	-	-	-	-	-	-	2842-470	20.55
18	2-3/8	1	2842-480	2842-490	2842-500	-	-	2842-530	2842-540	-	21.80
18	2	7/8	2842-560	2842-570	2842-580	-	2842-600	2842-610	2842-620	2842-630	18.45
20	2-3/8	1	-	2842-650	-	-	2842-680	-	2842-700	-	21.80
20	2	7/8	2842-720	2842-730	2842-740	-	2842-760	2842-770	2842-780	-	18.45
22	2	7/8	2842-800	2842-810	2842-820	2842-830	2842-840	2842-850	2842-860	2842-870	18.45
24	2-1/4	1	2842-880	2842-890	-	-	-	2842-930	2842-940	2842-950	20.90
24	1-3/4	7/8	2842-960	-	2842-980	2842-990	2843-000	2843-010	2843-020	2843-030	18.25
28	1-3/4	7/8	2843-220	2843-230	2843-240	2843-250	2843-260	2843-270	2843-280	2843-290	18.25
30	1-3/4	7/8	2843-300	2843-310	2843-320	2843-330	2843-340	2843-350	2843-360	2843-370	18.25
32	1-3/4	7/8	2843-380	2843-390	-	2843-410	2843-420	-	2843-440	2843-450	17.35
36	1-3/4	7/8	2843-460	2843-470	2843-480	2843-490	2843-500	2843-510	2843-520	2843-530	17.35
40	1-3/4	7/8	2843-540	2843-550	2843-560	2843-570	2843-580	2843-590	2843-600	2843-610	17.35
48	1-3/4	7/8	2843-620	2843-630	2843-640	2843-650	2843-660	2843-670	2843-680	2843-690	17.35
1-1/4	8-1/2	2	2850-010	2850-020	-	2850-040	-	2850-060	2850-070	2850-080	975.20
1-1/4	7-3/4	2	2850-090	2850-100	-	2850-120	2850-130	-	-	-	759.00
1-3/4	6-1/2	1-3/4	-	-	2850-270	2850-280	2850-290	-	2850-310	2850-320	463.75
2	5-3/4	1-1/2	-	-	-	2850-360	-	2850-380	-	-	206.85
2-1/2	5-3/4	1-1/2	2850-410	-	-	2850-440	2850-450	-	-	-	162.60
3	5-1/4	1-1/2	2850-490	-	2850-510	-	2850-530	2850-540	2850-550	2850-560	121.00
3	4-3/4	1-1/4	2850-570	-	-	-	2850-610	-	-	2850-640	112.65
4	4-1/4	1-1/4	2850-650	-	-	-	2850-680	-	2850-710	-	79.80
4	3-5/8	1	-	-	-	-	2850-760	-	2850-780	-	69.95
5	3-3/4	1-1/4	2850-810	-	2850-830	-	-	2850-860	2850-870	2850-880	62.75
5	3-3/8	1	-	2850-900	2850-910	-	-	2850-930	2850-940	2850-950	60.50
6	3-1/2	1-1/4	2850-970	-	-	-	-	2851-010	-	2851-030	57.00
6	3-1/8	1	-	-	-	-	-	2851-100	-	2851-120	49.90
7	2-7/8	1	2851-130	-	-	-	2851-160	2851-170	2851-180	2851-190	49.90
8	3-1/4	1-1/4	-	-	-	-	-	-	2851-270	2851-280	47.25
9	2-3/4	1	2851-370	2851-380	2851-390	-	2851-410	2851-420	2851-430	2851-440	40.65
10	3	1-1/4	2851-450	-	2851-470	2851-480	-	2851-500	2851-510	2851-520	73.15
10	2-3/4	1	-	-	-	-	-	-	2851-590	2851-600	36.65
10	2-3/8	7/8	2851-610	2851-620	2851-630	2851-640	2851-650	2851-660	2851-670	2851-680	32.90
11	2-5/8	1	2851-690	2851-700	2851-710	2851-720	2851-730	2851-740	2851-750	2851-760	35.55
11	2-3/8	7/8	2851-770	2851-780	2851-790	2851-800	2851-810	2851-820	2851-830	2851-840	32.90
12	2-7/8	1-1/4	2851-850	-	-	2851-880	2851-890	-	2851-910	-	52.05
12	2-5/8	1	2851-930	-	-	-	-	-	2851-990	-	32.55
12	2-1/4	7/8	2852-010	2852-020	-	2852-040	-	2852-060	2852-070	2852-080	28.75
14	2-1/2	1	2852-090	2852-100	2852-110	2852-120	2852-130	2852-140	2852-150	2852-160	32.90
14	2-1/8	7/8	2852-170	2852-180	2852-190	2852-200	2852-210	2852-220	2852-230	2852-240	27.70
16	2-1/2	1	-	-	-	-	-	2852-300	-	-	32.90
16	2-1/8	7/8	2852-330	2852-340	-	2852-360	2852-370	2852-380	2852-390	2852-400	27.70
18	2-3/8	1	2852-410	2852-420	2852-430	2852-440	2852-450	2852-460	2852-470	2852-480	29.50
18	2	7/8	2852-490	2852-500	2852-510	2852-520	2852-530	2852-540	2852-550	2852-560	24.95
20	2-3/8	1	-	-	-	-	2852-610	2852-620	2852-630	2852-640	59.05
20	2	7/8	2852-650	2852-660	-	2852-680	-	-	2852-710	2852-720	24.95
22	2-1/4	1	2852-730	-	-	2852-760	2852-770	2852-780	2852-790	2852-800	28.75
22	2	7/8	2852-810	2852-820	2852-830	2852-840	2852-850	2852-860	2852-870	2852-880	24.95
24	2-1/4	1	-	2852-900	-	2852-920	2852-930	-	2852-950	2852-960	28.35
24	1-3/4	7/8	2852-970	2852-980	-	2853-000	2853-010	2853-020	2853-030	2853-040	24.60
26	2-1/4	1	2853-050	2853-060	2853-070	2853-080	2853-090	2853-100	2853-110	2853-120	28.35
26	1-3/4	7/8	2853-130	2853-140	2853-150	2853-160	2853-170	2853-180	2853-190	2853-200	24.60
28	2-1/4	1	2853-210	-	2853-230	-	2853-250	2853-260	2853-270	2853-280	28.35
28	1-3/4	7/8	2853-290	2853-300	2853-310	-	-	2853-340	2853-350	2853-360	24.60
30	2-1/4	1	2853-370	2853-380	2853-390	2853-400	2853-410	2853-420	2853-430	2853-440	28.35
30	1-3/4	7/8	2853-450	2853-460	2853-470	2853-480	2853-490	2853-500	2853-510	2853-520	24.60
32	2-1/4	1	2853-530	-	-	2853-560	2853-570	2853-580	2853-590	2853-600	56.70
32	1-3/4	7/8	2853-610	2853-620	2853-630	2853-640	2853-650	2853-660	2853-670	2853-680	23.40
36	2-1/4	1	2853-690	2853-700	2853-710	2853-720	2853-730	2853-740	2853-750	2853-760	27.20
36	1-3/4	7/8	2853-770	2853-780	2853-7						

# Shell End Mills & Arbors

## High Speed Steel



Right Hand



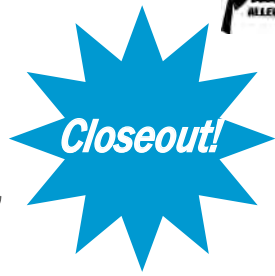
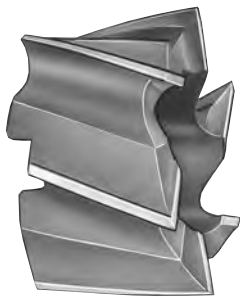
Left Hand



DIAM.	WIDTH	ARBOR HOLE	NO. OF TEETH	RIGHT HAND		LEFT HAND	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-1/4	1	1/2	8	2727-080	\$ 30.35	2731-080	\$ 10.70
1-1/2	1-1/8	1/2	8	2727-096	30.90	2731-096	12.10
1-3/4	1-1/4	3/4	8	2727-112	45.00	2731-112	14.75
2	1-3/6	3/4	8	2727-128	52.45	2731-128	16.80
2-1/4	1-1/2	1	10	2727-144	59.05	2731-144	19.40
2-1/2	1-5/8	1	10	2727-160	72.27	2731-160	23.40
2-3/4	1-5/8	1	10	2727-176	97.07	2731-176	28.80
3	1-3/4	1-1/4	10	2727-192	110.57	2731-192	32.75
3-1/2	1-7/8	1-1/4	12	2727-224	141.24	2731-224	43.25
4	2-1/4	1-1/2	12	2727-256	191.59	2731-256	55.95
4-1/2	2-1/4	1-1/2	14	-	-	2731-288†	78.25
5	2-1/4	1-1/2	14	2727-320	288.32	2731-320†	98.25
5-1/2	2-1/4	1-1/2	14	2727-352	356.19	2731-352†	128.15
6	2-1/4	2	16	2727-384	364.22	2731-384†	147.25

† Limited Quantities

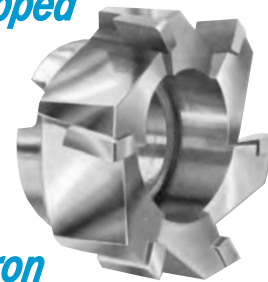
## For Aluminum - High Speed Steel



DIAM.	WIDTH	ARBOR HOLE	NO. OF FLUTES	ORDER NO.	PRICE EACH
1-1/4	1	1/2	4	2727-580	\$ 12.85
1-1/2	1-1/8	1/2	4	2727-596	14.55
2-1/2	1-5/8	1	4	2727-660	28.05
3	1-3/4	1-1/4	6	2727-692	39.30
4	2-1/4	1-1/2	6	2727-756	67.15
5	2-1/4	1-1/2	8	2727-820	98.25
5-1/2	2-1/4	2	8	2727-852†	153.80
6	2-1/4	2	8	2727-884	176.70

† Limited Quantities

## Carbide Tipped



## For Cast Iron

DIAM.	NO. OF TEETH	OVERALL LENGTH	WIDTH	DEPTH	DIAM. OF HOLE	ORDER NO.	PRICE EACH
1-1/2	6	1-1/8	1/4	5/32	1/2	3035-512	\$88.30
2	4	1-3/8	5/16	3/16	3/4	3035-524	122.95
2-1/4	4	1-1/2	5/16	7/32	1	3035-530	133.10
2-1/2	8	1-5/8	3/8	7/32	1	3035-536	145.10
2-3/4	6	1-5/8	3/8	7/32	1	3035-542	152.20
3	6	1-3/4	1/2	9/32	1-1/4	3035-548	165.55
4	10	2-1/4	5/8	3/8	1-1/2	3035-560	240.85
5	10	2-1/4			1-1/2	3035-572	301.05
6	12	2-1/4			2	3035-584	361.30

## For Steel

DIAM.	NO. OF TEETH	OVERALL LENGTH	WIDTH	DEPTH	DIAM. OF HOLE	ORDER NO.	PRICE EACH
1-1/2	6	1-1/8	1/4	5/32	1/2	3035-612	\$91.85
2-1/2	6	1-5/8	3/8	7/32	1	3035-636	145.10
3	8	1-3/4	1/2	9/32	1-1/4	3035-648	165.55
4	10	2-1/4	5/8	3/8	1-1/2	3035-660	255.60
6	12	2-1/4			2	3035-684	383.45

# Broaches— High Speed Steel

Hexagon



Hassay Savage



6

HEX SIZE	TOLERANCE	DIAGONAL DIMENSION	PILOT DIAM.	DRILL SIZE	BROACH LENGTH	MINIMUM LENGTH OF CUT	MAXIMUM LENGTH OF CUT	PRESSURE FOR MAX. L/C	ORDER NO.	PRICE EACH
1/8	.1255 - .1260	.1450 - .1470	.1245	1/8	4-5/8	3/16	3/8	120 lbs.	2900-008	\$ 118.25
5/32	.1565 - .1570	.1800 - .1820	.1557	5/32	5-1/2	1/4	1/2	340 lbs.	2900-010	134.10
3/16	.1880 - .1890	.2145 - .2155	.1870	3/16	5-9/16	1/4	5/8	520 lbs.	2900-012	124.50
7/32	.2190 - .2200	.2500 - .2520	.2182	7/32	6	1/4	3/4	890 lbs.	2900-014	147.75
1/4	.2505 - .2515	.2865 - .2875	.2495	1/4	6-1/2	1/4	3/4	1,250 lbs.	2900-016	124.50
9/32	.2815 - .2825	.3220 - .3240	.2807	9/32	7-3/4	3/8	1	1,650 lbs.	2900-018	153.95
5/16	.3130 - .3140	.3580 - .3590	.3120	5/16	8-1/4	3/8	1	2,175 lbs.	2900-020	130.15
11/32	.3440 - .3450	.3950 - .3970	.3432	11/32	8-1/4	3/8	1-1/4	3,500 lbs.	2900-022	189.50
3/8	.3755 - .3765	.4300 - .4310	.3745	3/8	9	3/8	1-1/4	3,700 lbs.	2900-024	152.25
13/32	.4065 - .4075	.4670 - .4690	.4057	13/32	10	1/2	1-3/8	4,100 lbs.	2900-026	226.75
7/16	.4385 - .4395	.5020 - .5030	.4370	7/16	10-3/4	1/2	1-3/8	4,575 lbs.	2900-028	192.50
15/32	.4690 - .4700	.5390 - .5410	.4682	15/32	12-3/8	1/2	1-3/8	4,700 lbs.	2900-030	271.75
1/2	.5005 - .5015	.5740 - .5750	.4995	1/2	12-1/2	1/2	1-3/8	5,300 lbs.	2900-032	225.25
9/16	.5630 - .5640	.6480 - .6500	.5620	9/16	14-1/4	1/2	1-1/2	6,700 lbs.	2900-036	270.25
5/8	.6260 - .6270	.7170 - .7185	.6245	5/8	16-7/8	5/8	1-5/8	7,250 lbs.	2900-040	311.25
11/16	.6880 - .6890	.7930 - .7950	.6870	11/16	17	5/8	1-5/8	9,300 lbs.	2900-044	342.95
3/4	.7510 - .7520	.8610 - .8625	.7495	3/4	17-7/8	5/8	1-5/8	13,500 lbs.	2900-048	361.50
7/8	.8755 - .8765	1.0060 - 1.0075	.8745	7/8	18-7/8	5/8	1-5/8	18,500 lbs.	2900-056	569.75
1	1.0020 - 1.0030	1.1520 - 1.1530	.9995	1	19-7/8	5/8	1-5/8	22,050 lbs.	2900-064	597.00

## Standard Inch Square



6

SIZE SQUARE	TOLERANCE	DIMENSION ACROSS CORNERS	PILOT DIAM.	DRILL SIZE	BROACH LENGTH	MINIMUM LENGTH OF CUT	MAXIMUM LENGTH OF CUT	PRESSURE FOR MAX. L/C	ORDER NO.	PRICE EACH
1/8	.1250 - .1260	.1750 - .1770	.1280	#30	4-5/8	3/16	1/2	700 lbs.	2901-008	\$103.75
5/32	.1565 - .1575	.2180 - .2200	.1585	#21	5-5/8	1/4	1/2	800 lbs.	2901-010	117.25
3/16	.1880 - .1890	.2620 - .2640	.1930	#10	5-11/16	1/4	5/8	1,120 lbs.	2901-012	106.75
7/32	.2190 - .2200	.3050 - .3070	.2275	#1	6-7/8	1/4	3/4	1,580 lbs.	2901-014	117.25
1/4	.2505 - .2515	.3500 - .3520	.2651	17/64	7	1/4	3/4	1,740 lbs.	2901-016	103.75
9/32	.2815 - .2825	.3930 - .3950	.2964	19/64	7-1/4	3/8	1	2,300 lbs.	2901-018	129.85
5/16	.3130 - .3140	.4370 - .4390	.3276	21/64	8-1/8	3/8	1	2,630 lbs.	2901-020	106.25
11/32	.3440 - .3450	.4810 - .4830	.3589	23/64	9-5/8	3/8	1-1/4	3,050 lbs.	2901-022	168.50
3/8	.3755 - .3765	.5230 - .5250	.3901	25/64	9-7/8	3/8	1-1/4	3,625 lbs.	2901-024	135.25
13/32	.4065 - .4075	.5680 - .5700	.4214	27/64	10-7/8	1/2	1-3/8	5,200 lbs.	2901-026	200.65
7/16	.4385 - .4395	.6110 - .6130	.4526	29/64	11-3/8	1/2	1-3/8	5,700 lbs.	2901-028	171.95
15/32	.4690 - .4700	.6560 - .6580	.4995	1/2	12-1/2	1/2	1-3/8	5,900 lbs.	2901-030	262.50
1/2	.5005 - .5015	.6970 - .6990	.5307	17/32	12-5/8	1/2	1-3/8	6,000 lbs.	2901-032	198.75
9/16	.5630 - .5640	.7860 - .7880	.5932	19/32	14-7/8	1/2	1-1/2	6,200 lbs.	2901-036	251.75
5/8	.6260 - .6270	.8710 - .8730	.6557	21/32	16-13/16	5/8	1-5/8	7,100 lbs.	2901-040	295.50
11/16	.6885 - .6895	.9610 - .9630	.7495	3/4	18-1/2	5/8	1-5/8	7,300 lbs.	2901-044	343.95
3/4	.7510 - .7520	1.0450 - 1.0470	.8120	13/16	18-7/8	5/8	1-5/8	8,600 lbs.	2901-048	399.15
7/8	.8765 - .8775	1.2280 - 1.0300	.9370	15/16	22-3/4	1/2	2	12,000 lbs.	2901-056	574.50
1	1.0020 - 1.0030	1.4030 - 1.4050	1.0932	1-3/32	24-1/2	1/2	2	12,500 lbs.	2901-064	597.50

## Standard Full Square



6

SIZE SQUARE	TOLERANCES	DIMENSIONS ACROSS CORNERS	PILOT DIAM.	DRILL SIZE	BROACH LENGTH	MINIMUM LENGTH OF CUT	MAXIMUM LENGTH OF CUT	PRESSURE FOR MAX. L/C	ORDER NO.	PRICE EACH
3/16	.1880 - .1890	.2628 - .2632	.1870	3/16	6-1/4	3/16	1/2	1,200 lbs.	2902-012	\$ 114.50
1/4	.2505 - .2515	.3513 - .3517	.2495	1/4	8-5/8	1/4	5/8	1,600 lbs.	2902-016	114.50
5/16	.3120 - .3140	.4375 - .4380	.3120	5/16	10-1/4	1/4	3/4	2,300 lbs.	2902-020	117.25
3/8	.3755 - .3765	.5243 - .5247	.3745	3/8	12-1/4	3/8	1	3,750 lbs.	2902-024	146.00
1/2	.5005 - .5015	.6980 - .6990	.4995	1/2	14-7/16	3/8	1	5,000 lbs.	2902-032	211.95



# Broaches— High Speed Steel



## Keyway



1

BROACH	KEYWAY WIDTH TOL.	DIMENSIONS IN INCHES	NO. OF SHIMS	MINIMUM LENGTH OF CUT	MAXIMUM LENGTH OF CUT	PRESSURE REQUIRED FOR MAX. l/c	ORDER NO.	PRICE EACH
1/16-I	.0625 - .0635	1/8 x 5-1/4	0	13/64	1-1/8	270 lbs.	2880-041	\$ 47.65
3/32-I	.0937 - .0947	1/8 x 5-1/4	0	13/64	1-1/8	810 lbs.	2880-061	47.65
1/8-I	.1252 - .1262	1/8 x 5-1/4	1	13/64	1-1/8	720 lbs.	2880-081	47.65
3/32-II	.0937 - .0947	3/16 x 7	0	19/64	1-11-16	990 lbs.	2880-062	56.45
1/8-II	.1252 - .1262	3/16 x 7	1	19/64	1-11-16	780 lbs.	2880-082	56.45
5/32-II	.1564 - .1574	3/16 x 7	1	19/64	1-11-16	1,560 lbs.	2880-102	56.45
3/16-II	.1877 - .1887	3/16 x 7	1	19/64	1-11-16	2,100 lbs.	2880-122	56.45
3/16-III	.1877 - .1887	3/8 x 11-7/8	1	13/32	2-1/2	1,440 lbs.	2880-123	69.50
1/4-III	.2502 - .2512	3/8 x 11-7/8	1	13/32	2-1/2	2,580 lbs.	2880-163	69.50
5/16-III	.3127 - .3137	3/8 x 11-7/8	1	13/32	2-1/2	4,200 lbs.	2880-203	69.50
3/8-III	.3755 - .3765	3/8 x 11-7/8	2	13/32	2-1/2	3,600 lbs.	2880-243	69.50
5/16-IV	.3127 - .3137	9/16 x 13-7/8	1	3/4	6	9,250 lbs.	2880-204	106.25
3/8-IV	.3755 - .3765	9/16 x 13-7/8	2	3/4	6	8,000 lbs.	2880-244	106.25
7/16-IV	.4380 - .4390	9/16 x 13-7/8	2	3/4	6	11,750 lbs.	2880-284	106.25
1/2-IV	.5006 - .5016	9/16 x 13-7/8	3	3/4	6	11,000 lbs.	2880-324	106.25
5/8-V	.6260 - .6270	3/4 x 15-1/4	4	3/4	6	11,500 lbs.	2880-405	173.25
3/4-V	.7515 - .7525	3/4 x 15-1/4	5	3/4	6	13,500 lbs.	2880-485	173.25
7/8-VI	.8765 - .8775	1 x 19-1/4	6	3/4	6	11,000 lbs.	2880-566	321.25
1-VI	1.0015 - 1.0025	1 x 19-1/4	7	3/4	6	14,000 lbs.	2880-646	321.25

**NOTICE!**  
If your application cannot be handled with the broaches listed, we can supply special broaches. Send us your print for quotation.

## Metric Keyway



1

BROACH	J-9 KEYWAY WIDTH TOL. IN INCHES	FOR STANDARD MILLIMETER KEYS	DIMENSION OF BROACH IN INCHES	NO. OF SHIMS	MINIMUM LENGTH OF CUT IN INCHES	MAXIMUM LENGTH OF CUT IN INCHES	PRESSURE REQUIRED FOR MAX. L/C	ORDER NO.	PRICE EACH
2 mm-I	.0787 - .0792	2 mm x 2 mm	1/8 x 5-1/4	0	13/64	1-1/8	510 lbs.	2890-021	\$ 48.50
3 mm-I	.1181 - .1186	3 mm x 3 mm	1/8 x 5-1/4	1	13/64	1-1/8	720 lbs.	2890-031	48.50
4 mm-II	.1575 - .1580	4 mm x 4 mm	1/4 x 7	1	19/64	1-11/16	1,140 lbs.	2890-042	62.50
5 mm-II	.1968 - .1973	5 mm x 5 mm	1/4 x 7	1	19/64	1-11/16	2,040 lbs.	2890-052	62.50
5 mm-III	.1968 - .1973	5 mm x 5 mm	3/8 x 11-7/8	1	13/32	2-1/2	1,680 lbs.	2890-053	69.95
6 mm-III	.2362 - .2367	6 mm x 6 mm	3/8 x 11-7/8	1	13/32	2-1/2	1,890 lbs.	2890-063	69.95
8 mm-III	.3150 - .3155	8 mm x 7 mm	3/8 x 11-7/8	1	13/32	2-1/2	3,995 lbs.	2890-083	69.95
10 mm-IV	.3937 - .3942	10 mm x 8 mm	9/16 x 13-7/8	2	3/4	6	8,100 lbs.	2890-104	106.25
12 mm-IV	.4724 - .4730	12 mm x 8 mm	9/16 x 13-7/8	2	3/4	6	10,550 lbs.	2890-124	106.25
14 mm-IV	.5512 - .5519	14 mm x 9 mm	9/16 x 13-7/8	2	3/4	6	11,090 lbs.	2890-144	106.25
16 mm-V	.6299 - .6306	16 mm x 10 mm	3/4 x 15-1/4	3	3/4	6	11,375 lbs.	2890-165	173.50
18 mm-V	.7087 - .7093	18 mm x 11 mm	3/4 x 15-1/4	3	3/4	6	12,000 lbs.	2890-185	173.50
20 mm-VI	.7874 - .7883	20 mm x 12 mm	1 x 19-1/4	3	3/4	6	11,000 lbs.	2890-206	320.75
22 mm-VI	.8661 - .8669	22 mm x 14 mm	1 x 19-1/4	4	3/4	6	11,200 lbs.	2890-226	320.75
24 mm-VI	.9449 - .9458	24 mm x 14 mm	1 x 19-1/4	4	3/4	6	13,075 lbs.	2890-246	320.75
25 mm-VI	.9842 - .9851	25 mm x 14 mm	1 x 19-1/4	4	3/4	6	13,275 lbs.	2890-256	320.75

**NOTICE!**  
Pressures listed are for max length of cut. If these lengths must be exceeded a special broach should be ordered.

## Keyway Bushings

1

DIAM.	LENGTH	ORDER NO.	PRICE EACH
<b>I BUSHINGS FOR I BROACHES</b>			
1/4	1-1/8	2884-016	\$11.50
5/16	1-1/8	2884-020	11.50
3/8	1-1/8	2884-024	11.50
7/16	1-1/8	2884-028	11.50
1/2	1-1/8	2884-032	11.50
<b>II BUSHINGS FOR II BROACHES</b>			
1/2	1-11/16	2884-132	\$10.10
9/16	1-11/16	2884-136	10.10
5/8	1-11/16	2884-140	10.10
11/16	1-11/16	2884-144	10.10
3/4	1-11/16	2884-148	10.10
13/16	1-11/16	2884-152	10.10
7/8	1-11/16	2884-156	10.10
<b>III BUSHINGS FOR III BROACHES</b>			
3/4	2-1/2	2884-348	\$13.50
13/16	2-1/2	2884-352	13.50
7/8	2-1/2	2884-356	13.50
15/16	2-1/2	2884-360	13.50
1	2-1/2	2884-364	13.50

DIAM.	LENGTH	ORDER NO.	PRICE EACH
1-1/16	2-1/2	2884-368	\$ 13.50
1-1/8	2-1/2	2884-372	13.50
1-3/16	2-1/2	2884-376	16.25
1-1/4	2-1/2	2884-380	16.25
1-5/16	2-1/2	2884-384	16.25
1-3/8	2-1/2	2884-388	16.25
1-7/16	2-1/2	2884-392	16.25
1-1/2	2-1/2	2884-396	16.25
1-9/16	2-1/2	2884-400	16.25
<b>IV PLAIN BUSHINGS FOR IV BROACHES</b>			
1-7/16	4	2884-592	\$16.25
1-1/2	4	2884-596	16.25
1-9/16	4	2884-600	16.25
1-5/8	4	2884-604	16.25
1-11/16	4	2884-608	22.80
1-3/4	4	2884-612	22.80
1-13/16	5	2884-616	22.80
1-7/8	5	2884-620	22.80
1-15/16	5	2884-624	24.95
2	5	2884-628	23.50

DIAM.	LENGTH	ORDER NO.	PRICE EACH
2-1/16	5	2884-632	\$23.50
2-1/8	5	2884-636	23.50
2-3/16	5	2884-640	23.50
2-1/4	5	2884-644	33.25
2-5/16	5	2884-648	33.25
2-3/8	6	2884-652	33.25
2-7/16	6	2884-656	33.25
2-1/2	6	2884-660	42.35
2-9/16	6	2884-664	42.35
2-5/8	6	2884-668	42.35
2-11/16	6	2884-672	42.35
2-3/4	6	2884-676	42.35
2-13/16	6	2884-680	42.35
2-7/8	6	2884-684	42.35
2-15/16	6	2884-688	42.35
3	6	2884-692	42.35
<b>V PLAIN BUSHINGS FOR V BROACHES</b>			
2-5/16	6	2884-748	\$36.85
2-3/8	6	2884-752	36.85
2-7/16	6	2884-756	36.85

DIAM.	LENGTH	ORDER NO.	PRICE EACH
2-13/16	6	2884-780	\$45.50
2-7/8	6	2884-784	45.50
2-15/16	6	2884-788	45.50
3	6	2884-792	45.50
<b>X-TRA SHIMS FOR KEYWAY BUSHINGS</b>			
SIZE	THICKNESS	ORDER NO.	PRICE EACH
1/8-I	.031	2882-081	\$2.95
1/8-II	.031	2882-082	2.95
5/32-II	.042	2882-102	2.95
3/16-II	.050	2882-122	2.95
3/16-III	.050	2882-123	2.95
1/4-III	.062	2882-163	2.95
5/16-III	.078	2882-203	2.95
3/8-III	.062	2882-243	2.95
5/16-IV	.078	2882-204	4.10
3/8-IV	.062	2882-244	4.10
7/16-IV	.075	2882-284	4.10
1/2-IV	.062	2882-324	4.10
5/8-V	.062	2882-405	4.10
7/8-VI	.062	2882-566	4.10
1-VI	.062	2882-646	4.10

# Keyway—Broach Sets



**Standard Set C-1 — 4 Broaches & 9 Collared Bushings • 18 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8 3/16	II	1/2, 5/8, 3/4, 7/8	2903-030	\$317.25
1/4 3/8	III	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2		

**Precision Set 1 — 3 Broaches & 5 Collared Bushings • 15 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/16 3/32 1/8	I	1/4, 5/16, 3/8, 7/16, 1/2	2903-050	\$181.50

**Standard Set C-1A — 4 Broaches & 9 Collared Bushings • 18 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8 3/16	II	9/16, 11/16, 13/16	2903-040	\$317.25
1/4 3/8	III	15/16, 1-1/16, 1-3/16, 1-5/16, 1-7/16, 1-9/16		

**Standard Set C-2 — 3 Broaches & 9 Collared Bushings • 15 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8	II	9/16, 11/16, 13/16	2903-100	\$268.95
3/16 1/4	III	15/16, 1-1/16, 1-3/16, 1-5/16, 1-7/16, 1-9/16		

**Standard Set C-2A — 3 Broaches & 9 Collared Bushings • 14 Keyway Combinations**

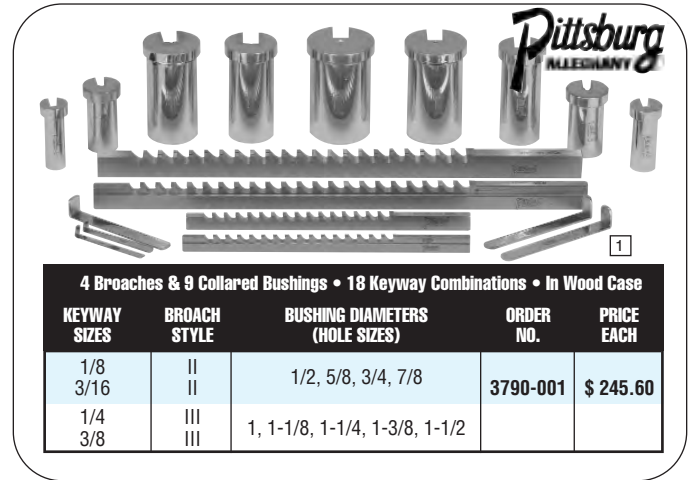
KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8	II	1/2, 5/8, 3/4, 7/8	2903-110	\$268.95
3/16 1/4	III	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2		

**Standard Set C-10 — 3 Broaches & 18 Collared Bushings • 36 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8 3/16	II	1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8	2903-010	\$406.00
1/4 3/8	III	15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16		

**Standard Set C-10A — 3 Broaches & 18 Collared Bushings • 30 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8	II	1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8	2903-020	\$383.95
3/16 1/4	III	15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16		



**4 Broaches & 9 Collared Bushings • 18 Keyway Combinations • In Wood Case**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/8 3/16	II	1/2, 5/8, 3/4, 7/8	3790-001	\$ 245.60
1/4 3/8	III	1, 1-1/8, 1-1/4, 1-3/8, 1-1/2		

**Standard Set 3-D — 4 Broaches & 8 Plain Bushings • 32 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
5/16 3/8	IV	1-1/2, 1-5/8, 1-3/4, 1-7/8,	2903-060	\$659.30
7/16 1/2	IV	2, 2-1/8, 2-1/4, 2-1/2		

**Standard Set 3-DA — 4 Broaches & 8 Plain Bushings • 32 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
5/16 3/8	IV	1-7/16, 1-9/16, 1-11/16, 1-13/16,	2903-070	\$659.30
7/16 1/2	IV	1-15/16, 2-3/16, 2-7/16, 2-15/16		

**Heavy Duty Set 4-E — 2 Broaches & 6 Plain Bushings • 12 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
5/8	V	2-3/8, 2-1/2, 2-5/8,	2903-080	\$673.50
3/4	V	2-3/4, 2-7/8, 3		

**Heavy Duty Set 5 — 3 Broaches & 17 Plain Bushings • 26 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES)	ORDER NO.	PRICE EACH
1/2	IV	2, 2-1/16, 2-1/8, 2-3/16, 2-1/4, 2-5/16, 2-3/8, 2-7/16	2903-090	\$1217.50
5/8 3/4	V	2-1/2, 2-9/16, 2-5/8, 2-11/16, 2-3/4, 2-13/16, 2-7/8, 2-15/16, 3		

**Metric Set #18 — 4 Broaches & 9 Collared Bushings • 18 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES) (mm)	ORDER NO.	PRICE EACH
4mm 5mm	II	12, 14, 16, 18	2903-140	\$370.85
6mm 8mm	III	20, 22, 24, 26, 28		

**Metric Set #24 — 3 Broaches & 8 Plain Bushings • 24 Keyway Combinations**

KEYWAY SIZES	BROACH STYLE	BUSHING DIAMETERS (HOLE SIZES) (mm)	ORDER NO.	PRICE EACH
10mm 12mm 14mm	IV	34, 36, 38, 40, 42, 44, 46, 48	2903-160	\$609.25

# T-Slot Cutters

High Speed Steel, Cobalt, Carbide Tipped, Roughing



High Speed Steel

1



Roughing

2

2

1

2

BOLT SIZE	CUTTER DIAM.	FACE WIDTH	NECK DIAM.	SHANK DIAM.	OVERALL LENGTH	ALLEGIANCE®		Pittsburg® ALLEGHANY		Pittsburg® ALLEGHANY		ALLEGIANCE®		Pittsburg® ALLEGHANY ROUGHING - COBALT	
						HSS ORDER NUMBER	PRICE EACH	HSS ORDER NUMBER	PRICE EACH	COBALT ORDER NUMBER	PRICE EACH	CARBIDE TIPPED ORDER NUMBER	PRICE EACH	COBALT ORDER NUMBER	PRICE EACH
1/4	9/16	15/64	17/64	1/2	2-19/32	2741-016	\$ 50.00	2730-416	\$ 20.32	2730-616	\$ 39.96	2730-716	\$106.45	-	-
5/16	21/32	17/64	21/64	1/2	2-11/16	2741-020	53.45	2730-420	22.09	2730-620	50.00	2730-720	110.95	-	-
3/8	25/32	21/64	13/32	3/4	3-1/4	2741-024	78.25	2730-424	31.95	2730-624	56.41	2730-724	139.55	-	-
1/2	31/32	25/64	17/32	3/4	3-7/16	2741-032	88.75	2730-432	36.60	2730-632	70.48	2730-732	152.05	2730-532	\$ 72.94
5/8	1-1/4	31/64	21/32	1	3-15/16	2741-040	121.00	2730-440	49.34	2730-640	96.00	2730-740	201.05	2730-540	99.75
3/4	1-15/32	5/8	25/32	1	4-7/16	2741-048	141.60	2730-448	53.43	2730-648	115.69	2730-748	225.45	2730-548	112.31
1	1-27/32	53/64	1-1/32	1-1/4	4-13/16	2741-064	228.85	2730-464	92.30	2730-664	187.51	2730-764	296.65	2730-564	157.24
1-1/4	2-7/32	1-3/32	1-9/32	1-1/4	5-3/8	2741-080	293.75	2730-480	133.18	2730-680	256.15	2730-780	402.85	2730-580	244.84
1-1/2	2-21/32	1-11/32	1-17/32	1-1/4	5-29/32	2741-096	378.85	2730-496	170.19	2730-696	340.30	2730-796	469.65	2730-596	328.84

## Long Shank T-Slot Milling Cutters

Staggered Tooth - Weldon Shank - High Speed Steel - or M42 Cobalt

TOLERANCE OF CUTTING DIA. (IN.)		TOLERANCE OF CUTTING WIDTH (IN.)
1	-.002 to -.007	-.0, +.004
1-1/4	-.003 to -.007	
1-1/2	-.003 to -.007	
2	-.004 to -.009	



2

1

1

CUTTING DIA. (IN.)	CUTTING WIDTH (IN.)	SHANK DIA. (IN.)	NO. OF TEETH	OVERALL LENGTH (IN.)	Pittsburg® ALLEGHANY COBALT		ALLEGIANCE® COBALT		ALLEGIANCE® HIGH SPEED STEEL	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1/8	5/8	8	4-15/16	2735-002	\$ 114.05	2735-502	\$139.15	2735-602	\$ 107.75
1	3/16	5/8	8	4-15/16	2735-003	104.08	2735-503	139.15	2735-603	107.75
1	1/4	5/8	8	4-15/16	2735-004	104.08	2735-504	139.15	2735-604	107.75
1	5/16	5/8	8	4-15/16	2735-005	110.63	2735-505	139.15	2735-605	107.75
1	3/8	5/8	8	4-15/16	2735-006	110.63	2735-506	139.15	2735-606	107.75
1	1/2	5/8	8	4-15/16	2735-008	121.72	2735-508	139.15	2735-608	107.75
1	5/8	5/8	8	4-15/16	2735-010	121.72	2735-510	139.15	2735-610	107.75
1-1/4	1/8	3/4	8	5-1/8	2735-012	138.92	2735-512	174.00	2735-612	143.55
1-1/4	3/16	3/4	8	5-1/8	2735-013	124.73	2735-513	174.00	2735-613	143.55
1-1/4	1/4	3/4	8	5-1/8	2735-014	124.73	2735-514	174.00	2735-614	143.55
1-1/4	5/16	3/4	8	5-1/8	2735-015	129.55	2735-515	174.00	2735-615	143.55
1-1/4	3/8	3/4	8	5-1/8	2735-016	130.76	2735-516	174.00	2735-616	143.55
1-1/4	1/2	3/4	8	5-1/8	2735-018	145.42	2735-518	174.00	2735-618	143.55
1-1/4	5/8	3/4	8	5-1/8	2735-020	144.05	2735-520	174.00	2735-620	143.55
1-1/2	1/8	1	8	5-5/16	2735-022	161.99	2735-522	214.00	2735-622	166.60
1-1/2	3/16	1	8	5-5/16	2735-023	157.11	2735-523	214.00	2735-623	166.60
1-1/2	1/4	1	8	5-5/16	2735-024	164.51	2735-524	214.00	2735-624	166.60
1-1/2	5/16	1	8	5-5/16	2735-025	164.51	2735-525	214.00	2735-625	166.60
1-1/2	3/8	1	8	5-5/16	2735-026	183.41	2735-526	214.00	2735-626	166.60
1-1/2	1/2	1	8	5-5/16	2735-028	183.41	2735-528	214.00	2735-628	166.60
1-1/2	5/8	1	8	5-5/16	2735-030	183.41	2735-530	214.00	2735-630	166.60
2	3/16	1	10	5-11/16	2735-033	266.12	2735-533	331.80	2735-633	281.75
2	1/4	1	10	5-11/16	2735-034	231.27	2735-534	331.80	2735-634	281.75
2	5/16	1	10	5-11/16	2735-035	241.58	2735-535	331.80	2735-635	281.75
2	3/8	1	10	5-11/16	2735-036	243.86	2735-536	331.80	2735-636	281.75
2	1/2	1	10	5-11/16	2735-038	264.14	2735-538	331.80	2735-638	281.75
2	5/8	1	10	5-11/16	2735-040	264.14	2735-540	331.80	2735-640	281.75
2	3/4	1	10	5-11/16	2735-042	300.58	2735-542	331.80	2735-642	281.75
2-1/2	1/4	1	12	6-5/8	2735-044	319.61	-	-	-	-
2-1/2	5/16	1	12	6-5/8	2735-045	319.61	-	-	-	-
2-1/2	3/8	1	12	6-5/8	2735-046	319.61	-	-	-	-
2-1/2	1/2	1	12	6-5/8	2735-048	359.59	-	-	-	-
2-1/2	5/8	1	12	6-5/8	2735-050	359.59	-	-	-	-
2-1/2	3/4	1	12	6-5/8	2735-052	392.11	-	-	-	-
2-1/2	7/8	1	12	6-5/8	2735-054	401.70	-	-	-	-
2-1/2	1	1	12	6-5/8	2735-056	409.97	-	-	-	-

# Woodruff Keyseat Cutters

## Shank Type



Straight Tooth



Staggered Tooth

SIZE	HEAD DIA.	HEAD WIDTH	SHK. DIA.	SHK. LGTH.	STRAIGHT TOOTH				STAGGERED TOOTH							
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
202	1/4	1/16	1/2	2	2730-801	\$9.02	2740-401	\$17.75	2740-601	\$30.70	-	-	2740-501	\$20.65	2740-701	\$33.90
202-1/2	5/16	1/16	1/2	2	2730-802	9.02	2740-402	17.75	2740-602	30.70	2730-902†	\$14.40	2740-502	20.65	2740-702	33.90
302-1/2	5/16	3/32	1/2	2	2730-803	9.02	2740-403	17.75	2740-603	30.70	2730-903†	14.40	2740-503	20.65	2740-703	33.90
203	3/8	1/16	1/2	2	2730-804	9.02	2740-404	17.75	2740-604	30.70	-	-	2740-504	20.65	2740-704	33.90
303	3/8	3/32	1/2	2	2730-805	9.02	2740-405	17.75	2740-605	30.70	2730-905†	14.40	2740-505	20.65	2740-705	33.90
403	3/8	1/8	1/2	2	2730-806	9.02	2740-406	17.75	2740-606	30.70	-	-	2740-506	20.65	2740-706	33.90
204	1/2	1/16	1/2	2	2730-807	9.02	2740-407	17.75	2740-607	30.70	-	-	2740-507	20.65	2740-707	33.90
304	1/2	3/32	1/2	2	2730-808	9.02	2740-408	17.75	2740-608	30.70	-	-	2740-508	20.65	2740-708	33.90
404	1/2	1/8	1/2	2	2730-810	9.02	2740-409	17.75	2740-609	30.70	-	-	2740-509	20.65	2740-709	33.90
305	5/8	3/32	1/2	2	2730-809	9.02	2740-410	17.75	2740-610	31.01	-	-	2740-510	20.65	2740-710	34.24
405	5/8	1/8	1/2	2	2730-811	9.02	2740-411	17.75	2740-611	31.01	2730-911†	13.10	2740-511	20.65	2740-711	34.24
505	5/8	5/32	1/2	2	2730-813	9.02	2740-412	17.75	2740-612	31.01	-	-	2740-512	20.65	2740-712	34.24
605	5/8	1/8	1/2	2	2730-814	9.02	2740-413	17.75	2740-613	31.01	2730-914†	13.10	2740-513	20.65	2740-713	34.24
406	3/4	1/16	1/2	2	2730-812	9.02	2740-414	18.50	2740-614	32.49	-	-	2740-514	21.90	2740-714	35.87
506	3/4	5/32	1/2	2	2730-815	10.09	2740-415	18.50	2740-615	32.49	2730-915†	14.40	2740-515	21.90	2740-715	35.87
606	3/4	3/16	1/2	2	2730-818	10.09	2740-416	18.50	2740-616	32.49	-	-	2740-516	21.90	2740-716	35.87
806	3/4	1/4	1/2	2	2730-816	10.09	2740-417	18.50	2740-617	32.49	-	-	2740-517	21.90	2740-717	35.87
507	7/8	5/32	1/2	2	2730-817	10.33	2740-418	20.65	2740-618	35.44	2730-917†	17.40	2740-518	24.30	2740-718	39.13
607	7/8	3/16	1/2	2	2730-819	10.82	2740-419	20.65	2740-619	35.44	-	-	2740-519	24.30	2740-719	39.13
707	7/8	7/32	1/2	2	2730-820	11.23	2740-420	20.65	2740-620	36.11	2730-920†	17.40	2740-520	24.30	2740-720	39.86
807	7/8	1/4	1/2	2	2730-825	11.23	2740-421	20.65	2740-621	36.11	-	-	2740-521	24.30	2740-721	39.86
608	1	3/16	1/2	2	2730-821	11.32	2740-422	23.65	2740-622	38.80	-	-	2740-522	27.80	2740-722	42.84
708	1	7/32	1/2	2	2730-822	12.63	2740-423	23.65	2740-623	39.16	2730-922†	19.55	2740-523	27.80	2740-723	43.25
808	1	1/4	1/2	2	2730-826	12.63	2740-424	23.65	2740-624	39.16	-	-	2740-524	27.80	2740-724	43.25
1008	1	5/16	1/2	2	2730-834	13.33	2740-425	23.65	2740-625	40.25	-	-	2740-525	27.80	2740-725	44.43
1208	1	3/8	1/2	2	2730-823	13.74	2740-426	23.65	2740-626	40.25	-	-	2740-526	27.80	2740-726	44.43
609	1-1/8	3/16	1/2	2	2730-824	13.74	2740-427	26.00	2740-627	43.62	2730-924†	21.50	2740-527	30.75	2740-727	48.16
709	1-1/8	7/32	1/2	2	2730-827	13.74	2740-428	26.00	2740-628	43.62	2730-927†	24.10	2740-528	30.75	2740-728	48.16
809	1-1/8	1/4	1/2	2	2730-828	13.74	2740-429	26.00	2740-629	44.45	-	-	2740-529	30.75	2740-729	49.08
1009	1-1/8	5/16	1/2	2	2730-835	14.35	2740-430	26.00	2740-630	46.62	-	-	2740-530	32.70	2740-730	51.47
610	1-1/4	3/16	1/2	2	2730-829	17.01	2740-431	28.60	2740-631	48.69	2730-929†	23.45	2740-531	33.70	2740-731	53.76
710	1-1/4	7/32	1/2	2	2730-830	17.01	2740-432	28.60	2740-632	48.69	2730-930†	23.45	2740-532	33.70	2740-732	53.76
810	1-1/4	1/4	1/2	2	2730-831	17.01	2740-433	28.60	2740-633	50.29	-	-	2740-533	33.70	2740-733	55.53
1010	1-1/4	5/16	1/2	2	2730-836	17.01	2740-434	30.35	2740-634	52.32	-	-	2740-534	35.80	2740-734	57.77
1210	1-1/4	3/8	1/2	2	2730-839	17.01	2740-435	30.35	2740-635	52.32	-	-	2740-535	35.80	2740-735	57.77
811	1-3/8	1/4	1/2	2	2730-832	18.85	2740-436	31.30	2740-636	56.39	-	-	2740-536	36.70	2740-736	62.25
1011	1-3/8	5/16	1/2	2	2730-837	18.85	2740-437	33.70	2740-637	56.39	2730-937†	28.75	2740-537	39.70	2740-737	62.25
1211	1-1/8	3/8	1/2	2	2730-840	18.85	2740-438	33.70	2740-638	57.39	-	-	2740-538	39.70	2740-738	63.36
812	1-1/2	1/4	1/2	2	2730-833	21.52	2740-439	33.95	2740-639	58.36	-	-	2740-539	40.25	2740-739	64.43
1012	1-1/2	5/16	1/2	2	2730-838	21.52	2740-440	34.65	2740-640	60.40	-	-	2740-540	41.10	2740-740	66.69
1212	1-1/2	3/8	1/2	2	2730-841	21.52	2740-441	35.50	2740-641	62.40	-	-	2740-541	41.70	2740-741	68.90

† Limited Quantities

## Narrow Width Keyseat Cutters

Straight Tooth - RHC - High Speed Steel 1



CUT DIA.	WIDTH	ORDER NO.	PRICE EACH
1/4	1/64	2742-020	\$25.30
1/4	1/32	2742-025	25.30
1/4	3/64	2742-030	25.30
5/16	1/64	2742-050	25.30
5/16	1/32	2742-055	25.30
5/16	3/64	2742-060	25.30
3/8	1/64	2742-080	25.30
3/8	1/32	2742-085	25.30
3/8	3/64	2742-090	25.30
1/2	1/64	2742-110	25.30
1/2	.020	2742-115	25.30
1/2	1/32	2742-120	25.30
1/2	3/64	2742-125	25.30
5/8	1/64	2742-145	25.30
5/8	.020	2742-150	25.30
5/8	1/32	2742-155	25.30
5/8	3/64	2742-160	25.30
5/8	1/16	2742-165	25.30
5/8	5/64	2742-170	25.30
3/4	1/32	2742-190	27.25

CUT DIA.	WIDTH	ORDER NO.	PRICE EACH
3/4	3/64	2742-195	\$27.25
3/4	1/16	2742-200	27.25
3/4	5/64	2742-205	27.25
3/4	3/32	2742-210	27.25
3/4	7/64	2742-215	27.25
7/8	3/64	2742-235	30.10
7/8	1/16	2742-240	30.10
7/8	5/64	2742-245	30.10
7/8	3/32	2742-250	30.10
7/8	7/64	2742-255	30.10
7/8	1/8	2742-260	30.10
7/8	9/64	2742-265	30.10
1	3/64	2742-285	33.60
1	1/16	2742-290	33.60
1	5/64	2742-295	33.60
1	3/32	2742-300	33.60
1	7/64	2742-305	33.60
1	1/8	2742-310	33.60
1	9/64	2742-315	33.60
1	5/32	2742-320	33.60

CUT DIA.	WIDTH	ORDER NO.	PRICE EACH
1	11/64	2742-325	\$33.60
1-1/8	3/64	2742-345	40.05
1-1/8	1/16	2742-350	40.05
1-1/8	5/64	2742-355	40.05
1-1/8	3/32	2742-360	40.05
1-1/8	7/64	2742-365	40.05
1-1/8	1/8	2742-370	40.05
1-1/8	9/64	2742-375	40.05
1-1/8	5/32	2742-380	40.05
1-1/8	11/64	2742-385	40.05
1-1/4	3/64	2742-405	43.25
1-1/4	1/16	2742-410	43.25
1-1/4	5/64	2742-415	43.25
1-1/4	3/32	2742-420	43.25
1-1/4	7/64	2742-425	43.25
1-1/4	1/8	2742-430	43.25
1-1/4	9/64	2742-435	43.25
1-1/4	5/32	2742-440	43.25
1-1/4	11/64	2742-445	43.25
1-3/8	1/16	2742-465	47.40

CUT DIA.	WIDTH	ORDER NO.	PRICE EACH
1-3/8	5/64	2742-470	\$47.40
1-3/8	3/32	2742-475	47.40
1-3/8	7/64	2742-480	47.40
1-3/8	1/8	2742-485	47.40
1-3/8	9/64	2742-490	47.40
1-3/8	5/32	2742-495	47.40
1-3/8	11/64	2742-500	47.40
1-3/8	3/16	2742-505	47.40
1-3/8	7/32	2742-510	47.40
1-1/2	1/16	2742-530	49.95
1-1/2	5/64	2742-535	49.95
1-1/2	3/32	2742-540	49.95
1-1/2	7/64	2742-545	49.95
1-1/2	1/8	2742-550	49.95
1-1/2	9/64	2742-555	49.95
1-1/			



# Woodruff Keyseat Cutters



**Complete Sets** <sup>3</sup>  
**Straight Tooth -**  
**High Speed Steel**

## 41 pc. Set

The 41-piece set includes one piece each of all the American Standard Woodruff Keyseat Cutter sizes with straight or staggered teeth.

Order No. 2740-851 Price.....\$1458.09



## 10 pc. Set

Includes one each:  
 204, 305, 403, 404, 406, 505, 606,  
 608, 806, 808



Order No. 2740-850 Price.....\$296.80



Order No. 2730-845 Price.....\$ 88.29



**Arbor Type**  
**High Speed**  
**Steel**



AMER. STD.	OLD STD.	DIAM.	FACE WIDTH	ARBOR HOLE	ORDER NO.	PRICE EACH
617	26	2-1/8	3/16	3/4	2830-005	\$14.35
817	27	2-1/8	1/4	3/4	2830-010	POA
1017	28	2-1/8	5/16	3/4	2830-015	17.35
1217	29	2-1/8	3/8	3/4	2830-020	18.15
822	R	2-3/4	1/4	1	2830-025	POA
1022	S	2-3/4	5/16	1	2830-030	POA
1222	T	2-3/4	3/8	1	2830-035	24.85
1422	U	2-3/4	7/16	1	2830-040	25.15
1622	V	2-3/4	1/2	1	2830-045	POA
1228	30	3-1/2	3/8	1	2830-050	31.95
1428	31	3-1/2	7/16	1	2830-055	33.60
1628	32	3-1/2	1/2	1	2830-060	34.80
1828	33	3-1/2	9/16	1	2830-065	38.45
2028	34	3-1/2	5/8	1	2830-070	38.05
2228	35	3-1/2	11/16	1	2830-075	40.65
2428	36	3-1/2	3/4	1	2830-080	40.75

## Carbide Tipped Face

**Shank Type**  
 Standard Width Tolerance .0005



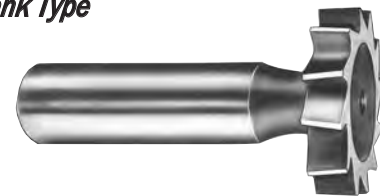
**Straight Tooth**



**Staggered Tooth** <sup>2</sup>

## Solid Carbide Face

**Straight Tooth**  
**Shank Type**



<sup>1</sup>

U.S. STD.	OLD STD.	DIAM.	FACE WIDTH	OVERALL WIDTH	STRAIGHT TOOTH		STAGGERED TOOTH	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
204	1	1/2	1/16	2-1/16	3046-005	\$73.45	3046-205	\$85.90
304	2	1/2	3/32	2-3/32	3046-010	73.45	3046-210	85.90
404	3	1/2	1/8	2-1/8	3046-015	73.45	3046-215	85.90
305	4	5/8	3/32	2-3/32	3046-020	76.00	3046-220	89.00
405	5	5/8	1/8	2-1/8	3046-025	76.00	3046-225	89.00
505	6	5/8	5/32	2-5/32	3046-030	76.00	3046-230	89.00
605	61	5/8	3/16	2-3/16	3046-035	76.00	3046-235	89.00
406	7	3/4	1/8	2-1/8	3046-040	79.40	3046-240	92.95
506	8	3/4	5/32	2-5/32	3046-045	79.40	3046-245	92.95
606	9	3/4	3/16	2-3/16	3046-050	79.40	3046-250	92.95
806	91	3/4	1/4	2-1/4	3046-055	79.40	3046-255	92.95
507	10	7/8	5/32	2-5/32	3046-060	83.20	3046-260	97.25
607	11	7/8	3/16	2-3/16	3046-065	83.20	3046-265	97.25
707	12	7/8	7/32	2-7/32	3046-070	83.20	3046-270	97.25
807	A	7/8	1/4	2-1/4	3046-075	83.20	3046-275	97.25
608	13	1	3/16	2-3/16	3046-080	95.60	3046-280	111.40
708	14	1	7/32	2-7/32	3046-085	95.60	3046-285	111.40
808	15	1	1/4	2-1/4	3046-090	95.60	3046-290	111.40
1008	B	1	5/16	2-5/16	3046-095	95.60	3046-295	111.40
1208	152	1	3/8	2-3/8	3046-100	95.60	3046-300	111.40
609	16	1-1/8	3/16	2-3/16	3046-105	100.40	3046-305	116.90
709	17	1-1/8	7/32	2-7/32	3046-110	100.40	3046-310	116.90
809	18	1-1/8	1/4	2-1/4	3046-115	100.40	3046-315	116.90
1009	C	1-1/8	5/16	2-5/16	3046-120	100.40	3046-320	116.90
610	19	1-1/4	3/16	2-3/16	3046-125	105.50	3046-325	123.55
710	20	1-1/4	7/32	2-1/32	3046-130	105.50	3046-330	123.55
810	21	1-1/4	1/4	2-1/4	3046-135	105.50	3046-335	123.55
1010	D	1-1/4	5/16	2-5/16	3046-140	105.50	3046-340	123.55
1210	E	1-1/4	3/8	2-3/8	3046-145	105.50	3046-345	123.55
811	22	1-3/8	1/4	2-1/4	3046-150	110.65	3046-350	129.70
1011	23	1-3/8	5/16	2-5/16	3046-155	110.65	3046-355	129.70
1211	F	1-3/8	3/8	2-3/8	3046-160	110.65	3046-360	129.70
812	24	1-1/2	1/4	2-1/4	3046-165	116.25	3046-365	135.95
1012	25	1-1/2	5/16	2-5/16	3046-170	116.25	3046-370	135.95
1212	G	1-1/2	3/8	2-3/8	3046-175	116.25	3046-375	135.95

AMER. STD.	NOM. CUTTER DIAM.	FACE WIDTH	OVER-ALL LGTH	NO. OF FLUTES	ORDER NO.	PRICE EACH
303	3/8	3/32	2-3/32	8	2969-005	\$43.50
403	3/8	1/8	2-1/8	8	2969-010	43.50
304	1/2	3/32	2-3/32	10	2969-015	50.00
404	1/2	1/8	2-1/8	10	2969-020	50.50
305	5/8	3/32	2-3/32	10	2969-025	51.10
405	5/8	1/8	2-1/8	10	2969-030	55.90
505	5/8	5/32	2-5/32	10	2969-035	54.55
605	5/8	3/16	2-3/16	10	2969-040	59.00
406	3/4	1/8	2-1/8	10	2969-045	69.80
506	3/4	5/32	2-5/32	10	2969-050	71.00
606	3/4	3/16	2-3/16	10	2969-055	74.90
806	3/4	1/4	2-1/4	10	2969-060	75.65
507	7/8	5/32	2-5/32	12	2969-065	84.25
607	7/8	3/16	2-3/16	12	2969-070	84.60
707	7/8	7/32	2-7/32	12	2969-075	88.30
807	7/8	1/4	2-1/4	12	2969-080	89.95
608	1	3/16	2-3/16	12	2969-085	93.35
708	1	7/32	2-7/32	12	2969-090	102.00
808	1	1/4	2-1/4	12	2969-095	104.10
609	1-1/8	3/16	2-3/16	14	2969-100	126.65
709	1-1/8	7/32	2-7/32	14	2969-105	129.85
809	1-1/8	1/4	2-1/4	14	2969-110	130.75
610	1-1/4	3/16	2-3/16	14	2969-115	128.40
710	1-1/4	7/32	2-7/32	14	2969-120	132.00
810	1-1/4	1/4	2-1/4	14	2969-125	134.70
812	1-1/2	1/4	2-1/4	16	2969-130	160.00
1012	1-1/2	5/16	2-5/16	16	2969-135	164.90
1212	1-1/2	3/8	2-3/8	16	2969-140	170.05

# Shank Type Cutters

## Dovetail Cutters High Speed Steel & Cobalt



CUTTER DIAM.	SHANK DIAM.	OVERALL LENGTH	Pittsburg <sup>®</sup> ALLEGHANY						ALLEGIANCE <sup>®</sup>		
			45° HSS		60° HSS		45° COBALT		60° COBALT		45° HSS
			ORDER NUMBER	ORDER NUMBER	PRICE EACH	ORDER NUMBER	ORDER NUMBER	PRICE EACH	ORDER NUMBER	ORDER NUMBER	PRICE EACH
3/8	3/8	2-1/8	2730-224	2730-024	\$17.03	2740-024	2740-224	\$23.65	2741-424	2741-224	\$40.75
1/2	3/8	2-1/8	2730-232	2730-032	17.89	2740-032	2740-232	23.65	2741-432	2741-232	40.75
3/4	3/8	2-1/8	2730-248	2730-048	18.92	2740-048	2740-248	25.97	2741-448	2741-248	40.75
1	1/2	2-1/2	—	—	—	—	—	—	2741-464	2741-264	47.40
1-3/8	5/8	2-7/8	2730-288	2730-088	33.24	2740-088	2740-288	57.21	2741-488	2741-288	66.60
1-7/8	7/8	3-1/4	2730-320	2730-120	61.36	2740-120	2740-320	92.96	2741-520	2741-320	145.75
2-1/4	1	3-3/4	2730-344	2730-144	77.31	2740-144	2740-344	136.51	2741-544	2741-344	176.75
2-1/2	1	3-3/4	2730-360	2730-160	138.59	2740-160	2740-360	186.21	2741-560	2741-360	226.20

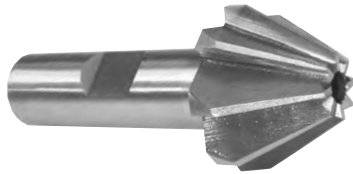
## ALLEGIANCE<sup>®</sup> Carbide Tipped Dovetail Cutters



CUTTER DIAM.	SHANK DIAM.	OVERALL LENGTH	NECK DIAM.	NO. OF TEETH	45° ANGLE			60° ANGLE		
					CUTTER WIDTH	ORDER NO.	PRICE EACH	CUTTER WIDTH	ORDER NO.	PRICE EACH
1/2	3/8	2-1/8	3/16	3	5/32	2837-010	\$76.50	7/32	2837-110	\$76.50
3/4	3/8	2-1/4	3/16	3	1/4	2837-020	85.25	1/4	2837-120	85.25
1	1/2	2-1/2	3/8	4	5/16	2837-030	94.15	3/8	2837-130	94.15
1-1/4	5/8	2-3/4	1/2	4	5/16	2837-040	104.30	1/2	2837-140	104.30
1-1/2	3/4	3-1/4	1/2	4	1/2	2837-050	131.85	5/8	2837-150	131.85
2	1	4-1/4	3/4	6	5/8	2837-060	200.00	3/4	2837-160	200.00
2-1/2	1	4-3/8	1	6	3/4	2837-070	290.60	7/8	2837-170	290.60
3	1-1/4	4-1/2	1	6	1	2837-080	337.55	1-1/8	2837-180	337.55

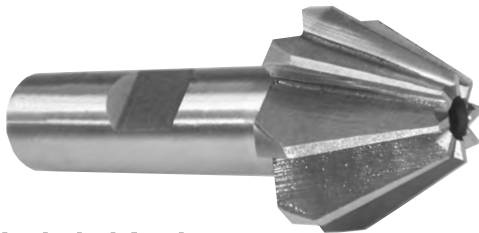
## 60° & 90° Face Angle Shank Type Cutters

### End Cutting Weldon Shank – High Speed Steel or M42 Cobalt



### 60° Included Angle

LARGE CUTTING DIA. (IN)	SMALL CUTTING DIA. (IN)	FACE WIDTH (IN)	SHANK DIA. (IN)	OVERALL LENGTH (IN)	COBALT		HSS	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4	5/16	17/32	3/8	2-3/32	2735-106	\$61.19	2735-306	\$49.98
1	3/8	11/16	1/2	2-13/32	2735-108	77.73	2735-308	65.37
1-1/4	1/2	25/32	5/8	2-21/32	2735-110	95.85	2735-310	80.30
1-5/8	5/8	1-1/16	3/4	3-1/16	2735-113	164.33	2735-313	136.33



### 90° Included Angle

LARGE CUTTING DIA. (IN)	SMALL CUTTING DIA. (IN)	FACE WIDTH (IN)	SHANK DIA. (IN)	OVERALL LENGTH (IN)	COBALT		HSS	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4	5/16	3/8	3/8	1-15/16	2735-206	\$61.19	2735-406	\$49.98
1	3/8	7/16	1/2	2-3/16	2735-208	77.73	2735-408	65.37
1-1/4	1/2	17/32	5/8	2-13/32	2735-210	95.85	2735-410	80.30
1-5/8	5/8	11/16	3/4	2-11/16	2735-213	164.33	2735-413	136.33

## Corner Rounding End Mills High Speed Steel



RADIUS	SHANK DIAM.	LARGEST DIAM.	SMALLEST DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/32	3/8	7/16	1/4	2-1/2	2729-021	\$14.88
1/16	3/8	7/16	1/4	2-1/2	2729-041	11.32
3/32	3/8	1/2	5/16	2-1/2	2729-061	12.44
1/8	1/2	5/8	5/16	3	2729-081	13.79
5/32	1/2	3/4	3/8	3	2729-101	15.21
3/16	3/4	7/8	3/8	3-1/8	2729-121	17.46
3/16	1/2	7/8	3/8	3	2729-122	17.46
7/32	1/2	7/8	3/8	3	2729-141	20.61
1/4	3/4	1	3/8	3-1/4	2729-161	18.74
1/4	1/2	1	3/8	3-1/8	2729-162	18.74
9/32	5/8	1	3/8	3-1/4	2729-181	25.38
5/16	7/8	1-1/8	3/8	3-1/2	2729-201	23.07
5/16	1/2	1-1/8	3/8	3-1/4	2729-202	23.07
5/16	3/4	1-1/8	3/8	3-1/2	2729-203	23.07
11/32	1/2	1-1/8	3/8	3-1/2	2729-221	30.16
3/8	7/8	1-1/4	3/8	3-3/4	2729-241	27.42
3/8	1/2	1-1/4	3/8	3-1/2	2729-242	27.42
3/8	3/4	1-1/4	3/8	3-3/4	2729-243	27.42
13/32	1/2	1-1/4	3/8	3-3/4	2729-261	31.77
7/16	1	1-3/8	3/8	4	2729-281	28.88
7/16	1/2	1-3/8	3/8	4	2729-282	28.88
15/32	1/2	1-3/8	3/8	4	2729-301	38.15
1/2	1	1-1/2	3/8	1-1/8	2729-321	34.68
1/2	3/4	1-1/2	3/8	3-7/8	2729-322	34.68
5/8	1	1-15/16	9/16	4-1/4	2729-401	62.77
5/8	3/4	1-15/16	9/16	4	2729-402	62.77
3/4	1	2-1/4	5/8	4-5/16	2729-481	73.46
3/4	3/4	2-1/4	5/8	4-1/8	2729-482	73.46
1	1	3	7/8	4-3/4	2729-641	118.70
1	3/4	3	7/8	4-1/2	2729-642	118.70

# Shank Type Cutters

## Concave, Shank Type Cutter



2

### High Speed Steel

Pittsburg <sup>®</sup> ALLEGHANY						
RADIUS	CUTTER DIAM.	SHANK DIAM.	OVERALL LENGTH	NUMBER OF TEETH	ORDER NUMBER	PRICE EACH
1/32	3/4	1/2	3	6	2732-302	\$39.65
1/16	3/4	1/2	3	6	2732-304	39.65
3/32	3/4	1/2	3	6	2732-306	39.65
1/8	1	3/4	3-1/2	6	2732-308	46.65
5/32	1	3/4	3-1/2	6	2732-310	53.30
3/16	1	3/4	3-1/2	6	2732-312	49.90
1/4	1-1/4	3/4	4	4	2732-316	72.10
5/16	1-1/4	3/4	4	4	2732-320	82.80
3/8	1-1/2	3/4	4-3/16	4	2732-324	100.10

### High Speed Steel & Carbide Tipped

ALLEGIANCE									
RADIUS	CUTTER DIAM.	SHANK DIAM.	OVERALL LENGTH	NO. OF TEETH	HSS ORDER NO.	PRICE EACH	NO. OF TEETH	CARBIDE TIPPED ORDER NO.	PRICE EACH
1/32	3/4	1/2	3	8	2732-502	\$66.75	6	3045-802	\$131.35
1/16	3/4	1/2	3	8	2732-504	66.75	6	3045-804	131.35
3/32	7/8	1/2	3	8	2732-506	71.30	6	3045-806	157.40
1/8	1-1/4	3/4	3-1/2	8	2732-508	78.00	6	3045-808	175.10
5/32	1-5/16	3/4	3-1/2	8	2732-510	88.05	6	3045-810	191.60
3/16	1-3/8	3/4	3-1/2	8	2732-512	99.65	6	3045-812	220.85
1/4	1-1/2	3/4	4	8	2732-516	106.35	6	3045-816	251.30
5/16	1-3/4	3/4	4	8	2732-520	132.75	6	3045-820	284.30
3/8	1-7/8	3/4	4	8	2732-524	159.40	6	3045-824	317.25

## Convex, Shank Type Cutter

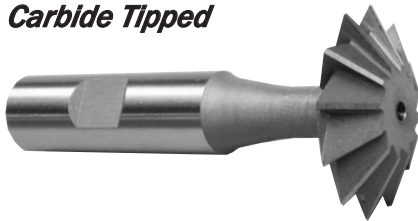
### High Speed Steel & Carbide Tipped



Pittsburg <sup>®</sup> ALLEGHANY						ALLEGIANCE						
RADIUS	SHANK DIAM.	OVERALL LENGTH	CUTTER DIAM.	NO. FLUTES	HIGH SPEED ORDER NO.	PRICE EACH	NO. FLUTES	HIGH SPEED ORDER NO.	PRICE EACH	NO. FLUTES	CARBIDE TIPPED ORDER NO.	PRICE EACH
1/32	3/4	1/2	3	6	2732-402	\$41.65	8	2732-602	\$66.75	6	3045-902	\$158.30
1/16	3/4	1/2	3	6	2732-404	41.65	8	2732-604	66.75	6	3045-904	158.30
3/32	7/8	1/2	3	6	2732-406	44.35	10	2732-606	71.35	6	3045-906	173.50
1/8	1-1/4	3/4	3-1/2	6	2732-408	54.80	10	2732-608	73.20	6	3045-908	188.35
5/32	1-5/16	3/4	3-1/2	6	2732-410	58.65	10	2732-610	73.20	6	3045-910	211.15
3/16	1-3/8	3/4	3-1/2	6	2732-412	62.45	10	2732-612	86.00	6	3045-912	226.10
1/4	1-1/2	3/4	4	6	2732-416	74.75	10	2732-616	90.50	6	3045-916	248.65
5/16	1-5/8	3/4	4	6	2732-420	94.00	-	-	-	-	-	-
5/16	1-3/4	3/4	4	-	-	-	10	2732-620	132.75	10	3045-920	284.30
3/8	1-3/4	3/4	4	6	2732-424	114.25	-	-	-	-	-	-
3/8	1-7/8	3/4	4	-	-	-	10	2732-624	159.40	10	3045-924	317.25

## Double Angle Shank Type Cutter

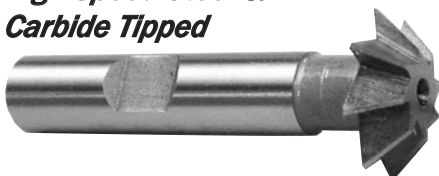
### Right Hand Cut/Weldon Shank High Speed Steel & Carbide Tipped



Pittsburg <sup>®</sup> ALLEGHANY					ALLEGIANCE					
INCLUDED ANGLE	CUTTER DIAM.	CUTTER THICKNESS	SHANK DIAM.	OVERALL LENGTH	HIGH SPEED ORDER NUMBER	PRICE EACH	HIGH SPEED ORDER NUMBER	PRICE EACH	CARBIDE TIPPED ORDER NUMBER	PRICE EACH
60°	3/4	3/16	3/8	2-3/8	2733-121	\$30.35	2734-406	\$31.20	3045-606	\$109.85
60°	1	5/16	1/2	2-27/32	2733-161	35.10	2734-408	48.65	3045-608	119.50
60°	1-3/8	7/16	5/8	3-7/32	2733-221	60.45	2734-411	65.45	3045-611	130.75
60°	1-1/2	1/2	5/8	3-3/8	2733-241	68.15	2734-412	85.10	3045-612	145.00
60°	1-7/8	5/8	3/4	3-25/32	2733-301	76.10	2734-415	98.60	3045-615	235.95
60°	2-1/4	3/4	7/8	4-5/32	2733-362	115.75	2734-418	144.80	3045-618	335.70
60°	2-1/4	1/2	3/4	3-1/8	2733-361	97.10	-	-	-	-
90°	3/4	1/4	3/8	2-7/16	2734-121	30.35	2734-436	31.20	3045-636	109.85
90°	1	3/8	1/2	2-29/32	2734-161	35.10	2734-438	48.65	3045-638	119.50
90°	1-3/8	1/2	5/8	3-9/32	2734-221	60.45	2734-441	65.45	3045-641	130.75
90°	1-1/2	9/16	5/8	3-7/16	2734-241	68.15	2734-442	85.10	3045-642	145.00
90°	1-7/8	5/8	3/4	3-25/32	2734-301	76.10	2734-445	98.60	3045-645	235.95
90°	2-1/4	3/4	7/8	4-5/32	2734-362	115.75	2734-456	144.80	3045-656	335.70
90°	2-1/4	1/2	3/4	3-1/8	2734-361	97.10	-	-	-	-

## Single Angle Chamfering Cutters

### Right Hand Cut/Weldon Shank High Speed Steel & Carbide Tipped



Pittsburg <sup>®</sup> ALLEGHANY					ALLEGIANCE					
ANGLE	CUTTER DIAM.	CUTTER WIDTH	SHANK DIAM.	OVERALL LENGTH	HIGH SPEED ORDER NUMBER	PRICE EACH	HIGH SPEED ORDER NUMBER	PRICE EACH	CARBIDE TIPPED ORDER NUMBER	PRICE EACH
45°	1/2	1/8	3/8	2-1/8	2732-032	\$25.20	2732-208	\$33.05	3045-708	\$98.35
45°	3/4	3/16	3/8	2-1/8	2732-048	30.15	2732-212	41.10	3045-712	121.35
45°	1	5/16	1/2	2-1/2	2732-064	40.25	2732-216	51.05	3045-716	142.10
45°	1-1/2	1/2	3/4	2-3/4	2732-096	48.00	2732-224	65.90	3045-724	189.00
60°	1/2	7/32	3/8	2-1/8	2732-132	25.20	2732-258	33.05	3045-758	98.35
60°	3/4	5/16	3/8	2-1/8	2732-148	30.15	2732-262	41.10	3045-762	121.35
60°	1	7/16	1/2	2-1/2	2732-164	40.25	2732-266	51.05	3045-766	142.10
60°	1-1/2	5/8	3/4	2-3/4	2732-196	48.00	2732-274	65.90	3045-774	189.00

# Two Flute, Single End, End Mills

## Regular Length – R. H. Cut - R.H. Spiral - High Speed Steel



Uncoated



TiN Coated

SIZE		UNCOATED				TiN COATED				UNCOATED			
MILL DIAM.	SHANK DIAM.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH		
1/8	3/8	3/8	2-5/16	2612-081	\$ 3.73	2613-708	\$6.04	3/8	2-5/16	2593-081	\$ 7.41		
9/64	3/8	3/8	2-5/16	2612-091†	4.85	-	-	-	-	-	-		
5/32	3/8	3/8	2-5/16	2612-101	3.93	-	-	3/8	2-5/16	2593-101	10.51		
11/64	3/8	3/8	2-5/16	2612-111†	4.85	-	-	-	-	-	-		
3/16	3/8	3/8	2-5/16	2612-121	3.73	2613-712	6.04	7/16	2-3/8	2593-121	7.41		
7/32	3/8	3/8	2-5/16	2612-141	3.93	-	-	1/2	2-7/16	2593-141	8.42		
15/64	3/8	3/8	2-5/16	2612-151†	4.85	-	-	-	-	-	-		
1/4	3/8	1/2	2-5/16	2612-161	3.73	2613-716	6.04	1/2	2-7/16	2593-161	7.41		
17/64	3/8	1/2	2-5/16	2612-171†	4.90	-	-	-	-	-	-		
9/32	3/8	1/2	2-5/16	2612-181	3.96	-	-	9/16	2-1/2	2593-181	8.42		
19/64	3/8	9/16	2-5/16	2612-191†	4.90	-	-	-	-	-	-		
5/16	3/8	9/16	2-5/16	2612-201	3.77	2613-720	6.04	9/16	2-1/2	2593-201	7.41		
21/64	3/8	9/16	2-5/16	2612-211†	4.90	-	-	-	-	-	-		
11/32	3/8	9/16	2-5/16	2612-221	3.96	-	-	-	-	-	-		
23/64	3/8	9/16	2-5/16	2612-231†	4.90	-	-	-	-	-	-		
3/8	3/8	9/16	2-5/16	2612-241	3.77	2613-724	6.04	9/16	2-1/2	2593-241	7.41		
25/64	3/8	13/16	2-1/2	2612-251†	6.71	-	-	-	-	-	-		
13/32	3/8	13/16	2-1/2	2612-261	5.42	-	-	-	-	-	-		
27/64	3/8	13/16	2-1/2	2612-271†	6.71	-	-	-	-	-	-		
7/16	3/8	13/16	2-1/2	2612-281	5.16	2613-728	8.08	13/16	2-11/16	2593-281	10.47		
29/64	3/8	13/16	2-1/2	2612-291†	6.71	-	-	-	-	-	-		
29/64	1/2	13/16	2-1/2	2612-292†	7.16	-	-	-	-	-	-		
15/32	3/8	13/16	2-1/2	2612-301	5.54	-	-	-	-	-	-		
15/32	1/2	13/16	2-1/2	2612-302†	5.54	-	-	-	-	-	-		
31/64	3/8	13/16	2-1/2	2612-311†	6.71	-	-	-	-	-	-		
1/2	3/8	13/16	2-1/2	2612-322	5.16	-	-	13/16	2-11/16	2593-321	10.86		
1/2	1/2	1	3	2612-321	5.51	2613-732	8.54	1	3-1/4	2593-322	10.57		
9/16	1/2	1-1/8	3-1/8	2612-361	7.12	-	-	1-1/8	3-3/8	2593-361	13.09		
19/32	1/2	1-1/8	3-1/8	2612-381†	10.31	-	-	-	-	-	-		
5/8	1/2	1-1/8	3-1/8	2612-401	7.93	-	-	1-1/8	3-3/8	2593-401	15.23		
5/8	5/8	1-5/16	3-7/16	2612-402	8.09	2613-740	11.73	1-5/16	3-3/4	2593-402	14.61		
11/16	1/2	1-5/16	3-5/16	2612-441	8.59	-	-	1-5/16	3-5/8	2593-441	15.73		
11/16	5/8	1-5/16	3-7/16	2612-442	8.59	-	-	1-5/16	3-3/4	2593-442	15.73		
23/32	1/2	1-5/16	3-5/16	2612-461†	11.91	-	-	-	-	-	-		
3/4	1/2	1-5/16	3-5/16	2612-481	9.16	-	-	1-5/16	3-5/8	2593-481	17.16		
3/4	5/8	1-5/16	3-7/16	2612-482	9.16	2613-747	13.86	1-5/16	3-3/4	2593-482	17.16		
3/4	3/4	1-5/16	3-9/16	2612-483	9.16	2613-748	13.86	1-5/16	3-7/8	2593-483	17.16		
13/16	1/2	1-1/2	3-5/8	2612-520	11.32	-	-	-	-	-	-		
13/16	5/8	1-1/2	3-5/8	2612-521	11.32	-	-	1-1/2	4	2593-521	20.70		
13/16	3/4	1-1/2	3-3/4	2612-522	11.32	-	-	1-7/8	4-1/8	2593-522	20.97		

† Limited Quantities



# Two Flute, Single End, End Mills

## Regular Length – R. H. Cut - R.H. Spiral - High Speed Steel



Uncoated



TiN Coated

SIZE		UNCOATED				TiN COATED		UNCOATED			
MILL DIAM.	SHANK DIAM.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
7/8	1/2	1-1/2	3-1/2	2612-561	\$12.18	-	-	-	-	-	-
7/8	5/8	1-1/2	3-5/8	2612-562	12.18	-	-	1-1/2	4	2593-561	\$21.62
7/8	3/4	1-1/2	3-3/4	2612-563	12.18	-	-	1-1/2	4-1/8	2593-563	21.62
7/8	7/8	1-1/2	3-3/4	2612-564	12.18	-	-	1-1/2	4-1/8	2593-562	20.70
29/32	1/2	1-1/2	3-5/8	2612-581†	18.98	-	-	-	-	-	-
15/16	5/8	1-1/2	3-5/8	2612-601	14.60	-	-	1-1/2	4	2593-601	23.24
15/16	3/4	1-1/2	3-3/4	2612-602	14.60	-	-	1-1/2	4-1/8	2593-603	23.24
15/16	7/8	1-1/2	3-3/4	2612-603	14.60	-	-	1-1/2	4-1/8	2593-602	23.24
31/32	1/2	1-1/2	3-1/2	2612-621†	20.67	-	-	-	-	-	-
1	1/2	1-1/2	3-1/2	2612-641	15.90	-	-	-	-	-	-
1	5/8	1-1/2	3-5/8	2612-642	15.90	-	-	1-1/2	4	2593-641	23.96
1	3/4	1-1/2	3-3/4	2612-643	15.90	2613-763	\$19.42	1-1/2	4-1/8	2593-642	27.01
1	7/8	1-1/2	3-3/4	2612-644	15.90	-	-	1-1/2	4-1/8	2593-643	26.59
1	1	1-5/8	4-1/8	2612-645	15.90	2593-644	28.21	1-5/8	4-1/2	2593-644	28.21
1-1/16	3/4	1-5/8	3-7/8	2612-680	24.22	-	-	-	-	-	-
1-1/8	3/4	1-5/8	3-7/8	2612-721	22.02	-	-	1-5/8	4-1/4	2593-720	42.55
1-1/8	7/8	1-5/8	3-7/8	2612-722	22.02	-	-	1-5/8	4-1/4	2593-721	37.96
1-1/8	1	1-5/8	4-1/8	2612-723	22.33	-	-	1-5/8	4-1/2	2593-722	39.58
1-3/16	3/4	1-5/8	3-7/8	2612-761	26.77	-	-	-	-	-	-
1-3/16	1	1-5/8	4-1/8	2612-762	27.40	-	-	-	-	-	-
1-1/4	3/4	1-5/8	3-7/8	2612-801	24.34	-	-	1-5/8	4-1/2	2593-800	49.13
1-1/4	7/8	1-5/8	3-7/8	2612-802	24.34	-	-	1-5/8	4-1/2	2593-801	38.18
1-1/4	1	1-5/8	4-1/8	2612-803	24.91	-	-	1-5/8	4-1/2	2593-802	43.35
1-1/4	1-1/4	1-5/8	4-1/8	2612-804	24.91	-	-	1-5/8	4-1/2	2593-803	43.35
1-5/16	3/4	1-5/8	3-7/8	2612-841	30.62	-	-	-	-	-	-
1-3/8	3/4	1-5/8	3-7/8	2612-881	27.84	-	-	1-5/8	4-1/4	2593-880	51.26
1-3/8	1	1-5/8	4-1/8	2612-882	27.84	-	-	1-5/8	4-1/2	2593-881	50.63
1-7/16	3/4	1-5/8	3-7/8	2612-921	35.40	-	-	-	-	-	-
1-7/16	1	1-5/8	4-1/8	2612-922	35.40	-	-	-	-	-	-
1-1/2	3/4	1-5/8	3-7/8	2612-961	32.18	-	-	1-5/8	4-1/4	2593-960	60.69
1-1/2	1	1-5/8	4-1/8	2612-962	32.18	-	-	1-5/8	4-1/2	2593-961	55.49
1-1/2	1-1/4	1-5/8	4-1/8	2612-963	32.18	-	-	1-5/8	4-1/2	2593-962	55.49
1-5/8	3/4	1-5/8	3-7/8	2613-041	41.20	-	-	-	-	-	-
1-5/8	1-1/4	1-5/8	4-1/8	2613-042	37.45	-	-	1-5/8	4-1/2	2594-041	58.99
1-3/4	3/4	1-5/8	3-7/8	2613-121	46.95	-	-	1-5/8	4-1/4	2594-120	68.10
1-3/4	1-1/4	1-5/8	4-1/8	2613-122	42.68	-	-	1-5/8	4-1/2	2594-121	68.10
1-7/8	3/4	1-5/8	3-7/8	2613-200	54.34	-	-	-	-	-	-
1-7/8	1-1/4	1-5/8	4-1/8	2613-201	49.40	-	-	1-5/8	4-1/2	2594-201	71.07
2	3/4	1-5/8	3-7/8	2613-281	58.45	-	-	1-5/8	4-1/4	2594-280	80.60
2	1-1/4	1-5/8	4-1/8	2613-282	53.14	-	-	1-5/8	4-1/2	2594-281	86.21
2	1-1/4	2-1/2	5	2613-283	69.69	-	-	-	-	-	-
2	2	4	7-3/4	2613-284	124.94	-	-	-	-	-	-
2-1/4	1-1/4	1-5/8	4-1/8	2613-441	130.45	-	-	-	-	-	-
2-1/2	1-1/4	2	4-1/2	2613-602	142.85	-	-	-	-	-	-

† Limited Quantities

# Two Flute, Single End, End Mills

High Speed Steel - R.H.C. - R.H.S.

## Metric Single End



## Long, Extra Long & Long Flute



Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE					
MILL. DIAM. (mm.)	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
3.0	3/8	3/8	2-5/16	2626-230	\$ 4.16	3/8	2-5/16	2620-230	\$8.67
3.5	3/8	7/16	2-3/8	-	-	7/16	2-3/8	2620-235	8.67
4.0	3/8	7/16	2-5/16	2626-240	4.16	7/16	2-3/8	2620-240	8.67
4.5	3/8	7/16	2-5/16	-	-	7/16	2-3/8	2620-245	8.84
5.0	3/8	1/2	2-5/16	2626-250	4.16	7/16	2-7/16	2620-250	8.84
5.5	3/8	1/2	2-5/16	-	-	1/2	2-7/16	2620-255	8.84
6.0	3/8	1/2	2-5/16	2626-260	4.16	1/2	2-7/16	2620-260	8.84
6.5	3/8	9/16	2-5/16	-	-	1/2	2-7/16	2620-265	8.84
7.0	3/8	9/16	2-5/16	2626-270	5.24	9/16	2-1/2	2620-270	8.84
7.5	3/8	9/16	2-5/16	-	-	9/16	2-1/2	2620-275	8.84
8.0	3/8	9/16	2-5/16	2626-280	5.24	9/16	2-1/2	2620-280	8.84
8.5	3/8	9/16	2-5/16	-	-	9/16	2-1/2	2620-285	8.84
9.0	3/8	9/16	2-5/16	2626-290	6.20	9/16	2-1/2	2620-290	8.84
9.5	3/8	9/16	2-5/16	-	-	3/4	2-1/2	2620-295	8.84
10.0	3/8	13/16	2-1/2	2626-300	6.20	3/4	2-1/2	2620-300	12.59
10.5	3/8	13/16	2-1/2	-	-	1	2-11/16	2620-305	12.80
11.0	3/8	13/16	2-1/2	2626-310	8.05	1	2-11/16	2620-310	12.80
11.5	3/8	1	3	-	-	1	2-11/16	2620-315	12.99
12.0	3/8	13/16	2-1/2	2626-320†	8.05	-	-	-	-
12.0	1/2	1	3	2626-321	8.05	1	3-1/4	2620-320	13.50
12.5	1/2	1	3	-	-	1-1/4	3-1/4	2620-325	13.50
13.0	1/2	1-1/8	3-1/8	2626-330	9.36	1-1/8	3-1/8	2620-330	15.73
13.5	1/2	1-1/8	3-1/8	-	-	1-1/8	3-1/8	2620-335	15.73
14.0	1/2	1-1/8	3-1/8	2626-340	9.36	1-1/8	3-1/8	2620-340	15.73
14.5	1/2	1-1/8	3-1/8	-	-	1-1/8	3-1/8	2620-345	16.74
15.0	1/2	1-1/8	3-1/8	2626-350	9.36	1-1/8	3-1/8	2620-350	16.74
16.0	5/8	1-3/8	3-3/4	2626-360	11.82	1-3/8	3-3/4	2620-360	17.87
17.0	5/8	1-5/16	3-7/16	-	-	1-5/8	3-3/4	2620-370	19.09
18.0	5/8	1-5/8	3-3/4	2626-380	13.01	1-5/8	3-3/4	2620-380	19.90
19.0	3/4	1-5/16	3-9/16	-	-	1-5/8	3-7/8	2620-390	20.51
20.0	5/8	1-1/2	3-5/8	2626-400	15.30	1-1/2	3-5/8	2620-400	23.85
21.0	5/8	1-1/2	3-1/2	-	-	1-7/8	4-1/8	2620-410	23.85
22.0	3/4	1-1/2	3-3/4	2626-420	18.87	-	-	-	-
22.0	7/8	1-1/2	3-3/4	-	-	1-7/8	4-1/8	2620-420	25.38
23.0	7/8	1-1/2	3-1/2	-	-	1-7/8	4-1/8	2620-430	29.44
24.0	3/4	1-1/2	3-3/4	2626-440	22.44	-	-	-	-
24.0	1	1-1/2	3-1/2	-	-	1	2	2620-440	30.46
25.0	3/4	2	4-1/8	2626-448	23.63	-	-	-	-
25.0	1	1-5/8	4-1/8	-	-	1	2	2620-450	30.46
30.0	1	2-1/8	4-1/2	2626-500	38.01	-	-	-	-
34.0	1	1-5/8	4-1/8	2626-540†	47.10	-	-	-	-

† Limited Quantities

Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1	3-1/16	2614-161	\$ 6.58	-	-
1/4	3/8	1-1/4	3-1/8	-	-	2595-161	\$11.36
5/16	3/8	1-1/4	3	-	-	2595-201	11.67
5/16	3/8	1-1/4	3-5/16	2614-201	6.58	-	-
3/8	3/8	1	2-3/4	2614-241	6.24	-	-
3/8	3/8	1-1/2	3-1/4	2614-242	6.58	2595-241	11.45
1/2	1/2	1-1/2	3-1/2	2614-321	7.28	2595-320	12.80
1/2	1/2	2	4	2614-322	8.51	2595-321	14.31
5/8	1/2	2-3/8	4-1/2	2614-400†	9.90	-	-
5/8	5/8	1-5/8	3-3/4	2614-401	9.41	-	-
5/8	5/8	2	4-1/8	2614-402	9.90	2595-401	18.98
3/4	1/2	3-1/8	5-1/8	2614-480†	16.28	-	-
3/4	3/4	2-1/4	4-1/2	2614-483	14.49	2595-481	17.97
3/4	3/4	2-1/2	4-3/4	2614-484†	14.49	-	-
3/4	3/4	3	5-1/4	2614-485	16.53	-	-
7/8	7/8	2	4-1/4	2614-565†	15.36	-	-
7/8	7/8	2-1/2	4-3/4	2614-566	17.17	-	-
7/8	7/8	3	5-1/4	2614-568†	20.32	-	-
7/8	7/8	3-1/2	5-3/4	2614-569	22.05	-	-
1	1	2	4-1/2	2614-647†	20.89	-	-
1	1	2-1/2	5	2614-649	22.65	-	-
1	1	3	5-1/2	2614-650	24.65	2595-641	34.41
1-1/8	1	3	5-1/2	2614-727	33.11	2595-721	60.30
1-1/4	1	3	5-1/2	2614-804	37.53	2595-801	60.59
1-1/4	1-1/4	3	5-1/2	2614-806	37.53	2595-802	57.55
1-1/4	1-1/4	3-1/2	6	2614-807†	40.94	-	-
1-1/4	1-1/4	4-3/4	7-1/4	2614-809†	49.45	-	-
1-3/8	1	2-1/4	4-3/4	2614-881†	36.57	-	-
1-3/8	1	3	5-1/2	2614-882	42.34	-	-
1-1/2	1-1/4	2-1/4	4-3/4	2614-961†	42.93	-	-
1-1/2	1-1/4	3	5-1/2	2614-962	49.71	2595-961	71.70
1-5/8	1-1/4	2-1/4	4-3/4	2615-041†	50.00	-	-
1-5/8	1-1/4	3	5-1/2	2615-042	57.90	-	-
1-3/4	1-1/4	3	5-1/2	2615-122	66.05	2596-121	87.80
1-7/8	1-1/4	2-1/4	4-3/4	2615-201†	64.09	-	-
1-7/8	1-1/4	3	5-1/2	2615-202	74.21	2596-201	89.29
2	1-1/4	3	5-1/2	2615-282	82.36	2596-281	109.50

† Limited Quantities



## Long Reach (Extension Type)

Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE				
MILL DIAM.	SHANK DIAM.	LG'TH BELOW SHANK	CUT. EDGE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3/8	13/16	3/8	2-9/16	2618-081	\$8.45	-	-
3/16	3/8	1-1/8	1/2	2-7/8	2618-121	8.45	-	-
3/16	3/8	1-1/8	1/2	2-11/16	-	-	2597-121	\$15.07
1/4	3/8	1-1/2	5/8	3-1/16	2618-161	6.50	2597-161	15.56
5/16	3/8	1-3/4	3/4	3-5/16	2618-202	6.38	2597-201	16.04
3/8	3/8	1-3/4	3/4	3-5/16	2618-241	6.38	2597-241	16.55
1/2	1/2	2-1/4	1	4	2618-321	8.63	2597-321	17.50

Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE				
MILL DIAM.	SHANK DIAM.	LG'TH BELOW SHANK	CUT. EDGE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
5/8	1/2	2-3/4	1-3/8	4-5/8	2618-401	\$13.30	-	-
5/8	5/8	2-3/4	1-3/8	4-5/8	2618-402	13.30	2597-401	\$24.36
3/4	1/2	3-3/8	1-5/8	5-3/8	2618-481	16.83	-	-
3/4	3/4	3-3/8	1-5/8	5-3/8	2618-482	16.83	2597-481	30.76
7/8	7/8	4	2	6	2618-561	21.80	-	-
1	1	5	2-1/2	7-1/4	2618-641	28.98	2597-641	54.00
1-1/4	1-1/4	5	3	7-1/4	2618-801	45.43	2597-801	74.10

# M42 8% Cobalt - Two Flute End Mills

## Regular Length- Single End



				Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	2690-008	\$5.81	3/8	2-5/16	2604-008	\$8.39
5/32	3/8	7/16	2-5/16	2690-010	5.81	-	-	-	-
3/16	3/8	7/16	2-5/16	2690-012	5.81	7/16	2-3/8	2604-012	8.39
7/32	3/8	1/2	2-5/16	2690-014	5.81	-	-	-	-
1/4	3/8	1/2	2-5/16	2690-016	5.81	1/2	2-7/16	2604-016	8.39
9/32	3/8	9/16	2-5/16	2690-018	5.81	-	-	-	-
5/16	3/8	9/16	2-5/16	2690-020	5.81	9/16	2-1/2	2604-020	8.39
11/32	3/8	9/16	2-5/16	2690-022	5.81	-	-	-	-
3/8	3/8	9/16	2-5/16	2690-024	5.81	9/16	2-1/2	2604-024	8.39
13/32	3/8	13/16	2-1/2	2690-026	9.11	-	-	-	-
7/16	3/8	13/16	2-1/2	2690-028	8.84	13/16	2-11/16	2604-028	12.66
15/32	3/8	13/16	2-1/2	2690-030	9.71	-	-	-	-
1/2	3/8	13/16	2-1/2	2690-032	9.71	-	-	-	-
1/2	1/2	1	3	2690-033	9.71	1	3-1/4	2604-032	13.59
9/16	1/2	1-1/8	3-1/8	2690-036	11.92	-	-	-	-
5/8	1/2	1-1/8	3-1/8	2690-040	13.07	-	-	-	-
5/8	5/8	1-5/16	3-7/16	2690-041	13.07	1-5/16	3-3/4	2604-040	17.47
11/16	5/8	1-5/16	3-7/16	2690-044	16.76	-	-	-	-
3/4	1/2	1-5/16	3-5/16	2690-048	16.55	-	-	-	-
3/4	5/8	1-5/16	3-7/16	2690-049	16.55	1-5/16	3-7/16	2604-047	19.95
3/4	3/4	1-5/16	3-9/16	2690-050	16.55	1-5/16	3-7/8	2604-048	19.95
13/16	3/4	1-1/2	3-3/4	2690-052	24.90	-	-	-	-

				Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
7/8	1/2	1-1/2	3-5/8	2690-056	\$21.65	-	-	-	-
7/8	5/8	1-1/2	3-5/8	2690-057	21.65	-	-	-	-
7/8	3/4	1-1/2	3-3/4	2690-058	21.65	1-1/2	3-3/4	2604-058	\$27.66
7/8	7/8	1-1/2	3-3/4	2690-059	21.65	-	-	-	-
15/16	3/4	1-1/2	3-3/4	2690-060	33.70	-	-	-	-
1	1/2	1-1/2	3-5/8	2690-064	29.30	-	-	-	-
1	5/8	1-1/2	3-5/8	2690-065	29.30	-	-	-	-
1	3/4	1-1/2	3-3/4	2690-066	29.30	1-1/2	3-3/4	2604-063	34.04
1	1	1-5/8	4-1/8	2690-067	29.30	1-5/8	4-1/2	2604-064	33.79
1-1/8	3/4	1-5/8	3-7/8	2690-068	38.28	-	-	-	-
1-1/8	1	1-5/8	4-1/8	2690-069	38.28	-	-	-	-
1-1/4	3/4	1-5/8	3-7/8	2690-078	43.58	-	-	-	-
1-1/4	1	1-5/8	4-1/8	2690-079	43.58	-	-	-	-
1-1/4	1-1/4	1-5/8	4-1/8	2690-080	43.58	1-5/8	4-1/8	2604-080	53.20
1-3/8	1	1-5/8	4-1/8	2690-084	60.76	-	-	-	-
1-1/2	3/4	1-5/8	3-7/8	2690-094	66.53	-	-	-	-
1-1/2	1	1-5/8	4-1/8	2690-095	66.53	-	-	-	-
1-1/2	1-1/4	1-5/8	4-1/8	2690-096	66.53	1-5/8	4-1/8	2604-096	71.17
1-3/4	1-1/4	1-5/8	4-1/8	2690-112	82.50	-	-	-	-
2	1-1/4	1-5/8	4-1/8	2690-128	97.46	-	-	-	-

## Double End



				Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/16	2700-008	\$ 8.45	3/8	3-1/16	2604-208	\$11.90
5/32	3/8	7/16	3-1/8	2700-010	8.45	7/16	3-1/8	2604-210	13.73
3/16	3/8	7/16	3-1/8	2700-012	8.45	7/16	3-1/4	2604-212	11.90
7/32	3/8	1/2	3-1/8	2700-014	8.45	1/2	3-1/4	2604-214	13.73
1/4	3/8	1/2	3-1/8	2700-016	8.45	1/2	3-3/8	2604-216	12.21
9/32	3/8	9/16	3-1/8	2700-018	8.45	9/16	3-3/8	2604-218	13.73
5/16	3/8	9/16	3-1/8	2700-020	8.45	9/16	3-1/2	2604-220	11.90
11/32	3/8	9/16	3-1/8	2700-022	8.45	-	-	2604-222†	13.73
3/8	3/8	9/16	3-1/8	2700-024	8.45	9/16	3-1/2	2604-224	12.08
13/32	1/2	13/16	3-3/4	2700-026	12.62	13/16	3-3/4	2604-226	21.05
7/16	1/2	13/16	3-3/4	2700-028	12.62	13/16	3-3/4	2604-228	18.11
1/2	1/2	13/16	3-3/4	2700-032	12.62	13/16	4-1/8	2604-232	18.17
9/16	5/8	-	-	-	-	1-1/8	4-1/2	2604-236	25.25
5/8	5/8	1-1/8	4-1/2	2700-040	20.21	1-1/8	5	2604-240	25.96
3/4	3/4	1-5/16	5	2700-048	28.94	1-5/16	5-5/8	2604-248	32.51
7/8	7/8	1-9/16	5-1/2	2700-056	33.74	1-9/16	5-1/2	2604-256	40.85
1	1	1-5/8	5-7/8	2700-064	43.05	1-5/8	5-7/8	2604-264	47.59

## Ball End Single End



				Pittsburg® ALLEGHANY				ALLEGIANCE® AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	2690-208	\$10.99	-	-	-	-
3/16	3/8	1/2	2-3/8	2690-212	10.99	-	-	-	-
1/4	3/8	5/8	2-7/16	2690-216	10.99	-	-	-	-
5/16	3/8	3/4	2-1/2	2690-220	10.99	-	-	-	-
3/8	3/8	3/4	2-1/2	2690-224	10.99	-	-	-	-
1/2	1/2	1	3	2690-232	17.86	-	-	-	-
5/8	5/8	1-3/8	3-1/2	2690-240	22.46	-	-	-	-
3/4	3/4	1-5/8	3-7/8	2690-248	28.85	-	-	-	-
1	1	2-1/4	4-3/4	2690-264	50.24	-	-	-	-
1-1/4	1-1/4	2-1/2	5	2690-280	57.65	-	-	-	-
1-1/2	1-1/4	2-1/2	5	2690-296	75.52	-	-	-	-

† Limited Quantities

# Two Flute, Single End, End Mills

High Speed Steel

Miniature End Mills - Two Flute - Single End - R.H.C. R.H.S.



Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
<b>STUB LENGTH</b>					
1/32	3/16	3/64	1	2610-002	\$3.87
3/64	3/16	1/16	1	2610-003	3.87
1/16	3/16	3/32	1	2610-004	3.87
5/64	3/16	5/32	1	2610-005	3.87
3/32	3/16	5/32	1	2610-006	3.75
7/64	3/16	3/16	1-1/8	2610-007	3.75
1/8	3/16	3/16	1-1/8	2610-008	3.75
9/64	3/16	7/32	1-1/4	2610-009	3.75
5/32	3/16	1/4	1-1/4	2610-010	3.75
11/64	3/16	9/32	1-1/2	2610-011	3.75
3/16	3/16	9/32	1-1/2	2610-012	3.75
<b>REGULAR LENGTH</b>					
1/32	3/16	3/32	1-1/8	2610-022	3.75
3/64	3/16	5/32	1-1/8	2610-023	3.75
1/16	3/16	7/32	1-1/8	2610-024	3.75
5/64	3/16	1/4	1-1/8	2610-025	3.75
3/32	3/16	5/16	1-1/8	2610-026	3.64
7/64	3/16	11/32	1-5/16	2610-027	3.64
1/8	3/16	3/8	1-5/16	2610-028	3.64
9/64	3/16	13/32	1-7/16	2610-029	3.64
5/32	3/16	7/16	1-7/16	2610-030	3.64
11/64	3/16	15/32	1-11/16	2610-031	3.64
3/16	3/16	1/2	1-11/16	2610-032	3.64
<b>LONG LENGTH</b>					
1/32	3/16	3/32	1-11/16	2610-042†	3.75
1/8	3/16	3/8	1-11/16	2610-048†	3.75
5/32	3/16	7/16	1-5/8	2610-050†	3.75

† Limited Quantities

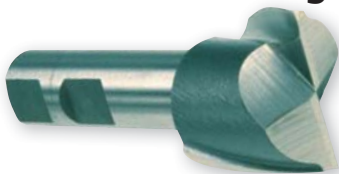
Left Hand - Two Flute - L.H.C. L.H.S.



Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-3/8	2620-008†	\$5.43
3/16	3/8	3/8	2-3/8	2620-012†	5.43
1/4	3/8	1/2	2-3/8	2620-016†	5.43
5/16	3/8	9/16	2-3/8	2620-020†	5.43
3/8	3/8	9/16	2-3/8	2620-024†	5.43
7/16	3/8	13/16	2-1/2	2620-028†	7.05
1/2	1/2	1	3	2620-033†	7.05
9/16	1/2	1-1/8	3-1/8	2620-036†	11.22
5/8	1/2	1-1/8	3-1/8	2620-040†	11.22
5/8	5/8	1-5/16	3-7/16	2620-041†	11.22
3/4	1/2	1-5/16	3-5/16	2620-048†	12.75
3/4	5/8	1-1/2	3-7/16	2620-049†	12.75
7/8	5/8	1-1/2	3-5/8	2620-056†	16.17
7/8	7/8	1-1/2	3-3/4	2620-057†	16.17
1	5/8	1-1/2	3-5/8	2620-064†	18.96
1-1/8	7/8	1-5/8	3-7/8	2620-072†	24.22
1-1/8	1	1-5/8	4-1/8	2620-073†	24.56
1-1/4	1	1-5/8	4-1/8	2620-080†	27.40
1-3/8	1	1-5/8	4-1/8	2620-088†	30.62
1-1/2	1	1-5/8	4-1/8	2620-096†	35.40
1-1/2	1-1/4	1-5/8	4-1/8	2620-097†	35.40
1-5/8	1-1/4	1-5/8	4-1/8	2620-104†	41.20
1-3/4	1-1/4	1-5/8	4-1/8	2620-112†	46.95
1-7/8	1-1/4	1-5/8	4-1/8	2620-120†	54.34
2	1-1/4	1-5/8	4-1/8	2620-128†	58.45

† Limited Quantities

## Stub Flute Vertical Mill and Bridgeport



Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OVER. L'GTH	ORDER NO.	PRICE EACH
1/2	1/2	3/4	2-1/8	2713-321†	\$8.58
3/4	1/2	5/8	2-5/8	-	-
7/8	1/2	5/8	2-5/8	2713-561†	10.83
1	1/2	3/4	2-3/4	2713-641†	12.63
1	5/8	3/4	2-7/8	2713-642†	12.93
1	3/4	3/4	3	2713-643†	12.93
1-1/8	1/2	3/4	2-3/4	2713-721†	19.44
1-1/8	5/8	3/4	2-7/8	2713-722†	19.44
1-1/8	3/4	3/4	3	2713-723†	19.44
1-1/4	1/2	3/4	2-3/4	2713-801†	20.49
1-1/4	5/8	3/4	2-7/8	-	-
1-1/4	3/4	3/4	3	2713-803†	20.49
1-3/8	5/8	3/4	2-7/8	2713-881†	21.18
1-3/8	3/4	3/4	3	2713-882†	21.18
1-1/2	5/8	3/4	2-7/8	2713-961†	22.98
1-1/2	3/4	3/4	3	2713-962†	22.98

† Limited Quantities



## End Mill Dispenser

Smaller version of our master dispensers. Separates and organizes end mills from 1/8" to 1".

3 compartments for 1/8 - 1/4" - 3/8 - 1/2 - 3/4".

2 compartments for 3/16 - 6/16 - 7-16 - 5/8 - 1".

1 compartment for 9/16 - 11/16 - 7/8".

Measures 7-3/8" x 7-3/4" x 14-5/8".

Shipping Weight: 10-1/4 lbs. each.

Order No. 1919-395 - \$80.50





# Miniature, Two Flute, End Mills

3/16" Shank – Double End – R.H.S. – R.H.C.



## High Speed Steel - Stub Length

Pittsburg <sup>®</sup> ALLEGHANY							
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	SQUARE END		BALL END	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/32	3/16	3/64	2	2610-082	\$6.35	2610-142	\$9.13
3/64	3/16	1/16	2	2610-083	6.35	2610-143	9.13
1/16	3/16	3/32	2	2610-084	5.89	2610-144	7.76
5/64	3/16	1/8	2	2610-085	5.89	2610-145	7.76
3/32	3/16	9/64	2	2610-086	5.89	2610-146	7.76
7/64	3/16	5/32	2	2610-087	5.89	2610-147	7.76
1/8	3/16	3/16	2	2610-088	5.89	2610-148	7.76
9/64	3/16	7/32	2	2610-089	5.89	2610-149	7.76
5/32	3/16	15/64	2	2610-090	5.89	2610-150	7.76
11/64	3/16	1/4	2	2610-091	5.89	2610-151	7.76
3/16	3/16	9/32	2	2610-092	5.89	2610-152	7.76

## M42 8% Cobalt - Stub Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
				1/32	3/16
3/64	3/16	1/16	2	2701-143	7.70
1/16	3/16	3/32	2	2701-144	7.01
5/64	3/16	1/8	2	2701-145	7.01
3/32	3/16	9/64	2	2701-146	7.01
7/64	3/16	5/32	2	2701-147	7.01
1/8	3/16	3/16	2	2701-148	7.01
9/64	3/16	7/32	2	2701-149	7.01
5/32	3/16	15/64	2	2701-150	7.01
11/64	3/16	1/4	2	2701-151	7.01
3/16	3/16	9/32	2	2701-152	7.01



## High Speed Steel - Regular Length

Pittsburg <sup>®</sup> ALLEGHANY							
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	SQUARE END		BALL END	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/32	3/16	3/32	2-1/4	2610-102	\$6.05	2610-162	\$8.67
3/64	3/16	9/64	2-1/4	2610-103	6.05	2610-163	8.67
1/16	3/16	3/16	2-1/4	2610-104	5.46	2610-164	7.33
5/64	3/16	15/64	2-1/4	2610-105	5.46	2610-165	7.33
3/32	3/16	9/32	2-1/4	2610-106	5.46	2610-166	7.33
7/64	3/16	21/64	2-1/4	2610-107	5.46	2610-167	7.33
1/8	3/16	3/8	2-1/4	2610-108	5.46	2610-168	7.33
9/64	3/16	13/32	2-1/4	2610-109	5.46	2610-169	7.33
5/32	3/16	7/16	2-1/4	2610-110	5.46	2610-170	7.33
11/64	3/16	1/2	2-1/4	2610-111	5.46	2610-171	7.33
3/16	3/16	1/2	2-1/4	2610-112	5.46	2610-172	7.33

## M42 8% Cobalt - Regular Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
				1/32	3/16
3/64	3/16	9/64	2-1/4	2701-163	8.42
1/16	3/16	3/16	2-1/4	2701-164	7.96
5/64	3/16	15/64	2-1/4	2701-165	7.96
3/32	3/16	9/32	2-1/4	2701-166	7.96
7/64	3/16	21/64	2-1/4	2701-167	7.96
1/8	3/16	3/8	2-1/4	2701-168	7.96
9/64	3/16	13/32	2-1/4	2701-169	7.96
5/32	3/16	7/16	2-1/4	2701-170	7.96
11/64	3/16	1/2	2-1/4	2701-171	7.96
3/16	3/16	1/2	2-1/4	2701-172	7.96



## High Speed Steel - Long Length

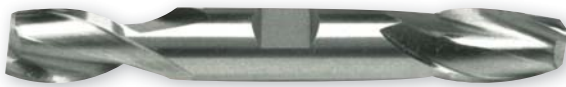
Pittsburg <sup>®</sup> ALLEGHANY							
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	SQUARE END		BALL END	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/32	3/16	7/32	2-1/2	-	-	2610-182	\$9.56
1/16	3/16	7/32	2-1/2	2610-124	\$6.72	2610-184	9.56
5/64	3/16	1/4	2-1/2	2610-125	6.72	-	-
3/32	3/16	9/32	2-5/8	2610-126	6.72	2610-186	9.56
7/64	3/16	9/32	2-5/8	2610-127	6.72	-	-
1/8	3/16	3/4	3-1/8	2610-128	6.72	2610-188	9.56
9/64	3/16	3/4	3-1/8	2610-129	6.72	-	-
5/32	3/16	7/8	3-1/4	2610-130	6.72	2610-190	9.56
11/64	3/16	7/8	3-1/4	2610-131	6.72	-	-
3/16	3/16	1	3-3/8	2610-132	6.72	2610-192	9.56

## M42 8% Cobalt - Long Length

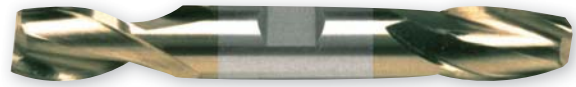
Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
				1/16	3/16
5/64	3/16	1/4	2-1/2	2701-185	10.47
3/32	3/16	9/32	2-5/8	2701-186	10.47
7/64	3/16	9/32	2-5/8	2701-187	10.47
1/8	3/16	3/4	3-1/8	2701-188	10.47
9/64	3/16	3/4	3-1/8	2701-189	10.47
5/32	3/16	7/8	3-1/4	2701-190	10.47
11/64	3/16	7/8	3-1/4	2701-191	10.47
3/16	3/16	1	3-3/8	2701-192	10.47

# Two Flute, Double End, End Mills

## High Speed Steel – R.H.C. – R.H.S.



Uncoated



TiN Coated

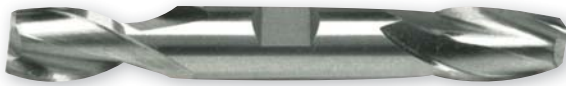
SIZE		UNCOATED				TiN COATED				UNCOATED	
MILL DIAM.	SHANK DIAM.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/16	2636-108	\$ 4.74	2636-408	\$ 8.67	3/8	3-1/16	2592-708	\$10.35
9/64	3/8	7/16	3-1/8	2636-109	5.59	-	-	-	-	-	-
5/32	3/8	7/16	3-1/8	2636-110	4.74	-	-	7/16	3-1/8	2592-710	11.08
11/64	3/8	7/16	3-1/8	2636-111	5.59	-	-	-	-	-	-
3/16	3/8	7/16	3-1/8	2636-112	4.74	2636-412	8.67	7/16	3-1/4	2592-712	10.35
13/64	3/8	1/2	3-1/8	2636-113	5.67	-	-	-	-	-	-
7/32	3/8	1/2	3-1/8	2636-114	4.74	-	-	1/2	3-1/4	2592-714	11.08
15/64	3/8	1/2	3-1/8	2636-115	6.68	-	-	-	-	-	-
1/4	3/8	1/2	3-1/8	2636-116	4.74	2636-416	8.67	1/2	3-3/8	2592-716	10.55
17/64	3/8	9/16	3-1/8	2636-117	6.68	-	-	-	-	-	-
9/32	3/8	9/16	3-1/8	2636-118	4.74	-	-	9/16	3-3/8	2592-718	11.17
19/64	3/8	9/16	3-1/8	2636-119	6.68	-	-	-	-	-	-
5/16	3/8	9/16	3-1/8	2636-120	4.74	2636-420	8.67	9/16	3-1/2	2592-720	10.35
21/64	3/8	9/16	3-1/8	2636-121	6.68	-	-	-	-	-	-
11/32	3/8	9/16	3-1/8	2636-122	4.74	-	-	9/16	3-1/2	2592-722	11.08
23/64	3/8	9/16	3-1/8	2636-123	6.68	-	-	-	-	-	-
3/8	3/8	9/16	3-1/8	2636-124	4.74	2636-424	8.67	9/16	3-1/2	2592-724	10.55
25/64	1/2	13/16	3-3/4	2636-125	8.55	-	-	13/16	4-1/8	2592-725†	18.60
13/32	1/2	13/16	3-3/4	2636-126	7.57	-	-	13/16	4-1/8	2592-726	16.74
27/64	1/2	13/16	3-3/4	2636-127	8.38	-	-	-	-	-	-
7/16	1/2	13/16	3-3/4	2636-128	7.57	2636-428	12.62	13/16	4-1/8	2592-728	15.93
29/64	1/2	13/16	3-3/4	2636-129	8.38	-	-	-	-	-	-
15/32	1/2	13/16	3-3/4	2636-130	7.57	-	-	13/16	4-1/8	2592-730	17.70
31/64	1/2	13/16	3-3/4	2636-131	8.38	-	-	-	-	-	-
1/2	1/2	13/16	3-3/4	2636-132	7.57	2636-432	12.75	13/16	4-1/8	2592-732	15.93
17/32	5/8	1-1/8	4-1/2	2636-134	13.12	-	-	-	-	-	-
9/16	5/8	1-1/8	4-1/2	2636-136	10.77	-	-	1-1/8	5	2592-736	22.53
19/32	5/8	1-1/8	4-1/2	2636-138	13.12	-	-	-	-	-	-
5/8	5/8	1-1/8	4-1/2	2636-140	10.77	2636-440	18.70	1-1/8	5	2592-740	22.02
21/32	3/4	1-5/16	5	2636-142	15.39	-	-	-	-	-	-
11/16	3/4	1-5/16	5	2636-144	14.30	-	-	1-5/16	5-5/8	2592-744	27.82
23/32	3/4	1-5/16	5	2636-146	15.39	-	-	-	-	-	-
3/4	3/4	1-5/16	5	2636-148	14.30	2636-448	22.91	1-5/16	5-5/8	2592-748	27.82
13/16	7/8	1-9/16	5-1/2	2636-152	17.90	-	-	1-9/16	6-1/8	2592-752	35.02
27/32	7/8	1-9/16	5-1/2	2636-154	23.27	-	-	-	-	-	-
7/8	7/8	1-9/16	5-1/2	2636-156	17.90	-	-	1-9/16	6-1/8	2592-756	35.02
29/32	1	1-5/8	5-7/8	2636-158	29.68	-	-	-	-	-	-
15/16	1	1-5/8	5-7/8	2636-160	22.83	-	-	1-5/8	6-3/8	2592-760	43.04
31/32	1	1-5/8	5-7/8	2636-162	29.68	-	-	-	-	-	-
1	1	1-5/8	5-7/8	2636-164	22.83	2636-464	33.58	1-5/8	6-3/8	2592-764	43.04

† Limited Quantities

# Two Flute, Double End, End Mills

## High Speed Steel

### Metric Double End - R.H.S. - R.H.C.



MILL. DIAM. (mm.)		SHANK DIA.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3.0	3/8	3/8	3-1/16	2628-530	\$6.62	2636-830	\$10.96	
3.5	3/8	7/16	3-1/4	-	-	2636-835	11.59	
4.0	3/8	7/16	3-1/4	2628-540	6.62	2636-840	10.96	
4.5	3/8	7/16	3-1/4	-	-	2636-845	10.96	
5.0	3/8	7/16	3-1/4	2628-550	6.62	2636-850	10.96	
5.5	3/8	1/2	3-1/4	-	-	2636-855	11.59	
6.0	3/8	1/2	3-3/8	2628-560	6.62	2636-860	11.20	
6.5	3/8	1/2	3-3/8	-	-	2636-865	11.20	
7.0	3/8	9/16	3-3/8	2628-570	6.62	2636-870	11.20	
7.5	3/8	9/16	3-3/8	-	-	2636-875	11.20	
8.0	3/8	9/16	3-1/2	2628-580	8.61	2636-880	10.96	
8.5	3/8	9/16	3-1/2	-	-	2636-885	11.59	
9.0	3/8	9/16	3-1/2	-	-	2636-890	11.20	
9.5	3/8	9/16	3-1/2	-	-	2636-895	11.20	
10.0	1/2	13/16	4-1/8	2628-600	11.56	2636-900	17.10	
10.5	1/2	13/16	4-1/8	-	-	2636-905	16.49	
11.0	1/2	13/16	4-1/8	-	-	2636-910	16.49	
11.5	1/2	13/16	4-1/8	-	-	2636-915	17.63	
12.0	1/2	13/16	4-1/8	2628-620	12.60	2636-920	16.49	
13.0	5/8	1-1/8	5	-	-	2636-930	24.69	
14.0	5/8	1-1/8	5	2628-640	15.91	2636-940	24.69	
15.0	5/8	1-1/8	5	-	-	2636-950	23.35	
16.0	3/4	1-5/16	5-5/8	2628-660	22.90	2636-960	29.12	
18.0	3/4	1-5/16	5-5/8	2628-680	22.90	2636-980	29.12	
20.0	7/8	1-9/16	5-5/8	2628-700	31.77	2636-991	36.65	
22.0	1	1-9/16	5-5/8	2628-720	36.43	-	-	
24.0	1	1-9/16	5-5/8	2628-740	36.43	-	-	

### Straight Flute - R.H.C.



MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3	2636-508†	\$6.80
3/16	3/8	7/16	3	2636-512†	6.80
1/4	3/8	1/2	3	2636-516†	6.80
5/16	3/8	9/16	3	2636-520†	6.80
7/16	1/2	13/16	3-3/4	2636-528†	9.68
1/2	1/2	13/16	3-3/4	2636-532†	10.03
5/8	5/8	1-1/8	3-7/16	2636-540†	14.31
3/4	3/4	1-5/16	4-1/2	2636-548†	18.87
7/8	7/8	1-9/16	5	2636-556†	24.96
1	5/8	1-5/8	5-1/2	2636-564†	32.76

† Limited Quantities

### Left Hand Spiral - L.H.C.



MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/8	2636-708†	\$5.98
3/16	3/8	7/16	3-1/8	2636-712†	5.98
7/32	3/8	1/2	3-1/8	2636-714†	5.98
1/4	3/8	1/2	3-1/8	2636-716†	5.98
9/32	3/8	9/16	3-1/8	2636-718†	5.98
5/16	3/8	9/16	3-1/8	2636-720†	5.98
11/32	3/8	9/16	3-1/8	2636-722†	5.98
3/8	3/8	9/16	3-1/8	2636-724†	5.98
13/32	1/2	13/16	3-3/4	2636-726†	7.23
7/16	1/2	13/16	3-3/4	2636-728†	7.23
15/32	1/2	13/16	3-3/4	2636-730†	7.23
1/2	1/2	13/16	3-3/4	2636-732†	7.23
9/16	5/8	1-1/8	4-1/2	2636-736†	11.22
5/8	5/8	1-1/8	4-1/2	2636-740†	13.98
3/4	3/4	1-5/16	5	2636-748†	22.11
7/8	7/8	1-9/16	5-1/2	2636-756†	28.02
1	1	1-5/8	5-7/8	2636-764†	34.11

† Limited Quantities



### Master End Mill Dispenser



All steel cabinet with plastic dividers to help protect and separate end mills.

Top drawer holds single end fractional end mills in popular sizes 1/8" to 1" with 41 compartments.

2nd drawer holds double end fractional end mills 1/16" to 1" in popular sizes with 41 compartments.

Lower drawer is undivided for extra end mills, cutters, drills, reamers and miscellaneous tools.

Dimensions: 11" x 26-1/4" x 9-1/2".

Each cabinet is LOCKABLE with its own individual set of keys and is STACKABLE for larger inventories.

Shipping Weight: 31 lbs. each. Cube: 1.64

**For 2-Flute End Mills**  
**Order No. 1919-385**  
**PRICE EACH - \$316.10**

**For 4-Flute End Mills**  
**Order No. 1919-390**  
**PRICE EACH - \$316.10**

# Two Flute - Fast Spiral End Mills for Aluminum

## Two Flute - Single End



### Regular Length

				Pittsburg® ALLEGIANCE AMERICAN MADE		Pittsburg® ALLEGIANCE AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	5/8	2-1/2	2621-161	\$ 5.53	3882-161	\$10.08
5/16	3/8	3/4	2-1/2	2621-201	5.53	3882-201	10.08
3/8	3/8	3/4	2-1/2	2621-241	5.53	3882-241	10.08
7/16	3/8	1	2-11/16	2621-281	7.95	3882-281	12.00
1/2	1/2	1-1/4	3-1/4	2621-321	7.91	3882-321	13.24
5/8	1/2	1-3/8	3-3/8	-	-	3882-401	18.31
5/8	5/8	1-5/8	3-3/4	2621-401	10.12	3882-402	17.16
3/4	3/4	1-5/8	3-7/8	2621-481	11.73	3882-482	19.27

				Pittsburg® ALLEGIANCE AMERICAN MADE		Pittsburg® ALLEGIANCE AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7/8	7/8	1-7/8	4-1/8	2621-561	\$15.30	3882-562	\$27.58
1	1	2	4-1/2	2621-641	18.70	3882-642	31.90
1-1/4	1-1/4	2	4-1/2	2621-801	32.85	3882-801	48.75
1-1/2	1-1/4	2	4-1/2	2621-961	41.57	3882-961	63.03
1-3/4	1-1/4	2	4-1/2	2622-121	49.06	3883-121	83.59
2	1-1/4	2	4-1/2	2622-281	61.12	3883-281	99.95

### Long Length

				Pittsburg® ALLEGIANCE AMERICAN MADE		Pittsburg® ALLEGIANCE AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	3-1/8	2623-161	\$ 6.76	3884-161	\$11.05
5/16	3/8	1-3/8	3-1/8	2623-201	6.76	3884-201	11.05
3/8	3/8	1-1/2	3-1/4	2623-241	6.76	3884-241	11.05
7/16	1/2	1-3/4	3-3/4	2623-281	9.27	3884-281	14.94
1/2	1/2	2	4	2623-321	9.65	3884-321	15.47
5/8	5/8	2-1/2	4-5/8	2623-401	13.01	3884-401	20.64
3/4	3/4	3	5-1/4	2623-481	16.28	3884-481	29.96
7/8	7/8	3-1/2	5-3/4	2623-561	21.35	-	-
1	1	3	5-1/2	2623-641†	25.78	-	-
1	1	4	6-1/2	2623-642	30.47	3884-561	49.77
1-1/4	1-1/4	3	5-1/2	2623-801†	38.26	-	-
1-1/4	1-1/4	4	6-1/2	2623-802	45.22	3884-801	71.18
1-1/2	1-1/4	3	5-1/2	2623-961†	48.76	-	-
1-1/2	1-1/4	4	6-1/2	2623-962	57.63	3884-961	91.10
1-3/4	1-1/4	4	6-1/2	2624-121	75.95	3885-121	123.92
2	1-1/4	4	6-1/2	2624-281	94.70	-	-

† Limited Quantities

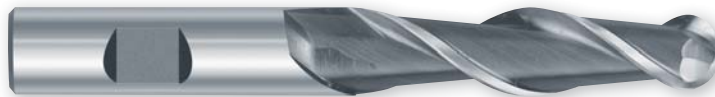
### Extra Long

				Pittsburg® ALLEGIANCE AMERICAN MADE		Pittsburg® ALLEGIANCE AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-3/4	3-9/16	2625-161	\$ 9.52	3885-161	\$ 12.65
5/16	3/8	2	3-3/4	2625-201	9.52	3885-201	13.03
3/8	3/8	2-1/2	4-1/4	2625-241	10.40	3885-241	13.64
7/16	1/2	2-3/4	4-3/4	2625-281	12.42	3885-281	18.11
1/2	1/2	3	5	2625-321	14.35	3885-321	21.07
5/8	5/8	4	6-1/8	2625-401	19.23	3885-401	26.01
3/4	3/4	4	6-1/4	2625-481	23.78	3885-481	36.95
7/8	7/8	5	7-1/4	2625-561	29.76	3885-561	47.52
1	1	6	8-1/2	2625-641	43.22	3885-641	56.52
1-1/4	1-1/4	6	8-1/2	2625-801	67.38	3885-801	82.76
1-1/2	1-1/4	6	8-1/2	2625-961†	91.25	3885-961	113.89
1-1/2	1-1/4	8	10-1/2	2625-962	112.70	-	-

† Limited Quantities

# Ball End Mills for Aluminum

## Two Flute, High Speed Steel



### Regular Length

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/4	3/8	5/8	2-1/2	3886-016	\$20.43
5/16	3/8	3/4	2-1/2	3886-020†	22.00
3/8	3/8	3/4	2-1/2	3886-024†	22.00
7/16	3/8	1	2-11/16	3886-028†	22.42
1/2	1/2	1-1/4	3-1/4	3886-032	30.43
5/8	5/8	1-5/8	3-3/4	3886-040†	42.00
3/4	3/4	3	5-1/4	3886-048	47.01
1	1	2	4-1/2	3886-064	70.57

† Limited Quantities

### Long Length

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	3-1/8	3886-116	\$26.71
5/16	3/8	1-3/8	3-1/8	3886-120†	26.71
3/8	3/8	1-1/2	3-1/4	3886-124	27.86
7/16	1/2	1-3/4	3-3/4	3886-128†	31.71
1/2	1/2	2	4	3886-132	38.15
5/8	5/8	2-1/2	4-5/8	3886-140	52.15
3/4	3/4	3	5-1/4	3886-148	65.17
7/8	7/8	3-1/2	5-3/4	3886-156†	61.59
1	1	4	6-1/2	3886-164	99.30
1-1/2	1-1/2	4	6-1/2	3886-196	148.77

### Extra Long Length

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/4	3/8	1-3/4	3-9/16	3886-216	\$29.44
5/16	3/8	2	3-3/4	3886-220†	29.44
3/8	3/8	2-1/2	4-1/4	3886-224	31.28
7/16	1/2	2-3/4	4-3/4	3886-228†	43.73
1/2	1/2	3	5	3886-232	43.73
5/8	5/8	4	6-1/8	3886-240†	63.58
3/4	3/4	4	6-1/4	3886-248	74.00
1	1	6	8-1/2	3886-264	109.44



# Three Flute End Mills

## Regular Length, Center Cutting

R. H. Cut – R. H. Spiral

High Speed Steel



				Pittsburg <sup>®</sup> ALLEGHANY		ALLEGIANCE <sup>®</sup> AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	2640-081	\$6.35	-	-
5/32	3/8	1/2	2-3/8	2640-101†	6.35	-	-
3/16	3/8	1/2	2-3/8	2640-121	6.35	-	-
1/4	3/8	5/8	2-1/2	2640-161	6.35	-	-
9/32	3/8	3/4	2-1/2	2640-181†	6.35	-	-
5/16	3/8	3/4	2-1/2	2640-201	6.35	-	-
11/32	3/8	3/4	2-1/2	2640-221†	6.35	-	-
3/8	3/8	3/4	2-1/2	2640-241	6.35	3992-241	\$12.95
7/16	3/8	1	2-11/16	2640-281	9.05	3992-281	15.26
15/32	3/8	1	2-11/16	2640-301†	9.50	-	-
1/2	3/8	1	2-11/16	2640-321	9.50	3992-321	15.90
1/2	1/2	1-1/4	3-1/4	2640-322	9.50	3992-322	15.90
9/16	1/2	1-3/8	3-3/8	2640-361	14.35	3992-361	19.27
5/8	1/2	1-3/8	3-3/8	2640-401	14.35	3992-401	17.06
5/8	5/8	1-5/8	3-3/4	2640-402	14.35	3992-402	19.27
11/16	5/8	1-5/8	3-3/4	2640-442†	16.10	-	-
3/4	1/2	1-5/8	3-5/8	2640-481	16.01	3992-481	22.32

† Limited Quantities

				Pittsburg <sup>®</sup> ALLEGHANY		ALLEGIANCE <sup>®</sup> AMERICAN MADE	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4	5/8	1-5/8	3-3/4	2640-482	\$16.01	3992-482	\$22.11
3/4	3/4	1-5/8	3-7/8	2640-483	16.01	3992-483	22.52
7/8	1/2	1-5/8	3-5/8	2640-561	20.29	3992-561	27.17
7/8	5/8	1-7/8	4	2640-562	20.29	3992-562	27.17
7/8	3/4	1-7/8	4-1/8	2640-563	20.29	3992-563	27.17
7/8	7/8	1-7/8	4-1/8	2640-564	20.29	-	-
15/16	5/8	1-7/8	4-1/8	2640-601†	24.29	-	-
15/16	7/8	1-7/8	4	2640-602†	24.29	-	-
1	5/8	1-7/8	4	2640-641	24.38	3992-641	30.32
1	3/4	1-7/8	4-1/8	2640-642	24.38	3992-642	30.32
1	7/8	1-7/8	4-1/8	2640-643	24.38	3992-643	33.05
1	1	2	4-1/2	2640-644	24.38	3992-644	30.32
1-1/8	1	2	1-1/2	2640-721	33.90	-	-
1-1/4	1-1/4	2	4-1/2	2640-802	35.01	3992-801	51.02
1-1/2	1-1/4	2	4-1/2	2640-962	42.01	3992-961	65.90
1-3/4	1-1/4	2	4-1/2	2641-121	51.24	-	-
2	1-1/4	2	4-1/2	2641-281	59.75	-	-

## Long Length

R. H. Cut – R. H. Spiral–

High Speed Steel



				Pittsburg <sup>®</sup> ALLEGHANY	
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	3-1/16	2642-161	\$9.01
5/16	3/8	1-3/8	3-1/8	2642-201	9.01
3/8	3/8	1-1/2	3-1/4	2642-241	9.01
7/16	1/2	1-3/4	3-3/4	2642-281	11.50
1/2	1/2	2	4	2642-321	13.53
5/8	5/8	2-1/2	4-5/8	2642-401	18.72
3/4	3/4	3	5-1/4	2642-481	21.90
7/8	7/8	3-1/2	5-3/4	2642-561	27.46
1	1	4	6-1/2	2642-642	31.19
1-1/4	1-1/4	3	6-1/2	2642-801†	39.81
1-1/4	1-1/4	4	6-1/2	2642-802	46.83
1-1/2	1-1/4	4	6-1/2	2642-961	56.17
1-3/4	1-1/4	4	6-1/2	2643-121	73.60
2	1-1/4	4	6-1/2	2643-281	89.24

## Double End

R. H. Cut – R. H. Spiral –

High Speed Steel



				Pittsburg <sup>®</sup> ALLEGHANY	
DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/4	2645-008	\$8.61
5/32	3/8	7/16	3-1/4	2645-010†	8.61
3/16	3/8	1/2	3-1/4	2645-012	8.61
7/32	3/8	9/16	3-1/4	2645-014†	8.61
1/4	3/8	5/8	3-3/8	2645-016	8.61
9/32	3/8	11/16	3-3/8	2645-018	8.61
5/16	3/8	3/4	3-3/8	2645-020	8.61
3/8	3/8	3/4	3-3/8	2645-024	8.61
7/16	1/2	1	4-1/4	2645-028	13.58
15/32	1/2	1	4-1/4	2645-030†	13.58
1/2	1/2	1	4-1/4	2645-032	13.58
9/16	5/8	1-3/8	5	2645-036	20.40
5/8	5/8	1-3/8	5	2645-040	20.40
11/16	3/4	1-5/8	5-5/8	2645-044	27.14
3/4	3/4	1-5/8	5-5/8	2645-048	25.66
13/16	7/8	1-7/8	6-1/4	2645-052	36.35
7/8	7/8	1-7/8	6-1/4	2645-056	32.80
15/16	1	1-7/8	6-3/8	2645-060	40.33
1	1	1-7/8	6-1/2	2645-064	39.98

# Multi-Flute, Single End, End Mills

Regular Length– R.H. Cut - R.H. Spiral - High Speed Steel



Non-Center Cut



Center Cut



TiN Coated

MILL DIAM.	SHANK DIAM.	SIZE			UNCOATED									
		FLUTE L'GTH	OAL	NO OF FLUTES	NON-CENTER CUT				CENTER CUT				TIN COATED CENTER CUT	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	4	2650-081†	\$ 3.93	2598-081	\$ 7.82	2667-108	\$ 4.23	2591-808	\$ 10.16	2667-648	\$ 7.18
9/64	3/8	3/8	2-3/8	4	2650-091†	5.11	-	-	-	-	-	-	-	-
5/32	3/8	3/8	2-3/8	4	2650-101†	4.13	2598-101	10.60	2667-110	4.34	-	-	-	-
11/64	3/8	1/2	2-3/8	4	2650-111†	5.11	-	-	-	-	-	-	-	-
3/16	3/8	1/2	2-3/8	4	-	-	2598-121	7.82	2667-112	4.23	2591-812	10.16	2667-652	7.18
13/64	3/8	1/2	2-3/8	4	2650-131†	5.11	-	-	-	-	-	-	-	-
7/32	3/8	1/2	2-3/8	4	2650-141†	4.13	2598-141	10.64	2667-114	4.34	2591-814	10.66	-	-
15/64	3/8	5/8	2-1/2	4	2650-151†	5.11	-	-	-	-	-	-	-	-
1/4	3/8	5/8	2-1/2	4	-	-	2598-161	7.82	2667-116	4.23	2591-816	9.74	2667-656	7.18
17/64	3/8	5/8	2-1/2	4	2650-171†	5.11	-	-	-	-	-	-	-	-
9/32	3/8	5/8	2-1/2	4	-	-	2598-181	10.64	2667-118	4.34	2591-818	10.76	-	-
19/64	3/8	3/4	2-1/2	4	2650-191†	5.11	-	-	-	-	-	-	-	-
5/16	3/8	3/4	2-1/2	4	-	-	2598-201	7.82	2667-120	4.23	2591-820	9.74	2667-660	7.18
21/64	3/8	3/4	2-1/2	4	2650-211†	5.11	-	-	-	-	-	-	-	-
11/32	3/8	3/4	2-1/2	4	2650-221†	4.13	2598-221	8.02	2667-122	4.23	2591-822	10.76	-	-
23/64	3/8	3/4	2-1/2	4	2650-231†	5.11	-	-	-	-	-	-	-	-
3/8	3/8	3/4	2-1/2	4	-	-	2598-241	7.82	2667-124	4.23	2591-824	9.74	2667-664	7.18
25/64	3/8	1	2-11/16	4	2650-251†	6.85	-	-	-	-	-	-	-	-
13/32	3/8	1	2-11/16	4	2650-261†	4.13	2598-261	11.10	2667-126	4.42	2591-826	14.61	-	-
27/64	3/8	1	2-11/16	4	2650-271†	6.85	-	-	-	-	-	-	-	-
7/16	3/8	1	2-11/16	4	2650-281†	5.27	2598-281	10.35	2667-128	6.24	2591-828	13.91	2667-668	9.99
29/64	3/8	1	2-11/16	4	2650-291†	7.16	-	-	-	-	-	-	-	-
15/32	3/8	1	2-11/16	4	2650-301†	5.79	2598-301	10.53	2667-130	6.90	2591-830	13.91	-	-
31/64	3/8	1	2-11/16	4	2650-311†	7.16	-	-	-	-	-	-	-	-
1/2	3/8	1	2-11/16	4	2650-321†	5.51	2598-321	10.35	2667-131	6.24	-	-	-	-
1/2	1/2	1-1/4	3-1/4	4	-	-	2598-322	10.35	2667-132	6.17	2591-832	14.31	2667-672	9.99
17/32	1/2	1-3/8	3-3/8	4	-	-	2598-341	13.64	-	-	2591-834	17.97	-	-
9/16	1/2	1-3/8	3-3/8	4	-	-	2598-361	13.42	2667-136	7.37	2591-836	19.59	-	-
19/32	1/2	1-3/8	3-3/8	4	2650-381†	10.36	-	-	-	-	-	-	-	-
39/64	1/2	1-3/8	3-3/8	4	2650-390†	10.36	-	-	-	-	-	-	-	-
5/8	1/2	1-3/8	3-3/8	4	2650-401†	7.97	2598-401	14.69	2667-139	7.96	2591-839	18.19	-	-
5/8	5/8	1-5/8	3-3/4	4	-	-	2598-402	16.43	2667-140	8.91	2591-840	18.19	2667-680	15.77
11/16	1/2	1-5/8	3-5/8	4	2650-441†	8.82	2598-441	16.04	2667-143	9.71	-	-	-	-
11/16	5/8	1-5/8	3-5/8	4	2650-442†	8.82	2598-442	16.95	2667-144	9.71	2591-844	19.59	2667-684	16.75
23/32	1/2	1-5/8	3-5/8	4	2650-461†	11.86	-	-	-	-	-	-	-	-
3/4	1/2	1-5/8	3-5/8	4	-	-	2598-481	17.36	2667-146	10.04	-	-	-	-
3/4	5/8	1-5/8	3-3/4	4	-	-	2598-482	17.56	2667-147	10.04	2591-847	20.70	-	-
3/4	3/4	1-5/8	3-7/8	4	-	-	2598-483	18.24	2667-148	10.40	2591-848	20.70	2667-688	16.75
13/16	5/8	1-7/8	4	6	-	-	2598-522	22.40	2667-151	12.45	-	-	-	-
13/16	3/4	1-7/8	4-1/8	4	2650-522†	12.28	2598-521	22.53	2667-152	12.45	2591-852	25.48	-	-
27/32	1/2	1-5/8	3-5/8	4	2650-541†	16.37	-	-	-	-	-	-	-	-
7/8	1/2	1-5/8	3-5/8	4	-	-	-	-	2667-153	12.56	-	-	-	-
7/8	5/8	1-7/8	4	6	2650-564†	12.59	2598-563	22.95	2667-154	12.78	2591-854	26.09	-	-
7/8	3/4	1-7/8	4-1/8	4	2650-565†	12.59	2598-561	23.76	2667-155	13.80	-	-	-	-
7/8	3/4	1-7/8	4-1/8	6	-	-	-	-	-	-	-	-	-	-
7/8	7/8	1-7/8	4-1/8	4	-	-	2598-562	22.64	2667-156	13.80	2591-856	26.09	2667-696	17.94
29/32	1/2	1-7/8	3-7/8	4	2650-581†	17.26	-	-	-	-	-	-	-	-
15/16	1/2	1-7/8	3-7/8	6	2650-602†	13.28	-	-	-	-	-	-	-	-
15/16	5/8	1-7/8	4	6	-	-	2598-603	25.60	2667-158	14.86	-	-	-	-

† Limited Quantities

# Multi-Flute, Single End, End Mills (cont'd)

Regular Length – R.H. Cut - R.H. Spiral - High Speed Steel



Non-Center Cut



Center Cut



TiN Coated

MILL DIAM.	SHANK DIAM.	SIZE			UNCOATED								TIN COATED	
		FLUTE L'GTH	OAL	NO OF FLUTES	NON-CENTER CUT				CENTER CUT				CENTER CUT	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
15/16	3/4	1-7/8	4-1/8	4	2650-603†	\$14.17	2598-601	\$28.61	2667-159	\$15.82	-	-	-	-
15/16	7/8	1-7/8	4-1/8	4	2650-604†	14.17	2598-602	25.60	2667-160	15.82	2591-860	\$ 28.93	-	-
31/32	1/2	1-7/8	3-7/8	4	2650-621†	18.47	-	-	-	-	-	-	-	-
1	1/2	1-7/8	3-7/8	4	-	-	-	-	2667-161	17.09	-	-	-	-
1	5/8	1-7/8	4	6	-	-	2598-644	26.20	2667-162	17.09	2591-862	31.47	-	-
1	3/4	1-7/8	4-1/8	4	2650-643†	14.21	2598-640	25.78	2667-163	17.09	2591-863	31.47	2667-703	\$ 19.66
1	7/8	1-7/8	4-1/8	4	2650-645†	14.21	2598-642	25.78	2667-165	17.09	-	-	-	-
1	1	2	4-1/2	4	2650-646†	15.05	2598-643	27.31	2667-164	17.09	2591-864	31.47	2667-704	26.86
1-1/16	3/4	2	4-1/4	6	-	-	2598-680	44.36	2667-168	28.44	-	-	-	-
1-1/8	3/4	2	4-1/4	6	2650-722†	21.52	2598-720	40.10	2667-170	24.10	2591-870	32.88	-	-
1-1/8	7/8	2	4-1/4	6	-	-	2598-721	36.04	2667-171	23.87	-	-	-	-
1-1/8	1	2	4-1/2	4	-	-	-	-	2667-172	24.64	2591-872	43.55	-	-
1-1/8	1	2	4-1/2	6	2650-724†	21.95	2598-722	37.15	2667-173	24.64	2591-873	43.55	-	-
1-3/16	3/4	2	4-1/4	6	-	-	-	-	2667-176	30.57	-	-	-	-
1-1/4	3/4	2	4-1/4	6	2650-801†	23.52	2598-800	43.76	2667-177	25.91	-	-	-	-
1-1/4	7/8	2	4-1/4	6	2650-802†	23.52	2598-802	39.08	2667-178	25.91	-	-	-	-
1-1/4	1	2	4-1/2	6	-	-	2598-803	40.68	2667-179	26.91	2591-879	47.72	-	-
1-1/4	1-1/4	2	4-1/2	4	-	-	-	-	2667-180	26.91	2591-880	45.79	-	-
1-1/4	1-1/4	2	4-1/2	6	2650-805†	24.41	2598-804	42.63	2667-181	26.91	2591-881	46.48	-	-
1-5/16	3/4	2	4-1/2	4	-	-	-	-	2667-184	34.79	-	-	-	-
1-3/8	3/4	2	4-1/4	6	-	-	2598-880	55.07	2667-186	29.48	-	-	-	-
1-3/8	1	2	4-1/2	6	-	-	2598-881	48.08	2667-187	29.48	-	-	-	-
1-3/8	1-1/4	2	4-1/2	6	-	-	-	-	2667-188	29.48	-	-	-	-
1-7/16	3/4	2	4-1/2	6	-	-	-	-	2667-192	40.73	-	-	-	-
1-1/2	3/4	2	4-1/4	6	2650-961†	29.91	2598-960	59.19	2667-193	34.52	-	-	-	-
1-1/2	1	2	4-1/2	6	-	-	2598-962	54.23	2667-195	34.52	2591-895	63.02	-	-
1-1/2	1-1/4	2	4-1/2	4	-	-	2598-961	54.23	2667-196	34.52	2591-896	58.46	-	-
1-1/2	1-1/4	2	4-1/2	6	2650-965†	29.91	2598-963	54.23	2667-197	34.52	2591-897	58.99	-	-
1-5/8	3/4	2	4-1/2	6	-	-	-	-	2667-202	40.21	-	-	-	-
1-5/8	1-1/4	2	4-1/2	6	-	-	2599-041	58.14	2667-204	40.21	-	-	-	-
1-3/4	3/4	2	4-1/2	6	-	-	2599-120	65.34	2667-211	45.87	-	-	-	-
1-3/4	1-1/4	2	4-1/2	4	2651-122†	36.23	2599-122	65.34	2667-212	45.87	-	-	-	-
1-3/4	1-1/4	2	4-1/2	6	-	-	2599-121	65.34	2667-213	45.87	2591-912	72.12	-	-
1-7/8	3/4	2	4-1/2	6	-	-	-	-	2667-219	53.06	-	-	-	-
1-7/8	1-1/4	2	4-1/2	6	-	-	-	-	2667-220	53.06	-	-	-	-
1-7/8	1-1/4	2	4-1/2	8	2651-202†	38.19	2599-201	67.04	-	-	-	-	-	-
2	3/4	2	4-1/4	8	-	-	-	-	2667-227	57.19	-	-	-	-
2	1-1/4	2	4-1/2	4	-	-	-	-	2667-228	57.19	-	-	-	-
2	1-1/4	2	4-1/2	6	-	-	2599-282	76.66	2667-229	57.19	2591-928	84.61	-	-
2	1-1/4	2	4-1/2	8	2651-284†	43.81	2599-284	78.09	2667-230	57.19	-	-	-	-

† Limited Quantities

# Metric, Multiple Flute, Single End, End Mills

Regular Length– R.H. Cut - R.H. Spiral - High Speed Steel



Metric – Four Flute – R.H. Spiral–  
R.H. Cut –  
Regular Length



MILL DIA. (mm.)	SHANK DIA.	FLUTE LG'TH	OVER. LG'TH	NON-CENTER CUT		CENTER CUT		ORDER NO.	PRICE EACH
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
3.0	3/8	3/8	2-5/16	–	–	2628-310	\$3.93	2662-030	\$8.31
3.5	3/8	1/2	2-3/8	–	–	–	–	2662-035	8.31
4.0	3/8	1/2	2-3/8	–	–	2628-312	3.93	2662-040	8.31
4.5	3/8	1/2	2-3/8	–	–	–	–	2662-045	9.06
5.0	3/8	5/8	2-7/16	–	–	2628-314	3.93	2662-050	9.06
5.5	3/8	5/8	2-7/16	–	–	–	–	2662-055	9.06
6.0	3/8	5/8	2-7/16	–	–	2628-316	3.93	2662-060	9.06
6.5	3/8	5/8	2-7/16	–	–	–	–	2662-065	9.06
7.0	3/8	3/4	2-1/2	–	–	2628-318	4.66	2662-070	9.06
7.5	3/8	3/4	2-1/2	–	–	–	–	2662-075	9.06
8.0	3/8	3/4	2-1/2	–	–	2628-320	4.66	2662-080	9.06
8.5	3/8	3/4	2-1/2	–	–	–	–	2662-085	9.06
9.0	3/8	3/4	2-1/2	2628-090†	\$4.74	2628-322	5.70	2662-090	9.06
9.5	3/8	3/4	2-1/2	–	–	–	–	2662-095	9.06
10.0	3/8	3/4	2-1/2	–	–	2628-324	5.70	2662-100	11.37
10.5	3/8	1	2-11/16	–	–	–	–	2662-105	12.00
11.0	3/8	1	2-11/16	2628-110†	5.76	2628-326	6.93	2662-110	12.00
11.5	3/8	1	2-11/16	2628-115†	5.76	–	–	2662-115	12.00
12.0	3/8	1	2-11/16	–	–	2628-328	6.93	2662-120	12.22
12.0	1/2	1-1/4	3-1/4	–	–	–	–	2662-122	12.22
12.5	1/2	1-1/4	3-1/4	2628-125†	5.76	–	–	2662-125	12.22
13.0	1/2	1-1/4	3-1/4	2628-130†	7.04	2628-330	8.47	2662-130	14.00
13.5	1/2	1-3/8	3-3/8	–	–	–	–	2662-135	14.00
14.0	1/2	1-3/8	3-3/8	–	–	2628-332	8.47	2662-140	14.00
14.5	1/2	1-3/8	3-3/8	–	–	–	–	2662-145	14.62
15.0	1/2	1-3/8	3-3/8	–	–	2628-334	8.47	2662-150	14.62
16.0	5/8	1-5/8	3-3/4	–	–	2628-336	10.33	2662-160	16.74
17.0	5/8	1-5/8	3-3/4	–	–	–	–	2662-170	16.74
18.0	5/8	1-5/8	3-3/4	–	–	2628-340	12.26	2662-180	18.84
19.0	3/4	1-5/8	3-3/4	–	–	–	–	2662-190	20.00
20.0	5/8	1-7/8	4	–	–	2628-344	14.28	2662-200	24.10
21.0	5/8	1-7/8	4	–	–	–	–	2662-210	25.38
22.0	3/4	1-7/8	4-1/8	–	–	2628-348	21.29	–	–
22.0	7/8	1-7/8	4-1/8	–	–	–	–	2662-220	26.21
23.0	7/8	1-7/8	4-1/8	–	–	–	–	2662-230	28.53
24.0	3/4	1-7/8	4-1/8	2628-240†	17.79	2628-352	23.63	–	–
24.0	1	2	4-1/2	–	–	–	–	2662-240	29.69
25.0	1	2	4-1/2	–	–	–	–	2662-250	29.69

† Limited Quantities

## 20 Piece TiN Coated End Mill Set

Contains:

2 Flute Single End  
3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 & 3/4

4 Flute, Center Cutting Single End End Mills  
3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16 & 3/4

Order No. 2616-000

Price Each.....\$98.90



## Miniature End Mills - Four Flute - Single End



MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
STUB LENGTH					
5/32	3/16	1/4	1-1/4	2645-310†	\$3.75
REGULAR LENGTH					
1/8	3/16	3/8	1-1/2	2645-408†	3.64
5/32	3/16	7/16	1-7/16	2645-410†	3.64
3/16	3/16	1/2	1-3/4	2645-412†	3.64
LONG LENGTH					
1/8	3/16	3/8	1-3/4	2645-428†	3.75

† Limited Quantities



# Multiple Flute, Single End, End Mills

## Long Length



					NON-CENTER CUT				CENTER CUT			
					Pittsburg ALLEGHANY		ALLEGIANCE AMERICAN MADE		Pittsburg ALLEGHANY		ALLEGIANCE AMERICAN MADE	
DIA.	SHANK DIA.	FLUTE LG'TH	OVER. LG'TH	NO OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	3-1/16	4	2654-161†	\$ 4.93	2600-161	\$ 10.42	2667-316	\$ 5.67	2592-116	\$ 12.00
5/16	3/8	1-3/8	3-1/8	4	2654-201†	5.04	2600-201	10.42	2667-320	5.67	2592-120	12.00
3/8	3/8	1-1/2	3-1/4	4	-	-	2600-241	10.21	2667-324	5.67	2592-124	12.11
7/16	1/2	1-3/4	3-1/4	4	2654-281†	7.08	2600-281	14.42	2667-328	7.82	2592-128	14.30
1/2	1/2	2	4	4	-	-	2600-321	14.00	2667-332	7.82	2592-132	16.50
5/8	5/8	2-1/2	4-5/8	4	-	-	2600-401	19.80	2667-340	11.10	2592-140	23.14
3/4	3/4	3	5-1/4	4	-	-	2600-481	24.10	2667-348	13.53	2592-148	27.48
7/8	3/4	3-1/2	5-3/4	4	2654-561†	14.75	-	-	-	-	-	-
7/8	7/8	3-1/2	5-3/4	4	-	-	2600-561	30.21	2667-356	18.13	2592-156	34.21
7/8	7/8	3-1/2	5-3/4	6	2654-563†	14.75	-	-	-	-	-	-
1	1	4	6-1/2	4	-	-	2600-641	40.95	2667-364	22.48	2592-164	46.01
1-1/8	1	4	6-1/2	6	-	-	2600-721	54.10	-	-	-	-
1-1/4	1-1/4	3	5-1/2	4	2652-802†	29.78	-	-	-	-	-	-
1-1/4	1	4	6-1/2	6	2654-802†	29.88	2600-802	63.90	-	-	-	-
1-1/4	1-1/4	4	6-1/2	4	-	-	2600-801	66.74	2667-380	39.77	2592-180	71.58
1-1/4	1-1/4	4	6-1/2	6	2654-803†	29.88	2600-803	63.90	-	-	-	-
1-1/2	1	3	5-1/2	6	2652-961†	36.49	-	-	-	-	-	-
1-1/2	1	4	6-1/2	6	-	-	2600-961	88.96	-	-	-	-
1-1/2	1-1/4	3	5-1/2	4	2652-962†	36.49	2645-962	-	-	-	-	-
1-1/2	1-1/4	4	6-1/2	6	2654-962†	37.85	-	-	2667-396	49.71	2592-196	88.20
1-1/2	1-1/4	4	6-1/2	4	2654-963†	37.85	2600-963	79.63	-	-	-	-
1-3/4	1-1/4	4	6-1/2	6	2655-122†	48.86	2601-121	103.67	2667-413	75.02	-	-
2	1-1/4	4	6-1/2	6	2655-282†	63.91	2601-281	133.01	2667-429	82.31	2592-228	140.04
2	1-1/4	4	6-1/2	8	2655-283†	63.91	-	-	-	-	-	-

† Limited Quantities

## Extra Long Length



					NON-CENTER CUT				CENTER CUT			
					Pittsburg ALLEGHANY		ALLEGIANCE AMERICAN MADE		Pittsburg ALLEGHANY		ALLEGIANCE AMERICAN MADE	
DIA.	SHANK DIA.	FLUTE LG'TH	OVER. LG'TH	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-3/4	3-9/16	4	-	-	2602-161	\$12.42	2667-516	\$7.45	2592-016	\$14.10
5/16	3/8	2	3-3/4	4	2657-201†	\$ 6.39	2602-201	12.95	2667-520	7.45	2592-020	14.84
3/8	3/8	2-1/2	4-1/4	4	-	-	2602-241	13.27	2667-524	7.86	2592-024	15.06
1/2	1/2	3	5	4	-	-	2602-321	17.06	2667-532	10.37	2592-032	19.27
5/8	1/2	4	6-1/8	4	2657-401†	12.47	-	-	-	-	-	-
5/8	5/8	4	6-1/8	4	-	-	2602-401	24.74	2667-540	14.74	2592-040	27.79
3/4	3/4	4	6-1/4	4	-	-	2602-481	28.95	2667-548	17.05	2592-048	32.63
7/8	7/8	5	7-1/4	4	2657-561†	19.17	2602-561	38.31	2667-556	23.32	2592-056	42.84
1	1	6	8-1/2	4	-	-	2602-641	50.53	2667-564	28.59	2592-064	56.21
1-1/4	1-1/4	6	8-1/2	4	-	-	-	-	2667-580	43.34	-	-
1-1/4	1-1/4	6	8-1/2	6	2657-802†	41.23	2602-801	75.91	-	-	2592-080	84.22
1-1/2	1-1/4	6	8-1/2	6	2657-962†	67.49	2602-961	119.83	2667-596	69.30	2592-097	138.73
1-1/2	1-1/4	8	10-1/2	6	-	-	2602-962	127.92	-	-	-	-

† Limited Quantities

# Four Flute, Double End, End Mills

## High Speed Steel – R.H.S – R.H.C.



### Non-Center Cut

### Center Cut

### TiN Coated

SIZE				UNCOATED				TiN COATED					
MILL DIAM.	SHANK DIAM.	FLUTE L'GTH	OAL	NON-CENTER CUT		CENTER CUT		NON-CENTER CUT		CENTER CUT			
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		
1/8	3/8	3/8	3-1/16	-	-	2592-808	\$10.55	2667-808	\$5.35	3886-608	\$13.50	2670-708	\$8.08
5/32	3/8	7/16	3-1/8	2667-710†	\$4.20	2592-810	\$10.97	2667-810	\$5.47	-	-	-	-
11/64	3/8	1/2	3-1/4	2667-711†	\$5.46	-	-	-	-	-	-	-	-
3/16	3/8	1/2	3-1/4	-	-	2592-812	\$10.55	2667-812	\$5.35	3886-612	\$13.50	2670-712	\$8.08
13/64	3/8	9/16	3-1/4	2667-713†	\$5.46	-	-	-	-	-	-	-	-
7/32	3/8	9/16	3-1/4	2667-714†	\$4.20	2592-814	\$10.97	2667-814	\$5.47	-	-	-	-
15/64	3/8	5/8	3-3/8	2667-715†	\$5.46	-	-	-	-	-	-	-	-
1/4	3/8	5/8	3-3/8	-	-	2592-816	\$10.35	2667-816	\$5.35	3886-616	\$13.50	2670-716	\$8.08
17/64	3/8	11/16	3-3/8	2667-717†	\$5.46	-	-	-	-	-	-	-	-
9/32	3/8	11/16	3-3/8	2667-718†	\$4.20	2592-818	\$10.97	2667-818	\$5.47	-	-	-	-
5/16	3/8	3/4	3-1/2	-	-	2592-820	\$10.35	2667-820	\$5.20	3886-620	\$13.50	2670-720	\$8.08
21/64	3/8	3/4	3-1/2	2667-721†	\$5.55	2592-821†	\$10.97	-	-	-	-	-	-
11/32	3/8	3/4	3-1/2	2667-722†	\$4.27	2592-822	\$10.97	2667-822	\$5.20	-	-	-	-
23/64	3/8	3/4	3-1/2	2667-723†	\$5.55	-	-	-	-	-	-	-	-
3/8	3/8	3/4	3-1/2	-	-	2592-824	\$10.35	2667-824	\$5.74	3886-624	\$13.50	2670-724	\$8.08
25/64	3/8	1	4-1/8	-	-	-	-	-	-	-	-	-	-
13/32	1/2	1	4-1/8	-	-	2592-826	\$15.33	2667-826	\$8.16	-	-	-	-
27/64	1/2	1	4-1/8	2667-727†	\$8.74	-	-	-	-	-	-	-	-
7/16	1/2	1	4-1/8	2667-728†	\$6.72	2592-828	\$15.28	2667-828	\$8.16	3886-628	\$16.19	2670-728	\$13.05
29/64	1/2	1	4-1/8	2667-729†	\$8.74	-	-	-	-	-	-	-	-
15/32	1/2	1	4-1/8	2667-730†	\$6.72	2592-830	\$16.00	2667-830	\$8.16	-	-	-	-
31/64	1/2	1	4-1/8	2667-731†	\$8.74	-	-	-	-	-	-	-	-
1/2	1/2	1	4-1/8	-	-	2592-832	\$15.28	2667-832	\$8.16	3886-632	\$21.01	2670-732	\$13.05
9/16	5/8	1-3/8	5	-	-	2592-836	\$21.72	2667-836	\$12.11	-	-	-	-
19/32	5/8	1-3/8	5	2667-738†	\$12.33	-	-	-	-	-	-	-	-
5/8	5/8	1-3/8	5	2667-740†	\$9.86	2592-840	\$21.72	2667-840	\$13.32	3886-640	\$26.79	2670-740	\$18.96
21/32	3/4	1-5/8	5-5/8	2667-742†	\$16.41	-	-	-	-	-	-	-	-
11/16	3/4	1-5/8	5-5/8	-	-	2592-844	\$27.41	2667-844	\$17.90	-	-	-	-
23/32	3/4	1-5/8	5-5/8	2667-746†	\$16.41	-	-	-	-	-	-	-	-
3/4	3/4	1-5/8	5-5/8	-	-	2592-848	\$27.41	2667-848	\$17.90	3886-648	\$33.70	2670-748	\$23.89
25/32	7/8	1-7/8	6-1/8	2667-750†	\$19.01	-	-	-	-	-	-	-	-
13/16	7/8	1-7/8	6-1/8	2667-752†	\$15.21	2592-852	\$34.82	2667-852	\$20.66	-	-	-	-
27/32	7/8	1-7/8	6-1/8	2667-754†	\$18.48	-	-	-	-	-	-	-	-
7/8	7/8	1-7/8	6-1/8	-	-	2592-856	\$34.82	2667-856	\$20.66	3886-656	\$43.65	-	-
29/32	1	1-7/8	6-3/8	2667-758†	\$25.26	-	-	-	-	-	-	-	-
15/16	1	1-7/8	6-3/8	2667-760†	\$20.21	2592-860	\$44.87	2667-860	\$25.64	-	-	-	-
31/32	1	1-7/8	6-3/8	2667-762†	\$25.26	-	-	-	-	-	-	-	-
1	1	1-7/8	6-3/8	-	-	2592-864	\$42.13	2667-864	\$25.64	3886-664	\$52.48	2670-764	\$36.81

† Limited Quantities

### Metric



MILL DIAM. (mm.)	SHANK DIAM.	FLUTE L'GTH	OVER. L'GTH	NON-CENTER CUT		CENTER CUT	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3	3/8	3/8	3-1/16	2629-030†	\$6.38	2629-310	\$8.50
4	3/8	7/16	3-1/8	-	-	2629-312	8.50
5	3/8	9/16	3-1/4	2629-050†	6.38	2629-314	8.50
6	3/8	5/8	3-3/8	-	-	2629-316	8.50
7	3/8	11/16	3-3/8	2629-070†	6.38	2629-318	8.50
8	3/8	3/4	3-1/2	-	-	2629-320	9.82
10	1/2	1	4-1/8	-	-	2629-324	12.44
12	1/2	1	4-1/8	2629-120†	10.87	2629-328	14.49
14	5/8	1-3/8	5	2629-140†	13.23	2629-332	17.64
16	3/4	1-5/8	5-5/8	2629-160†	18.63	2629-336	24.84
18	3/4	1-5/8	5-5/8	2629-180†	18.63	2629-340	24.84
20	7/8	1-7/8	6-1/8	2629-200†	24.18	2629-344	32.24
22	1	1-7/8	6-1/8	2629-220†	25.68	2629-348	36.69
24	1	1-7/8	6-1/8	2629-240†	25.68	2629-352	36.69

† Limited Quantities

# Miniature, Four Flute, End Mills

3/16" Shank – Double End – R.H.S. – R.H.C.



High Speed Steel – Stub Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	3/32	2	2645-144	\$5.89
5/64	3/16	1/8	2	2645-145	5.89
3/32	3/16	9/64	2	2645-146	5.89
7/64	3/16	9/64	2	2645-147	5.89
1/8	3/16	3/16	2	2645-148	5.89
9/64	3/16	7/32	2	2645-149	5.89
5/32	3/16	15/64	2	2645-150	5.89
11/64	3/16	9/32	2	2645-151	5.89
3/16	3/16	9/32	2	2645-152	5.89



M42 8% Cobalt – Center Cutting – Stub Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	3/32	2	2711-244	\$7.01
5/64	3/16	1/8	2	2711-245	7.01
3/32	3/16	9/64	2	2711-246	7.01
7/64	3/16	9/64	2	2711-247	7.01
1/8	3/16	3/16	2	2711-248	7.01
9/64	3/16	7/32	2	2711-249	7.01
5/32	3/16	15/64	2	2711-250	7.01
11/64	3/16	9/32	2	2711-251	7.01
3/16	3/16	9/32	2	2711-252	7.01



High Speed Steel – Regular Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	3/16	2-1/4	2645-164	\$5.46
5/64	3/16	15/64	2-1/4	2645-165	5.46
3/32	3/16	5/16	2-1/4	2645-166	5.46
7/64	3/16	5/16	2-1/4	2645-167	5.46
1/8	3/16	3/8	2-1/4	2645-168	5.46
9/64	3/16	3/8	2-1/4	2645-169	5.46
5/32	3/16	7/16	2-1/4	2645-170	5.46
11/64	3/16	1/2	2-1/4	2645-171	5.46
3/16	3/16	1/2	2-1/4	2645-172	5.46



M42 8% Cobalt – Center Cutting – Regular Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	3/16	2-1/4	2711-264	\$7.96
5/64	3/16	15/64	2-1/4	2711-265	7.96
3/32	3/16	5/16	2-1/4	2711-266	7.96
7/64	3/16	5/16	2-1/4	2711-267	7.96
1/8	3/16	3/8	2-1/4	2711-268	7.96
9/64	3/16	3/8	2-1/4	2711-269	7.96
5/32	3/16	7/16	2-1/4	2711-270	7.96
11/64	3/16	1/2	2-1/4	2711-271	7.96
3/16	3/16	1/2	2-1/4	2711-272	7.96



High Speed Steel – Long Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	7/32	2-1/2	2645-184	\$6.72
5/64	3/16	1/4	2-1/2	2645-185	6.72
3/32	3/16	9/32	2-5/8	2645-186	6.72
7/64	3/16	9/32	2-5/8	2645-187	6.72
1/8	3/16	3/4	3-1/8	2645-188	6.72
9/64	3/16	3/4	3-1/8	2645-189	6.72
5/32	3/16	7/8	3-1/4	2645-190	6.72
11/64	3/16	7/8	3-1/4	2645-191	6.72
3/16	3/16	1	3-3/8	2645-192	6.72



M42 8% Cobalt – Center Cutting – Long Length

Pittsburg <sup>®</sup> ALLEGHANY					
MILL DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/16	3/16	7/32	2-1/2	2711-284	\$10.47
5/64	3/16	1/4	2-1/2	2711-285	10.47
3/32	3/16	9/32	2-5/8	2711-286	10.47
7/64	3/16	9/32	2-5/8	2711-287	10.47
1/8	3/16	3/4	3-1/8	2711-288	10.47
9/64	3/16	3/4	3-1/8	2711-289	10.47
5/32	3/16	7/8	3-1/4	2711-290	10.47
11/64	3/16	7/8	3-1/4	2711-291	10.47
3/16	3/16	1	3-3/8	2711-292	10.47

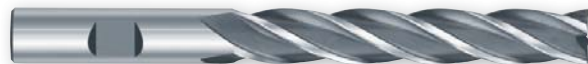
# M42 8% Cobalt, Multiple Flute, End Mills



## Single End - Regular Length

CENTER CUT								
Pittsburg ALLEGIANCE AMERICAN MADE					Pittsburg ALLEGIANCE AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	4	2691-081	\$ 6.40	2605-081	\$10.79
5/32	3/8	7/16	2-3/8	4	2691-101	6.40	-	-
3/16	3/8	1/2	2-3/8	4	2691-121	6.68	2605-121	10.79
7/32	3/8	5/8	2-7/16	4	2691-141	6.68	-	-
1/4	3/8	5/8	2-7/16	4	2691-161	6.68	2605-161	10.79
9/32	3/8	3/4	2-1/2	4	2691-181	6.68	-	-
5/16	3/8	3/4	2-1/2	4	2691-201	6.68	2605-201	10.79
11/32	3/8	3/4	2-1/2	4	2691-221	7.35	-	-
3/8	3/8	3/4	2-1/2	4	2691-241	6.68	2605-241	10.79
13/32	3/8	1	2-11/16	4	2691-261	9.56	-	-
7/16	3/8	1	2-11/16	4	2691-281	8.69	-	-
15/32	3/8	1	2-11/16	4	2691-301	10.36	-	-
1/2	3/8	1	2-11/16	4	2691-321	10.68	-	-
1/2	1/2	1-1/4	3-1/4	4	2691-322	10.68	2605-321	15.38
1/2	1/2	1-1/4	3-1/4	6	2691-323	10.68	-	-
9/16	1/2	1-3/8	3-3/8	4	2691-361	12.94	-	-
5/8	1/2	1-3/8	3-3/8	4	2691-401	13.69	-	-
5/8	5/8	1-5/8	3-3/4	4	2691-402	13.69	2605-402	21.81
5/8	5/8	1-5/8	3-3/4	6	2691-403	13.69	-	-
11/16	5/8	1-5/8	3-3/4	4	2691-442	16.42	-	-
3/4	1/2	1-5/8	3-5/8	4	2691-480	16.42	-	-
3/4	5/8	1-5/8	3-3/4	4	2691-481	16.42	-	-
3/4	3/4	1-5/8	3-7/8	4	2691-482	16.42	2605-482	26.08
3/4	3/4	1-5/8	3-7/8	6	2691-483	16.42	2605-483	26.08
13/16	3/4	1-7/8	4-1/8	4	2691-521	25.63	-	-
7/8	1/2	1-7/8	3-7/8	4	2691-558	23.30	-	-
7/8	5/8	1-7/8	4	4	2691-559	23.30	-	-
7/8	7/8	1-7/8	4-1/8	4	2691-560	23.30	-	-
7/8	7/8	1-7/8	4-1/8	4	2691-561	23.30	2605-561	29.89
15/16	3/4	1-7/8	4-1/8	4	2691-601	35.29	-	-
1	1/2	1-7/8	3-7/8	4	2691-639	32.08	-	-
1	5/8	1-7/8	4	4	2691-640	32.08	-	-
1	3/4	1-7/8	4-1/8	4	2691-641	32.08	-	-
1	1	2	4-1/2	4	2691-642	32.08	2605-642	38.88
1	1	2	4-1/2	6	2691-643	32.08	2605-643	38.88
1-1/8	3/4	2	4-1/2	6	2691-681	42.17	-	-
1-1/8	1	2	4-1/2	6	2691-682	42.17	-	-
1-1/8	1-1/4	2	4-1/2	4	2691-683†	42.17	-	-
1-1/4	3/4	2	4-1/2	6	2691-798	47.19	-	-
1-1/4	1	2	4-1/2	6	2691-800	47.19	-	-
1-1/4	1-1/4	2	4-1/2	4	2691-801	47.19	2605-801	54.73
1-1/4	1-1/4	2	4-1/2	6	2691-802	47.19	2605-802	60.99
1-1/2	3/4	2	4-1/2	6	2691-958	68.00	-	-
1-1/2	1	2	4-1/2	6	2691-960	68.00	-	-
1-1/2	1-1/4	2	4-1/2	4	2691-961	68.00	2605-961	73.38
1-1/2	1-1/4	2	4-1/2	6	2691-962	68.00	2605-962	73.38
1-3/4	1-1/4	2	4-1/2	6	2692-121	85.51	-	-
2	1-1/4	2	4-1/2	6	2692-281	107.31	2606-281	114.21
2	1-1/4	2	4-1/2	8	2692-282	107.31	-	-

2" Diameter Heavy Duty Dual Drive Shanks available on request



## Single End - Extra Long Length

CENTER CUT								
Pittsburg ALLEGIANCE AMERICAN MADE					Pittsburg ALLEGIANCE AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-3/4	3-9/16	4	2695-161	\$11.22	3990-516	\$18.17
5/16	3/8	2	3-3/4	4	2695-201	11.22	3990-520	18.17
3/8	3/8	2-1/2	4-1/4	4	2695-241	11.22	3990-524	18.17
1/2	1/2	3	5	4	2695-321	16.18	3990-532	23.03
5/8	5/8	4	6-1/8	4	2695-401	26.26	3990-540	31.19
3/4	3/4	4	6-1/4	4	2695-481	34.52	3990-548	39.85
3/4	3/4	4	6-1/4	6	2695-482	34.52	-	-
7/8	7/8	5	7-1/4	4	2695-561	53.38	-	-
1	1	6	8-1/2	4	2695-641	59.71	3990-564	67.66
1	1	6	8-1/2	6	2695-642	59.71	-	-
1-1/4	1-1/4	6	8-1/2	4	2695-801	123.17	-	-
1-1/4	1-1/4	6	8-1/2	6	2695-802	123.17	-	-
1-1/2	1-1/4	8	10-1/2	6	2695-961	204.31	-	-

## Double End - Regular Length - 4 Flute

CENTER CUT								
Pittsburg ALLEGIANCE AMERICAN MADE					Pittsburg ALLEGIANCE AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OVER. LG'TH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1/8	3/8	3/8	3-1/16	2700-208	\$ 10.52	2604-308	\$ 15.62	
5/32	3/8	7/16	3-1/8	2700-210	10.25	2604-310	16.23	
3/16	3/8	1/2	3-1/4	2700-212	10.25	2604-312	15.62	
7/32	3/8	9/16	3-1/4	2700-214	10.25	2604-314	16.23	
1/4	3/8	5/8	3-3/8	2700-216	10.25	2604-316	14.69	
9/32	3/8	11/16	3-3/8	2700-218	10.25	2604-318	15.77	
5/16	3/8	3/4	3-1/2	2700-220	10.25	2604-320	14.69	
11/32	3/8	3/4	3-1/2	2700-222	10.25	-	-	
3/8	3/8	3/4	3-1/2	2700-224	10.25	2604-324	14.69	
13/32	1/2	1	4-1/8	2700-226	14.52	2604-326	-	
7/16	1/2	1	4-1/8	2700-228	15.88	2604-328	21.93	
15/32	1/2	1	4-1/8	2700-230	15.88	-	-	
1/2	1/2	1	4-1/8	2700-232	15.88	2604-332	22.48	
5/8	5/8	1-3/8	5	2700-240	23.06	2604-340	31.85	
3/4	3/4	1-5/8	5-5/8	2700-248	32.16	2604-348	38.46	
7/8	7/8	1-7/8	6-1/8	2700-256	39.60	-	-	
1	1	1-7/8	6-3/8	2700-264	63.22	-	-	



## Single End - Long Length

CENTER CUT								
Pittsburg ALLEGIANCE AMERICAN MADE					Pittsburg ALLEGIANCE AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	3-1/8	4	2693-161	\$ 8.26	2607-161	\$13.90
5/16	3/8	1-1/2	3-1/4	4	2693-201	8.26	2607-201	13.90
3/8	3/8	1-1/2	4	4	2693-241	8.26	2607-241	13.90
1/2	1/2	2	4	4	2693-321	13.53	2607-321	20.55
5/8	5/8	2-1/2	4-5/8	4	2693-401	16.88	2607-401	27.39
3/4	3/4	3	5-1/4	4	2693-481	23.23	2607-481	30.53
3/4	3/4	3	5-1/4	6	2693-482†	23.23	-	-
7/8	7/8	3-1/2	5-3/4	4	2693-561	32.62	2607-561	45.14
1	1	4	6-1/2	4	2693-641	46.52	2607-641	55.30
1	1	4	6-1/2	6	2693-642	46.52	-	-
1-1/4	1-1/4	4	6-1/2	6	2693-802	67.90	2607-801	78.78
1-1/2	1-1/4	4	6-1/2	6	2693-961	90.73	-	-
2	1-1/4	4	6-1/2	6	2694-282	149.66	-	-
2	1-1/4	4	6-1/2	8	2694-283	149.66	-	-

† Limited Quantities



## Single End - Ball End

CENTER CUT								
Pittsburg ALLEGIANCE AMERICAN MADE					Pittsburg ALLEGIANCE AMERICAN MADE			
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	4	2697-081	\$13.68	3891-081	\$18.77
3/16	3/8	1/2	2-3/8	4	2697-121	13.68	3891-121	19.49
1/4	3/8	5/8	2-7/16	4	2697-161	13.68	3891-161	18.77
5/16	3/8	3/4	2-1/2	4	2697-201	15.06	3891-201	19.64
3/8	3/8	3/4	2-1/2	4	2697-241	15.06	3891-241	21.20
7/16	3/8	1	2-9/16	4	2697-281	19.38	-	-
1/2	1/2	1-1/4	3-1/4	4	2697-321	19.38	3891-321	25.79
5/8	5/8	1-5/8	3-3/4	4	2697-401	27.55	3891-401	36.74
3/4	3/4	1-5/8	3-7/8	4	2697-481	33.82	3891-481	43.87
1	1	2	4-1/2	4	2697-641	53.40	3891-641	71.69
1-1/4	1-1/4	2	4-1/2	6	2697-802	79.66	3891-802	88.11
1-1/4	1-1/4	4	6-1/2	4	2697-803	115.81	-	-
1-1/2	1-1/4	2	4-1/2	4	2697-961	125.24	-	-
1-1/2	1-1/4	2	4-1/2	6	2697-962	125.24	-	-



# Ball End – End Mills

R.H. Cut– R.H. Spiral–  
High Speed Steel

## Two Flute– Single End– Regular Length



Pittsburg ALLEGIANCY									
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	2-5/16	2616-081	\$6.31	3/8	2-5/16	2609-081	\$11.73
3/16	3/8	1/2	2-3/8	2616-121	6.31	1/2	2-3/8	2609-121	11.73
1/4	3/8	5/8	2-1/2	2616-161	6.31	5/8	2-7/16	2609-161	11.73
5/16	3/8	3/4	2-1/2	2616-201	6.85	3/4	2-1/2	2609-201	13.18
3/8	3/8	3/4	2-1/2	2616-241	7.26	3/4	2-1/2	2609-221	13.58
7/16	1/2	1	3	2616-281	10.25	1	3-1/4	2609-281	17.89
1/2	1/2	1-1/4	3-1/4	2616-321	9.79	1	3-1/4	2609-321	17.89
9/16	1/2	1-3/8	3-3/8	2616-361	11.45	1-1/8	3-3/8	2609-361	22.15
5/8	1/2	1-3/8	3-3/8	2616-401	13.78	1-1/8	3-3/8	2609-401	25.41
5/8	5/8	1-5/8	3-3/4	2616-402	14.44	1-3/8	3-3/4	2609-402	25.41
3/4	1/2	1-5/8	3-5/8	2616-481	16.72	1-5/16	3-5/8	2609-481	29.87
3/4	3/4	1-5/8	3-7/8	2616-483	16.72	1-5/8	3-7/8	2609-483	29.87
7/8	7/8	1-7/8	4-1/8	2616-562	19.80	2	4-1/4	2609-561	37.90
15/16	3/4	1-7/8	4-1/8	2616-601†	24.90				
1	3/4	1-7/8	4-1/8	2616-641	24.90	2-1/4	4-1/2	2609-641	47.89
1	1	2	4-1/2	2616-642	24.90	2-1/4	4-3/4	2609-642	47.89
1-1/8	1	2	1-1/2	2616-721	35.84	2-1/4	4-3/4	2609-721	56.30
1-1/4	1-1/4	2-1/2	5	2616-801	42.18	2-1/2	5	2609-801	64.82
1-3/8	1-1/4	2-1/2	5	2616-881	47.58				
1-1/2	1-1/4	2-1/2	5	2616-961	55.87	2-1/2	5	2609-961	79.92

† Limited Quantities

## Multiple Flute– Single End Regular, Long & Long Flute



Pittsburg ALLEGIANCY									
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1/4	3/8	5/8	2-1/2	4	–	–	3889-161	\$18.90	
1/4	3/8	3/4	2-9/16	4	2660-161	\$11.06	–	–	
1/4	3/8	1-1/4	3-1/16	4	2660-163	13.39	3889-163	21.17	
1/4	3/8	1-3/4	3-1/2	4	2660-165	15.32	3889-165	21.90	
5/16	3/8	3/4	2-1/2	4	2660-204	11.52	3889-202	18.53	
5/16	3/8	1	2-3/4	4	2660-202	13.56	–	–	
5/16	3/8	1-3/8	3-1/8	4	2660-203	14.20	3889-203	30.16	
3/8	3/8	3/4	2-1/2	4	2660-241	11.73	3889-241	20.73	
3/8	3/8	1-1/2	3-1/4	4	2660-244	14.20	3889-244	24.01	
3/8	3/8	2	3-3/4	4	2660-245	13.92	–	–	
3/8	3/8	2-1/2	4-1/4	4	2660-246	16.31	3889-246	26.32	
1/2	1/2	1	3	4	2660-321†	14.46	–	–	
1/2	1/2	1-1/4	3-1/4	4	2660-322	14.15	3889-323	32.74	
1/2	1/2	2	4	4	2660-324	16.96	3889-324	28.43	
1/2	1/2	2-1/2	4-1/2	4	2660-325	16.75	–	–	
1/2	1/2	3	5	4	2660-326	19.61	3889-326	37.48	
5/8	5/8	1-1/4	3-3/8	4	2660-401†	21.87	–	–	
5/8	5/8	1-5/8	3-3/4	4	2660-402	21.38	3889-402	36.63	
5/8	5/8	2-1/2	4-5/8	4	2660-403	24.52	3889-403	40.12	
5/8	5/8	3	5-1/8	4	2660-404	34.96	3889-404	43.37	
5/8	5/8	3-3/4	5-7/8	4	2660-406†	34.96	–	–	
3/4	3/4	1-5/8	3-3/4	4	2660-481	24.86	3889-481	41.37	
3/4	3/4	2-1/4	4-1/2	4	–	–	3889-484	45.69	
3/4	3/4	3	5-1/4	4	2660-485	30.77	3889-485	50.32	
3/4	3/4	3-3/4	6	4	2660-486†	38.19	–	–	
3/4	3/4	4	6-1/4	4	–	–	3889-487	62.74	
1	1	2	4-1/2	4	2660-641	41.52	3889-641	71.06	
1	1	3	5-1/2	4	–	–	3889-642	75.69	
1	1	4	6-1/2	4	2660-643	50.07	3889-643	81.27	
1	1	5	7-1/2	4	2660-644†	63.62	–	–	
1	1	6	8-1/2	4	2660-645	53.38	3889-645	100.33	
1-1/4	1-1/4	2	4-1/2	4	2660-801	50.02	–	–	
1-1/4	1-1/4	3	5-1/2	4	2660-802	56.91	–	–	
1-1/4	1-1/4	4	6-1/2	4	2660-803	73.44	–	–	
1-1/4	1-1/4	5	7-1/2	4	2660-806†	79.27	–	–	
1-1/4	1-1/4	6	8-1/2	4	2660-807†	83.43	–	–	
1-1/4	1-1/4	6	8-1/2	6	2660-808	83.43	–	–	
1-1/2	1-1/4	2	4-1/2	6	2660-961	67.11	–	–	
1-1/2	1-1/4	4	6-1/2	6	2660-964	82.11	–	–	
1-1/2	1-1/4	6	8-1/2	6	2660-966	108.16	–	–	

† Limited Quantities

## Two Flute– Long Reach



Pittsburg ALLEGIANCY									
MILL DIAM.	SHANK DIAM.	LG'TH BELOW SHANK	CUT. EDGE LG'TH	OAL	ORDER NO.	PRICE EACH			
1/8	3/8	13/16	3/8	2-9/16	2619-081	\$11.66			
3/16	3/8	1-1/8	1/2	2-7/8	2619-121	11.66			
1/4	3/8	1-1/2	5/8	3-1/16	2619-161	8.97			
5/16	3/8	1-3/4	3/4	3-5/1	2619-201	9.11			
3/8	3/8	1-3/4	3/4	3-5/16	2619-241	9.58			
7/16	3/8	2-1/4	1	4	2619-281	13.90			
1/2	1/2	2-1/4	1	4	2619-321	13.90			
5/8	5/8	2-3/4	1-3/8	4-5/8	2619-401	17.44			
3/4	3/4	3-3/8	1-5/8	5-3/8	2619-481	22.37			
7/8	7/8	4	2	6	2619-561	28.41			
1	1	5	2-1/2	7-1/4	2619-641	38.78			
1-1/4	1-1/4	5	3	7-1/4	2619-801	57.09			

## Two Flute– Double End



Pittsburg ALLEGIANCY									
MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/16	2636-308	\$10.43	3/8	3-1/16	3886-508	\$22.72
5/32	3/8	7/16	3-1/8	–	–	7/16	3-1/8	3886-510	22.72
3/16	3/8	7/16	3-1/8	2636-312	10.43	7/16	3-1/4	3886-512	22.72
7/32	3/8	1/2	3-1/8	–	–	1/2	3-1/4	3886-514	22.72
1/4	3/8	1/2	3-1/8	2636-316	10.43	1/2	3-3/8	3886-516	22.72
9/32	3/8	9/16	3-1/8	–	–	9/16	3-3/8	3886-518	22.72
5/16	3/8	9/16	3-1/8	2636-320	10.43	9/16	3-1/2	3886-520	22.72
11/32	3/8	9/16	3-1/8	–	–	9/16	3-1/2	3886-522	22.72
3/8	3/8	9/16	3-1/8	2636-324	10.43	9/16	3-1/2	3886-524	22.72
13/32	1/2	13/16	3-3/4	2636-326†	14.46	–	–	–	–
7/16	1/2	13/16	3-3/4	2636-328	14.46	13/16	4-1/8	3886-528	31.92
1/2	1/2	13/16	3-3/4	2636-332	14.42	13/16	4-1/8	3886-532	31.79
5/8	5/8	1-1/8	4-1/2	2636-340	20.70	1-1/8	5	3886-540	43.49
3/4	3/4	1-5/16	5	2636-348	26.27	1-5/16	5-5/8	3886-548	55.28
7/8	7/8	1-9/16	5-1/2	2636-356	32.71	1-9/16	6-1/8	3886-556	67.70
1	1	1-5/8	5-7/8	2636-364	40.25	1-5/8	6-3/8	3886-564	84.04

† Limited Quantities

# Left Hand, Multiple Flute, End Mills

## High Speed Steel

### Regular Length – L.H.S. – R.H.C.



MILL. DIAM.	SHANK DIAM.	FLUTE L'GTH	NO. OF FLUTES	OVER. L'GTH	ORDER NO.	PRICE EACH
5/16	3/8	3/4	4	2-1/2	2663-201†	\$ 4.55
3/8	3/8	3/4	4	2-1/2	2663-241†	4.55
5/8	5/8	1-5/8	4	3-3/4	2663-401†	9.17
7/8	7/8	1-7/8	4	4-1/8	2663-561†	13.69
1	1	2	4	4-1/2	2663-641†	15.68
1-1/8	1	2	4	4-1/2	2663-741†	21.56
1-1/4	1	2	4	4-1/2	2663-800†	23.66
1-1/4	1	2	6	4-1/2	2663-801†	23.66
1-1/4	1-1/4	2	4	4-1/2	2663-803†	23.66
1-1/4	1-1/4	2	6	4-1/2	2663-802†	23.66
1-3/8	1	2	4	4-1/2	2663-880†	25.34
1-3/8	1	2	6	4-1/2	2663-881†	25.34
1-1/2	1	2	4	4-1/2	2663-960†	28.56
1-1/2	1	2	6	4-1/2	2663-961†	28.56
1-1/2	1-1/4	2	4	4-1/2	2663-963†	28.56
1-1/2	1-1/4	2	6	4-1/2	2663-962†	28.56
1-5/8	1-1/4	2	4	4-1/2	2664-040†	31.08
1-5/8	1-1/4	2	6	4-1/2	2664-041†	31.08
1-3/4	1-1/4	2	4	4-1/2	2664-120†	34.90
1-3/4	1-1/4	2	6	4-1/2	2664-121†	34.90
1-7/8	1-1/4	2	4	4-1/2	2664-200†	36.09
1-7/8	1-1/4	2	8	4-1/2	2664-201†	36.09
2	1-1/4	2	4	4-1/2	2664-280†	40.46
2	1-1/4	2	8	4-1/2	2664-281†	40.46

† Limited Quantities

### Regular Length – L.H.S. – L.H.C.



MILL. DIAM.	SHANK DIAM.	FLUTE L'GTH	NO. OF FLUTES	OVER. L'GTH	ORDER NO.	PRICE EACH
1/8	3/8	3/8	4	2-5/16	3500-081†	\$4.55
3/16	3/8	1/2	4	2-3/8	3500-121†	4.55
1/4	3/8	5/8	4	2-1/2	3500-161†	4.55
5/16	3/8	3/4	4	2-1/2	3500-201†	4.55
3/8	3/8	3/4	4	2-1/2	3500-241†	4.55
7/16	3/8	1	4	2-11/16	3500-281†	5.92
1/2	3/8	1	4	2-11/16	3500-321†	6.86
9/16	1/2	1-3/8	4	3-3/8	3500-361†	8.02
5/8	5/8	1-3/8	4	3-3/8	3500-401†	9.17
5/8	5/8	1-3/8	4	3-3/8	3500-403†	9.17
11/16	1/2	1-5/8	4	3-5/8	3500-441†	11.41
11/16	5/8	1-5/8	4	3-3/4	3500-443†	11.41
3/4	1/2	1-5/8	4	3-5/8	3500-481†	12.95
3/4	5/8	1-5/8	4	3-3/4	3500-483†	12.95
13/16	5/8	1-7/8	6	4	3500-521†	13.69
7/8	1/2	1-5/8	4	3-5/8	3500-561†	13.69
7/8	5/8	1-7/8	6	4	3500-563†	13.69
7/8	7/8	1-7/8	4	4-1/8	3500-565†	13.69
15/16	5/8	1-7/8	6	4	3500-601†	14.70
15/16	7/8	1-7/8	4	4-1/8	3500-603†	14.70
15/16	7/8	1-7/8	6	4-1/8	3500-604†	14.70
1	1/2	1-7/8	4	3-7/8	3500-641†	15.68
1	5/8	1-7/8	6	4	3500-643†	15.68
1	1	2	4	4-1/2	3500-646†	15.68
1-1/8	7/8	2	6	4-1/4	3500-723†	21.56
1-1/8	1	2	6	4-1/2	3500-725†	21.56
1-1/4	1	2	6	4-1/2	3500-802†	23.66
1-1/4	1-1/4	2	6	4-1/2	3500-804†	23.66
1-3/8	1	2	6	4-1/2	3500-882†	25.34
1-1/2	1	2	6	4-1/2	3500-962†	28.56
1-1/2	1-1/4	2	6	4-1/2	3500-964†	28.56
1-5/8	1-1/4	2	6	4-1/2	3501-043†	31.08
1-3/4	1-1/4	2	6	4-1/2	3501-123†	34.90
1-7/8	1-1/4	2	8	4-1/2	3501-203†	36.09
2	1-1/4	2	4	4-1/2	3501-283†	40.46
2	1-1/4	2	8	4-1/2	3501-285†	40.46

† Limited Quantities

### Long Length – L.H.S. – R.H.C.



MILL. DIAM.	SHANK DIAM.	FLUTE L'GTH	NO. OF FLUTES	OVER. L'GTH	ORDER NO.	PRICE EACH
1/4	3/8	1-1/4	4	3-1/8	2665-161†	\$ 5.04
5/16	3/8	1-3/8	4	3-1/8	2665-201†	5.04
3/8	3/8	1-1/2	4	3-1/4	2665-241†	5.04
7/16	3/8	1-3/4	4	3-3/4	2665-281†	7.32
5/8	5/8	2-1/2	4	4-5/8	2665-401†	9.70
3/4	3/4	3	4	5-1/4	2665-481†	11.94
7/8	7/8	3-1/2	4	5-3/4	2665-561†	14.84
1	1	4	4	6-1/2	2665-641†	20.09
1-1/8	1	4	6	6-1/2	2665-721†	27.65
1-1/4	1	4	4	6-1/2	2665-800†	30.94
1-1/4	1	4	6	6-1/2	2665-801†	30.94
1-1/4	1-1/4	4	6	6-1/2	2665-802†	30.94
1-3/8	1	4	4	6-1/2	2665-880†	36.58
1-3/8	1	4	6	6-1/2	2665-881†	36.58
1-1/2	1	4	4	6-1/2	2665-960†	37.73
1-1/2	1	4	6	6-1/2	2665-961†	37.73
1-1/2	1-1/4	4	6	6-1/2	2665-962†	37.73
1-3/4	1-1/4	4	4	6-1/2	2666-120†	48.72
1-3/4	1-1/4	4	6	6-1/2	2666-121†	48.72
1-7/8	1-1/4	4	8	6-1/2	2666-201†	54.29
2	1-1/4	4	8	6-1/2	2666-281†	59.82

† Limited Quantities

### Double End – L.H.S. – L.H.C.



MILL. DIA.	SHANK DIA.	FLUTE L'GTH	OAL	ORDER NO.	PRICE EACH
1/8	3/8	3/8	3-1/4	2667-908†	\$6.45
5/32	3/8	7/16	3-1/4	2667-910†	6.45
3/16	3/8	1/2	3-1/4	2667-912†	6.45
7/32	3/8	9/16	3-1/4	2667-914†	6.45
1/4	3/8	5/8	3-3/8	2667-916†	6.45
9/32	3/8	11/16	3-3/8	2667-918†	6.58
5/16	3/8	3/4	3-3/8	2667-920†	6.58
11/32	3/8	3/4	3-3/8	2667-922†	6.73
3/8	3/8	3/4	3-3/8	2667-924†	6.73
13/32	1/2	1	4-1/8	2667-926†	8.68
7/16	1/2	1	4-1/8	2667-928†	8.68
15/32	1/2	1	4-1/8	2667-930†	8.68
1/2	1/2	1	4-1/8	2667-932†	8.68
9/16	5/8	1-3/8	5	2667-936†	13.74
5/8	5/8	1-3/8	5	2667-940†	13.74
11/16	3/4	1-5/8	5-5/8	2667-944†	18.87
3/4	3/4	1-5/8	5-5/8	2667-948†	18.87
13/16	7/8	1-7/8	6-1/4	2667-952†	21.06
7/8	7/8	1-7/8	6-1/4	2667-956†	21.06
15/16	1	1-7/8	6-1/2	2667-960†	29.19
1	1	1-7/8	6-1/2	2667-964†	29.19

† Limited Quantities

# End Mills

**Stub Flute—  
Single End  
Vertical Mill and Bridgeport**



**CLOSEOUT!**

Pittsburg <sup>®</sup> MILGEMANY						
MILL DIA.	SHANK DIA.	FLUTE LG'TH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH
3/4	1/2	5/8	2-5/8	4	2715-481†	\$8.34
7/8	1/2	5/8	2-5/8	4	2715-561†	10.38
1	1/2	3/4	2-3/4	4	2715-641†	11.43
1	5/8	3/4	2-7/8	4	2715-642†	11.43
1	3/4	3/4	3	4	2715-643†	11.43
1-1/8	1/2	3/4	2-3/4	6	2715-721†	17.55
1-1/8	5/8	3/4	2-7/8	6	2715-722†	16.47
1-1/8	3/4	3/4	3	6	2715-723†	16.47
1-1/4	1/2	3/4	2-3/4	6	2715-801†	18.78
1-1/4	5/8	3/4	2-7/8	6	2715-802†	17.82
1-1/4	3/4	3/4	3	6	2715-803†	17.82
1-3/8	5/8	3/4	2-7/8	6	2715-881†	18.78
1-1/2	5/8	3/4	2-7/8	6	2715-961†	20.70

† Limited Quantities

## Sure-Lock Heavy Duty End Mills Combination Shanks— High Speed Steel

**Two Flute**



**Four Flute**



**Six Flute**



MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
2	2	2	5-3/4	2671-281†	\$44.04
2	2	3	6-3/4	2671-282†	45.99
2	2	4	7-3/4	2671-283†	54.76
2	2	6	9-3/4	2671-284†	62.56
2-1/2	2	6	9-3/4	2671-602†	97.99

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
2	2	2	5-3/4	2673-281†	\$41.44
2	2	4	7-3/4	2673-282†	76.54
2	2	6	9-3/4	2673-283†	102.54
2-1/2	2	8	11-3/4	2673-603†	103.19

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
2	2	2	5-3/4	2675-281†	\$ 41.44
2	2	4	7-3/4	2675-282†	79.14
2	2	6	9-3/4	2675-283†	102.21

**Eight Flute**



**Two Flute Ball**



MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
3	2-1/2	8	11-3/4	2677-923†	\$154.54
3	2-1/2	10	13-3/4	2677-924†	177.61

MILL DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	ORDER NO.	PRICE EACH
2	2	5	8-3/4	2681-281†	\$95.45

† Limited Quantities




# M42 8% Cobalt Roughing End Mills

## Coarse Tooth – Non-Center Cutting



Uncoated

TiN Coated

					UNCOATED				TIN COATED		
SIZE											
MILL DIAM.	SHANK DIAM.	FLUTE L'GTH	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1/4	3/8	5/8	2-7/16	3	2701-200	\$ 10.33	3880-161†	\$16.56	–	–	
5/16	3/8	3/4	2-1/2	3	2701-201	10.33	–	–	2702-420	\$14.97	
3/8	3/8	3/4	2-1/2	4	2701-241	10.33	3880-241	17.22	2702-424	14.97	
1/2	1/2	1-1/4	3-1/4	4	2701-321	14.13	3880-322	22.34	2702-432	19.53	
1/2	1/2	2	4	4	2701-322	19.31	3880-323	29.10	2702-434	25.62	
1/2	1/2	3	5	4	2701-323	25.75	–	–	–	–	
5/8	5/8	1-5/8	3-3/4	4	2701-401	18.56	3880-401	27.38	2702-440	23.33	
5/8	5/8	2-1/2	4-5/8	4	2701-402	25.45	3880-402	38.02	2702-442	33.76	
3/4	5/8	1-5/8	3-3/4	4	2701-481	23.06	–	–	2702-446	30.34	
3/4	5/8	3	5-1/8	4	2701-482	29.35	–	–	–	–	
3/4	3/4	1-5/8	3-7/8	4	2701-483	23.06	3880-483	33.00	2702-448	28.91	
3/4	3/4	3	5-1/4	4	2701-485	29.35	3880-484	42.00	2702-450	36.38	
7/8	3/4	1-5/8	4-1/4	4	2701-561†	19.95	–	–	–	–	
7/8	3/4	1-3/4	3-7/8	5	–	–	3880-562	44.01	–	–	
7/8	3/4	1-7/8	4-1/8	5	2701-562	29.38	–	–	2702-454	39.27	
7/8	3/4	3-1/2	5-5/8	5	2701-563	42.39	3880-563	54.47	2702-455	56.20	
7/8	7/8	1-7/8	4-1/8	5	2701-565	31.03	–	–	2702-456	39.27	
7/8	7/8	3-1/2	5-3/4	4	2701-566†	42.39	–	–	–	–	
1	3/4	2	4-1/4	5	2701-642	40.23	–	–	2702-462	53.51	
1	3/4	4	6-1/4	5	2701-643	58.31	–	–	–	–	
1	1	2	4-1/2	5	2701-645	43.27	3880-645	49.49	2702-464	53.51	
1	1	3	5-1/2	5	–	–	3880-646	60.20	–	–	
1	1	4	6-1/2	5	2701-648	59.63	3880-647	65.60	2702-466	74.28	
1-1/8	3/4	2	4-1/4	6	2701-721	54.29	–	–	2702-470	73.55	
1-1/8	1	2	4-1/2	6	2701-722	54.29	3880-722	67.81	2702-472	73.55	
1-1/4	3/4	2	4-1/4	6	2701-799	63.99	–	–	2702-478	85.11	
1-1/4	3/4	4	6-1/4	6	2701-801	87.64	–	–	2702-479	114.86	
1-1/4	1-1/4	2	4-1/2	6	2701-803	62.33	3880-803	73.56	2702-482	85.11	
1-1/4	1-1/4	3	5-1/2	6	–	–	3880-804	91.30	–	–	
1-1/4	1-1/4	4	6-1/2	6	2701-805	87.64	3880-805	99.14	2702-483	114.86	
1-1/2	3/4	2	4-1/4	6	2701-961	78.06	–	–	2702-486	114.02	
1-1/2	3/4	4	6-1/4	6	2701-962	111.38	–	–	2702-487	136.27	
1-1/2	1-1/4	2	4-1/2	6	2701-963	85.95	3880-963	95.14	2702-492	114.02	
1-1/2	1-1/4	4	6-1/2	6	2701-965	111.38	3880-965	136.70	2702-493	136.27	
1-1/2	1-1/4	6	8-1/2	6	–	–	3880-966	199.29	–	–	
1-3/4	1-1/4	2	4-1/2	6	2702-121	107.80	–	–	–	–	
1-3/4	1-1/4	4	6-1/2	6	2702-122	137.52	3881-222	155.12	–	–	
2	1-1/4	2	4-1/2	8	2702-279	118.19	3881-279	137.04	–	–	
2	1-1/4	4	6-1/2	8	2702-280	158.18	3881-280	187.20	–	–	
2	2	2	5-3/4	8	2702-281	187.02	–	–	–	–	
2	2	4	7-3/4	8	–	–	3881-282	204.61	–	–	
2	2	6	9-3/4	8	–	–	3881-284	253.12	–	–	

† Limited Quantities



# M42 8% Cobalt Roughing End Mills

## Fine Tooth – Non-Center Cutting




## Rougher/Finisher Center Cutting



Gold finish designed to machine materials such as titanium, magnesium and free machining stainless steel alloys. Cobalt, Right Hand, Center Cutting.

		<b>Pittsburg</b> ALLEGHANY		<b>ALLEGIANCE</b> AMERICAN MADE				
DIA.	SHANK DIA.	LGTH. OF CUT	OAL	NO. OF FLUTES	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	5/8	2-7/16	3	2702-516	\$12.45	-	-
5/16	3/8	3/4	2-1/2	3	2702-520	12.45	-	-
3/8	3/8	3/4	2-1/2	4	2702-524	12.45	3850-241	\$18.08
1/2	1/2	1-1/4	3-1/4	4	2702-532	16.06	3850-322	23.48
1/2	1/2	2	4	4	2702-534	22.30	3850-323	30.55
5/8	5/8	1-5/8	3-3/4	4	2702-540	20.37	3850-401	28.74
5/8	5/8	2-1/2	4-5/8	4	2702-542	29.38	3850-402	39.93
3/4	5/8	1-5/8	3-3/4	4	2702-546	25.29	-	-
3/4	3/4	1-5/8	3-7/8	4	2702-548	25.29	3850-483	34.65
3/4	3/4	3-1/2	5-1/4	4	2702-550	31.65	3850-484	44.08
7/8	3/4	1-3/4	3-7/8	5	-	-	3850-562	46.25
7/8	3/4	1-7/8	4-1/8	5	2702-554	32.53	-	-
7/8	3/4	3-1/2	5-5/8	5	2702-555	48.66	3850-563	57.20
7/8	7/8	1-7/8	4-1/8	5	2702-556	32.49	-	-
1	3/4	2	4-1/4	5	2702-562	40.38	-	-
1	1	2	4-1/2	5	2702-564	40.38	3850-645	51.98
1	1	3	5-1/2	5	-	-	3850-646	63.22
1	1	4	6-1/2	5	2702-566	54.36	3850-647	68.90
1-1/8	3/4	2	4-1/4	6	2702-570	55.46	-	-
1-1/8	1	2	4-1/2	6	2702-572	55.51	-	-
1-1/4	3/4	2	4-1/4	6	2702-578	63.79	-	-
1-1/4	1-1/4	2	4-1/2	6	2702-582	64.18	3850-803	77.26
1-1/4	1-1/4	3	5-1/2	6	-	-	3850-804	95.73
1-1/4	1-1/4	4	6-1/2	6	2702-583	86.66	3850-805	104.23
1-1/2	3/4	2	4-1/4	6	2702-586	85.89	-	-
1-1/2	3/4	4	6-1/4	6	2702-587	114.62	-	-
1-1/2	1-1/4	2	4-1/2	6	2702-592	86.02	3850-963	99.88
1-1/2	1-1/4	4	6-1/2	6	2702-593	114.90	3850-965	139.47
1-1/2	1-1/4	6	8-1/2	6	-	-	3850-966	250.22
1-3/4	1-1/4	4	6-1/2	6	-	-	3851-222	163.08
2	1-1/4	2	4-1/2	8	-	-	3851-279	144.08
2	1-1/4	4	6-1/2	8	-	-	3851-280	196.39
2	2	4	7-3/4	8	-	-	3851-282	214.84
2	2	6	9-3/4	8	-	-	3851-284	265.61

STARCHIP I COBALT						
DIA.	SHANK DIA.	FLUTE L'GTH.	OVERALL L'GTH.	NO. OF FLUTES	ORDER NO.	PRICE EACH
<b>REGULAR FLUTE LENGTH</b>						
1/2	1/2	1-1/4	3-1/4	4	3987-228	\$ 57.12
5/8	5/8	1-5/8	3-3/4	4	3987-236	72.41
3/4	3/4	1-5/8	3-7/8	4	3987-245	78.10
3/4	3/4	1-5/8	3-7/8	6	3987-246	82.06
7/8	7/8	1-7/8	4-1/8	4	3987-254	131.79
1	1	2	4-1/2	4	3987-266	133.39
1	1	2	4-1/2	6	3987-267	138.31
1-1/4	1-1/4	2	4-1/2	6	3987-275	192.48
1-1/2	1-1/4	2	4-1/2	6	3987-283	230.49
2	1-1/4	2	4-1/2	6	3987-292	489.59
2	2	2	5-3/4	6	3987-296	536.68
<b>MEDIUM FLUTE</b>						
5/8	5/8	3	5-1/8	4	3987-437	\$ 124.92
1	1	3	5-1/2	4	3987-467	192.55
1	1	3	5-1/2	6	3987-468	196.91
1-1/4	1-1/4	3	5-1/2	6	3987-476	247.27
1-1/2	1-1/4	3	5-1/2	6	3987-484	285.08
2	2	3	6-3/4	6	3987-497	568.00
<b>LONG FLUTE</b>						
1/2	1/2	3	5	4	3987-630	\$ 77.61
5/8	5/8	2-1/2	4-5/8	4	3987-638	109.96
3/4	3/4	3	5-1/4	4	3987-647	127.53
3/4	3/4	3	5-1/4	6	3987-648	139.34
7/8	7/8	3-1/2	5-3/4	4	3987-656	180.38
1	1	4	6-1/2	4	3987-668	232.24
1	1	4	6-1/2	6	3987-669	237.96
1-1/4	1-1/4	4	6-1/2	6	3987-677	315.63
1-1/2	1-1/4	4	6-1/2	6	3987-685	347.77
2	2	4	7-3/4	6	3987-698	594.93
<b>EXTRA LONG FLUTE</b>						
1/2	1/2	3	5	4	3987-831	\$ 104.09
5/8	5/8	4	6-1/8	4	3987-839	147.71
3/4	3/4	4	6-1/4	4	3987-847	162.39
3/4	3/4	4	6-1/4	6	3987-848	169.33
1	1	6	8-1/2	4	3987-868	309.62
1	1	6	8-1/2	6	3987-869	316.60
1-1/4	1-1/4	6	8-1/2	6	3987-878	412.07
1-1/2	1-1/4	6	8-1/2	6	3987-886	534.00
2	2	6	9-3/4	6	3987-899	796.37

# Tapered End Mills – Three Flute – R.H. Cut – R.H. Spiral – High Speed Steel

TOOL NO.	DIA.	FLT. L'TH	SHK. DIA.	OAL	ORDER NO.	PRICE EACH
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## 1/2° TAPER PER SIDE



05-102	3/32	1/2	3/8	2-1/2	2726-001	\$15.05
05-103	3/32	3/4	3/8	2-1/2	2726-002	16.15
05-105	3/32	1-1/4	3/8	3-1/8	2726-004	18.35
05-201	1/8	1/4	3/8	2-1/2	2726-010	14.05
05-202	1/8	1/2	3/8	2-1/2	2726-011	15.20
05-203	1/8	3/4	3/8	2-1/2	2726-012	16.15
05-204	1/8	1	3/8	2-7/8	2726-013	18.05
05-205	1/8	1-1/4	3/8	3-1/8	2726-014	19.10
05-206	1/8	1-1/2	3/8	3-1/4	2726-015	21.00
05-303	3/16	3/4	3/8	2-1/2	2726-025	16.20
05-305	3/16	1-1/4	3/8	3-1/8	2726-027	19.75
05-313	3/16	3-1/4	3/8	5-1/2	2726-035	43.80
05-403	1/4	3/4	3/8	2-1/2	2726-041	16.40
05-405	1/4	1-1/4	3/8	3-1/8	2726-042	20.70
05-409	1/4	2-1/4	1/2	4-1/4	2726-043	29.00
05-413	1/4	3-1/4	1/2	5-1/2	2726-044	38.60
05-605	3/8	1-1/4	1/2	3-1/8	2726-050	26.80
05-609	3/8	2-1/4	1/2	4-1/4	2726-051	32.05
05-613	3/8	3-1/4	1/2	5-1/2	2726-052	42.85
05-805	1/2	1-1/4	1/2	3-1/8	2726-058	31.35
05-809	1/2	2-1/4	1/2	4-1/4	2726-059	37.70
05-813	1/2	3-1/4	1/2	5-1/2	2726-060	44.95
05-1013	5/8	3-1/4	5/8	5-1/2	2726-067	56.40
05-1017	5/8	4-1/4	5/8	6-1/2	2726-068	63.70
05-1213	3/4	3-1/4	3/4	5-3/4	2726-074	64.35

## 1° TAPER PER SIDE



1-102	3/32	1/2	3/8	2-1/2	2726-087	\$ 15.25
1-103	3/32	3/4	3/8	2-1/2	2726-088	16.35
1-105	3/32	1-1/4	3/8	3-1/8	2726-089	18.55
1-201	1/8	1/4	3/8	2-1/2	2726-095	14.60
1-202	1/8	1/2	3/8	2-1/2	2726-096	15.30
1-203	1/8	3/4	3/8	2-1/2	2726-097	16.40
1-204	1/8	1	3/8	2-7/8	2726-098	18.15
1-205	1/8	1-1/4	3/8	3-1/8	2726-099	19.25
1-206	1/8	1-1/2	3/8	3-1/4	2726-100	21.35
1-303	3/16	3/4	3/8	2-1/2	2726-108	16.60
1-305	3/16	1-1/4	3/8	3-1/8	2726-109	19.85
1-313	3/16	3-1/4	3/8	5-1/2	2726-111	45.25
1-403	1/4	3/4	3/8	2-1/2	2726-117	16.70
1-405	1/4	1-1/4	3/8	3-1/8	2726-118	20.85
1-409	1/4	2-1/4	1/2	4-1/4	2726-119	31.00
1-413	1/4	3-1/4	1/2	5-1/2	2726-120	42.10
1-605	3/8	1-1/4	1/2	3-1/8	2726-126	25.40
1-609	3/8	2-1/4	1/2	4-1/4	2726-127	34.55
1-613	3/8	3-1/4	1/2	5-1/2	2726-128	45.15
1-805	1/2	1-1/4	1/2	3-1/8	2726-134	31.90
1-809	1/2	2-1/4	1/2	4-1/4	2726-135	39.25
1-813	1/2	3-1/4	1/2	5-1/2	2726-136	47.85
1-1013	5/8	3-1/4	5/8	5-1/2	2726-143	58.25
1-1017	5/8	4-1/4	5/8	6-1/2	2726-144	66.45
1-1213	3/4	3-1/4	3/4	5-3/4	2726-160	69.50
1-1221	3/4	5-1/4	3/4	7-3/4	2726-161	122.55
1-1624	1	6	1	8-1/2	2726-167	158.05

## 1-1/2° TAPER PER SIDE



15-102	3/32	1/2	3/8	2-1/2	2726-173	\$15.40
15-103	3/32	3/4	3/8	2-1/2	2726-174	16.50
15-104	3/32	1	3/8	2-7/8	2726-175	18.20
15-105	3/32	1-1/4	3/8	3-1/8	2726-176	18.75
15-106	3/32	1-1/2	3/8	3-1/4	2726-177	19.95
15-154	7/64	1	3/8	2-7/8	2726-183	18.40
15-156	7/64	1-1/2	3/8	3-1/4	2726-185	20.25
15-202	1/8	1/2	3/8	2-1/2	2726-191	15.45
15-203	1/8	3/4	3/8	2-1/2	2726-192	16.60
15-204	1/8	1	3/8	2-7/8	2726-193	18.55
15-205	1/8	1-1/4	3/8	3-1/8	2726-194	19.60
15-206	1/8	1-1/2	3/8	3-1/4	2726-195	21.45
15-208	1/8	2	3/8	3-7/8	2726-196	27.30
15-254	5/32	1	3/8	2-7/8	2726-203	18.65
15-256	5/32	1-1/2	3/8	3-1/4	2726-205	21.45
15-303	3/16	3/4	3/8	3-1/2	2726-211	16.70
15-305	3/16	1-1/4	3/8	3-1/8	2726-212	20.00
15-310	3/16	2-1/2	1/2	4-1/2	2726-213	40.80
15-313	3/16	3-1/4	3/8	5-1/2	2726-214	45.95
15-403	1/4	3/4	3/8	2-1/2	2726-230	16.85
15-405	1/4	1-1/4	3/8	3-1/8	2726-231	20.95
15-409	1/4	2-1/4	1/2	4-1/4	2726-232	30.25
15-413	1/4	3-1/4	1/2	5-1/2	2726-233	44.10
15-605	3/8	1-1/4	1/2	3-1/8	2726-239	27.60

TOOL NO.	DIA.	FLT. L'TH	SHK. DIA.	OAL	ORDER NO.	PRICE EACH
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## 1-1/2° TAPER PER SIDE, con't.

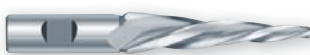
15-609	3/8	2-1/4	1/2	4-1/4	2726-240	\$ 36.15
15-613	3/8	3-1/4	5/8	5-1/2	2726-241	45.95
15-805	1/2	1-1/4	1/2	3-1/8	2726-247	31.95
15-809	1/2	2-1/4	1/2	4-1/4	2726-248	40.40
15-813	1/2	3-1/4	5/8	5-1/2	2726-249	52.70
15-1624	1	6	1-1/4	8-1/2	2726-268	198.70

## 2° TAPER PER SIDE



2-102	3/32	1/2	3/8	2-1/2	2726-274	\$ 15.65
2-103	3/32	3/4	3/8	2-1/2	2726-275	16.65
2-202	1/8	1/2	3/8	2-1/2	2726-281	15.70
2-203	1/8	3/4	3/8	2-1/2	2726-282	16.70
2-204	1/8	1	3/8	2-7/8	2726-283	18.80
2-205	1/8	1-1/4	3/8	3-1/8	2726-284	20.75
2-206	1/8	1-1/2	3/8	3-1/4	2726-285	21.60
2-303	3/16	3/4	3/8	2-1/2	2726-293	16.85
2-305	3/16	1-1/4	3/8	3-1/8	2726-294	20.45
2-313	3/16	3-1/4	1/2	5-1/2	2726-296	47.40
2-403	1/4	3/4	3/8	2-1/2	2726-302	17.00
2-405	1/4	1-1/4	3/8	3-1/8	2726-303	21.15
2-409	1/4	2-1/4	1/2	4-1/4	2726-304	32.35
2-413	1/4	3-1/4	1/2	5-1/2	2726-305	48.10
2-605	3/8	1-1/4	1/2	3-1/8	2726-311	30.00
2-609	3/8	2-1/4	1/2	4-1/4	2726-312	37.60
2-613	3/8	3-1/4	5/8	5-1/2	2726-313	50.25
2-805	1/2	1-1/4	1/2	3-1/8	2726-319	32.35
2-809	1/2	2-1/4	1/2	4-1/4	2726-320	40.80
2-813	1/2	3-1/4	5/8	5-1/2	2726-321	60.00
2-1017	5/8	4-1/4	3/4	6-1/2	2726-330	73.30
2-1221	3/4	5-1/4	1	7-3/4	2726-338	141.25
2-1624	1	6	1-1/4	8-1/2	2726-344	231.00

## 3° TAPER PER SIDE



3-004	.062	1	3/8	2-7/8	2726-350	\$19.50
3-006	.070	1-1/2	3/8	3-1/4	2726-351	21.35
3-103	3/32	3/4	3/8	2-1/2	2726-357	16.80
3-104	3/32	1	3/8	2-7/8	2726-358	18.50
3-105	3/32	1-1/4	3/8	3-1/8	2726-359	19.10
3-106	3/32	1-1/2	3/8	3-1/4	2726-360	20.00
3-108	3/32	2	3/8	3-5/8	2726-361	23.10
3-110	3/32	2-1/2	1/2	4-1/2	2726-362	30.30
3-154	7/64	1	3/8	2-7/8	2726-368	18.50
3-156	7/64	1-1/2	3/8	3-1/4	2726-370	20.50
3-158	7/64	2	3/8	3-5/8	2726-371	23.25
3-203	1/8	3/4	3/8	2-1/2	2726-378	16.95
3-204	1/8	1	3/8	2-7/8	2726-379	19.00
3-205	1/8	1-1/4	3/8	3-1/8	2726-380	19.60
3-206	1/8	1-1/2	3/8	3-1/4	2726-381	20.50
3-208	1/8	2	3/8	3-5/8	2726-382	29.95
3-210	1/8	2-1/2	1/2	4-1/2	2726-383	34.10
3-254	5/32	1	3/8	2-7/8	2726-389	19.20
3-256	5/32	1-1/2	3/8	3-1/4	2726-391	20.75
3-303	3/16	3/4	3/8	2-1/2	2726-398	17.30
3-305	3/16	1-1/4	3/8	3-1/8	2726-399	20.95
3-310	3/16	2-1/2	1/2	4-1/2	2726-401	39.80
3-313	3/16	3-1/4	5/8	5-1/2	2726-402	52.55
3-403	1/4	3/4	3/8	2-1/2	2726-409	18.05
3-405	1/4	1-1/4	3/8	3-1/8	2726-410	21.35
3-409	1/4	2-1/4	1/2	4-1/4	2726-411	36.35
3-413	1/4	3-1/4	5/8	5-1/2	2726-412	60.90
3-605	3/8	1-1/4	1/2	3-1/8	2726-419	31.10
3-609	3/8	2-1/4	5/8	4-1/4	2726-420	39.25
3-613	3/8	3-1/4	3/4	5-1/2	2726-421	71.25
3-805	1/2	1-1/4	1/2	3-1/8	2726-430	33.35
3-809	1/2	2-1/4	5/8	4-1/4	2726-431	48.55
3-813	1/2	3-1/4	3/4	5-1/2	2726-432	79.50

## 4° TAPER PER SIDE

4-305	3/16	1-1/4	3/8	3-1/8	2726-477	\$25.30
4-613	3/8	3-1/4	3/4	5-1/2	2726-498	80.05

## 5° TAPER PER SIDE



5-004	.062	1	3/8	2-7/8	2726-513	\$20.00
5-006	.070	1-1/2	3/8	3-1/4	2726-514	22.75
5-102	3/32	1/2	3/8	2-1/2	2726-520	19.60
5-103	3/32	3/4	3/8	2-1/2	2726-521	16.95
5-104	3/32	1	3/8	2-7/8	2726-522	18.75
5-105	3/32	1-1/4	3/8	3-1/8	2726-523	19.75

TOOL NO.	DIA.	FLT. L'TH	SHK. DIA.	OAL	ORDER NO.	PRICE EACH
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## 5° TAPER PER SIDE, con't.

5-106	3/32	1-1/2	3/8	3-1/4	2726-524
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# End Mills – Solid Carbide – Square End

## Single End– Regular Length

### Square End

Tolerances: 1/16 to 1/4 Inclusive, +.000, -.002  
9/32 to 1-1/2 Inclusive, +.000, -.003

DIAM.	SHANK	FLUTE LG'TH	OAL	UNCOATED				ALTiN COATED			
				2 FLT ORDER NO.	PRICE EACH	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	PRICE EACH	4 FLT ORDER NO.	PRICE EACH
1/32	1/8	3/32	1-1/2	2970-002	\$ 7.20	2970-402	\$ 7.20	2970-102	\$ 9.20	2970-502	\$ 9.20
3/64	1/8	1/8	1-1/2	2970-003	7.20	2970-403	7.20	2970-103	9.20	2970-503	9.20
1/16	1/8	3/16	1-1/2	2970-004	6.90	2970-404	6.90	2970-104	8.85	2970-504	8.85
5/64	1/8	3/16	1-1/2	2970-005	6.90	2970-405	6.90	2970-105	8.85	2970-505	8.85
3/32	1/8	3/8	1-1/2	2970-006	6.90	2970-406	6.90	2970-106	8.85	2970-506	8.85
7/64	1/8	3/8	1-1/2	2970-007	6.90	2970-407	6.90	2970-107	8.85	2970-507	8.85
1/8	1/8	1/2	1-1/2	2970-008	6.40	2970-408	6.40	2970-108	8.15	2970-508	8.15
9/64	3/16	9/16	2	2970-009	10.35	2970-409	10.35	2970-109	12.60	2970-509	12.60
5/32	3/16	9/16	2	2970-010	10.35	2970-410	10.35	2970-110	12.60	2970-510	12.60
11/64	3/16	5/8	2	2970-011	10.35	2970-411	10.35	2970-111	12.60	2970-511	12.60
3/16	3/16	5/8	2	2970-012	9.55	2970-412	9.55	2970-112	11.45	2970-512	11.45
13/64	1/4	5/8	2-1/2	2970-013	13.05	2970-413	13.05	2970-113	17.30	2970-513	17.30
7/32	1/4	5/8	2-1/2	2970-014	13.05	2970-414	13.05	2970-114	17.30	2970-514	17.30
15/64	1/4	3/4	2-1/2	2970-015	13.05	2970-415	13.05	2970-115	17.30	2970-515	17.30
1/4	1/4	3/4	2-1/2	2970-016	11.30	2970-416	11.30	2970-116	15.35	2970-516	15.35
17/64	5/16	3/4	2-1/2	2970-017	17.60	2970-417	17.60	2970-117	23.30	2970-517	23.30
9/32	5/16	3/4	2-1/2	2970-018	17.60	2970-418	17.60	2970-118	23.30	2970-518	23.30
19/64	5/16	13/16	2-1/2	2970-019	17.60	2970-419	17.60	2970-119	23.30	2970-519	23.30
5/16	5/16	13/16	2-1/2	2970-020	14.90	2970-420	14.90	2970-120	20.95	2970-520	20.95
21/64	3/8	7/8	2-1/2	2970-021	20.00	2970-421	20.00	2970-121	26.35	2970-521	26.35
11/32	3/8	7/8	2-1/2	2970-022	20.00	2970-422	20.00	2970-122	26.35	2970-522	26.35
23/64	3/8	7/8	2-1/2	2970-023	20.00	2970-423	20.00	2970-123	26.35	2970-523	26.35
3/8	3/8	7/8	2-1/2	2970-024	17.55	2970-424	17.55	2970-124	23.75	2970-524	23.75
25/64	7/16	7/8	2-1/2	2970-025	25.95	2970-425	25.95	2970-125	33.90	2970-525	33.90
13/32	7/16	7/8	2-1/2	2970-026	25.95	2970-426	25.95	2970-126	33.90	2970-526	33.90
27/64	7/16	7/8	2-1/2	2970-027	25.95	2970-427	25.95	2970-127	33.90	2970-527	33.90
7/16	7/16	7/8	2-1/2	2970-028	24.05	2970-428	24.05	2970-128	32.15	2970-528	32.15
29/64	7/16	1	3	2970-029	31.30	2970-429	31.30	2970-129	39.50	2970-529	39.50
15/32	1/2	1	3	2970-030	31.30	2970-430	31.30	2970-130	39.50	2970-530	39.50
31/64	1/2	1	3	2970-031	31.30	2970-431	31.30	2970-131	39.50	2970-531	39.50
1/2	1/2	1	3	2970-032	27.35	2970-432	27.35	2970-132	35.40	2970-532	35.40
9/16	9/16	1-1/4	3	2970-036	50.05	2970-436	50.05	2970-136	62.35	2970-536	62.35
5/8	5/8	1-1/4	3-1/2	2970-040	56.55	2970-440	56.55	2970-140	68.65	2970-540	68.65
11/16	3/4	1-1/2	4	2970-044	81.15	2970-444	81.15	2970-144	96.90	2970-544	96.90
3/4	3/4	1-1/2	4	2970-048	75.70	2970-448	75.70	2970-148	91.15	2970-548	91.15
13/16	7/8	1-1/2	4	2970-052	163.45	2970-452	163.45	-	-	-	-
7/8	7/8	1-1/2	4	2970-056	93.05	2970-456	93.05	2970-156	108.90	2970-556	108.90
15/16	1	1-1/2	4	2970-060	172.40	2970-460	172.40	-	-	-	-
1	1	1-1/2	4	2970-064	121.20	2970-464	121.20	2970-164	141.10	2970-564	141.10

### Uncoated



2 Flute Square End



4 Flute Square End

### ALTiN Coated



2 Flute Square End



4 Flute Square End

Sizes over 1" POA

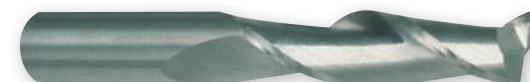


## Single End– Extra Long– Square End

DIA	SHANK DIA	FLUTE LG'TH	OAL	UNCOATED			ALTiN COATED		
				2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1/8	1/8	1	3	6320-808	6320-908	\$ 12.60	6321-308	6321-408	\$ 14.85
3/16	3/16	1-1/4	3	6320-812	6320-912	13.45	6321-312	6321-412	17.55
1/4	1/4	1-1/2	4	6320-816	6320-916	18.40	6321-316	6321-416	23.35
5/16	5/16	1-5/8	4	6320-820	6320-920	22.65	6321-320	6321-420	30.20
3/8	3/8	2	4	6320-824	6320-924	26.65	6321-324	6321-424	34.45
3/8	3/8	3	6	6320-825	6320-925	37.55	6321-325	6321-425	46.45
7/16	7/16	2	4	6320-828	6320-928	36.85	6321-328	6321-428	46.80
7/16	7/16	3	6	6320-829	6320-929	49.05	6321-329	6321-429	60.90
1/2	1/2	2	4	6320-832	6320-932	38.40	6321-332	6321-432	48.40
1/2	1/2	3	6	6320-833	6320-933	63.35	6321-333	6321-433	74.80
5/8	5/8	2-1/4	5	6320-840	6320-940	74.65	6321-340	6321-440	88.45
5/8	5/8	3	6	6320-841	6320-941	88.95	6321-341	6321-441	101.80
3/4	3/4	2-1/4	5	6320-848	6320-948	107.80	6321-348	6321-448	125.65
3/4	3/4	3	6	6320-849	6320-949	132.70	6321-349	6321-449	150.25
1	1	3	6	6320-866	6320-966	197.05	6321-366	6321-466	228.00



Four Flutes



Two Flutes

# End Mills- Solid Carbide- Single End

## Four Flute Corner Radius Endmills

Cutting Edge Tolerance: +.000 - .002



UNCOATED				.15° RADIUS		.20° RADIUS		.30° RADIUS		.45° RADIUS		.60° RADIUS	
DIA.	SHANK DIA.	CUT. LG'TH.	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/4	1-1/2	2970-800	\$7.50	2970-801	\$7.50	2970-802	\$7.50	2970-803	\$7.50	2970-804	\$7.50
3/16	3/16	3/8	2	2970-805	10.85	2970-806	10.85	2970-807	10.85	2970-808	10.85	2970-809	10.85
1/4	1/4	1/2	2	2970-810	12.80	2970-811	12.80	2970-812	12.80	2970-813	12.80	2970-814	12.80
5/16	5/16	1/2	2	2970-815	16.95	2970-816	16.95	2970-817	16.95	2970-818	16.95	2970-819	16.95
3/8	3/8	5/8	2	2970-820	20.20	2970-821	20.20	2970-822	20.20	2970-823	20.20	2970-824	20.20
1/2	1/2	5/8	2-1/2	2970-825	33.35	2970-826	33.35	2970-827	33.35	2970-828	33.35	2970-829	33.35
5/8	5/8	3/4	3	2970-830	62.20	2970-831	62.20	2970-832	62.20	2970-833	62.20	2970-834	62.20
3/4	3/4	1	3	2970-835	81.50	2970-836	81.50	2970-837	81.50	2970-838	81.50	2970-839	81.50



ALTN COATED				.15° RADIUS		.20° RADIUS		.30° RADIUS		.45° RADIUS		.60° RADIUS	
DIA.	SHANK DIA.	CUT. LG'TH.	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/4	1-1/2	2970-850	\$9.10	2970-851	\$9.10	2970-852	\$9.10	2970-853	\$9.10	2970-854	\$9.10
3/16	3/16	3/8	2	2970-855	12.90	2970-856	12.90	2970-857	12.90	2970-858	12.90	2970-859	12.90
1/4	1/4	1/2	2	2970-860	16.90	2970-861	16.90	2970-862	16.90	2970-863	16.90	2970-864	16.90
5/16	5/16	1/2	2	2970-865	23.25	2970-866	23.25	2970-867	23.25	2970-868	23.25	2970-869	23.25
3/8	3/8	5/8	2	2970-870	26.50	2970-871	26.50	2970-872	26.50	2970-873	26.50	2970-874	26.50
1/2	1/2	5/8	2-1/2	2970-875	41.05	2970-876	41.05	2970-877	41.05	2970-878	41.05	2970-879	41.05
5/8	5/8	3/4	3	2970-880	71.50	2970-881	71.50	2970-882	71.50	2970-883	71.50	2970-884	71.50
3/4	3/4	1	3	2970-885	94.70	2970-886	94.70	2970-887	94.70	2970-888	94.70	2970-889	94.70

## Two Flute Drill Mills



Cutting Edge Tolerance: +.000 - .002

UNCOATED				ALTN COATED		
DIA.	SHK. DIA.	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	3/4	2963-116	\$13.70	2963-216	\$14.60
5/16	5/16	2-1/2	2963-120	17.25	2963-220	18.55
3/8	3/8	2-1/2	2963-124	21.10	2963-224	22.35
7/16	7/16	2-1/2	2963-128	29.20	2963-228	30.90
1/2	1/2	3	2963-132	31.35	2963-232	33.05

## Six Flute Endmills



Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

UNCOATED				ALTN COATED			
DIA.	SHK. DIA.	CUT. LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/16	3/16	5/8	2	6327-812	\$10.00	6327-912	\$11.60
1/4	1/4	3/4	2-1/2	6327-816	11.80	6327-916	14.90
5/16	5/16	7/8	2-1/2	6327-820	16.50	6327-920	21.20
3/8	3/8	1	2-1/2	6327-824	23.70	6327-924	28.40
7/16	7/16	1	2-1/2	6327-828	25.00	6327-928	31.40
1/2	1/2	1	3	6327-832	32.80	6327-932	39.20
5/8	5/8	1-1/4	3-1/2	6327-840	63.30	6327-940	73.20
3/4	3/4	1-1/2	4	6327-848	92.70	6327-948	104.80
7/8	7/8	1-1/2	4	6327-856	119.60	6327-956	138.90

## Metric End Mills



UNCOATED				ALTN COATED			
DIA. (MM)	SHK. DIA. (MM)	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1.0	3.0	6322-010	6323-010	\$ 7.60	6327-000	6327-100	\$ 10.25
1.5	3.0	6322-015	6323-015	7.60	6327-001	6327-101	10.25
2.0	3.0	6322-021	6323-021	6.05	6327-002	6327-102	8.50
2.5	3.0	6322-025	6323-025	6.05	6327-003	6327-103	8.50
3.0	3.0	6322-030	6323-030	6.05	6327-004	6327-104	8.50
4.0	4.0	6322-040	6323-040	7.90	6327-006	6327-106	11.30
5.0	5.0	6322-050	6323-050	8.90	6327-008	6327-108	12.45
6.0	6.0	6322-060	6323-060	11.30	6327-010	6327-110	16.85
7.0	7.0	6322-070	6323-070	14.80	6327-012	6327-112	22.70
8.0	8.0	6322-080	6323-080	14.20	6327-014	6327-114	22.05
9.0	9.0	6322-090	6323-090	20.60	6327-016	6327-116	29.50
10.0	10.0	6322-100	6323-100	18.15	6327-018	6327-118	26.65
12.0	12.0	6322-120	6323-120	25.85	6327-022	6327-122	37.60
14.0	14.0	6322-140	6323-140	42.40	6327-026	6327-126	61.05
16.0	16.0	6322-160	6323-160	56.55	6327-030	6327-130	78.05
18.0	18.0	6322-180	6323-180	64.65	6327-034	6327-134	89.45
20.0	20.0	6322-200	6323-200	77.55	6327-036	6327-136	111.20

## Single End- Stub Length



• TiALN available on request

UNCOATED						
DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
3/64	1/8	1/8	1-1/2	2971-003	2971-203	\$ 6.05
1/16	1/8	1/8	1-1/2	2971-004	2971-204	5.85
3/32	1/8	3/16	1-1/2	2971-006	2971-206	5.85
1/8	1/8	1/4	1-1/2	2971-008	2971-208	5.60
5/32	3/16	5/16	1-1/2	2971-010	2971-210	7.25
3/16	3/16	5/16	1-1/2	2971-012	2971-212	7.05
1/4	1/4	1/2	2	2971-016	2971-216	9.10
5/16	5/16	5/8	2	2971-020	2971-220	12.50
3/8	3/8	5/8	2	2971-024	2971-224	15.45
7/16	7/16	5/8	2-1/2	2971-028	2971-228	21.35
1/2	1/2	5/8	2-1/2	2971-032	2971-232	24.25



# Roughers & End Mills- Solid Carbide

## Fine Pitch Roughers

- Designed for maximum stock removal of titanium, inconel, waspaloy, and other advanced materials



Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

DIA.	SHK. DIA.	CUT. LG'TH	OAL	NO. OF FLUTES	UNCOATED		ALTiN COATED	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	3/4	2-1/2	3	6380-316	\$44.15	6380-616	\$49.95
5/16	5/16	3/4	2-1/2	3	6380-320	47.75	6380-620	55.70
3/8	3/8	7/8	2-1/2	3	6380-324	61.05	6380-624	69.50
1/2	1/2	1	3	4	6380-332	77.15	6380-632	88.10
5/8	5/8	1-1/4	3-1/2	4	6380-340	133.20	6380-640	147.25
3/4	3/4	1-1/2	4	4	6380-348	153.25	6380-648	173.55
1	1	1-1/2	4	6	6380-364	245.50	6380-664	279.10

## Coarse Pitch Roughers

- Designed for maximum stock removal of aluminum, brass, bronze, r and other lightweight alloys



Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

DIA.	SHK. DIA.	CUT. LG'TH	OAL	NO. OF FLUTES	UNCOATED		ALTiN COATED	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	3/4	2-1/2	3	6380-216	\$44.15	6380-516	\$49.95
5/16	5/16	3/4	2-1/2	3	6380-220	47.75	6380-520	55.70
3/8	3/8	7/8	2-1/2	3	6380-224	61.05	6380-524	69.50
1/2	1/2	1	3	3	6380-232	77.15	6380-532	88.10
5/8	5/8	1-1/4	3-1/2	3	6380-240	133.20	6380-540	147.25
3/4	3/4	1-1/2	4	3	6380-248	153.25	6380-548	173.55
1	1	1-1/2	4	3	6380-264	245.55	6380-564	279.10

## Double End- Stub Length



DIA.	SHANK DIA.	CUT. LG'TH.	OAL	UNCOATED			ALTiN COATED		
				2-FLUTE ORDER NO.	4-FLUTE ORDER NO.	PRICE EACH	2-FLUTE ORDER NO.	4-FLUTE ORDER NO.	PRICE EACH
1/32	1/8	1/16	1-1/2	2974-402	2974-602	\$10.45	2975-402	2975-602	\$12.70
3/64	1/8	3/32	1-1/2	2974-403	2974-603	10.45	2975-403	2975-603	12.70
1/16	1/8	1/8	1-1/2	2974-404	2974-604	8.70	2975-404	2975-604	10.95
3/32	1/8	3/16	1-1/2	2974-406	2974-606	8.70	2975-406	2975-606	10.95
1/8	1/8	1/4	1-1/2	2974-408	2974-608	8.65	2975-408	2975-608	10.15
5/32	3/16	5/16	2	2974-410	2974-610	14.50	2975-410	2975-610	17.70
3/16	3/16	3/8	2	2974-412	2974-612	12.25	2975-412	2975-612	14.95
7/32	1/4	7/16	2	2974-414	2974-614	16.60	2975-414	2975-614	21.70
1/4	1/4	1/2	2	2974-416	2974-616	15.75	2975-416	2975-616	20.20
5/16	5/16	1/2	2	2974-420	2974-620	20.20	2975-420	2975-620	26.55
3/8	3/8	5/8	2	2974-424	2974-624	21.35	2975-424	2975-624	27.65
7/16	7/16	5/8	3	2974-428	2974-628	28.30	2975-428	2975-628	39.80
1/2	1/2	5/8	2-1/2	2974-432	2974-632	36.55	2975-432	2975-632	44.40
5/8	5/8	3/4	3	2974-440	2974-640	63.80	2975-440	2975-640	80.05
3/4	3/4	1	3	2974-448	2974-648	80.25	2975-448	2975-648	100.00

† Limited Quantities

## Medium Pitch Roughers

- Designed for maximum stock removal of mild, stainless, and hardened steels and alloys



Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

DIA.	SHK. DIA.	CUT. LG'TH	OAL	NO. OF FLUTES	UNCOATED		ALTiN COATED	
					ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	1/4	3/4	2-1/2	3	6380-116	\$44.15	6380-416	\$49.95
5/16	5/16	13/16	2-1/2	3	6380-120	47.40	6380-420	55.70
3/8	3/8	1	2-1/2	3	6380-124	60.60	6380-424	69.50
1/2	1/2	1	3	4	6380-132	76.50	6380-432	88.10
5/8	5/8	1-1/2	3-1/2	4	6380-140	130.90	6380-440	147.25
3/4	3/4	1-1/2	4	4	6380-148	153.25	6380-448	173.55
1	1	1-1/2	4	5	6380-164	245.60	6380-464	279.10

## Double End- Regular Length



DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	UNCOATED		PRICE EACH
				2 FLT. ORDER NO.	4 FLT. ORDER NO.	
1/32	1/8	3/32	2	2974-002	2974-202	\$11.95
3/64	1/8	1/8	2	2974-003	2974-203	11.95
1/16	1/8	3/16	1-1/2	2974-004†	-	9.25
1/16	1/8	3/16	2	2974-005	2974-205	11.60
3/32	1/8	1/4	2	2974-006	2974-206	11.60
1/8	1/8	3/8	2	2974-008	2974-208	11.60
5/32	3/16	7/16	2	2974-010†	-	13.45
5/32	3/16	7/16	2-1/2	2974-011	2974-211	16.85
3/16	3/16	1/2	2-1/2	2974-013	2974-212	18.75
7/32	1/4	9/16	2-1/2	2974-014	2974-214	18.75
7/32	1/4	9/16	3	2974-015†	-	18.75
1/4	1/4	5/8	2-1/2	2974-016	2974-216	18.10
5/16	5/16	3/4	3-1/2	2974-021	2974-220	22.25
3/8	3/8	3/4	3	2974-024†	-	24.00
3/8	3/8	3/4	3-1/2	2974-025	2974-224	28.20
7/16	7/16	3/4	3	2974-028†	-	34.75
7/16	7/16	7/8	4	2974-029	2974-229	40.90
1/2	1/2	3/4	3	2974-032†	-	41.30
1/2	1/2	1	4	2974-033	2974-233	45.85

## Double End- Large Shank w/ Flat



- TiALN available upon request

DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	UNCOATED		PRICE EACH
				2 FLT. ORDER NO.	4 FLT. ORDER NO.	
1/8	3/8	3/8	3	2973-408	2973-608	\$29.85
5/32	3/8	7/16	3	2973-410	2973-610	29.85
3/16	3/8	1/2	3	2973-412	2973-612	28.80
7/32	3/8	9/16	3-1/2	2973-414	2973-614	28.80
1/4	3/8	5/8	3-1/2	2973-416	2973-616	28.80
9/32	3/8	11/16	3-1/2	2973-418	2973-618	42.45
5/16	3/8	3/4	3-1/2	2973-420	2973-620	32.90
11/32	3/8	3/4	3-1/2	2973-422	2973-622	42.45
3/8	3/8	3/4	3-1/2	2973-424	2973-624	32.90
7/16	1/2	7/8	4	2973-428	2973-628	52.55
1/2	1/2	1	4	2973-432	2973-632	52.55

# End Mills - Solid Carbide - High Performance



## High Performance - Variable Helix Four Flute - Square End - ALTiN Coated



- Reduces harmonic vibration creating a smoother running end mill.

				NO FLAT ON SHANK		FLAT ON SHANK	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	3/8	1-1/2	2974-808	\$12.60	2974-908	\$13.25
3/16	3/16	7/16	2	2974-812	17.20	2974-912	18.10
1/4	1/4	5/8	2-1/2	2974-816	20.35	2974-916	21.40
5/16	5/16	13/16	2-1/2	2974-820	26.25	2974-920	27.55
3/8	3/8	7/8	2-1/2	2974-824	32.55	2974-924	34.15
7/16	7/16	1	2-3/4	2974-828	40.80	2974-928	42.85
1/2	1/2	1	3	2974-832	50.15	2974-932	52.65
9/16	9/16	1-1/8	3-1/2	2974-836	72.45	2974-936	76.10
5/8	5/8	1-1/4	3-1/2	2974-840	94.45	2974-940	99.15
3/4	3/4	1-1/2	4	2974-848	136.85	2974-948	143.70
1	1	1-1/2	4	2974-864	211.45	2974-964	222.05

## High Performance - Variable Helix Four Flute - Corner Radius - Square End - ALTiN Coated



- Reduces harmonic vibration creating a smoother running end mill.

					NO FLAT ON SHANK		FLAT ON SHANK	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	RADIUS	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	3/8	1-1/2	.015	2975-008	\$14.20	2975-108	\$14.95
3/16	3/16	7/16	2	.015	2975-012	18.85	2975-112	19.75
1/4	1/4	5/8	2-1/2	.020	2975-016	22.20	2975-116	23.30
5/16	5/16	13/16	2-1/2	.020	2975-020	28.50	2975-120	29.90
3/8	3/8	7/8	2-1/2	.020	2975-024	35.20	2975-124	37.00
7/16	7/16	1	2-3/4	.020	2975-028	44.25	2975-128	46.45
1/2	1/2	1	3	.030	2975-032	52.05	2975-132	54.65
9/16	9/16	1-1/8	3-1/2	.030	2975-036	79.45	2975-136	83.40
5/8	5/8	1-1/4	3-1/2	.040	2975-040	101.10	2975-140	106.15
3/4	3/4	1-1/2	4	.040	2975-048	148.35	2975-148	155.80
1	1	1-1/2	4	.040	2975-064	226.10	2975-164	237.40

## High Performance - Variable Helix Four Flute - Metric - Square End - ALTiN Coated



				NO FLAT ON SHANK		FLAT ON SHANK	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3	3	12	38	2975-203	\$12.60	2975-253	\$13.25
4	4	14	50	2975-204	15.75	2975-254	16.50
5	5	16	50	2975-205	17.20	2975-255	18.10
6	6	19	63	2975-206	20.35	2975-256	21.40
8	8	19	63	2975-208	26.25	2975-258	27.55
10	10	22	70	2975-210	34.60	2975-260	36.30
12	12	25	75	2975-212	50.15	2975-262	52.65
14	14	25	88	2975-214	72.45	2975-264	76.10
16	16	32	88	2975-216	94.45	2975-266	99.15
18	18	36	100	2975-218	130.85	2975-268	137.35
20	20	38	100	2975-220	154.55	2975-270	162.30
25	25	38	100	2975-225	211.45	2975-275	222.05

## High Performance - Variable Helix Four Flute - Metric - Corner Radius - Square End - ALTiN Coated



					NO FLAT ON SHANK		FLAT ON SHANK	
DIA.	SHK. LG'TH	FLT. LG'TH	OAL	RADIUS	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3	3	12	38	.038	2975-303	\$14.10	2975-353	\$14.85
4	4	14	50	.038	2975-304	17.05	2975-354	17.90
5	5	16	50	.038	2975-305	17.80	2975-355	18.70
6	6	19	63	.051	2975-306	22.20	2975-356	23.30
8	8	19	63	.051	2975-308	28.50	2975-358	29.90
10	10	22	70	.051	2975-310	39.00	2975-360	41.00
12	12	25	75	.076	2975-312	56.85	2975-362	59.70
14	14	25	88	.076	2975-314	79.45	2975-364	83.40
16	16	32	88	.089	2975-316	101.10	2975-366	106.15
18	18	36	100	.089	2975-318	148.70	2975-368	156.10
20	20	38	100	.089	2975-320	194.45	2975-370	204.15
25	25	38	100	.089	2975-325	226.10	2975-375	237.40

## 45° 2-Flute High Helix

- Designed for high speed milling of aluminum.



Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

UNCOATED						
MILL DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	
1/4	1/4	1	2-1/2	6328-016	\$ 13.60	
5/16	5/16	1	3	6328-020	15.75	
3/8	3/8	1	2-1/2	6328-024	22.10	
1/2	1/2	1-1/4	3	6328-032	35.25	
5/8	5/8	1-5/8	3-1/2	6328-040	65.30	
3/4	3/4	1-3/4	4	6328-048	90.90	

## 60° 3-Flute High Helix

- Designed for high speed milling of inconel, titanium, stainless and steel alloys.



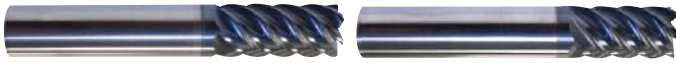
Cutting Edge Tolerance: +.000 - .002  
Shank Tolerance: +.000 - .0002

UNCOATED						
MILL DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	
1/4	1/4	3/4	2-1/2	6320-416	\$ 11.80	
5/16	5/16	13/16	2-1/2	6320-420	19.35	
3/8	3/8	1	2-1/2	6320-424	20.25	
1/2	1/2	1	3	6320-432	34.65	
5/8	5/8	1-1/4	3-1/2	6320-440	70.70	
3/4	3/4	1-1/2	4	6320-448	98.45	

# End Mills - Solid Carbide - High Performance



## Six Flute 45° – Square End Eccentric Relief - ALTiN Coated High Performance Finisher



Cutting Edge Tolerance: +.000 - .002

- Designed to achieve an impeccable finish in hard metals like stainless steel, alloys, and titanium.
- The 45° spiral achieves faster feed rates.

				ALTiN COATED		ALTiN CT. - CORNER RADIUS		
DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	RADIUS	ORDER NO.	PRICE EACH
3/16	3/16	5/8	2	2972-812	\$15.40	-	-	-
1/4	1/4	3/4	2-1/2	2972-816	20.40	.010	2972-916	\$22.85
5/16	5/16	7/8	2-1/2	2972-820	28.20	.012	2972-920	31.60
3/8	3/8	1	2-1/2	2972-824	37.65	.012	2972-924	43.35
7/16	7/16	1	2-1/2	2972-828	51.35	.015	2972-928	57.55
1/2	1/2	1	3	2972-832	52.65	.015	2972-932	59.00
9/16	9/16	1	3	2972-836	73.20	.020	2972-936	81.95
5/8	5/8	1-1/4	3-1/2	2972-840	99.50	.020	2972-940	111.45
3/4	3/4	1-1/2	4	2972-848	137.35	.030	2972-948	153.85
7/8	7/8	1-1/2	4	2972-856	182.15	.030	2972-956	204.00
1	1	1-1/2	4	2972-864	220.30	.030	2972-964	246.75

## For Milling Aluminum Alloys Two Flute – Square End



- Unique geometry allows highest feed rates and highest possible finish in the milling of aluminum. Two flute design allows large chip load and highest finish.

				UNCOATED		Z-N COATED	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/2	1-1/2	2971-408	\$ 11.05	2971-508	\$12.80
5/32	5/32	9/16	2	2971-410	13.40	2971-510	15.20
3/16	3/16	3/4	2	2971-412	15.50	2971-512	17.90
1/4	1/4	3/4	2-1/2	2971-416	18.35	2971-516	22.05
1/4	1/4	1	2-1/2	2971-417	19.65	2971-517	26.70
5/16	5/16	3/4	2-1/2	2971-420	23.65	2971-520	28.45
5/16	5/16	1	3	2971-421	25.35	2971-521	31.00
3/8	3/8	7/8	2-1/2	2971-424	29.35	2971-524	35.30
3/8	3/8	1	2-1/2	2971-425	31.40	2971-525	37.75
7/16	7/16	1	2-1/2	2971-428	38.85	2971-528	46.60
1/2	1/2	1	3	2971-432	45.25	2971-532	50.75
1/2	1/2	1-1/4	3	2971-433	48.45	2971-533	53.85
9/16	9/16	1-1/4	3	2971-436	65.35	2971-536	78.60
5/8	5/8	1-1/4	3-1/2	2971-440	85.15	2971-540	95.70
5/8	5/8	1-5/8	3-1/2	2971-441	91.35	2971-541	99.20
3/4	3/4	1-1/2	4	2971-448	123.40	2971-548	138.50
3/4	3/4	1-3/4	4	2971-449	132.20	2971-549	143.55
1	1	1-1/2	4	2971-464	190.65	2971-564	214.00

## For Milling Aluminum Alloys Three Flute – Square End



- Unique geometry allows highest feed rates and highest possible finish in the milling of aluminum. Two flute design allows large chip load and highest finish.

				UNCOATED		Z-N COATED	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/2	1-1/2	2972-408	\$11.05	2972-508	\$12.80
5/32	5/32	9/16	2	2972-410	13.40	2972-510	15.20
3/16	3/16	3/4	2	2972-412	15.50	2972-512	17.90
1/4	1/4	3/4	2-1/2	2972-416	18.35	2972-516	22.05
1/4	1/4	1	2-1/2	2972-417	19.65	2972-517	26.70
5/16	5/16	3/4	2-1/2	2972-420	23.65	2972-520	28.45
5/16	5/16	1	3	2972-421	25.35	2972-521	31.00
3/8	3/8	7/8	2-1/2	2972-424	29.35	2972-524	35.30
3/8	3/8	1	2-1/2	2972-425	31.40	2972-525	37.75
7/16	7/16	1	2-1/2	2972-428	38.85	2972-528	46.60
1/2	1/2	1	3	2972-432	45.25	2972-532	50.75
1/2	1/2	1-1/4	3	2972-433	48.45	2972-533	53.85
6	6	1-1/4	3	2972-436	65.35	2972-536	78.60
5/8	5/8	1-1/4	3-1/2	2972-440	85.15	2972-540	95.70
5/8	5/8	1-5/8	3-1/2	2972-441	91.35	2972-541	99.20
3/4	3/4	1-1/2	4	2972-448	123.40	2972-548	138.50
3/4	3/4	1-3/4	4	2972-449	132.20	2972-549	143.55
1	1	1-1/2	4	2972-464	190.65	2972-564	214.00

## For Milling Aluminum Alloys Corner Radius - Two Flute – Square End



- Unique geometry allows highest feed rates and highest possible finish in the milling of aluminum. Two flute design allows large chip load and highest finish.

					UNCOATED		Z-N COATED	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	RADIUS	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/2	1-1/2	.015	2971-608	\$12.85	2971-708	\$15.40
5/32	5/32	9/16	2	.015	2971-610	15.50	2971-710	18.45
3/16	3/16	3/4	2	.015	2971-612	16.95	2971-712	20.40
1/4	1/4	3/4	2-1/2	.020	2971-616	20.00	2971-716	24.05
1/4	1/4	1	2-1/2	.021	2971-617	19.65	2971-717	24.70
5/16	5/16	3/4	2-1/2	.022	2971-620	25.70	2971-720	30.85
5/16	5/16	1	3	.023	2971-621	28.25	2971-721	33.45
3/8	3/8	7/8	2-1/2	.024	2971-624	31.75	2971-724	38.20
3/8	3/8	1	2-1/2	.025	2971-625	34.00	2971-725	39.20
7/16	7/16	1	2-1/2	.030	2971-628	41.20	2971-728	49.05
1/2	1/2	1	3	.030	2971-632	46.95	2971-732	56.45
1/2	1/2	1-1/4	3	.030	2971-633	50.30	2971-733	58.00
9/16	6	1-1/4	3	.030	2971-636	71.65	2971-736	86.15
5/8	5/8	1-1/4	3-1/2	.040	2971-640	91.15	2971-740	109.60
5/8	5/8	1-5/8	3-1/2	.040	2971-641	97.65	2971-741	112.60
3/4	3/4	1-1/2	4	.040	2971-648	133.75	2971-748	160.90
3/4	3/4	1-3/4	4	.040	2971-649	143.35	2971-749	165.30
1	1	1-1/2	4	.040	2971-664	203.85	2971-764	245.15

## For Milling Aluminum Alloys Corner Radius - Three Flute - Square End



- Unique geometry allows highest feed rates and highest possible finish in the milling of aluminum. Two flute design allows large chip load and highest finish.

					UNCOATED		Z-N COATED	
DIA.	SHK. DIA.	FLT. LG'TH	OAL	RADIUS	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	1/8	1/2	1-1/2	.015	2972-608	\$12.85	2972-708	\$15.40
5/32	5/32	9/16	2	.015	2972-610	15.50	2972-710	18.45
3/16	3/16	3/4	2	.015	2972-612	16.95	2972-712	20.40
1/4	1/4	3/4	2-1/2	.020	2972-616	20.00	2972-716	24.05
1/4	1/4	1	2-1/2	.021	2972-617	19.65	2972-717	24.70
5/16	5/16	3/4	2-1/2	.022	2972-620	25.70	2972-720	30.85
5/16	5/16	1	3	.023	2972-621	28.25	2972-721	33.45
3/8	3/8	7/8	2-1/2	.024	2972-624	31.75	2972-724	38.20
3/8	3/8	1	2-1/2	.025	2972-625	34.00	2972-725	39.20
7/16	7/16	1	2-1/2	.030	2972-628	41.20	2972-728	49.05
1/2	1/2	1	3	.030	2972-632	46.95	2972-732	56.45
1/2	1/2	1-1/4	3	.030	2972-633	50.30	2972-733	58.00
9/16	6	1-1/4	3	.030	2972-636	71.65	2972-736	86.15
5/8	5/8	1-1/4	3-1/2	.040	2972-640	91.15	2972-740	109.60
5/8	5/8	1-5/8	3-1/2	.040	2972-641	97.65	2972-741	112.60
3/4	3/4	1-1/2	4	.040	2972-648	133.75	2972-748	160.90
3/4	3/4	1-3/4	4	.040	2972-649	143.35	2972-749	165.30
1	1	1-1/2	4	.040	2972-664	203.85	2972-764	245.15

# End Mills - Solid Carbide - Ball End



## Single End- Regular Length- Ball End

Tolerances: 1/16 to 1/4 Inclusive, +.000, -.002  
9/32 to 1-1/2 Inclusive, +.000, -.003

DIAM.	SHANK	FLUTE LG'TH	OAL	UNCOATED				ALTIM COATED			
				2 FLT ORDER NO.	PRICE EACH	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	PRICE EACH	4 FLT ORDER NO.	PRICE EACH
1/32	1/8	3/32	1-1/2	2970-202	\$ 9.05	2970-602	\$ 9.05	2970-302	\$ 10.80	2970-702	\$ 10.80
3/64	1/8	1/8	1-1/2	2970-203	8.70	2970-603	8.70	2970-303	10.80	2970-703	10.80
1/16	1/8	3/16	1-1/2	2970-204	8.50	2970-604	8.50	2970-304	10.55	2970-704	10.55
5/64	1/8	3/16	1-1/2	2970-205	8.50	2970-605	8.50	2970-305	10.55	2970-705	10.55
3/32	1/8	3/8	1-1/2	2970-206	8.50	2970-606	8.50	2970-306	10.55	2970-706	10.55
7/64	1/8	3/8	1-1/2	2970-207	8.50	2970-607	8.50	2970-307	10.55	2970-707	10.55
1/8	1/8	1/2	1-1/2	2970-208	7.60	2970-608	7.10	2970-308	9.50	2970-708	9.50
9/64	3/16	9/16	2	2970-209	12.35	2970-609	12.35	2970-309	14.80	2970-709	14.80
5/32	3/16	9/16	2	2970-210	12.35	2970-610	12.35	2970-310	14.80	2970-710	14.80
11/64	3/16	5/8	2	2970-211	12.35	2970-611	12.35	2970-311	14.80	2970-711	14.80
3/16	3/16	5/8	2	2970-212	11.00	2970-612	11.00	2970-312	13.30	2970-712	13.30
13/64	1/4	5/8	2-1/2	2970-213	15.75	2970-613	15.75	2970-313	20.15	2970-713	20.15
7/32	1/4	5/8	2-1/2	2970-214	15.75	2970-614	15.75	2970-314	20.15	2970-714	20.15
15/64	1/4	3/4	2-1/2	2970-215	15.75	2970-615	15.75	2970-315	20.15	2970-715	20.15
1/4	1/4	3/4	2-1/2	2970-216	13.65	2970-616	13.65	2970-316	17.70	2970-716	17.70
17/64	5/16	3/4	2-1/2	2970-217	21.40	2970-617	21.40	2970-317	27.85	2970-717	27.85
9/32	5/16	3/4	2-1/2	2970-218	21.40	2970-618	21.40	2970-318	27.85	2970-718	27.85
19/64	5/16	13/16	2-1/2	2970-219	21.40	2970-619	21.40	2970-319	27.85	2970-719	27.85
5/16	5/16	13/16	2-1/2	2970-220	18.65	2970-620	18.65	2970-320	24.95	2970-720	24.95
21/64	3/8	7/8	2-1/2	2970-221	25.05	2970-621	25.05	2970-321	31.70	2970-721	31.70
11/32	3/8	7/8	2-1/2	2970-222	25.05	2970-622	25.05	2970-322	31.70	2970-722	31.70
23/64	3/8	7/8	2-1/2	2970-223	25.05	2970-623	25.05	2970-323	31.70	2970-723	31.70
3/8	3/8	7/8	2-1/2	2970-224	21.95	2970-624	21.70	2970-324	28.40	2970-724	28.40
25/64	7/16	7/8	2-1/2	2970-225	32.45	2970-625	32.45	2970-325	40.75	2970-725	40.75
13/32	7/16	7/8	2-1/2	2970-226	32.45	2970-626	32.45	2970-326	40.75	2970-726	40.75
27/64	7/16	7/8	2-1/2	2970-227	32.45	2970-627	32.45	2970-327	40.75	2970-727	40.75
7/16	7/16	7/8	2-1/2	2970-228	30.20	2970-628	30.20	2970-328	38.30	2970-728	38.30
29/64	7/16	1	3	2970-229	39.05	2970-629	39.05	2970-329	47.80	2970-729	47.80
15/32	1/2	1	3	2970-230	39.05	2970-630	39.05	2970-330	47.80	2970-730	47.80
31/64	1/2	1	3	2970-231	39.05	2970-631	39.05	2970-331	47.80	2970-731	47.80
1/2	1/2	1	3	2970-232	34.20	2970-632	34.20	2970-332	42.65	2970-732	42.65
9/16	9/16	1-1/4	3	2970-236	55.00	2970-636	55.00	2970-336	66.45	2970-736	66.45
5/8	5/8	1-1/4	3-1/2	2970-240	71.10	2970-640	71.10	2970-340	83.20	2970-740	83.20
11/16	3/4	1-1/2	4	2970-244	101.40	2970-644	101.40	2970-344	118.30	2970-744	118.30
3/4	3/4	1-1/2	4	2970-248	94.60	2970-648	94.60	2970-348	111.15	2970-748	111.15
13/16	7/8	1-1/2	4	2970-252	212.45	2970-652	212.45	-	-	-	-
7/8	7/8	1-1/2	4	2970-256	116.50	2970-656	116.50	2970-356	132.35	2970-756	132.35
15/16	1	1-1/2	4	2970-260	223.45	2970-660	223.45	-	-	-	-
1	1	1-1/2	4	2970-264	149.45	2970-664	149.45	2970-364	172.35	2970-764	167.20



2 Flute Ball End



4 Flute Ball End

Sizes over 1" POA

## Single End- Extra Long- Ball End

DIA	SHANK DIA	FLUTE LG'TH	OAL	UNCOATED			ALTIM COATED		
				2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1/8	1/8	1	3	6321-108	6321-208	\$ 14.00	6321-508	6321-608	\$ 16.40
3/16	3/16	1-1/4	3	6321-112	6321-212	16.50	6321-512	6321-612	20.90
1/4	1/4	1-1/2	4	6321-116	6321-216	20.80	6321-516	6321-616	25.90
5/16	5/16	1-5/8	4	6321-120	6321-220	25.95	6321-520	6321-620	33.70
3/8	3/8	2	4	6321-124	6321-224	31.65	6321-524	6321-624	38.75
3/8	3/8	3	6	6321-125	6321-225	41.55	6321-525	6321-625	49.75
7/16	7/16	2	4	6321-128	6321-228	42.15	6321-528	6321-628	50.90
7/16	7/16	3	6	6321-129	6321-229	58.30	6321-529	6321-629	71.35
1/2	1/2	2	4	6321-132	6321-232	44.65	6321-532	6321-632	55.05
1/2	1/2	3	6	6321-133	6321-233	72.90	6321-533	6321-633	84.35
5/8	5/8	2-1/4	5	6321-140	6321-240	85.95	6321-540	6321-640	100.85
5/8	5/8	3	6	6321-141	6321-241	99.70	6321-541	6321-641	111.95
3/4	3/4	2-1/4	5	6321-148	6321-248	123.35	6321-548	6321-648	143.15
3/4	3/4	3	6	6321-149	6321-249	148.70	6321-549	6321-649	167.75
1	1	3	6	6321-166	6321-266	218.15	6321-566	6321-666	257.35



2 Flute Ball End



4 Flute Ball End



# End Mills - Solid Carbide - Ball End

## Single End - Metric End Mills - Ball End



UNCOATED					ALTiN COATED		
DIA. (MM)	SHK. DIA. (MM)	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1.0	3.0	6324-010	6325-010	\$ 9.20	6327-200	6327-300	\$ 12.15
1.5	3.0	6324-015	6325-015	9.20	6327-201	6327-301	12.15
2.0	3.0	6324-021	6325-021	7.60	6327-202	6327-302	10.25
2.5	3.0	6324-025	6325-025	7.60	6327-203	6327-303	10.25
3.0	3.0	6324-030	6325-030	7.60	6327-204	6327-304	10.25
4.0	4.0	6324-040	6325-040	10.20	6327-206	6327-306	13.95
5.0	5.0	6324-050	6325-050	10.35	6327-208	6327-308	14.15
6.0	6.0	6324-060	6325-060	13.65	6327-210	6327-310	19.60
7.0	7.0	6324-070	6325-070	18.00	6327-212	6327-312	26.50
8.0	8.0	6324-080	6325-080	17.45	6327-214	6327-314	25.80
9.0	9.0	6324-090	6325-090	24.80	6327-216	6327-316	34.40
10.0	10.0	6324-100	6325-100	22.55	6327-218	6327-318	34.60
12.0	12.0	6324-120	6325-120	33.15	6327-222	6327-322	46.10
14.0	14.0	6324-140	6325-140	47.65	6327-226	6327-326	67.20
16.0	16.0	6324-160	6325-160	71.10	6327-230	6327-330	95.00
18.0	18.0	6324-180	6325-180	78.75	6327-234	6327-334	105.95
20.0	20.0	6324-200	6325-200	92.10	6327-236	6327-336	130.05

## Single End - Stub Length - Ball End



• TiAlN available upon request

UNCOATED						
DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
3/64	1/8	1/8	1-1/2	2971-103	2971-303	\$ 7.35
1/16	1/8	1/8	1-1/2	2971-104	2971-304	6.55
3/32	1/8	3/16	1-1/2	2971-106	2971-306	6.55
1/8	1/8	1/4	1-1/2	2971-108	2971-308	6.55
5/32	3/16	5/16	1-1/2	2971-110	2971-310	8.75
3/16	3/16	5/16	1-1/2	2971-112	2971-312	8.75
1/4	1/4	1/2	2	2971-116	2971-316	10.70
5/16	5/16	5/8	2	2971-120	2971-320	15.55
3/8	3/8	5/8	2	2971-124	2971-324	19.40
7/16	7/16	5/8	2-1/2	2971-128	2971-328	24.35
1/2	1/2	5/8	2-1/2	2971-132	2971-332	30.95

## Double End - Stub Length - Ball End



UNCOATED					ALTiN COATED				
DIA.	CUT LG'TH	SHK. DIA.	OAL	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1/32	1/8	1/16	1-1/2	2974-502	2974-702	\$ 13.05	2975-502	2975-702	\$ 15.30
3/64	1/8	3/32	1-1/2	2974-503	2974-703	13.05	2975-503	2975-703	15.30
1/16	1/8	1/8	1-1/2	2974-504	2974-704	12.50	2975-504	2975-704	14.80
3/32	1/8	3/16	1-1/2	2974-506	2974-706	12.50	2975-506	2975-706	14.80
1/8	1/8	1/4	1-1/2	2974-508	2974-708	10.75	2975-508	2975-708	12.30
5/32	3/16	5/16	2	2974-510	2974-710	16.55	2975-510	2975-710	19.90
3/16	3/16	3/8	2	2974-512	2974-712	15.85	2975-512	2975-712	18.20
7/32	1/4	7/16	2	2974-514	2974-714	22.10	2975-514	2975-714	26.05
1/4	1/4	1/2	2	2974-516	2974-716	19.65	2975-516	2975-716	23.60
5/16	5/16	1/2	2	2974-520	2974-720	25.25	2975-520	2975-720	31.20
3/8	3/8	5/8	2	2974-524	2974-724	26.50	2975-524	2975-724	32.45
7/16	7/16	5/8	3	2974-528	2974-728	33.95	2975-528	2975-728	48.00
1/2	1/2	5/8	2-1/2	2974-532	2974-732	43.40	2975-532	2975-732	53.05
5/8	5/8	3/4	3	2974-540	2974-740	72.70	2975-540	2975-740	88.95
3/4	3/4	1	3	2974-548	2974-748	90.90	2975-548	2975-748	110.65

## Double End - Regular Length - Ball End



UNCOATED						
DIAM.	SHANK DIAM.	FLUTE LG'TH	OAL	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1/32	1/8	3/32	2	2974-102	2974-302	\$14.50
3/64	1/8	1/8	2	2974-103	2974-303	14.50
1/16	1/8	3/16	1-1/2	2974-104†	-	11.30
1/16	1/8	3/16	2	2974-105	2974-304	14.10
3/32	1/8	1/4	2	2974-106	2974-306	14.10
1/8	1/8	3/8	2	2974-108	2974-308	14.10
5/32	3/16	7/16	2	2974-110†	-	15.50
5/32	3/16	7/16	2-1/2	2974-111	2974-311	19.35
3/16	3/16	1/2	2-1/2	2974-112	2974-313	16.55
7/32	1/4	9/16	2-1/2	2974-114	2974-314	21.55
1/4	1/4	5/8	2-1/2	2974-116	2974-316	21.35
5/16	5/16	3/4	3-1/2	2974-121	2974-321	25.60
3/8	3/8	3/4	3-1/2	2974-124	2974-325	31.65
7/16	7/16	7/8	4	2974-128	2974-328	46.95
1/2	1/2	1	4	2974-132	2974-332	51.95

† Limited Quantities

## Double End - Large Shank With Flat Ball End



• TiAlN available upon request

UNCOATED						
DIAM.	DIAM.	FLUTE LG'TH	OAL	2 FLT ORDER NO.	4 FLT ORDER NO.	PRICE EACH
1/8	3/8	3/8	3	2973-508	2973-708	\$36.25
5/32	3/8	7/16	3	2973-510	2973-710	36.25
3/16	3/8	1/2	3	2973-512	2973-712	35.20
7/32	3/8	9/16	3-1/2	2973-514	2973-714	35.20
1/4	3/8	5/8	3-1/2	2973-516	2973-716	35.20
9/32	3/8	11/16	3-1/2	2973-518	2973-718	52.25
5/16	3/8	3/4	3-1/2	2973-520	2973-720	40.55
11/32	3/8	3/4	3-1/2	2973-522	2973-722	52.25
3/8	3/8	3/4	3-1/2	2973-524	2973-724	40.55
7/16	1/2	7/8	4	2973-528	2973-728	64.00
1/2	1/2	1	4	2973-532	2973-732	64.00

## Cylindrical <sup>1</sup>

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/8"	1/2"	AGA	2976-010	\$5.25	SA-11	2978-063	\$ 9.30	—	—	—
1/8"	5/8"	—	—	—	SA-12	2978-065	7.70	—	—	—
3/16"	1/2"	BGA	2976-035	6.75	—	—	—	—	—	—
3/16"	5/8"	—	—	—	SA-14	2978-075	7.90	—	—	—
1/4"	5/8"	—	—	—	SA-1	2978-005	6.90	SA-1NF	2979-055	\$ 9.10
1/4"	1"	CLA	2976-090	6.95	SA-1A	2978-010	8.50	—	—	—
5/16"	3/4"	—	—	—	SA-2	2978-015	8.45	—	—	—
5/16"	1"	DLA	2976-140	8.90	SA-2A	2978-020	11.40	—	—	—
3/8"	3/4"	—	—	—	SA-3	2978-025	8.85	SA-3NF	2979-075	12.40
3/8"	1"	ELA	2976-190	8.95	SA-3A	2978-030	11.60	—	—	—
3/8"	1-1/2"	EPA	2976-215	10.65	SA-3B	2978-035	14.25	—	—	—
7/16"	1"	FLA	2976-235	12.15	SA-4	2978-040	13.20	—	—	—
1/2"	1"	GLA	2976-290	11.10	SA-5	2978-045	14.65	SA-5NF	2979-095	20.50
5/8"	1"	ILA	2976-340	13.10	SA-6	2978-050	18.70	SA-6NF	2979-100	25.55
3/4"	3/4"	JJA	2976-395	13.25	SA-16	2978-085	27.00	—	—	—
3/4"	1"	JLA	2976-410	13.65	SA-7	2978-055	27.95	SA-7NF	2979-105	39.15
1"	1"	LLA	2976-465	23.75	SA-9	2978-060	40.35	—	—	—
<b>6" EXTENDED SHANK SIZES</b>										
1/4"	5/8"	—	—	—	SA-1L6	2979-905	12.60	—	—	—
3/8"	1"	—	—	—	SA-3L6	2979-910	15.10	—	—	—
1/2"	1"	—	—	—	SA-5L6	2979-915	22.60	—	—	—



High Speed - Single Cut



Carbide - Double Cut Carbide - Aluma Cut



Extended Shank

## Cylindrical End Cut <sup>1</sup>

DIAM.	LENGTH	HIGH SPEED			CARBIDE - DOUBLE CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/8"	1/2"	AGA-E	2976-015	\$ 7.45	SB-11	2978-193	\$9.55
1/8"	5/8"	—	—	—	SB-12	2978-195	8.45
3/16"	1/2"	BGA-E	2976-040	7.65	—	—	—
3/16"	5/8"	—	—	—	SB-14	2978-205	8.60
1/4"	5/8"	—	—	—	SB-1	2978-135	7.60
1/4"	1"	CLA-E	2976-095	8.70	SB-1A	2978-140	9.60
5/16"	3/4"	—	—	—	SB-2	2978-145	9.60
5/16"	1"	DLA-E	2976-145	10.25	SB-2A	2978-150	12.15
3/8"	3/4"	—	—	—	SB-3	2978-155	10.45
3/8"	1"	ELA-E	2976-195	11.80	SB-3A	2978-160	12.75
3/8"	1-1/2"	EPA-E	2976-220	14.70	SB-3B	2978-165	15.75
7/16"	1"	FLA-E	2976-240	13.20	SB-4	2978-170	15.20
1/2"	1"	GLA-E	2976-295	14.55	SB-5	2978-175	16.85
5/8"	1"	ILA-E	2976-345	16.50	SB-6	2978-180	21.00
3/4"	3/4"	JJA-E	2976-400	19.00	SB-16	2978-215	31.00
3/4"	1"	JLA-E	2976-415	20.60	SB-7	2978-185	32.20
1"	1"	LLA-E	2976-470	31.35	SB-9	2978-190	44.75



High Speed - Single Cut



Carbide - Double Cut

## Cylindrical Ball Nose <sup>1</sup>

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/8"	1/2"	AGC	2976-020	\$5.45	—	—	—	—	—	—
1/8"	5/8"	—	—	—	SC-12	2978-285	\$8.05	—	—	—
3/16"	1/2"	BGC	2976-045	5.95	—	—	—	—	—	—
3/16"	5/8"	—	—	—	SC-14	2978-290	8.40	—	—	—
1/4"	5/8"	—	—	—	SC-1	2978-230	7.90	SC-1NF	2979-230	\$10.80
1/4"	1"	CLC	2976-100	6.55	SC-1A	2978-235	9.25	—	—	—
5/16"	3/4"	—	—	—	SC-2	2978-240	9.70	—	—	—
5/16"	1"	DLC	2976-150	7.90	SC-2A	2978-245	11.80	—	—	—
3/8"	3/4"	—	—	—	SC-3	2978-250	9.80	SC-3NF	2979-250	13.75
3/8"	1"	ELC	2976-200	8.90	SC-3A	2978-255	12.15	—	—	—
3/8"	1-1/2"	EPC	2976-225	9.65	SC-3B	2978-260	15.50	—	—	—
7/16"	1"	FLC	2976-245	12.35	SC-4	2978-265	14.85	—	—	—
1/2"	1"	GLC	2976-300	9.90	SC-5	2978-270	16.35	SC-5NF	2979-270	22.80
5/8"	1"	ILC	2976-350	13.20	SC-6	2978-275	20.90	SC-6NF	2979-275	27.80
3/4"	1"	—	—	—	SC-7	2978-280	29.35	SC-7NF	2979-280	39.60
3/4"	1-1/4"	JNC	2976-430	14.30	—	—	—	—	—	—
1"	1"	—	—	—	SC-9	2978-282	52.30	—	—	—
<b>6" EXTENDED SHANK SIZES</b>										
1/4"	5/8"	—	—	—	SC-1L6	2979-920	13.60	—	—	—
3/8"	3/4"	—	—	—	SC-3L6	2979-925	16.15	—	—	—
1/2"	1"	—	—	—	SC-5L6	2979-930	22.40	—	—	—



High Speed - Single Cut



Carbide - Double Cut



Carbide - Aluma Cut

## Ball Shape

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/8"	1/8"	AAB	2976-005	\$ 5.25	SD-12	2978-380	\$ 8.20	—	—	—
3/16"	3/16"	BBB	2976-025	5.50	SD-14	2978-385	8.20	—	—	—
1/4"	1/4"	CCB	2976-060	6.25	SD-1	2978-335	7.60	SD1-NF	2979-335	\$ 10.45
5/16"	5/16"	DDB	2976-125	6.75	SD-2	2978-340	8.25	—	—	—
3/8"	3/8"	EEB	2976-165	7.80	SD-3	2978-345	8.30	SD3-NF	2979-345	11.50
7/16"	7/16"	FFB	2976-230	10.05	SD-4	2978-350	10.75	—	—	—
1/2"	1/2"	GGB	2976-265	10.50	SD-5	2978-355	11.65	SD5-NF	2979-355	16.25
5/8"	5/8"	IIB	2976-335	11.20	SD-6	2978-360	15.75	SD6-NF	2979-360	21.95
3/4"	3/4"	JJB	2976-405	14.25	SD-7	2978-365	21.80	SD7-NF	2979-365	27.95
1"	1"	LLB	2976-475	22.90	SD-9	2978-370	34.55	—	—	—
1-1/4"	1-1/4"	NNB	2976-495	42.15	—	—	—	—	—	—
6" EXTENDED SHANK SIZES										
1/4"	1/4"	—	—	—	SD1-L6	2979-935	\$13.30	—	—	—
3/8"	3/8"	—	—	—	SD3-L6	2978-940	13.75	—	—	—
1/2"	1/2"	—	—	—	SD5-L6	2978-945	19.30	—	—	—



High Speed - Single Cut



Carbide - Double Cut

Carbide - Aluma Cut



Extended Shank

## Egg Shape

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
3/16"	5/16"	BDQ	2976-030	\$ 5.85	SE-11	2978-445	\$ 9.40	—	—	—
1/4"	1/2"	CGQ	2976-070	6.25	—	—	—	—	—	—
1/4"	3/8"	—	—	—	SE-1	2978-420	8.70	—	—	—
5/16"	1/2"	DGQ	2976-130	8.65	—	—	—	—	—	—
3/8"	5/8"	EIQ	2976-175	8.05	SE-3	2978-425	9.15	SE-3NF	2979-425	\$14.85
1/2"	7/8"	GKQ	2976-285	10.90	SE-5	2978-430	14.85	SE-5NF	2979-430	20.95
5/8"	1"	ILQ	2976-360	12.35	SE-6	2978-435	20.85	SE-6NF	2979-435	32.10
3/4"	1"	JLQ	2976-425	16.80	SE-7	2978-440	28.30	SE-7NF	2979-440	41.15
1"	1-3/8"	LOQ	2976-480	26.95	—	—	—	—	—	—
6" EXTENDED SHANK SIZES										
1/4"	3/8"	—	—	—	SE-1L6	2979-950	14.50	—	—	—
3/8"	5/8"	—	—	—	SE-3L6	2979-955	15.80	—	—	—
1/2"	7/8"	—	—	—	SE-5L6	2979-960	22.40	—	—	—



High Speed - Single Cut



Carbide - Double Cut

Carbide - Aluma Cut



Extended Shank

## Round Tree Shape

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	3/4"	CJR	2976-080	\$6.90	—	—	—	—	—	—
1/4"	5/8"	—	—	—	SF-1	2978-480	\$8.30	SF-1NF	2979-480	\$11.55
3/8"	3/4"	EJR	2976-180	8.60	SF-3	2978-485	9.90	SF-3NF	2979-485	13.80
7/16"	1"	—	—	—	SF-4	2978-487	14.05	—	—	—
1/2"	3/4"	—	—	—	SF-13	2978-505	13.70	—	—	—
1/2"	1"	—	—	—	SF-5	2978-490	14.65	SF-5NF	2979-490	20.55
1/2"	1-1/8"	GMR	2976-315	11.95	—	—	—	—	—	—
5/8"	1"	—	—	—	SF-6	2978-495	20.95	SF-6NF	2979-495	28.40
5/8"	1-1/8"	IMR	2976-370	13.30	—	—	—	—	—	—
3/4"	1"	—	—	—	SF-7	2978-500	27.00	SF-7NF	2979-500	37.70
3/4"	1-1/4"	JNR	2976-435	16.20	SF-14	2978-510	30.30	—	—	—
3/4"	1-1/2"	—	—	—	SF-15	2978-515	39.35	—	—	—
1-1/8"	2"	MSR	2976-485	38.80	—	—	—	—	—	—
6" EXTENDED SHANK SIZES										
1/4"	5/8"	—	—	—	SF-1L6	2979-965	14.25	—	—	—
3/8"	3/4"	—	—	—	SF-3L6	2979-970	15.35	—	—	—
1/2"	1"	—	—	—	SF-5L6	2979-975	22.25	—	—	—



High Speed - Single Cut



Carbide - Double Cut



Carbide - Aluma Cut

## Pointed Tree Shape

1

2

DIAM.	LENGTH	HIGH SPEED			CARBIDE - DOUBLE CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	3/4"	CJT	2976-085	\$ 6.90	—	—	—
1/4"	5/8"	—	—	—	SG-1	2978-550	\$ 8.60
3/8"	3/4"	EJT	2976-185	8.60	SG-3	2978-555	10.30
1/2"	3/4"	GJT	2976-280	9.30	SG-13	2978-575	15.10
1/2"	1"	—	—	—	SG-5	2978-560	15.30
1/2"	1-1/8"	GMT	2976-320	12.45	—	—	—
5/8"	1"	ILT	2976-365	12.10	SG-6	2978-565	21.20
3/4"	1"	—	—	—	SG-7	2978-570	28.10
3/4"	1-1/2"	—	—	—	SG-15	2978-580	40.30
1-1/8"	2"	MST	2976-490	59.60	—	—	—
6" EXTENDED SHANK SIZES							
1/4"	5/8"	—	—	—	SG-1L6	2979-980	\$14.25
3/8"	3/4"	—	—	—	SG-3L6	2979-985	16.45
3/8"	3/4"	—	—	—	SG-5L6	2979-990	23.15



High Speed - Single Cut



Carbide - Double Cut



Extended Shank

## Flame

1

2

DIAM.	LENGTH	HIGH SPEED			CARBIDE - DOUBLE CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	5/8"	—	—	—	SH-1	2978-618	\$10.60
5/16"	3/4"	—	—	—	SH-2	2978-620	12.20
1/2"	1-1/4"	—	—	—	SH-5	2978-625	23.05
5/8"	1-7/16"	10FL	2976-500	\$15.95	SH-6	2978-630	31.85
3/4"	1-5/8"	JRFL	2976-440	25.30	SH-7	2978-635	44.00
6" EXTENDED SHANK SIZES							
5/16"	3/4"	—	—	—	SH-2L6	2980-000	\$18.20
1/2"	1-1/4"	—	—	—	SH-5L6	2980-005	31.60



High Speed - Single Cut



Carbide - Double Cut



Extended Shank

## 60° Included

1

2

DIAM.	LENGTH	HIGH SPEED			CARBIDE - DOUBLE CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	3/16"	CB-30°	2976-055	\$6.30	SJ-1	2978-650	\$7.85
5/16"	1/4"	DC-30°	2976-120	7.90	SJ-2	2978-655	8.55
3/8"	5/16"	EC-30°	2976-160	7.45	SJ-3	2978-660	8.85
1/2"	7/16"	GF-30°	2976-260	10.70	SJ-5	2978-665	11.80
5/8"	1/2"	IG-30°	2976-330	12.50	SJ-6	2978-670	15.50
3/4"	5/8"	JI-30°	2976-380	14.95	SJ-7	2978-675	20.85
1"	7/8"	LJ-30°	2976-460	23.00	SJ-9	2978-685	32.85



High Speed - Single Cut



Carbide - Double Cut

## 90° Included

1

2

DIAM.	LENGTH	HIGH SPEED			CARBIDE - DOUBLE CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	1/8"	CA-45°	2976-050	\$6.30	SK-1	2978-700	\$7.85
5/16"	5/32"	DB-45°	2976-115	7.90	SK-2	2978-705	8.55
3/8"	3/16"	EB-45°	2976-155	7.45	SK-3	2978-710	8.85
1/2"	1/4"	GC-45°	2976-250	10.70	SK-5	2978-715	11.80
5/8"	5/16"	ID-45°	2976-325	12.50	SK-6	2978-720	15.50
3/4"	3/8"	JE-45°	2976-375	14.95	SK-7	2978-725	20.85
1"	1/2"	LG-45°	2976-455	23.00	SK-9	2978-735	32.85



High Speed - Single Cut



Carbide - Double Cut



# Burrs— High Speed Steel & Carbide



## 14° Included Angle

DIAM.	LENGTH	HIGH SPEED			CARBIDE					
		SINGLE CUT			DOUBLE CUT			ALUMA CUT		
		TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	5/8"	—	—	—	SL-1	<b>2978-750</b>	<b>\$ 8.40</b>	—	—	—
5/16"	7/8"	—	—	—	SL-2	<b>2978-755</b>	<b>10.90</b>	—	—	—
3/8"	1-1/16"	EML	<b>2976-210</b>	<b>\$ 11.70</b>	SL-3	<b>2978-760</b>	<b>12.80</b>	SL-3NF	<b>2979-760</b>	<b>\$17.85</b>
1/2"	1-1/8"	GML	<b>2976-310</b>	<b>14.85</b>	SL-4	<b>2978-765</b>	<b>16.30</b>	SL-4NF	<b>2979-765</b>	<b>22.75</b>
5/8"	1-3/16"	—	—	—	SL-5	<b>2978-767</b>	<b>23.25</b>	—	—	—
5/8"	1-5/16"	—	—	—	SL-6	<b>2978-770</b>	<b>29.95</b>	SL-6NF	<b>2979-770</b>	<b>40.15</b>
3/4"	1-1/2"	—	—	—	SL-7	<b>2978-775</b>	<b>44.00</b>	SL-7NF	<b>2979-775</b>	<b>53.15</b>
6" EXTENDED SHANK SIZES										
1/4"	5/8"	—	—	—	SL-1L6	<b>2980-010</b>	<b>13.95</b>	—	—	—
3/8"	1-1/16"	—	—	—	SL-3L6	<b>2980-015</b>	<b>18.75</b>	—	—	—
1/2"	1-1/8"	—	—	—	SL-4L6	<b>2980-020</b>	<b>24.45</b>	—	—	—



High Speed Steel



Carbide - Double Cut Carbide - Aluma Cut



Extended Shank

## Inverted Cone

DIA.	LG'TH.	INC. ANGLE	HIGH SPEED			CARBIDE - DOUBLE CUT		
			TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	5/16"	10°	—	—	—	SN-1	<b>2978-870</b>	<b>\$7.70</b>
1/2"	1/2"	16°	GGN	<b>2976-270</b>	<b>\$10.20</b>	SN-3	<b>2978-880</b>	<b>15.85</b>
1/2"	1/2"	28°	—	—	—	SN-4	<b>2978-886</b>	<b>15.85</b>
5/8"	3/4"	18°	—	—	—	SN-6	<b>2978-888</b>	<b>20.80</b>
3/4"	5/8"	30°	JIN	<b>2976-385</b>	<b>16.15</b>	SN-7	<b>2978-890</b>	<b>25.65</b>



High Speed - Single Cut



Carbide - Double Cut

## Cone Shape

DIA.	LG'TH.	INC. ANGLE	HIGH SPEED			CARBIDE - DOUBLE CUT		
			TOOL NO.	ORDER NO.	PRICE EACH	CARBIDE	ORDER NO.	PRICE EACH
1/4"	1/2"	22°	CGH	<b>2976-065</b>	<b>\$6.60</b>	SM-1	<b>2978-800</b>	<b>\$8.25</b>
1/4"	3/4"	14°	CJL	<b>2976-075</b>	<b>7.60</b>	SM-2	<b>2978-805</b>	<b>8.95</b>
1/4"	1"	10°	CLL	<b>2976-105</b>	<b>8.60</b>	SM-3	<b>2978-810</b>	<b>9.40</b>
1/4"	1-1/4"	8°	CNM	<b>2976-110</b>	<b>9.90</b>	SM-3A	<b>2978-815</b>	<b>10.60</b>
5/16"	3/4"	14°	DJJ	<b>2976-135</b>	<b>9.30</b>	—	—	—
3/8"	5/8"	28°	EIH	<b>2976-170</b>	<b>10.30</b>	SM-4	<b>2978-820</b>	<b>12.65</b>
3/8"	1"	14°	ELL	<b>2976-205</b>	<b>11.50</b>	—	—	—
1/2"	7/8"	28°	—	—	—	SM-5	<b>2978-825</b>	<b>16.65</b>
1/2"	1"	28°	GLH	<b>2976-305</b>	<b>13.95</b>	—	—	—
5/8"	1"	31°	ILF	<b>2976-355</b>	<b>13.50</b>	SM-6	<b>2978-830</b>	<b>24.35</b>
3/4"	1"	34°	JLF	<b>2976-420</b>	<b>16.00</b>	SM-7	<b>2978-835†</b>	<b>42.45</b>



High Speed - Single Cut



Carbide - Double Cut

† Limited Quantities

## Aluma Burr Sets

### Set A-2

12 Pc. Set - 1/4" Shank - Dias. 1/4", 3/8", 1/2"

A-2 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-1NF, SA-3NF, SA-5NF, SC-1NF, SC-3NF, SC-5NFSD-1NF, SD-3NF, SD-5NF, SF-1NF, SF-3NF, SF-5NF	<b>2980-142</b>	<b>\$200.60</b>

### Set A-4

12 Pc. Set - 1/4" Shank - Dias. 1/4", 3/8", 1/2"

A-4 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-1NF, SA-3NF, SA-5NF, SC-1NF, SC-3NF, SC-5NF, SF-1NF, SF-3NF, SF-5NF, SL-3NF, SL-4NF	<b>2980-144</b>	<b>\$205.75</b>



Set A-2



Set A-6

### Set A-6

10 Pc. Set - 1/4" Shank - Dias. 3/8", 1/2"

A-6 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-3NF, SA-5NF, SD-3NF, SD-5NF, SE-3NF, SE-5NF, SF-3NF, SF-5NF, SL-3NF, SL-5NF	<b>2980-146</b>	<b>\$203.65</b>

**12 Pc. Set -  
1/4" Shank - Head Diam.: 1/4"**



S-9 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-1, SB-1, SC-1, SD-1, SE-1, SF-1, SG-1, SH-1, SJ-1, SK-1, SM-1, SN-1	2980-119	\$123.80

**12 Pc. Set -  
1/4" Shank - Head Diam.: 1/4"**



S-10 SET CONTAINS:	ORDER NO.	PRICE EACH
SB-1, SC-1, SD-1, SE-1, SF-1, SG-1, SH-1, SJ-1, SK-1, SL-1, SM-1, SN-1	2980-120	\$123.80

**12 Pc. Set -  
1/4" Shank - Head Diam.: 3/16", 1/4"**



S-12 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-1, SA-14, SC-1, SC-14, SD-1, SE-1, SF-1, SG-1, SJ-1, SL-1, SH-1, SN-1	2980-122	\$128.35

**9 Pc. Set -  
1/4" Shank - Head Diam.:  
1/4", 3/8", 1/2"**



S-16 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SF-1, SF-3, SF-5	2980-126	\$119.25

**8 Pc. Set -  
1/4" Shank - Head Diam.: 1/2"**



S-20 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-5, SC-5, SD-5, SE-5, SG-5, SH-5, SK-5, SM-5	2980-130	\$138.05

**8 Pc. Set -  
1/4" Shank - Head Diam.: 1/2"**
















S-21 SET CONTAINS:	ORDER NO.	PRICE EACH
SB-5, SC-5, SD-5, SF-5, SG-5, SH-5, SJ-5, SK-5	2980-131	\$136.50

## 1/16" - 1/8" Head Diameter — 1/8" Shank Diameter











CUTTING HEAD	1/8"x9/16"	3/32"x7/16"	1/16"x7/16"	1/16"x1/4"	3/32"x7/16"	1/8"x9/16"	1/8"x9/16"	3/32"x7/16"	1/8"	3/32"	1/8"x1/4"	1/8"x1/4"	1/8"x1/2"	1/8"x3/8"
STYLE	SA-43	SA-42	SA-41	SB-41	SB-42	SB-43	SC-42	SC-41	SD-42	SD-41	SE-41	SH-41	SG-44	SG-43
<b>1-1/2" OVERALL LENGTH</b>														
ORDER NO.	2978-100	2978-095	2978-090	2978-220	2978-221	2978-222	2978-305	2978-300	2978-395	2978-390	2978-450	2978-640	2978-595	2978-590
PRICE EACH	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25
<b>2" OVERALL LENGTH</b>														
ORDER NO.	2978-101	2978-096	2978-091	—	—	2978-223	2978-306	—	2978-396	—	2978-451	2978-641	2978-596	—
PRICE EACH	\$4.85	\$4.85	\$4.85	—	—	\$4.85	\$4.85	—	\$4.85	—	\$4.85	\$4.85	\$4.85	—
<b>3" OVERALL LENGTH</b>														
ORDER NO.	2978-102	2978-097	2978-092	—	—	2978-224	2978-307	—	2978-397	—	2978-452	2978-642	2978-597	—
PRICE EACH	\$6.15	\$6.15	\$6.15	—	—	\$6.15	\$6.15	—	\$6.15	—	\$6.15	\$6.15	\$6.15	—

CUTTING HEAD	1/8"x1/4"	1/8"x1/2"	1/8"x1/4"	1/8"x5/8"	1/8"x7/16"	1/8"x11/32"	1/8"x1/2"	1/8"x3/8"	1/8"	1/8"	1/8"x3/16"	3/32"x1/8"
STYLE	SG-41	SF-42	SF-41	SM-43	SM-42	SM-41	SL-42	SL-41	SJ-42	SK-42	SN-42	SN-41
<b>1-1/2" OVERALL LENGTH</b>												
ORDER NO.	2978-585	2978-525	2978-520	2978-850	2978-845	2978-840	2978-785	2978-780	2978-690	2978-740	2978-905	2978-900
PRICE EACH	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25	\$4.25
<b>2" OVERALL LENGTH</b>												
ORDER NO.	—	2978-526	—	—	2978-846	—	2978-786	—	—	—	—	—
PRICE EACH	—	\$4.85	—	—	\$4.85	—	\$4.85	—	—	—	—	—
<b>3" OVERALL LENGTH</b>												
ORDER NO.	—	2978-527	—	—	2978-847	—	2978-787	—	—	—	—	—
PRICE EACH	—	\$6.15	—	—	\$6.15	—	\$6.15	—	—	—	—	—












## 5/32"- 3/16" Head Diameter – 1/8" Steel Shank Diameter – 1-1/2" OAL

CUTTING HEAD	3/16"x1/2"	5/32"x1/2"	3/16"x1/2"	5/32"x1/2"	5/32" Ball	3/16" Ball	3/16"x1/2"	3/16"x1/2"	3/16"x3/8"	3/16"x9/32"	3/16"x1/4"	3/16"x1/2"	3/16"x1/2"
STYLE	SA-53	SA-52	SC-53	SC-52	SD-52	SD-53	SG-53	SF-53	SH-53	SE-53	SN-53	SM-53	SL-53
													
ORDER NO. PRICE EACH	2978-115 \$7.00	2978-110 \$7.00	2978-320 \$7.00	2978-315 \$7.00	2978-403 \$7.00	2978-405 \$7.00	2978-605 \$7.00	2978-535 \$7.00	2978-645 \$7.00	2978-460 \$7.00	2978-915 \$7.00	2978-860 \$7.00	2978-790 \$7.00

## 1/4" Head Diameter – 1/8" Steel Shank Diameter – 2" OAL

CUTTING HEAD	1/2"	3/16"	1/4"	1/2"	1/2"	1/2"	1/2"- 22°	3/8"	1/2"- 10°
STYLE	SA-51	SB-51	SD-51	SC-51	SF-51	SG-51	SM-51	SE-51	SN-51
									
ORDER NO. PRICE EACH	2978-105 \$7.30	2978-225 \$7.30	2978-400 \$7.30	2978-310 \$7.30	2978-530 \$7.30	2978-600 \$7.30	2978-855 \$7.30	2978-455 \$7.30	2978-910 \$7.30

## 3/16" Head Diameter – 3/16" Shank Diameter – 2" OAL

CUTTING HEAD	5/8"	5/8"	3/16"	1/2"	1/2"	7/16"- 14°	9/32"	1/4"- 10°	90°	60°
STYLE	SA-81	SC-81	SD-81	SF-81	SG-81	SL-81	SE-81	SN-81	SK-81	SJ-81
										
ORDER NO. PRICE EACH	2978-130 \$7.45	2978-330 \$7.45	2978-415 \$7.45	2978-545 \$7.45	2978-615 \$7.45	2978-795 \$7.45	2978-470 \$7.45	2978-925 \$7.45	2978-745 \$7.45	2978-695 \$7.45



**12 Pc. Set -**  
**1/8" Shank - Head Diam.: 1/8", 3/32"**



M-1 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-42, SA-43, SC-42, SD-42, SE-41, SF-41, SF-42, SG-41, SM-43, SN-41, SN-42, SL-41	<b>2980-101</b>	<b>\$65.20</b>

**9 Pc. Set -**  
**1/8" Shank - Head Diam.: 1/4"**



M-7 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51, SN-51	<b>2980-107</b>	<b>\$88.20</b>

**12 Pc. Set -**  
**1/8" Shank - Head Diam.: 1/8", 3/32", 1/16"**



M-2 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-41, SA-42, SC-41, SC-42, SD-42, SE-41, SF-41, SF-42, SH-41, SL-41, SL-42, SN-42	<b>2980-102</b>	<b>\$65.20</b>

**12 Pc. Set -**  
**1/8" Shank - Head Diam.: 5/32", 1/4"**



M-8 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-51, SA-52, SB-51, SC-51, SC-52, SD-51, SD-52, SE-51, SF-51, SG-51, SM-51, SN-51	<b>2980-108</b>	<b>\$112.20</b>

**11 Pc. Set -**  
**1/8" Shank - Head Diam.: 1/8", 3/32", 1/16"**



M-3 SET CONTAINS:	ORDER NO.	PRICE EACH
SA-41, SB-41, SC-41, SD-41, SE-41, SF-41, SG-41, SH-41, SL-41, SM-41, SN-41	<b>2980-103</b>	<b>\$61.70</b>

## On Edge Threading

MTVO-A - On Edge Threading Toolholder						
Inch Description	Order No.		Shank Size	TNMA Gage Insert	Price Each	
	R.H.	L.H.				
MTVOR/L08-3B-A	8058-126	8058-127	0.500	322	\$ 69.26	
MTVOR/L16-3D-A	8058-138	8058-139	1.000		79.52	
MTVOR/L12-4B-A	8058-142	8058-143	0.750	432	73.11	
MTVOR/L16-4D-A	8058-146	8058-147	1.000		79.52	
MTVOR/L20-4D-A	8058-150	8058-151	1.250		92.35	
MTVOR/L16-5D-A	8058-158	8058-159	1.000	543	79.52	
MTVOR/L20-5D-A	8058-162	8058-163	1.250		92.35	

MTHO-A - On Edge Threading Bar							
Inch Description	Order No.		Bar Size	Min. Bore	TNMA Gage Insert	Price Each	
	R.H.	L.H.					
S16T-MTHOR/L-3-A	8058-346	8058-347	1.000	1.388	322	\$ 224.32	
S20U-MTHOR/L-4-A	8058-354	8058-355	1.250	1.812		274.35	
S24U-MTHOR/L-4-A	8058-358	8058-359	1.500	2.250	432	278.97	
S32V-MTHOR/L-4-A	8058-362	8058-363	2.000	3.000		334.11	
S32V-MTHOR/L-5-A	8058-366	8058-367	2.000	3.500	543	334.11	
S40V-MTHOR/L-5-A	8058-370	8058-371	2.500	3.750		412.62	
S40V-MTHOR/L-66-A	8058-378	8058-379	2.500	4.000	663	412.62	

STVO - On Edge Threading Toolholder						
Inch Description	Order No.		Shank Size	TNMC Gage Insert	Price Each	
	R.H.	L.H.				
STVOR/L08-3A	8058-070	8058-071	0.500	322	\$ 61.44	
STVOR/L10-3B	8058-074	8058-075	0.625		64.49	
STVOR/L12-3B	8058-078	8058-079	0.750		67.96	
STVOR/L16-3D	8058-082	8058-083	1.000		75.65	
STVOR/L12-4B	8058-086	8058-087	0.750	432	67.96	
STVOR/L16-4D	8058-090	8058-091	1.000		75.65	
STVOR/L20-4D	8058-094	8058-095	1.250		87.16	
STVOR/L16-5D	8058-102	8058-103	1.000	543	75.65	
STVOR/L20-5D	8058-106	8058-107	1.250		87.16	

MTHO-C - On Edge Threading Bar							
Inch Description	Order No.		Bar Size	Min. Bore	TNMC Gage Insert	Price Each	
	R.H.	L.H.					
S16T-MTHOR/L-3-C	8058-300	8058-301	1.000	1.388	322	\$ 224.32	
S20U-MTHOR/L-3-C	8058-304	8058-305	1.250	1.656		274.35	
S20U-MTHOR/L-4-C	8058-308	8058-309	1.250	1.812		274.35	
S24U-MTHOR/L-4-C	8058-312	8058-313	1.500	2.250	432	278.97	
S32V-MTHOR/L-4-C	8058-316	8058-317	2.000	3.000		334.11	
S32V-MTHOR/L-5-C	8058-320	8058-321	2.000	3.500	543	334.11	
S40V-MTHOR/L-5-C	8058-324	8058-325	2.500	3.750		412.62	

## Laydown Threading

SE - Laydown Threading Toolholder						
Inch Description	Order No.		Shank Size	Gage Insert	Price Each	
	R.H.	L.H.				
SER/L050-4-11	8058-424	8058-425	0.500	11-A60	\$ 60.63	
SER/L062-4-16	8058-428	8058-429	0.625		67.63	
SER/L075-5-16	8058-432	8058-433	0.750	16-G60	69.96	
SER/L100-5-16	8058-436	8058-437	1.000		79.29	
SER/L125-6-22	8058-444	8058-445	1.250	22-N60	81.62	

SN - Small Shank Laydown Threading Bar						
Inch Description	Order No.		Bar Size	Min. Bore	Gage Insert	Price Each
	R.H.	L.H.				
SNR037-40-11	8058-600		0.375	0.500		\$ 85.93
SNR050-55-11	8058-604		0.500	0.600	11-A60	85.93
SNR062-60-16	8058-608		0.625	0.750		87.22
SNR075-70-16	8058-612		0.750	0.950	16-G60	94.91
SNR100-80-16	8058-616		1.000	1.150		123.13

SE - Laydown Qualified Threading Toolholder					
Inch Description	Order No.		Shank Size	Gage Insert	Price Each
	R.H.	L.H.			
SER075-5-16Q	8058-492		0.750	16-G60	\$ 75.79
SER100-6-16Q	8058-496		1.000		81.62
SER125-6-22Q	8058-508		1.250	22-N60	104.94

SN - Laydown Threading Bar						
Inch Description	Order No.		Bar Size	Min. Bore	Gage Insert	Price Each
	R.H.	L.H.				
SNR/L075-07-16	8058-636		0.750	0.950		\$ 100.05
SNR/L100-08-16	8058-640		1.000	1.150	16-G60	125.70
SNR/L150-12-16	8058-648		1.500	1.700		184.69
SNR/L200-14-16	8058-656		2.200	2.000		261.65
SNR/L125-10-22	8058-664		1.250	1.500		153.91
SNR/L150-12-22	8058-668		1.500	1.800	22-N60	184.69
SNR/L200-14-22	8058-676		2.000	2.300		261.65

## DorNotch Threading

NS - DorNotch Threading Toolholder						
Inch Description	Order No.		Shank Size	Gage Insert	Price Each	
	R.H.	L.H.				
NSR/L12-2B	8058-782	8058-783	0.750	NG-2R*	\$ 75.03	
NSR/L16-2C	8058-786	8058-787	1.000	NG-2L**	76.14	
NSR/L12-3B	8058-794	8058-795	0.750		75.03	
NSR/L16-3D	8058-802	8058-803	1.000	NG-3R*	76.14	
NSR/L20-3D	8058-806	8058-807	1.250	NG-3L**	89.99	
NSR/L16-4D	8058-814	8058-815	1.000	NG-4R*	76.14	
NSR/L20-4D	8058-822	8058-823	1.250	NG-4L**	86.99	

S-NE - DorNotch Threading Bar							
Inch Description	Order No.		Bar Size	Min. Bore	Gage Insert	Price Each	
	R.H.	L.H.					
S10S-NER/L-2	8058-970	8058-971	0.625	1.000	NG-2R*, NG-2L**	\$ 138.01	
S16T-NER/L-3	8058-978	8058-979	1.000	1.375		210.29	
S20U-NER/L-3	8058-982	8058-983	1.250	1.750	NG-3R*, NG-3L**	222.98	
S24U-NER/L-3	8058-986	8058-987	1.500	2.000		268.06	

\*For Left Hand Tool, \*\*For Right Hand Tool

\*\*For Left Hand Tool, \*For Right Hand Tool

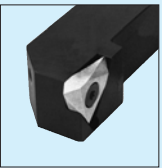
**Choose From Three Threading Styles:**

- 1. OnEdge** Threading for Multi-Purpose Applications.
- 2. Laydown** Threading for Small Diameter Holes, Clearance Restrictions and Precision Threading Applications.
- 3. DorNotch** Threading when Maximum Rigidity and precision Threading is Required.


Non-Ferrous Material	Ferrous Material
Dorian Insert Grade	
<b>DVK10</b>	<b>DVP656</b>
For all Non-Ferrous Material; 300 series stainless steel, Ductile Cast Iron, Aluminum and High Temper Alloy.	For all Ferrous Material; Alloy Steels, Carbon Steels and 400 Series Stainless Steel

**On Edge Style**

**External**

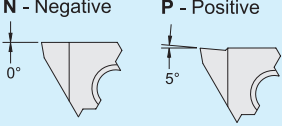


**Internal**




**Insert Identification**


N - Negative      P - Positive

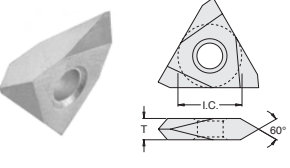
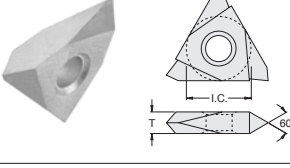


A - With hole




C - Countersink on both




On Edge Threading Inserts	Dorian Insert Grade-			Price Each
	Insert Description	Non-Ferrous DVK10	Ferrous DVP656	
<b>NV "V" Thread Negative Rake</b> 	<b>TNMA</b>		Order No.	
	TNMA-32NV	8072-529	8072-528	\$ 11.75
	TNMA-43NV	8072-536	8072-535	15.61
	TNMA-54NV	8072-557	8072-556	22.74
	<b>TNMC</b>			
	TNMC-32NV	8072-004	8072-003	11.75
<b>NV "V" Thread Positive Rake</b> 	<b>TPMA</b>			
	TPMA-32NV	8073-394	8073-393	13.40
	TPMA-43NV	8073-401	8073-400	17.26
	TPMA-54NV	8073-415	8073-414	24.72
	<b>TPMC</b>			
	TPMC-32NV	8073-056	8073-055	13.40
TPMC-43NV	8073-063	8073-062	17.26	
TPMC-54NV	8073-077	8073-076	24.72	

**Laydown Style**

**External**

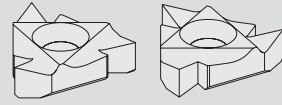


**Internal**



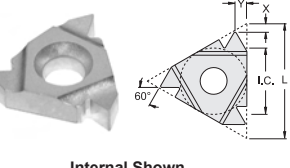
**Insert Identification**

E - External      I - Internal




Partial Profile:  
A = 16-48    N = 5-7  
AG = 8-48    Q = 4.5-4  
G = 8-14

Full Profile:  
Metric: Pitch in mm  
Inches: Thread per inch


Laydown Threading Insert	Dorian Insert Grade-			Price Each
	Insert Description	Non-Ferrous DVK10	Ferrous DVP656	
<b>Ext. 60° Partial Profile Thread</b>  <p>Internal Shown External Opposite</p>	<b>External</b>	Order No.		
	11ER-A60	8074-001	8074-000	\$ 20.16
	11EL-A60	8074-005	8074-004	20.16
	16ER-AG60	8074-025	8074-024	20.16
	16EL-AG60	8074-029	8074-028	20.16
	22ER-N60	8074-033	8074-032	23.94
	22EL-N60	8074-037	8074-036	23.94
	<b>Internal</b>	Order No.		
	11IR-A60	8074-057	8074-056	20.16
	11IL-A60	8074-061	8074-060	20.16
	16IR-AG60	8074-081	8074-080	20.16
	16IL-AG60	8074-085	8074-084	20.16
	22IR-N60	8074-089	8074-088	23.94
	22IL-N60	8074-093	8074-092	23.94

**DorNotch Style**

**External**

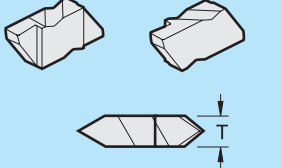


**Internal**



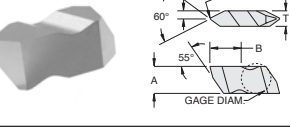
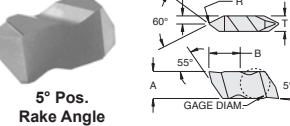
**Insert Identification**

LH - Left Hand      RH - Right Hand



Insert No.      T

1	.100
2	.150
3	.195
4	.255
5	.380
6	.383
8	.438

DorNotch Threading Inserts	Dorian Insert Grade-				
	Insert Description	Non-Ferrous DVK10	Price	Ferrous DVP656	Price Each
<b>NT-60° "V" Thread</b> Neutral Rake Angle 	<b>Neutral</b>	Order No.			
	NT-2R-	8082-901	\$ 13.65	8082-900	\$ 13.89
	NT-2L-	8082-905	13.65	8082-904	13.89
	NT-3R-	8082-909	15.22	8082-908	15.33
	NT-3L-	8082-913	15.22	8082-912	15.33
<b>NTP-60° "V" Thread</b> Positive "V" Thread  <p>5° Pos. Rake Angle</p>	<b>Positive</b>	Order No.			
	NTP-2R-	8082-925	\$ 14.67	8082-924	\$ 15.46
	NTP-2L-	8082-929	14.67	8082-928	15.46
	NTP-3R-	8082-933	16.27	8082-932	16.90
	NTP-3L-	8082-937	16.27	8082-936	16.90

## Spiral Flute - Solid Carbide - TiALN Coated



### UN Thread Forms

SIZE	FLUTES	CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	ORDER NO.	PRICE EACH
#8-32	3	0.115	0.125	0.250	2.000	3785-900	\$85.30
#10-32	3	0.120	0.125	0.312	2.000	3785-901	82.80
#10-28	3	0.120	0.125	0.312	2.000	3785-902	86.35
1/4-28	3	0.180	0.187	0.500	2.500	3785-903	129.30
#10-24	3	0.120	0.125	0.312	2.000	3785-904	90.25
5/16-24	3	0.235	0.250	0.625	2.500	3785-905	155.90
3/8-24	4	0.285	0.312	0.750	3.000	3785-906	189.30
1/4-20	3	0.180	0.187	0.500	2.500	3785-907	124.30
7/16-20	4	0.335	0.375	0.875	3.500	3785-908	203.05
5/16-18	3	0.235	0.250	0.625	2.500	3785-909	114.65
9/16-18	4	0.370	0.375	0.875	3.500	3785-910	203.00
3/8-16	4	0.285	0.312	0.750	3.000	3785-911	142.00
3/4-16	4	0.490	0.500	1.250	3.500	3785-912	289.55
7/16-14	4	0.305	0.312	0.750	3.000	3785-913	140.35
7/8-14	4	0.490	0.500	1.250	3.500	3785-914	281.35
1/2-13	4	0.350	0.375	0.875	3.500	3785-915	212.10
9/16-12	4	0.370	0.375	0.875	3.500	3785-916	216.30
3/4-12	4	0.495	0.500	1.250	3.500	3785-917	251.95
5/8-11	4	0.470	0.500	1.250	3.500	3785-918	284.60
3/4-10	4	0.495	0.500	1.250	3.500	3785-919	271.90
7/8-9	4	0.620	0.625	1.375	4.000	3785-920	405.60
1"-8	4	0.620	0.625	1.375	4.000	3785-921	410.00

### Dependable Allegiance® Quality

- Allegiance Thread Mills are made from Sub-Micrograin Carbide with high transverse rupture strength and excellent wear resistant properties.
- TiALN coated stocked (other coating price on application)
- 20° helical flute design reduces chatter and guarantees two flutes always in the cut.
- Control pitch diameter within .0001%

### Benefits of Allegiance® Thread Mills

- One Tool will cut right and left hand threads
- Produce threads to within one pitch of a shoulder or counterbore.
- Produces threads with excellent finish and form.
- Thread difficult materials easier than when tapping.
- Produces small controllable chips.
- Helical flute reduces side-cutting pressure allowing for higher feed rates.
- Will reduce cycle times compared to to Indexable thread mills.
- Smaller machines can produce larger threads due to less spindle torque.
- Eliminates the need of removing broken taps.

### Available Upon Request:

- Additional coatings
- Heavy Duty Thread Mills for aerospace alloys
- Specials

### Metric Thread Mills

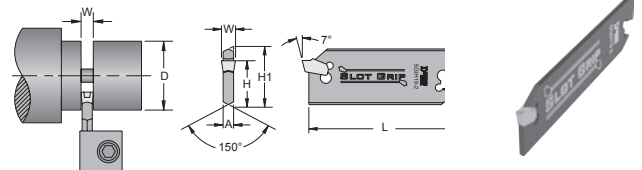
SIZE	FLUTES	CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	ORDER NO.	PRICE EACH
M4.5 x 0.75	3	0.120	0.125	0.250	2.000	3785-950	\$87.60
M8 x 0.75	3	0.235	0.250	0.625	2.500	3785-951	190.20
M5 x 0.80	3	0.120	0.125	0.312	2.000	3785-952	83.30
M6 x 1	3	0.170	0.187	0.500	2.500	3785-953	149.25
M12 x 1	4	0.360	0.375	0.875	3.500	3785-954	213.35
M8 x 1.25	3	0.235	0.250	0.625	2.500	3785-955	148.70
M10 x 1.5	4	0.300	0.312	0.750	3.000	3785-956	151.95
M14 x 1.5	4	0.370	0.375	0.875	3.500	3785-957	194.70
M18 x 1.5	4	0.490	0.500	1.250	3.500	3785-958	286.20
M16 x 2	4	0.470	0.500	1.250	3.500	3785-959	259.70
M20 x 2.5	4	0.495	0.500	1.250	3.500	3785-960	276.30
M24 x 3	4	0.620	0.625	1.375	4.000	3785-961	418.85

### NPT & NPTF Thread Mills

THREAD SIZE	PITCH	FLUTES	CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/16 & 1/8 NPT	27	3	0.245	0.250	0.437	2.500	3785-970	\$141.10
1/4 & 3/8 NPT	18	4	0.305	0.312	0.625	3.000	3785-971	176.35
1/2 & 3/4 NPT	14	4	0.495	0.500	0.875	3.500	3785-972	251.20
1" & 2" NPT	11-1/2	4	0.620	0.625	1.125	4.000	3785-973	387.75
1/16 & 1/8 NPTF	27	3	0.245	0.250	0.437	2.500	3785-980	173.20
1/4 & 3/8 NPTF	18	4	0.305	0.312	0.625	3.000	3785-981	210.50
1/2 & 3/4 NPTF	14	4	0.495	0.500	0.875	3.500	3785-982	278.55
1" & 2" NPTF	11-1/2	4	0.620	0.625	1.125	4.000	3785-983	417.10

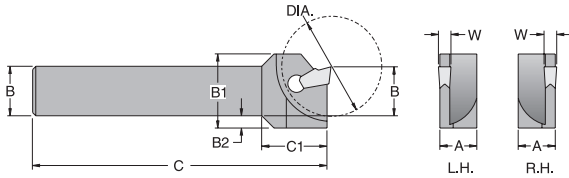


**Slot Grip Positive Stop Blades** - Improved blade design featuring a "Positive Stop". Inserts are securely held in Slot Grip Blades by a tapered locking system featuring a "Positive Stop" that prevents insert drift and the blade pocket from spreading once the insert is firmly in place. The inserts' cutting edge location repeats accurately and, as a result, prevents insert splitting under heavy feed and shock loads. The blade and insert geometry permits free chip flow, minimizing insert breakage due to chip build-up. Clearance angle ranges from 4° to 7°.



Description	Order No.	Insert Used	W		D Max		A		L		H		H 1		Price Each
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
SGIH19-2	8062-950	SGT(N/R/L)-2	.087	2	1.57	39,9	.063	1,57	3.38	85,9	.618	15,7	0.75	19,1	\$ 72.16
SGIH26-2	8062-951	SGT(N/R/L)-2	.087	2	2.00	50,8	.063	1,57	4.33	110,0	.842	21,4	1.02	25,9	85.95
SGIH26-3	8062-952	SGT(N/R/L)-3	.122	3	3.00	76,2	.094	2,39							85.95
SGIH26-4	8062-953	SGT(N/R/L)-4	.161	4	3.15	80,0	.125	3,18							85.95
SGIH32-3	8062-956	SGT(N/R/L)-3	.122	3	3.94	100,0	.094	2,39	5.90	149,9	.984	25,0	1.25	31,8	99.42
SGIH32-4	8062-957	SGT(N/R/L)-4	.161	4	3.94	100,0	.125	3,18							99.42
SGIH32-5	8062-958	SGT(N/R/L)-5	.201	5	4.71	119,6	.156	3,96							99.42
SGIH32-6	8062-959	SGT(N/R/L)-6	.252	6	4.72	119,9	.203	5,16							99.42

**Cut-Off Toolholder** - The square shank design of the Cut-Off toolholder ensures a precise center line of the insert with respect to the center of the working part, when the toolholder is mounted directly on the CNC turret. Inserts are securely held in Slot Grip blades by a tapered locking system. No additional clamping devices are required. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.



Description	Order No.		B	Max Dia	W	Insert Used	Price Each
	R.H.	L.H.					
SGTHR/L-9,5-2	8063-000		0.375	1.109	.087 & 0.93	SGTN/R/L-2-2,4	\$ 70.52
SGTHR/L-12,7-2	8063-002		0.500	1.172	.087 & 0.93		76.34
SGTHR/L-16-2	8063-004		0.625	1.172	.087 & 0.93		82.16
SGTHR/L-19-2	8063-006		0.750	1.266	.087 & 0.93		98.71
SGTHR/L-12,7-3	8063-010		0.500	1.266	.120	SGTN/R/L-3	76.34
SGTHR/L-16-3	8063-012		0.625	1.406	.120		82.16
SGTHR/L-19-3	8063-014		0.750	2.062	.120		98.71
SGTHR/L-25,4-3	8063-016		1.000	1.328	.120		123.91
SGTHR/L-19-5	8063-024		0.750	1.531	.187 & .200		98.71
SGTHR/L-25,4-5	8063-026		1.000	3.000	.187 & .200	SGTN/R/L-4,8-5	123.91

**Neutral Cut-Off Toolholder** - The two piece clamp style of this tool provides a precise and rigid blade locking and easy mounting of the tool into CNC turrets. Simple block design accommodates Slot Grip and competitive blade systems. Slot Grip Cut-Off toolholders come in a broad selection of shank sizes.



Description	Order No.		Shank Size	Blade Used	Price Each
	Neutral	R.H.			
SGTBN12,7-2	8062-970		0.500	SGIH19-2	\$ 171.52
SGTBN19-5	8062-973		0.750	SGIH26-2 THRU SGIH26-6	180.73
SGTBN19-6	8062-974		0.750	SGIH32-3	180.73
SGTBN25,4-6	8062-975		1.000	THRU	186.22
SGTBN31,8-6	8062-976		1.250	SGIH32-9	191.27

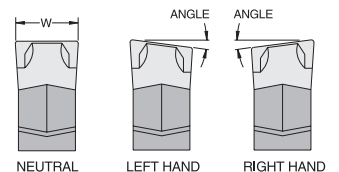
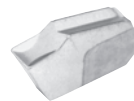
**Cut-Off & Grooving Inserts** - Designed for use with standard cut-off inserts and standard cut-off blade holders. The insert's cutting edge location repeats accurately and as a result prevents insert splitting under heavy feed and shock loads. The blade and insert geometry permits free chip flow, minimizing insert breakage due to chip build-up.

### Chipbreaker Geometry

- Reduced machining force
- Controlled, coiled chip flow
- Higher material removal rate

### Application

- Quickly inserted into adjustable blades
- For cut-off and grooving
- Fair for interrupted cuts



**DC656** - Titanium Nitride coated grade insert for machining alloy steel, stainless steel, and ductile iron. This grade has both high wear resistance and heat resistance, increasing machining speeds up to 50%.

Cutting Data  
Feed Per Revolution (in./rev.) .006-.031  
Surface Feet/Minute (ft./min.) 375-730

Desc.	DC656		Insert Size	Lead Angle	Width ± .004		Price Each
	Order No.	R.H.			in	mm	
SGTN-2	8082-222		2	0°	.087	2mm	\$ 9.95
SGTR-2,8	8082-250		2	8°	.087	2mm	9.95
SGTN-3	8082-226		3	0°	.122	3mm	9.95
SGTR-3,8	8082-254		3	8°	.122	3mm	9.95
SGTN-4	8082-230		4	0°	.161	4mm	10.60
SGTR-4,8	8082-258		4	8°	.161	4mm	11.11
SGTN-5	8082-234		5	0°	.201	5mm	10.35
SGTN-6	8082-238		6	0°	.252	6mm	12.32
SGTN-8	8082-242		8	0°	.315	8mm	21.59
SGTN-9	8082-246		9	0°	.378	9mm	22.20

### Blade & Insert Set

Set Desc.	Order No.	(1) Blade	(10) Inserts	Price Each
SGIH26-3S	8085-360	SGIH26-3	SGTN-3	\$ 185.40
SGIH32-3S	8085-364	SGIH32-3	SGTN-3	198.87




### Blade, Toolholder & Insert Set

Set Desc.	Order No.	(1) Blade	(10) Inserts	(1) Toolholder	Price Each
SGTBN19-5S	8085-326	SGIH26-3	SGTN-3	SGTBN19-5	\$ 366.14
SGTBN25,4-6S	8085-330	SGIH32-3	SGTN-3	SGTBN25-4-6	385.08




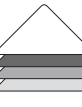
## American Value Inserts

Economically priced inserts that will run on steels, cast irons, and non-ferrous materials. VM= Value Medium Machining

GRADE	ISO CLASS	INDUSTRY CLASS	DESCRIPTION	COATING
<b>C2VAL</b> Roughing to Semi-Finishing	K10-K25 N05-N15 S10-S20	C2	C2VAL is an uncoated, unalloyed grade with good abrasive wear resistance. Designed for medium to rough turning of cast iron, non-ferrous materials, and high temperature alloys.	
<b>C5CVAL</b> Roughing to Semi-Finishing	P20-P35	C5 C6	C5CVAL has a multi-layered Tin/TiC/TiCN/TiN coating over an alloyed, cobalt-rich substrate. Offers a good balance of wear resistance and toughness. For general purpose to heavy roughing of carbon and alloy steels at medium speeds and feeds. Can withstand light interruptions.	 TiN TiCN TiC TiN Substrate

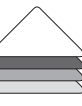
## American Standard Inserts -

A broad line of ANSI and ISO standard inserts. Molded-to-size reliability or precision ground. GM= Medium Machining

<b>AN2020</b> Roughing to Semi-Finishing	P15-P30 M15-M30	C6	AN2020 is based on a hard, cobalt-enriched substrate and has a multi-layered gold coating to provide excellent thermal wear, and mechanical shock resistance. Perfect general purpose grade for medium speeds and feeds in interrupted to semi-finishing cuts on carbon and alloy steels.	 TiN TiCN TiC TiN Substrate
<b>AN2025</b> Roughing to Semi-Finishing	P15-P35 M15-M35	C5	AN2025 has a tough, cobalt-enriched substrate with a multi-layer TiCN/ Al <sub>2</sub> O <sub>3</sub> / TiN coating to enhance edge strength. This is the preferred grade for high speed machining of stainless steel and most steels. Performs well in roughing to semi-finishing.	 TiN Al <sub>2</sub> O <sub>3</sub> TiCN Substrate

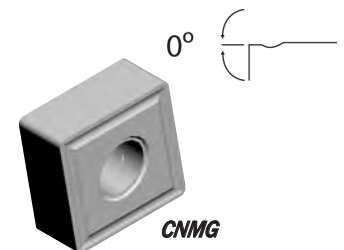
## American Performance Inserts -

High-Performance inserts for modern CNC machines featuring state-of-the-art grade and geometry design.

<b>AN3025</b> Roughing to Semi-Finishing	P10-P35 M10-M35 K10-K25 S10-S30	C2 C5 C6	Offered only in American Performance™ inserts, AN3025 has a tough substrate with a cobalt enriched layer under a CVD coating of TiCN, Al <sub>2</sub> O <sub>3</sub> , and TiN. Provides high wear resistance, and is an excellent general purpose grade for steels and cast irons.	 TiN Al <sub>2</sub> O <sub>3</sub> TiCN Substrate
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## CNMG

	AMERICAN VALUE				AMERICAN STANDARD					
	C2VAL		C5CVAL		AN2020		I.C.	THICK.	RADIUS	HOLE
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
CNMG-332-GM	-	-	-	-	2958-059	\$3.85	3/8	1/8	1/32	0.150
CNMG-432-VM	2959-150	\$5.15	2959-151	\$6.11	-	-	1/2	3/16	1/32	0.203
CNMG-432-GM	-	-	-	-	2957-072	7.37	1/2	3/16	1/32	0.203
CNMG-433-VM	2959-152	5.15	2959-153	6.11	-	-	1/2	3/16	3/64	0.203
CNMG-433-GM	-	-	-	-	2958-082	7.37	1/2	3/16	3/64	0.203
CNMG-543-VM	-	-	2959-154	11.07	-	-	5/8	1/4	3/64	0.250
CNMG-543-GM	-	-	-	-	2957-104	13.29	5/8	1/4	3/64	0.250
CNMG-643-VM	-	-	2959-155	13.54	-	-	3/4	1/4	3/64	0.312
CNMG-643-GM	-	-	-	-	2957-123	16.20	3/4	1/4	3/64	0.312



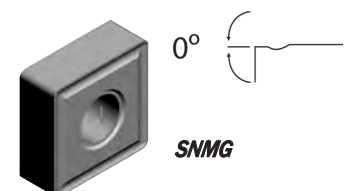
## DNMG

	AMERICAN STANDARD					
	AN2020					
	ORDER NO.	PRICE EACH	I.C.	THICK.	RADIUS	HOLE
DNMG-332-GM	2958-189	\$7.87	3/8	3/16	1/32	0.150
DNMG-432-GM	2957-221	11.30	1/2	3/16	1/32	0.203



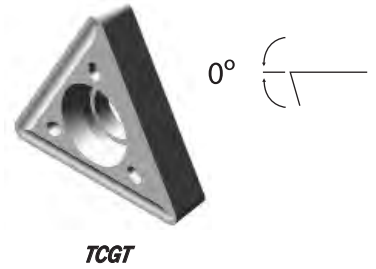
## SNMG

	AMERICAN VALUE				AMERICAN STANDARD					
	C2VAL		C5CVAL		AN2020		I.C.	THICK.	RADIUS	HOLE
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
SNMG-322-GM	-	-	-	-	2957-363	\$4.81	3/8	1/8	1/32	0.150
SNMG-432-VM	2959-156	\$4.96	2959-157	\$5.94	-	-	1/2	3/16	1/32	0.203
SNMG-432-GM	-	-	-	-	2957-370	7.12	1/2	3/16	1/32	0.203
SNMG-543-VM	-	-	2959-158	9.71	-	-	5/8	1/4	3/64	0.250
SNMG-543-GM	-	-	-	-	2957-394	11.68	5/8	1/4	3/64	0.250
SNMG-643-VM	-	-	2959-159	12.58	-	-	3/4	1/4	3/64	0.312
SNMG-643-GM	-	-	-	-	2958-430	15.11	3/4	1/4	3/64	0.312



## TCGT

	AMERICAN VALUE		AMERICAN STANDARD		I.C.	THICK.	RADIUS	HOLE
	C2VAL		AN2020					
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
TCGT-221-VM	2959-188	\$ 6.49	2959-189	\$7.24	1/4	1/8	1/64	0.123
TCGT-222-VM	2959-190	6.49	2959-191	7.24	1/4	1/8	1/32	0.123
TCGT-321-VM	2959-192	7.45	2959-193	8.50	3/8	1/8	1/64	0.177
TCGT-322-VM	2959-194	7.45	2959-195	8.50	3/8	1/8	1/32	0.177
TCGT-431-VM	2959-202	8.89	2959-203	11.49	1/2	3/16	1/64	0.218
TCGT-432-VM	2959-204	8.89	2959-205	11.49	1/2	3/16	1/32	0.218



TCGT

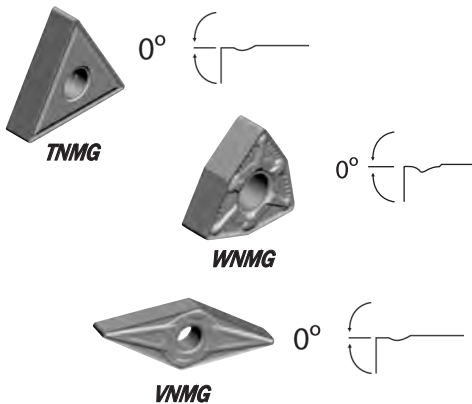
## WNMG

AMERICAN PERFORMANCE AN3025							
	ORDER NO.	PRICE EACH	I.C.	THICK.	RADIUS	HOLE	
WNMG-331-P3	2957-976	\$7.05	3/8	3/16	1/64	0.150	
WNMG-332-P3	2957-981	7.05	3/8	3/16	1/32	0.150	
WNMG-431-P3	2957-985	11.16	1/2	3/16	1/64	0.203	
WNMG-432-P3	2957-989	11.16	1/2	3/16	1/32	0.203	
WNMG-433-P3	2957-992	11.16	1/2	3/16	3/64	0.203	
WNMG-434-P3	2957-995	11.16	1/2	3/16	1/16	0.203	

## VNMG

AMERICAN STANDARD AN2020							
	ORDER NO.	PRICE EACH	I.C.	THICK.	RADIUS	HOLE	
VNMG-331-GM	2959-081	\$10.99	3/8	3/16	1/64	0.150	
VNMG-332-GM	2959-090	10.99	3/8	3/16	1/32	0.150	
VNMG-431-GM	2959-096	14.36	1/2	3/16	1/64	0.203	
VNMG-432-GM	2959-102	14.36	1/2	3/16	1/32	0.203	
VNMG-433-GM	2959-108	14.36	1/2	3/16	1/64	0.203	

## TNMG

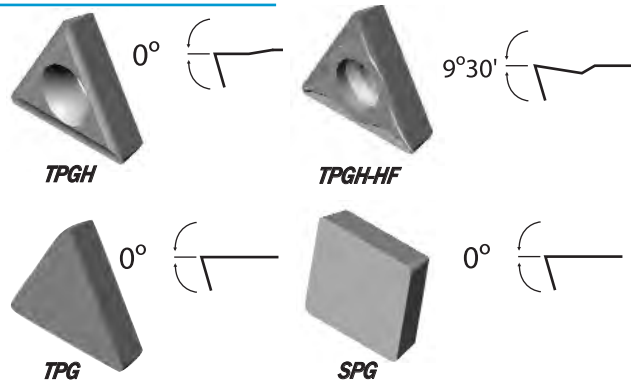


	AMERICAN VALUE		AMERICAN STANDARD		I.C.	THICK.	RADIUS	HOLE	
	C2VAL		AN2020						
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH					
TNMG-321-VM	2959-160	\$3.50	2959-161	\$4.42	-	3/8	1/8	1/64	0.150
TNMG-321-GM	-	-	-	-	2957-576	3/8	1/8	1/64	0.150
TNMG-322-VM	2959-162	3.50	2959-163	4.42	-	3/8	1/8	1/32	0.150
TNMG-322-GM	-	-	-	-	2957-585	3/8	1/8	1/32	0.150
TNMG-332-VM	2959-164	4.27	2959-165	5.19	-	3/8	1/8	3/64	0.150
TNMG-332-GM	-	-	-	-	2957-602	3/8	1/8	3/64	0.150
TNMG-431-VM	2959-166	6.20	2959-167	7.47	-	1/2	3/16	1/64	0.203
TNMG-431-GM	-	-	-	-	2957-612	1/2	3/16	1/64	0.203
TNMG-432-VM	2959-168	6.20	2959-169	7.47	-	1/2	3/16	1/32	0.203
TNMG-432-GM	-	-	-	-	2957-622	1/2	3/16	1/32	0.203
TNMG-433-VM	2959-170	6.20	2959-171	7.47	-	1/2	3/16	3/64	0.203
TNMG-433-GM	-	-	-	-	2958-774	1/2	3/16	3/64	0.203
TNMG-543-VM	-	-	2959-172	12.62	-	5/8	1/4	3/64	0.250
TNMG-543-GM	-	-	-	-	2957-666	5/8	1/4	3/64	0.250
TNMG-544-VM	-	-	2959-173	12.62	-	5/8	1/4	1/16	0.250

# ANE<sup>TM</sup> Positive Turning Inserts

## TPGH

	AMERICAN VALUE		AMERICAN STANDARD		I.C.	THICK.	RADIUS	HOLE
	C5CVAL		AN2020					
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH				
TPGH-21.51	-	-	2957-855	\$8.69	1/4	3/32	1/64	0.123
TPGH-321-HF	2959-175	\$ 8.50	2957-865	12.75	3/8	1/8	1/64	0.177
TPGH-21.52	-	-	2957-860	8.69	3/32	3/32	1/32	0.123
AN2025								
TPGH-322-HF	2959-177	8.50	2957-870	12.75	3/8	1/8	1/32	0.177
TPGH-32.51-HF	2959-179	9.82	-	-	-	-	-	-
TPGH-32.52-HF	2959-181	9.82	-	-	-	-	-	-



## TPG

AMERICAN STANDARD AN2020							
	ORDER NO.	PRICE EACH	I.C.	THICK.	RADIUS	HOLE	
TPG-222	2958-897	\$8.69	1/4	1/8	1/32	-	
TPG-321	2957-768	10.21	3/8	1/8	1/64	-	
TPG-322	2957-778	10.21	3/8	1/8	1/32	-	
TPG-323	2958-907	10.21	3/8	1/8	3/64	-	
TPG-432	2957-796	13.79	1/2	3/16	1/32	-	
TPG-433	2958-920	13.79	1/2	3/16	3/64	-	
TPG-434	2957-807	13.79	1/2	3/16	1/16	-	

## SPG

AMERICAN STANDARD AN2020							
	ORDER NO.	PRICE EACH	I.C.	THICK.	RADIUS	HOLE	
SPG-321	2958-493	\$9.69	3/8	1/8	1/64	-	
SPG-322	2958-496	9.69	3/8	1/8	1/32	-	
SPG-323	2958-499	9.69	3/8	1/8	3/64	-	
SPG-432	2957-482	15.51	1/2	3/16	1/32	-	
SPG-433	2958-521	15.51	1/2	3/16	3/64	-	

**DHCP15**

(CVD TiN-TiCNAl<sub>2</sub>O<sub>3</sub>-TiNB) - A CVD Multi Coated grade insert. The insert has great resistance against crater and wear and plastic deformation.

**DHCP25**

“(CVD TiN-TiCNAl<sub>2</sub>O<sub>3</sub>-TiNB) - A CVD Multi Coated grade insert. The hard and tough substrate, makes this insert the First Choice for all around general turning purpose insert. Used for all the ferrous metals, from roughing cutting sfm.

**DHCP35**

(CVD TiN-TiCNAl<sub>2</sub>O<sub>3</sub>-TiNB) - A CVD Multi Coated grade insert, The hard and tough substrate combined with the heavy coating, makes this insert the First Choice for roughing steel and steel castings at high rate of material removal. In straight or interrupt cut at medium to low cutting sfm.

**DHCM20**

(CVD TiN-TiCNAl<sub>2</sub>O<sub>3</sub>-TiNB) - A CVD Multi Coated Carbide Insert. The substrate of the insert has a great thermal and mechanical shock resistance that provides a great edge security for interrupt cuts. The insert is the First Choice for general turning application of all the Stainless Steel at medium cutting sfm.

**DHCM35**

(CVD TiN-TiCNAl<sub>2</sub>O<sub>3</sub>-TiNB) - A CVD Multi Coated Carbide Insert. The substrate of the insert has a great thermal and very high mechanical shock resistance to provide a great edge security for heavy interrupted cuts. The insert is the First Choice for heavy roughing application of all Stainless Steel at medium cutting sfm.

**DK2P5**

(CVD TiN-TiCN-AL<sub>2</sub>O<sub>3</sub>-TiN) General purpose multi material machining Insert, Cobalt enriched substrate with hard and tough core, resistant to thermal deformation and edge wear at medium cutting sfm.

**DVK10**

(PVD TiN) - Single Layer PVD coated insert with hard micro-grained substrate with high viscosity and hard cutting edge and wear resistance to abrasion. First choice from finishing to medium machining on all non-ferrous metals, aluminum and plastic materials at high sfm.

**DVP656**

“(PVD TiN) - Single Layer PVD carbide grade. Thermal deformation and abrasion resistant substrate with cobalt enriched periphery. First Choice for finishing to medium roughing application on all ferrous metals at medium to high sfm.”

**DASK25B**

(PVD TiN-AlN-TiN) - First Choice for general application for all non Ferrous and Ferrous metals with medium to High sfm. Multi layer coated with high oxidation and wear resistance properties. Used in wet/dry conditions. Max. working Temp. 1650° F. Best used on CNC Machine Center, Wet/Dry Machining Conditions.

**DASP35B**

(PVD TiN-AlN-TiN) - First Choice for general application for all Ferrous metals with medium to High sfm. Multi layer coated with high oxidation and wear resistance properties. Max. working Temp. 1650° F. Best used on CNC Machining in Wet Machining Conditions.

**DHP440F**

(PVD TiAlN) - First Choice for rough application for all Ferrous metals with medium to low sfm. Single layer with micro dense coating structure, builds a strong and tough cutting edge, dissipates heat reducing thermal cracking and improving wear resistance and insert life. Max. working Temp.; 1650° F. Best used on CNC Machining in Wet Machining Conditions.

**DHK425F**

(PVD TiAlN) - First Choice for rough application for all non Ferrous metals with medium to low sfm. Single layer with micro dense coating structure, builds a strong and tough cutting edge, dissipates heat reducing thermal cracking and improving wear resistance and insert life. Max. working Temp.; 1650° F. Best used on CNC Machining in Wet or Dry Machining Conditions.

**DKAT10V**

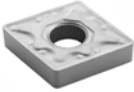
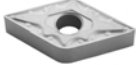
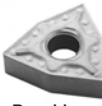
(PVD AlCrN) - For General Purpose machining of all non-ferrous material. The insert substrate has an extremely hard and strong cutting edge, coated for highest oxidation resistance, hot hardness for high temperature wear resistant in any machining conditions (wet or dry) up to 2000°F without changing the physical property of the insert, but extending the cutting life of the insert beyond its own limit.

**DPAT20V**


(PVD AlCrN) - For General Purpose machining of all ferrous material. The insert substrate has an extremely hard and strong cutting edge, coated for highest oxidation resistance, hot hardness for high temperature wear resistant in any machining conditions (wet or dry) up to 2000°F without changing the physical property of the insert, but extending the cutting life of the insert beyond its own limit.




## Negative Turning Inserts for Carbon & Alloy Steel

PF	ANSI Description	Insert Grade	Order No.	Price Each
 Finishing-	CNMG-431-PF	DHCP15	8070-237	\$ 8.97
	TNMG-431-PF		8070-307	12.55
	WNMG-331-PF		8070-324	8.97
	WNMG-431-PF		8070-338	8.97
 General Purpose-	CNMG-432-PM	DHCP25	8070-368	8.97
	DNMG-432-PM		8070-389	11.02
	TNMG-332-PM		8070-421	8.75
	TNMG-432-PM		8070-433	12.55
	VNMG-332-PM		8070-441	10.14
	WNMG-432-PM		8070-461	8.97
 Roughing-	CNMG-433-PR	DHCP35	8070-479	8.97
	DNMG-432-PR	DHCP25	8070-510	12.16
	TNMG-332-PR	DHCP35	8070-557	8.75
	TNMG-433-PR	DHCP25	8070-570	12.55
	WNMG-432-PR	DHCP35	8070-587	8.97

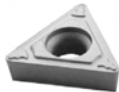

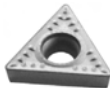
## Negative Turning Inserts for Austenitic Stainless Steel

EPX	ANSI Description	Insert Grade	Order No.	Price Each
 Finishing-Medium-	CNMG-431-EPX	DHCM20	8069-751	\$ 8.97
	CNMG-432-EPX	DHCM35	8069-758	8.97
	DNMG-431-EPX	DHCM20	8069-775	11.02
	DNMG-432-EPX	DHCM35	8069-778	11.02
	TNMG-331-EPX	DHCM20	8069-800	8.74
	TNMG-332-EPX	DHCM35	8069-806	8.74
	TNMG-333-EPX	DHCM35	8069-807	8.74
	WNMG-431-EPX	DHCM20	8069-819	8.97
	WNMG-432-EPX	DHCM35	8069-825	8.97
	WNMG-432-SPQ	DHCM35	8069-827	8.97


## Economy/General Purpose Negative Turning Inserts

EG	ANSI Description	Insert Grade	Order No.	Price Each
 Light Roughing-	CNMG-432-EG	DK2P5	8070-006	\$ 6.98
	DNMG-432-EG		8070-034	9.32
	TNMG-332-EG		8070-106	6.80
	TNMG-432-EG		8070-114	9.11
	VNMG-332-EG		8070-142	9.67
	VNMG-433-EG		8070-150	14.25

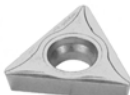
## Positive Turning Inserts for Carbon & Alloy Steel

UF	ANSI Description	Insert Grade	Order No.	Price Each
 Finishing-	TCMT-52.50-UF	DHCP25	8080-249	\$ 7.27
	-		-	-
	CCMT-21.51-UF		8080-259	7.62
	CCMT-32.51-UF		8080-268	8.43
	DCMT-21.51-UF		8080-283	7.86
	DCMT-32.51-UF		8080-292	9.47
	TCMT-21.51-UF		8080-313	8.38
	TCMT-32.51-UF		8080-322	9.55
	VCMT-331-UF		8080-337	12.16
	WCMT-21.51-UF		8080-346	8.99
 General Purpose	CCMT-21.52-UM	DHCP25	8079-881	7.62
	CCMT-32.52-UM		8079-893	8.43
	DCMT-21.51-UM		8079-911	7.62
	DCMT-32.51-UM		8079-915	8.61
	TCMT-21.51-UM		8079-946	7.62
	-		-	-
	TCMT-32.51-UM		8079-952	8.70
	TCMT-32.52-UM		8079-958	8.70
	WCMT-21.51-UM		8080-004	8.17
	 Roughing		DCMT-21.52-UR	DHCP35
DCMT-32.52-UR		DHCP35	8080-441	8.63
TCMT-21.51-UR		DHCP25	8080-451	7.62
TCMT-21.52-UR		DHCP35	8080-454	7.62
TCMT-32.51-UR		DHCP25	8080-455	8.69
TCMT-32.52-UR		DHCP35	8080-458	8.69
VCMT-332-UR		DHCP35	8080-468	10.91
WCMT-21.51-UR		DHCP25	8080-470	8.17

## Positive Turning Inserts for Austenitic Stainless Steel

SSF	ANSI Description	Insert Grade	Order No.	Price Each
 Finishing-	TCMT-21.51-SSF	DHCM35	8080-569	\$ 8.61
	TCMT-32.51-SSF		8080-579	8.70
	TCMT-32.52-UR		8080-580	8.70

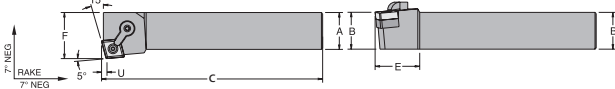
## Economy/General Purpose Positive Turning Inserts

EZ	ANSI Description	Insert Grade	Order No.	Price Each
 Finishing-	TPGH-21.51-EZ	DVK10	8071-703	\$ 7.84
	TPGH-21.51-EZ	DVP656	8071-704	7.84
	TPGH-321-EZ	DVK10	8071-716	9.42
	TPGH-321-EZ	DVP656	8071-715	9.42
	TPGH-432-EZ	DVK10	8071-737	14.82
	TPGH-432-EZ	DVP656	8071-736	14.82

## MCKN R/L Toolholder

Style K- 15° End Cutting Edge Angle for negative 80° diamond CNM\_ inserts

Right hand shown, left hand opposite

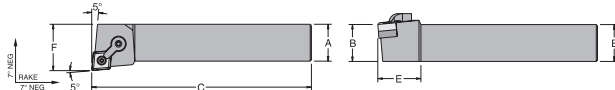


Description	Order No. Right	Order No. Left	A & B	C	E	F	U	Insert Style	Price Each
MCKNR/L12-4B	8050-066	8050-067	0.75	4.50	1.250	1.000	123	432	\$ 60.21
MCKNR/L16-4C	8050-070	8050-071	1.00	5.00	1.250	1.250	123		64.06
MCKNR/L16-4D	8050-074	8050-075	1.00	6.00	1.250	1.250	123		64.06
MCKNR/L20-4D	8050-078	8050-079	1.25	6.00	1.250	1.500	123		70.36
MCKNR/L16-4D	8050-086	8050-087	1.25	6.00	1.375	1.500	151	543	84.43
MCKNR/L24-6E	8050-102	8050-103	1.50	7.00	1.500	2.000	184	643	96.60

## MCLN R/L Toolholder

Style L - Negative 5° End or Side Cutting Edge Angle for negative 80° diamond CNM\_ inserts

Right hand shown, left hand opposite

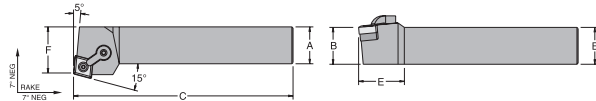


Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MCLNR/L10-4B	8050-116	8050-117	0.625	4.50	1.250	1.000	432	\$ 55.56
MCLNR/L12-4B	8050-120	8050-121	0.750	4.50	1.250	1.250		60.21
MCLNR/L16-4C	8050-124	8050-125	1.000	5.00	1.250	1.250		64.06
MCLNR/L16-4D	8050-128	8050-129	1.000	6.00	1.250	1.250		64.06
MCLNR/L20-4D	8050-132	8050-133	1.250	6.00	1.250	1.500	70.36	
MCLNR/L24-4D	8050-136	8050-137	1.500	6.00	1.250	2.000	96.60	
MCLNR/L24-4E	8050-140	8050-141	1.500	7.00	1.250	2.000	96.60	
MCLNR/L16-5D	8050-152	8050-153	1.000	6.00	1.375	1.250	543	76.87
MCLNR/L20-5D	8050-156	8050-157	1.250	6.00	1.375	1.500		84.43
MCLNR/L16-6D	8050-168	8050-169	1.000	6.00	1.500	1.500	643	76.87
MCLNR/L20-6D	8050-172	8050-173	1.250	6.00	1.500	1.500		84.43
MCLNR/L20-6E	8050-174	8050-175	1.250	7.00	1.500	1.500		84.43
MCLNR/L24-6D	8050-176	8050-177	1.500	6.00	1.500	2.000		96.60
MCLNR/L24-6E	8050-180	8050-181	1.500	7.00	1.500	2.000	96.60	

## MCRN R/L Toolholder

Style R- 15° Side Cutting Edge Angle for negative 80° diamond CNM\_ inserts

Right hand shown, left hand opposite

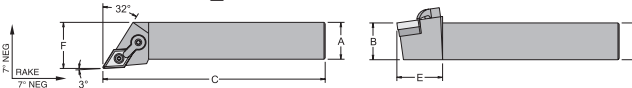


Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MCRNR/L12-4B	8050-220	8050-221	0.75	4.50	1.250	0.750	432	\$ 60.21
MCRNR/L16-4D	8050-228	8050-229	1.00	6.00	1.250	1.250		64.06
MCRNR/L20-4D	8050-232	8050-233	1.25	6.00	1.250	1.500		70.36
MCRNR/L16-5D	8050-244	8050-245	1.25	6.00	1.375	1.500	543	84.43
MCRNR/L16-6D	8050-256	8050-257	1.25	6.00	1.500	1.500	643	84.43
MCRNR/L20-6D	8050-260	8050-261	1.50	7.00	1.500	2.000		96.60

## MDJN R/L Toolholder

Style J- 3° Side Cutting Edge Angle for negative 55° diamond DNM\_ inserts

Right hand shown, left hand opposite

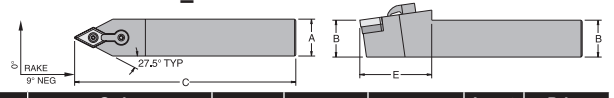


Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MDJNR/L16-3C	8050-314	8050-315	1.000	5.00	1.250	1.250	332	\$ 95.57
MDJNR/L12-4B	8050-324	8050-325	0.750	4.50	1.250	1.000	432	93.33
MDJNR/L16-4C	8050-328	8050-329	1.000	5.00	1.250	1.250	432	95.57
MCRNR/L20-6D	8050-332	8050-333	1.000	6.00	1.250	1.250		95.57
MDJNR/L20-4D	8050-336	8050-337	1.250	6.00	1.250	1.500		105.83
MDJNR/L24-4D	8050-340	8050-341	1.500	6.00	1.250	2.000		134.67
MDJNR/L24-4E	8050-344	8050-345	1.500	7.00	1.250	2.000	134.67	
MDJNR/L16-5D	8050-352	8050-353	1.000	5.00	1.750	1.250	543	114.68
MDJNR/L20-5D	8050-356	8050-357	1.250	6.00	1.750	1.500		126.99
MDJNR/L24-5E	8050-364	8050-365	1.500	7.00	1.750	2.000		134.67

## MDPN N Toolholder

Style P- 27.5° Side Cutting Edge Angle for negative 55° diamond DNM\_ inserts

Neutral hand shown

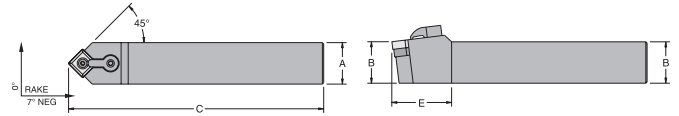


Description	Order Number	A & B	C	E	Insert Style	Price Each
MDPNN12-4B	8050-370	0.75	4.50	1.75	432	\$ 93.33
MDPNN16-4D	8050-372	1.00	6.00	1.75		95.57
MDPNN20-4D	8050-374	1.25	6.00	1.75		105.83
MDPNN16-5D	8050-376	1.00	6.00	2.00	543	114.68

## MSDN N Toolholder

Style D - 45° Side Cutting Edge Angle for negative square SNM\_ inserts

Neutral hand shown

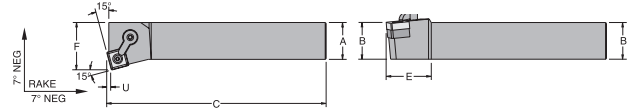


Description	Order Number	A & B	C	E	Insert Style	Price Each
MSDNN08-3A	8050-392	0.500	4.00	1.000	322	\$ 49.83
MSDNN08-3B	8050-394	0.500	4.50	1.000		47.46
MSDNN10-3B	8050-396	0.625	4.50	1.000		52.91
MSDNN12-3B	8050-398	0.750	4.50	1.000	60.21	
MSDNN12-4B	8050-400	0.750	4.50	1.375	432	60.21
MSDNN16-4D	8050-402	1.000	6.00	1.375		64.06
MSDNN16-5D	8050-406	1.000	6.00	1.625	543	76.87
MSDNN20-5D	8050-408	1.250	6.00	1.625		84.43
MSDNN16-6D	8050-414	1.000	6.00	1.750	643	76.87
MSDNN20-6D	8050-416	1.250	6.00	1.750		84.43
MSDNN24-6E	8050-418	1.500	7.00	1.750		96.60

## MSKN R/L Toolholder

Style K- 15° End Cutting Edge Angle for negative square SNM\_ inserts

Right hand shown, left hand opposite

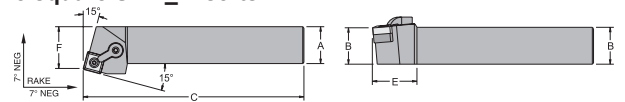


Description	Order No. Right	Order No. Left	A & B	C	E	F	U	Insert Style	Price Each
MSKNR/L12-4B	8050-448	8050-449	0.750	4.50	1.250	1.000	0.122	432	\$ 60.21
MSKNR/L16-4D	8050-456	8050-457	1.000	6.00	1.000	1.250	0.122		64.06
MSKNR/L16-5D	8050-460	8050-461	1.000	6.00	1.375	1.250	0.151	543	76.87
MSKNR/L20-6D	8050-472	8050-473	1.250	6.00	1.500	1.500	0.183	643	84.43

## MSRN R/L Toolholder

Style R- 15° Side Cutting Edge Angle for negative square SNM\_ inserts

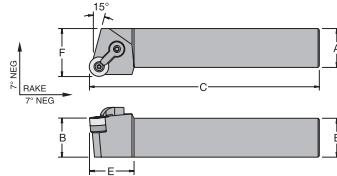
Right hand shown, left hand opposite



Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MSRNR/L12-4B	8050-506	8050-507	0.750	4.50	1.250	0.880	432	\$ 60.21
MSRNR/L16-4D	8050-514	8050-515	1.000	6.00	1.250	1.130		64.06
MSRNR/L20-4D	8050-518	8050-519	1.250	6.00	1.250	1.380		70.36
MSRNR/L16-5D	8050-530	8050-531	1.000	6.00	1.375	1.103	543	76.87
MSRNR/L20-5D	8050-534	8050-535	1.250	6.00	1.375	1.353		84.43
MSRNR/L16-6D	8050-542	8050-543	1.000	6.00	1.500	1.071	643	76.87
MSRNR/L20-6D	8050-546	8050-547	1.250	6.00	1.500	1.315		84.43
MSRNR/L24-6E	8050-550	8050-551	1.500	7.00	1.500	1.821		96.60

## MRGN R/L Toolholder

Style G - 0° Side Cutting Edge Angle for negative round RNM\_ inserts

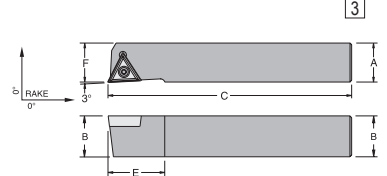


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MRGNR/L12-4B	8051-198	8051-199	0.750	4.50	1.250	1.000		\$ 60.21
MRGNR/L16-4C	8051-202	8051-203	1.000	5.00	1.250	1.250	43	64.06
MRGNR/L16-4D	8051-206	8051-207	1.000	6.00	1.250	1.250		64.06
MRGNR/L20-4D	8051-210	8051-211	1.250	6.00	1.250	1.500		70.36
MRGNR/L20-6D	8051-230	8051-231	1.250	6.00	1.375	1.500	64	84.43
MRGNR/L24-6E	8051-234	8051-235	1.500	7.00	1.375	2.000		96.60

## STNC R/L Toolholder

Style N - 3° Side Cutting Edge Angle for 7° positive triangle TC\_T inserts

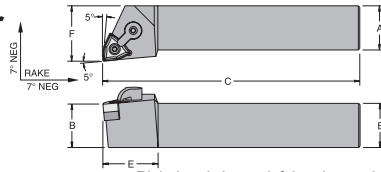


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
STNCR/L08-2J	8051-736		0.500	3.500	0.625	0.500		\$ 41.04
STNCR/L10-2A	8051-738	8051-747	0.625	4.000	0.625	0.625	21.51	42.33
STNCR/L12-3B	8051-740		0.750	4.500	1.125	0.750		47.46
STNCR/L64-3D	8051-742	8051-759	0.750	6.000	1.125	0.750	32.52	51.30

## MWLN R/L Toolholder

Style L - Negative 5° End or Side Cutting Edge Angle for negative 80° trigon WNM\_ inserts

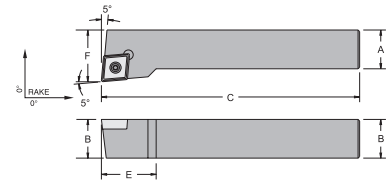


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MWLN R/L12-3B	8051-262	8051-263	0.75	4.50	1.00	1.00		\$ 60.21
MWLN R/L16-3C	8051-264	8051-265	1.00	5.00	1.00	1.25	332	64.06
MWLN R/L12-4B	8051-266	8051-267	1.75	4.50	1.25	1.00		60.21
MWLN R/L16-4D	8051-270	8051-271	1.00	6.00	1.25	1.25	432	64.06
MWLN R/L20-4D	8051-274	8051-275	1.25	6.00	1.25	1.50		70.36

## SCLC R/L Toolholder

Style L - Negative 5° End or Side Cutting Edge Angle for 7° positive 80° diamond CC\_T inserts

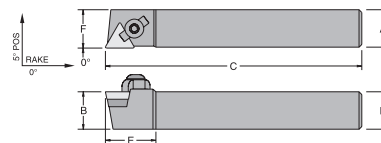


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
SCLCR/L06-2J	8051-800	8051-801	0.375	3.500	0.500	0.500	21.51	\$ 51.21
SCLCR/L08-3A	8051-804	8051-805	0.500	4.000	0.688	0.625		51.21
SCLCR/L10-3B	8051-808	8051-809	0.625	4.500	0.688	0.750	32.52	52.42
SCLCR/L12-3B	8051-812	8051-813	0.750	4.500	0.688	1.000		62.33

## CTAP R/L Toolholder

Style A - 0° Side Cutting Edge Angle for 11° positive triangle TPG inserts

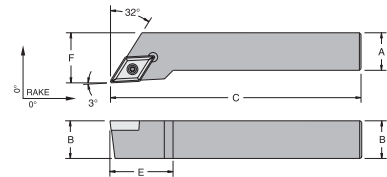


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
CTAPR/L08-2J	8051-386	8051-387	0.500	3.50	0.875	0.515	221	\$ 47.46
CTAPR/L12-3B	8051-398	8051-399	0.750	4.50	1.250	0.765		60.21
CTAPR/L16-3D	8051-402	8051-403	1.000	6.00	1.250	1.015	322	64.06
CTAPR/L16-4D	8051-410	8051-411	1.000	6.00	1.250	1.015	432	64.06

## SDJC R/L Toolholder

Style J - Negative 3° Side Cutting Edge Angle for 7° positive 55° diamond DC\_T inserts

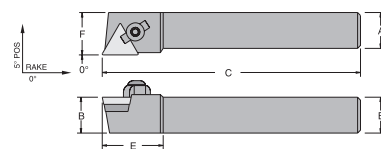


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
SDJCR/L06-2J	8051-872	8051-873	0.375	3.500	0.688	0.500	21.51	\$ 62.66
SDJCR/L08-3A	8051-880	8051-881	0.500	4.000	1.000	0.625		62.66
SDJCR/L12-3B	8051-888	8051-889	0.750	4.500	1.000	1.000	32.52	81.28

## CTGP R/L Toolholder

Style G - 0° Side Cutting Edge Angle for 11° positive triangle TPG inserts

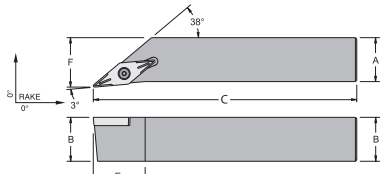


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
CTGPR/L10-3B	8051-492	8051-493	0.625	4.50	1.000	0.875		\$ 52.91
CTGPR/L12-3B	8051-496	8051-497	0.750	4.50	1.000	1.000	322	60.21

## SVJB R/L Toolholder

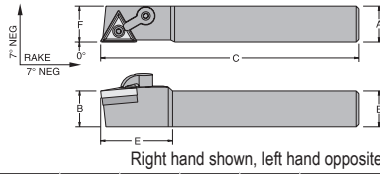
Style J - Negative 3° Side Cutting Edge Angle for 5° positive 35° diamond VB\_T inserts



Right hand shown, left hand opposite

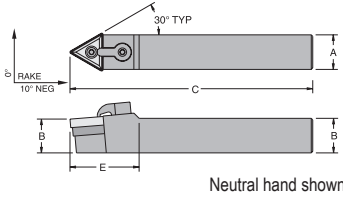
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
SVJBR/L12-3B	8052-006	8052-007	0.750	4.500	1.250	1.000	322	\$ 91.79
SVJBR/L16-3D	8052-014	8052-015	1.000	6.000	10250	1.250		93.26

**MTAN R/L Toolholder**  
Style A- 0° Side Cutting Edge Angle for negative triangle TNM\_ inserts



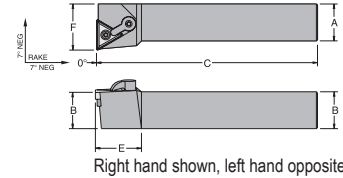
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MTANR/L08-2A	8050-606	8050-607	0.500	4.00	0.875	0.500	221	\$ 49.83
MTANR/L10-3B	8050-614	8050-615	0.625	4.50	1.000	0.625	322	55.56
MTANR/L12-3B	8050-618	8050-619	0.750	4.50	1.000	0.750		60.21

**MTEN N Toolholder**  
Style E- 30° Side Cutting Edge Angle for negative triangle TNM\_ inserts



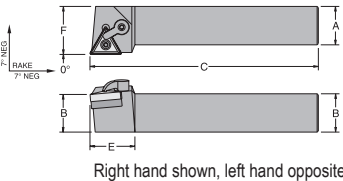
Description	Order No.	A	B	C	E	Insert Style	Price Each
MTENN08-2A	8050-690	0.500	0.500	4.00	1.000	221	\$ 47.46
MTENN10-3B	8050-692	0.625	0.625	4.00	1.125	322	52.91
MTENN12-3B	8050-694	0.750	0.750	4.50	1.125		60.21
MTENN12-4B	8050-698	0.750	0.750	4.50	1.500		60.21
MTENN16-4D	8050-700	1.000	1.000	6.00	1.500	432	64.06
MTENN85-4D	8050-702	1.000	1.250	6.00	1.500		70.36
MTENN20-5D	8050-706	1.250	1.250	6.00	1.625	543	84.43

**MTFN R/L Toolholder**  
Style F- 0° End Cutting Edge Angle for negative triangle TNM\_ inserts



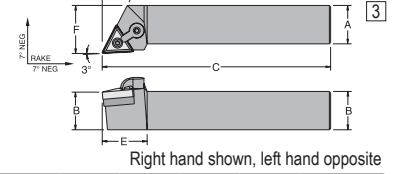
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MTFNR/L12-3B	8050-738	8050-739	0.750	4.50	1.000	1.000	322	\$ 60.21
MTFNR/L16-4D	8050-754	8050-755	1.000	6.00	1.250	1.250	432	64.06
MTFNR/L16-5D	8050-774	8050-775	1.000	6.00	1.375	1.250	543	76.87
MTFNR/L20-5D	8050-778	8050-779	1.250	6.00	1.375	1.500		84.43
MTFNR/L24-6E	8050-792	8050-793	1.500	7.00	1.500	2.000	663	96.60

**MTGN R/L Toolholder**  
Style G- 0° Side Cutting Edge Angle for negative triangle TNM\_ inserts



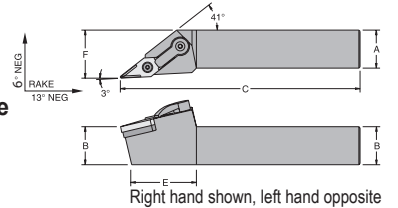
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MTGNR/L08-2A	8050-802	8050-803	0.500	4.00	0.875	0.625	221	\$ 49.83
MTGNR/L10-3B	8050-810	8050-811	0.625	4.50	1.000	0.875	322	52.91
MTGNR/L12-3B	8050-814	8050-815	0.750	4.50	1.000	1.000		60.21
MTGNR/L16-4D	8050-830	8050-831	1.000	6.00	1.375	1.250	432	64.06
MTGNR/L20-4D	8050-834	8050-835	1.250	6.00	1.375	1.500		70.36
MTGNR/L20-5D	8050-858	8050-859	1.250	6.00	1.500	1.500	543	84.43
MTGNR/L24-6E	8050-872	8050-873	1.500	7.00	1.750	2.000	663	96.60

**MTJN R/L Toolholder**  
Style J- 3° Side Cutting Edge Angle for negative triangle TNM\_ inserts



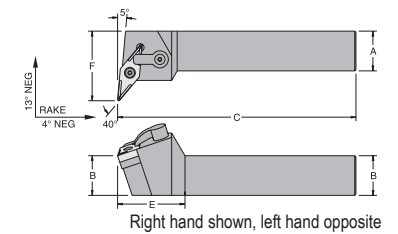
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MTJNR/L08-2A	8050-882	8050-883	0.500	4.00	0.875	0.625	221	\$ 49.83
MTJNR/L10-3B	8050-890	8050-891	0.625	4.50	1.000	0.875	322	55.56
MTJNR/L12-3B	8050-894	8050-895	0.750	4.50	1.000	1.000	332	60.21
MTJNR/L16-3D	8050-898	8050-899	1.000	6.00	1.000	1.250		64.06
MTJNR/L16-4D	8050-902	8050-903	1.000	6.00	1.250	1.250	432	64.06
MTJNR/L20-4D	8050-906	8050-907	1.250	6.00	1.250	1.500		70.36
MTJNR/L20-5D	8050-918	8050-919	1.250	6.00	1.500	1.500	543	84.43
MTJNR/L24-5E	8050-922	8050-923	1.500	7.00	1.500	2.000		96.60
MTJNR/L24-6E	8050-934	8050-935	1.500	7.00	1.625	2.000	663	96.60

**MVJN R/L Toolholder**  
Style J- Negative 3° Side Cutting Edge Angle for negative 35° diamond VNM\_ inserts



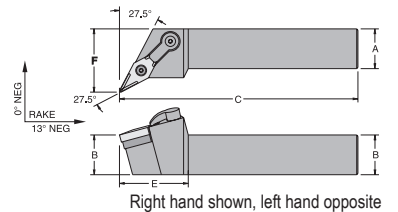
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MVJNR/L12-3B	8051-062	8051-063	0.75	4.50	1.750	1.00		\$ 98.46
MVJNR/L16-3C	8051-066	8051-067	1.00	1.00	1.750	1.25		100.37
MVJNR/L16-3D	8051-070	8051-071	1.00	1.00	1.750	1.25	332	100.37
MVJNR/L20-3D	8051-074	8051-075	1.25	1.25	1.750	1.50		111.28
MVJNR/L16-4D	8051-090	8051-091	1.00	6.00	2.125	1.25		100.37
MVJNR/L20-4D	8051-094	8051-095	1.25	6.00	2.125	1.50	432	111.28
MVJNR/L24-4E	8051-098	8051-099	1.50	7.00	2.125	2.00		142.77

**MVLN R/L Toolholder**  
Style L- Negative 5° End Cutting Edge Angle for negative 35° diamond VNM\_ inserts



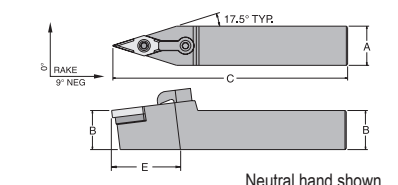
Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MVLNR/L16-4C	8051-108	8051-109	1.00	5.00	1.50	1.75		\$ 100.37
MVLNR/L16-4D	8051-112	8051-113	1.00	6.00	1.50	1.75	432	100.37
MVLNR/L20-4D	8051-116	8051-117	1.25	6.00	1.50	2.00		111.28

**MVTN R/L Toolholder**  
Style N- Negative 27.5° End Cutting Edge Angle for negative 35° diamond VNM\_ inserts



Description	Order No. Right	Order No. Left	A & B	C	E	F	Insert Style	Price Each
MVTNR/L16-3D	8051-142	8051-143	1.00	6.00	1.625	1.25	332	\$ 100.37
MVTNR/L20-3D	8051-146	8051-147	1.25	6.00	1.625	1.50		111.28

**MVVN N Toolholder**  
Style V- 17.5° Side Cutting Edge Angle for negative 35° diamond VNM\_ inserts



Description	Order No.	A	B	C	E	Insert Style	Price Each
MVVNN12-3B	8051-160	0.75	0.75	4.50	1.75	332	\$ 98.46
MVVNN16-3D	8051-164	1.00	1.00	6.00	1.75		100.37
MVVNN16-4D	8051-168	1.00	1.00	6.00	2.25	432	100.37



## S-MCLN R/L Boring Bar

Style L - Negative 5° Side & End Cutting Edge Angle for negative CNM\_ inserts

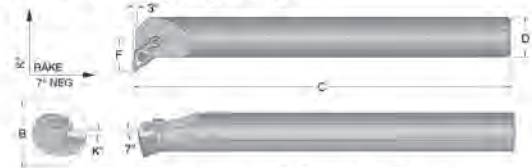


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	CNM Gage Insert	Price Each
S12S-MCLNR/L-4	8055-006	8055-007	1.000	10.0	0.75	0.500	14°	432	\$ 171.70
S16T-MCLNR/L-4	8055-010	8055-011	1.280	12.0	1.00	0.640	14°		215.62
S20U-MCLNR/L-4	8055-014	8055-015	1.530	14.0	1.25	0.765	14°		230.26
S24U-MCLNR/L-4	8055-018	8055-019	0.780	14.0	1.50	0.890	11°	432	252.89
S28U-MCLNR/L-4	8055-022	8055-023	2.030	14.0	1.75	1.015	11°		279.51
S32V-MCLNR/L-4	8055-024	8055-025	2.562	16.0	2.00	1.261	11°		297.66
S24U-MCLNR/L-5	8055-026		2.374	14.0	1.50	1.187	11°		252.89
S32V-MCLNR/L-5	8055-030	8055-031	2.562	16.0	2.00	1.281	11°	543	297.66
S40V-MCLNR/L-5	8055-034		3.062	16.0	2.50	1.531	11°		389.14
S32V-MCLNR/L-6	8055-042	8055-043	2.562	16.0	2.00	1.281	11°		297.66
S40V-MCLNR/L-6	8055-050	8055-051	3.062	16.0	2.50	1.531	11°	643	389.14

## S-MDUN R/L Boring Bar

Style U - Negative 3° End Cutting Edge Angle for negative DNM\_ inserts



Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	DNM Gage Insert	Price Each
S16T-MDUNR/L-3	8055-066	8055-067	1.300	12.0	1.00	0.750	14°	332	\$ 215.62
S20U-MDUNR/L-4	8055-070	8055-071	2.00	14.0	1.25	1.000	14°		261.36
S24U-MDUNR/L-4	8055-074	8055-075	2.25	14.0	1.50	1.125	11°	432	287.50
S28U-MDUNR/L-4	8055-078	8055-079	2.50	14.0	1.75	1.250	11°		315.45
S32V-MDUNR/L-4	8055-082	8055-083	3.00	16.0	2.00	1.375	11°		338.07
S40V-MDUNR/L-5	8055-098	8055-099	3.50	16.0	2.50	1.750	11°	543	428.34

## S-MSKN R/L Boring Bar

Style K - 15° End Cutting Edge Angle for negative square SNM\_ inserts



Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	SNM Gage Insert	Price Each
S20U-MSKNR/L-4	8055-100		1.47	14.0	1.25	0.765	14°	432	\$ 230.26
S24U-MSKNR/L-4	8055-102		1.76	14.0	1.50	0.890	10°	432	252.89
S28U-MSKNR/L-4	8055-104		2.01	14.0	1.75	1.015	10°		279.51
S32V-MSKNR/L-6	8055-106		2.40	16.0	2.00	1.281	12°	643	297.66

## S-MTFN R/L Boring Bar

Style F - 0° End Cutting Edge Angle for negative triangle TNM\_ inserts

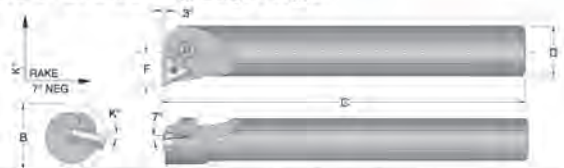


Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	TNM Gage Insert	Price Each
S12S-MTFNR/L-3	8055-150		1.000	10.0	0.75	0.500	14°	322	\$ 171.70
S16T-MTFNR/L-3	8055-154		1.280	12.0	1.00	0.640	14°		215.62
S20U-MTFNR/L-3	8055-158		1.530	14.0	1.25	0.765	14°	322	230.26
S24U-MTFNR/L-3	8055-162		1.780	14.0	1.50	0.890	11°	332	252.89
S20U-MTFNR/L-4	8055-170		1.530	14.0	1.25	0.765	14°		230.26
S24U-MTFNR/L-4	8055-174		2.060	14.0	1.50	0.890	11°	432	252.89
S32V-MTFNR/L-4	8055-182		2.562	16.0	2.00	1.281	11°		297.66
S40V-MTFNR/L-4	8055-190		3.062	16.0	2.50	1.531	11°		389.14

## S-MTUN R/L Boring Bar

Style U - Negative 3° End Cutting Edge Angle for negative triangle TNM\_ inserts



Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	DNM Gage Insert	Price Each
S12S-MTUNR/L-3	8055-204	8055-205	1.000	10.0	0.75	0.500	14°	332	\$ 171.70
S16T-MTUNR/L-3	8055-208	8055-209	1.280	12.0	1.00	0.640	14°		215.62
S20U-MTUNR/L-3	8055-212	8055-213	1.530	14.0	1.25	0.766	14°	322	230.26
S24U-MTUNR/L-3	8055-216	8055-217	2.060	14.0	1.50	0.890	11°	332	252.89
S20U-MTUNR/L-4	8055-220	8055-221	1.530	14.0	1.25	0.765	14°		230.26
S24U-MTUNR/L-4	8055-224	8055-225	2.060	14.0	1.50	0.890	11°	432	252.89
S32V-MTUNR/L-4	8055-228		2.562	16.0	2.00	1.281	11°		297.66

## S-MVUN R/L Boring Bar

Style U - Negative 3° Side Cutting Edge Angle for negative 35° diamond VNM\_ inserts



Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	VNM Gage Insert	Price Each
S16T-MVUNR/L-3	8055-266	8055-267	2.00	12.0	1.00	1.000	14°		\$ 247.69
S20U-MVUNR/L-3	8055-270	8055-271	2.25	14.0	1.25	1.125	14°	332	274.51
S24U-MVUNR/L-3	8055-274	8055-275	2.50	14.0	1.50	1.250	11°		300.61
S32V-MVUNR/L-4	8055-282	8055-283	3.25	16.0	2.00	1.625	11°	432	338.07

## S-MVXN R/L Boring Bar

Style X - Negative 5° Back Boring Cutting Edge Angle for negative 35° diamond VNM\_ inserts



Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	VNM Gage Insert	Price Each
S24U-MVXNR/L-3	8055-300	-	2.25	14.0	1.50	1.1250	11°	332	\$ 300.61
S32V-MVXNR/L-4	8055-308	-	3.00	16.0	2.00	1.500	11°	432	338.07

## S-MWLN R/L Boring Bar

Style L - Negative 5° End & Side Cutting Edge Angle for negative trigon WNM\_ inserts



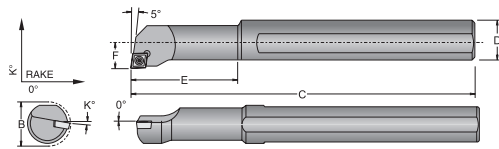
Right hand shown, left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	K°	WNM Gage Insert	Price Each
S12S-MWLN R/L-3	8055-318	8055-319	1.00	10.0	0.75	0.500	14°		\$ 171.70
S16T-MWLN R/L-3	8055-320		1.28	12.0	1.00	0.640	14°	332	215.62
S16T-MWLN R/L-4	8055-322	8055-323	1.28	12.0	1.00	0.640	14°	432	215.62
S20U-MWLN R/L-4	8055-326	8055-327	1.53	14.0	1.25	0.765	14°		230.26
S24U-MWLN R/L-4	8055-330	8055-331	1.78	14.0	1.50	0.890	11°	432	252.89



**S-SCLC R/L Boring Bar**

Style L - Negative 5° End & Side  
Cutting Edge Angle  
for 7° positive  
80° diamond  
CC\_T inserts

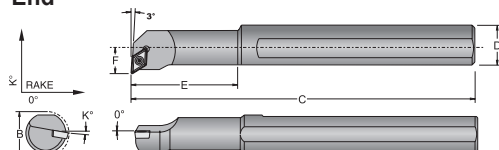


Right hand shown,  
left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	E	F	K°	CC_T Gage Insert	Price Each
S06M-SCLCR/L-2	8055-470	8055-471	0.477	6.00	0.375	0.625	.250	15°		\$ 90.21
S08M-SCLCR/L-2	8055-474	8055-475	0.602	6.00	0.500	0.750	.312	13°	21.51	90.21
S10R-SCLCR/L-2	8055-478	8055-479	0.812	8.00	0.625	1.250	.406	10°		106.72
S08M-SCLCR/L-3	8055-482	8055-483	0.625	6.00	0.500	1.250	.312	13°	32.52	90.21
S10R-SCLCR/L-3	8055-486	8055-487	0.797	6.00	0.625	1.250	.406	10°		106.72
S12S-SCLCR/L-3	8055-490	8055-491	0.954	10.00	0.750	1.875	.500	8°	35.52	128.33
S16T-SCLCR/L-3	8055-494	8055-495	1.250	12.00	1.000	2.500	.625	7°		202.02
S16T-SCLCR/L-4	8055-498	8055-499	1.280	12.0	1.000	2.500	.640	7°		202.02
S20U-SCLCR/L-4	8055-502	8055-503	1.530	14.0	1.250	2.500	.765	5°	432	218.53
S24U-SCLCR/L-4	8055-506	8055-507	1.780	14.0	1.500	2.500	.890	5°		238.85

**S-SDUC R/L Boring Bar**

Style U - Negative 3° End  
Cutting Edge Angle  
for 7° positive  
55° diamond  
DC\_T inserts

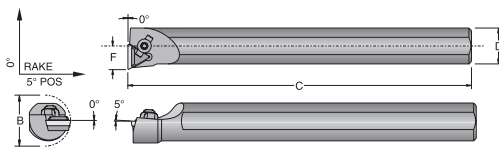


Right hand shown,  
left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	E	F	K°	DC_T Gage Insert	Price Each
S06M-SDUCR/L-2	8055-560	8055-561	0.625	6.00	0.375	0.625	.375	11°		\$ 97.69
S08M-SDUCR/L-2	8055-564		0.780	6.00	0.500	0.750	.437	11°	21.51	97.69
S10R-SDUCR/L-2	8055-568	8055-569	0.840	8.00	0.625	1.250	.500	5°		130.87
S12S-SDUCR/L-3	8055-572	8055-573	1.125	10.00	0.750	1.250	.562	6°	32.52	156.28
S16T-SDUCR/L-3	8055-576		1.500	12.00	1.000	1.250	.750	4°		221.07
S20U-SDUCR/L-3	8055-580	8055-581	1.750	14.00	1.125	1.875	.875	4°		238.85

**S-CTFP R/L Boring Bar**

Style F - 5° End Cutting Edge Angle  
for positive triangle  
TPG inserts

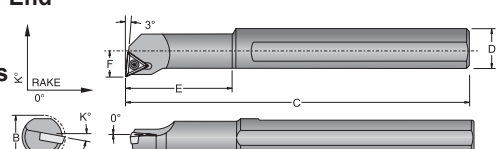


Right hand shown,  
left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	F	TPG Gage Insert	Price Each
S10S-CTFPR/L-2	8055-358		0.770	10.0	0.625	0.406	221	\$ 154.88
S12S-CTFPR/L-3	8055-360		1.125	10.0	0.750	0.500	322	171.70
S16T-CTFPR/L-3	8055-364		1.280	12.0	1.000	0.640		215.62
S20U-CTFPR/L-3	8055-368		1.530	14.0	1.250	0.765	322	230.26
S24U-CTFPR/L-3	8055-372		1.840	14.0	1.500	0.890		252.89
S20U-CTFPR/L-4	8055-380		1.530	14.0	1.250	0.765	432	230.26
S24U-CTFPR/L-4	8055-384		2.060	14.0	1.500	0.890		252.89

**S-STUC R/L Boring Bar**

Style U - Negative 3° End  
Cutting Edge Angle  
for 7° positive  
triangle TC\_T inserts

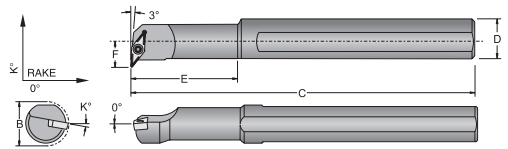


Right hand shown,  
left hand opposite

Description	Order No. Right Hand	Min. Bore B	C	D	E	F	K°	TC_T Gage Insert	Price Each
S06M-STUCR-2	8055-628	0.477	6.00	0.375	0.625	.250	15°		\$ 90.21
S08M-STUCR-2	8055-629	0.602	6.00	0.500	0.750	.312	13°	21.51	90.21
S10R-STUCR-2	8055-630	0.797	8.00	0.625	1.250	.406	10°		106.72
S12S-STUCR-3	8055-631	0.954	10.00	0.750	1.875	.500	8°	32.52	128.33
S16T-STUCR-3	8055-632	1.280	12.00	1.000	2.500	.640	7°		202.02

**S-SVUC R/L Boring Bar**

Style U - Negative 3° End Cutting Edge Angle  
for 7° positive  
35° diamond  
VC\_T inserts

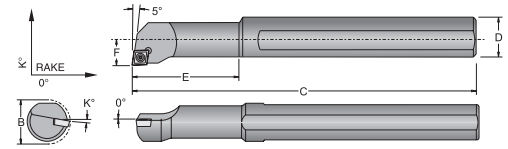


Right hand shown,  
left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	E	F	K°	DC_T Gage Insert	Price Each
S12S-SVUCR/L-2	8055-800		1.125	10.0	0.75	1.250	0.625	6°		\$ 97.69
S16T-SVUCR/L-2	8055-804		1.300	12.0	1.00	1.500	0.750	6°	221	97.69
S16T-SVUCR/L-3	8055-808		1.625	12.0	1.00	1.500	0.750	6°		156.28
S20U-SVUCR/L-3	8055-812		1.625	14.0	1.25	2.000	1.000	6°	332	221.07

**S-SCLP R/L Boring Bar**

Style L - Negative 5° End & Side  
Cutting Edge Angle  
for 11° positive 80°  
diamond  
CP\_T inserts



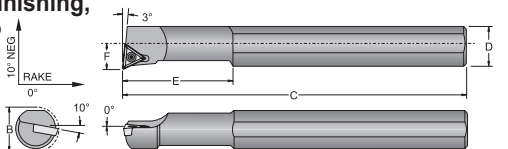
Right hand shown,  
left hand opposite

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	E	F	K°	DC_T Gage Insert	Price Each
S06M-SCLPR/L-2	8055-761		0.48	6.0	0.375	0.625	0.250	6°		\$ 90.21
S08R-SCLPR/L-2	8055-763		0.60	8.0	0.500	0.750	0.312	3°	21.51	90.21
S10S-SCLPR/L-3	8055-767		0.77	10.0	0.625	1.250	0.406	2°		106.72
S12S-SCLPR/L-3	8055-769		0.93	10.0	0.750	1.250	0.500	2°	32.52	128.33
S16T-SCLPR/L-3	8055-771		1.20	12.0	1.000	1.875	0.640	0°		202.02

- **Small Hole Capacity** - to a minimum of .500
- **High Tech** - Insert pocket has been scientifically designed to eliminate vibration and maximize the depth of cut
- **Rigidity** - Bar made of heat treated, precision ground alloy steel
- **Insert Locking** - The insert is securely held with the Torx screw to reduce tool slipping
- **Better Finish** - The clearance angle of the insert, in relation to the cutting edge, gives the best micro finish
- **Fast Material Removal** - The positive insert with advanced chip breaker design for heavier cuts

**STCMB Boring Bar**

From Roughing to Finishing,  
Square Shoulders to  
Through Bores for  
7° positive triangle  
TCMT Inserts



Right hand shown

Description	Order No. Right Hand	Min. Bore B	C	D	E	F	TC_T Gage Insert	Price Each
STCMB06-2	8055-738	0.500	5.00	0.500	1.25	.208		\$ 90.21
STCMB08-2	8055-740	0.590	6.00	0.500	1.50	.287	21.51	90.21
STCMB10-2	8055-742	0.750	8.00	0.625	2.25	.350		106.72
STCMB12-3	8055-744	0.845	10.0	0.750	2.50	.422	32.52	128.33
STCMB16-3	8055-746	1.115	12.0	1.000	3.00	.555		202.02
STCMB20-4	8055-748	1.370	12.0	1.250	3.50	.682	432	218.53

**TPBN Boring Bar**

From Roughing to Finishing,  
Square Shoulders to  
Through Bores  
For 11° positive  
triangle TPGH  
or TPGH Inserts



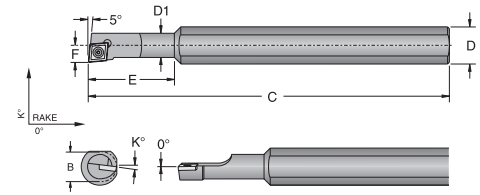
Right hand shown

Description	Order No. Right Hand	Min. Bore B	C	D	E	F	TC_T Gage Insert	Price Each
TPBN06-2	8055-658	0.450	5.00	0.500	1.25	.208		\$ 60.70
TPBN08-2	8055-660	0.590	6.00	0.500	1.50	.287	21.51	62.29
TPBN10-2	8055-662	0.682	8.00	0.625	2.25	.350		63.50
TPBN12-3	8055-664	0.845	10.0	0.750	2.50	.422	322	66.79
TPBN16-3	8055-666	1.115	12.0	1.000	3.00	.555		114.20
TPBN20-3	8055-668	1.370	12.0	1.250	3.50	.682		130.31
TPBN20-4	8055-670	1.370	12.0	1.250	3.50	.682	432	130.31

## MINI S-SCLC R/L Boring Bar

Style L - Negative 5° End & Side Cutting Edge Angle for 7° positive 80° diamond CC\_T inserts

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	D1	E	F	K°	CC_T Gage Insert	Price Each
S06H-SCLCR/L-2	8055-450	8055-451	.394	4.0	.375	.315	1.25	.236	-11°	21.51	\$ 59.54
S08K-SCLCR/L-2	8055-454	8055-455	.550	5.0	.500	.390	1.50	.275	-9°		59.54
S10M-SCLCR/L-2	8055-458	8055-459	.708	6.0	.625	.472	2.00	.354	-7°		70.44

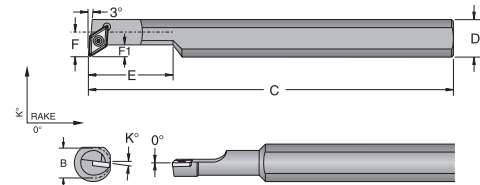


Right hand shown, left hand opposite

## MINI S-SDUC R/L Boring Bar

Style U - Negative 3° End Cutting Edge Angle for 7° positive 55° diamond DC\_T inserts

Description	Order No. Right	Order No. Left	Min. Bore B	C	D	E	F	F1	K°	DC_T Gage Insert	Price Each
S06H-SDUCR/L-2	8055-540		.492	4.0	.375	0.875	.324	.197	-11°	21.51	\$ 64.48
S08K-SDUCR/L-2	8055-544		.610	5.0	.500	1.125	.383	.197	-9°		64.48
S10M-SDUCR/L-2	8055-548		.768	6.0	.625	1.500	.433	.197	-7°		86.37

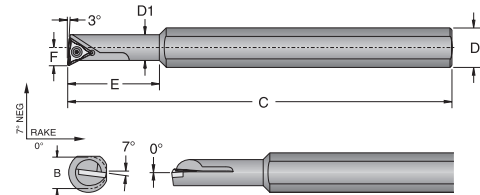


Right hand shown, left hand opposite

## MINI S-STUC R Boring Bar

Style U - Negative 3° End Cutting Edge Angle for 7° positive triangle TC\_T inserts

Description	Order No. Right Hand	Min. Bore B	C	D	D1	E	F	TC_T Gage Insert	Price Each
S06H-STUCR-1.2-2	8055-724	.286	4.0	.375	.265	1.125	.143	52.50	\$ 59.54
S08H-STUCR-1.2-3	8055-726	.313	4.0	.500	.300	1.125	.157		59.54
S08H-STUCR-1.2-4	8055-728	.374	4.0	.625	.358	1.125	.189		59.54

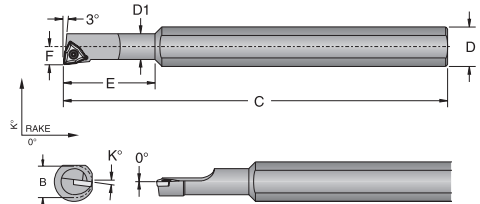


Right hand shown, left hand opposite

## MINI S-SWUC R Boring Bar

Style U - Negative 3° End Cutting Edge Angle for 7° positive 80° trigon WC\_T inserts

Description	Order No. Right Hand	Min. Bore B	C	D	D1	E	F	K°	WC_T Gage Insert	Price Each
S08H-SWUCR-1.2-2	8055-900	0.228	4.0	.50	.197	0.750	.144	-11°	52.50	\$ 59.54
S08H-SWUCR-1.2-3	8055-902	0.308	4.0	.50	.236	1.000	.154	-11°		59.54
S08H-SWUCR-1.2-4	8055-904	0.374	4.0	.50	.300	1.125	.189	-11°		59.54

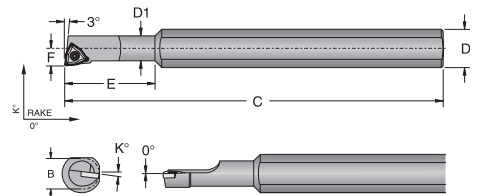


Right hand shown, left hand opposite

## MINI S-SWUC R Boring Bar

Style U - Negative 3° End Cutting Edge Angle for 7° positive 80° trigon WC\_T inserts

Description	Order No. Right Hand	Min. Bore B	C	D	D1	E	F	K°	WC_T Gage Insert	Price Each
S06H-SWUCR-2	8055-906	.394	4.0	.375	.315	1.25	.236	-11°	21.51	\$ 59.54
S08K-SWUCR-2	8055-907	.550	5.0	.500	.390	1.50	.275	-9°		59.54
S10M-SWUCR-2	8055-908	.708	6.0	.625	.472	2.00	.354	-7°		70.44



Right hand shown, left hand opposite

**Jet-Stream™ Thru Coolant Turning & Boring Tools**

Dorian Tool's Jet-Stream™ Thru Coolant Cutting Tools use a patented thru-coolant locking clamp which is precisely aimed to direct high pressure, high velocity coolant exactly onto the cutting edge of the carbide insert, from a short distance of 1/4".

This controlled Jet-Stream coolant, directed onto the insert/chip interface (right under the chip and over the insert cutting edge) will dissipate the generated heat very effectively as well as lubricate the cutting edge of

the insert, causing the chips to hydroplane over the insert surface instead of adhering to it. As a result, the insert will operate at a constant low temperature, with a clean and undamaged cutting edge, changing the way metal is cut.

Higher speeds and feeds can be achieved, with a better surface finish, tolerance control and machining performance. The insert life is extended up to 200%.

2



ADCLN Description	Order No.		Shank Size	CNM_Gage Insert	Price Each
	R.H.	L.H.			
ADCLNR/L-12-4B	8053-000	8053-001	0.75	432	\$ 127.88
ADCLNR/L-16-4D	8053-002	8053-003	1.00	432	147.60
ADCLNR/L-20-4D	8053-004	8053-005	1.25	432	156.87



AS-ADCLN Description	Order No.		Bar Dia.	Min. Bore	CNM_Gage Insert	Price Each
	R.H.	L.H.				
AS-12R-ADCLNR/L-3	8053-120	8053-121	0.75	1.000	322	\$ 235.95
AS-16R-ADCLNR/L-4	8053-122	8053-123	1.00	1.280	432	290.40
AS-20S-ADCLNR/L-4	8053-124	8053-125	1.25	1.530	432	326.70
AS-24S-ADCLNR/L-4	8053-126	8053-127	1.50	1.780	432	344.85
AS-32T-ADCLNR/L-4	8053-128	8053-129	2.00	2.562	432	435.60



ADDJN Description	Order No.		Shank Size	DNM_Gage Insert	Price Each
	R.H.	L.H.			
ADDJNR/L-12-4B	8053-018	8053-019	0.75	432	\$ 147.54
ADDJNR/L-16-4D	8053-020	8053-021	1.00	432	158.14
ADDJNR/L-20-4D	8053-022	8053-023	1.25	432	168.08



AS-ADDUN Description	Order No.		Bar Dia.	Min. Bore	DNM_Gage Insert	Price Each
	R.H.	L.H.				
AS-16R-ADDUNR/L-3	8053-137	8053-138	1.00	1.300	332	\$ 290.40
AS-20S-ADDUNR/L-4	8053-139	8053-140	1.25	2.000	432	326.70
AS-24S-ADDUNR/L-4	8053-141	8053-142	1.50	2.250	432	344.85



ADVJN Description	Order No.		Shank Size	VNM_Gage Insert	Price Each
	R.H.	L.H.			
ADVJNR/L-12-3B	8053-081	8053-082	0.75	332	\$ 137.71
ADVJNR/L-16-3D	8053-083	8053-084	1.00	332	158.14
ADVJNR/L-20-3D	8053-085	8053-086	1.25	332	168.08



AS-ADVUN Description	Order No.		Bar Dia.	Min. Bore	VNM_Gage Insert	Price Each
	R.H.	L.H.				
AS-20S-ADVUNR/L-3	8053-189	8053-190	1.25	2.250	332	\$ 374.16
AS-24S-ADVUNR/L-3	8053-191	8053-192	1.50	2.500	332	381.15



ADWLN Description	Order No.		Shank Size	WNM_Gage Insert	Price Each
	R.H.	L.H.			
ADWLN/L-12-4B	8053-095	8053-096	0.75	432	\$ 127.88
ADWLN/L-16-4D	8053-099	8053-100	1.00	432	147.60
ADWLN/L-20-4D	8053-101	8053-102	1.25	432	156.87



AS-ADWLN Description	Order No.		Bar Dia.	Min. Bore	WNM_Gage Insert	Price Each
	R.H.	L.H.				
AS-12R-ADWLN/L-3	8053-198	8053-199	0.75	1.000	332	\$ 235.95
AS-16R-ADWLN/L-4	8053-200	8053-201	1.00	1.280	432	290.40
AS-20S-ADWLN/L-4	8053-202	8053-203	1.25	1.530	432	326.70
AS-24S-ADWLN/L-4	8053-204	8053-205	1.50	1.780	432	344.85
AS-32T-ADWLN/L-4	8053-206	8053-207	2.00	2.000	432	435.60



**New Coatings**

Using the latest and most advanced technology for the coating to give the insert the optimum performance in any milling application and materials.



**Insert Type**

**APKT**



**SDMT**



**TDEX 60°**



**TDEX 45**

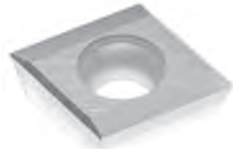


Description	Order No.	Grade	Application	Cutting Condition	Price Each
APKT-1003-PDER -	8094-837	DKAT10V	Non-Ferrous	Finishing	\$ 10.59
APKT-1003-PDER -	8094-840	DPPAT20V	Ferrous	Finishing	10.59
APKT-1003-PDER-1.2-	8094-838	DASK25B	Non-Ferrous	General Purpose	9.23
APKT-1003-PDER-1.2-	8094-841	DASP35B	Ferrous	General Purpose	9.23
APKT-1003-PDER-1.2-	8094-839	DHK425F	Non-Ferrous	Heavy Roughing	9.78
APKT-1003-PDER-1.2-	8094-842	DHP440F	Ferrous	Heavy Roughing	9.76
APKT-1604-PDER-	8094-843	DKAT10V	Non-Ferrous	Finishing	11.82
APKT-1604-PDER-1.2-	8094-846	DPAT20V	Ferrous	Finishing	11.82
APKT-1604-PDER-	8094-844	DASK25B	Non-Ferrous	General Purpose	10.25
APKT-1604-PDER-1.2-	8094-847	DASP35B	Ferrous	General Purpose	10.25
APKX-1604-PDSR-1.2-	8094-848	DHP440F	Ferrous	Heavy Roughing	10.70
ADKT-1505-PDER-	8094-861	DKAT10V	Non-Ferrous	Finishing	11.82
ADKT-1505-PDER-	8094-864	DPAT20V	Ferrous	Finishing	11.82
ADKT-1505-PDER-1.2-	8094-862	DASK25B	Non-Ferrous	General Purpose	10.25
ADKT-1505-PDER-1.2-	8094-865	DASP35B	Ferrous	General Purpose	10.25
ADKT-1505-PDER-1.2-	8094-863	DHK425F	Non-Ferrous	Heavy Roughing	10.70
ADKT-1505-PDSR-1.2-	8094-866	DHP440F	Ferrous	Heavy Roughing	10.70
SDMT-1205-ER-	8095-911	DPAT20V	Ferrous	Finishing	12.14
SDMT-1205-ER-	8095-913	DASP35B	Ferrous	General Purpose	13.28
SDMT-1205-ER-	8095-907	DHP440F	Ferrous	Heavy Roughing	13.28
TDEX-110204-EN	8095-422	DASK25B	Non-Ferrous	General Purpose	13.04
TDEX-110204-EN	8095-426	DASP35B	Ferrous	General Purpose	11.50
TDEX-110204-EN	8095-428	DHP440F	Ferrous	Heavy Roughing	12.51
TDEX-110208-EN	8095-432	DASK25B	Non-Ferrous	General Purpose	13.04
TDEX-110208-EN	8095-436	DASP35B	Ferrous	General Purpose	11.50
TDEX-110208-EN	8095-438	DHP440F	Ferrous	Heavy Roughing	12.51
TDEX-160304-EN	8095-442	DASK25B	Non-Ferrous	General Purpose	14.50
TDEX-160304-EN	8095-446	DASP35B	Ferrous	General Purpose	12.92
TDEX-160304-EN	8095-448	DHP440F	Ferrous	Heavy Roughing	14.32
TDEX-160308-EN	8095-452	DASK25B	Non-Ferrous	General Purpose	14.50
TDEX-160308-EN	8095-456	DASP35B	Ferrous	General Purpose	12.92
TDEX-160308-EN	8095-458	DHP440F	Ferrous	Heavy Roughing	14.32
TDEX-220404-EN	8095-462	DASK25B	Non-Ferrous	General Purpose	19.45
TDEX-220404-EN	8095-466	DASP35B	Ferrous	General Purpose	19.27
TDEX-220404-EN	8095-468	DHP440F	Ferrous	Heavy Roughing	20.33
TDEX-220408-EN	8095-472	DASK25B	Non-Ferrous	General Purpose	19.45
TDEX-220408-EN	8095-476	DASP35B	Ferrous	General Purpose	19.27
TDEX-220408-EN	8095-478	DHP440F	Ferrous	Heavy Roughing	20.33
TDEX-090202-EN	8095-492	DASK25B	Non-Ferrous	General Purpose	11.24
TDEX-090202-EN	8095-495	DASP35B	Ferrous	General Purpose	10.22
TDEX-090202-EN	8095-496	DHP440F	Ferrous	Heavy Roughing	10.22
TDEX-090204-EN	8095-502	DASK25B	Non-Ferrous	General Purpose	11.24
TDEX-090204-EN	8095-505	DASP35B	Ferrous	General Purpose	10.22
TDEX-090204-EN	8095-506	DHP440F	Ferrous	Heavy Roughing	10.22
TDEX-17T304-EN	8095-512	DASK25B	Non-Ferrous	General Purpose	15.84



Insert Type

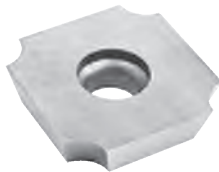
CEHW



TEHW



SDGX



Description	Order No.	Grade	Application	Cutting Condition	Price Each
CEHW-0602-AEEL-	8095-573	DASK25B	Non-Ferrous	General Purpose	\$ 17.51
CEHW-0602-AEEL-	8095-575	DASP35B	Ferrous	General Purpose	16.63
CEHW-0602-AEEL-	8095-576	DHP440F	Ferrous	Heavy Roughing	18.00
CEHW-1204-AEER-	8095-563	DASK25B	Non-Ferrous	General Purpose	22.46
CEHW-1204-AEER-	8095-565	DASP35B	Ferrous	General Purpose	21.52
CEHW-1204-AEER-	8095-566	DHP440F	Ferrous	Heavy Roughing	22.44
CEHW-1204-AEEL-	8095-583	DASK25B	Non-Ferrous	General Purpose	22.46
CEHW-1204-AEEL-	8095-585	DASP35B	Ferrous	General Purpose	21.52
CEHW-1204-AEEL-	8095-586	DHP440F	Ferrous	Heavy Roughing	22.44
TEHW-0602-AEEN-	8095-593	DASK25B	Non-Ferrous	General Purpose	20.53
TEHW-0602-AEEN-	8095-595	DASP35B	Ferrous	General Purpose	19.66
TEHW-0602-AEEN-	8095-596	DHP440F	Ferrous	Heavy Roughing	21.03
SDGX-09C01-E-	8095-299	DASK25B	Non-Ferrous	General Purpose	28.74
SDGX-09C01-E-	8095-298	DASP35B	Ferrous	General Purpose	28.74
SDGX-09C02-E-	8095-303	DASK25B	Non-Ferrous	General Purpose	29.47
SDGX-09C02-E-	8095-302	DASP35B	Ferrous	General Purpose	29.47
SDGX-09C03-E-	8095-307	DASK25B	Non-Ferrous	General Purpose	29.47
SDGX-09C03-E-	8095-306	DASP35B	Ferrous	General Purpose	29.47
SDGX-09C04-E-	8095-311	DASK25B	Non-Ferrous	General Purpose	29.47
SDGX-09C04-E-	8095-310	DASP35B	Ferrous	General Purpose	29.47
SDGX-19C05-E-	8095-250	DASK25B	Non-Ferrous	General Purpose	37.77
SDGX-19C05-E-	8095-248	DASP35B	Ferrous	General Purpose	37.77
SDGX-19C06-E-	8095-254	DASK25B	Non-Ferrous	General Purpose	37.77
SDGX-19C06-E-	8095-252	DASP35B	Ferrous	General Purpose	37.77
SDGX-19C07-E-	8095-258	DASK25B	Non-Ferrous	General Purpose	37.77
SDGX-19C07-E-	8095-256	DASP35B	Ferrous	General Purpose	37.77
SDGX-19C08-E-	8095-262	DASK25B	Non-Ferrous	General Purpose	40.09
SDGX-19C08-E-	8095-260	DASP35B	Ferrous	General Purpose	40.09
SDGX-19C09-E-	8095-266	DASK25B	Non-Ferrous	General Purpose	40.54
SDGX-19C09-E-	8095-264	DASP35B	Ferrous	General Purpose	40.54
SDGX-19C10-E-	8095-270	DASK25B	Non-Ferrous	General Purpose	41.16
SDGX-19C10-E-	8095-268	DASP35B	Ferrous	General Purpose	41.16
SDGX-19C11-E-	8095-274	DASK25B	Non-Ferrous	General Purpose	41.79
SDGX-19C11-E-	8095-272	DASP35B	Ferrous	General Purpose	41.79
SDGX-19C12-E-	8095-278	DASK25B	Non-Ferrous	General Purpose	41.79
SDGX-19C12-E-	8095-276	DASP35B	Ferrous	General Purpose	41.79
SDGX-19C13-E-	8095-282	DASK25B	Non-Ferrous	General Purpose	42.45
SDGX-19C13-E-	8095-280	DASP35B	Ferrous	General Purpose	42.45
SDGX-19C14-E-	8095-286	DASK25B	Non-Ferrous	General Purpose	42.45
SDGX-19C14-E-	8095-284	DASP35B	Ferrous	General Purpose	42.45
SDGX-19C15-E-	8095-290	DASK25B	Non-Ferrous	General Purpose	41.23
SDGX-19C15-E-	8095-288	DASP35B	Ferrous	General Purpose	41.23
SDGX-19C16-E-	8095-294	DASK25B	Non-Ferrous	General Purpose	41.23
SDGX-19C16-E-	8095-292	DASP35B	Ferrous	General Purpose	41.23

<b>HIGH POSITIVE 90° MILLING CUTTER</b>  Cutting Rake - 20° for 11° positive 85° parallelogram AP__ inserts		<b>End Mills</b> Description	C	D	Shank Size	F	H	Insert Qty.	APKT Gage Insert	Order No.	Price Each	
		E90-100-AP16-075 E90-100-AP16-100 E90-125-AP16-100 E90-150-AP16-100 E90-150-AP16-125 E90-200-AP16-125 E90-200-AP16-R8	4.000 4.500 4.500 4.500 4.500 4.500 5.625	1.00 1.00 1.25 1.50 1.50 2.00 2.00	0.75 1.00 1.00 1.00 1.25 1.25 R8	.618 .618 .618 .618 .618 .618 .618	1.625 1.750 1.625 1.625 1.625 1.625 1.640	2 2 3 3 3 4 4	1604	8065-646 8065-648 8065-650 8065-652 8065-654 8065-656 8065-658	\$ 151.11 151.11 176.30 203.58 203.58 281.24 303.27	
		<b>Face Mills</b> Description	C	D	Shank Size	F	H	H1	Insert Qty.	APKT Gage Insert	Order No.	Price Each
		E90A-200-AP16-075 E90A-250-AP16-100 E90A-300-AP16-100 E90A-400-AP16-150 E90A-500-AP16-150	1.570 0.750 1.750 2.000 2.380	2.00 2.50 3.00 4.00 5.00	0.750 1.000 1.000 1.500 1.500	.618 .618 .618 .618 .618	.187 .219 .219 .375 .375	.312 .375 .375 .625 .625	4 5 6 8 10	1604	8065-662 8065-664 8065-666 8065-668 8065-670	207.78 271.79 342.11 433.40 520.51

<b>EXTENDED 90° MILLING CUTTER</b>  Cutting Rake - 20° for 11° positive 85° parallelogram AP__ inserts		<b>End Mills</b> Description	O.A.L.	D	Shank Size	F	H	Insert Qty.	Flutes Qty.	APKT Gage Insert	Order No.	Price Each	
		EX90-075-AP10-075 EX90-100-AP10-100 EX90-125-AP10-125	3.50 4.25 4.50	0.75 1.00 1.25	0.75 1.00 1.25	1.125 1.500 1.875	1.500 1.875 2.125	4 8 12	1 2 4	1003	8065-680 8065-682 8065-684	\$ 425.59 494.38 669.28	
		<b>Face Mills</b> Description	O.A.L.	D	Shank Size	F	H	H1	Insert Qty.	Flutes Qty.	APKT Gage Insert	Order No.	Price Each
		EX90A-200-AP16-100 EX90A-250-AP16-100 EX90A-300-AP16-125 EX90A-400-AP16-150 EX90A-500-AP16-150	2.00 2.50 2.50 2.50 2.50	2.00 2.50 3.00 4.00 5.00	1.00 1.00 1.25 1.50 1.50	1.00 1.75 1.75 1.75 1.75	.219 .219 .281 .375 .375	.375 .375 .500 .625 .625	6 12 15 18 24	3 4 5 6 8	1604	8065-690 8065-692 8065-694 8065-696 8065-698	312.49 482.72 694.94 900.15 1,161.34

<b>Spare Parts Milling Insert Torx Screw</b> 	Description Order No. PKG. Price Each	TS-06 TS-25.45-6M2 TS-4.7-6M1	8091-306 8090-972 8090-975	10	\$ 2.71 2.68 2.95
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Description Order No. PKG. Price Each	TS-4.7-8M1 TS-4.7-10M1 TS-1032-5M1 TS-5.8-10M1	8090-976 8090-982 8090-960 8090-986	10	\$ 2.95 2.84 3.71 4.16
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<b>15° CNMG RECYCLE MILLING CUTTER</b>  Cutting Rake - Negative 7° for negative 80° diamond CN__ inserts		<b>RECYCLE MILLING CUTTER</b>  After the cutting edges are used on your turning toolholder, do not throw the insert away. It can be used in these milling cutters to utilize four more cutting edges that were not used in your lathe work.											
		<b>End Mills</b> Description	C	D	D1	Shank Size	F	H	Insert Qty.	CNMG Gage Insert	Order No.	Price Each	
		REC15-200-CN4-075 REC15-200-CN4-100 REC15-200-CN4-R8	3.750 4.000 5.625	2.0 2.0 2.0	2.25 2.25 2.25	0.75 1.00 R8	.45 .45 .45	1.50 1.50 1.75	3 3 3	432	8065-850 8065-852 8065-854	173.73 173.73 219.21	
		<b>Face Mills</b> Description	C	D	D1	Shank Size	F	H	H1	Insert Qty.	CNMG Gage Insert	Order No.	Price Each
		REC15A-300-CN4-100 REC15A-400-CN4-150 REC15A-500-CN4-150	1.750 2.000 2.000	3.0 4.0 5.0	3.23 4.23 5.23	1.00 1.50 1.50	.45 .45 .45	.250 .375 .375	.375 .625 .625	4 5 6	432	8065-856 8065-858 8065-860	380.12 481.56 578.34

<b>90° FACE MILL</b>  Cutting Rake - 15° for 15° positive square SDMT inserts  <b>4 Cutting Edges</b>		Description	C	D	Shank Size	F	H	H1	Insert Qty.	SDMT Gage Insert	Order No.	Price Each
		M172D150 M172D200 M172D250 M172D300 M172D400	1.58 1.58 1.58 1.97 1.97	1.58 1.97 2.48 3.14 3.94	0.75 1.00 1.00 1.50 1.50	0.50 0.50 0.50 0.50 0.50	.187 .250 .250 .375 .375	.312 .375 .375 .625 .625	4 5 6 7 8	1205	8065-460 8065-461 8065-462 8065-463 8065-464	\$ 321.42 326.81 362.71 475.85 536.90

<b>CHAMFER MILL</b>  Cutting Rake - 11° for 11° positive triangle TPHT inserts		Description	O.A.L.	Shank Size	D	D1	F	H	Insert Qty.	TPHT Gage Insert	Order No.	Price Each
		30° C30-062-TP3-075 45° C45-075-TP3-075 60° C60-100-TP3-075	3.500 3.500 3.500	0.625 0.750 1.000	1.600 1.517 1.560	0.750 0.750 0.750	.275 .392 .484	1.25 1.25 1.25	2 2 2	32.52	8065-400 8065-402 8065-404	\$ 101.44 101.44 101.44

<p><b>45° DOVETAIL CUTTER</b></p> <p>Cutting Rake - 11° for 11° positive TDEX inserts.</p>		Description	C	D	Shank Size	F	H	Insert Qty.	TDEX Gage Insert	Order No.	Price Each
		D45X-050-TD09-037	2.39	0.500	0.375	.247	.125	1		8065-233	\$ 94.91
		D45X-075-TD09-037	2.39	0.750	0.375	.247	.214	2	090202	8065-234	128.26
		D45X-100-TD09-050	2.39	1.000	0.500	.250	.244	3		8065-235	164.18
		D45X-137-TD17-062	2.94	1.375	0.625	.375	.320	2	17T304	8065-236	182.13
		D45X-187-TD17-075	2.94	1.875	0.750	.468	.444	3		8065-237	212.92
		D45X-225-TD25-100	3.50	2.250	1.000	.700	.696	2	250404	8065-238	269.35
D45X-250-TD25-100	3.50	2.500	1.000	.700	.700	3		8065-239	297.56		

<p><b>60° DOVETAIL CUTTER</b></p> <p>Cutting Rake - 15° for 15° positive triangle TDEX inserts.</p>		Description	C	D	Shank Size	F	H	Insert Qty.	TDEX Gage Insert	Order No.	Price Each
		D60X-050-TD11-037	2.390	0.500	0.375	.325	.142	1		8065-244	\$ 94.91
		D60X-075-TD11-037	2.390	0.750	0.375	.325	.282	2	110204	8065-245	128.26
		D60X-100-TD11-050	2.390	1.000	0.500	.325	.375	3		8065-246	164.18
		D60X-137-TD16-062	2.862	1.375	0.625	.510	.550	3	160308	8065-247	182.13
		D60X-187-TD16-075	3.000	1.875	0.750	.510	.550	3		8065-248	212.92
		D60X-225-TD22-100	3.500	2.250	1.000	.700	.750	3		8065-249	269.35
D60X-250-TD22-100	3.500	2.500	1.000	.700	.750	3	220408	8065-250	297.56		

<p><b>DOUBLE 45° CHAMFER MILL</b></p> <p>Cutting Rake - 15° for 15° positive square SD__ inserts</p>		Description	C	D	D1	Shank Size	F	H	Insert Qty.	SDGW Gage Insert	Order No.	Price Each
		C45-112-SD09-075	3.375	0.625	1.125	0.750	0.230	0.750	2		8065-414	\$ 101.44
		C45-125-SD09-075	3.375	0.772	1.250	0.750	0.230	0.750	2		8065-416	104.94
		C45-150-SD09-100	3.500	1.040	1.500	1.000	0.230	1.000	3	090308	8065-418	115.43
		C45XL-112-SD09-075	7.75	0.625	1.125	0.750	0.230	0.750	2		8065-420	161.61
		C45XL-150-SD09-100	7.75	1.040	1.500	1.000	0.230	1.000	3		8065-421	198.22
		Cutting Rake - 15° for 15° positive square SPHX inserts									Insert Qty.	SPHX Gage Insert
C45-062-SP06-062	3.000	0.325	0.625	0.625	0.159	0.750	1		8065-410	90.95		
C45-075-SP06-062	3.000	0.448	0.750	0.625	0.159	0.750	2	060304	8065-411	96.20		
C45XL-062-SP06-062	7.75	.0325	0.625	0.625	0.159	0.750	2		8065-409	131.44		

<p><b>T-SLOT CUTTER</b></p> <p>Cutting Rake - 20° for positive TEHW/CEHW inserts</p>		Description	C	D	Shank Size	F	H	N	Insert Qty.	Gage Insert	Order No.	Price Each
		SLOT-066-TE06-050	2.688	0.656	0.50	0.266	0.81	0.328	2	TEHW-0602	8065-172	\$ 132.92
		SLOT-078-CE06-075	3.250	0.781	0.75	0.328	1.04	0.406	2/2		8065-173	160.91
		SLOT-097-CE06-075	3.438	0.969	0.75	0.390	1.30	0.531	2/2	CEHW-0602	8065-174	172.57
		SLOT-125-CE06-100	3.938	1.250	1.00	0.484	1.48	0.656	3/3		8065-175	195.89
		SLOT-147-CE06-100	4.438	1.469	1.00	0.625	2.01	0.781	2/2		8065-180	219.21
		SLOT-184-CE12-125	4.813	1.844	1.25	0.828	2.42	1.031	2/2		8065-177	242.53
		SLOT-222-CE12-125	5.375	2.219	1.25	1.094	3.08	1.281	3/3	CEHW-1204	8065-178	289.17
		SLOT-266-CE12-125	5.906	2.656	1.25	1.344	3.48	1.531	4/4		8065-179	335.81

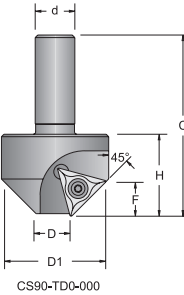
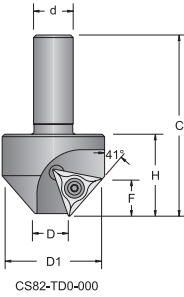
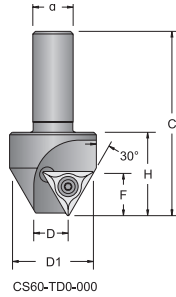
<p><b>15° DOVETAIL CUTTER</b></p> <p>Cutting Rake - 15° for 15° positive TDEX inserts.</p>		Description	C	D	Shank Size	F	H	Insert Qty.	TDEX Gage Insert	Order No.	Price Each
		D15X-050-TD11-037	2.42	0.500	0.375	.359	0.42	1		8065-225	\$ 94.91
		D15X-100-TD11-050	2.42	1.000	0.500	.359	0.42	3	110204	8065-226	164.18
		D15X-187-TD16-075	3.20	1.875	0.750	.550	0.75	3	160308	8065-227	212.92
		D15X-250-TD22-100	3.75	2.500	1.000	.750	1.00	3	220408	8065-228	297.56

<p><b>CONVEX RADIUS CUTTER</b></p> <p>Cutting Rake - 15° for 15° positive square convex radius SDGX inserts</p>		Description	C	D	D1	Shank Size	H	R-Range Min.	R-Range Max.	Insert Qty.	SDGX Insert	Order No.	Price Each
		QV-062-S304-050	3.000	0.625	0.503	0.500	1.000	.0156	.0625	1		8065-101	\$ 114.27
		QV-062-S304-062	3.250	0.625	0.503	0.625	1.000	.0156	.0625	1	09C_	8065-103	114.27
		QV-100-S608-075	3.500	1.000	0.754	0.750	1.000	.0781	.1250	1		8065-118	144.58
		QV-100-S608-100	3.625	1.000	0.754	1.000	1.125	.0781	.1250	1		8065-120	132.92
		QV-200-S608-100	3.750	2.000	1.750	1.000	1.250	.0781	.1250	3		8065-122	254.19
		QV-100-S612-075	3.500	1.000	0.632	0.750	1.000	.1406	.1875	1		8065-124	144.58
		QV-100-S612-100	3.625	1.000	0.632	1.000	1.125	.1406	.1875	1	19C_	8065-126	132.92
		QV-100-S616-075	3.500	1.000	0.510	0.750	1.000	.2031	.2500	1		8065-130	144.58
		QV-100-S616-100	3.625	1.000	0.510	1.000	1.125	.2031	.2500	1		8065-132	132.92
QV-200-S616-100	3.750	2.000	1.500	1.000	1.250	.2031	.2500	3		8065-134	254.19		



**COUNTERSINK**

Cutting Rake -  
11° & 15° for  
11° & 15° positive  
triangle TDGH &  
TPGH inserts



**60° Countersink For Manual Machines**

Description	C	d	D	D1	F	H	Insert Qty.	TDGH & TPGH Gage Insert	Insert Torx Screw	Torx Key	Order No.	Price Each
CS60-TD5-037	2.00	.375	.125	0.375	.227	0.375	1	TDGH 520	TS-06	T-6	8065-300	\$ 79.29
CS60-TD2-037	2.25	.375	.250	0.750	.336	1.000	1	TDGH 21.51	TS-25.45-6M1	T-8	8065-302	86.28
CS60-TD3-050	2.50	.500	.500	1.250	.523	1.000	1	TDGH 321	TS-4.7-8M1	T-15	8065-304	123.60
CS60-TP3-075	3.50	.750	.600	2.500	.523	1.250	1	TPGH 321	TS-4.7-8M1	T-15	8065-307	158.58

**82° Countersink For Manual Machines**

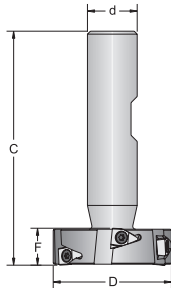
Description	C	d	D	D1	F	H	Insert Qty.	TDGH & TPGH Gage Insert	Insert Torx Screw	Torx Key	Order No.	Price Each
CS82-TD5-037	2.00	.375	.125	0.469	.197	0.375	1	TDGH 520	TS-06	T-6	8065-308	\$ 79.29
CS82-TD2-037	2.25	.375	.250	0.687	.291	1.000	1	TDGH 21.51	TS-25.45-6M1	T-8	8065-310	86.28
CS82-TD3-050	2.50	.500	.500	1.250	.455	1.000	1	TDGH 321	TS-4.7-8M1	T-15	8065-312	123.60
CS82-TP3-050	3.50	.750	.600	2.500	.455	1.250	1	TPGH 321	TS-4.7-8M1	T-15	8065-315	158.58

**90° Countersink For Manual Machines**

Description	C	d	D	D1	F	H	Insert Qty.	TDGH & TPGH Gage Insert	Insert Torx Screw	Torx Key	Order No.	Price Each
CS90-TD5-037	2.00	.375	.125	0.500	.185	0.375	1	TDGH 520	TS-06	T-6	8065-316	\$ 79.29
CS90-TD2-037	2.25	.375	.250	0.750	.272	1.000	1	TDGH 21.51	TS-25.45-6M1	T-8	8065-318	86.28
CS90-TD3-050	2.50	.500	.500	1.250	.426	1.000	1	TDGH 321	TS-4.7-8M1	T-15	8065-320	123.60
CS90-TD3-075	3.50	.750	.560	2.500	.426	1.250	1	TPGH 321	TS-4.7-8M1	T-15	8065-323	158.58

**WOODRUFF KEY SEAT CUTTER**

Cutting Rake -  
20° for positive  
TEHW inserts



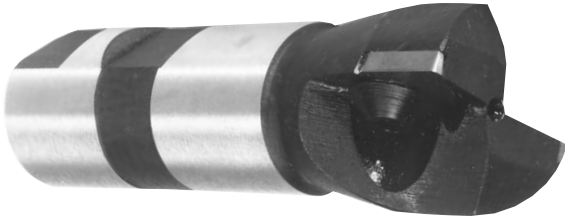
American Standard Size	Description	C	D	d	F	Insert Qty.	TEHW Gage Insert	Insert Torx Screw	Torx Key	Order No.	Price Each
606	DWKC-606-TEO6-050	2.188	0.750	0.500	0.188	2				8065-140	\$ 114.27
806	DWKC-806-TEO6-050	2.250	0.750	0.500	0.250	2	0602	TS-06	T-6	8065-141	114.27
607	DWKC-607-TEO6-050	2.188	0.875	0.500	0.188	2				8065-142	115.43
707	DWKC-707-TEO6-050	2.219	0.875	0.500	0.219	2	0602	TS-06	T-6	8065-143	115.43
807	DWKC-807-TEO6-050	2.250	0.875	0.500	0.250	2				8065-144	115.43
608	DWKC-608-TEO6-050	2.188	1.000	0.500	0.188	3				8065-145	121.26
708	DWKC-708-TEO6-050	2.219	1.000	0.500	0.219	3				8065-146	121.26
808	DWKC-808-TEO6-050	2.250	1.000	0.500	0.250	3	0602	TS-06	T-6	8065-147	121.26
1008	DWKC-1008-TEO6-050	2.313	1.000	0.500	0.313	3				8065-148	121.26
1208	DWKC-1205-TEO6-050	2.375	1.000	0.500	0.375	3				8065-149	121.26
609	DWKC-609-TEO6-050	2.188	1.125	0.500	0.188	4				8065-150	162.07
709	DWKC-709-TEO6-050	2.219	1.125	0.500	0.219	4				8065-151	162.07
809	DWKC-809-TEO6-050	2.250	1.125	0.500	0.250	4	0602	TS-06	T-6	8065-152	162.07
1009	DWKC-1009-TEO6-050	2.313	1.125	0.500	0.313	4				8065-153	162.07
610	DWKC-610-TEO6-050	2.188	1.250	0.500	0.188	6				8065-154	162.07
710	DWKC-710-TEO6-050	2.219	1.250	0.500	0.219	6				8065-155	162.07
810	DWKC-810-TEO6-050	2.250	1.250	0.500	0.250	6	0602	TS-06	T-6	8065-156	162.07
1010	DWKC-1010-TEO6-050	2.313	1.250	0.500	0.313	6				8065-157	162.07
1210	DWKC-1210-TEO6-050	2.375	1.250	0.500	0.375	6				8065-158	173.73
811	DWKC-811-TEO6-050	2.250	1.375	0.500	0.250	6				8065-159	173.73
1011	DWKC-1011-TEO6-050	2.313	1.375	0.500	0.313	6	0602	TS-06	T-6	8065-160	208.71
1211	DWKC-1211-TEO6-050	2.375	1.375	0.500	0.375	6				8065-161	208.71
812	DWKC-812-TEO6-050	2.250	1.500	0.500	0.250	6				8065-162	232.03
1012	DWKC-1012-TEO6-050	2.313	1.500	0.500	0.313	6	0602	TS-06	T-6	8065-163	232.03
1212	DWKC-1212-TEO6-050	2.375	1.500	0.500	0.375	6				8065-164	232.03

# Indexable End Mills & Countersinks

2

All tools supplied without inserts

Positive Rake, 90°, Right Hand Cut



## Indexable End Mill Sets

SHANK	SIZES IN SET	ORDER NO.	PRICE EACH
1	1-1/4, 1-1/2, & 2	2874-515	\$147.69
R-8	1-1/4, 1-1/2, & 2	2874-525	157.46
R-8	2, 2-1/2, & 3	2874-535	224.82
40 STD	2, 2-1/2, & 3	2874-545	286.52



DIA.	SHANK	NO. OF INSERTS	INSERT STYLE	ORDER NO.	PRICE EACH
1	R-8	2	TPG-22	2874-010	\$ 36.92
1-1/4	R-8	2	TPG-32	2874-020	44.31
1-1/2	R-8	3	TPG-32	2874-030	59.08
1-3/4	R-8	3	TPG-32	2874-040	64.33
2	R-8	3	TPG-32	2874-050	75.41
2-1/2	R-8	4	TPG-32	2874-060	87.11
3	R-8	5	TPG-32	2874-070	90.67
3/4	3/4	2	TPG-21	2874-120	31.10
1	3/4	2	TPG-22	2874-130	37.66
1-1/4	3/4	2	TPG-22	2874-140	42.58
1-1/2	3/4	3	TPG-32	2874-150	54.15
1-3/4	3/4	3	TPG-32	2874-160	65.56
2	3/4	3	TPG-32	2874-170	68.84
1	1	2	TPG-32	2874-180	36.92
1-1/4	1	2	TPG-32	2874-190	44.23
1-1/2	1	3	TPG-32	2874-200	52.43
1-3/4	1	3	TPG-32	2874-210	64.00
2	1	3	TPG-32	2874-220	64.00
2	30 STD	3	TPG-32	2874-080	97.64
2	40 STD	3	TPG-32	2874-090	90.26
2-1/2	40 STD	4	TPG-32	2874-100	96.82
3	40 STD	5	TPG-32	2874-110	131.20

## Spare Parts for Indexable End Mills

DIA.	LOCKING SCREW ITEM NO.	PRICE EACH	HEX WRENCH ITEM NO.	PRICE EACH
1/2	2870-475	\$7.70	2870-495	\$0.36
3/4, 7/8, & 1	2870-480	4.73		
	2870-485	4.68		
OTHER SIZES	2870-490	4.87	2870-500	1.18

Tools furnished without inserts

Only one spare part per End Mill

# Indexable Countersink & Chamfering Tool



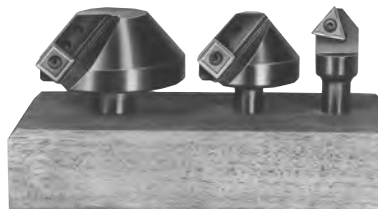
MADE IN USA

- Positive Rake For Smooth Cutting – Without Chatter
- Carbide Indexable – No Tool Resharpener Needed
- C-6 Carbide Insert & Torx® Wrench Included w/Each Tool
- Uses Standard Triangle And Square Inserts



Single Tool

CUTTER BODY			SHANK SIZE	USE INSERT NO.	COMPLETE TOOL	
MIN.	MAX.	ORDER NO.			PRICE EACH	
<b>60° POINT ANGLE</b>						
1/4	3/4	1/2	2861-701/711		2861-416	\$95.35
1/2	1-3/4	1/2			2861-432	139.75
1-1/4	2-1/2	3/4			2861-480	183.10
<b>82° POINT ANGLE</b>						
1/4	3/4	1/2	2861-702/712		2861-516	\$95.35
1/2	1-3/4	1/2			2861-532	139.75
1-1/4	2-1/2	3/4			2861-580	183.10
<b>90° POINT ANGLE</b>						
1/4	3/4	1/2	2861-702/712		2861-616	\$95.35
1/2	1-3/4	1/2			2861-632	139.75
1-1/4	2-1/2	3/4			2861-680	183.10



## Carbide Inserts

INSERT STYLE	RAD.	L.C.	THICK-NESS	C-5 & C-6		TIN COATED	
				ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
Triangle	1/64	3/8	1/8	2861-701	\$6.84	2861-711	\$8.34
Square	3/18	1/2	1/8	2861-702	11.94	2861-712	14.34

**SETS**

**3-PIECE SET**

Contains 1 Piece Each:  
1/4, 1/2 and 1-1/4 (Min.)  
Inserts Included with Each Set  
Supplied in Wood Block  
Order No. 2861-720 – 60° SET  
Order No. 2861-721 – 82° SET  
Order No. 2861-722 – 90° SET  
SET PRICE –\$423.60

## Replacement Parts

DESCRIPTION	ORDER NUMBER	PRICE EACH
Flat Head Cap Screw	2861-715	\$0.42

*\*Complete Line of Sizes Available*

**Finger Clamps**



Desc.	Order No.	Price	B	C	D	E	G	Thread
CL-5	8090-680	\$8.46	.280	.52	.350	.102	—	10-32
CL-6	8090-681	\$8.46	.310	.58	.440	.187	.094	10-32
CL-7	8090-682	\$8.46	.310	.64	.310	.082	—	10-32
CL-9	8090-683	\$9.16	.430	.75	.660	.344	.125	5/16-24
CL-12	8090-684	\$9.16	.430	.88	.660	.344	.125	5/16-24
CL-19	8090-685	\$8.11	.310	.55	.310	.062	—	10-32
CL-20	8090-686	\$9.16	.375	.73	.380	.125	—	1/4-28
CL-24	8090-687	\$12.27	.491	1.0	.785	.453	.136	3/8-24
CL-30	8090-688	\$12.27	.430	1.0	.660	.344	.125	5/16-24

**Pos. Lock Pins**



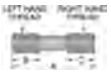
Desc.	Order No.	Price	Insert I.C.	Nominal Length	Hex Wrench Size
PL-46	8090-495	\$7.38	.500	.672	3/32
PL-58	8090-496	\$13.20	.625	.859	1/8
PL-68	8090-497	\$13.52	.750	.859	9/64

**Neg. Lock Pins**



Desc.	Order No.	Price	Insert I.C.	Nominal Length	Thread	Hex Wrench Size
<b>Inch</b>						
NL-23	8090-472	\$6.30	.250	.328	8-32	1/16
NL-33	8090-473	\$6.30	.375	.344	10-32	5/64
NL-33L	8090-474	\$6.30	.375	.406	10-32	5/64
NL-34	8090-475	\$6.30	.375	.453	10-32	5/64
NL-34L	8090-476	\$6.30	.375	.516	10-32	5/64
NL-43	8090-477	\$7.22	.500	.420	10-32	5/64
NL-44	8090-478	\$7.22	.500	.516	1/4-28	3/32
NL-46	8090-479	\$7.22	.500	.672	1/4-28	3/32
NL-46L	8090-480	\$7.22	.500	.730	1/4-28	3/32
NL-56	8090-481	\$7.54	.625	.703	5/16-24	1/8
NL-57	8090-482	\$9.43	.625	.810	5/16-24	1/8
NL-58	8090-483	\$7.54	.625	.859	5/16-24	1/8
NL-58L	8090-484	\$9.43	.625	.890	5/16-24	1/8
NL-66	8090-485	\$8.33	.750	.703	3/8-24	9/64
NL-66L	8090-486	\$8.33	.750	.828	3/8-24	9/64
NL-68	8090-487	\$8.33	.750	.859	3/8-24	9/64
NL-68L	8090-488	\$8.33	.750	.953	3/8-24	9/64
NL-808	8090-489	\$11.02	1.00	.940	7/16-20	5/32
NL-810	8090-490	\$11.07	1.00	1.17	7/16-20	5/32
<b>Metric</b>						
S535	8091-320	\$6.20	09	5	-	2,5
S635	8091-321	\$6.20	12	6	-	3,0
S840	8091-322	\$6.83	16	8	-	3,0
S990	8091-323	\$7.44	19	10,5	-	3,0
P0502	8091-324	\$13.44	16	16	-	—
P0602	8091-325	\$13.44	08	15	-	—

**Finger Clamp Screws**



Desc.	Order No.	Price	A	B	C	Thread Size	Hex Wrench Size
XNS-26	8090-900	\$3.60	0.750	.31	.31	8-32	5/64
XNS-35	8090-901	\$2.70	0.625	.22	.22	10-32	3/32
XNS-36	8090-902	\$2.70	0.750	.25	.25	10-32	3/32
XNS-37	8090-903	\$2.70	0.840	.31	.31	10-32	3/32
XNS-38	8090-904	\$2.70	1.000	.37	.37	10-32	3/32
XNS-46	8090-905	\$2.86	0.750	.31	.31	1/4-28	1/8
XNS-47	8090-906	\$2.86	0.875	.28	.28	1/4-28	1/8
XNS-48	8090-907	\$2.86	1.000	.37	.37	1/4-28	1/8
XNS-58	8090-910	\$3.02	1.000	.50	.28	5/16-24	5/32
XNS-59	8090-911	\$3.02	1.125	.47	.41	5/16-24	5/32
XNS-510	8090-908	\$3.02	1.250	.50	.50	5/16-24	5/32
XNS-610	8090-912	\$6.15	1.250	.50	.50	3/8-24	3/16

**Seat Screws**



Desc.	Order No.	Price	I.C.	Thread	Hex Wrench Size
<b>Inch</b>					
S-34	8091-295	\$1.01	.375	10-32	5/64
S-46	8091-296	\$1.01	.500	1/4-28	3/32
S-58	8091-297	\$1.54	.625	5/16-24	1/8
S-68	8091-298	\$1.75	.750	3/8-24	9/64
<b>Metric</b>					
V83006	8091-327	\$5.09	16	M3	2,5
B0509	8091-328	\$5.09	11-16	M5	3,5
B0609	8091-329	\$5.09	12	M6	4,0

**Bridge Clamps**



Desc.	Order No.	Price	L	D	H
HC-7	8090-915	\$6.25	.469	.313	.172
HC-9	8090-917	\$6.87	.625	.375	.203
HC-12	8090-919	\$9.07	.812	.500	.266

**Wedge Clamp Screws**



Desc.	Order No.	Price	Length	Thread	Hex Wrench Size
V6016	8091-336	\$16.51	23	M5	2,5
V8008N	8091-337	\$16.51	23	M6	3,0

**Standard Packs of 10 Must Be Ordered For All Spare Parts**

### Clamp Pin & Spring



Desc.	Order No.	Price
<b>Profiling Clamp Pin</b>		
SC510	80-91330	\$8.07
<b>Spring</b>		
M428	80-91331	\$4.36

### Clamps



Desc.	Order No.	Price
<b>Wedge Lock Clamps</b>		
C6016N	80-91332	\$27.28
C8008N	80-91333	\$27.28
<b>Profiling Clamps</b>		
SKN16R	80-91334	\$15.23
SKN16L	80-91335	\$15.23

### Turning Insert Torx Screw



Desc.	Order No.	Price	I.C.	Torx Key
TS-25.45-6M1	80-90970	\$2.84	.250	T-7
TS-3.5-7M1	80-90971	\$3.14	.315	T-8
TS-35.6-9M1	80-90973	\$2.84	.394	T-15
TS-4.7-10M1	80-90982	\$3.20	.375	T-15
TS-1032-4M1	80-90956	\$3.16	.500	T-20
TS-5.8-10M1	80-90986	\$4.16	.750	T-20

### Bridge Clamp Screws



Desc.	Order No.	Price	Length	Thread	Hex Wrench Size
SHC-7	80-90920	\$1.34	.375	8-32	3/32
CS-94	80-90921	\$2.08	.580	10-32	1/8
CS-96	80-90923	\$1.95	.840	10-32	1/8
CS-126	80-90925	\$2.54	.860	1/4-28	5/32

### Torx Keys



Desc.	Order No.	Price
T-6	80-92001	\$4.80
T-7	80-92002	\$4.45
T-8	80-92003	\$4.45
T-9	80-92004	\$4.45
T-10	80-92005	\$8.20

Desc.	Order No.	Price
T-15	80-92006	\$4.45
T-20	80-92007	\$9.19
T-25	80-92008	\$6.00

### Bridge Clamp Screw Clip



Desc.	Order No.	Price	Length
CLP-9	80-90928	\$1.48	.312
CLP-12	80-90930	\$1.48	.422

### Lever Locks



Desc.	Order No.	Price
LV01	80-91338	\$10.92
LV02	80-91339	\$10.92
LV05	80-91340	\$11.82
LV06	80-91341	\$20.91
LV09	80-91342	\$21.60

### Lever Screws



Desc.	Order No.	Price	Lever	Hex Wrench Size
V0601	80-91344	\$10.10	LV01	3.0
V0802	80-91345	\$10.10	LV02	3.0
V0805	80-91346	\$10.10	LV05	3.0
V1006	80-91347	\$10.72	LV06	4.0
V1209	80-91348	\$12.74	LV09	4.0

### Boring Insert Torx Screw



Desc.	Order No.	Price	I.C.	Torx Key
TS-18.35-1M1	80-91304	\$2.84	.156	T-6
TS-18.35-1.5M1	80-91305	\$2.84	.188	T-6
TS-06	80-91306	\$2.71	.156	T-6
TS-25.45-6M1	80-90970	\$2.84	.250	T-7
TS-4.7-8M1	80-90976	\$2.84	.375	T-15
TS-4.7-10M1	80-90982	\$3.20	.375	T-15
TS-44-3-M	80-90937	\$2.84	.375	T-10
TS-44-4-M	80-90939	\$2.84	.375	T-10
TS-1032-4M1	80-90956	\$3.16	.500	T-20
TS-83-4M1	80-90950	\$3.16	.500	T-20
TS-5.8-10M1	80-90986	\$4.16	.750	T-20

### Pos. Seat Screw



Desc.	Order No.	Price	I.C.	Hex Wrench Size
TS-4	80-90931	\$2.44	.375 or .500	T-10
TS-6	80-90944	\$2.60	.500 or .750	T-20

### Triangle Chipbreakers



Desc.	Order No.	Price	I.C.	Effective Width W
T2AC	80-90446	\$4.66	.250	.060
T3AC	80-90452	\$5.09	.375	.060
T3AE	80-90453	\$5.09	.375	.090
T3AG	80-90454	\$5.09	.375	.125
T4AC	80-90459	\$6.57	.500	.060
T4AE	80-90460	\$6.57	.500	.090
T4AG	80-90461	\$6.57	.500	.125
T5AG	80-90466	\$8.46	.625	.140
T5AJ	80-90467	\$8.46	.625	.180

### Square Chipbreakers

Desc.	Order No.	Price	I.C.	Effective Width W
S3BC	80-90440	\$4.84	.375	.060
S4BE	80-90442	\$5.88	.500	.060
S6BG	80-90444	\$6.51	.750	.125

### Pos. Square Shim Seats



Desc.	Order No.	Price	A	T	R
SM-40	80-90373	\$6.04	.500	.1250	.0156
SM-36	80-90374	\$7.00	.750	.1250	.0469

**Standard Packs of 10 Must Be Ordered For All Spare Parts**



**Pos. 35° Diamond Shim Seats**

Desc.	Order No.	Price	A	T	R
S3516	80-91350	\$12.05	8,4	3,18	0,8

**Profiling Shim Seats**

Desc.	Order No.	Price	A	T	R
CKN16R	80-91353	\$16.37	14,5	4,76	1,0
CKN16L	80-91354	\$16.37	14,5	4,76	1,0

**Pos. Triangle Shim Seats**

Desc.	Order No.	Price	A	T	R
<i>Inch</i>					
SM-41	80-90367	\$5.65	.332	.1250	.0156
SM-37	80-90366	\$6.36	.452	.1250	.0312
SM-99	80-90371	\$8.85	.540	.1875	.0469
<i>Metric</i>					
S6016P	80-91355	\$10.92	8,4	3,18	0,8

**Pos. Round Shim Seats**

Desc.	Order No.	Price	A	T
RS-43P	80-90375	\$6.36	.500	.1875
RS-53P	80-90376	\$7.84	.625	.1875
RS-63P	80-90377	\$11.32	.750	.1875
RS-83P	80-90378	\$17.81	1.00	.1875

**Neg. 80° Diamond Shim Seats**

Desc.	Order No.	Price	A	T	R
<i>Inch</i>					
ICSN-322	80-90003	\$6.34	.375	.1250	.0312
ICSN-332	80-90007	\$6.87	.375	.1875	.0312
ICSN-422	80-90004	\$7.66	.500	.1250	.0312
ICSN-423	80-90005	\$7.66	.500	.1250	.0469
ICSN-433	80-90008	\$7.72	.500	.1875	.0469
ICSN-533	80-90010	\$7.72	.625	.1875	.0469
ICSN-633	80-90012	\$10.39	.750	.1875	.0469
<i>Metric</i>					
S8009N	80-91356	\$11.14	8,5	3,18	0,8
S8012N	80-91357	\$11.14	11,4	3,18	1,2
S8016N	80-91358	\$11.14	14,6	4,76	1,4
S8019N	80-91359	\$27.51	18,0	4,76	1,6

**Neg. 55° Diamond Shim Seats**

Desc.	Order No.	Price	A	T	R
IDSN-322	80-90016	\$6.20	.375	.1250	.0312
IDSN-423	80-90018	\$8.96	.500	.1250	.0469
IDSN-433	80-90021	\$7.40	.500	.1875	.0469
IDSN-533	80-90024	\$9.39	.625	.1875	.0469
IDSN-534	80-90025	\$9.39	.625	.1875	.0625

**Neg. 35° Diamond Shim Seats**

Desc.	Order No.	Price	A	T	R
IVSN-322	80-90065	\$6.69	.375	.1250	.0312
IVSN-324	80-90066	\$9.28	.375	.1250	.0625
IVSN-433	80-90068	\$8.44	.500	.1875	.0469

**Neg. Square Shim Seats**

Desc.	Order No.	Price	A	T	R
<i>Inch</i>					
ISSN-322	80-90050	\$4.98	.375	.1250	.0312
ISSN-323	80-90051	\$4.98	.375	.1250	.0469
ISSN-333	80-90054	\$6.66	.375	.1875	.0469
ISSN-423	80-90056	\$7.82	.500	.1250	.0469
ISSN-433	80-90059	\$7.08	.500	.1875	.0469
ISSN-533	80-90060	\$7.48	.625	.1875	.0469
ISSN-633	80-90062	\$10.37	.750	.1875	.0469
ISSN-634	80-90063	\$10.37	.750	.1875	.0625
ISSN-846	80-90064	\$17.86	1.00	.2500	.0937
<i>Metric</i>					
S9012N	80-91361	\$11.14	11,4	3,18	0,8

**Neg. Round Shim Seats**

Desc.	Order No.	Price	A	T
IRSN-32	80-90030	\$6.02	.375	.1250
IRSN-43	80-90031	\$7.53	.500	.1875
IRSN-53	80-90032	\$9.07	.625	.1875
IRSN-63	80-90033	\$12.40	.750	.1875
IRSN-84	80-90034	\$18.78	1.00	.2500

**Neg. 80° Trigon Shim Seats**

Desc.	Order No.	Price	A	T	R
<i>Inch</i>					
IWSN-322	80-90070	\$6.08	.375	.1250	.0312
IWSN-433	80-90072	\$11.29	.500	.1875	.0469
IWSN-533	80-90073	\$11.29	.625	.1875	.0469

**Neg. Triangle Shim Seats**

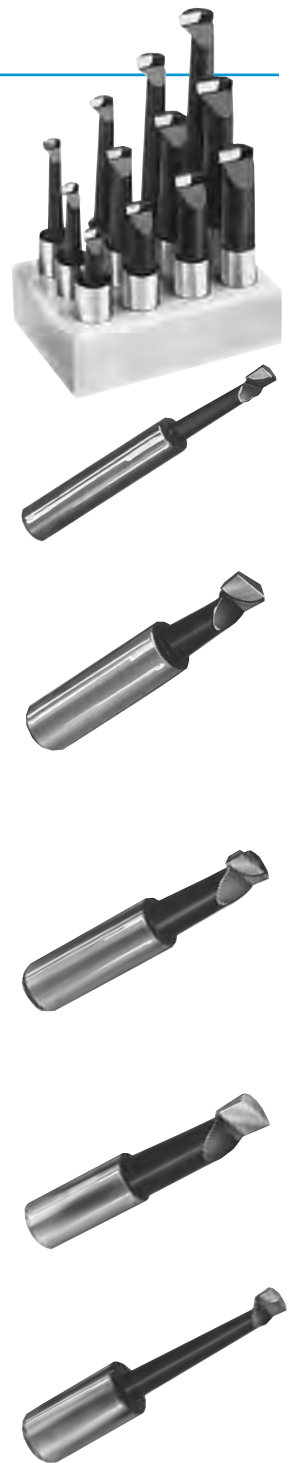
Desc.	Order No.	Price	A	T	R
<i>Inch</i>					
ITSN-322	80-90084	\$5.19	.375	.1250	.0312
ITSN-323	80-90085	\$6.34	.375	.1250	.0469
ITSN-324	80-90086	\$6.34	.375	.1250	.0625
ITSN-332	80-90087	\$5.78	.375	.1875	.0312
ITSN-333	80-90088	\$5.99	.375	.1875	.0469
ITSN-334	80-90089	\$6.10	.375	.1875	.0625
ITSN-423	80-90090	\$8.85	.500	.1250	.0469
ITSN-433	80-90093	\$7.72	.500	.1875	.0469
ITSN-434	80-90094	\$8.40	.500	.1875	.0625
ITSN-533	80-90098	\$9.39	.625	.1875	.0469
ITSN-534	80-90099	\$10.90	.625	.1875	.0625
ITSN-633	80-90105	\$12.99	.750	.1875	.0469
ITSN-636	80-90106	\$12.99	.750	.1875	.0937

**Standard Packs of 10 Must Be Ordered For All Spare Parts**

## Carbide Tipped Boring Bars— Grade C2 and C6

4

SHANK DIA.	LG'TH	BORE DEPTH	MINIMUM BORE	TOOL NO.	GRADE C-2 ORDER NO.	GRADE C-6 ORDER NO.	PRICE EACH	SETS (MADE IN USA)	
								C-2 SET	C-6 SET
3/8	2	3/4	5/16	A5S	3047-006	3047-106	\$ 9.40	9 Pcs. Set 3047-180 Price Each \$ 97.74	9 Pcs. Set 3047-190 Price Each \$ 97.74
	2-3/8	1-1/8	5/16	A5M	3047-005	3047-105	9.82		
	2-3/4	1-1/2	5/16	A5L	3047-004	3047-104	10.24		
	2-3/16	15/16	3/8	A3S	3047-003	3047-103	10.45		
	2-21/32	1-13/32	3/8	A3M	3047-002	3047-102	10.77		
	3-1/8	1-7/8	3/8	A3L	3047-001	3047-101	11.50		
	2-3/8	1-1/8	7/16	A7S	3047-009	3047-109	11.77		
	2-15/16	1-7/8	7/16	A7M	3047-008	3047-108	11.98		
	3-1/2	2-1/4	7/16	A7L	3047-007	3047-107	12.55		
	1/2	2-1/4	3/4	5/16	B5S	3047-012	3047-112		
2-5/8		1-1/8	5/16	B5M	3047-011	3047-111	12.87		
3		1-1/2	5/16	B5L	3047-010	3047-110	13.45		
2-5/8		1-1/8	7/16	B7S	3047-015	3047-115	13.92		
3-3/16		1-11/16	7/16	B7M	3047-014	3047-114	14.50		
3-3/4		2-1/4	7/16	B7L	3047-013	3047-113	14.65		
3		1-1/2	9/16	B9S	3047-018	3047-118	15.07		
3-3/4		2-1/4	9/16	B9M	3047-017	3047-117	15.28		
4-1/2		3	9/16	B9L	3047-016	3047-116	15.60		
5/8		2-1/4	3/4	5/16	C5S	3047-024	3047-124	15.74	12 Pcs. Set 3047-182 Price Each \$ 236.59
	2-5/8	1-1/8	5/16	C5M	3047-023	3047-123	16.23		
	3	1-1/2	5/16	C5L	3047-022	3047-122	17.07		
	2-5/8	1-1/8	7/16	C7S	3047-027	3047-127	17.70		
	3-3/16	1-11/16	7/16	C7M	3047-026	3047-126	18.43		
	3-3/4	2-1/4	7/16	C7L	3047-025	3047-125	19.59		
	3	1-1/2	9/16	C9S	3047-030	3047-130	19.96		
	3-3/4	2-1/4	9/16	C9M	3047-029	3047-129	20.74		
	4-1/2	3	9/16	C9L	3047-028	3047-128	21.69		
	3-3/8	1-7/8	11/16	C11S	3047-033	3047-133	22.38		
	4-5/16	2-13/16	11/16	C11M	3047-032	3047-132	23.23		
	5-1/4	3-3/4	11/16	C11L	3047-031	3047-131	24.58		
3/4	3-1/8	1-1/8	7/16	D7S	3047-039	3047-139	18.43	12 Pcs. Set 3047-183 Price Each \$ 277.69	12 Pcs. Set 3047-193 Price Each \$ 277.69
	3-11/16	1-11/16	7/16	D7M	3047-038	3047-138	19.38		
	4-1/4	2-1/4	7/16	D7L	3047-037	3047-137	20.22		
	3-1/2	1-1/2	9/16	D9S	3047-042	3047-142	20.91		
	4-1/4	2-1/4	9/16	D9M	3047-041	3047-141	21.48		
	5	3	9/16	D9L	3047-040	3047-140	22.43		
	3-7/8	1-7/8	11/16	D11S	3047-045	3047-145	23.06		
	4-13/16	2-13/16	11/16	D11M	3047-044	3047-144	23.80		
	5-3/4	3-3/4	11/16	D11L	3047-043	3047-143	24.69		
	4-1/4	2-1/4	13/16	D13S	3047-048	3047-148	26.16		
	5-3/8	3-3/8	13/16	D13M	3047-047	3047-147	27.68		
	6-1/2	4-1/2	13/16	D13L	3047-046	3047-146	29.20		
	1	5	3	9/16	E9L	3047-051	3047-151		
5-3/4		3-3/4	11/16	E11L*	3047-053	3047-153	37.66		
6-1/2		4-1/2	7/8	E14L	3047-055	3047-155	40.28		
6-1/2		4-1/2	1-1/16	E18L*	3047-060	3047-160	43.07		
7-3/4		5-3/4	1-1/8	E20L*	3047-062	3047-162	46.22		
8-1/4		6-1/4	1-1/2	E24L*	3047-066	3047-166	48.85		
9-1/2		7-1/2	1-5/8	E26L*	3047-068	3047-168	52.47		



## Carbide Tipped Boring Bar Sets— Grade C2 and C6

- C2 - Cast Iron
- C6 - General Purpose/Steel
- Sets include short, medium, and long length bars for each minimum bore diameter

SHANK DIA.	PCS. IN SET	C-2 ITEM NO.	C-6 ITEM NO.	PRICE EACH
3/8"	9	3047-301	3047-401	\$23.10
1/2"	9	-	3047-402	25.40
5/8"	12	3047-303†	3047-403	43.10
3/4"	12	-	3047-404	57.70

† Limited Qty.



# Boring Bars

## High Speed Steel Cobalt Boring Bars



MADE IN U.S.A.



SHANK DIA.	LG'TH	BORE DEPTH	MINIMUM BORE	TOOL NO.	ORDER NO.	PRICE EACH	SETS
3/8	1-13/16	9/16	3/16	CO A3S	3048-002	\$14.21	8 Pc. Set 3048-101 \$131.08
	2-3/16	15/16	3/16	CO A3L	3048-001	15.06	
	2	3/4	1/4	CO A4S	3048-004	15.55	
	2-1/2	1-1/4	1/4	CO A4L	3048-003	16.29	
	2-3/16	15/16	5/16	CO A5S	3048-006	16.51	
	2-13/16	1-9/16	5/16	CO A5L	3048-005	17.33	
	2-3/8	1-1/8	3/8	CO A6S	3048-008	17.71	
	3-1/8	1-7/8	3/8	CO A6L	3048-007	18.57	
1/2	2-1/8	3/4	1/4	CO B4S	3048-010	18.10	10 Pc. Set 3048-102 \$202.58
	2-5/8	1-1/4	1/4	CO B4L	3048-009	18.57	
	2-5/16	15/16	5/16	CO B5S	3048-012	18.86	
	2-1a5/16	1-9/16	5/16	CO B5L	3048-011	19.71	
	2-1/2	1-1/8	3/8	CO B6S	3048-014	20.01	
	3-1/4	1-7/8	3/8	CO B6L	3048-013	20.77	
	2-11/16	1-5/16	7/16	CO B7S	3048-016	20.77	
	3-9/16	2-3/16	7/16	CO B7L	3048-015	21.31	
	2-7/8	1-1/2	1/2	CO B8S	3048-018	22.35	
	3-7/8	2-1/2	1/2	CO B8L	3048-017	22.85	
5/8	2-5/8	1-1/8	3/8	CO C6S	3048-020	23.67	10 Pc. Set 3048-103 \$296.83
	3-3/8	1-7/8	3/8	CO C6L	3048-019	24.20	
	2-13/16	1-5/16	7/16	CO C7S	3048-022	25.47	
	3-11/16	2-13/16	7/16	CO C7L	3048-021	27.57	
	3	1-1/2	1/2	CO C8S	3048-024	28.30	
	4	2-1/2	1/2	CO C8L	3048-023	30.24	
	3-3/16	1-11/16	9/16	CO C9S	3048-026	32.28	
	4-5/16	2-13/16	9/16	CO C9L	3048-025	33.71	
	3-3/8	1-7/8	5/8	CO C10S	3048-028	35.37	
	4-5/8	3-1/8	5/8	CO C10L	3048-027	36.78	
3/4	2-7/8	1-1/8	3/8	CO D6S	3048-034	27.74	14 Pc. Set 3048-104 \$472.33
	3-5/8	1-7/8	3/8	CO D6L	3048-033	28.73	
	3-1/16	1-5/16	7/16	CO D7S	3048-036	29.47	
	3-15/16	2-3/16	7/16	CO D7L	3048-035	30.82	
	3-1/4	1-1/2	1/2	CO D8S	3048-038	31.73	
	4-1/4	2-1/2	1/2	CO D8L	3048-037	32.57	
	3-7/16	1-11/16	9/16	CO D9S	3048-040	33.19	
	4-9/16	2-13/16	9/16	CO D9L	3048-039	34.46	
	3-5/8	1-7/8	5/8	CO D10S	3048-042	35.19	
	4-7/8	3-1/8	5/8	CO D10L	3048-041	36.27	
	3-13/16	2-1/16	11/16	CO D11S	3048-044	37.07	
	5-3/16	3-7/16	11/16	CO D11L	3048-043	38.63	
	4	2-1/4	3/4	CO D12S	3048-046	39.25	
	5-1/2	3-3/4	3/4	CO D12L	3048-045	40.35	

## Boring Bars & Sets

Hardened Boring  
Prices do not include tool bits

### Single End 45° & 90°



DIA.	OAL	BIT SIZE	45° ORDER NO.	90° ORDER NO.	PRICE EACH
1/4	2-1/2	5/32 RD	3053-016	3054-016	\$2.60
5/16	2-1/2	3/16 RD	3053-020	3054-020	2.60
3/8	3	3/16 RD	3053-024	3054-024	2.90
1/2	3	3/16 SQ	3053-032	3054-032	3.00
9/16	4-1/2	3/16 SQ	3053-036	3054-036	3.35
5/8	5	1/4 SQ	3053-040	3054-040	4.00
3/4	6	1/4 SQ	3053-048	3054-048	5.05
1	6	5/16 SQ	3053-064	3054-064	9.70
1	6	3/8 SQ	3053-065	3054-065	9.70
1-1/8	7	7/16 SQ	3053-072	3054-072	13.50
1-1/4	8	1/2 SQ	3053-080	3054-080	17.55
1-1/2	9	1/2 SQ	3053-096	3054-096	22.95

### Double End

One End 45° One End 90°



DIA.	OAL	BIT SIZE	ORDER NO.	PRICE EACH
1/4	5	5/32 RD	3055-016	\$ 6.05
5/16	5	3/16 RD	3055-020	6.50
3/8	6	3/16 RD	3055-024	7.05
1/2	6	3/16 SQ	3055-032	7.95
9/16	9	3/16 SQ	3055-036	10.35
5/8	10	1/4 SQ	3055-040	10.70
3/4	12	1/4 SQ	3055-048	11.80
1	12	5/16 SQ	3055-064	15.15
1	12	3/8 SQ	3055-065	17.10
1-1/8	14	7/16 SQ	3055-072	20.20
1-1/4	16	1/2 SQ	3055-080	23.10
1-1/2	18	1/2 SQ	3055-096	36.75

### Double End Boring Bar Sets

One End 45°  
One End 90°

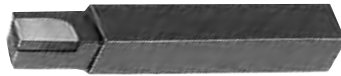


4 PC Set	1/4 - 1/2"	Includes 1 each: 1/4, 5/16, 3/8 & 1/2" in Plastic Pouch	3056-001 Price...\$23.45
5 PC Set	1/4 - 3/4"	Includes 1 each: 1/4, 3/8, 1/2, & 3/4" in Wood Block	3056-002 Price...\$39.85
5 PC Set	3/8 - 1"	Includes 1 each: 3/8, 1/2, 5/8, 3/4 & 1" in Wood Block	3056-003 Price...\$43.00

# Single Point Tool Bits—Carbide Tipped



## Styles AL & AR Straight Turning



SHANK SIZE			TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH	TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH
1/4	1/4	2	AL-4	3060-104	2.15	3070-104	2.15	AR-4	3060-204	2.15	3070-204	\$2.15
5/16	5/16	2-1/4	AL-5	3060-105	2.25	3070-105	2.25	AR-5	3060-205	2.25	3070-205	2.25
3/8	3/8	2-1/2	AL-6	3060-106	2.25	3070-106	2.25	AR-6	3060-206	2.25	3070-206	2.25
7/16	7/16	3	AL-7	3060-107	2.25	3070-107	2.25	AR-7	3060-207	2.25	3070-207	2.25
1/2	1/2	3-1/2	AL-8	3060-108	2.70	3070-108	2.70	AR-8	3060-208	2.70	3070-208	2.70
5/8	5/8	4	AL-10	3060-110	3.35	3070-110	3.35	AR-10	3060-210	3.35	3070-210	3.35
3/4	3/4	4-1/2	AL-12	3060-112	5.00	3070-112	5.00	AR-12	3060-212	5.00	3070-212	5.00
1	1	6	AL-16	3060-116	9.70	3070-116	9.70	AR-16	3060-216	9.70	3070-216	9.70
1-1/4	1-1/4	7	AL-20	3060-120†	10.20	3070-120†	10.20	AR-20	3060-220†	10.20	3070-220†	10.20
1-1/2	1-1/2	7	AL-24	3060-124†	15.15	3070-124†	15.15	AR-24	3060-224†	15.15	3070-224†	15.15
1/2	1	6	AL-44	3060-144†	3.10	3070-144†	3.10	AR-44	-	-	3070-244†	3.10
5/8	1	6	AL-54	-	-	-	-	AR-54	-	-	3070-254†	3.80
5/8	1-1/4	6	AL-55	3060-155†	4.55	-	-	AR-55	-	-	-	-
3/4	1	6	AL-64	-	-	3070-164†	5.10	AR-64	3060-264†	5.10	3070-264†	5.10
3/4	1-1/2	7	AL-66	3060-166†	8.75	-	-	AR-66	3060-266†	8.75	3070-266†	8.75
1	1-1/4	7	AL-85	3060-185†	10.20	3070-185†	10.20	AR-85	3060-285†	10.20	3070-285†	10.20
1	1-1/2	7	AL-86	3060-186†	13.85	3070-186†	13.85	AR-86	3060-286†	13.85	3070-286†	13.85

† Limited Quantities

## Style C



### Broadnose

TOOL NO.	SHANK SIZE			GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH
C-4	1/4	1/4	2	3060-504	\$ 2.15	3070-504	\$ 2.15
C-5	5/16	5/16	2-1/4	3060-505	2.25	3070-505	2.25
C-6	3/8	3/8	2-1/2	3060-506	2.25	3070-506	2.25
C-7	7/16	7/16	3	3060-507	2.25	3070-507	2.25
C-8	1/2	1/2	3-1/2	3060-508	2.70	3070-508	2.70
C-10	5/8	5/8	4	3060-510	3.35	3070-510	3.35
C-12	3/4	3/4	4-1/2	3060-512	5.00	3070-512	5.00
C-16	1	1	6	3060-516	9.70	3070-516	9.70
C-20	1-1/4	1-1/4	7	3060-520†	11.10	-	-
C-66	3/4	1-1/2	7	3060-566†	9.90	-	-
C-86	1	1-1/2	7	3060-586†	14.85	3070-586†	POA

† Limited Quantities

## Styles BL & BR Lead Angle Turning



SHANK SIZE			TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH	TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH
1/4	1/4	2	BL-4	3060-304	\$ 2.15	3070-304	\$ 2.15	BR-4	3060-404	\$ 2.15	3070-404	\$ 2.15
5/16	5/16	2-1/4	BL-5	3060-305	2.25	3070-305	2.25	BR-5	3060-405	2.25	3070-405	2.25
3/8	3/8	2-1/2	BL-6	3060-306	2.25	3070-306	2.25	BR-6	3060-406	2.25	3070-406	2.25
7/16	7/16	3	BL-7	3060-307	2.25	3070-307	2.25	BR-7	3060-407	2.25	3070-407	2.25
1/2	1/2	3-1/2	BL-8	3060-308	2.70	3070-308	2.70	BR-8	3060-408	2.70	3070-408	2.70
5/8	5/8	4	BL-10	3060-310	3.35	3070-310	3.35	BR-10	3060-410	3.35	3070-410	3.35
3/4	3/4	4-1/2	BL-12	3060-312	5.00	3070-312	5.00	BR-12	3060-412	5.00	3070-412	5.00
1	1	6	BL-16	3060-316	9.70	3070-316	9.70	BR-16	3060-416	9.70	3070-416	9.70
1-1/4	1-1/4	7	BL-20	3060-320†	10.20	3070-320†	10.20	BR-20	3060-420†	10.20	3070-420†	10.20
1-1/2	1-1/2	7	BL-24	-	-	3070-324†	15.15	BR-24	3060-424†	15.15	3070-424†	15.15
1/2	1	6	BL-44	-	-	3070-344†	3.10	BR-44	3060-444†	3.10	3070-444†	3.10
5/8	1	6	BL-54	3060-354†	3.80	3070-354†	3.80	BR-54	3060-454†	3.80	3070-454†	3.80
5/8	1-1/4	6	BL-55	3060-355†	4.55	3070-355†	4.55	BR-55	-	-	-	-
3/4	1	6	BL-64	3060-364†	5.10	3070-364†	5.10	BR-64	3060-464†	5.10	3070-464†	5.10
3/4	1-1/2	7	BL-66	3060-366†	8.75	3070-366†	8.75	BR-66	3060-466†	8.75	3070-466†	8.75
1	1-1/4	7	BL-85	3060-385†	10.20	3070-385†	10.20	BR-85	3060-485†	10.20	-	-
1	1-1/2	7	BL-86	-	-	-	-	BR-86	3060-486†	13.85	3070-486†	13.85

† Limited Quantities

## Style D



### Roundnose

TOOL NO.	SHANK SIZE			GRD. C2 ORDER NO.	GRD. C6 ORDER NO.	PRICE EACH
D-4	1/4	1/4	2	3060-604	3070-604	\$2.15
D-5	5/16	5/16	2-1/4	3060-605	3070-605	2.25
D-6	3/8	3/8	2-1/2	3060-606	3070-606	2.25
D-7	7/16	7/16	3	3060-607	3070-607	2.25
D-8	1/2	1/2	3-1/2	3060-608	3070-608	2.70
D-10	5/8	5/8	4	3060-610	3070-610	3.35
D-12	3/4	3/4	4-1/2	3060-612	3070-612	5.00
D-16	1	1	6	3060-616	3070-616	9.70

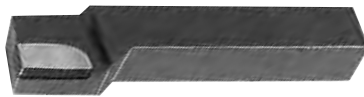
## Style E



### Threading

TOOL NO.	SHANK SIZE			GRD. C2 ORDER NO.	GRD. C6 ORDER NO.	PRICE EACH
E-4	1/4	1/4	2	3060-704	3070-704	\$2.15
E-5	5/16	5/16	2-1/4	3060-705	3070-705	2.25
E-6	3/8	3/8	2-1/2	3060-706	3070-706	2.25
E-7	7/16	7/16	3	3060-707	3070-707	2.25
E-8	1/2	1/2	3-1/2	3060-708	3070-708	2.70
E-10	5/8	5/8	4	3060-710	3070-710	3.35
E-12	3/4	3/4	4-1/2	3060-712	3070-712	5.00
E-16	1	1	6	3060-716	3070-716	9.70

## Styles FL & FR Offset End Cutting



SHANK SIZE			TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH	TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH
1/2	1/2	3-1/2	FL-8	3060-808	\$ 5.65	3070-808	\$ 5.65	FR-8	3060-908	\$ 5.65	3070-908	\$ 5.65
5/8	5/8	4	FL-10	3060-810	6.80	3070-810	6.80	FR-10	3060-910	6.80	3070-910	6.80
3/4	3/4	4-1/2	FL-12	3060-812	8.65	3070-812	8.65	FR-12	3060-912	8.65	3070-912	8.65
1	1	6	FL-16	3060-816	15.75	3070-816	15.75	FR-16	3060-916	15.75	3070-916	15.75
1-1/4	1-1/4	7	FL-20	3060-820†	10.90	3070-820†	10.90	FR-20	3060-920†	10.90	3070-920†	10.90
1-1/2	1-1/2	7	FL-24	3060-824†	15.80	3070-824†	15.80	FR-24	-	-	3070-924†	15.80
1/2	1	6	FL-44	-	-	-	-	FR-44	3060-944†	3.10	-	-
5/8	1-1/4	6	FL-55	3060-855†	3.80	3070-855†	3.80	FR-55	3060-955†	3.80	3070-955†	3.80
3/4	1	6	FL-64	3060-864†	5.10	3070-864†	5.10	FR-64	3060-964†	5.10	3070-964†	5.10
1	1-1/4	7	FL-85	-	-	3070-885†	10.20	FR-85	3060-985†	10.20	3070-985†	10.20
1	1-1/2	7	FL-86	3060-886†	13.85	3070-886†	13.85	FR-86	3060-986†	13.85	3070-986†	13.85

† Limited Quantities

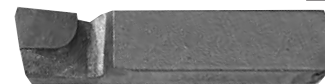


# Single Point Tool Bits— Carbide Tipped

## Styles GL & GR Offset Side Cutting



## Style TSA Square Shoulder Boring



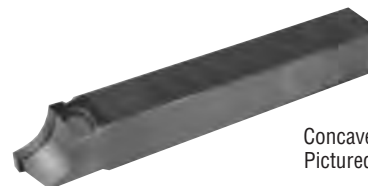
SHANK SIZE		TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH	TOOL NO.	GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH	
1/2	1/2	3-1/2	GL-8	3061-008	\$ 5.65	3071-008	\$ 5.65	GR-8	3061-108	\$ 5.65	3071-108	\$ 5.65
5/8	5/8	4	GL-10	3061-010	6.80	3071-010	6.80	GR-10	3061-110	6.80	3071-110	6.80
3/4	3/4	4-1/2	GL-12	3061-012	8.65	3071-012	8.65	GR-12	3061-112	8.65	3071-112	8.65
1	1	6	GL-16	3061-016	15.75	3071-016	15.75	GR-16	3061-116	15.75	3071-116	15.75
1-1/4	1-1/4	7	GL-20	3061-020†	10.90	3071-020†	10.90	GR-20	-	-	3071-120†	10.90
1-1/2	1-1/2	7	GL-24	-	-	3071-024†	15.80	GR-24	-	-	-	-
1/2	1	6	GL-44	3061-044†	3.10	3071-044†	3.10	GR-44	-	-	3071-144†	3.10
5/8	1-1/4	6	GL-55	3061-055†	3.80	3071-055†	3.80	GR-55	3061-155†	3.80	3071-155†	3.80
3/4	1	6	GL-64	3061-064†	5.10	3071-064†	5.10	GR-64	3061-164†	5.10	3071-164†	5.10
1	1-1/4	7	GL-85	3061-085†	10.20	-	-	GR-85	3061-185†	10.20	3071-185†	10.20
1	1-1/2	7	GL-86	3061-086†	13.85	3071-086†	13.85	GR-86	3061-186†	13.85	3071-186†	13.85

TOOL NO.	SHANK SIZE			GRD. C2 ORDER NO.	PRICE EACH	GRD. C6 ORDER NO.	PRICE EACH
TSA-5	5/16	5/16	1-1/2	3061-205	\$6.00	3071-205	\$6.00
TSA-6	3/8	3/8	1-3/4	3061-206	6.00	3071-206	6.00
TSA-8	1/2	1/2	2-1/2	3061-208	6.95	3071-208	6.95
TSA-10	5/8	5/8	3	3061-210	9.75	3071-210	9.75
TSA-12	3/4	3/4	3-1/2	3061-212	10.75	3071-212	10.75

† Limited Quantities

## Radius Tool Bits

### Concave or Convex – Carbide Tipped



Concave Pictured

Good shock resistance, good wear resistance. Choose Grade C2 or C6 for general purpose machining with a wide range of applications, designed for cutting all types of steel including high tensile strength and heat resisting alloys. Radius Accurate within  $\pm .002$ ".

RADIUS (IN)	SHANK SQ. (IN)	CARBIDE TIP HT. (IN)	CARBIDE LENGTH (IN)	GRADE C2			GRADE C6		
				CONCAVE ORDER BOX	CONVEX ORDER NO.	PRICE EACH	CONCAVE ORDER NO.	CONVEX ORDER NO.	PRICE EACH
1/32	1/4	1/16	1/4	3080-001	3080-201	\$ 36.05	3080-101	3080-301	\$39.35
1/16	1/4	1/16	1/4	3080-002	3080-202	36.05	3080-102	3080-302	39.35
3/32	1/4	1/16	1/4	3080-003	3080-203	36.05	3080-103	3080-303	39.35
1/8	1/4	1/16	1/4	3080-004	3080-204	36.05	3080-104	3080-304	39.35
5/32	3/8	3/32	3/8	3080-005	3080-205	39.30	3080-105	3080-305	42.60
3/16	3/8	3/32	3/8	3080-006	3080-206	39.30	3080-106	3080-306	42.60
7/32	3/8	3/32	3/8	3080-007	3080-207	39.30	3080-107	3080-307	42.60
1/4	3/8	3/32	3/8	3080-008	3080-208	39.30	3080-108	3080-308	42.60
9/32	1/2	1/8	1/2	3080-009	3080-209	44.65	3080-109	3080-309	47.95
5/16	1/2	1/8	1/2	3080-010	3080-210	44.65	3080-110	3080-310	47.95
11/32	1/2	1/8	1/2	3080-011	3080-211	44.65	3080-111	3080-311	47.95
3/8	1/2	1/8	1/2	3080-012	3080-212	44.65	3080-112	3080-312	47.95
13/32	3/4	1/8	3/4	3080-013	3080-213	51.00	3080-113	3080-313	54.30
7/16	3/4	1/8	3/4	3080-014	3080-214	51.00	3080-114	3080-314	54.30
15/32	3/4	1/8	3/4	3080-015	3080-215	51.00	3080-115	3080-315	54.30
1/2	3/4	1/8	3/4	3080-016	3080-216	51.00	3080-116	3080-316	54.30
Set of 4, consists of 1 each: 1/16, 1/8, 1/4 & 3/8				3080-017	3080-217	156.00	3080-117	3080-317	169.20
Set of 8, consists of 1 each: 1/16–1/2 in 16th increments				3080-018	3080-218	341.85	3080-118	3080-318	368.25
Set of 16, consists of 1 each: 1/32–1/2 in 1/32nd increments				3080-019	3080-219	683.70	3080-119	3080-319	736.50

## Round M2 Tool Bits



DIMENSIONS	ORDER NO.	PRICE EA.
1/4 x 6	3251-050	\$1.05
1/4 x 6	3251-060	1.58
5/16 x 4	3251-070	1.25
3/8 x 4	3251-090	1.64
7/16 x 4	3251-110	2.06
1/2 x 4	3251-130	2.53
9/16 x 4	3251-150	3.66
9/16 x 6	3251-160	5.50
3/4 x 4	3251-190	5.73
3/4 x 6	3251-200	8.60
1" x 4	3251-220	11.30
1" x 6	3251-225	15.90
1" x 8	3251-230	19.20

## Square Tool Bits



SIZE	M2 HSS		5% Co		8% - 10% Co		T15 COBALT	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8 x 2-1/2	3252-010	\$ 1.12	3252-440	\$ 1.95	3252-270	\$ 2.40	3252-710	\$ 11.66
3/16 x 2-1/2	3252-020	1.12	3252-450	1.95	3252-280	2.70	3252-720	6.56
1/4 x 2-1/2	3252-030	1.40	3252-460	2.42	3252-290	2.70	3252-730	7.25
1/4 x 6	3252-034	5.44	3252-470	6.98	-	-	-	-
1/4 x 8	3252-036	7.39	3252-475	8.23	-	-	-	-
5/16 x 2-1/2	3252-040	1.67	3252-480	2.93	3252-300	3.44	3252-740	8.52
5/16 x 6	3252-060	6.93	3252-482	8.65	-	-	-	-
5/16 x 8	3252-065	8.70	3252-484	9.86	-	-	-	-
3/8 x 3	3252-070	2.52	3252-490	4.45	3252-310	5.26	3252-770	11.69
3/8 x 6	3252-090	8.74	3252-492	11.53	-	-	3252-790	23.36
3/8 x 8	3252-095	10.88	3252-494	12.14	-	-	-	-
7/16 x 3-1/2	3252-100	3.90	3252-500	7.11	3252-320	10.09	3252-800	15.40
7/16 x 6	3252-105	10.46	-	-	-	-	-	-
1/2 x 4	3252-110	5.38	3252-510	9.14	3252-330	11.50	3252-810	21.69
1/2 x 6	3252-120	13.49	3252-520	17.02	-	-	-	-
1/2 x 8	3252-125	18.00	3252-530	19.76	-	-	-	-
5/8 x 4-1/2	3252-150	9.10	3252-540	15.26	3252-340	21.58	3252-850	33.87
5/8 x 6	3252-160	17.62	3252-545	22.65	-	-	-	-
5/8 x 8	3252-180	23.34	-	-	-	-	-	-
3/4 x 5	3252-190	14.10	3252-550	23.95	3252-360	32.50	3252-890	53.59
3/4 x 8	3252-195	33.48	-	-	-	-	-	-
7/8 x 6	3252-200	22.10	3252-560	41.99	3252-370	50.08	-	-
1 x 7	3252-205	33.38	3252-570	57.12	3252-380	78.59	3252-905	126.94
1-1/4 x 7	3252-208	68.54	-	-	-	-	3252-908	151.56
1-1/4 x 9	3252-210	88.13	3252-590	150.95	3252-390	189.97	-	-

## Rectangular Tool Bits



SIZE	M2 HSS		5% Co		8% - 10% Co		T15 COBALT	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4 x 3/8 x 3	3250-080	\$ 4.15	3250-746	\$ 5.51	3250-490	\$ 8.09	3251-320	\$ 11.07
1/4 x 1/2 x 4	3250-095	5.49	3250-750	8.84	3250-495	12.04	3251-325	15.51
1/4 x 1/2 x 6	3250-100	9.07	-	-	-	-	-	-
1/4 x 3/4 x 5	3250-105	8.49	3250-760	13.31	3250-505	16.74	3251-330	23.64
1/4 x 1 x 6	3250-110	10.97	3250-764	17.02	3250-510	24.27	3251-335	37.67
5/16 x 7/16 x 3	3250-130	6.37	3250-770	8.97	3250-525	7.40	3251-350*	10.24
3/8 x 1/2 x 4	3250-165	6.74	3250-795	11.39	3250-550	14.51	3251-370	20.42
3/8 x 1/2 x 6	3250-170	10.25	-	-	-	-	3251-375*	18.42
3/8 x 5/8 x 4	3250-175	8.74	3250-805	15.11	3250-560	19.11	3251-385*	17.93
3/8 x 5/8 x 6	3250-185	12.35	-	-	3250-570*	17.35	3251-400*	26.88
3/8 x 3/4 x 5	3250-193	12.16	3250-825	21.00	3250-577	26.93	3251-410	32.69
3/8 x 1 x 6	3250-200	18.79	3250-835	26.83	3250-585	35.90	3251-420	49.75
1/2 x 5/8 x 4-1/2	3250-210	11.81	3250-850	18.29	3250-595	22.09	3251-430	30.19
1/2 x 3/4 x 5	3250-225	17.83	3250-865	25.89	3250-602	32.94	3251-435	38.52
1/2 x 1 x 7	3250-240	27.67	3250-880	38.22	3250-615	55.20	3251-440	76.24
1/2 x 1-1/4 x 7	3250-255	33.48	3250-892	52.55	3250-627	54.10	-	-
1/2 x 1-1/2 x 7	3250-260	44.92	3250-895	59.94	3250-630	77.24	3251-447*	78.93
5/8 x 3/4 x 5	3250-265	17.53	3250-900	35.01	3250-640	47.76	3251-450	50.44
5/8 x 7/8 x 6	3250-270	25.84	3250-905	38.36	3250-645	56.68	3251-455	70.46
5/8 x 1 x 7	3250-280	37.43	-	-	3250-655	58.45	3251-460	93.25
5/8 x 1-1/4 x 7	3250-290	39.76	-	-	3250-660	69.98	3251-465	116.32
5/8 x 1-1/2 x 7	3250-300	53.29	-	-	3250-665	96.95	3251-470	136.89
3/4 x 1 x 7	3250-310	35.20	-	-	3250-675	71.61	3251-480	109.69
3/4 x 1-1/4 x 7	3250-320	42.69	-	-	3250-680	101.65	3251-485	136.94
3/4 x 1-1/2 x 7	3250-325	64.22	-	-	3250-682	109.55	3251-490	155.69
7/8 x 1-1/4 x 7	3250-340	44.36	-	-	3250-690	93.60	3251-500	159.79
1 x 1-1/4 x 6	3250-345	43.31	-	-	3250-695	91.69	3251-505	148.89
1 x 1-1/4 x 7	3250-350	53.61	-	-	3250-700	106.98	3251-507*	135.78
1 x 1-1/2 x 7	3250-355	84.72	-	-	-	-	3251-510*	162.93

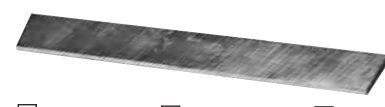
\*Limited Quantities

## Rectangular Tool Bits Close Out



SIZE	M2 HSS		5% Co		8% - 10% Co		T15 COBALT	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/32 x 3/8 x 5	3250-005	\$0.95	-	-	-	-	-	-
3/32 x 1/2 x 4-1/2	-	-	-	-	3250-420	\$ 2.45	3251-302	\$ 9.13
3/32 x 5/8 x 5	3250-012	1.30	-	-	3250-425	2.55	-	-
3/32 x 3/4 x 6	3250-015	1.55	-	-	3250-430	2.65	-	-
3/32 x 7/8 x 6	3250-020	2.10	-	-	3250-435	2.75	-	-
3/32 x 1 x 6	3250-025	2.25	3250-720	\$ 2.45	3250-440	3.00	-	-
1/8 x 5/8 x 5	3250-030	2.10	-	-	-	-	3251-305	10.37
1/8 x 3/4 x 5	-	-	-	-	3250-455	3.20	3251-307	12.95
1/8 x 3/4 x 6	-	-	3250-730	2.95	3250-457	3.50	3251-308	12.95
1/8 x 7/8 x 6	3250-045	3.90	-	-	-	-	-	-
1/8 x 7/8 x 6-1/2	-	-	-	-	3250-465	4.80	-	-
1/8 x 1 x 6-1/2	-	-	-	-	3250-467	5.20	-	-
3/16 x 3/4 x 6	3250-055	3.10	-	-	3250-470	4.45	-	-
3/16 x 7/8 x 6	3250-060	4.15	3250-740	4.20	-	-	-	-
7/32 x 7/8 x 6	-	-	3250-743	4.50	-	-	-	-
1/4 x 3/8 x 2-1/2	-	-	3250-745	2.90	3250-485	4.92	3251-315	8.65
1/4 x 1/2 x 3	3250-090	3.00	-	-	-	-	-	-
1/4 x 1/2 x 5	3250-097	5.50	-	-	-	-	-	-
1/4 x 1-1/4 x 7	3250-120	12.45	-	-	3250-520	20.00	3251-345	42.95
5/16 x 1/2 x 3	-	-	3250-775	5.45	-	-	3251-352	11.70
5/16 x 5/8 x 3	3250-140	4.35	-	-	3250-535	8.60	3251-355	12.33
5/16 x 3/4 x 3	3250-147	6.00	-	-	-	-	-	-
5/16 x 3/4 x 5	3250-150	8.75	-	-	3250-540	9.50	3251-360	23.01
5/16 x 1 x 6	-	-	3250-785	13.00	-	-	3251-365	32.03
3/8 x 1/2 x 3	-	-	-	-	-	-	3251-368	11.98
3/8 x 5/8 x 4-1/2	3250-177	6.85	-	-	-	-	-	-
3/8 x 5/8 x 5	3250-180	6.85	3250-810	7.30	3250-565	10.45	3251-395	20.16
3/8 x 3/4 x 4	-	-	-	-	-	-	3251-405	20.45
3/8 x 3/4 x 6	3250-195	10.70	-	-	-	-	3251-415	25.56
3/8 x 1-1/4 x 6	-	-	3250-840	19.00	-	-	-	-
3/8 x 1-3/4 x 6	3250-205	18.00	-	-	3250-590	29.50	3251-423	63.13
1/2 x 5/8 x 6	3250-215	10.50	3250-855	15.30	-	-	-	-
1/2 x 3/4 x 6	3250-230	13.80	-	-	-	-	-	-
1/2 x 1 x 6	-	-	-	-	3250-610	26.60	-	-
1/2 x 1 x 8	-	-	-	-	3250-620	31.50	-	-
1/2 x 1-1/4 x 6	3250-250	19.95	-	-	3250-625	29.00	-	-
1/2 x 1-3/4 x 6	-	-	3250-897	32.50	3250-635	40.15	-	-
5/8 x 1 x 6	-	-	-	-	3250-650	33.75	-	-
5/8 x 1-1/4 x 6	3250-285	20.60	-	-	-	-	-	-
5/8 x 1-1/4 x 8	3250-295	29.60	-	-	-	-	-	-
5/8 x 1-1/4 x 9	3250-297	34.65	-	-	-	-	-	-
3/4 x 1 x 6	-	-	-	-	3250-670	32.00	3251-475	73.51
7/8 x 1-1/8 x 6	-	-	-	-	-	-	3251-494	86.72
7/8 x 1-1/8 x 7	-	-	3250-915	34.75	3250-685	58.00	3251-495	101.17
1 x 2 x 7	3250-360	70.25	-	-	-	-	3251-515	217.24
1-1/4 x 1-1/2 x 7	-	-	3250-920	99.00	-	-	-	-

## Cut-Off Blades



SIZE	M2 HSS		5% Co		HSS HOLLOW GROUND	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16 x 1/2 x 4-1/2	-	-	-	-	3256-020	\$ 13.08
1/16 x 11/16 x 5	-	-	-	-	3256-030	17.28
1/16 x 13/16 x 6	-	-	-	-	3256-040	24.40
5/64 x 1/2 x 4-1/2	3253-050*	\$ 4.05	-	-	3256-050	13.08
3/32 x 1/2 x 4-1/2	3253-060	5.39	3258-060	\$ 8.60	3256-060	13.08
3/32 x 1/2 x 6	3253-065*	4.95	-	-	-	-
3/32 x 5/8 x 4-1/2	3253-085*	5.05	-	-	-	-
3/32 x 5/8 x 5	3253-090	6.39	3258-090	10.09	-	-
3/32 x 11/16 x 5	-	-	-	-	3256-100	17.28
3/32 x 13/16 x 5	3253-110*	5.75	3258-110*	7.60	-	-
3/32 x 13/16 x 6	3253-120	5.75	-	-	3256-120	24.40
3/32 x 1 x 6	-	-	3258-125*	11.50	-	-
3/32 x 1 x 6-1/2	3253-130*	7.25	-	-	3256-130*	29.09
1/8 x 1/2 x 4-1/2	-	-	-	-	3256-140	13.08
1/8 x 11/16 x 5	-	-	-	-	3256-150	17.28
1/8 x 3/4 x 5	3253-170	8.32	3258-170	11.25	-	-
1/8 x 3/4 x 6	3253-173*	6.90	3258-173*	7.60	-	-
1/8 x 13/16 x 5	3253-177*	7.95	-	-	-	-
1/8 x 7/8 x 6	3253-190	9.62	3258-190	13.44	-	-
1/8 x 1 x 6-1/2	3253-210*	9.70	3258-210*	11.50	3256-210	29.09
5/32 x 11/16 x 5	-	-	-	-	3256-220	18.49
5/32 x 13/16 x 6	3253-230*	7.10	3258-230*	9.35	3256-230	26.73
3/16 x 11/16 x 5	-	-	-	-	3256-240	19.38
3/16 x 13/16 x 5	-	-	-	-	3256-250*	26.73
3/16 x 13/16 x 6	3253-250*	8.50	3258-250*	9.50	-	-
3/16 x 1 x 6-1/2	3253-260	15.40	3258-260	20.79	3256-260	29.09

# TOOLHOLDING

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TOOLHOLDING

*Riten*

LIVE & DEAD CENTERS

**Flynn**  
Boring Heads

BORING TOOLS

*Pittsburg*  
ALLEGHANY

GLOBALLY SOURCED  
TOOLS PROVIDING A  
BALANCE OF QUALITY & PRICE

**Jacobs**<sup>®</sup>

DRILL CHUCKS & ARBORS

**PRECISION  
BRAND**

ARBOR SPACERS & SHIMS



**COLLIS**  
TOOL CORPORATION  
THE TOOLHOLDER PEOPLE

HOLDERS, ADAPTORS & COLLETS

**TAPMATIC**<sup>®</sup>

TAPPING HEADS

**DORIAN  
TOOL**

CENTERS, TOOL POSTS,  
& HOLDERS

## SFT Synchroflex Series, The Only Rigid Tap Driver Guaranteed To Double Tap Life For Synchronous Tapping On CNC Machines

### FEATURES

- SynchroFlex's patented precisely machined flexure compensates axially and radially for the unavoidable minute discrepancies between the machine's RPM, feed and traverse and the exact thread pitch and hole location.
- Any deviation at all from the correct feed rate for the thread pitch or the precise hole location results in added wear on the tap.
- SynchroFlex allows the tap to reproduce itself exactly for maximum life and better thread quality.

NOTE: SFT50, 75 & 100 also available for high pressure coolant through the spindle. Call for quotation.



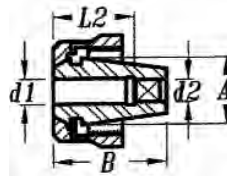
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MODEL	CAPACITY IN 1010 MILD STEEL	MOUNT	COLLET* SERIES	WEIGHT	A	B	D	AXIAL COMPENSATION	ORDER NO.	PRICE EACH
SFT10	#2-#10-32	1" SS 5/8"	#11	.8 lb. (.4 Kg.)	0.74 (19mm)	0.74 (19mm)	2.02 (51mm)	0.02 (.5mm)	3158-180	\$ 472.00
	M2-M5								3158-181	472.00
	25mm SS								3158-182	472.00
SFT50	#10-1/2"-20	1" SS 25mm SS	#20	1.0 lb. (.5 Kg.) 1.0 lb. (.5 Kg.)	1.333 (34mm)	1.340 (34mm)	2.49 (63mm)	+.020 (+.5mm)	3158-185	464.00
	M5-M12								3158-186	464.00
SFT75	2"-13 - 3/4"-10	1" SS 25mm SS	#25	2.0 lb. (1 Kg.) 2.0 lb. (1 Kg.)	1.570 (40mm)	1.650 (42mm)	3.26 (83mm)	+.020 (+.5mm)	3158-191	575.00
	M12-M20								3158-192	575.00
SFT100	3/4"-10 - 1"	1"SS 25mmSS	#40	3.01 lb. (1.5 Kg.) 3.01 lb. (1.5 Kg.)	2.340 (59mm)	2.480 (63mm)	4.39 (112mm)	+.020 (+.5mm)	3158-195	929.00
	M20-M25								3158-196	929.00

\*Please order collets separately.

5

## Square Drive ER Collets (one collet required for each tap size)



SERIES	TAP SIZES	ORDER NO. RANGE	PRICE EACH
#11	#0-#10	3158-700 to 3158-702	\$84.00
#20	#8-3/8", 1/16" Pipe	3158-719 to 3158-727	91.00
#25	5/16"-3/4", 1/4" Pipe	3158-729 to 3158-744	98.00
#40	9/16"-1", 1/4", 3/8" 1/2" Pipes	3158-806 to 3158-817	118.00

## SPD Series, Short Positive Drive, Reversing Tapping Attachments For N/C Machines With Bore Cycles, Automated Drill Units (and high production manual applications).

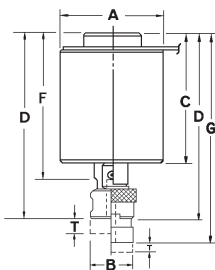
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### FEATURES

- **Positive Drive and Reverse:** The full power of the machine is transmitted to the tap in both drive and reverse to **eliminate slippage**.
- **Short Stroke Self-Feed:** This provides the minimum amount of axial float necessary to **compensate or lead error** on most automated equipment and still allows the tap to act as its own lead screw.
- **Re-entry Cushion:** Cushioned drive **eliminates cross threading**.
- **1 X 1 Reverse Ratio:** Permits the bore cycle of most N/C machines to be used for tapping. This eliminates the undesirable necessity of reversing the motors, spindles and gear trains of expensive numerically controlled equipment.

- **Top Stop Arm Location:** The top stop arm location of the "SPD" reduces the required length of a torque bar to its absolute minimum and **eliminates interference with other tools being used in a set-up**.
- **Collet Chuck Spindle Nose:** Jacobs RUBBER-FLEX® collets and back jaws **adapt to all tap sizes**, both metric and inch, within the attachment's rated capacity.
- **Standard Right Hand Tapping:** Units modified for left-hand tapping are available on special order at no extra cost.
- **Optional Quick Change Spindle Nose:** Accepts Tapmatic Collet Chuck Adapters, Positive Drive and Torque Release Tap Adapters for **complete versatility**.
- **Optional ERICKSON® Spindle Nose:** Available for Models SPD5 and SPD7. Accepts J & K type collets.

MOUNT TYPE	SPD3 (#0-1/4")		SPD5 (#0-1/2")		SPD7 (#10-3/4-16")		SPD9A (1/2-1-1/8")	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
#3JT	-	-	-	-	3158-234	\$1038.00	-	-
#4JT	-	-	-	-	-	-	3158-244	\$1552.00
#6JT	3158-202	\$615.00	3158-218	\$753.00	-	-	-	-
#33JT	3158-204	615.00	3158-220	753.00	-	-	-	-
5/16-24	3158-208	627.00	-	-	-	-	-	-
3/8-24	3158-210	627.00	3158-224	781.00	-	-	-	-
1/2-20	3158-212	627.00	3158-226	781.00	3158-236	1038.00	-	-
5/8-16	3158-214	627.00	3158-228	781.00	3158-238	1038.00	-	-
3/4-16	3158-216	627.00	3158-230	781.00	3158-240	1038.00	3158-246	1552.00
7/8-20	-	-	3158-232	781.00	3158-242	1038.00	-	-
1-1/2-18	-	-	-	-	-	-	3158-248	1552.00



Complete information and instructions are packaged with each unit.

\*\*\* Capacity must be reduced a minimum of 25% for roll form taps.

\* Increase CID & F dimension by .200 for SPD3, .391 for SPD5 and .525 for SPD7.

MODEL	CAPACITY IN STEEL	WEIGHT	REC. MAX SPEED	COLLETS (order separately)		A	B	T SELF-FEED	JACOBS TAPER MTS.		THREADED MTS.			
				STANDARD	OPTIONAL				#	#	C	D	F	
SPD3	M1.4-M6 #0-1/4"	.45 Kg. 1 lb.	2000 RPM	21600	21500	52mm 2.062	19mm .750	3mm .125	#6, #33		79mm	115mm	96mm	
					(.040-.098)						3.125	4.540	3.812	
SPD5	M3-M12 #6-1/2"	1.36 Kg. 3 lbs.	1500 RPM	22100	22000	69mm 2.718	27mm 1.070	5mm .187	#6, #33		5/16-24	65mm	101mm	83mm
					(.194-.318)						2.575	4.000	3.275	
SPD7	M5-M18 #10-3/4-16	2.04 Kg. 4 lbs. 8 ozs.	1200 RPM	24100	24300	76mm 3.000	36mm 1.450	7mm .250	#3		73mm	110mm	92mm	
					(.110-.280)						2.910	4.350	3.625	
SPD9A	M10-M28 #1/2-1 1/8	5.00 Kg. 11 lbs.	600 RPM	26100	24000	103mm 4.090	57mm 2.250	10mm .400	#4		92mm	132mm	108mm	
					(.090-.180)						3.625	5.230	4.255	
				24500	24000					1/2-20, 3/8-16	95mm	158mm	125mm	
					(.318-.480)					3.765	6.225	4.940		
				26200						3/16-18	143mm	240mm	200mm	
										5.650	9.550	7.875		
				26200						3/16	115mm	215mm	170mm	
										4.550	8.450	6.700		



## Rx New Rx Series, Self Reversing Tap Attachments, For Manually Operated Drilling and Milling (Replaces R Series and X Series Tapping Attachments)

### PERFORMANCE ADVANTAGES

- New Durable, Rugged Design For Higher Production On Manual Applications
- Accurate Depth Control • Heavy Duty Ball Clutch

### FEATURES

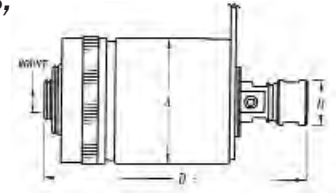
**Self-Feed:** Permits the tap to act as its own lead screw, allowing even inexperienced operators to produce gage perfect threads. Thread depth repeatability can be maintained accurately.

**Pre-Selective Torque Drive:** Completely adjustable for material and tap size, to prevent tap breakage.

**1.75 x 1 Reverse Ratio:** Permits the tap to retract from the tapped hole 75% faster than it entered which greatly increases production.

**Re-Entry Cushion:** A cushioned drive eliminates cross threading. It is possible to re-enter the same tapped hole as many times as necessary and still maintain a gage perfect thread.

**Collet Chuck Spindle Nose:** Jacobs RUBBER-FLEX collets and adjustable back jaws adapt to all tap sizes, both metric and inch, within an attachment's rated capacity.



MOUNT TYPE	Rx 30 (#0-1/4")		Rx 50 (#0-1/2")		Rx 70 (#10-3/4")	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
#33 JT	3158-144	\$515.00	3158-158	\$713.00	-	-
#6 JT	3158-142	515.00	3158-156	713.00	-	-
#3 JT	-	-	-	-	3158-168	\$923.00
5/16"-24	3158-148	530.00	-	-	-	-
3/8"-24	3158-150	530.00	-	-	-	-
1/2"-20	3158-152	530.00	3158-162	735.00	-	-
5/8"-16	3158-154	530.00	3158-164	735.00	3158-172	950.00
3/4"-16	-	-	3158-166	735.00	3158-174	950.00
7/8"-20	-	-	-	-	3158-176	950.00

MODEL	CAPACITY	COLLET SERIES	MAX SPEED	WEIGHT	A	B	D	SELF-FEED
Rx30	#0-1/4" M1.4-M6 Roll Form #10 Max	#21000	2000 RPM	1.5 lb. .7 Kg.	2.125 53mm	0.75 19mm	4.58 116mm	0.13 3mm
Rx50	#6-1/2" M3-M12 Roll Form #3/8 Max NP 1/16", 1/8"	#22000	1500 RPM	4.0 lb. 1.8 Kg.	3 76mm	1.07 27mm	6.2 157mm	0.16 .4mm
Rx70	#10-3/4"-16 M5-M18 Roll Form 9/16" Max	#24000	750 RPM	6.7 lb. 3.0 Kg.	3.5 88mm	1.45 36mm	7.14 182mm	0.16 4mm

## TC/DC For Manually Operated Drilling & Milling Machines



\*Tapping Attachment with Torque and Depth Control Designed for Shallow Hole Drilling on Manually Operated Milling & Drilling Machines

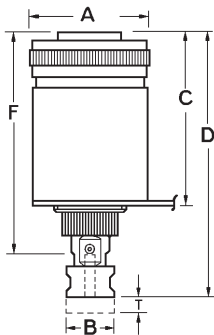
### FEATURES

- Has the standard features of the X Series, plus depth control that eliminates the possibility of bottoming in your work piece and breaking taps.
- **Self-Feed:** Permits the tap to act as its own lead screw and consistently produce gage perfect threads.

MOUNT TYPE	30 TC/DC (#0-1/4")		50 TC/DC (#0-1/2")		70 TC/DC (#10-5/8")	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORD NO.	PRICE EACH
#3JT	-	-	-	-	3158-334	\$1356.00
#4JT	-	-	-	-	-	-
#6JT	3158-302	\$762.00	3158-320	\$1008.00	-	-
#33JT	3158-304	762.00	3158-322	1008.00	-	-
5/16-24	3158-310	762.00	-	-	-	-
3/8-24	3158-312	762.00	3158-326	1008.00	-	-
1/2-20	3158-314	762.00	3158-328	1008.00	3158-336	1356.00
5/8-16	3158-316	762.00	3158-330	1008.00	3158-338	1356.00
3/4-16	3158-318	762.00	3158-332	1008.00	3158-340	1356.00
7/8-20	-	-	-	-	3158-342	1356.00

\*\*\* Capacity must be reduced a minimum of 25% for roll form taps.

Complete information and instructions are packaged with each unit.



MODEL	CAPACITY IN STEEL	WEIGHT	REG. MAX SPEED	COLLETS (order separately)		A	B	E SELF-FEED	JACOBS TAPER MTS.	THREADED MTS.	C	D	F
				STANDARD	OPTIONAL								
30 TC/DC	M1.4-M6 #0-1/4"	.45 Kg. 1 lb.	2000 RPM	21600 (#0-#8)	21500 (.040-.098)	48mm 1.875	19mm .750	6mm .250	#6, #33	1/2-20, 3/8-16	81mm 3.220	109mm 4.300	92mm 3.650
				21700 (#10-1/4")				5/16-24, 3/8-24		72mm 2.850	99mm 3.900	82mm 3.250	
				22100 (#10-3/4")									
50 TC/DC	M3-M12 #6-1/2"	1.36 Kg. 3 lbs.	1500 RPM	22000 (#0-1/2")	22000 (.194-.318)	70mm 2.750	27mm 1.070	9mm .375	#6, #33	1/2-20, 3/8-16	109mm 4.300	148mm 5.830	122mm 4.812
				22200 (1/4"-1/2")	22300 (.090-.180)								
				24100 (#10-3/4")	24300 (.110-.280)								
70 TC/DC	M5-M16 #10-3/4" NP 1/8"	2.04 Kg. 4 lbs. 8 ozs.	1200 RPM	24000 (5/16"-3/4")	24500 (.393-.590)	76mm 3.000	36mm 1.450	9mm .375	#3	1/2-20, 3/8-16	119mm 4.685	168mm 6.650	137mm 5.400
				24100 (#10-1/2")	24300 (.110-.280)								
				24000 (5/16"-3/4")	24500 (.393-.590)								

## Rubber Flex Collets



MFG. NO.	COLLET DESCRIPTION	ORDER NO.	PRICE	MFG. NO.	COLLET DESCRIPTION	ORDER NO.	PRICE	MFG. NO.	COLLET DESCRIPTION	ORDER NO.	PRICE
21400	.198-.255	3158-914	\$31.50	22000	.194-.318	3158-920	\$60.00	24000	5/16"-5/8" Standard	3158-940	\$64.00
21500	.040-.098	3158-915	60.00	22100	#0-1/4" Standard	3158-921	60.00	24100	#10-1/2" Standard	3158-941	64.00
21600	#0-#8 Standard	3158-916	60.00	22200	#1/4"-1/2" Standard	3158-922	60.00	24300	.110-.280	3158-943	64.00
21700	#10-1/4" Standard	3158-917	60.00	22300	.090-.180	3158-923	60.00	24500	.393-.590	3158-945	74.00
								26100	1/2"-3/4"	3158-961	132.00
								26200	7/8"-1-1/8"	3158-962	132.00

# Jacobs® Super Chucks



The ball bearing super chuck is especially designed for EXTRA HEAVY DUTY drilling applications on production machines, jig borers, milling machines, lathes and radials. The ideal choice for those jobs that require close tolerance drilling.



MODEL NO.	CAPACITY INCHES	CHUCK MOUNT	KEY MOUNT	ORDER NO.	PRICE EACH
8-1/2N	0-1/4	2JT	K30	3147-517	\$126.32
11N	0-3/8	2JT	K32	3147-522	140.76
14N	0-1/2	3JT	K3	3147-528	196.77
16N	1/8-5/8	3JT	K4	3147-532	225.88
18N	1/8-3/4	4JT	K4	3147-536	339.72
20N	3/8-1	5JT	K5	3147-540	457.49

# Jacobs® Keyless Chucks

Jacobs® Industrial Keyless Chucks are high precision devices specially designed for high accuracy applications on either conventional or CNC equipment. Tightened and released by hand, they permit more rapid tooling changes to increase machining productivity. A self-tightening feature produces significantly higher gripping force to resist tool shank slippage. Precision manufactured and tested to the most exacting quality standards, Jacobs® Industrial Keyless Chucks can be counted on for extremely high reliability and durability under the most demanding machining conditions.



MODEL JKP	MIN.		MAX.		MOUNT JACOBS	ORDER NO.	PRICE EACH
	INCHES	MM	INCHES	MM			
80-J2S	0	0	0.315	8	J2S	3148-600	\$237.39
100-J2	0	0	0.394	10	J2	3148-601	253.77
100-J33	0	0	0.394	10	J33	3148-602	253.77
130-J2	0.039	1	0.512	13	J2	3148-603	271.27
130-J33	0.039	1	0.512	13	J33	3148-604	271.27
130-J6	0.039	1	0.512	13	J6	3148-605	271.27
160-J6	0.118	3	0.630	16	J6	3148-606	313.64

# Jacobs® Plain Chucks



This fine chuck is offered for both medium duty portable, bench or floor type power tools in a wide range of capabilities for either threaded or taper mounted spindles.



MODEL NO.	CAPACITY INCHES	MOUNT	KEY	ORDER NO.	PRICE EACH
<b>TAPER MOUNT</b>					
0	0-5/32	0JT	K0	3148-005	\$ 84.71
1A	0-1/4	1JT	K1	3148-015	68.90
2A	0-3/8	2JT	K2	3148-065	94.49
33	5/64-1/2	33JT	K32	3148-095	105.64
33KD	5/64-1/2	33JT	K32	3148-100	117.66
3A	1/8-5/8	3JT	K3	3148-160	154.52
34-02	0-1/2	2JT	K3	3148-143	97.04
34-06	0-1/2	6JT	K3	3148-145	128.87
34-33	0-1/2	33JT	K3	3148-146	109.69
34-33C	0-1/2	33JT	K3	3148-147	101.36
36	.18-80	3JT	K4	3148-170	193.89
36PD	.18-80	3JT	K4	3148-192	186.87
36KD	.18-80	3JT	K4	3148-190	186.87
<b>THREAD MOUNT</b>					
1B3/8	0-1/4	3/8-24	K7	3148-010	\$ 69.95
7BA3/8	0-1/4	3/8-24	K7	3148-035	77.65
41BA3/8	0-3/8	3/8-24	K30	3148-193	39.09
41BA1/2	0-3/8	1/2-20	K30	3148-197	109.02
2BA3/8	0-3/8	3/8-24	K2	3148-075	92.95
32BA1/2	0-3/8	1/2-20	K32	3148-090	102.53
33BA3/8	5/64-1/2	3/8-24	K32	3148-105	99.96
33BA1/2	5/64-1/2	1/2-20	K32	3148-115	95.81
33BA5/8	5/64-1/2	5/8-16	K3	3148-120	99.84
3B5/8	5/64-1/2	5/8-16	K3	3148-165	155.69
3BA-1/2	1/8-5/8	5/8-16	K3	3148-158	117.23
36B	.18-80	5/8-16	K4	3148-175	231.97
36B	.18-80	3/4-16	K4	3148-176	217.90

## FEATURES:

- Each chuck precision tested and furnished with an individualized certification number identifying its specific performance characteristics.
- Self-tightening feature automatically increases gripping force proportional to prevent tool shank slippage.
- All components exposed to wear are completely hardened to maintain accuracy and extended chuck life.
- Jacobs taper mount permits use on a wide range of high accuracy drill presses, jig borers, milling machines and production drilling equipment.

## HIGH TORQUE / HIGH PRECISION MODEL

- For use on CNC machining centers in drilling, boring, counterboring and milling operations requiring heavy penetration.
- Furnished with milled wrench flats and spanner wrench to allow the application of supplementary gripping torque. Light tightening increases gripping torque up to 3 times high than hand tightening.
- Resists tool loosening on high speed machines with right hand rotation and instant spindle top.



MODEL JKT	MIN.		MAX.		MOUNT JACOBS	ORDER NO.	PRICE EACH
	INCHES	MM	INCHES	MM			
80-J2S	0	0	0.315	8	J2S	3148-610	\$262.56
130-J2	0.039	0	0.512	13	J2	3148-611	315.02
130-J33	0.039	0	0.512	13	J33	3148-612	315.02
130-J6	0.039	1	0.512	13	J6	3148-613	315.02
160-J6	0.118	3	0.630	16	J6	3148-614	376.51

# Micro Drill Chuck Adapter

## FEATURES:

- 1/2" precision ground straight shank .750 travel
- Free turning knurled hand grip
- Infinitely variable spring pressure
- Automatic return at release
- 0 Jacobs male taper

DESCRIPTION	ORDER NO.	PRICE EACH
Micro Drill Adapter Only	3142-470	\$ 58.95
Micro Drill Adapter with Jacobs Keyed Chuck. 0-5/32" capacity.	3142-480	141.40
Micro Drill Adapter with ROHM Keyless Chuck. 0-5/32" capacity.	3142-485	127.95
Micro Drill Adapter with Albrecht Keyless Chuck. 0-1/16" capacity.	3142-490	275.48



# Industrial Keyless Chucks With V-Flange Mounts



- Choice of CAT-V flange or BT flange with Jacobs® High Torque/High Precision Keyless Chucks. • Single taper connection eliminates intermediate arbors to assure high rigidity and drilling. • Precision tested and individually certified for run-out (mounting taper to chuck capacity). • Milled wrench flats. 10



MODEL/ PART NO.	CAPACITY RANGE				TAPER SIZE	DIMENSIONS						ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM			CLOSED LGTH.		OPEN LGTH.		SLEEVE DIA.			
	IN	MM	IN	MM		IN.	MM.	IN.	MM.	IN.	MM.		
JKC 130-40	0.039	1	0.512	13	CAT40	4.96	126	4.53	115	1.89	48	3148-622	\$847.29
JKC 130-50	0.039	1	0.512	13	CAT50	4.21	107	3.78	96	1.89	48	3148-624	894.51
JKC 160-40	0.118	3	0.630	16	CAT40	4.21	107	3.78	96	1.89	48	3148-625	894.51
JKC 160-50	0.118	3	0.630	16	CAT50	4.13	105	3.70	94	2.17	55	3148-626	928.98
JKB 130-40	0.039	1	0.512	13	BT40	3.39	86	3.82	97	1.89	48	3148-633	779.48
JKB 160-40	0.118	3	0.630	16	BT40	4.13	105	4.57	116	2.17	55	3148-635	852.10
JKB 160-50	0.118	3	0.630	16	BT50	3.74	95	4.17	106	2.17	55	3148-638	893.19

# High Torque/High Precision Keyless Chucks With Integrated Shank

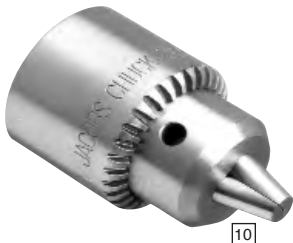
- High precision keyless drill chuck - arbor is integrated into the internal socket of the drill chuck.
- Self-tightening feature automatically increases gripping force proportional to increased torque to prevent tool shank slippage. For right hand rotation applications only.
- 100% individually controlled to ensure not to exceed a maximum total integrated run-out of 0.04 mm. 10



MODEL/ PART NO.	CAPACITY RANGE				MOUNT JACOBS	DIMENSIONS						ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM			CLOSED LGTH.		OPEN LGTH.		SLEEVE DIA.			
	IN	MM	IN	MM		IN.	MM.	IN.	MM.	IN.	MM.		
JK 80-MT2	0.000	0	0.315	8.0	MT2	2.83	72	2.56	65	1.50	38	3148-560	\$255.99
JK 100-MT2	0.000	0	0.394	10.0	MT2	3.23	82	2.87	73	1.69	43	3148-561	281.61
JK 130-MT2	0.039	1	0.512	13.0	MT2	3.62	92	3.15	80	1.89	48	3148-562	314.87
JK 130-MT3	0.039	1	0.512	13.0	MT3	3.62	92	3.15	80	1.89	48	3148-563	316.75
JK 130-MT4	0.039	1	0.512	13.0	MT4	3.54	90	3.23	82	1.89	48	3148-564	335.37
JK 130-R8	0.039	1	0.512	13.0	R8	3.54	90	3.23	82	1.89	48	3148-565	346.88
JK 130-5/8"	0.039	1	0.512	13.0	5/8	3.62	92	3.15	80	1.89	48	3148-566	313.59
JK 160-MT2	0.118	3	0.630	16.0	MT2	3.78	96	3.35	85	2.13	54	3148-567	350.73
JK 160-MT3	0.118	3	0.630	16.0	MT3	3.78	96	3.35	85	2.13	54	3148-568	354.56
JK 160-MT4	0.118	3	0.630	16.0	MT4	3.78	96	3.35	85	2.13	54	3148-569	371.22
JK 160-R8	0.118	3	0.630	16.0	R8	3.78	96	3.35	85	2.13	54	3148-570	382.74

# Stainless Steel Chucks

- For special applications on either portable air-operated, or stationary machine tools.
- Resistant to chemical corrosion and reduces potential for hazardous sparking.



# Drain Chuck

- Specifically designed for use with flexible coil spring tools. Allows coil spring to pass through chuck. Chuck may be hand tightened to secure coil spring at desired length transmitting tool rotation to shaft.
- Ideal for soil pipe and sewer cleaning tools.



MODEL/ PART NO.	CAPACITY RANGE				MOUNT STYLE	KEY NO.	ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM					
	IN	MM	IN	MM				
OM-6624	0(1)	0	0.156	4	0-JT(2)	K0M	3147-560	\$171.37
OBM-6625	0(1)	0	0.156	4	5/16-24	K0M	3147-565	168.38
1M-6626	0(1)	0	0.250	6	1-JT(2)	K1M	3147-580	156.31
1BM-6627	0(1)	0	0.250	6	5/16-24	K1M	3147-570	170.87
1MM-6628	0(1)	0	0.250	6	3/8-24	K1M	3147-575	166.76

MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	KEY NO.	ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM					
	IN	MM	IN	MM				
DC4595	0.25	6.4	0.500	13	13/16-20	-	3148-199	\$90.95

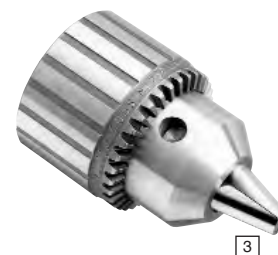
# Adapt-A-Drive® Chucks

- Converts any cordless screwdriver to a multi-purpose mini-drill for bit sizes up to 1/4".
- Easy conversion- integral hex mount locks the Adapt-A-Drive® chuck into the screwdriver bit socket.
- Ideal for starting screw holes when using in hard-to reach spaces.



# Professional Duty Chucks

- Industrial quality for the tradesman.
- Through-hardened jaws provide hard, durable gripping surfaces.
- One-piece sleeve eliminates crack between driving teeth often found in other designs.
- Each chuck is inspected for 100% performance and precision.
- Fluted sleeve finish.



MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	KEY NO.	ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM					
	IN	MM	IN	MM				
30248	0.028	0.7	0.250	6.5	3/8-24	KG1	3148-200	\$20.76

MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	KEY NO.	ORDER NO.	PRICE EACH
	MINIMUM		MAXIMUM					
	IN	MM	IN	MM				
30246	0.063	1.6	0.375	10	3/8-24	KK	3148-182	\$42.51
31052	0.063	1.6	0.500	13	1/2-20	KK	3148-183	47.41



## Multi-Craft® Chucks <sup>3</sup>

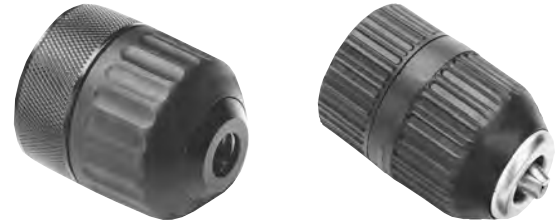
The Multi-Craft® Drill Chuck is mounted as original equipment on more drills than any other chuck by both domestic and import drill manufacturers. It features through-hardened jaws and a design found only in competitors' industrial-grade chucks. Each chuck is backed by the Jacobs® Warranty. Ideal for corded or cordless reversible or nonreversible power drills.

MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	KEY NO.	PRICE EACH
	MINIMUM		MAXIMUM				
	IN	MM	IN	MM			
<b>1/4" Capacity</b>							
3148-186	0.028	0.7	0.250	6.5	3/8-24	KG1	\$16.39
<b>3/8" Capacity</b>							
3148-196	0.062	1.5	0.375	10.0	3/8-24	KG1	19.54
<b>1/2" Capacity</b>							
3148-184	0.078	2.0	0.500	13.0	3/8-24	KK	25.82
3148-185	0.078	2.0	0.500	13.0	1/2-20	KK	25.82



## Hand-Tite® Keyless Drill Chucks

- **Keyless Operation** – Permits fast bit changes without lost key delays.
- **Superior Gripping Force** – Provides high mechanical advantage to convert hand tightening torque into superior bit gripping force.
- **Versatility** – Models available to fit all 10mm (3/8") and 13mm (1/2") variable speed corded and cordless portable drills.
- **Precision Operation** – Meet or exceed stringent DIN run-out and dimensional specifications.
- **Ergonomic Design** – Material and surface finish combinations result in increased comfort and performance.
- **Rugged Construction** – Constructed of high performance materials to maximize durability and performance.



## Hand-Tite® Hammer Keyless Drill Chucks

- **Hammerlock® Mechanism** – Automatically engages as the chuck is tightened and maintains full gripping pressure to prevent bit slippage during hammer drilling.
- **Precision Operation** – Meets or exceeds stringent DIN run-out and dimensional specifications.
- **Ergonomic Design** – Non-slip gripping surfaces enhance hand tightening capability and increase user comfort.
- **Hard Nose** – Protects chuck from work surface abrasion.
- **Rugged Construction** – Provides extended service under the most demanding concrete hole drilling conditions.
- **Keyless Convenience** – Offers fast bit changeover, superior gripping force and no lost key delays.
- **Performance** – Tested and approved on a wide range of AC powered and cordless hammer drills.

MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	PRICE EACH
	MINIMUM		MAXIMUM			
	IN	MM	IN	MM		
<b>13mm Capacity (1/2") Hammerlock® Mechanism, Black Finish</b>						
3148-189	0.062	2.0	0.500	13	1/2-20	\$55.66



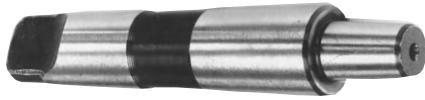
MODEL/ PART NO.	CAPACITY RANGE				MOUNT THREAD	PRICE EACH
	MINIMUM		MAXIMUM			
	IN	MM	IN	MM		
<b>10mm Capacity (3/8") Metal Sleeve, Exposed Jaws, Black Finish</b>						
3148-198	0.040	1.0	0.375	10	3/8-24	\$30.82
<b>13mm Capacity (1/2") Hard Nose, Black Finish</b>						
3148-188	0.062	2.0	0.500	13	1/2-20	47.41
3148-187	0.062	2.0	0.500	13	3/8-24	47.41

## Chuck Keys

FOR JACOBS			FOR ROHM			FOR LFA			USA MADE	
JACOBS	ROHM	LFA	CHUCK NOS.	CHUCK NOS.	CHUCK NOS.	PILOT SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
K0		0	0B			1/8	3148-324	\$ 5.31	3148-301	\$ 4.25
K1	S7	1	1A, 1B, 1BS, MC1	R0-0, R1-1	81-1A, 81-B1-	5/32	3148-317	3.75	3148-302	3.00
KG	S14	TB1	DC1G61, DC1G61AD, DC4G61, DC4G61AD, H1G61, H4561, MC2, MC11G41, MC1G60, MC1G61, MC1G75, U4G41, U4G60, U4G61		4200-B1, 412-B1 420-B1	1/4	3148-331	2.66	3148-314	2.13
KGA		T80				1/4	3148-326	2.36	3148-316	2.12
K2	S17	#2	2A, 2B, MC5	R2-38, R2-38TH	82-2A, 82-2B	1/4	3148-318	5.29	3148-303	4.23
K7	S18	T4	7, 7-1A, 7B	R6-12, R6-12TH, R6-38TH, R7-38TH		7/32	3148-321	4.64	3148-306	3.71
K32	S9	T5	11N, 32, 32B, 33, 33B, 33BA, 33F, 33KD, 3326, 3326A, MC-10, MC33	R2-2, R2-12, R2-33, R9-12, R9-12TH, R9-38, R9-38TH	82A-5A, 42BA-5A, 8282A-5B, 42-BA-5B, 82AS-5A	1/4	3148-319	5.41	3148-308	4.33
K3	S10	T6	3, 3A, 3AE, 3B, 3KD, 3PD, 6AE, 6A-2A, 6A-33, 6B, 14N, 34, 34B, 34KD, 34PD, 55B, 56B, 58B, 75A, 63A, 634B	R3-2, R3-6, R3-6DP/TH, R3-12, R3-33, R3-58, R4-3, R4-58, R11-3	43-6A, 42-6B, 84-6A, 45-6A, 44-6B, 84-6B, 45-5B, 83S-6A, 84S-6A	5/16	3148-320	6.29	3148-304	5.03
K3C		T6C	633C, 633D			5/16	3148-327	7.63	3148-305	6.10
K30	S8	#13	30, 30-1A, 30B, 31B, 31BA, 8-1/2N, MC4	R7-1, R7-12, R7-38, R8-12, R8-38, R8-38TH	81B-13A, 81B-13B, 42-13B, 81BS-13A	15/64	3148-323	5.14	3148-307	4.11
KK	S19	TB13	DC8K33, DC8K61,		42-813,	9/32	3148-329	4.29	3148-315	3.43
K4	S13	#9	16N, 18BN, 36, 36B, 37KD, 37PD, 59B	R5-3, R-5, 3DP/TH, R5-4, R6-5	85-9A, 85B-9A, 85S-9A, 85BS-9A	3/8	3148-322	10.42	3148-309	8.34
K5		#26	20N			7/16	3148-328	22.94	3148-310	18.35

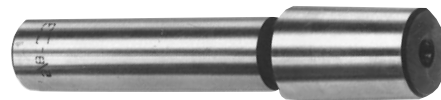


## Morse Taper To Jacobs Taper



		Pittsburg ALLIANCE		Jacobs TOOL MANUFACTURING	
MORSE TAPER	JACOBS TAPER	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	0	3142-410	\$3.20	-	-
1	1	3142-411	3.20	3148-685	\$20.69
1	2	3142-412	3.20	3148-686	23.10
1	3	3142-413	3.20	-	-
1	6	3142-416	3.20	3148-687	25.16
1	33	3142-419	3.20	3148-688	24.19
2	1	3142-421	3.20	3148-689	22.00
2	2	3142-422	3.20	3148-690	17.81
2	3	3142-423	3.20	3148-691	17.47
2	4	3142-424	4.45	3148-692	22.50
2	6	3142-426	3.20	3148-693	23.94
2	33	3142-429	3.20	3148-694	17.81
3	1	3142-431	4.25	3148-695	24.89
3	2	3142-432	4.25	3148-696	24.89
3	3	3142-433	4.25	3148-697	24.40
3	4	3142-434	4.25	3148-698	27.69
3	5	3142-435	4.25	3148-699	32.67
3	6	3142-436	4.25	3148-700	24.89
3	33	3142-439	4.25	3148-701	24.89
4	2	3142-442	7.30	3148-702	43.68
4	3	3142-443	7.30	3148-703	38.38
4	4	3142-444	7.30	3148-704	38.38
4	5	3142-445	7.30	3148-705	53.69
4	6	3142-446	7.30	3148-706	39.07
4	33	3142-449	7.30	3148-707	40.47
5	3	3142-453	11.35	3148-708	79.76
5	4	3142-454	11.35	3148-709	78.88
5	5	3142-455	11.35	3148-710	77.87
5	6	3142-456	11.35	-	-
5	33	3142-459	11.35	-	-

## Straight Shank To Jacobs Taper



		Pittsburg ALLIANCE		Jacobs TOOL MANUFACTURING	
SA. SHANK	JACOBS TAPER	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/2	0	3142-300	\$2.95	3148-715	\$18.19
1/2	1	3142-301	2.95	3148-716	18.19
1/2	2	3142-302	2.95	3148-717	18.19
1/2	3	3142-303	2.95	3148-718	18.19
1/2	6	3142-306	2.95	3148-719	23.57
1/2	33	3142-309	2.95	3148-720	18.19
5/8	1	3142-321	2.95	3148-721	22.39
5/8	2	3142-322	2.95	3148-722	22.39
5/8	3	3142-323	2.95	3148-723	30.94
5/8	4	3142-324	2.95	-	-
5/8	6	3142-326	2.95	3148-724	24.11
5/8	33	3142-329	2.95	3148-725	20.58
3/4	2	3142-342	4.10	3148-726	30.94
3/4	3	3142-343	4.10	3148-727	28.26
3/4	4	3142-344	4.10	-	-
3/4	6	3142-346	4.10	3148-728	33.20
3/4	33	3142-349	4.10	3148-729	33.63
1	2	3142-362	4.65	-	-
1	3	3142-363	4.65	3148-730	33.66
1	4	3142-364	4.65	-	-
1	6	3142-366	4.65	3148-731	38.52
1	33	3142-369	4.65	-	-

## R8 To Jacobs Taper



		Pittsburg ALLIANCE		Jacobs TOOL MANUFACTURING	
FROM R8 TAPER	TO JACOBS TAPER	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
R8	1	3142-200	\$13.35	-	-
R8	2	3142-202	13.35	3148-745	\$96.05
R8	3	3142-204	13.35	3148-746	96.05
R8	4	3142-206	13.35	-	-
R8	6	3142-208	13.35	3148-747	96.05
R8	33	3142-210	13.35	3148-748	96.05

## Threaded Arbors



		Pittsburg ALLIANCE		Jacobs TOOL MANUFACTURING	
SIZE	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1/2 x 3/8-24	3142-160	\$5.05	-	-	
1/2 x 1/2-20	3142-161	5.05	-	-	
1MT x 1/2-20	3142-166	5.70	-	-	
2MT x 3/8-24	3142-170	5.70	3148-735	\$64.83	
2MT x 1/2-20	3142-172	5.70	3148-736	64.83	
2MT x 5/8-16	3142-174	5.70	3148-737	64.83	

# Assorted Toolholders

## Drill Sleeves



SIZE	M.T. HOLE	M.T. O.D.	SOFT WITH HARDENED TANG		HARDENED AND GROUND THROUGHOUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1 to 2	1	2	3147-012	\$ 3.40	3147-312	\$ 5.15
1 to 3	1	3	3147-013	4.70	3147-313	7.05
1 to 4	1	4	3147-014	7.25	3147-314	12.60
1 to 5	1	5	3147-015	11.65	3147-315	16.65
2 to 3	2	3	3147-023	4.70	3147-323	7.05
2 to 4	2	4	3147-024	7.25	3147-324	12.60
2 to 5	2	5	3147-025	11.65	3147-325	16.65
3 to 4	3	4	3147-034	7.25	3147-334	12.60
3 to 5	3	5	3147-035	11.65	3147-335	16.65
4 to 5	4	5	3147-045	11.65	3147-345	16.65
4 to 6	4	6	3147-046	33.20	3147-346	43.20
5 to 6	5	6	3147-056	35.90	3147-356	43.20

## Extension Sockets



SIZE	SIZE HOLE	O.D.	ORDER NO.	PRICE EACH
1 to 1	1	1	3147-111	\$10.80
1 to 2	1	2	3147-112	10.80
1 to 3	1	3	3147-113	11.70
1 to 4	1	4	3147-114	16.50
2 to 1	2	1	3147-121	10.80
2 to 2	2	2	3147-122	10.80
2 to 3	2	3	3147-123	11.70
2 to 4	2	4	3147-124	14.80
2 to 5	2	5	3147-125	27.45
3 to 2	3	2	3147-132	14.80
3 to 3	3	3	3147-133	14.80
3 to 4	3	4	3147-134	14.80
3 to 5	3	5	3147-135	27.45
4 to 2	4	2	3147-142	21.15
4 to 3	4	3	3147-143	23.60
4 to 4	4	4	3147-144	23.60
4 to 5	4	5	3147-145	27.45
4 to 6	4	6	3147-146	69.30
5 to 3	5	3	3147-153	52.70
5 to 4	5	4	3147-154	52.70
5 to 5	5	5	3147-155	52.70
5 to 6	5	6	3147-156	69.30

† Limited Quantities

## Screw Machine Sockets



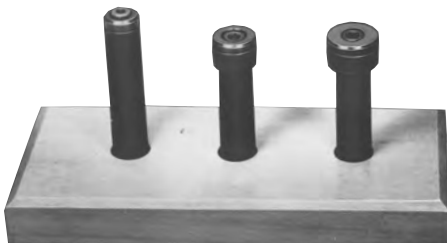
SIZE	M.T. HOLE	O.D.	OVERALL LENGTH	ORDER EACH	PRICE EACH
1	1	1	3-1/2	3147-201	\$ 7.25
2	1	1-1/4	3-1/2	3147-202	7.55
3	1	1-1/2	3-1/2	3147-203	7.95
4	2	1	4	3147-204	12.10
5	2	1-1/4	4	3147-205	12.10
6	2	1-1/2	4	3147-206	12.10
7	2	1-3/4	4	3147-207	12.10
8	2	2	4	3147-208	13.75
9	3	1-1/4	4-3/4	3147-209	15.30
10	3	1-1/2	4-3/4	3147-210	15.30
11	3	1-3/4	4-3/4	3147-211	15.30
12	3	2	4-3/4	3147-212	17.65
13	4	1-1/2	6	3147-213	17.65
14	4	1-3/4	6	3147-214	17.65
15	4	2	6	3147-215	17.65
16	5	2-1/4	7-3/8	3147-216	33.75
17	5	2-1/2	7-3/8	3147-217	33.75

## Drill Drifts



SIZE	DESCRIPTION	ORDER NO.	PRICE EACH
1	Fitting #1 Sockets & Sleeves	3147-221	\$2.40
2	Fitting #2 Sockets & Sleeves	3147-222	2.55
3	Fitting #3 Sockets & Sleeves	3147-223	3.20
4	Fitting #4 & #5 Sockets & Sleeves	3147-224	4.05

## 3 Piece Slotting Saw Arbor Set



- For saw blades .001" to 3/16" thickness.
- Heat treated shanks.
- For hole sizes 1/4", 3/8" & 12".
- 1/2" Shanks.

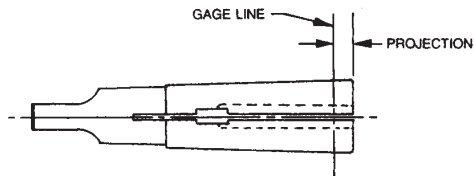
Order No. 3142-021 Price Each ... \$31.40

## Vari-Saw Holder



- Spring loaded mechanism accepts saw blades with hole diameters from 1/2" to 1".
- Blades are firmly secured in position with hex head screw.
- Offers flexibility in sawing operation.

R8 Shank Order No. 3142-022 Price Each ... \$23.85  
 1/2" Shank Order No. 3142-020 Price Each ... \$15.00

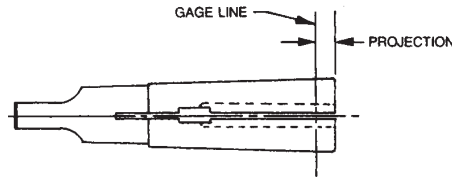


DRILL SIZE	#0 M.T.	PRICE EACH	#1 M.T.	PRICE EACH	#2 M.T.	PRICE EACH
53	4870-115	\$25.90	-	-	-	-
1.55MM	-	-	4871-116	\$14.70	4872-201	\$15.80
1/16	4870-117	25.90	4871-117	14.70	4872-202	15.80
1.60MM	4870-117	25.90	4871-117	14.70	4872-202	15.80
52	4870-119	25.90	4871-119	14.70	4872-204	15.80
1.70MM	-	-	4871-121	14.70	4872-206	15.80
51	-	-	4871-121	14.70	4872-206	15.80
50	-	-	-	-	4872-207	15.80
1.80MM	-	-	4871-122	POA	4872-207	15.80
1.85MM	-	-	4871-123	14.70	4872-208	15.80
49	-	-	4871-123	14.70	4872-208	15.80
48	-	-	4871-124	14.70	4872-209	15.80
1.95MM	-	-	4871-124	14.70	4872-209	15.80
5/64	-	-	4871-125	14.70	-	-
47	-	-	4871-126	14.70	4872-211	15.80
2.00MM	-	-	4871-126	14.70	4872-211	15.80
2.05MM	-	-	4871-127	14.70	4872-212	15.80
46	-	-	4871-127	14.70	4872-212	15.80
45	-	-	4871-128	14.70	4872-213	15.80
2.10MM	-	-	4871-128	14.70	4872-213	15.80
44	4870-130	25.90	4871-130	14.70	4872-215	15.80
2.20MM	4870-130	25.90	4871-130	14.70	4872-215	15.80
2.25MM	4870-131	25.90	4871-131	14.70	4872-216	15.80
43	4870-131	25.90	4871-131	14.70	4872-216	15.80
2.30MM	-	-	-	-	4872-217	15.80
2.35MM	4870-279	25.90	-	-	-	-
42	-	-	4871-134†	13.80	4872-219	15.80
3/32	4870-134	POA	4871-134†	13.80	4872-219	15.80
2.40MM	-	-	4871-420	14.70	4872-620	15.80
41	-	-	4871-135	14.70	4872-220	15.80
2.45MM	-	-	4871-135	14.70	4872-220	15.80
40	-	-	4871-136	14.70	-	-
2.50MM	-	-	4871-136	14.70	-	-
39	-	-	4871-137	14.70	4872-222	15.80
2.55MM	-	-	4871-137	14.70	4872-222	15.80
38	-	-	4871-138	14.70	4872-223	15.80
2.60MM	-	-	4871-138	14.70	4872-223	15.80
2.70MM	4870-141	25.90	4871-141	14.70	4872-226	15.80
36	4870-141	25.90	4871-141	14.70	4872-226	15.80
7/64	-	-	4871-142†	13.80	4872-227	15.80
35	-	-	-	-	4872-228	15.80
2.80MM	-	-	-	-	4872-228	15.80
34	-	-	-	-	4872-229	15.80
2.85MM	-	-	4871-145	14.70	4872-230	15.80
33	-	-	4871-145	14.70	4872-230	15.80
32	4870-146	25.90	4871-146	14.70	4872-231	15.80
2.95MM	4870-146	25.90	4871-146	14.70	4872-231	15.80
3.00MM	4870-292	25.90	4871-432	14.70	4872-632	15.80
31	4870-147	25.90	4871-147	14.70	4872-232	15.80
3.05MM	4870-147	25.90	4871-147	14.70	4872-232	15.80
3.10MM	-	-	4871-148	14.70	4872-233	15.80
1/8	4870-149	25.90	4871-149	14.70	4872-234	15.80
3.20MM	4870-149	25.90	4871-149	14.70	4872-234	15.80
3.25MM	4870-150	25.90	4871-150	14.70	4872-235	15.80
30	4870-150	25.90	4871-150	14.70	4872-235	15.80
3.30MM	4870-151	25.90	4871-151	14.70	4872-236	15.80
3.40MM	-	-	4871-152	14.70	4872-237	15.80
29	-	-	4871-153	14.70	4872-238	15.80
3.50MM	4870-154	25.90	4871-154	14.70	-	-
28	-	-	4871-156	14.70	4872-241	15.80
9/64	-	-	4871-156	14.70	4872-241	15.80
3.60MM	4870-354	25.90	-	-	4872-638	15.80
27	-	-	4871-157	14.70	4872-242	15.80
3.70MM	-	-	4871-439	14.70	-	-
26	-	-	4871-158	14.70	4872-243	15.80

† Limited Quantities

DRILL SIZE	#0 M.T.	PRICE EACH	#1 M.T.	PRICE EACH	#2 M.T.	PRICE EACH
3.75MM	-	-	4871-158	\$14.70	4872-243	\$15.80
25	-	-	4871-159	14.70	-	-
3.80MM	-	-	4871-159	14.70	-	-
24	-	-	4871-160	14.70	4872-245	15.80
23	-	-	4871-161	14.70	4872-246	15.80
5/32	4870-162	\$25.90	4871-162	14.70	4872-247	15.80
22	-	-	4871-163	14.70	4872-248	15.80
4.00MM	-	-	4871-163	14.70	4872-248	15.80
21	-	-	4871-164	14.70	4872-249	15.80
20	-	-	4871-165	14.70	-	-
4.10MM	-	-	4871-165	14.70	-	-
4.20MM	4870-166	25.90	4871-166	14.70	-	-
19	4870-166	25.90	4871-166	14.70	-	-
4.30MM	-	-	4871-167	14.70	4872-252	15.80
18	-	-	4871-167	14.70	4872-252	15.80
11/64	4870-168	25.90	4871-168	14.70	4872-253	15.80
17	-	-	-	-	4872-254	15.80
4.40MM	-	-	-	-	4872-254	15.80
16	4870-170	25.90	4871-170	14.70	4872-255	15.80
4.50MM	4870-170	25.90	4871-170	14.70	4872-255	15.80
15	-	-	-	-	4872-256	15.80
4.60MM	-	-	-	-	4872-648	15.80
14	4870-172	25.90	4871-172	14.70	4872-257	15.80
13	-	-	4871-173	14.70	4872-258	15.80
4.70MM	-	-	4871-173	14.70	4872-258	15.80
4.75MM	4870-174	25.90	4871-174	14.70	4872-259	15.80
3/16	4870-174	25.90	4871-174	14.70	4872-259	15.80
4.80MM	4870-175	25.90	4871-175	14.70	-	-
12	4870-175	25.90	4871-175	14.70	-	-
11	4870-176	25.90	4871-176	14.70	-	-
4.90MM	-	-	4871-177	14.70	4872-262	15.80
10	-	-	4871-177	14.70	4872-262	15.80
9	4870-178	25.90	4871-178	14.70	4872-263	15.80
5.00MM	4870-178	25.90	4871-178	14.70	4872-263	15.80
8	-	-	4871-179	14.70	4872-264	15.80
5.10MM	-	-	4871-180	14.70	4872-265	15.80
7	-	-	4871-180	14.70	4872-265	15.80
13/64	4870-181	25.90	4871-181	14.70	4872-266	15.80
6	-	-	4871-182	14.70	4872-267	15.80
5.20MM	-	-	4871-182	14.70	4872-267	15.80
5	-	-	4871-183	14.70	4872-268	15.80
5.30MM	4870-184	25.90	4871-184	14.70	4872-269	15.80
4	4870-184	25.90	4871-184	14.70	4872-269	15.80
5.40MM	4870-185	25.90	4871-185	14.70	4872-270	15.80
3	4870-185	25.90	4871-185	14.70	4872-270	15.80
5.50MM	4870-373	25.90	4871-457	14.70	4872-657	15.80
7/32	-	-	4871-186	14.70	4872-271	15.80
5.60MM	-	-	4871-187	14.70	4872-271	15.80
2	-	-	4871-187	14.70	4872-271	15.80
5.70MM	-	-	-	-	4872-273	15.80
1	-	-	4871-189	14.70	4872-274	15.80
5.80MM	-	-	4871-189	14.70	4872-274	15.80
A	4870-191	25.90	4871-191	14.70	4872-276	15.80
15/64	4870-191	25.90	4871-191	14.70	4872-276	15.80
6.00MM	4870-378	25.90	4871-462	14.70	4872-662	15.80
B	-	-	4871-192	14.70	4872-277	15.80
6.10MM	4870-193	25.90	-	-	4872-278	15.80
C	-	-	4871-194	14.70	4872-279	15.80
D	-	-	4871-195	14.70	4872-280	15.80
6.25MM	-	-	4871-195	14.70	4872-280	15.80
6.30MM	-	-	4871-465	14.70	-	-
1/4	4870-196	25.90	4871-196	14.70	4872-281	15.80
6.40MM	-	-	-	-	4872-282	15.80
6.50MM	-	-	4871-467	14.70	4872-667	15.80
F	-	-	4871-198	14.70	4872-283	15.80
6.60MM	-	-	4871-468	14.70	-	-

(Continued)



DRILL SIZE	#1 M.T.	PRICE EACH	#2 M.T.	PRICE EACH	#3 M.T.	PRICE EACH
G	4871-199	\$14.70	4872-284	\$15.80	-	-
6.70MM	4871-469	14.70	4872-669	15.80	-	-
17/64	4871-200	14.70	4872-285	15.80	-	-
6.75MM	4871-200	14.70	4872-285	15.80	-	-
H	4871-200	14.70	4872-285	15.80	-	-
6.80MM	4871-470	14.70	-	-	-	-
6.90MM	4871-202	14.70	4872-287	15.80	-	-
I	4871-202	14.70	4872-287	15.80	-	-
7.00MM	4871-472	14.70	4872-672	15.80	-	-
J	4871-203	14.70	4872-288	15.80	-	-
7.10MM	4871-473	14.70	4872-673	15.80	-	-
K	4871-205	14.70	4872-290	15.80	-	-
9/32	4871-205	14.70	4872-290	15.80	-	-
7.20MM	4871-474	14.70	4872-674	15.80	-	-
7.25MM	4871-206	14.70	4872-291	15.80	-	-
7.30MM	4871-475	14.70	4872-675	15.80	-	-
L	4871-207	14.70	4872-292	15.80	-	-
7.40MM	-	-	4872-293	15.80	-	-
M	4871-209	14.70	-	-	-	-
7.50MM	4871-209	14.70	-	-	-	-
19/64	4871-210	14.70	4872-295	15.80	-	-
N	4871-211	14.70	4872-296	15.80	-	-
7.80MM	4871-212	14.70	-	-	-	-
7.90MM	-	-	4872-681	15.80	-	-
5/16	4871-213	14.70	4872-298	15.80	-	-
8.00MM	4871-482	14.70	4872-682	15.80	-	-
O	4871-214	14.70	4872-299	15.80	-	-
8.10MM	-	-	4872-683	15.80	-	-
8.20MM	4871-215	14.70	4872-300	15.80	-	-
P	4871-215	14.70	4872-300	15.80	-	-
8.30MM	-	-	4872-685	15.80	-	-
21/64	4871-216	14.70	4872-301	15.80	-	-
8.40MM	-	-	4872-686	15.80	-	-
Q	4871-217	14.70	4872-302	15.80	-	-
8.50MM	4871-487	14.70	4872-687	15.80	-	-
8.60MM	4871-218	14.70	4872-303	15.80	-	-
R	4871-218	14.70	4872-303	15.80	-	-
8.70MM	4871-489	14.70	4872-689	15.80	-	-
11/32	4871-219	14.70	4872-304	15.80	-	-
8.80MM	4871-490	14.70	4872-690	15.80	-	-
S	4871-220	14.70	4872-305	15.80	-	-
9.00MM	4871-221	14.70	4872-306	15.80	-	-
T	-	-	4872-307	15.80	-	-
9.10MM	-	-	4872-307	15.80	-	-
23/64	4871-223	14.70	4872-308	15.80	-	-
9.20MM	-	-	4872-694	15.80	-	-
U	4871-224	14.70	4872-309	15.80	-	-
9.50MM	-	-	4872-697	15.80	-	-
3/8	4871-225	14.70	4872-310	15.80	-	-
V	-	-	4872-311	15.80	4873-000	\$27.10
9.60MM	-	-	4872-698	15.80	4873-100	POA
9.70MM	-	-	4872-699	15.80	4873-101	27.10
9.8MM	-	-	4872-312	15.80	4873-001	27.10
W	-	-	4872-312	15.80	4873-001	27.10
9.90MM	-	-	4872-313	15.80	4873-002†	25.50
25/64	-	-	4872-313	15.80	4873-002†	25.50
10.00MM	-	-	4872-702	15.80	4873-104	27.10
X	-	-	4872-314	15.80	4873-003	27.10
10.10MM	-	-	4872-314	15.80	4873-003	27.10
10.20MM	-	-	4872-704	15.80	4873-106	27.10
Y	-	-	4872-315	15.80	4873-004	27.10
10.30MM	-	-	4872-316	15.80	4873-005	27.10
13/32	-	-	4872-316	15.80	4873-005	27.10
10.40MM	-	-	4872-706	15.80	4873-108	27.10
Z	-	-	4872-317	15.80	-	-
10.50MM	-	-	4872-317	15.80	-	-
10.70MM	-	-	4872-318	15.80	4873-007	27.10
27/64	-	-	4872-318	15.80	4873-007	27.10
10.80MM	-	-	4872-710	15.80	-	-
10.90MM	-	-	4872-711	15.80	-	-

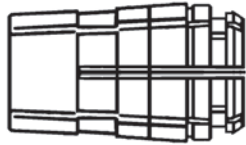
DRILL SIZE	#2 M.T.	PRICE EACH	#3 M.T.	PRICE EACH	#4 M.T.	PRICE EACH
11.00MM	-	-	4872-712	\$15.80	4873-114	\$27.10
11.10MM	-	-	4872-319	15.80	4873-008	27.10
7/16	-	-	4872-319	15.80	4873-008	27.10
11.20MM	-	-	4872-714	15.80	4873-116	27.10
11.30MM	-	-	4872-715	15.80	4873-117	27.10
11.40MM	-	-	4872-716	15.80	-	-
11.50MM	-	-	4872-320	15.80	4873-009	27.10
29/64	-	-	4872-320	15.80	4873-009	27.10
11.60MM	-	-	4872-718	15.80	4873-120	27.10
11.70MM	4872-719	\$15.80	4873-121	27.10	-	-
11.80MM	-	-	4873-122	27.10	-	-
11.90MM	4872-321	15.80	4873-010	27.10	-	-
15/32	4872-321	15.80	4873-010	27.10	-	-
12.00MM	4872-722	15.80	4873-124	27.10	-	-
12.20MM	4872-724	15.80	-	-	-	-
12.30MM	4872-322	15.80	4873-011	27.10	-	-
31/64	4872-322	15.80	4873-011	27.10	-	-
12.40MM	4872-726	15.80	4873-128	27.10	-	-
12.50MM	4872-727	15.80	-	-	-	-
12.60MM	4872-728	15.80	4873-130	27.10	-	-
12.70MM	4872-323	15.80	4873-012	27.10	-	-
1/2	4872-323	15.80	4873-012	27.10	-	-
12.90MM	4872-731	15.80	-	-	-	-
13.00MM	4872-732	15.80	-	-	-	-
33/64	4872-324	15.80	4873-013†	25.50	-	-
13.10MM	4872-324	15.80	4873-013†	25.50	-	-
13.30MM	4872-735	15.80	4873-137	27.10	-	-
17/32	4872-325	15.80	4873-014	27.10	-	-
13.50MM	4872-325	15.80	4873-014	27.10	-	-
13.60MM	4872-738	15.80	4873-140	27.10	-	-
13.80MM	4872-740	15.80	-	-	-	-
35/64	4872-326	15.80	4873-015	27.10	-	-
13.90MM	4872-326	15.80	4873-015	27.10	-	-
14.00MM	4872-742	15.80	4873-144	27.10	-	-
14.20MM	4872-744	15.80	4873-146	POA	-	-
9/16	4872-327	15.80	4873-016	27.10	-	-
14.50MM	4872-747	15.80	-	-	-	-
14.60MM	-	-	-	-	-	-
37/64	-	-	4873-017	27.10	4874-000	53.00
14.70MM	-	-	4873-017	27.10	4874-000	53.00
15.00MM	-	-	4873-154	27.10	-	-
19/32	-	-	4873-018	27.10	4874-001	53.00
15.10MM	-	-	4873-018	27.10	4874-001	53.00
39/64	-	-	4873-019	27.10	4874-002	53.00
15.50MM	-	-	4873-019	27.10	4874-002	53.00
5/8	-	-	4873-020	27.10	4874-003	53.00
41/64	-	-	4873-021	27.10	4874-004	53.00
16.50MM	-	-	4873-169	27.10	-	-
21/32	-	-	4873-022	27.10	4874-005	53.00
17.00MM	-	-	4873-174	27.10	-	-
43/64	-	-	4873-023	27.10	4874-006	53.00
17.40MM	-	-	4873-178	27.10	-	-
11/16	-	-	4873-024	27.10	4874-007	53.00
17.60MM	-	-	4873-180	27.10	-	-
45/64	-	-	4873-025	27.10	4874-008	53.00
18.00MM	-	-	4873-184	27.10	-	-
18.25MM	-	-	4873-026	27.10	4874-009	53.00
23/32	-	-	4873-026	27.10	4874-009	53.00
18.50MM	-	-	4873-189	27.10	-	-
47/64	-	-	4873-027	27.10	4874-010	53.00
3/4	-	-	4873-028	27.10	4874-011	53.00
25/32	-	-	-	-	4874-013	53.00
51/64	-	-	-	-	4874-014	53.00
13/16	-	-	-	-	4874-015	53.00
7/8	-	-	-	-	4874-019	53.00
59/64	-	-	-	-	4874-022	53.00
15/16	-	-	-	-	4874-023	53.00
61/64	-	-	-	-	4874-024	53.00
31/32	-	-	-	-	4874-025	53.00
25.00MM	-	-	-	-	4874-026	53.00
63/64	-	-	-	-	4874-026	53.00
1	-	-	-	-	4874-027	53.00

† Limited Quantities



# Collis Toolholder Systems

## Precision Grip Single Angle Collets



**SERIES 100** [6]

SIZE	ORDER NO.	PRICE EACH
3/32	4874-200	\$35.60
1/8	4874-202	35.60
5/32	4874-204	35.60
3/16	4874-206	35.60
7/32	4874-208	35.60
1/4	4874-210	29.60
9/32	4874-212	29.60
5/16	4874-214	29.60
11/32	4874-216	29.60
3/8	4874-218	22.60
13/32	4874-220	22.60
7/16	4874-222	22.60
15/32	4874-224	22.60
1/2	4874-226	22.60
17/32	4874-228	22.60
9/16	4874-230	22.60
19/32	4874-232	22.60
5/8	4874-234	22.60
21/32	4874-236	22.60
11/16	4874-238	22.60
23/32	4874-240	22.60
3/4	4874-242	22.60
25/32	4874-244	22.60
13/16	4874-246	22.60
27/32	4874-248	22.60
7/8	4874-250	22.60
29/32	4874-252	22.60
15/16	4874-254	22.60
31/32	4874-256	22.60
1	4874-258	22.60

**SERIES 150** [6]

SIZE	ORDER NO.	PRICE EACH
1/2	4874-300	\$40.30
17/32	4874-302	40.30
9/16	4874-304	40.30
19/32	4874-306	40.30
5/8	4874-308	40.30
21/32	4874-310	40.30
11/16	4874-312	40.30
23/32	4874-314	40.30
3/4	4874-316	32.20
25/32	4874-318	32.20
13/16	4874-320	32.20
27/32	4874-322	32.20
7/8	4874-324	32.20
29/32	4874-326	32.20
15/16	4874-328	32.20
31/32	4874-330	32.20
1	4874-332	32.20
1-1/32	4874-334	32.20
1-1/16	4874-336	32.20
1-3/32	4874-338	32.20
1-1/8	4874-340	32.20
1-5/32	4874-342	32.20
1-3/16	4874-344	32.20
1-7/32	4874-346	32.20
1-1/4	4874-348	32.20
1-9/32	4874-350	32.20
1-5/16	4874-352	32.20
1-11/32	4874-354	32.20
1-3/8	4874-356	32.20
1-13/32	4874-358	32.20
1-7/16	4874-360	32.20
1-15/32	4874-362	32.20
1-1/2	4874-364	32.20

## Split Sleeve Tap Drivers



[6]

OUTSIDE M.T.	TAP SIZE	ORDER NO.	PRICE EACH
1	0-6	4871-300	\$15.80
1	8	4871-301	15.80
1	10	4871-302	15.80
1	12	4871-303	15.80
1	1/4	4871-320	15.80
1	5/16	4871-321	15.80
1	3/8	4871-322	00.00
2	1/4	4872-420	16.90
2	5/16	4872-421	16.90
2	3/8	4872-422	16.90
2	7/16	4872-424	16.90
2	1/2	4872-425	16.90
2	9/16	4872-426	22.60
2	5/8	4872-427	22.60
2	11/16	4872-428	22.60
3	1/2	4873-420	27.10
3	9/16	4873-421	27.10
3	5/8	4873-422	27.10
3	11/16	4873-423	27.10
3	3/4	4873-424	27.10
3	7/8	4873-425	27.10
4	3/4	4874-420	45.20
4	7/8	4874-421	45.20
4	1	4874-422	45.20
4	1-1/8	4874-423	45.20
4	1-1/4	4874-424	45.20
5	1-1/8	4875-100	84.60
5	1-1/4	4875-101	84.60
5	1-3/8	4875-102	84.60
5	1-1/2	4875-103	84.60
5	1-3/4	4875-104	84.60

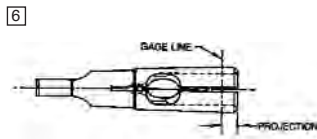
Heavy Duty: P.O.A.

## Split Sleeve Tap Drivers—Pipe Sizes

OUTSIDE M.T.	TAP SIZE	ORDER NO.	PRICE EACH
2	1/16 SS	4872-450	\$22.60
2	1/8 LS	4872-451	22.60
3	1/4	4873-450	27.10
4	3/8	4874-450	45.20
4	1/2	4874-451	45.20
4	3/4	4874-452	45.20
5	3/4	4875-110	84.60
5	1	4875-111	84.60
5	1-1/4	4875-112	84.60
5	1-1/2	4875-113	84.60

Heavy Duty: P.O.A.

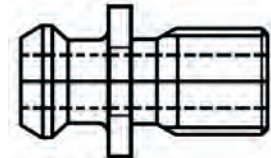
## Collis Center Drill Drivers



[6]

NOMINAL CENTER DRILL SIZE	CTR. DRILL BODY DIAM.	#1 MORSE TAPER COLLIS		#2 MORSE TAPER COLLIS		#3 MORSE TAPER COLLIS	
		NUMBER	PRICE EACH	NUMBER	PRICE EACH	NUMBER	PRICE EACH
1-11	1/8	4871-149	\$14.70	—	—	—	—
2-12	3/16	4871-502	21.50	4872-502	\$22.60	—	—
3-13	1/4	4871-503	21.50	4872-503	22.60	—	—
4-14	5/16	4871-504	21.50	4872-504	22.60	4873-503	\$27.10
5-15	7/16	—	—	4872-505	22.60	—	—
6-16	1/2	—	—	4872-506	22.60	—	—
7-17	5/8	—	—	—	—	4873-501	27.10
8-18	3/4	—	—	—	—	4873-502	27.10

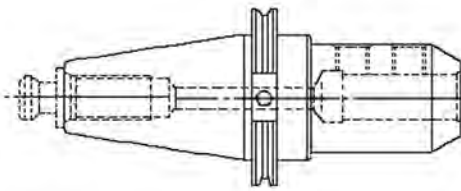
## Retention Knob



[6]

KNOB PT. NO.	V FLANGE TAPER	THREAD SIZE	PRICE EACH
4867-751	#40	5/8-11	\$18.10
4867-752	#45	3/4-10	20.30
4867-753	#50	1-8	22.60

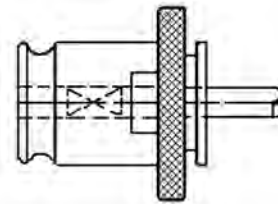
## Caterpillar V-Flange End Mill Holder



2

BORE	GAGE LENGTH	ORDER NO.	PRICE EACH
<b>NO. 40 TAPER</b>			
3/8	2-1/2	4867-690	\$ 96.00
3/8	4-1/2	4867-780	118.60
1/2	2-5/8	4867-691	107.20
1/2	4-5/8	4867-781	118.60
1/2	6-5/8	4867-791	118.60
5/8	3-3/4	4867-692	107.20
3/4	3-3/4	4867-693	112.90
3/4	5-3/4	4867-783	129.80
7/8	4	4867-694	112.90
7/8	5-3/4	4867-784	129.80
1	4	4867-695	112.90
1	6	4867-785	129.80
1-1/4	4-1/4	4867-696	129.80
1-1/4	6-1/4	4867-786	138.80
1-1/2	4-5/8	4867-697	129.80
<b>NO. 50 TAPER</b>			
3/8	2-1/2	4867-840	129.80
3/8	4-1/2	4867-850	146.80
3/8	6-1/2	4867-860	146.80
1/2	2-5/8	4867-841	129.80
1/2	4-5/8	4867-851	146.80
1/2	6-5/8	4867-861	152.40
5/8	3-3/4	4867-842	129.80
5/8	5-3/4	4867-852	152.40
5/8	7-3/4	4867-862	182.90
3/4	3-3/4	4867-843	129.80
3/4	5-3/4	4867-853	152.40
3/4	7-3/4	4867-863	163.70
7/8	3-3/4	4867-844	129.80
7/8	5-3/4	4867-854	141.10
1	4	4867-845	141.10
1	6	4867-855	152.40
1	8	4867-865	163.70
1-1/4	4	4867-846	141.10
1-1/4	6	4867-856	152.40
1-1/4	8	4867-866	163.70
1-1/2	4	4867-847	146.80
1-1/2	6	4867-857	158.10
1-1/2	8	4867-867	180.70
2	5-5/8	4867-848	214.50
2	7-5/8	4867-858	225.80

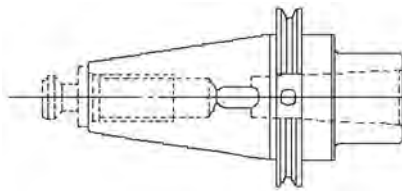
## Quick Change Coolant - Through Tap Adapters



6

ADAPTER SIZE	TAP SIZE	TAP SHANK DIAM.	A LENGTH	B DIAM.	DEPTH TAP ENTERS	ORDER NO.	PRICE EACH
1	0-6 H.T.	.141	.280	1.180	.850	4878-911	\$ 33.90
1	8 H.T.	.168	.280	1.180	.920	4878-912	33.90
1	10 H.T.	.194	.280	1.180	.920	4878-913	33.90
1	12 H.T.	.220	.280	1.180	.950	4878-914	33.90
1	14-1/4 H.T.	.255	.280	1.180	.950	4878-915	33.90
1	5/16 H.T.	.318	.280	1.180	.890	4878-916	33.90
1	3/8 H.T.	.381	.280	1.180	1.050	4878-917	33.90
1	7/16 H.T.	.323	.280	1.180	1.080	4878-918	33.90
1	1/2 H.T.	.367	.280	1.180	1.110	4878-919	33.90
1	9/16 H.T.	.429	.280	1.180	1.17	4878-920	33.90
1	1/8 PIPE (L.S.)	.437	.280	1.180	1.050	4878-921	33.90
2	5/16 H.T.	.318	.280	1.180	1.490	4878-931	51.90
2	3/8 H.T.	.381	.280	1.180	1.560	4878-932	51.90
2	7/16 H.T.	.323	.280	1.180	1.590	4878-933	51.90
2	1/2 H.T.	.367	.280	1.180	1.620	4878-934	51.90
2	9/16 H.T.	.429	.430	1.180	1.680	4878-935	51.90
2	5/8 H.T.	.480	.430	1.180	1.740	4878-936	51.90
2	11/16 H.T.	.542	.430	1.880	1.810	4878-937	51.90
2	3/4 H.T.	.590	.430	1.880	1.870	4878-938	51.90
2	13/16 H.T.	.652	.430	1.880	1.870	4878-939	51.90
2	7/8 H.T.	.697	.430	1.880	1.930	4878-940	51.90
2	1/4 PIPE	.562	.430	1.880	1.180	4878-941	51.90
2	3/8 PIPE	.700	.350	1.880	1.240	4878-942	51.90
2	1/2 PIPE	.687	.350	1.880	1.370	4878-943	51.90
3	13/16 H.T.	.652	.550	2.750	2.420	4878-951	107.20
3	7/8 H.T.	.697	.550	2.750	2.420	4878-952	107.20
3	15/16 H.T.	.760	.550	2.750	2.480	4878-953	107.20
3	1 H.T.	.800	.550	2.750	2.540	4878-954	107.20
3	1-1/8 H.T.	.896	.550	2.750	2.610	4878-955	107.20
3	1-1/4 H.T.	1.021	.550	2.750	2.730	4878-956	107.20
3	1-3/8 H.T.	1.108	.550	2.750	2.790	4878-957	107.20
3	3/4 PIPE	.906	.430	2.750	1.550	4878-958	135.50
3	1 PIPE	1.125	.430	2.750	1.680	4878-959	135.50

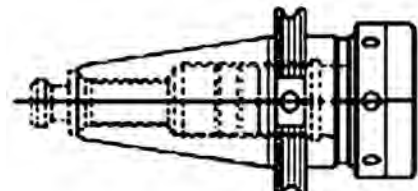
## V-Flange Morse Taper Tool Holder



2

MORSE TAPER	GAGE LENGTH	ORDER NO.	PRICE EACH
<b>NO. 40 TAPER</b>			
1	1-3/4	4868-211	\$109.50
2	2-3/16	4868-212	109.50
3	2-3/4	4868-213	111.80
4	3-9/16	4868-214	111.80
<b>NO. 50 TAPER</b>			
1	1-1/2	4868-231	141.10
2	2	4868-232	141.10
3	2-1/2	4868-233	141.10
4	3-3/8	4868-234	141.10
5	3-3/4	4868-235	163.70

## V-Flange Single Angle Collet Holder



2

COLLET TYPE	GAGE LENGTH	ORDER NO.	PRICE EACH
<b>NO. 40 TAPER</b>			
100	3	4875-650	\$135.50
100	4	4875-651	141.10
100	6	4875-652	158.10
<b>NO. 50 TAPER</b>			
100	3	4875-890	169.30
100	3-1/2	4875-891	169.30
100	5-1/2	4875-892	186.30
150	3-1/2	4875-894	214.50
150	5-1/2	4875-895	237.10

# Toolholder Carts



**Keep your tools organized!  
Protect them from damage!**

- Quality and mobility at an affordable price.
- Durable nylon inserts on both shelves help protect tool holders.
- Lower shelf angled for quick, easy tool access from either side.
- Solid, interlocking side panel construction for maximum strength and stability.
- Two end storage trays with universal mounting holes for tool lock.
- Heavy duty 5" x 1-1/4" casters load rated at 1000 lbs.
- All steel painted with our durable Ecolo-Clad in red & black.



**Tool Holders, Cutting Tools and Plastic Rack Not Included**

MODEL NO.	TOOL STYLE	TOOL CAPACITY	WEIGHT	ORDER NO.	PRICE EACH
13940	BT, CAT "V" Flange, NMTB	48	75 lbs.	1919-285	\$398.70
13950	BT, CAT "V" Flange	36	75 lbs.	1919-295	398.70



- New outrigger base design for improved stability, easier maneuverability for a safe, smooth tool ride.
- Heavy duty, extra smooth rolling casters load rated 1600 lbs. for long caster life, with locking caster mechanism.
- Finished in beautiful gold vein powder coating, baked on for lasting durability.
- Phosphate pretreatment undercoating for additional toughness.
- Designed for maximum toolholder capacity per square foot of cart space.

**Dimensions: 45-1/4" W x 17-1/2" D x 40" H (width includes handle & end tray).  
Shipping weight: 132 lbs.**

MODEL NO.	TOOL STYLE	TOOL CAPACITY	ORDER NO.	PRICE EACH
23940	40 taper	45 per shelf (90 total)	1919-708	\$507.90
23950	50 taper	26 per shelf (52 total)	1919-709	507.90



## CNC Tooling Safety Covers

- Safety: Helps protect machine operator from accidental injuries on sharp tooling.
- Security: Semi-transparent top reduces industrial espionage while still allowing the operator to see tooling.
- Set Up: Top can be written on with a dry erase marker.
- Lock Down: Covers are held in place with "key hole" slots molded into the base.
- Timesaver: Keeps staged tooling clean and ready to go.



**For use on Huot ToolScoots**

MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
14000	40 tapers	1919-739	\$11.99
14015	50 tapers	1919-741	11.99



*Shown with optional second shelf*

Only 15" wide, Speedy Scoot lets you easily move tooling through narrow spaces between machines, and around tight corners. Built heavy duty for the factory floor, Speedy Scoot combines rugged quality and easy mobility. Solid side panel construction for maximum strength, stability and cleanliness.



**Features:**

- Durable nylon inserts to help prevent tooling damage.
- Heavy duty 4" x 1-1/2" casters load rated at 1000 lbs.
- All steel infrared-baked epoxy finish in textured black with phosphate pretreatment.
- Plus options to suit your production needs including middle shelves, drawers and bumpers.

**Tool Holders and Cutting Tools Not Included**

TOOL STYLE	TOOL CAPACITY	WEIGHT	ORDER NO.	PRICE EACH
BT, CAT "V" Flange, NMTB for 40 taper	24	52 lbs.	1919-712	\$296.70
BT, CAT "V" Flange, NMTB for 50 taper	15	52 lbs.	1919-713	296.70
Optional Second Shelf			1919-655	95.10

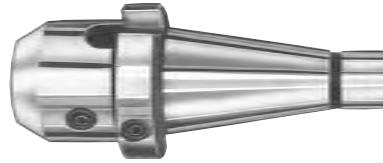
# End Mill Holders



## Morse Taper Shank Tang and Draw Bar Styles

## 30-40-50 National Standard Taper Draw Bar Styles

## R8 Shank



TAPER (THREADS FOR DRAW BAR)	ARBOR HOLE	TANG ORDER NO.	PRICE EACH	DRAW BAR ORDER NO.	PRICE EACH
2MTS (3/8-16)	3/16	3140-021	\$ 19.70	3140-141	\$ 13.10
	3/8	3140-022	19.70	3140-142	13.10
	1/2	3140-023*	19.70	3140-143*	13.10
	5/8	3140-024*	21.40	3140-144*	14.20
3MTS (3/8-16)	3/16	3140-044	22.50	3140-164	15.00
	1/4	3140-045	22.50	3140-165	15.00
	3/8	3140-046	22.50	3140-166	15.00
	1/2	3140-047	22.50	—	—
	5/8	3140-048*	23.60	3140-168*	15.80
	3/4	3140-049*	23.60	3140-169*	16.50
4MTS (1/2-13)	3/8	3140-070	24.80	3140-190	16.50
	1/2	3140-071	24.80	3140-191	16.90
	5/8	3140-072	25.30	3140-192	16.90
	3/4	3140-073	25.30	3140-193	16.90
	7/8	3140-074*	27.00	3140-194	18.00
	1	3140-075*	27.00	3140-195*	18.00
	1-1/4	—	—	3140-196*	22.50
5 MTS (5/8-11)	3/8	3140-096	39.40	3140-216	28.10
	1/2	3140-097	41.40	3140-217	28.10
	5/8	3140-098	42.60	3140-218	28.10
	3/4	3140-099	42.60	3140-219	28.10
	7/8	3140-100	44.40	3140-220	28.10
	1	3140-101	44.40	3140-221	28.10
	1-1/4	3140-102*	51.40	3140-222*	30.00
	1-1/2	3140-103*	60.50	—	—
	2	3140-104*	64.70	3140-224*	35.60

\* FOR SINGLE-END END MILLS ONLY. DRAW BAR - LIMITED QUANTITIES

TAPER (THREADS FOR DRAW BAR)	ARBOR HOLE OR BORE	ORDER NO.	PRICE EACH
30 NST (1/2-13)	3/16	3140-541	\$38.30
	3/8	3140-542	38.30
	1/2	3140-543	38.30
	5/8	3140-544	38.30
	3/4	3140-545	38.30
	7/8	3140-546 *	47.80
	1	3140-547 *	47.80
	40 NST (5/8-11)	3/16	3140-568
3/8		3140-569	43.90
1/2		3140-570	43.90
5/8		3140-571	43.90
3/4		3140-572	43.90
7/8		3140-573	47.80
1		3140-574 *	47.80
1-1/4		3140-575 *	56.30
50 NST (1-8)	1-1/2	3140-576 *	59.10
	3/16	3140-596 †	64.70
	3/8	3140-597	64.70
	1/2	3140-598	64.70
	5/8	3140-599	64.70
	3/4	3140-600	64.70
	7/8	3140-601	70.30
	1	3140-602	90.00
	1-1/4	3140-603 *	104.10
	1-1/2	3140-604 *	105.80
2	3140-605 *	112.50	

† LIMITED QUANTITIES

\* FOR SINGLE-END END MILLS ONLY

ARBOR HOLE OR BORE	ORDER NO.	PRICE EACH
3/16	3140-712	\$19.10
3/8	3140-724	19.10
1/2	3140-732	19.10
5/8	3140-740	24.20
3/4	3140-748*	24.20
7/8	3140-756*	24.20
1	3140-764*	24.20
1-1/4	3140-780*	32.10
1-1/2	3140-796*	38.30

\* FOR SINGLE-END END MILLS ONLY

# Lathe Mandrels



DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1/8	2-1/2	3146-008	\$4.10
5/32	3	3146-010	4.40
13/64	3-3/4	3146-013	4.55
7/32	3-3/4	3146-014	4.55
15/64	3-3/4	3146-015	4.55
11/32	4-1/4	3146-022	5.00
23/64	4-1/4	3146-023	5.00
13/32	4-1/2	3146-026	5.25
15/32	5	3146-030	5.55
31/64	5	3146-031	5.55
1/2	5	3146-032	5.55
33/64	5-1/4	3146-033	6.40
35/64	5-1/4	3146-035	6.40
9/16	5-1/4	3146-036	6.40
37/64	5-1/2	3146-037	6.40
19/32	5-1/2	3146-038	6.40
41/64	5-3/4	3146-041	7.00
21/32	5-3/4	3146-042	7.00
43/64	5-3/4	3146-043	7.00
11/16	5-3/4	3146-044	7.00

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
45/64	6	3146-045	\$7.00
23/32	6	3146-046	7.00
47/64	6	3146-047	7.00
49/64	6-1/4	3146-049	8.55
25/32	6-1/4	3146-050	8.55
13/16	6-1/4	3146-052	8.55
53/64	6-1/2	3146-053	8.55
27/32	6-1/2	3146-054	8.55
29/32	6-3/4	3146-058	10.05
15/16	6-3/4	3146-060	10.05
31/32	7	3146-062	10.05
1-1/32	7-1/4	3146-066	12.75
1-1/16	7-1/4	3146-068	12.75
1-3/16	7-3/4	3146-076	15.00
1-7/32	8	3146-078	15.00
1-1/4	8	3146-080	15.00
1-15/16	8-1/4	3146-084	18.15
1-3/8	8-1/2	3146-088	18.15
1-7/16	8-3/4	3146-092	21.05
1-15/32	9	3146-094	21.05
1-9/16	9-1/4	3146-100	23.90

DIAM.	OVERALL LENGTH	ORDER NO.	PRICE EACH
1-5/8	9-1/2	3146-104	\$23.90
1-11/16	9-3/4	3146-108	27.05
1-3/4	10	3146-112	27.05
1-13/16	10-1/4	3146-116	30.60
1-27/32	10-1/2	3146-118	30.60
1-7/8	10-1/2	3146-120	30.60
1-15/16	10-1/2	3146-124	33.75
2	11	3146-128	33.75
2-3/32	11-1/2	3146-134	37.60
2-1/8	11-1/2	3146-136	37.60
2-5/32	12	3146-138	41.30
2-1/4	12	3146-144	41.30
2-3/8	12	3146-152	45.10
2-7/16	12	3146-156	49.85
2-15/32	12-1/2	3146-158	49.85
2-1/2	12-1/2	3146-160	49.85
2-9/16	12-1/2	3146-164	64.30
2-5/8	12-1/2	3146-168	64.30
2-3/4	13	3146-176	69.80
2-7/8	13	3146-184	77.05



## Stub Arbors



ARBOR DIAM.	SHANK DIAM.	LG'TH OF SHOULDER TO NUT	RH ORDER NO.	PRICE EACH
1/2	1	3/4	3141-101†	\$ 40.50
5/8	1	3/4	3141-103†	53.20
3/4	1	1	3141-105†	59.30
7/8	1	3/4	3141-107†	63.00

† Limited Quantities

## Type "C" Shell End Mill Arbor



TAPER (THREADS FOR DRAW BAR)	SHELL END MILL ARBOR HOLE	DIAM. RANGE FOR SHELL END MILL	ORDER NO.	PRICE EACH
30 (1/2-13)	1/2	1-1/4" to 1-1/2"	3141-381	\$ 63.00
	3/4	1-3/4" to 2"	3141-382	63.00
	1	2-1/4" to 2-3/4"	3141-383	63.00
	1-1/4	3" to 3-1/2"	3141-384	65.30
40 (5/8-11)	1/2	1-1/4" to 1-1/2"	3141-405	72.00
	3/4	1-3/4" to 2"	3141-406	72.00
	1	2-1/4" to 2-3/4"	3141-407	72.00
	1-1/4	3" to 3-1/2"	3141-408	76.50
	1-1/2	4" to 5"	3141-409	76.50
50 (1"-8)	2	5-1/2" to 6"	3141-410	84.20
	1/2	1-1/4" to 1-1/2"	3141-430	110.20
	3/4	1-3/4" to 2"	3141-431	110.20
	1	2-1/4" to 2-3/4"	3141-432	110.20
	1-1/4	3" to 3-1/2"	3141-433	122.40
1-1/2	4" to 5"	3141-434	122.40	
	5-1/2" to 6"	3141-435	128.20	

## Morse Taper Shell End Mill Arbors



Tang Style



Draw Bar Style

TAPER (THREADS FOR DRAW BAR)	SHELL END MILL ARBOR HOLE	DIAM. RANGE FOR SHELL END MILL	TANG STYLE ORDER NO.	DRAW BAR STYLE ORDER NO.	PRICE EACH
3 MTS (3/8-16)	1/2	1-1/4" to 1-1/2"	3141-010†	3141-060†	\$ 30.40
	3/4	1-3/4" to 2"	3141-011†	3141-061†	30.40
	1	2-1/4" to 2-3/4"	3141-012†	3141-062†	37.50
	1-1/4	3" to 3-1/2"	3141-013†	3141-063†	37.50
4 MTS (1/2-13)	1/2	1-1/4" to 1-1/2"	3141-021	3141-071	33.80
	3/4	1-3/4" to 2"	3141-022	3141-072	POA
	1	2-1/4" to 2-3/4"	3141-023	3141-073	POA
	1-1/4	3" to 3-1/2"	3141-024	3141-074	POA
	1-1/2	4" to 5"	3141-025	3141-075	POA
5 MTS (5/8-11)	1	2-1/4" to 2-3/4"	3141-045	3141-095	POA
	1-1/4	3" to 3-1/2"	3141-046	3141-096	POA
	1-1/2	4" to 5"	3141-047	3141-097	65.60
6 MTS	1	2-1/4" to 2-3/4"	3141-052	—	66.60
	1-1/4	3" to 3-1/2"	3141-053	—	82.00
	1-1/2	4" to 5"	3141-054	—	82.00
	2	5-1/2" to 6"	3141-055	—	101.60

† Limited Quantities

## R8 Shank Shell End Mill Arbor



SHELL END MILL ARBOR HOLE	DIAM. RANGE FOR SHELL END MILL	ORDER NO.	PRICE EACH
1/2	1-1/4" to 1-1/2"	3141-532	\$36.00
3/4	1-3/4" to 2"	3141-548	36.00
1	2-1/4" to 2-3/4"	3141-564	38.20
1-1/4	3" to 3-1/2"	3141-580	50.40
1-1/2	4" to 5"	3141-596	56.20

## Screws for Arbors

THREAD SIZE	DIAM. FOR BORE IN SHELL END MILL	ORDER NO.	PRICE EACH
1/4-28	1/2	3141-716	\$ 5.70
3/8-24	3/4	3141-724	6.60
1/2-20	1	3141-732	9.40
5/8-18	1-1/4	3141-740	12.50
3/4-16	1-1/2	3141-748	16.40
1-14	2	3141-764	22.80

# Milling Machine Arbors



## Slitting Saw & Milling Machine Arbor

### Style A



TAPER (THREADS FOR DRAW BAR)	ARBOR NO.	ARBOR DIAM.	LG'TH OF SHOULDER TO NUT	DIAM. OF RUNNING BUSHINGS	BUSHINGS FURNISHED	ORDER NO.	PRICE EACH
30 NST (1/2-13)	30-7/8-A10-2	7/8	10	1-5/8	1	3144-005	\$124.40
	31-A10-2	1	10	1-5/8	1	3144-010	181.10
	31-1/4-A10-2	1-1/4	10	1-7/8	1	3144-015	199.20
	31-1/4-A10-3	1-1/4	10	1-7/8	1	3144-020	206.30
	40-7/8-A10	7/8	10	NONE	NONE	3144-025	181.10
	40-7/8-A16-3	7/8	16	1-7/8	1	3144-030	207.00
40 NST (5/8-11)	41-A8	1	8	NONE	NONE	3144-035	169.00
	41-A10	1	10	NONE	NONE	3144-040	181.10
	41-A12	1	12	NONE	NONE	3144-045	202.70
	41-A16-3	1	16	1-7/8	1	3144-050	215.70
	41-1/4-A8	1-1/4	8	NONE	NONE	3144-055	220.00
	41-1/4-A10	1-1/4	10	NONE	NONE	3144-060	224.40
	41-1/4-A12	1-1/4	12	NONE	NONE	3144-065	228.70
	41-1/4-A16-3	1-1/4	16	1-7/8	1	3144-070	241.50
	50-7/8-A10	7/8	10	NONE	NONE	3144-075	232.90
	50-7/8-A18-4	7/8	18	2-1/8	1	3144-080	332.80
50 NST (1-8)	51-A8	1	8	NONE	NONE	3144-085	271.60
	51-A12	1	12	NONE	NONE	3144-090	301.90
	51-18-4	1	18	2-1/8	1	3144-095	336.40
	51-1/4-A8	1-1/4	8	NONE	NONE	3144-100	284.70
	51-1/4-A12	1-1/4	12	NONE	NONE	3144-105	314.90
	51-1/4-A18-4	1-1/4	18	2-1/8	1	3144-110	345.10

### Style B



TAPER (THREADS FOR DRAW BAR)	ARBOR NO.	ARBOR DIAM.	LG'TH OF SHOULDER TO NUT	DIAM. OF RUNNING BUSHINGS	BUSHINGS FURNISHED	ORDER NO.	PRICE EACH
30 NST (1/2-13)	31 B2	1	2	NONE	NONE	3144-205	\$ 172.50
	40-7/8-B14-3	7/8	14	1-7/8	1	3144-210	172.50
	40-7/8-B16-3	7/8	16	1-7/8	1	3144-215	184.70
40 NST (5/8-11)	41 B-3	1	3	NONE	NONE	3144-220†	92.20
	41 B14-3	1	14	NONE	NONE	3144-225	194.10
	41 B20-3	1	20	NONE	NONE	3144-230	213.20
	POA 41-1/4-B14-3	1-1/4	14	1-7/8	1	3144-240	241.50
	41-1/4-B20-3	1-1/4	20	1-7/8	1	3144-245	258.70
	41-1/2-B20-4	1-1/2	20	2-1/8	1	3144-250	280.30
	51B-3-1/2	1	3-1/2	NONE	NONE	3144-255†	114.70
	51B15-4	1	15	2-1/8	1	3144-260	301.90
	51B18-4	1	18	2-1/8	2	3144-265	398.50
	51B24-4	1	24	2-1/8	2	3144-270	434.70
	51-1/4-B15-4	1-1/4	15	2-1/8	1	3144-280	301.90
50 NST (1-8)	51-1/4-B18-4	1-1/4	18	2-1/8	2	3144-285	362.20
	51-1/4-B24-4	1-1/4	24	2-1/8	2	3144-290	405.50
	51-1/4-B30-4	1-1/4	30	2-1/8	2	3144-295	474.40
	51-1/2-B3-1/2	1-1/2	3-1/2	NONE	NONE	3144-300†	157.50
	51-1/2-B18-4	1-1/2	18	2-1/8	2	3144-305	371.00
	51-1/2-B24-5	1-1/2	24	2-3/4	2	3144-310	439.80
	51-1/2-B30-5	1-1/2	30	2-3/4	2	3144-315	517.50
	52-B24-5	2	24	2-3/4	2	3144-325	483.00
	52-B30-5	2	30	2-3/4	2	3144-330	690.00
	52-B36-5	2	36	2-3/4	2	3144-335	776.30
	52-1/2-B36-6	2-1/2	36	3-3/8	2	3144-340	1200.60

† Limited Quantities



ARBOR SHANK	ARBOR DIAM.	LENGTH OF SHOULDER TO NUT	ORDER NO.	PRICE EACH
R8	1	2	3142-010	\$62.28
R8	1-1/4	2	3142-012	65.56

## Milling Machine Adaptors

### R8 to Morse Taper



FROM R8 (MALE)	TO MORSE (FEMALE)	ORDER NO.	PRICE EACH
R8	2	3142-150	\$11.20
R8	3	3142-152	12.60

### NST to R8



FROM NST (MALE)	TO R8 (FEMALE)	ORDER NO.	PRICE EACH
40	R8	3142-130	\$74.20
50	R8	3142-132	87.80

### NST Adaptors



OUTSIDE TAPER (MALE)	INSIDE TAPER (FEMALE)	ORDER NO.	PRICE EACH
40	30	3142-100	\$58.50
50	30	3142-102	72.00
50	40	3142-104	72.00

### Draw Bar Type



FROM NST (MALE) TAPER	TO MORSE (FEMALE) TAPER	DRAW BAR THREADS	ORDER NO.	PRICE EACH
40	2	5/8-11	3142-060	\$33.80
40	3	5/8-11	3142-062	33.80
40	4	5/8-11	3142-064	33.80
40	5	5/8-11	3142-066	38.20
50	2	1-8	3142-068	65.30
50	3	1-8	3142-070	65.30
50	4	1-8	3142-072	65.30
50	5	1-8	3142-074	74.20

### NST to MT Open End Type



FROM NST (MALE) TAPER	TO MORSE (FEMALE) TAPER	ORDER NO.	PRICE EACH
40	2	3142-030†	\$28.10
40	3	3142-032†	28.10
40	4	3142-034†	28.10
50	3	3142-036†	54.40
50	4	3142-038†	54.40
50	5	3142-040†	60.00

† Limited Quantities

# Arbors, Arbor Bushings & Nuts



## Arbor Solid Spacers— With Keyways

Spacers are hardened and have parallel and perpendicular surfaces precisely ground – accuracy .0002" – to ensure precise operation of cutters on milling machine arbors. Import.



WIDTH OF SPACER	7/8" HOLE–1-3/8" O.D.		1" HOLE–1-1/2" O.D.		1-1/4" HOLE–1-3/4" O.D.		1-1/2" HOLE–2-1/8" O.D.		2" HOLE–2-3/4" O.D.	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	3144-370	\$ 3.40	3144-387	\$ 4.00	3144-404	\$ 4.20	3144-421	\$ 6.10	3144-438	\$ 6.60
3/32	3144-371	3.40	3144-388	4.00	3144-405	4.20	3144-422	6.10	3144-439	6.60
1/8	3144-372	3.40	3144-389	3.70	3144-406	4.20	3144-423	6.10	3144-440	6.60
3/16	3144-373	3.40	3144-390	3.70	3144-407	4.20	3144-424	6.10	3144-441	6.60
1/4	3144-374	3.40	3144-391	4.00	3144-408	4.20	3144-425	6.10	3144-442	6.60
5/16	3144-375	3.40	3144-392	4.50	3144-409	4.20	3144-426	6.80	3144-443	6.60
3/8	3144-376	3.80	3144-393	4.70	3144-410	4.70	3144-427	7.10	3144-444	6.60
7/16	3144-377	5.30	3144-394	5.80	3144-411	6.60	3144-428	7.90	3144-445	8.70
1/2	3144-378	5.30	3144-395	5.80	3144-412	6.60	3144-429	8.30	3144-446	8.70
5/8	3144-379	5.30	3144-396	5.80	3144-413	6.60	3144-430	9.20	3144-447	8.70
3/4	3144-380	5.30	3144-397	6.80	3144-414	7.90	3144-431	10.00	3144-448	8.70
7/8	3144-381	5.80	3144-398	7.90	3144-415	8.00	3144-432	11.10	3144-449	12.10
1	3144-382	5.80	3144-399	7.90	3144-416	8.90	3144-433	11.50	3144-450	12.10
1-1/4	3144-383	6.60	3144-400	8.30	3144-417	8.90	3144-434	15.80	3144-451	16.60
1-1/2	3144-384	6.70	3144-401	10.50	3144-418	10.50	3144-435	15.80	3144-452	16.60
2	3144-385	10.10	3144-402	12.60	3144-419	12.60	3144-436	20.00	3144-453	21.10
3	3144-386	15.30	3144-403	16.40	3144-420	17.80	3144-437	30.60	3144-454	32.70
Width of Key	1/8		1/4		5/16		3/8		1/2	

## Arbor Running Bushing With Keyways



Bushings are hardened and have parallel and perpendicular surfaces precisely ground – accuracy .0002" – to ensure maximum holding power, rigid setup and accurate machining operations. Bushings have standard keyways which allow fixed mounting on arbor and preventing rotation.

BUSHING NO.	O.D.	HOLE DIA.	LG'TH	ORDER NO.	PRICE EACH
2 – 7/8	1-5/8	7/8	2-5/8	3144-500	\$23.60
2 – 1	1-5/8	1	2-5/8	3144-501	23.60
2 – 1-1/4	1-7/8	1-1/4	2-5/8	3144-502	22.90
3 – 7/8	1-7/8	7/8	3-1/8	3144-503	27.30
3 – 1	1-7/8	1	3-1/8	3144-504	27.30
3 – 1-1/4	1-7/8	1-1/4	3-1/8	3144-505	27.30
4 – 7/8	2-1/8	7/8	3-3/4	3144-506	38.80
4 – 1	2-1/8	1	3-3/4	3144-507	38.80
4 – 1-1/4	2-1/8	1-1/4	3-3/4	3144-508	38.80
4 – 1-1/2	2-1/8	1-1/2	3-3/4	3144-509	39.40
5 – 7/8	2-3/4	7/8	4-1/4	3144-510	48.30
5 – 1	2-3/4	1	4-1/4	3144-511	48.30
5 – 1-1/4	2-3/4	1-1/4	4-1/4	3144-512	48.30
5 – 1-1/2	2-3/4	1-1/2	4-1/4	3144-513	48.30
5 – 2	2-3/4	2	4-1/4	3144-514	51.40

## Nuts For Milling Machine Arbors



Arbor nuts are hardened and have a ground thread and shoulder

SIZE	FOR ARBOR DIA.	RH	
		ORDER NO.	PRICE EACH
7/8 – 14	7/8	3144-530	\$18.60
1 – 14	1	3144-532	23.20
1-1/4 – 12	1-1/4	3144-534	25.90
1-1/2 – 12	1-1/2	3144-536	45.50
2 – 12	2	3144-538	60.30
2-1/2 – 12	2-1/2	3144-540	97.90

## Arbor Spacers and Shims

• Shims DO NOT have a keyway, spacers DO have a keyway

- Assortments contain one each of the 19 different thicknesses
- SIZES: .001, .0015, .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .031, .047, .062, .093, .125
- Used for fast, accurate spacing of milling cutters, gang cutters, saws, slitting blades, and grinding tools
- Special sizes, materials, and bulk quantities available on request
- Made of high quality Steel Shim • Finish can be #2 bright or matte • Keyways conform to American standards
- Packaged in airtight poly bags • 10 pieces per bag (except assortments)

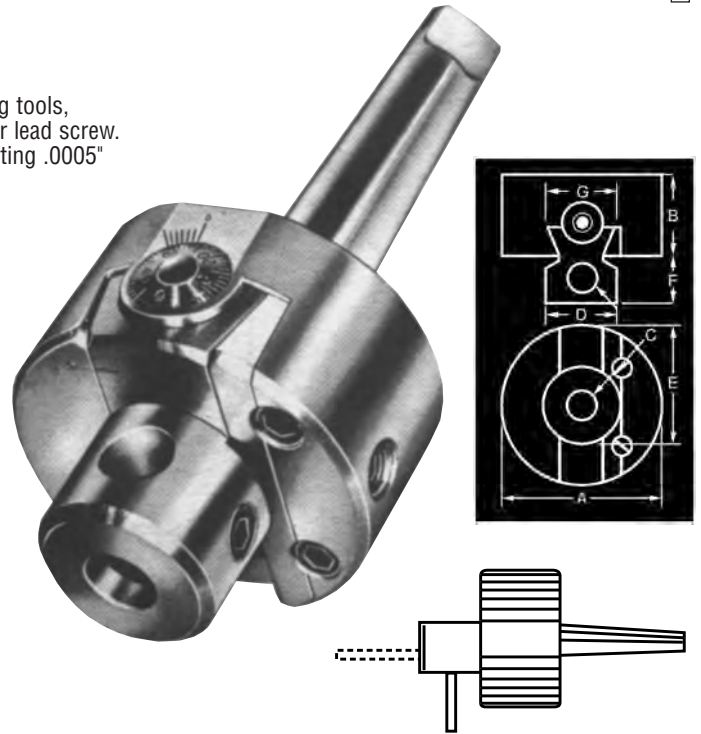


SPACERS (WITH KEYWAY) ASSORTMENT	(3/8 ID x 5/8 OD)		(1/2 ID x 3/4 OD)		(5/8 ID x 1 OD)		(3/4 ID x 1-1/8 OD)		(1 ID x 1-1/2 OD)	
	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH
19 pcs.	3234-120	\$ 7.59	3234-140	\$ 7.59	3234-160	\$ 9.31	3234-180	\$ 10.84	3234-220	\$ 11.91
SHIMS (WITHOUT KEYWAY) ASSORTMENT	(3/8 ID x 5/8 OD)		(1/2 ID x 3/4 OD)		(5/8 ID x 1 OD)		(3/4 ID x 1-1/8 OD)		(1 ID x 1-1/2 OD)	
	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH	ORDER NUMBER	PRICE EACH
19 pcs.	3235-120	\$ 7.59	3235-140	\$ 7.59	3235-160	\$ 9.31	3235-180	\$ 10.84	3235-220	\$ 11.91

## 40 Series

Flynn's 40 Series designs offer a wide range of sizes and provisions for holding tools, perpendicular or parallel. All boring heads are standard with 20 TPI micrometer lead screw. .001" per graduation of screw dial. A 40 TPI is available at an extra cost permitting .0005" per graduation of the screw dial.

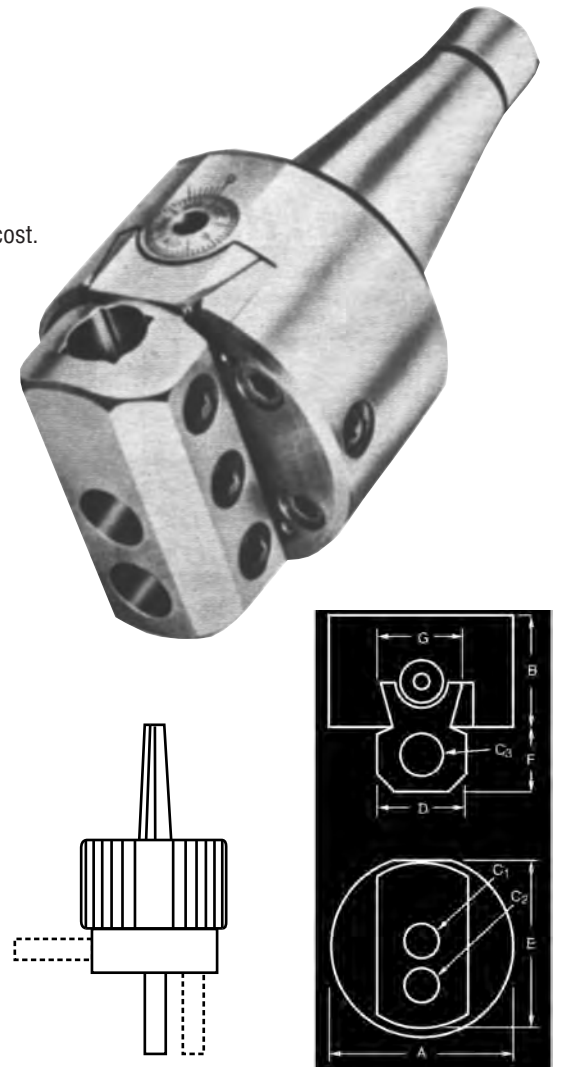
Dimensions and Specifications	No. 43	No. 43B	No. 45	No. 47	No. 48
A-Body Diameter	2-3/4"	2-3/4"	4"	4-1/2"	5"
B-Body Length	2"	2"	2-1/8"	2-5/8"	2-5/8"
C-Bar-Tool Capacity	1/2"	5/8"	3/4"	1"	1-1/4"
D-Tool Block	1-1/2"	1-1/2"	2"	2-1/2"	2-3/4"
E-Extension Length	1-7/8"	1-7/8"	2-3/4"	3"	3-3/8"
F-Extension Width	1-1/8"	1-1/8"	1-1/2"	1-3/4"	2"
G-Extends Past Body	1-1/4"	1-1/4"	1-7/8"	2-1/4"	2-1/2"
Bar Offset	5/8"	5/8"	1"	1"	1-1/4"
Bar or Tool Grip	1-1/2"	1-1/2"	2"	2-1/2"	2-3/4"
Dovetail Depth	7/8"	7/8"	1"	1-1/4"	1-1/4"
Net Weight	3 lbs.	3 lbs.	8 lbs.	12 lbs	15 lbs
Shank Series	175	175	175	250	250
Order No.	3157-015	3157-020	3157-025	3157-030	3157-035
Price Each Without Shank	\$310.00	\$310.00	\$395.00	\$475.00	\$575.00



## 60 Series

The 60 Series features a long and stockier tool block for better securing the tool, particularly horizontal position (Number 63,65 and 67). The horizontal hole is broached for holding either round or square tools. The two vertical mount holes are made possible by the longer tool block, one is centered in the block and the second is offset, greatly increasing the amount of overall offset that can be obtained. A vernier on the body facilitates adjustment of the micrometer offset screw, making possible extremely close visual offset adjustment. 20TPI micrometer lead screw is standard. 40TPI micrometer lead screw is available at extra cost.

Dimensions and Specifications	No. 63	No. 65	No. 67	No. 67B	No. 68
A-Body Diameter	2-3/4"	4"	5"	5"	8"
B-Body Length	2"	2-1/2"	3-1/8"	3-1/8"	3-1/8"
C1-Bar-Tool Capacity	1/2"	3/4"	1"	1-1/4"	2"
C1-Bar-Tool Capacity	5/8"	3/4"	1"	1-1/4"	2"
C3-Bar-Tool Capacity	1/2sq"	3/4sq"	1sq"	1-1/4"	2"
D-Tool Block	1-1/2"	2"	2-1/2"	2-1/2"	3"
E-Tool Block	2-5/8"	3-3/4"	4-13/16"	4-13/16"	7-1/2"
F-Tool Block	1-1/8"	1-1/2"	1-3/4"	2-1/8"	2-3/4"
G-Tool Block	1-1/4"	1-7/8"	2-1/4"	2-1/2"	3"
Bar Offset	5/8"	7/8"	1-5/16"	1-3/8"	1-3/4"
	from Center	Eachway	Eachway	Eachway	from Center
Bar Offset	1/2 back from Center				2-5/8 Back from Center
Bar Grip C-1,C-2	1-1/2"	2"	2-1/2"	2-1/2"	3-5/16"
Bar Grip C-3	2-5/8"	3-3/4"	4-13/16"	4-13/16"	—
Dovetail Depth	7/8"	1"	1-1/4"	1-1/4"	1-1/4"
Net Weight	3-3/4 lbs.	9-1/2 lbs.	19 lbs.	20 lbs.	52 lbs.
Shank Series	175	250	250	250	250
Order No.	3157-045	3157-050	3157-055	3157-060	3157-065
Price Each Without Shank	\$350.00	\$500.00	\$920.00	\$925.00	\$2500.00





# Boring Heads



## Boring Heads

- Wide bearing surface assures maximum rigidity even when the bar is in an offset position.
- Features diecast reading dial.
- Threaded back will accept a variety of shanks.
- Two vertical and one horizontal holes.
- Provides great versatility.



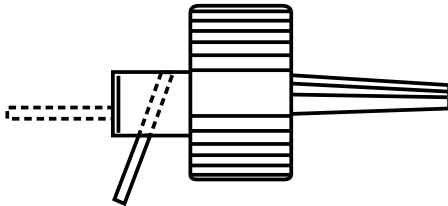
ACTUAL SIZE	OVERALL LGTH.	BORING BAR HOLE SIZE	CENTER DIST. BETWEEN HOLES	CROSS HOLE DIA.	OFFSET	THREAD BACK	ORDER NO.	PRICE EACH
2"	2-13/32"	1/2"	5/8"	1/2"	5/8"	7/8-20	3157-405	\$101.35
3"	3-5/32"	3/4"	15/16"	3/4"	1"	1-1/2 -18	3157-410	141.25
4"	3-3/4"	1"	1-1/4"	1"	1-5/8"	—	3157-415	217.00

## Boring Head Shanks

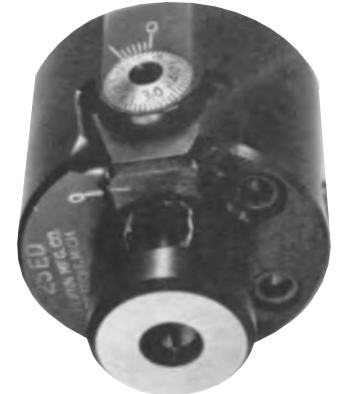
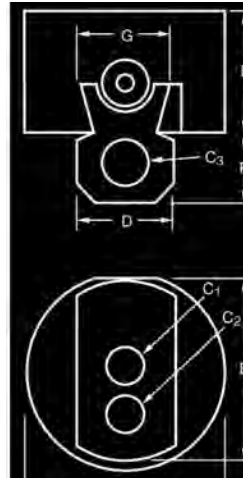
FOR 2" HEAD	ORDER NO.	PRICE EACH	FOR 3" & 4" HEAD	ORDER NO.	PRICE EACH
2MTS Draw Bar	3157-490	\$23.50	3MTS Tang	3157-430	\$29.50
2MT Tang	3157-495	23.50	4MTS Tang	3157-435	29.50
3MT Tang	3157-500	23.50	5MTS Tang	3157-440	29.50
4MT Tang	3157-505	23.50	1" Straight	3157-445	24.95
1/2" Straight	3157-510	11.95	1-1/4" Straight	3157-450	24.95
1" Straight	3157-515	11.95	1-1/2" Straight	3157-455	24.95
R8 Bridgeport	3157-520	25.00	R8 Bridgeport	3157-460	29.50

## Flynn Number 25-ED

With two-way tool holder for boring small and large holes. Square cross hole (1/2) is at 15° angle to slide to facilitate boring bottom holes and for fly cutting.



Dimensions and Specifications	No.25-ED
A-Body Diameter	2-3/4"
B-Body Length	2"
C-Bar-Tool Capacity	1/2"
D-Tool Block	1-1/2"
E-Extension Length	1-7/8"
F-Extension Width	1-1/8"
G-Extends Past Body	1-1/4"
Bar Offset	5/8"
Bar or Tool Grip	1-1/2"
Dovetail Depth	7/8"
Net Weight	3 lbs.
Shank Series	175
Order No.	3157-010
Price Each Without Shank	\$310.00



## Arbors for Flynn Boring Heads

	Shank Series 175 1-7/16-12		Shank Series 250 2-12	
	Order No.	Price Each	Order No.	Price Each
<b>Morse Taper</b>				
2 MT	3157-170	\$85.00	—	—
3MT	3157-175	85.00	—	—
4MT	3157-180	115.00	3157-275	\$165.00
5MT	3157-185	140.00	3157-280	180.00
6MT	—	—	3157-285	275.00
7MT	—	—	3157-290	305.00
<b>Bridgeport Taper</b>				
R-8	3157-235	108.00	—	—

	Shank Series 175 1-7/16-12		Shank Series 250 2-12	
	Order No.	Price Each	Order No.	Price Each
<b>Straight Shank</b>				
3/4 x 4	3157-245	\$98.00	—	—
1 x 4	3157-250	98.00	—	—
1-1/4 x 4	3157-255	98.00	—	—
1-1/2 x 4	3157-260	98.00	—	—
2 x 6	3157-265	165.00	—	—

	Shank Series 175 1-7/16-12		Shank Series 250 2-12	
	Order No.	Price Each	Order No.	Price Each
<b>Standard Taper</b>				
40 5/8-11	3157-220	200.00	3157-315	\$200.00
50 1-8	3157-225	225.00	3157-320	225.00
Moore	3157-230	100.00	—	—

## Flynn Boring Head Sets

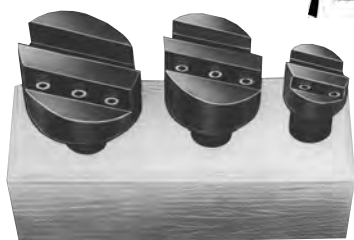
Set includes R8 Shank, 5 Tools & Case

BORING HEAD NUMBER	HEAD DIA.	BORING BAR HOLE SIZE	SHANK SIZE	ORDER NO.	PRICE EACH
25ED-Set	2-3/4	1/2	R-8	3157-080	\$400.00
43-Set	2-3/4	1/2	R-8	3157-085	400.00
63-Set	2-3/4	1/2-5/8	R-8	3157-090	475.00
43B-Set	2-3/4	5/8	R-8	3157-095	400.00
63B-Set	2-3/4	3/4	R-8	3157-100	475.00



# Fly Cutters & Toolholders

## Fly Cutter Sets



③

SHANK SIZE	HEAD DIA.	TOOL BIT SIZE	ORDER NO.	PRICE EACH
1/2	3/4	3/16	3143-301	\$20.70
	1-1/8	1/4		
	1-1/2	5/16		
3/4	1-1/2	5/16	3143-302	35.20
	2	5/16		
	2-1/2	5/16		

## R8 Shank Fly Tool Cutter

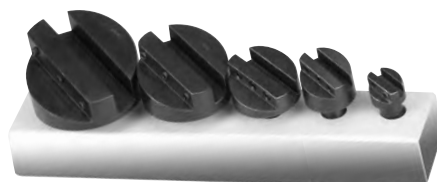


- Counterbalanced to get smoother finishes
- Made of Hardened Steel
- Quality Import

③

TOOL BIT SIZE	HEAD DIA.	ORDER NO.	PRICE EACH
3/8	2-1/2"	3143-300	\$ 32.90

## 5 Piece Fly Cutter Set



- (4) tools with 3/16", 1/4", 5/16" & 3/8" tool bit capacity have 1/2" shanks
- (1) tool with 1/2" tool bit capacity has 5/8" shank
- Attractive wooden stand included.

Order No. 3143-303 Price Each...\$49.25 ③

## Carbide Tool Holders For Carbide Tipped Square Tool Bits



③

TOOL BIT SIZE	ORDER NUMBER			PRICE EACH
	STRAIGHT	RIGHT HAND	LEFT HAND	
1/4	3143-015	3143-001	3143-008	\$12.80
5/16	3143-016	3143-002	3143-009	15.90
3/8	3143-017	3143-003	3143-010	18.55
7/16	3143-018	3143-004	3143-011	21.60
1/2	3143-019	3143-005	3143-012	27.00
5/8	3143-020	3143-006	3143-013	47.85
3/4	3143-021	3143-007	3143-014	70.25

## Turning Tool Holders

②

TOOL BIT SIZE	ORDER NUMBER			PRICE EACH
	STRAIGHT SHANK	RIGHT HAND	LEFT HAND	
3/16	3143-102	3143-120	3143-111	\$9.70
1/4	3143-103	3143-121	3143-112	10.20
5/16	3143-104	3143-122	3143-113	12.60
3/8	3143-105	3143-123	3143-114	15.85
7/16	3143-106	3143-124	3143-115	18.65
1/2	3143-107	3143-125	3143-116	25.25
5/8	3143-108	3143-126	3143-117	33.75
3/4	3143-109	3143-127	3143-118	61.65



Right Hand



Left Hand



Straight Shank

## Cut Off Tool Holders

②

TOOL BIT SIZE	ORDER NUMBER			PRICE EACH
	STRAIGHT SHANK	RIGHT HAND	LEFT HAND	
3/32 x 1/2	3143-217	3143-201	3143-209	\$ 9.50
3/32 x 5/8	3143-218	3143-202	3143-210	10.70
1/8 x 3/4	3143-219	3143-203	3143-211	12.85
1/8 x 7/8	3143-220	3143-204	3143-212	17.95
3/16 x 1	3143-221	3143-205	3143-213	25.65
3/16 x 1-1/8	3143-222	3143-206	3143-214	34.90
1/4 x 1-1/4	3143-223	3143-207	3143-215	41.85
1/4 x 1-3/8	3143-224	-	-3143-216	52.45



Straight Shank



Left Hand



Right Hand

## Drawbars for Mills

- Made of cold rolled steel.
- Black oxide plated.
- Made in U.S.A.



FITS MILLING MACHINE	ORDER NUMBER	PRICE EACH
1J Step Pulley	3143-420	\$15.70
2J Step Pulley	3143-421	17.50
Lagun Vari Speed	3143-424	27.30
Wells Index Vari Speed	3143-425	25.40

## Easy Vise Stop

- Made from hardened steel with Black Oxide coating.
- Stop is 1" wide by 1-7/16" long.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-407	\$14.80

## Vise Speed Handle For 6" Kurt Style Milling Machine Vises

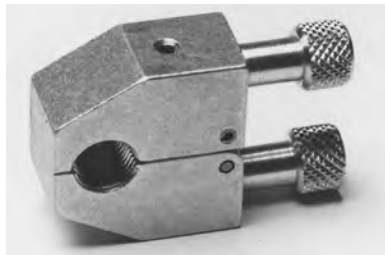
- Made in U.S.A.



DESCRIPTION	ORDER NUMBER	PRICE EACH
Fits 6" Vise (3/4" Hex)	3143-412	\$24.00

## Quill Stop For All Milling Machines

- Quickly Sets Quill Depth.
- 1/2 - 20 threads for Mills.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-417	\$15.70

## Universal Collet Stop – 5 piece Set converts standard 1" Lathe Collets into solid or ejector stop collets.

- Comes complete with all attachments and springs.
- Made from steel with black oxide plating.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-400	\$44.40

## Spider Handle for Mills

- Sturdy construction features a solid aluminum center with protective plating, and 3 heavy duty solid steel spokes and knobs.
- Black Oxide Plated.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-415	\$21.30

## Quill Feed Handle – For all Bridgeport type Milling Machines

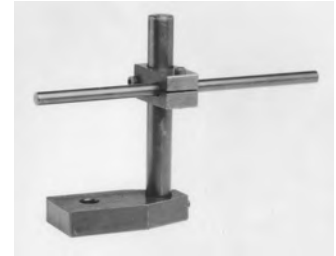
- All steel construction with heavy duty spring action.
- All parts Black Oxide Plated.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-416	\$25.40

## Adjustable Mill Stop

- 1/2" hole for T Slot mounting
- 3/8" Diameter Rod.
- Base 2" x 4-1/2".
- Overall height: 7".
- Steel, Black Oxide Plated".
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-408	\$27.60

## 5C Precision Chucks <sup>1</sup> Includes 2 sets of hardened steel jaws (internal & external) for increased clamping range.

- Made in U.S.A.



CHUCK DIAM.	T. I. R. REPEATABILITY	DESCRIPTION	ORDER NO.	PRICE EACH
3"	.003	3 Jaw – Self Centering	3143-440	\$175.00
3"	.005	4 Jaw – Independent	3143-442	150.00
4"	.003	3 Jaw –Self Centering	3143-444	200.00

## Expanding Arbors A handy accessory for Lathe Collets

- Made in U.S.A.



DESCRIPTION	ORDER NUMBER	PRICE EACH
8 pc. Set – 1/4" to 1-1/4" in Wooden Stand	3143-438	\$73.10
3 pc. Set – 1-1/2" to 2" in Wooden Stand	3143-433	91.60

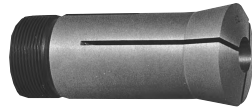
## 5C Adjustable Collet Stop

- Steel with Black Oxide plating.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3143-403	\$8.20

## 5C Round Collet



Pittsburg ALLEGHANY					
SIZE	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH
1/16	3155-104	\$6.25	39/64	3155-139	\$4.60
5/64	3155-105	6.25	5/8	3155-140	4.60
3/32	3155-106	6.25	41/64	3155-141	4.60
7/64	3155-107	6.25	21/32	3155-142	4.60
1/8	3155-108	4.60	43/64	3155-143	4.60
9/64	3155-109	4.60	11/16	3155-144	4.60
5/32	3155-110	4.60	45/64	3155-145	4.60
11/64	3155-111	4.60	23/32	3155-146	4.60
3/16	3155-112	4.60	47/64	3155-147	4.60
13/64	3155-113	4.60	3/4	3155-148	4.60
7/32	3155-114	4.60	49/64	3155-149	4.60
15/64	3155-115	4.60	25/32	3155-150	4.60
1/4	3155-116	4.60	51/64	3155-151	4.60
17/64	3155-117	4.60	13/16	3155-152	4.60
9/32	3155-118	4.60	53/64	3155-153	4.60
19/64	3155-119	4.60	27/32	3155-154	4.60
5/16	3155-120	4.60	55/64	3155-155	4.60
21/64	3155-121	4.60	7/8	3155-156	4.60
11/32	3155-122	4.60	57/64	3155-157	4.60
23/64	3155-123	4.60	29/32	3155-158	4.60
3/8	3155-124	4.60	59/64	3155-159	4.60
25/64	3155-125	4.60	15/16	3155-160	4.60
13/32	3155-126	4.60	61/64	3155-161	4.60
27/64	3155-127	4.60	31/32	3155-162	4.60
7/16	3155-128	4.60	63/64	3155-163	4.60
29/64	3155-129	4.60	1	3155-164	4.60
15/32	3155-130	4.60	1-1/64	3155-165	4.60
31/64	3155-131	4.60	1-1/32	3155-166	4.60
1/2	3155-132	4.60	1-3/6	3155-167	4.60
33/64	3155-133	4.60	1-1/16	3155-168	4.60
17/32	3155-134	4.60	1-5/64	3155-169	4.60
35/64	3155-135	4.60	1-3/3	3155-170	4.60
9/16	3155-136	4.60	1-7/6	3155-171	4.60
37/64	3155-137	4.60	1-1/8	3155-172	4.60
19/32	3155-138	4.60			

## 5C Sets Without stands

Pittsburg ALLEGHANY		
SIZE	ORDER NO.	PRICE EACH
5C 1/16 - 1-1/8 by 16ths	3156-005	\$84.45
5C 1/16 - 1-1/8 by 32nds	3156-010	164.30
5C 1/16 - 1-1/8 by 64ths	3156-015	324.00



## Metric 5C Collets

SIZE	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH
3.0mm	3156-506	\$ 7.05	15.0mm	3156-530	\$ 7.05
4.0mm	3156-508	7.05	16.0mm	3156-532	7.05
5.0mm	3156-510	7.05	17.0mm	3156-534	7.05
6.0mm	3156-512	7.05	18.0mm	3156-536	7.05
7.0mm	3156-514	7.05	19.0mm	3156-538	7.05
8.0mm	3156-516	7.05	20.0mm	3156-540	7.05
9.0mm	3156-518	7.05	21.0mm	3156-542	7.05
10.0mm	3156-520	7.05	22.0mm	3156-544	7.05
11.0mm	3156-522	7.05	23.0mm	3156-546	7.05
12.0mm	3156-524	7.05	24.0mm	3156-548	7.05
13.0mm	3156-526	7.05	25.0mm	3156-550	7.05
14.0mm	3156-528	7.05			

## Metric 5C Sets Without stands

SIZE	ORDER NO.	PRICE EACH
5C 3-25mm x 1mm	3156-582	\$ 162.15

## 5C Step Collets



SIZE	ITEM NO.	PRICE EACH
5C Step Collet 2" Head	3156-302	\$20.45
5C Step Collet 3" Head	3156-303	29.30
5C Step Collet 4" Head	3156-304	43.70
5C Step Collet 5" Head	3156-305	54.85
5C Step Collet 6" Head	3156-306	61.85

## 5C Hex Collets

Pittsburg ALLEGHANY		
SIZE	ITEM NO.	PRICE EACH
1/8	3155-208	\$16.50
3/16	3155-212	16.50
1/4	3155-216	16.50
5/16	3155-220	16.50
3/8	3155-224	16.50
7/16	3155-228	16.50
1/2	3155-232	16.50
9/16	3155-236	16.50
5/8	3155-240	16.50
11/16	3155-244	16.50
3/4	3155-248	16.50
13/16	3155-252	16.50
7/8	3155-256	16.50
15/16	3155-260†	16.50

† Limited Quantities

## 5C Square Collets

Pittsburg ALLEGHANY		
SIZE	ITEM NO.	PRICE EACH
1/8	3155-308	\$15.75
3/16	3155-312	15.75
1/4	3155-316	15.75
5/16	3155-320	15.75
3/8	3155-324	15.75
7/16	3155-328	15.75
1/2	3155-332	15.75
9/16	3155-336	15.75
5/8	3155-340	15.75
11/16	3155-344	15.75
3/4	3155-348	15.75
13/16	3155-352†	15.75

† Limited Quantities



## R8 Round Collet



SIZE	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH
1/16	3155-404	\$ 5.75	1/2	3155-432	\$4.45
3/32	3155-406	5.75	17/32	3155-434	4.45
1/8	3155-408	4.45	9/16	3155-436	4.45
5/32	3155-410	4.45	19/32	3155-438	4.45
3/16	3155-412	4.45	5/8	3155-440	4.45
7/32	3155-414	4.45	21/32	3155-442	4.45
1/4	3155-416	4.45	11/16	3155-444	4.45
9/32	3155-418	4.45	23/32	3155-446	4.45
5/16	3155-420	4.45	3/4	3155-448	4.45
11/32	3155-422	4.45	25/32	3155-450	4.45
3/8	3155-424	4.45	13/16	3155-452	4.45
13/32	3155-426	4.45	27/32	3155-454	4.45
7/16	3155-428	4.45	7/8	3155-456	4.45
15/32	3155-430	4.45			



## Metric R8 Collets



SIZE	ORDER NO.	PRICE EACH
3mm	3156-706	\$ 6.45
4mm	3156-708	6.45
5mm	3156-710	6.45
6mm	3156-712	6.45
7mm	3156-714	6.45
8mm	3156-716	6.45
9mm	3156-718	6.45
10mm	3156-720	6.45
11mm	3156-722	6.45

SIZE	ORDER NO.	PRICE EACH
12mm	3156-724	\$ 6.45
13mm	3156-726	6.45
14mm	3156-728	6.45
15mm	3156-730	6.45
16mm	3156-732	6.45
17mm	3156-734	6.45
18mm	3156-736	6.45
19mm	3156-738	6.45
20mm	3156-740	6.45

† Limited Quantity

## R8 Sets Without stands

SIZE	ORDER NO.	PRICE EACH
R8 1/8 - 7/8 by 8ths	3156-120	\$ 31.15
R8 1/8 - 7/8 by 16ths	3156-125	57.85
R8 1/8 - 7/8 by 32nds	3156-130	111.25

## Metric R8 Set Without stand

SIZE	ORDER NO.	PRICE EACH
R8 3mm - 20mm x 1mm	3156-762	\$ 116.10

## 5C Universal Collet Stop

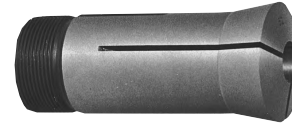


- Converts Standard 1" capacity Lathe Collets into Solid Stop or Spring Ejector Stop Collets without alteration of the Standard Collet.
- Fits directly into Collet.
- Shiny Black Finish.

Order No. 3143-401 .....\$14.90



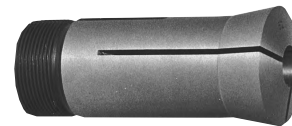
## 5C Emergency Collet



Order No. 3156-201  
\$8.20



## 5C Brass Emergency Collet



Order No. 3156-202  
\$18.65



## 5C Adjustable Collet Stop



- Fully threaded.
- For Chucking Parts to a depth of 3" from face of collet.
- Shiny Black Finish.

Order No. 3143-402.....\$6.10

## Collet Racks



- Angled for visibility and easier selection of stored collets
- Tough, solvent free, epoxy finish: Ecolo-Clad for long-lasting protection
- Mounted on bench top • Heavy gauge steel



Order No. 1919-545 ....\$32.40 ea.

Holds up to 30 pieces 5C Collets.  
Dimensions: Top 9"W x 12" D. Wt. 3 lbs.

Order No. 1919-550 ....\$32.40 ea.

Holds up to 16 pieces R8 Collets.  
Dimensions: Top 5 1/4"W x 9" D. Wt. 2 lbs.



## ER/DR/RD 16 series Collet Rack

Holds up to 48 collets, hole size 29/32"  
Dimensions: 17" W x 9 1/8" D x 2" H

Order No. 1919-552 ....\$46.40 ea.

## 3C Collets



SIZE	ORDER NO.	PRICE EA.	SIZE	ORDER NO.	PRICE EA.
1/16	3154-904	\$5.25	21/64	3154-921	\$5.25
7/64	3154-907	5.25	11/32	3154-922	5.25
9/64	3154-909	5.25	23/64	3154-923	5.25
5/32	3154-910	5.25	27/64	3154-927	5.25
3/16	3154-912	5.25	29/64	3154-929	5.25
15/64	3154-915	5.25	15/32	3154-930	5.25
17/64	3154-917	5.25	31/64	3154-931	5.25
9/32	3154-918	5.25	1/2	3154-932	5.25
19/64	3154-919	5.25			

- Unique 8 degree taper design provides highest gripping power
- 16 Jaws give powerful gripping and parallel clamping
- True double angle for extreme concentricity



SIZES	NOMINAL SIZE (IN.)	COLLET RANGE (IN.)		ER11		ER16		ER 20		ER25		ER32		ER40	
		MIN-MAX	MIN - MAX	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/32"	1/32	0.020 - 0.040	0.5 - 1.0	3156-801	\$9.20	3156-811	\$10.20	-	-	-	-	-	-	-	-
1/16"	3/64, 1/16, 5/64	0.040 - 0.080	1.0 - 2.0	3156-802	9.20	3156-812	10.20	3156-832	\$10.20	3156-852	\$10.85	-	-	-	-
3/32"	3/32, 7/64	0.080 - 0.120	2.0 - 3.0	3156-803	9.20	3156-813	10.20	3156-833	10.20	3156-853	10.85	3156-883	\$11.10	-	-
1/8"	1/8, 9/64, 5/32	0.120 - 0.160	3.0 - 4.0	3156-804	9.20	3156-814	10.20	3156-834	10.20	3156-854	10.85	3156-884	11.10	3156-914	\$11.80
3/16"	11/64, 3/16	0.160 - 0.200	4.0 - 5.0	3156-806	9.20	3156-816	10.20	3156-836	10.20	3156-856	10.85	3156-886	11.10	3156-916	11.80
7/32"	13/64, 7/32, 15/64	0.200 - 0.236	5.0 - 6.0	3156-807	9.20	3156-817	10.20	3156-837	10.20	3156-857	10.85	3156-887	11.10	3156-917	11.80
1/4"	1/4, 17/64	0.236 - 0.275	6.0 - 7.0	3156-808	9.20	3156-818	10.20	3156-838	10.20	3156-858	10.85	3156-888	11.10	3156-918	11.80
5/16"	9/32, 19/64, 5/16	0.275 - 0.315	7.0 - 8.0	-	-	3156-820	10.20	3156-840	10.20	3156-860	10.85	3156-890	11.10	3156-920	11.80
11/32"	21/64, 11/32	0.315 - 0.354	8.0 - 9.0	-	-	3156-821	10.20	3156-841	10.20	3156-861	10.85	3156-891	11.10	3156-921	11.80
3/8"	23/64, 3/8, 25/64	0.354 - 0.393	9.0 - 10.0	-	-	3156-822	10.20	3156-842	10.20	3156-862	10.85	3156-892	11.10	3156-922	11.80
13/32"	13/32, 27/64	0.393 - 0.433	10.0 - 11.0	-	-	-	-	3156-843	10.20	3156-863	10.85	3156-893	11.10	3156-923	11.80
7/16"	7/16, 29/64, 15/32	0.433 - 0.472	11.0 - 12.0	-	-	-	-	3156-844	10.20	3156-864	10.85	3156-894	11.10	3156-924	11.80
1/2"	31/64, 1/2	0.472 - 0.511	12.0 - 13.0	-	-	-	-	3156-846	10.20	3156-866	10.85	3156-896	11.10	3156-926	11.80
17/32"	33/64, 17/32, 35/64	0.511 - 0.551	13.0 - 14.0	-	-	-	-	-	-	3156-867	10.85	3156-897	11.10	3156-927	11.80
9/16"	9/16, 37/64	0.551 - 0.590	14.0 - 15.0	-	-	-	-	-	-	3156-868	10.85	3156-898	11.10	3156-928	11.80
5/8"	19/32, 39/64, 5/8	0.590 - 0.629	15.0 - 16.0	-	-	-	-	-	-	3156-870	10.85	3156-900	11.10	3156-930	11.80
21/32"	41/64, 21/32	0.629 - 0.669	16.0 - 17.0	-	-	-	-	-	-	-	-	3156-901	11.10	3156-931	11.80
11/16"	43/64, 11/16, 45/64	0.669 - 0.708	17.0 - 18.0	-	-	-	-	-	-	-	-	3156-902	11.10	3156-932	11.80
3/4"	23/32, 47/64, 3/4	0.708 - 0.748	18.0 - 19.0	-	-	-	-	-	-	-	-	3156-904	11.10	3156-934	11.80
25/32"	49/64, 25/32	0.748 - 0.787	19.0 - 20.0	-	-	-	-	-	-	-	-	3156-905	11.10	3156-935	11.80
13/16"	51/64, 13/16	0.787 - 0.826	20.0 - 21.0	-	-	-	-	-	-	-	-	-	-	3156-936	11.80
27/32"	53/64, 27/32	0.826 - 0.866	21.0 - 22.0	-	-	-	-	-	-	-	-	-	-	3156-937	11.80
7/8"	7/8, 57/64, 55/64	0.866 - 0.905	22.0 - 23.0	-	-	-	-	-	-	-	-	-	-	3156-938	11.80
15/16"	29/32, 59/64, 15/16	0.905 - 0.944	23.0 - 24.0	-	-	-	-	-	-	-	-	-	-	3156-940	11.80
31/32"	61/64, 31/32	0.944 - 0.984	24.0 - 25.0	-	-	-	-	-	-	-	-	-	-	3156-941	11.80
1"	63/64, 1, 1-1/64	0.984 - 1.020	25.0 - 26.0	-	-	-	-	-	-	-	-	-	-	3156-942	11.80

## ER Collet Sets



SERIES	NO. OF COLLETS	SIZES	COLLET RANGE MIN-MAX (IN.)	COLLET RANGE MIN-MAX (MM.)	ORDER NO.	PRICE EACH
ER11	7	1/32 to 1/4	0.020 - 0.275	0.5 to 7	3156-963	\$74.65
ER16	10	1/32 to 3/8	0.020 - 0.393	0.5 to 10	3156-966	91.95
ER20	12	1/16 to 1/2	0.039 - 0.511	1.0 to 13	3156-969	111.15
ER25	15	1/16 to 5/8	0.039 - 0.629	1.0 to 16.0	3156-972	146.45
ER32	18	3/32 to 3/4	0.078 - 0.787	2.0 to 20.0	3156-975	180.40
ER40	23	1/8 to 1	0.118 - 1.023	3.0 to 26.0	3156-978	255.75

# ER Collet Chucks



## Straight Shank



## R8 Shank



SHANK	TYPE	CAPACITY	DRAWBAR END	ORDER NO.	PRICE EACH
5/8 x 2-1/2	ER-11	.02-.275	3/8-16	3142-540	\$64.00
3/4 x 2-1/2	ER-11	.02-.275	3/8-16	3142-545	64.00
3/4 x 4	ER-11	.02-.275	3/8-16	3142-550	64.00
3/4 x 2-1/2	ER-16	.02-.393	3/8-16	3142-555	70.00
3/4 x 4	ER-16	.02-.393	3/8-16	3142-560	72.00
3/4 x 6	ER-16	.02-.393	3/8-16	3142-565	75.00
3/4 x 2-1/2	ER-20	.04-.511	3/8-16	3142-570	66.00
3/4 x 4	ER-20	.04-.511	3/8-16	3142-575	72.00
3/4 x 6	ER-20	.04-.511	3/8-16	3142-580	75.00
3/4 x 2	ER-25	.04-.629	3/8-16	3142-585	72.00
3/4 x 4	ER-25	.04-.629	3/8-16	3142-590	87.00
1 x 2	ER-32	.08-.787	1/2-13	3142-595	66.00
1-1/4 x 6	ER-32	.08-.787	5/8-11	3142-600	89.00
1 x 2-3/8	ER-40	.12 - 1.02	1/2-13	3142-605	95.00
1-1/4 - 2-3/8	ER-40	.12 - 1.02	5/8-11	3142-610	95.00

SHANK	TYPE	CAPACITY	DRAWBAR END	ORDER NO.	PRICE EACH
R8	ER-32	.08-.787	7/16-20	3142-530	\$70.00
R8	ER-40	.12 - 1.02	7-16-20	3142-532	74.00

## Morse Taper Shank



## NST Shank

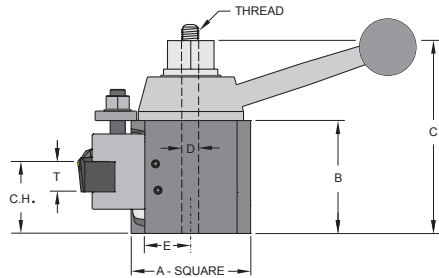
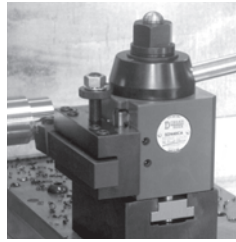


SHANK	TYPE	CAPACITY	DRAWBAR END	ORDER NO.	PRICE EACH
MT2	ER-20	.04-.511	3/8-16	3142-650	\$78.00
MT2	ER-25	.04-.629	3/8-16	3142-655	67.00
MT3	ER-32	.08-.787	1/2-13	3142-660	77.00
MT3	ER-40	.12 - 1.02	1/2-13	3142-665	85.00
MT4	ER-40	.12 - 1.02	5/8-11	3142-670	87.00

SHANK	TYPE	CAPACITY	DRAWBAR END	ORDER NO.	PRICE EACH
30	ER-32	.08-.787	1/2-13	3142-510	\$70.00
30	ER-40	.12 - 1.02	1/2-13	3142-520	86.00
40	ER-40	.12 - 1.02	5/8-11	3142-522	88.00

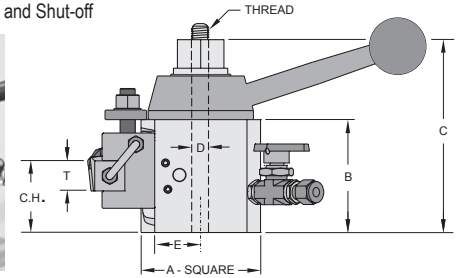
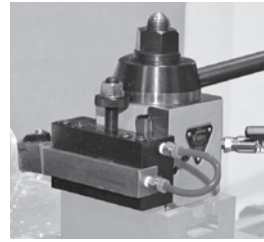
**SUPER Quick Change Tool Post with Triple Action Wedge Style Locking System**

- Rigidity • Repeatability • Quality • Zero Backlash • Triple Action Wedge Style Locking System
- Precise Repeatability within .0001 • 15° Locking Handle Position Adjustment
- Industry-Standard Interchangeable Holders
- Thousands of pounds of locking force with a finger tip



**Victory™ Automatic Thru Coolant Tool Post with Triple Action Wedge Style Locking System**

- Built for the • Speed & Precision of a CNC Lathe • Zero Backlash
- Triple Action Wedge Style Locking System • Precise Repeatability within .0001
- 15° Locking Handle Position Adjustment • Industry-Standard Interchangeable Holders
- Thousands of pounds of locking force with a finger tip
- Automatic Thru Coolant Activation and Shut-off



**SUPER Quick Change Tool Post**

Description	SDN25AXA	SDN30BXA	SDN35CX	SDN40CA	SDN50DA	SDN60EA
Order Number	8001-000	8001-002	8001-004	8001-006	8001-008	8001-010
Price Each	\$ 318.11	\$ 397.97	\$ 544.38	\$ 690.79	\$ 1,058.51	\$ 1,555.94

**Victory™ Automatic Thru Coolant Tool Post**

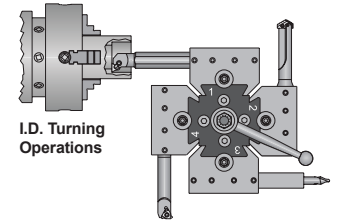
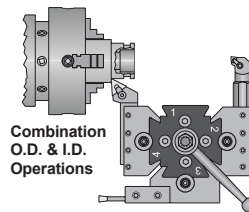
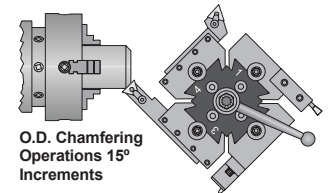
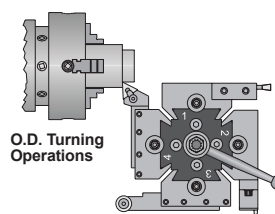
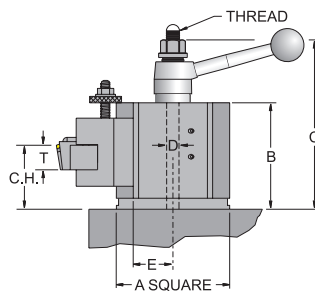
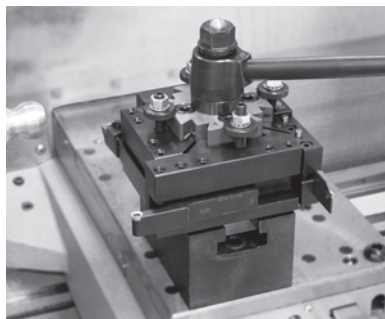
Description	V25tc	V30tc	V35tc	V40tc	V50tc	V60tc
Order Number	8004-200	8004-201	8004-202	8004-203	8004-204	8004-205
Price Each	\$ 416.43	\$ 520.98	\$ 712.64	\$ 904.31	\$ 1,376.06	\$ 2,036.87
Lathe Swing Over Bed	≤12	13-15	14-17	16-20	17-32	≥25
A	2.625	3.000	3.500	4.000	5.000	6.000
B	2.500	2.750	3.250	3.750	4.625	5.000
C	4.240	4.710	5.650	6.335	7.435	8.060
D	0.500	0.625	0.750	0.875	1.000	1.125
E	0.880	1.115	1.199	1.530	1.900	2.207
T-Tool Capacity*	1/2-3/4	5/8-1.0	3/4-1.0	1.0-1¼	1¼-1½	1 1/2
Optimum C.H.**	1.250	1.312	1.625	1.937	2.562	3.000
C.H. MIN.	0.875	1.062	1.250	1.562	2.000	2.500
C.H. MAX.	1.875	1.937	2.250	2.562	3.575	3.500
Thread	1/2-20	5/8-18	3/4-16	7/8-14	1.0-14	1¼-12

\*\* Optimum center height is calculated with the smaller tool size of the tool capacity. If the higher size tool is to be used, add 1/8" to the optimum center height.

**Quadra Indexing Quick Change Tool Post**

**The Multi-Patented Tool Post with The Most Advanced Indexing and Locking Technology**

- 24 Super Precise Positioning Ball Bearings & 2 Pre-Loaded Indexing Pins
- Strong • Rigid • Precise!



Description	QITP25N		QITP30N		QITP35N		QITP40N		QITP50N		QITP60N	
Order Number	8000-000		8000-002		8000-004		8000-006		8000-008		8000-010	
Price Each	\$ 708.09		\$ 795.94		\$ 958.32		\$ 1,248.72		\$ 1,815.00		\$ 2,584.56	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
Lathe Swing Over Bed	≤12"	≤300,0	13-15"	320,0	14-17"	400,0	16-20"	450,0	17-32"	500,0	≥25-XHD	XHD
A	2.500	63.5	3.000	76.2	3.500	88.9	4.000	101.60	5.000	127.0	6.000	152.4
B	2.570	65.3	3.205	81.4	3.460	87.9	4.070	103.4	5.230	132.8	5.615	142.6
C	5.210	132.3	5.720	145.3	6.415	162.9	7.525	191.1	9.135	232.0	9.855	250.3
D	0.500	12.7	0.500	12.7	0.625	16.0	0.750	19.0	1.000	25.40	1.125	28.6
E	0.880	22.4	1.115	28.3	1.245	31.6	1.530	38.9	1.897	48.2	2.207	56.1
T-Tool Capacity	1/2-3/4	12-20	5/8-1.0	16-25	3/4-1.0	20-25	1.0-1¼	25-32	1¼ - 1½	32-40	1 ½	40.0
Optimum C.H.*	1.422	36.1	1.747	44.4	1.835	46.6	2.202	55.9	2.995	76.1	3.440	87.4
C.H. MIN.	0.995	25.3	1.213	30.8	1.445	36.7	1.757	44.6	2.245	57.0	2.750	69.9
C.H. MAX.	1.849	50.0	2.282	58.0	2.225	56.5	2.646	67.2	3.744	95.1	4.129	104.9
Thread	1/2-20	M12x1,75	1/2-20	M12x1,75	5/8-18	M16x2,0	3/4-16	M18x2,5	1.0-14	M24x3,0	1¼-12	M27x3,0

\*Optimum center height is calculated with the smaller tool size of the tool capacity.



## Super Quick Change Standard Sets

(1) Tool Post  
(4) Holders

**NEW**

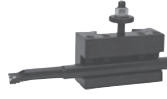
Tooling Not Included



D1



D2



D4-CNC



D7-71C



Description	SDN25AXA-SS	SDN30BXA-SS	SDN35CXA-SS	SDN40CA-SS	SDN50DA-SS	SDN60EA-SS
Lathe Swing	Up to 12"	13" to 15"	14" to 17"	16" to 20"	17" to 32"	≥ 25"
Order Number	8001-020	8001-021	8001-022	8001-023	8001-024	8001-025
Price Each	\$ 697.61	\$ 813.07	\$ 1,044.02	\$ 1,290.35	\$ 1,970.93	\$ 2,859.55

### 5 Piece Standard Set Includes

(1) Tool Post	SDN25AXA	SDN30BXA	SDN35CXA	SDN40CA	SDN50DA	SDN60EA
(4) Holders	(1) D25AXA-1 (1) D25AXA-2 (1) D25AXA-4-CNC (1) D25AXA-7-71C	(1) D30BXA-1 (1) D30BXA-2 (1) D30BXA-4-CNC (1) D30BXA-7-71C	(1) D35CXA-1 (1) D35CXA-2 (1) D35CXA-4-CNC (1) D35CXA-7-71C	(1) D40CA-1 (1) D40CA-2 (1) D40CA-4-CNC (1) D40CA-7-71C	(1) D50DA-1 (1) D50DA-2 (1) D50DA-4-CNC (1) D50DA-7-71C	(1) D60EA-1 (1) D60EA-2 (1) D60EA-4-CNC (1) D60EA-7-71C

## Victory™ Thru Coolant Standard Sets

(1) Tool Post  
(4) Holders

**NEW**

Tooling Not Included



Vtc-1



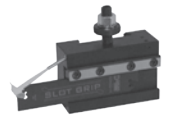
Vtc-2



Vtc-4-CNC



Vtc-7-71C



Description	V25tc-SS	V30tc-SS	V35tc-SS	V40tc-SS	V50tc-SS	V60tc-SS
Lathe Swing	Up to 12"	13" to 15"	14" to 17"	16" to 20"	17" to 32"	≥ 25"
Order Number	8004-174	8004-175	8004-176	8004-177	8004-178	8004-179
Price Each	\$ 1,013.78	\$ 1,160.32	\$ 1,454.08	\$ 1,803.25	\$ 2,666.42	\$ 3,822.43

### 5 Piece Standard Set Includes

(1) Tool Post	V25tc	V30tc	V35tc	V40tc	V50tc	V60tc
(4) Holders	(1) V25tc-1 (1) V25tc-2 (1) V25tc-4-CNC (1) V25tc-7-71C	(1) V30tc-1 (1) V30tc-2 (1) V30tc-4-CNC (1) V30tc-7-71C	(1) V35tc-1 (1) V35tc-2 (1) V35tc-4-CNC (1) V35tc-7-71C	(1) V40tc-1 (1) V40tc-2 (1) V40tc-4-CNC (1) V40tc-7-71C	(1) V50tc-1 (1) V50tc-2 (1) V50tc-4-CNC (1) V50tc-7-71C	(1) V60tc-1 (1) V60tc-2 (1) V60tc-4-CNC (1) V60tc-7-71C

## Quadra Indexing Standard Sets

(1) Tool Post  
(4) Holders

**NEW**

Tooling Not Included



QITP-1



QITP-2



QITP-4-CNC



QITP-7-71C



Description	QITP25N-SS	QITP30N-SS	QITP35N-SS	QITP40N-SS	QITP50N-SS	QITP60N-SS
Lathe Swing	Up to 12"	13" to 15"	14" to 17"	16" to 20"	17" to 32"	≥ 25"
Order Number	8000-020	8000-021	8000-022	8000-023	8000-024	8000-025
Price Each	\$ 1,219.28	\$ 1,369.59	\$ 1,648.17	\$ 2,044.64	\$ 2,962.06	\$ 4,174.12

### 5 Piece Standard Set Includes

(1) Tool Post	QITP25N	QITP30N	QITP35N	QITP40N	QITP50N	QITP60N
(4) Holders	(1) QITP25N-1 (1) QITP25N-2 (1) QITP25N-4-CNC (1) QITP25N-7-71C	(1) QITP30N-1 (1) QITP30N-2 (1) QITP30N-4-CNC (1) QITP30N-7-71C	(1) QITP35N-1 (1) QITP35N-2 (1) QITP35N-4-CNC (1) QITP35N-7-71C	(1) QITP40N-1 (1) QITP40N-2 (1) QITP40N-4-CNC (1) QITP40N-7-71C	(1) QITP50N-1 (1) QITP50N-2 (1) QITP50N-4-CNC (1) QITP50N-7-71C	(1) QITP60N-1 (1) QITP60N-2 (1) QITP60N-4-CNC (1) QITP60N-7-71C


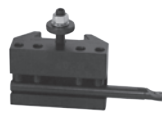






Use With SDN Tool Post	SDN25AXA	SDN30BXA	SDN35CXA	SDN40CA	SDN50DA	SDN60EA
<b>Turning &amp; Facing</b> 	D25AXA-1 Tool Capacity 1/2"	D30BXA-1 Tool Capacity 5/8"	D35CXA-1 Tool Capacity 3/4"	D40CA-1 Tool Capacity 1"	D50DA-1 Tool Capacity 1 1/4"	D60EA-1 Tool Capacity 1 1/2"
	<b>8001-100</b>	<b>8001-250</b>	<b>8001-400</b>	<b>8001-550</b>	<b>8001-700</b>	<b>8001-850</b>
<b>Price Each</b>	<b>\$ 58.70</b>	<b>\$ 62.90</b>	<b>\$ 86.65</b>	<b>\$ 107.61</b>	<b>\$ 172.98</b>	<b>\$ 268.33</b>
<b>Turning, Facing and Boring</b> 	D25AXA-2 Tool Capacity 1/2"	D30BXA-2 Tool Capacity 5/8"	D35CXA-2 Tool Capacity 3/4"	D40CA-2 Tool Capacity 1"	D50DA-2 Tool Capacity 1 1/4"	D60EA-2 Tool Capacity 1 1/2"
	<b>8001-104</b>	<b>8001-254</b>	<b>8001-404</b>	<b>8001-554</b>	<b>8001-704</b>	<b>8001-854</b>
<b>Price Each</b>	<b>\$ 61.49</b>	<b>\$ 68.49</b>	<b>\$ 90.85</b>	<b>\$ 114.60</b>	<b>\$ 185.22</b>	<b>\$ 277.92</b>
<b>Heavy Duty Boring</b> 	D25AXA-4-CNC Tool Capacity 3/4"	D30BXA-4-CNC Tool Capacity 1"	D35CXA-4-CNC Tool Capacity 1"	D40CA-4-CNC Tool Capacity 1 1/4"	D50DA-4-CNC Tool Capacity 1 1/2"	D60EA-4-CNC Tool Capacity 2"
	<b>8001-110</b>	<b>8001-260</b>	<b>8001-410</b>	<b>8001-560</b>	<b>8001-710</b>	<b>8001-860</b>
<b>Price Each</b>	<b>\$ 104.18</b>	<b>\$ 121.56</b>	<b>\$ 139.76</b>	<b>\$ 167.71</b>	<b>\$ 263.54</b>	<b>\$ 428.34</b>
<b>Extra Heavy Duty Boring</b> 	D25AXA-41-CNC Tool Capacity 1"	D30BXA-41-CNC Tool Capacity 1 1/4"	D35CXA-41-CNC Tool Capacity 1 1/4"	D40CA-41-CNC Tool Capacity 1 1/2"	D50DA-41-CNC Tool Capacity 2"	D60EA-41-CNC Tool Capacity 2 1/2"
	<b>8001-114</b>	<b>8001-264</b>	<b>8001-414</b>	<b>8001-564</b>	<b>8001-714</b>	<b>8001-864</b>
<b>Price Each</b>	<b>\$ 109.26</b>	<b>\$ 127.05</b>	<b>\$ 152.46</b>	<b>\$ 171.52</b>	<b>\$ 287.50</b>	<b>\$ 441.41</b>
<b>Morse Taper</b> 	D25AXA-5-2 Tool Capacity Morse Taper 2	D30BXA-5-3 Tool Capacity Morse Taper 3	D35CXA-5-4 Tool Capacity Morse Taper 4	D40CA-5-4 Tool Capacity Morse Taper 4	D50DA-5-5 Tool Capacity Morse Taper 5	D60EA-5-5 Tool Capacity Morse Taper 5
	<b>8001-122</b>	<b>8001-272</b>	<b>8001-424</b>	<b>8001-572</b>	<b>8001-722</b>	<b>8001-872</b>
<b>Price Each</b>	<b>\$ 107.37</b>	<b>\$ 135.70</b>	<b>\$ 175.33</b>	<b>\$ 182.95</b>	<b>\$ 263.54</b>	<b>\$ 351.38</b>
<b>Extra HD Cut-Off Blade Toolholder</b> 	D25AXA-7-71C Blade Size 19-2	D30BXA-7-71C Blade Size 19-2	D35CXA-7-71C Blade Size 26-2 to 26-6	D40CA-7-71C Blade Size 26-2 to 26-6	D50DA-7-71C Blade Size 32-3 to 32-9	D60EA-7-71C Blade Size 32-3 to 32-9
	<b>8001-126</b>	<b>8001-276</b>	<b>8001-428</b>	<b>8001-576</b>	<b>8001-726</b>	<b>8001-876</b>
<b>Price Each</b>	<b>\$ 155.13</b>	<b>\$ 162.12</b>	<b>\$ 5182.38</b>	<b>\$ 209.64</b>	<b>\$ 290.69</b>	<b>\$ 329.02</b>
<b>ID &amp; OD Threading</b> 	D25AXA-881-OE On Edge for OD Laydown for ID	D30BXA-881-OE On Edge for OD Laydown for ID	D35CXA-881-OE On Edge for OD Laydown for ID	D40CA-881-OE On Edge for OD Laydown for ID		
	<b>8001-132</b>	<b>8001-282</b>	<b>8001-434</b>	<b>8001-582</b>		
<b>Price Each</b>	<b>\$ 141.79</b>	<b>\$ 156.34</b>	<b>\$ 167.71</b>	<b>\$ 187.54</b>		
<b>Dovetail Drill Chuck Holder</b> 	D25AXA-35 Tool Capacity 0-12"	D30BXA-35 Tool Capacity 0-12"	D35CXA-35 Tool Capacity 0-12"	D40CA-35 Tool Capacity 0-12"		
	<b>8001-140</b>	<b>8001-290</b>	<b>8001-442</b>	<b>8001-590</b>		
<b>Price Each</b>	<b>\$ 251.56</b>	<b>\$ 259.55</b>	<b>\$ 306.13</b>	<b>\$ 326.10</b>		
<b>5C Collet Holder</b> 	D25AXA-36 5C Collet	D30BXA-36 5C Collet	D35CXA-36 5C Collet	D40CA-36 5C Collet		
	<b>8001-142</b>	<b>8001-292</b>	<b>8001-444</b>	<b>8001-592</b>		
<b>Price Each</b>	<b>\$152.46</b>	<b>\$ 152.82</b>	<b>\$ 177.87</b>	<b>\$ 202.02</b>		

Tooling not included

# Victory™ Automatic Thru Coolant Toolholders

Use With Victory™ Tool Post	V25tc	V30tc	V35tc	V40tc	V50tc	V60tc
Turning & Facing  Thru Coolant	V25tc-1	V30tc-1	V35tc-1	V40tc-1	V50tc-1	V60tc-1
	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 1 1/2"
	8004-210	8004-230	8004-250	8004-270	8004-290	8004-305
Price Each	\$ 100.73	\$ 110.11	\$ 135.17	\$ 167.88	\$ 269.83	\$ 383.71
Turning, Facing and Boring  Thru Coolant	V25tc-2	V30tc-2	V35tc-2	V40tc-2	V50tc-2	V60tc-2
	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 1 1/2"
	8004-211	8004-231	8004-251	8004-271	8004-291	8004-306
Price Each	\$ 105.52	\$ 118.84	\$ 141.72	\$ 178.78	\$ 288.94	\$ 397.42
Heavy Duty Boring  Thru Coolant	V25tc-4-CNC	V30tc-4-CNC	V35tc-4-CNC	V40tc-4-CNC	V50tc-4-CNC	V60tc-4-CNC
	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 2"
	8004-212	8004-232	8004-252	8004-272	8004-292	8004-307
Price Each	\$ 151.27	\$ 160.50	\$ 202.93	\$ 243.51	\$ 347.88	\$ 570.12
Extra Heavy Duty Boring  Thru Coolant	V25tc-41-CNC	V30tc-41-CNC	V35tc-41-CNC	V40tc-41-CNC	V50tc-41-CNC	V60tc-41-CNC
	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 2"	Tool Capacity 2 1/2"
	8004-214	8004-234	8004-254	8004-274	8004-294	8004-309
Price Each	\$ 145.43	\$ 169.10	\$ 213.93	\$ 270.09	\$ 385.85	\$ 606.55
Morse Taper  Thru Coolant	V25tc-5-2	V30tc-5-3	V35tc-5-4	V40tc-5-4	V50tc-5-5	V60tc-5-5
	Tool Capacity Morse Taper 2	Tool Capacity Morse Taper 3	Tool Capacity Morse Taper 4	Tool Capacity Morse Taper 4	Tool Capacity Morse Taper 5	Tool Capacity Morse Taper 5
	8004-218	8004-238	8004-258	8004-278	8004-298	8004-313
Price Each	\$ 152.63	\$ 208.98	\$ 270.02	\$ 281.75	\$ 347.88	\$ 463.83
Extra HD Cut-Off Blade Toolholder  Thru Coolant	V25tc-7-71C	V30tc-7-71C	V35tc-7-71C	V40tc-7-71C	V50tc-7-71C	V60tc-7-71C
	Blade Size 19-2	Blade Size 19-2	Blade Size 26-2 to 26-6	Blade Size 26-2 to 26-6	Blade Size 32-3 to 32-9	Blade Size 32-3 to 32-9
	8004-219	8004-239	8004-259	8004-279	8004-299	8004-314
Price Each	\$ 239.83	\$ 249.89	\$ 261.62	\$ 308.58	\$ 383.71	\$ 434.31
ID & OD Threading  Thru Coolant <i>Laydown Threading Bar Sold Separately</i>	V25tc-881-OE	V30tc-881-OE	V35tc-881-OE	V40tc-881-OE		
	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID		
	8004-220	8004-240	8004-260	8004-280		
Price Each	\$ 194.97	\$ 224.32	\$ 230.60	\$ 257.86		
Dovetail Drill Chuck Holder  Thru Coolant	V25tc-35	V30tc-35	V35tc-35	V40tc-35		
	Tool Capacity 0-12"	Tool Capacity 0-12"	Tool Capacity 0-12"	Tool Capacity 0-12"		
	8004-222	8004-242	8004-262	8004-282		
Price Each	\$ 345.89	\$ 356.87	\$ 420.93	\$ 448.38		
5C Collet Holder  Thru Coolant	V25tc-36	V30tc-36	V35tc-36	V40tc-36		
	5C Collet	5C Collet	5C Collet	5C Collet		
	8004-223	8004-243	8004-263	8004-283		
Price Each	\$ 209.63	\$ 218.37	\$ 244.57	\$ 277.77		

Tooling not included

Use With Quadra Tool Post	QITP25N	QITP30N	QITP35N	QITP40N	QITP50N	QITP60N
<b>Turning &amp; Facing</b> 	<b>QITP25N-1</b>	<b>QITP30N-1</b>	<b>QITP35N-1</b>	<b>QITP40N-1</b>	<b>QITP50N-1</b>	<b>QITP60N-1</b>
	Tool Capacity 3/4"	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 1 1/2"
	<b>Order Number</b> <b>8000-100</b>	<b>8000-250</b>	<b>8000-400</b>	<b>8000-550</b>	<b>8000-700</b>	<b>8000-850</b>
<b>Price Each</b>	<b>\$ 91.48</b>	<b>\$ 109.78</b>	<b>\$ 135.70</b>	<b>\$ 150.95</b>	<b>\$ 249.17</b>	<b>\$ 365.76</b>
<b>Turning, Facing and Boring</b> 	<b>QITP25N-2</b>	<b>QITP30N-2</b>	<b>QITP35N-2</b>	<b>QITP40N-2</b>	<b>QITP50N-2</b>	<b>QITP60N-2</b>
	Tool Capacity 3/4"	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 1 1/2"
	<b>Order Number</b> <b>8000-104</b>	<b>8000-254</b>	<b>8000-404</b>	<b>8000-554</b>	<b>8000-704</b>	<b>8000-854</b>
<b>Price Each</b>	<b>\$ 97.57</b>	<b>\$ 115.87</b>	<b>\$ 150.95</b>	<b>\$ 167.71</b>	<b>\$ 268.33</b>	<b>\$ 375.35</b>
<b>Heavy Duty Boring</b> 	<b>QITP25N-4-CNC</b>	<b>QITP30N-4-CNC</b>	<b>QITP35N-4-CNC</b>	<b>QITP40N-4-CNC</b>	<b>QITP50N-4-CNC</b>	<b>QITP60N-4-CNC</b>
	Tool Capacity 3/4"	Tool Capacity 1"	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 2"
	<b>Order Number</b> <b>8000-110</b>	<b>8000-260</b>	<b>8000-410</b>	<b>8000-560</b>	<b>8000-710</b>	<b>8000-860</b>
<b>Price Each</b>	<b>\$ 136.96</b>	<b>\$ 153.74</b>	<b>\$ 184.48</b>	<b>\$ 223.61</b>	<b>\$ 332.35</b>	<b>\$ 486.08</b>
<b>Extra Heavy Duty Boring</b> 	<b>QITP25N-41-CNC</b>	<b>QITP30N-41-CNC</b>	<b>QITP35N-41-CNC</b>	<b>QITP40N-41-CNC</b>	<b>QITP50N-41-CNC</b>	<b>QITP60N-41-CNC</b>
	Tool Capacity 1"	Tool Capacity 1 1/4"	Tool Capacity 1 1/4"	Tool Capacity 1 1/2"	Tool Capacity 2"	Tool Capacity 2 1/2"
	<b>Order Number</b> <b>8000-114</b>	<b>8000-264</b>	<b>8000-414</b>	<b>8000-564</b>	<b>8000-714</b>	<b>8000-864</b>
<b>Price Each</b>	<b>\$ 167.71</b>	<b>\$ 181.69</b>	<b>\$ 209.64</b>	<b>\$ 265.54</b>	<b>\$ 358.71</b>	<b>\$ 469.54</b>
<b>Morse Taper</b> 	<b>QITP25N-5-2</b>	<b>QITP30N-5-3</b>	<b>QITP35N-5-4</b>	<b>QITP40N-5-4</b>	<b>QITP50N-5-5</b>	<b>QITP60N-5-5</b>
	Tool Capacity Morse Taper 2	Tool Capacity Morse Taper 3	Tool Capacity Morse Taper 4	Tool Capacity Morse Taper 4	Tool Capacity Morse Taper 5	Tool Capacity Morse Taper 5
	<b>Order Number</b> <b>8000-122</b>	<b>8000-272</b>	<b>8000-424</b>	<b>8000-572</b>	<b>8000-722</b>	<b>8000-872</b>
<b>Price Each</b>	<b>\$ 140.40</b>	<b>\$ 156.91</b>	<b>\$ 188.67</b>	<b>\$ 231.23</b>	<b>\$ 328.76</b>	<b>\$ 458.54</b>
<b>Extra HD Cut-Off Blade Toolholder</b> 	<b>QITP25N-7-71C</b>	<b>QITP30N-7-71C</b>	<b>QITP35N-7-71C</b>	<b>QITP40N-7-71C</b>	<b>QITP50N-7-71C</b>	<b>QITP60N-7-71C</b>
	Blade Size 19-2	Blade Size 19-2	Blade Size 26-2 to 26-6	Blade Size 26-2 to 26-6	Blade Size 32-3 to 32-9	Blade Size 32-3 to 32-9
	<b>Order Number</b> <b>8000-126</b>	<b>8000-276</b>	<b>8000-428</b>	<b>8000-576</b>	<b>8000-726</b>	<b>8000-876</b>
<b>Price Each</b>	<b>\$ 126.17</b>	<b>\$ 194.27</b>	<b>\$ 218.72</b>	<b>\$ 253.65</b>	<b>\$ 297.21</b>	<b>\$ 462.37</b>
<b>ID &amp; OD Threading Toolholder</b> Laydown Threading Bar Sold Separately 	<b>QITP25N-881-OE</b>	<b>QITP30N-881-OE</b>	<b>QITP35N-881-OE</b>	<b>QITP40N-881-OE</b>		
	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID	On Edge for OD Laydown for ID		
	<b>Order Number</b> <b>8000-132</b>	<b>8000-282</b>	<b>8000-434</b>	<b>8000-582</b>		
<b>Price Each</b>	<b>\$ 180.04</b>	<b>\$ 193.25</b>	<b>\$ 213.07</b>	<b>\$ 244.44</b>		
<b>5C Collet Holder</b> 	<b>QITP25N-36</b>	<b>QITP30N-36</b>	<b>QITP35N-36</b>	<b>QITP40N-36</b>		
	5C Collet	5C Collet	5C Collet	5C Collet		
	<b>Order Number</b> <b>8000-142</b>	<b>8000-292</b>	<b>8000-444</b>	<b>8000-592</b>		
<b>Price Each</b>	<b>\$ 188.67</b>	<b>\$ 201.25</b>	<b>\$ 231.99</b>	<b>\$ 276.72</b>		

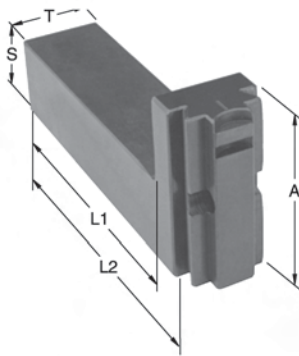
Tools not included



## CNC Modular Knurling Tool Shank

The CNC Modular Knurling Tool includes **three standard shank sizes** and **seven standard knurling heads** to create any knurling tool combination.

- Specifically designed for the CNC Lathe.
- Precision square shank with preset center height.
- Right or Left hand applications.
- One shank fits all heads.
- One head fits all shanks.



- Cobalt knurl wheels, Tin-C coated.
- Center height adjustment.
- Interchangeable knurl heads.
- Carbide knurl pin.
- Easy set-up.
- High productivity.
- Best knurl quality.
- Long knurl wheel life.
- Low production cost.

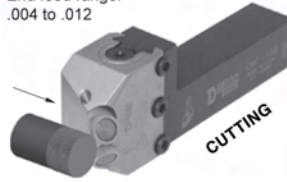
CNC Modular Knurling Tool Shank						
Desc.		S	T	L1	L2	A
CNC-75	21010	.75	1.0	3.5	3.875	2.0
CNC-100	21020	1.0	1.0	3.5	3.875	2.0
CNC-125	21030	1.25	1.0	4.0	4.375	2.25

Supplied with Lock Screw and Adjustment Screw.

1

### 1 - Small Diamond Cutting Knurling Tool- Cutting Range 5/16" to 1-1/2" Best for up to 1"

End feed range: .004 to .012

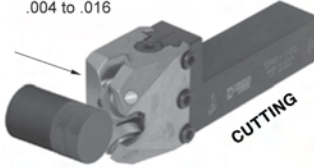


Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-1-2	8020-410	\$ 667.42	3/4	5 3/4	SW2S	PSW-2.0S 8029-005	\$ 43.16
CNC-100-1-2	8020-420	729.22	1	5 3/4	SW2S		
CNC-125-1-2	8020-430	775.28	1 1/4	6 1/4	SW2S		

Supplied with set of straight knurl wheels, 30 TPI

### 2 - HD Diamond Cutting Knurling Tool-Cutting Range 1.0" to 5" Best for up to 3"

End feed range: .004 to .016

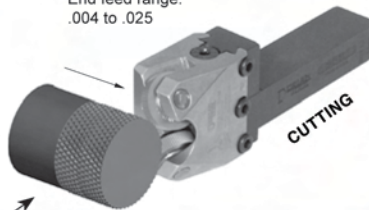


Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-2-R	8020-510	\$ 784.27	3/4	5 3/4	RS	KPS-25-87-C 8028-925	\$ 29.58
CNC-100-2-R	8020-520	831.46	1	5 3/4	RS		
CNC-125-2-R	8020-530	887.64	1 1/4	6 1/4	RS		

Supplied with set of straight knurl wheels, 25 TPI

### 3 - Extra HD Diamond Cutting Knurling Tool-Cutting range 2.0" & up Best for over 2-1/2"

End feed range: .004 to .025

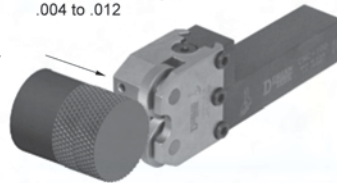


Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-3-M	8020-610	\$ 739.33	3/4	5 7/8	MS	KPS-31-100-C 8028-945	\$ 30.78
CNC-100-3-M	8020-620	775.28	1	5 7/8	MS		
CNC-125-3-M	8020-630	820.23	1 1/4	6 3/8	MS		

Supplied with set of straight knurl wheels, 25 TPI

### 4 - Double Wheel Forming Knurling Tool

In/End Feed Range: .004 to .012



Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-4-M	8020-646	\$ 739.33	3/4	6	M	KPS-31-125-C 8028-950	\$ 32.64
CNC-100-4-M	8020-648	775.28	1	6	M		
CNC-125-4-M	8020-650	820.23	1 1/4	6 1/2	M		

Supplied with set of diagonal knurl wheels, 25 TPI

### 5 - Single Wheel Forming Knurling Tool- Straight Bump Best for Narrow Knurling

In/End Feed Range: .004 to .012



Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-5-O	8020-710	\$ 658.43	3/4	5 3/4	O	KPS-31-125-C 8028-950	\$ 32.64
CNC-100-5-O	8020-720	685.40	1	5 3/4	O		
CNC-125-5-O	8020-730	721.35	1 1/4	6 1/4	O		

Supplied with set of straight knurl wheels, 25 TPI

### 6 - Shoulder Forming Knurling Tool-Diameter range: 5/16" & up

In/End Feed Range: .004 to .012



Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-6-4	8020-780	\$ 697.48	3/4	5 3/4	SW4	SW4.0P-2S 8029-085	\$ 50.60
CNC-100-6-4	8020-790	731.40	1	5 3/4	SW4		
CNC-125-6-4	8020-800	773.80	1 1/4	6 1/4	SW4		

Supplied with set of straight knurl wheels, 25 TPI

### 7 - Straddle Forming Knurling Tool -Diameter range: up to 1"

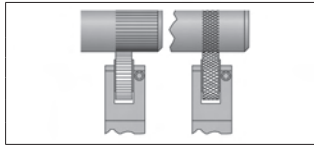
In/End Feed Range: .004 to .012



Description	Order No.	Price Each	Shank Size	Tool Length	Knurl Wheel Style	Knurl Pin Set	Price Each
CNC-75-7-R	8020-910	\$ 752.81	3/4	6	R	KPS-25-62-C 8028-915	\$ 28.41
CNC-100-7-R	8020-920	792.14	1	6	R		
CNC-125-7-R	8020-930	842.70	1 1/4	6 1/2	R		

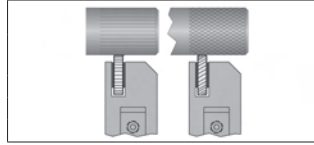
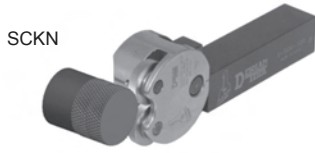
Supplied with set of diagonal knurl wheels, 30 TPI

1



SWFKT - Single Wheel Fixed Knurling Tool						
Description	Order No.	Knurl Wheel Style	Knurl Pin Set		Shank Size	Price Each
			Desc.	Order No.		
SWFKT-50-D	8021-730	D*	KPS-18-50	8028-805	1/2	\$ 80.90
SWFKT-75-M	8021-740	M**	KPS-31-75	8028-840	3/4	103.37
SWFKT-100-O	8021-750	O**	KPS-31-100	8028-845	1	114.61

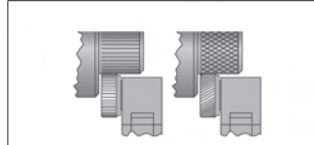
\* Supplied with 1 Straight Knurl Wheel 30 TPI. \*\* Supplied with 1 Straight Knurl Wheel 25 TPI.



SCKN - Self-Centering Knurling Tool for C.N.C. Lathe						
Description	Order No.	Knurl Wheel Style	Knurl Pin Set		Shank Size	Price Each
			Desc.	Order No.		
SCKN-50-D	8022-111	D*	KPS-18-50	8028-805	1/2	\$ 219.10
SCKN-75-M	8022-121	M**	KPS-31-75	8028-840	3/4	264.05
SCKN-100-M	8022-131	M**	KPS-31-75	8028-840	1	297.75

\* Supplied with 1 set of 30 TPI Diagonal Knurl Wheels for Diamond Pattern.

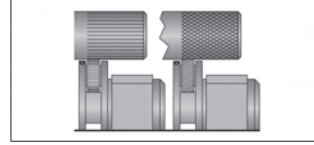
\*\* Supplied with 1 set of 25 TPI Diagonal Knurl Wheels for Diamond Pattern.



SSKC - Shoulder Self-Centering Knurling Tool for C.N.C. Lathe						
Description	Order No.	Knurl Wheel Style	Knurl Pin Set		Shank Size	Price Each
			Desc.	Order No.		
SSKC-50-2	8022-220	SW2*	SW2.0P-2S	8029-055	1/2	\$ 320.23
SSKC-75-4	8022-240	SW4**	SW4.0P-2S	8029-085	3/4	387.64
SSKC-100-4	8022-250	SW4**	SW4.0P-2S	8029-085	1	387.64

\* Supplied with 1 set of 30 TPI Diagonal Knurl Wheels for Diamond Pattern.

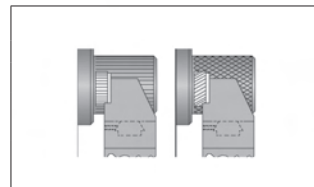
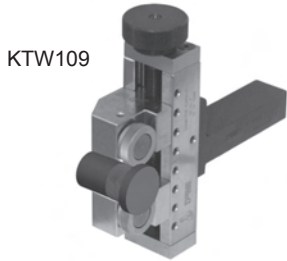
\*\* Supplied with 1 set of 25 TPI Diagonal Knurl Wheels for Diamond Pattern.



3SHKT - Three Swivel Head Knurling Tool						
Description	Order No.	Knurl Wheel Style	Knurl Pin Set		Shank Size	Price Each
			Desc.	Order No.		
3SHKT-50-D	8021-510	D*	KPS-18-50	8028-805	1/2	\$ 292.14
3SHKT-75-M	8021-530	M**	KPS-31-100	8028-845	3/4	331.46
3SHKT-100-M	8021-540	M**	KPS-31-100	8028-845	1	370.79

\* Supplied (2) 20 TPI, (2) 30 TPI & (2) 40 TPI Diagonal Knurl Wheels for Diamond Pattern.

\*\* Supplied (2) 16 TPI, (2) 25 TPI & (2) 35 TPI Diagonal Knurl Wheels for Diamond Pattern.

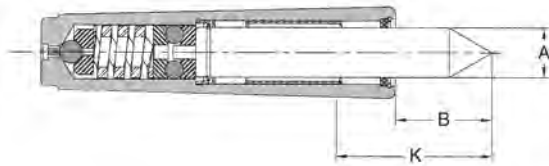


KTW109 - Straddle Knurling Tool up to 2" in Diameter						
Description	Order No.	Knurl Wheel Style	Knurl Pin Set		Shank Size	Price Each
			Desc.	Order No.		
KTW109-75-2-4	8022-810	SW4	SW4.0P-2S	8029-085	3/4	\$ 374.16
KTW109-100-2-4	8022-820	SW4	SW4.0P-2S	8029-085	1.0	388.77

Supplied with 1 set of Diagonal Knurl Wheels 25 TPI for Diamond Pattern.

Knurl Wheel Series	Description	Specifications			Circular Knurl Pitch						Price Each
		Pattern	Grade	Edge Prep	14	16	20	25	30	40	
	SW2S-XX-C	Straight	Cobalt	Full Faced			8027-404	8027-406	8027-408		\$ 44.94
	SW2R-XX-CB	Right Hand		Beveled			8027-479	8027-481	8027-483		44.94
	SW2L-XX-CB	Left Hand		Beveled			8027-529	8027-531	8027-533		44.94
	SW4S-XX-CB	Straight	Cobalt	Beveled	8028-029		8028-033	8028-035	8028-037		54.70
	SW4R-XX-CB	Right Hand		Beveled	8028-083	8028-085	8028-087	8028-089	8028-091		54.70
	SW4L-XX-CB	Left Hand		Beveled	8028-137	8028-139	8028-141	8028-143	8028-145		54.70
	DS-XX-CB	Straight	Cobalt	Beveled			8025-031		8025-035	8025-039	26.85
	DDR-XX-CB	Right Hand		Beveled			8025-085		8025-089	8025-093	26.85
	DDL-XX-CB	Left Hand		Beveled			8025-139		8025-143	8025-147	26.85
	MS-XX-C	Straight	Cobalt	Full Faced		8025-310	8025-312	8025-314	8025-316		44.55
	MDR-XX-CB	Right Hand		Beveled		8025-409	8025-411	8025-413	8025-415		44.55
	MDL-XX-CB	Left Hand		Beveled		8025-475	8025-477	8025-479	8025-481		44.55
	RS-XX-C	Straight	Cobalt	Full Faced			8026-510	8026-512	8026-514		31.53
	RDR-XX-CB	Right Hand		Beveled			8026-603	8026-605	8026-607		31.53
	RDL-XX-CB	Left Hand		Beveled			8026-665	8026-667	8026-669		31.53
	OS-XX-HSB	Straight	High Speed	Beveled	8025-641	8025-643	8025-645	8025-647			29.05
	ODR-XX-HSB	Right Hand		Beveled	8025-773	8025-775	8025-777	8025-779			29.05
	ODL-XX-HSB	Left Hand		Beveled	8025-905	8025-907	8025-909	8025-911			29.05
	OF-XX-HS	Female Diamond		Full Faced			8026-074	8026-076			41.80

# Spring Loaded Live Centers



**CONCENTRIC** by

**Riten**

Type	A	B	K
2MT	.378	.88	1.38
3MT	.558	1.16	1.69
4MT	.686	1.38	2.38
5MT	1.075	2.00	2.88
6MT	1.509	2.75	3.63

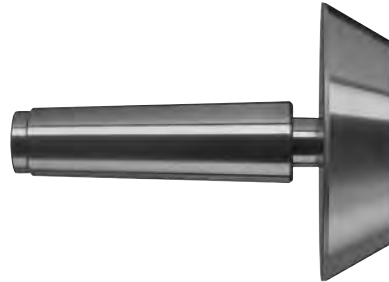
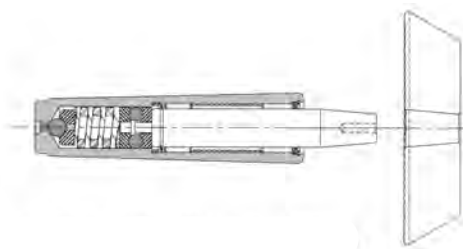
- Accuracy to ± .0001.
- Compensates for thermal expansion.
- Low profile.

Concentric Tool Corporation, now a member of the Riten workholding family, pioneered and patented the streamlined, low profile design of high precision spring loaded live centers. The low profile design has less overhang, added load capacity, and increased rigidity. The spring loaded spindle compensates for workpiece expansion or contraction.

## Standard Spring Loaded Live Centers

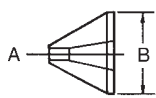
2MT			3MT			4MT			5MT			6MT		
Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price
2 MT	3171-272	\$230.00	3 MT	3171-273	\$264.00	4 MT	3171-274	\$322.00	5 MT	3171-275	\$464.00	6 MT	3171-276	\$754.00

# Bell Head Spring Loaded Live Centers

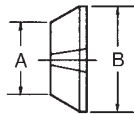


## Bell Head Spring Loaded Live Centers

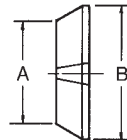
2MT			3MT			4MT			5MT			6MT		
Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price	Taper	Order No.	Price
2 MT	3171-282	\$232.00	3 MT	3171-283	\$264.00	4 MT	3171-284	\$322.00	5 MT	3171-285	\$464.00	6 MT	3171-286	\$754.00



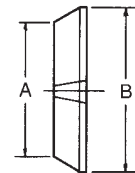
Style 1



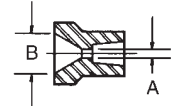
Style 2



Style 3



Style 4



Style 5 Female Head

## Interchangeable Bell Head Adapters

Type	Style 1				Style 2				Style 3				Style 4				Style 5			
	Order #	A	B	Price	Order #	A	B	Price	Order #	A	B	Price	Order #	A	B	Price	Order #	A	B	Price
2MT	3171-001	0.25	1.31	\$102.00	3171-002	1.24	1.82	\$108.00	3171-003	1.75	2.33	\$140.00	3171-004	2.26	2.84	\$140.00	3171-005	0.13	0.76	\$162.00
3MT	3171-011	0.35	1.83	\$140.00	3171-012	1.72	2.58	\$140.00	3171-013	2.46	3.32	\$162.00	3171-014	3.20	4.06	\$162.00	3171-015	0.19	1.12	\$190.00
4MT	3171-021	0.36	2.27	\$162.00	3171-022	2.17	3.25	\$162.00	3171-023	3.14	4.22	\$190.00	3171-024	4.11	5.19	\$216.00	3171-025	0.23	1.37	\$246.00
5MT	3171-031	0.51	3.33	\$190.00	3171-032	3.21	4.80	\$190.00	3171-033	4.60	6.19	\$216.00	3171-034	6.06	7.65	\$272.00	3171-035	0.38	2.00	\$322.00
6MT	3171-041	0.61	5.08	\$216.00																

(Contact factory for availability.)



## Econo Tri-Bearing Live Centers

- Accuracy guaranteed to  $\pm .0025$ .
- Three rows of bearings.
- Points are through-hardened to 61-63 Rc.
- Sealed bearings lubricated for life, protected against contaminants and coolant.

2

### Morse Taper

Taper	A	B	C	D	E	Max RPM	W.P. Weight kg *	Order No.	Price Ea.
2	14	21	41	41	6	2500	136	3171-532	\$ 172.00
3	21	25	51	49	6	2500	227	3171-533	178.00
4	25	32	60	57	6	2500	499	3171-534	238.00
5	25	32	60	57	6	2500	499	3171-535	322.00

### Morse Taper - Tracer Point

Taper	A	B	C	D	E	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	10	32	41	41	6	2500	136	3171-542	\$ 172.00
3	10	38	51	49	6	2500	136	3171-543	178.00
4	13	51	60	57	6	2500	408	3171-544	238.00
5	13	51	60	64	6	2500	408	3171-545	322.00

\* Uses 3 angular contact bearings for heavier loads.

## The Riten Regal Live Centers

- Accuracy guaranteed to  $\pm .0025$ .
- Heavy duty bearing design.
- Points are through-hardened to 61-63 Rc.
- Full length spindle for extra rigidity.
- Bodies are heat treated for additional strength.
- Triple row of angular contact bearings for superior performance. Double row in Models 2,3, and 4.
- Riten full service, repair, and guarantee apply.

### Morse Taper - Standard Point

Taper	A	B	C	D	E	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	25	32	60	44	6	4000	200	3171-612	\$260.00
3	25	32	60	44	6	4000	498	3171-613	300.00
4	35	38	76	50	10	4000	950	3171-614	390.00
5	35	46	78	58	7	5000	1270	3171-615	536.00

### Morse Taper - Long Point

Taper	A	B	C	D	E	G	V2	I	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	10	48	60	44	6	16	30°	26	4000	140	3171-602	\$ 260.00
3	10	48	60	44	6	16	30°	26	4000	290	3171-603	300.00
4	13	56	76	50	10	21	30°	27	4000	498	3171-604	390.00
5	13	64	78	58	7	24	30°	27	5000	498	3171-605	536.00

## CNC High RPM Sprint Live Centers

- Accuracy guaranteed to  $\pm .0025$ .
- Coolant Deflectors, no friction seal.
- Point configuration allows for tool clearance.
- Riten full service, repair, and guarantee apply.
- Meets the rigid requirements of CNC turning.
- Points through-hardened to 61-63 Rc.
- Body heat-treated for additional strength.

### Morse Taper

Taper	A	B	C	D	E	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	21	32	54	51	10	6000	200	3171-202	\$ 470.00
3	21	35	54	51	10	6000	499	3171-203	504.00
4	31	46	70	59	10	4000	953	3171-204	604.00
5	37	60	79	62	10	4000	1320	3171-205	646.00

### Morse Taper - Long Point

Taper	A	B	C	D	E	G	V2	I	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	10	51	54	51	10	19	30°	21	6000	200	3171-182	\$ 470.00
3	10	51	54	51	10	19	30°	21	6000	499	3171-183	504.00
4	13	64	70	59	10	24	30°	33	4000	953	3171-184	604.00
5	13	64	79	62	10	24	30°	46	4000	1320	3171-185	646.00

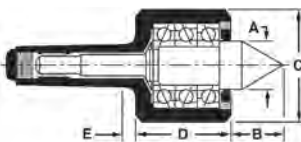
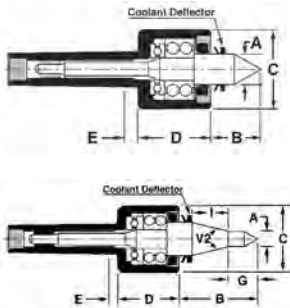
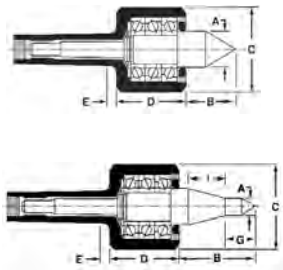
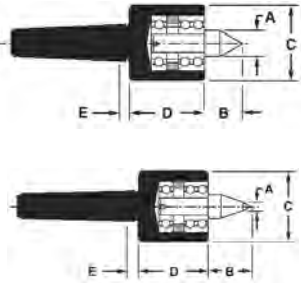
## Heavy-Duty Live Centers

- Accuracy guaranteed to  $\pm .0025$ .
- Triple bearing for heavier loads.
- Also available in Jarno, Brown & Sharpe, and Straight Shanks.
- Riten full service, repair and guarantee apply.
- For use where the piece part may weigh several hundred pounds. Radial pressure and thrust requirements demand centers with bearing structures that will handle these loads.

### Morse Taper

Taper	A	B	C	D	E	Max RPM	W.P. Weight kg	Order No.	Price Ea.
2	22	29	44	67	10	4000	417	3171-432	\$ 358.00
3	22	29	44	67	10	4000	417	3171-433	430.00
4	29	51	73	81	13	3500	998	3171-434	530.00
5	48	57	95	98	13	3200	3629	3171-435	1084.00
6	51	57	117	98	13	3000	63504	3171-436	1750.00
7	51	57	117	98	13	3000	63504	3171-437	2266.00

\* Workpiece Weight Capacity in kilograms should not exceed half of the Load Rating based on 100 RPM.





# Live Centers

## Economy Live/Dead Centers— High Speed Steel/Carbide Tipped

2



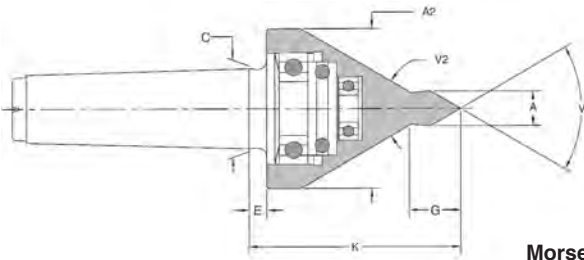
Live Center



Dead Center

MT NO.	DEAD CENTERS				LIVE CENTERS	
	HIGH SPEED		CARBIDE TIPPED		HIGH SPEED	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
0	3145-010	\$3.60	3145-000	\$ 7.95	—	—
1	3145-011	3.90	3145-001	7.95	3145-021	\$ 24.45
2	3145-012	4.75	3145-002	13.60	3145-022	27.20
3	3145-013	6.75	3145-003	15.85	3145-023	34.05
4	3145-014	11.10	3145-004	20.10	3145-024	48.30
5	3145-015	20.25	3145-005	47.45	3145-025	71.85
6	3145-016	48.60	3145-006	106.60	3145-026	137.90

## Multi-Use Live Centers



- The Multi-Use live center is ideal for general machine shop use.
- It can be used when machining thin-walled workpieces or general shaft work applications.
- The versatility of this center makes it a “must- have” tool when your center needs change frequently.

2



Morse Taper

MT	A	A2	C	E	G	K	V	V2	Max RPM	W.P.Wt.	Order No.	Price
2	1/2	2 1/4	.700	1/4	3/4	3 3/16	60°	60°	5000	330	3171-782	\$242.00
3	1/2	2 1/4	.938	1/4	3/4	3 3/16	60°	60°	5000	330	3171-783	\$250.00
3	5/8	2 5/8	.938	1/4	15/16	3 3/16	60°	60°	4000	685	3171-793	\$284.00
4	5/8	2 5/8	1.231	3/8	15/16	3 7/8	60°	60°	4000	685	3171-794	\$290.00
4	3/4	3 1/2	1.231	3/8	1 1/8	3 7/8	60°	60°	3500	1165	3171-804	\$396.00
5	3/4	3 1/2	1.748	3/8	1 1/8	4 5/8	60°	60°	3500	1165	3171-805	\$414.00

# Dead Centers

## High-Speed Steel & Carbide-Tipped

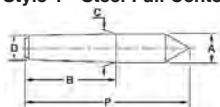
2



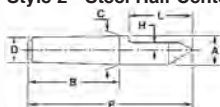
- Accuracy guaranteed to ± .0025. • Riten full service, repair, and guarantee apply.
- Through-hardened to 61-63 Rc for extra regrinds.
- Carbide tipped dead centers are hardened only on the knockout ends.
- Applying a Moly EP632 grease on the point will reduce friction and wear.



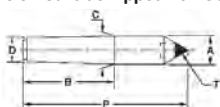
Style 1 - Steel Full Center



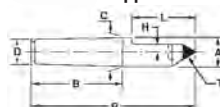
Style 2 - Steel Half Center



Style 3 - Carbide Tipped Full Center



Style 4 - Carbide Tipped Half Center



Morse Taper

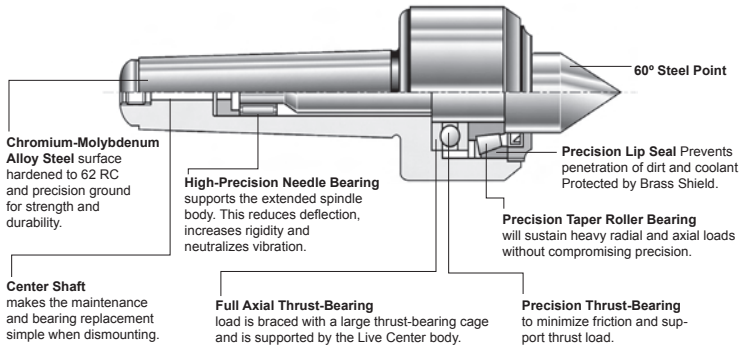
Taper	P	B	C/A	D	•T	H	L
1	84	54	12.07	9.37	6	3	25
2	106	65	17.78	14.53	10	5	35
3	133	81	23.83	19.76	13	6	43
4	171	103	31.27	25.91	13	6	57
5	216	132	44.40	37.47	16	10	70
6	292	184	63.35	53.75	22	13	89
7	381	254	83.06	69.85	25	19	102

MT NO.	HSS FULL-CENTER		HSS HALF-CENTER		CARBIDE FULL-CENTER		CARBIDE HALF-CENTER	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	3172-411	\$ 56.00	3172-412	\$ 72.00	3172-413	\$ 72.00	3172-414	\$ 80.00
2	3172-421	64.00	3172-422	78.00	3172-423	78.00	3172-424	94.00
3	3172-431	94.00	3172-432	104.00	3172-433	104.00	3172-434	116.00
4	3172-441	130.00	3172-442	140.00	3172-443	140.00	3172-444	152.00
5	3172-451	194.00	3172-452	210.00	3172-453	210.00	3172-454	222.00
6	3172-461	330.00	3172-462	396.00	3172-463	438.00	3172-464	536.00
7	3172-471	624.00	3172-472	662.00	—	—	—	—



**High Quality**  
**High Speed**  
**High Performance**

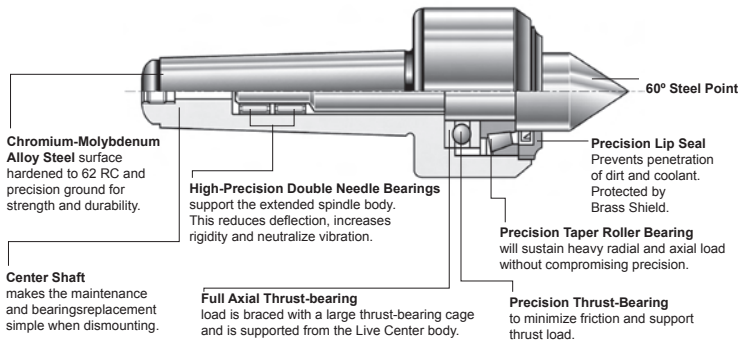
## Precision General Purpose Live Center - High Quality • Long Life • Low Price



- Precision Concentricity of TIR .00015"
- The Bearings are Permanently Lubricated
- Surface Heat Treated to 62 Rc and Precision Ground
- High Speed Precision Triple Bearings
- Chromium-Molybdenum Alloy Steel
- Ideal For General Purpose Machining

Precision Live Center			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-200	\$ 212.88	PLC-PRE-S60-MT1	1	8500	98	365
8048-201	238.68	PLC-PRE-S60-MT2	2	6000	220	792
8048-202	288.12	PLC-PRE-S60-MT3	3	5000	572	1144
8048-203	369.87	PLC-PRE-S60-MT4	4	4000	1078	1320
8048-204	495.24	PLC-PRE-S60-MT5	5	3000	1672	1430
8048-205	943.07	PLC-PRE-S60-MT6	6	2500	3388	3300

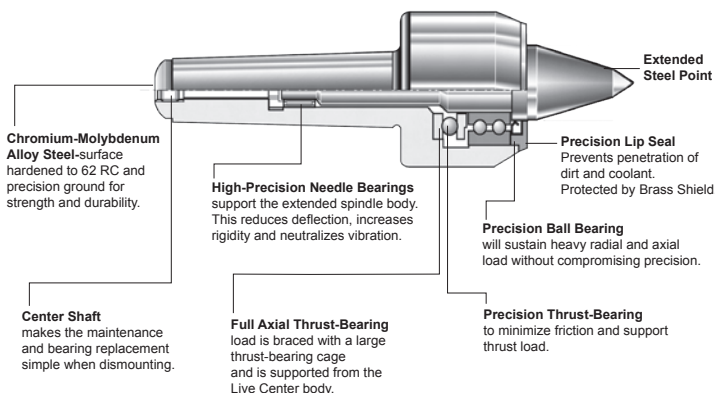
## Heavy Duty Live Center - For High Performance Heavy Duty Turning Applications



- Precision Concentricity of TIR .00015"
- Super Heavy Duty Quad Bearings
- Chromium-Molybdenum Alloy Steel
- High Speed Precision Triple Bearings
- The Bearings are Permanently Lubricated
- Surface Heat Treated to 62 RC and Precision Ground

Heavy Duty Live Center			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-206	\$ 407.75	PLC-HDA-S60-MT2	2	7500	506	1012
8048-207	451.41	PLC-HDA-S60-MT3	3	6000	2090	1144
8048-208	548.98	PLC-HDA-S60-MT4	4	4500	3300	1320
8048-209	677.13	PLC-HDA-S60-MT5	5	2800	4400	2460
8048-210	1,482.55	PLC-HDA-S60-MT6	6	2000	10560	3300
8048-211	3,184.28	PLC-HDA-S60-MT6-S	6	1700	19800	6600

## CNC High Speed Heavy Duty Live Center - For High Performance CNC Turning Applications



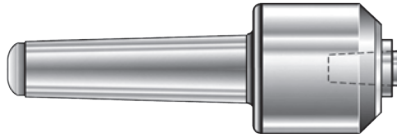
- Precision Concentricity of TIR .0001"
- High Speed Precision
- Longer Life
- Lifetime Lubrication
- Sealed with Lip Seal and Protected by Brass Shield
- Quad Bearings

CNC High Speed Heavy Duty Live Center With 60° Steel Tip			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-220	\$ 374.14	PLC-CNC-S60-MT3	3	7000	1386	1144
8048-221	442.18	PLC-CNC-S60-MT4	4	5500	1883	1439
8048-222	619.80	PLC-CNC-S60-MT5	5	4500	2860	2486
8048-223	1,401.64	PLC-CNC-S60-MT6	6	3200	3740	2508

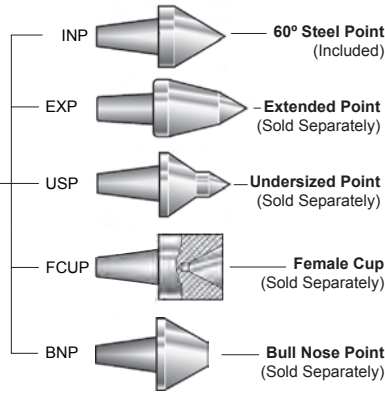
CNC High Speed Heavy Duty Live Center With Extended Point			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-232	\$ 412.84	PLC-CNC-EXS-MT3	3	7000	1386	1144
8048-233	499.53	PLC-CNC-EXS-MT4	4	5500	1883	1439
8048-234	675.75	PLC-CNC-EXS-MT5	5	4500	2860	2486
8048-235	1,483.21	PLC-CNC-EXS-MT6	6	3200	3300	2508

## Interchangeable Point Live Centers

Heavy Duty Live Center & CNC High Speed Heavy Duty Live Center Are Designed for use with Five Different Interchangeable Points



Get 5 Applications with 1 Tool



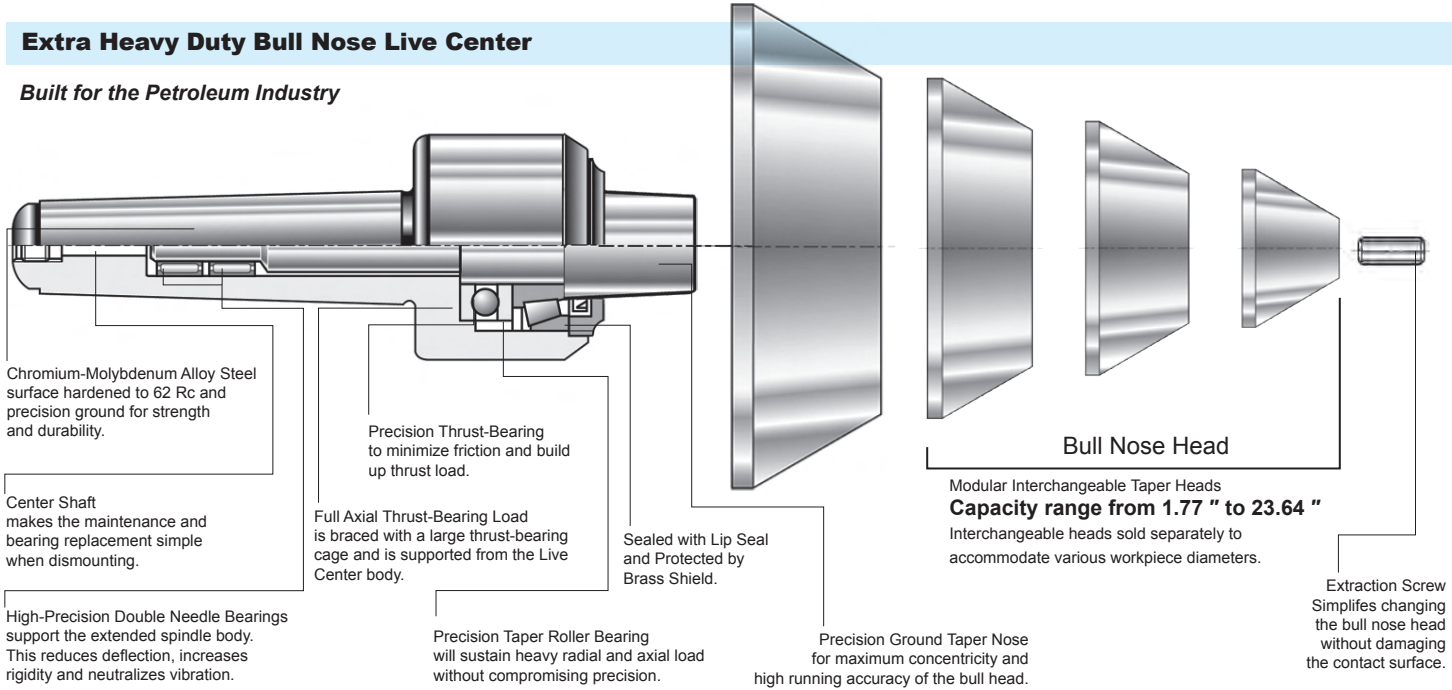
Heavy Duty Live Center Includes (1) Interchangeable 60° Steel Point			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-215	\$ 543.04	PLC-HDA-INT-MT3	3	6000	2090	1144
8048-216	642.14	PLC-HDA-INT-MT4	4	4500	3300	1320
8048-217	813.27	PLC-HDA-INT-MT5	5	2800	4400	2640
8048-218	1,643.06	PLC-HDA-INT-MT6	6	2000	10560	3300
8048-219	3,217.21	PLC-HDA-INT-MT6-S	6	1700	19800	6600

CNC High Speed Heavy Duty Live Center Includes (1) Interchangeable 60° Steel Point			Specifications			
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-228	\$ 485.86	PLC-CNC-INT-MT3	3	7000	1386	1144
8048-229	545.40	PLC-CNC-INT-MT4	4	5500	1883	1439
8048-230	735.26	PLC-CNC-INT-MT5	5	4500	2860	2486
8048-231	1,509.12	PLC-CNC-INT-MT6	6	3200	3740	2508

Extraction Wrench Supplied

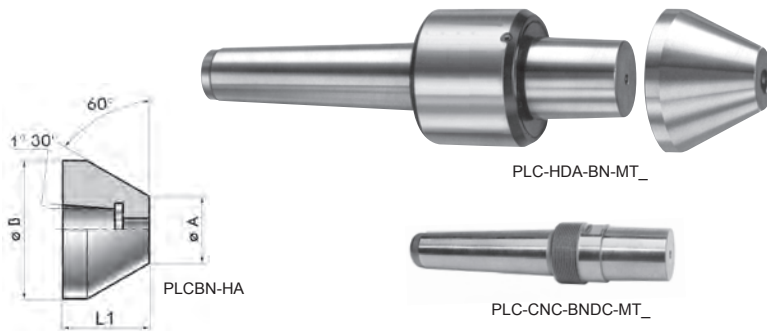
## Extra Heavy Duty Bull Nose Live Center

Built for the Petroleum Industry



Extra Heavy Duty Bull Nose Live Center						
Order No.	Price Each	Description	Morse Taper	Max. RPM	Max. workpiece weight (lb)	Thrust load (lb)
8048-400	\$ 612.66	PLC-HDA-BN-MT3	3	6000	2090	1144
8048-401	669.96	PLC-HDA-BN-MT4	4	4500	3300	1320
8048-402	917.15	PLC-HDA-BN-MT5	5	2800	4400	2640
8048-403	1,752.73	PLC-HDA-BN-MT6	6	2000	10560	3300
8048-404	3,241.58	PLC-HDA-BN-MT6X	6	1700	19800	6600

CNC Bull Nose Dead Center			
Order No.	Price Each	Description	Morse Taper
8048-406	\$ 189.20	PLC-CNC-BNDC-MT3	3
8048-407	197.87	PLC-CNC-BNDC-MT4	4
8048-408	214.97	PLC-CNC-BNDC-MT5	5
8048-409	468.53	PLC-CNC-BNDC-MT6	6



### Bull Nose Head Adapters

Order No.	8048-420	8048-421	8048-422	8048-423	8048-424	8048-425	8048-426	8048-427	8048-428	8048-429	8048-430
Price Each	\$ 285.91	\$ 452.93	\$ 604.78	\$ 763.11	\$ 1013.20	\$ 1,901.56	\$ 2,204.70	\$ 2,677.35	\$ 3,101.72	\$ 3,734.23	\$ 4,629.88
Description	PLCBN-HA-0177-0386	PLCBN-HA-0374-0583	PLCBN-HA-0571-0780	PLCBN-HA-0768-0977	PLCBN-HA-0965-1174	PLCBN-HA-1162-1371	PLCBN-HA-1359-1568	PLCBN-HA-1556-1765	PLCBN-HA-1753-1962	PLCBN-HA-1950-2147	PLCBN-HA-2147-2364
A	1.77	3.74	5.71	7.68	9.65	11.62	13.59	15.56	17.53	19.50	21.47
B	3.86	5.83	7.80	9.77	11.74	13.71	15.68	17.65	19.62	21.47	23.64
L1	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Nose Taper	60°	60°	60°	60°	60°	60°	60°	60°	60°	60°	60°

# ABRASIVES



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## Flex-Hone® Tools

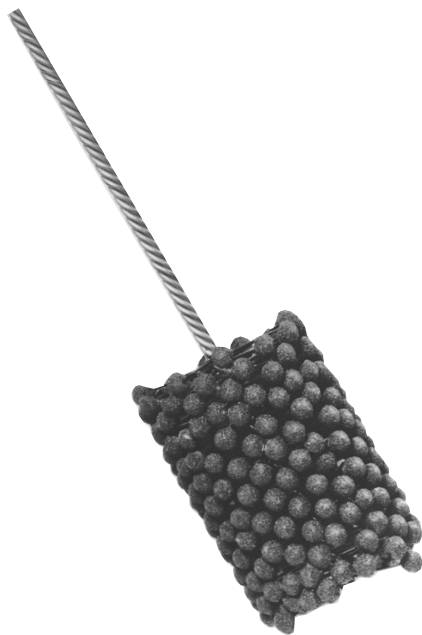
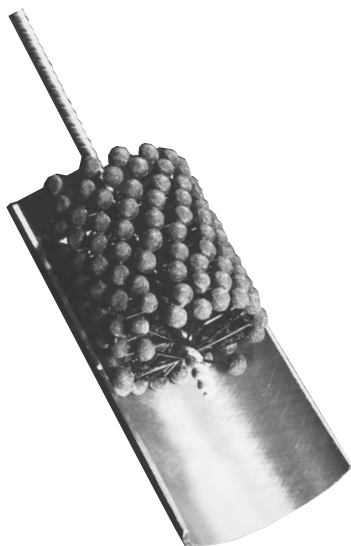
- Use on valve guides, cam bearing bores, main bearing bores, lifter bores, pneumatic cylinders, engine cylinders, brake cylinders, drums and rotors, hydraulic guides, pumps, and compressors.

• The Flex-Hone® Tool is resilient, flexible honing tool with soft cutting action. It's unique construction allows the abrasive globules or "stones" to float, assuring the tool will be self-centering, self-aligning to the bore and self-compensating for wear.

- The Flex-Hone® Tool removes peaks and other imperfections in cylinder walls, creating a desirable plateaued finish. The result is reduction in localized heat and friction and improved performance.

## Standard Duty Flex-Hones®

- 4mm – 3/16" are 6" OAL
- 5mm – 3" are 8" OAL
- 3-1/4" – 4-5/8" are 13-1/2"



## Silicon Carbide

FLEX-HONE MODEL NO.	BORE SIZE	120 GRIT		180 GRIT		240 GRIT		320 GRIT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
BC-4MM	(0.157)	-	-	5690-151	\$16.90	5690-152	\$17.90	5690-153	\$25.30
BC-4.5MM	(0.177)	-	-	5690-171	16.60	5690-172	17.60	5690-173	24.90
BC-3/16"	(4.75MM)	-	-	5690-181	16.30	5690-182	17.30	5690-183	24.50
BC-5MM	(0.197)	5690-190	\$15.80	5690-191	15.80	5690-192	16.80	5690-193	23.70
BC-5.5MM	(0.217)	5690-210	16.10	5690-211	16.10	5690-212	17.10	5690-213	24.10
BC-6.4MM	(0.25)	5690-250	10.60	5690-251	10.60	5690-252	11.20	5690-253	15.90
BC-7MM	(0.276)	5690-270	10.70	5690-271	10.70	5690-272	11.30	5690-273	16.00
BC-8MM	(0.315)	5690-310	11.20	5690-311	11.20	5690-312	11.90	5690-313	16.80
BC-9MM	(0.354)	5690-350	11.70	5690-351	11.70	5690-352	12.40	5690-353	17.50
BC-9.5MM	(0.375)	5690-370	12.40	5690-371	12.40	5690-372	13.10	5690-373	18.60
BC-10MM	(0.394)	5690-390	12.50	5690-391	12.50	5690-392	13.30	5690-393	18.80
BC-11MM	(0.433)	5690-430	12.80	5690-431	12.80	5690-432	13.60	5690-433	19.20
BC-12MM	(0.472)	5690-470	13.10	5690-471	13.10	5690-472	13.90	5690-473	19.60
BC-1/2"	(12.7MM)	5690-500	13.30	5690-501	13.30	5690-502	14.10	5690-503	19.90
BC-14MM	(0.552)	5690-550	13.40	5690-551	13.40	5690-552	14.20	5690-553	20.10
BC-5/8"	(16MM)	5690-620	14.10	5690-621	14.10	5690-622	15.00	5690-623	21.20
BC-18MM	(0.709)	5690-700	14.50	5690-701	14.50	5690-702	15.40	5690-703	21.80
BC-3/4"	(19MM)	5690-750	14.90	5690-751	14.90	5690-752	15.80	5690-753	22.30
BC-20MM	(0.787)	5690-780	15.00	5690-781	15.00	5690-782	15.80	5690-783	22.40
BC-7/8"	(22MM)	5690-870	15.00	5690-871	15.00	5690-872	15.90	5690-873	22.60
BC-15/16"	(23.8MM)	5690-930	15.60	5690-931	15.60	5690-932	16.50	5690-933	23.30
BC-1"	(25.4MM)	5691-000	16.00	5691-001	16.00	5691-002	17.00	5691-003	24.10
BC-1-1/8"	(29MM)	5691-120	16.90	5691-121	16.90	5691-122	17.90	5691-123	25.30
BC-1-1/4"	(31.8MM)	5691-250	18.20	5691-251	18.20	5691-252	19.30	5691-253	27.30
BC1-3/8"	(35MM)	5691-370	18.70	5691-371	18.70	5691-372	19.80	5691-373	28.10
BC-1-1/2"	(38MM)	5691-500	20.10	5691-501	20.10	5691-502	21.30	5691-503	30.10
BC-1-5/8"	(41MM)	5691-620	20.10	5691-621	20.10	5691-622	21.30	5691-623	30.10
BC-1-3/4"	(45MM)	5691-750	21.00	5691-751	21.00	5691-752	22.20	5691-753	31.50
BC-1-7/8"	(48MM)	5691-870	21.40	5691-871	21.40	5691-872	22.70	5691-873	32.10
BC-2"	(51MM)	5692-000	21.70	5692-001	21.70	5692-002	23.10	5692-003	32.70
BC-2-1/8"	(54MM)	5692-120	22.70	5692-121	22.70	5692-122	24.00	5692-123	34.00
BC-2-1/4"	(57MM)	5692-250	23.60	5692-251	23.60	5692-252	25.00	5692-253	35.30
BC-2-3/8"	(60MM)	5692-370	24.50	5692-371	24.50	5692-372	25.90	5692-373	36.70
BC-2-1/2"	(64MM)	5692-500	25.40	5692-501	25.40	5692-502	26.90	5692-503	38.00
BC-2-5/8"	(67MM)	5692-620	26.70	5692-621	26.70	5692-622	28.30	5692-623	40.10
BC-2-3/4"	(70MM)	5692-750	28.00	5692-751	28.00	5692-752	29.70	5692-753	42.00
BC-2-7/8"	(73MM)	5692-870	30.30	5692-871	30.30	5692-872	32.10	5692-873	45.40
BC-3"	(76MM)	5693-000	32.50	5693-001	32.50	5693-002	34.50	5693-003	48.80
GB-3-1/4"	(83MM)	5693-100	36.70	5693-101	36.70	5693-102	38.90	5693-103	55.00
GB-3-1/2"	(89MM)	5693-120	39.10	5693-121	39.10	5693-122	41.40	5693-123	58.70
GB-3-3/4"	(95MM)	5693-140	42.10	5693-141	42.10	5693-142	44.60	5693-143	63.20
GB-4-1/8"	(105MM)	5693-160	44.80	5693-161	44.80	5693-162	47.50	5693-163	67.20
GB-4-5/8"	(118MM)	5693-180	49.90	5693-181	49.90	5693-182	52.90	5693-183	74.90

FLEX-HONE MODEL NO.	BORE SIZE	120 GRIT		180 GRIT		240 GRIT		320 GRIT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
GBD-3"	(76MM)	5693-300	\$53.20	5693-301	\$ 53.20	5693-302	\$ 56.40	5693-303	\$ 79.80
GBD-3-1/4"	(83MM)	5693-320	54.90	5693-321	54.90	5693-322	58.20	5693-323	82.30
GBD-3-1/2"	(89MM)	5693-340	56.50	5693-341	56.50	5693-342	59.90	5693-343	84.80
GBD-3-3/4"	(95MM)	5693-360	60.60	5693-361	60.60	5693-362	64.20	5693-363	90.90
GBD-4"	(101MM)	5693-380	64.70	5693-381	64.70	5693-382	68.60	5693-383	97.00
GBD-4-1/4"	(108MM)	5693-400	69.10	5693-401	69.10	5693-402	73.30	5693-403	103.20
GBD-4-1/2"	(114MM)	5693-420	73.60	5693-421	73.60	5693-422	78.00	5693-423	110.40
GBD-5"	(127MM)	5693-440	83.70	5693-441	83.70	5693-442	88.80	5693-443	125.60
GBD-5-1/2"	(140MM)	5693-460	91.80	5693-461	91.80	5693-462	97.30	5693-463	137.80
GBD-6"	(152MM)	5693-480	99.50	5693-481	99.50	5693-482	105.50	5693-483	149.30
GBD-6-1/2"	(165MM)	5693-500	107.20	5693-501	107.20	5693-502	113.70	5693-503	160.90
GBD-7"	(178MM)	5693-520	116.90	5693-521	116.90	5693-522	123.90	5693-523	175.40
GBD-7-1/2"	(190MM)	5693-540	128.60	5693-541	128.60	5693-542	136.30	5693-543	192.90
GBD-8"	(203MM)	5693-560	140.60	5693-561	140.60	5693-562	149.00	5693-563	210.90

## Heavy Duty Flex-Hones®

- 3" – 4-1/2" are 13-1/2" OAL
- 5" – 8" are 17-1/2" OAL

## Trulock Crimped Wire Wheel Brushes



## Orbitor Bench Grinder Brushes



Features plastic snap-out arbor hole adapter.  
Other arbor hole available on request

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
<b>Narrow Face</b>								
4	.008	1/2-3/8†	7/8	1/2	6,000	2	6500-104	\$30.15
4	.0095	1/2-3/8†	7/8	1/2	6,000	2	6500-124	16.52
6	.008	5/8-1/2†	1-7/16	3/4	6,000	10	6501-045	24.81
6	.014	5/8-1/2†	1-7/16	3/4	6,000	10	6501-075	18.08
8	.0118	5/8-1/2†	2-1/16	3/4	6,000	2	6501-165	28.49
8	.014	5/8-1/2†	2-1/16	1/2	6,000	2	6501-175	25.18
10	.0118	3/4	2-1/2	3/4	4,000	2	6501-248	37.50
10	.014	3/4	2-1/2	3/4	4,000	2	6501-258	36.02
<b>Medium Face</b>								
6	.0118	2††	1-1/8	1	6,000	1	6506-070	34.76
6	.014	2††	1-1/8	1	6,000	1	6506-080	35.09
8	.0118	2††	1-3/8	1	4,000	1	6506-110	52.77
8	.014	2††	1-3/8	1	4,000	1	6506-120	52.50
10	.0118	2*	2	1-1/8	3,600	1	6506-150	86.73
10	.014	2**	2	1-1/8	3,600	1	6506-160	85.26
<b>Wide Face</b>								
6	.0118	2††	1-1/8	1-1/8	6,000	1	6503-060	53.13
8	.0118	2††	1-3/8	1-3/8	4,000	1	6503-140	81.95
10	.0118	2††	1-7/8	1-5/8	4,000	1	6503-190	143.75

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
<b>Narrow Face</b>								
6	.014	5/8-1/2	1-1/16	5/8	6,000	1	6502-325	\$21.07
7	.014	5/8-1/2	1-9/16	3/4	6,000	1	6502-335	25.93
<b>Medium Face</b>								
6	.014	5/8-1/2	1-1/8	7/8	6,000	1	6506-645	26.18
7	.014	5/8-1/2	1-5/8	7/8	6,000	1	6506-655	30.53

## Copper Center Wire Wheel Wire Fill

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
2	.006	1/2	1/2	3/8	20,000	10	6515-433	\$6.99
2	.014	1/2-3/8	1/2	3/8	20,000	10	6515-473	5.15
3	.006	5/8	15/16	1/2	20,000	10	6515-637	10.13
3	.014	1/2	1	1/2	20,000	10	6515-553	7.04
3	.014	1/2-3/8	1	1/2	20,000	10	6515-573	6.16

**Metal Adapters For Wire Wheel Brushes**  
(Used in pairs)

ADAPTER ARBOR SIZE	STD. PKG.	ORDER SIZE	PRICE EACH
1/2	1 Pr.	6503-809	\$1.64
5/8	1 Pr.	6503-810	1.64
3/4	1 Pr.	6503-811	1.64
7/8	1 Pr.	6503-824	1.64
1	1 Pr.	6503-812	1.64
1-1/4	1 Pr.	6503-813	1.64
1-1/2	1 Pr.	6503-814	1.97

† Features plastic snap-out arbor hole adapter  
†† Other arbor holes available using metal adapter. Please specify.  
\* 1/2 x 1/4 Double keyway and uses metal adapter.

## Dualife Knot Type Wire Wheel Brushes



## Standard Twist Stainless Steel

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
4	.020	1/2-3/8	7/8	1/2	20,000	10	6508-314	\$35.55
6	.016	5/8-1/2	1-3/8	1/2	9,000	2	6508-345	64.95
8	.016	5/8-1/2	1-5/8	5/8	6,000	2	6508-395	96.39

## Standard Twist—Wide Face (Double Sections)

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
6	.016	2	1-3/8	7/8	9,000	5	6509-180	\$64.96
8	.016	2	1-5/8	1	6,000	1	6509-430	94.49
10	.016	2	1-3/4	1-1/4	4,500	1	6509-480	126.13
12	.014	2	2-3/4	1-1/4	3,600	1	6509-530	164.61

Other arbor holes available using metal adapter

## Standard Twist

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
4	.014	1/2-3/8†	7/8	1/2	20,000	10	6508-044	\$18.71
4	.020	1/2-3/8†	7/8	1/2	20,000	10	6508-064	18.49
6	.016	5/8-1/2†	1-3/8	1/2	9,000	10	6508-095	28.65
8	.016	5/8-1/2†	1-5/8	5/8	6,000	2	6508-145	43.09
8	.023	5/8-1/2†	1-5/8	5/8	6,000	2	6508-155	41.86
10	.016	1-1/4*	1-3/4	3/4	4,500	2	6508-189	61.13
12	.014	1-1/4*	2-3/4	3/4	3,600	1	6508-209	79.29
12	.020	1-1/4*	2-1/4	5/8	5,000	2	6509-719	101.58
15	.016	1-1/4*	4-1/4	7/8	3,600	2	6508-249	102.20

† Features plastic snap-out arbor hole adapter  
\* 5/16 x 5/32 Double Keyway  
Other diameters, arbor hole, or wire sizes available on request.



## Cup Brushes



**Knot Type - Single Row**



**Knot Type Double Row**



**Crimped Wire**

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
<b>Knot Type – Single Row</b>							
4	.014	5/8-11	1-1/4	9,000	1	6512-306	\$30.67
4	.023	5/8-11	1-1/4	9,000	1	6512-316	27.83
4	.035	5/8-11	1-1/4	9,000	1	6512-326	27.91
6	.014	5/8-11	1-1/2	6,600	1	6512-356	59.66
6	.023	5/8-11	1-1/2	6,600	1	6512-376	55.93
6	.035	5/8-11	1-1/2	6,600	1	6512-396	54.92
<b>Knot Type – Double Row – Heavy Duty</b>							
6	.023	5/8-11	1-3/8	6,600	1	6512-556	77.91
<b>Crimped Wire Medium &amp; Light Duty Applications</b>							
4	.014	5/8-11	1-3/8	9,000	1	6514-026	25.18
4	.020	5/8-11	1-3/8	9,000	1	6514-036	23.63
6	.014	5/8-11	1-1/4	6,600	1	6514-066	42.88
6	.020	5/8-11	1-1/4	6,600	1	6514-076	38.57
<b>Knot Type – Single Row – Heavy Duty – Stainless Steel</b>							
4	.014	5/8-11	1-1/4	9,000	1	6512-406	63.83
4	.023	5/8-11	1-1/4	9,000	1	6512-416	61.17
4	.014	5/8-11	1-3/8	6,600	1	6512-456	124.03
6	.023	5/8-11	1-3/8	6,600	1	6512-476	107.48

## Mighty-Mite Brushes for small Angle Grinders

### Knot Type Wire Wheel— Stringer Bead Twist

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
4	.020	5/8-11	7/8	3/16	20,000	5	6513-131	\$16.45
4	.020	M 10 x 1.25	7/8	3/16	20,000	5	6513-125	16.45
4	Stainless .020	M 10 x 1.25	7/8	3/16	20,000	5	6513-132	27.86
4	Stainless .020	5/8-11	7/8	3/16	20,000	5	6513-138	28.15



### Knot Type Wire Wheel Cable Twist



### Crimped Wire Cup Brush



DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
4	.020	5/8-11	7/8	1/4	20,000	5	6513-266	\$20.57

DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
3	.014	M10 x 1.25	7/8	14,000	1	6513-240	\$17.24
3	.014	5/8-11	7/8	14,000	1	6513-245	17.24

### Knot Type Cup Brush Single Row



DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
2-3/4	.020	M10 x 1.25	7/8	14,000	1	6513-281	\$18.45
2-3/4	.020	1/2-13	7/8	14,000	1	6513-285	18.45
2-3/4	.020	5/8-11	7/8	14,000	1	6513-286	18.45

### Crimped Wire Bevel Brush



DIA.	WIRE SIZE	ARBOR HOLE	TRIM LENGTH	FACE WIDTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
3-3/8	.0118	M 10 x 1.25	1/2	1/2	12,500	1	6513-091	\$15.81
3-3/8	.0118	M 10 x 1.25	1/2	1/2	12,500	1	6513-095	15.81



## Nylox Filament Brushes

### Nylox Wheels Crimped Filament



2

DIA.	ARBOR HOLE	FILAMENT DIAM. AND GRIT SIZE	TRIM LENGTH	FACE WIDTH	THICKNESS THROUGH ARBOR	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
6	2	.002/320	1-1/4	1	1-1/16	5,000	2	6583-010	\$58.08
6	2	.035/180	1-1/4	1	1-1/16	5,000	2	6583-030	58.08
6	2	.040/120	1-1/4	1	1-1/16	5,000	2	6583-040	58.08
6	2	.040/80	1-1/4	1	1-1/16	5,000	2	6583-050	58.08
8	2	.002/320	2-1/4	1	3/4	5,000	2	6583-110	80.40
8	2	.035/180	2-1/4	1	3/4	5,000	2	6583-130	80.40
8	2	.040/120	2-1/4	1	3/4	5,000	2	6583-140	80.40
10	2	.040/80	2-1/4	1	3/4	5,000	2	6583-150	80.40
10	2	.002/320	3	1	1-1/16	4,500	2	6583-310	107.51
10	2	.035/180	3	1	1-1/16	4,500	2	6583-330	107.51
10	2	.040/120	3	1	1-1/16	4,500	2	6583-340	107.51
10	2	.040/80	3	1	1-1/16	4,500	2	6583-350	107.51

Other arbor holes available using metal adapter. Please specify.

### Nylox Cup Brushes



2

DIA.	ARBOR HOLE	FILAMENT DIAM. AND GRIT SIZE	TRIM LENGTH	THICKNESS THROUGH ARBOR	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH
2-3/4	1/4 Stem	.022/320	1-1/4	1-1/16	6,000	1	6514-401	\$32.24
2-3/4	1/4 Stem	.035/180	1-1/4	1-1/16	6,000	1	6514-403	32.06
2-3/4	1/4 Stem	.040/120	1-1/4	1-1/16	6,000	1	6514-404	32.06
3-1/2	5/8-11	.035/180	1-1/2	3/4	12,000	1	6514-413	44.44
3-1/2	5/8-11	.040/120	1-1/2	3/4	8,000	1	6514-414	44.44
5	5/8-11	.040/120	1-1/4	3/4	8,000	1	6514-576	72.51
6	5/8-11	.040/120	1-1/4	1-1/16	6,500	1	6514-516	78.28
6	5/8-11	.040/80	1-1/4	1-1/16	6,000	1	6514-506	78.28

### Nylox Tube Brushes



2

DIA.	FILAMENT DIAM. AND GRIT SIZE	BRUSH LENGTH	STEM DIA.	OVERALL LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
1/4	.002/320	1-1/2	1/8	4	10	6521-126	\$8.13
3/8	.035/180	1-1/2	1/8	4	10	6521-128	8.23
1/2	.040/120	2	5/32	5	10	6521-130	7.20
5/8	.002/320	2	7/32	5	10	6521-132	7.57
3/4	.035/180	2-1/2	7/32	5-1/2	10	6521-134	7.67
7/8	.040/120	2-1/2	1/4	5-1/2	10	6521-136	8.16
1	.040/120	2-1/2	1/4	5-1/2	10	6521-138	7.76
1-1/8	.002/320	2-1/2	1/4	5-1/2	10	6521-302	7.60
1-1/4	.035/180	2-1/2	1/4	5-1/2	10	6521-306	8.29
1-1/2	.040/120	2-1/2	1/4	5-1/2	10	6521-309	8.64

### Crimped Filament Disc Silicon Carbide - Composite Hub



2

DIAMETER INCHES	FILAMENT DIA./GRIT	ARBOR HOLE	TRIM LENGTH	MAX. RPM	ITEM NO.	PRICE EACH
4"	.022/320	7/8"	1-1/2"	2,500	6585-812	\$ 99.16
4"	.035/180	7/8"	1-1/2"	2,500	6585-814	99.16
4"	.040/120	7/8"	1-1/2"	2,500	6585-816	99.16
4"	.040/80	7/8"	1-1/2"	2,500	6585-818	99.16
6"	.035/180	7/8"	1-1/2"	2,000	6585-850	148.25
6"	.040/120	7/8"	1-1/2"	2,000	6585-852	148.25
6"	.040/80	7/8"	1-1/2"	2,000	6585-854	148.25
8"	.022/320	7/8"	1-1/2"	2,000	6585-906	POA
8"	.035/180	7/8"	1-1/2"	2,000	6585-908	232.31
8"	.040/120	7/8"	1-1/2"	2,000	6585-912	232.31
8"	.040/80	7/8"	1-1/2"	2,000	6585-914	232.31

### Rectangular Filament Disc (.045 x .090) Silicon Carbide- Composite Hub

2

DIAMETER INCHES	ARBOR HOLE	GRIT SIZE	TRIM LENGTH	MAX. RPM	ITEM NO.	PRICE EACH
4"	7/8"	180	1-1/2"	2,500	6585-822	\$109.06
4"	7/8"	120	1-1/2"	2,500	6585-824	109.06
4"	7/8"	80	1-1/2"	2,500	6585-826	109.06
6"	7/8"	180	1-1/2"	2,000	6585-858	POA
6"	7/8"	120	1-1/2"	2,000	6585-860	150.09
6"	7/8"	80	1-1/2"	2,000	6585-862	150.09
8"	7/8"	120	1-1/2"	2,000	6585-920	239.02
8"	7/8"	80	1-1/2"	2,000	6585-922	239.02

### Nylon Disc Brush Drive Arbors

Mounts Weiler disc brushes to any type of milling machine or CNC machine

4

DESCRIPTION	ITEM NO.	PRICE EACH
For 4" diameter disc brushes with 1-1/4" diameter bolt circle	6507-700	\$183.78
For 6" diameter disc brushes with 3" diameter bolt circle	6507-701	224.64
For 8" diameter disc brushes with 3" diameter bolt circle	6507-702	243.63
Standard 3/4" diameter shaft, 2" long. Standard 7/8" diameter shouldered spindle.		



## Power and Hand Tube Brushes



Single Stem, Single Spiral "STS" Type - Eye Handle

DIA.	WIRE SIZE	BRUSH LENGTH	STEM DIAM.	OVERALL LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
<b>Single Stem, Single Spiral "STS" Type – Eye Handle</b>							
3/16	.003	1-1/2	3/32	7	10	6521-090	\$4.57
3/16	.005	1-1/2	3/32	7	10	6521-091	4.57
1/4	.003	1-1/2	3/32	7	10	6521-092	5.13
1/4	.005	1-1/2	3/32	7	10	6521-093	4.43
3/8	.004	2	1/8	8	10	6521-094	4.62
3/8	.006	2	1/8	8	10	6521-095	3.63
1/2	.004	2	1/8	8	10	6521-096	4.62
1/2	.006	2	1/8	8	10	6521-097	3.63
<b>Single Stem, Single Spiral "STS" Type</b>							
1/4	.004	1	1/8	3-1/2	10	6521-081	4.73
3/8	.008	1	1/8	3-1/2	10	6521-240	3.95
1/2	.005	1	3/16	3-1/2	10	6521-083	4.83
5/8	.005	1	3/16	3-1/2	10	6521-084	4.83
3/4	.006	1	7/32	3-1/2	10	6521-085	4.83
7/8	.006	1	7/32	3-1/2	10	6521-086	4.86
1	.008	1	1/4	3-1/2	10	6521-087	5.84

Single Stem, Round "SM" Type Stainless Steel Stem



<b>Single Stem, Round "SM" Type – Stainless Steel Stem</b>							
1/4	.004	1	1/8	3-1/2	10	6521-072	\$4.09
3/8	.004	1	1/8	3-1/2	10	6521-073	4.15
3/8	.008	1	3/16	3-1/2	10	6521-264	3.57
1/2	.005	1	3/16	3-1/2	10	6521-074	3.80
5/8	.005	1	3/16	3-1/2	10	6521-075	3.94
5/8	.008	1	3/16	3-1/2	10	6521-265	4.51
3/4	.006	1	7/32	3-1/2	10	6521-076	4.51
3/4	.008	1	7/32	3-1/2	10	6521-266	4.46
7/8	.006	1	7/32	3-1/2	10	6521-077	4.66
1	.005	1	1/4	3-1/2	10	6521-078	5.13
1-1/8	.008	1	1/4	3-1/2	10	6521-079	5.13
1-1/4	.008	1	1/4	3-1/2	10	6521-080	5.13

Single Stem, Double Spiral "DS" Type



<b>Single Stem, Double Spiral "DS" Type</b>							
1/2	.006	2	5/32	5	10	6521-107	\$9.78
5/8	.008	2	7/32	5	10	6521-109	9.94
3/4	.0104	2-1/2	1/4	5-1/2	10	6521-111	10.11
7/8	.0104	2-1/2	1/4	5-1/2	10	6521-113	10.49
1	.0104	2-1/2	1/4	5-1/2	10	6521-115	10.30
1-1/4	.0104	2-1/2	1/4	5-1/2	10	6521-167	10.76

## End Brushes



Solid End



Knot Type



Crimped Wire Cup

DIA.	WIRE SIZE	TRIM LENGTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH	STAINLESS	
							ITEM NO.	PRICE EACH
<b>Solid End</b>								
1/2	.006	7/8	25,000	10	6510-001	\$7.12	6510-013	\$9.71
1/2	.0104	7/8	25,000	10	6510-002	6.12	6510-014	8.38
1/2	.014	7/8	25,000	10	6510-003	6.12	6510-015	8.28
1/2	.020	7/8	25,000	10	6510-004	5.82	6510-016	8.22
3/4	.006	7/8	22,000	10	6510-005	10.94	6510-017	12.21
3/4	.0104	7/8	22,000	10	6510-006	8.01	6510-018	10.95
3/4	.014	7/8	22,000	10	6510-007	7.84	6510-019	10.95
3/4	.020	7/8	22,000	10	6510-008	7.36	6510-020	10.69
1	.006	7/8	22,000	10	6510-009	14.74	6510-021	18.77
1	.0104	7/8	22,000	10	6510-010	9.43	6510-022	16.11
1	.014	7/8	22,000	10	6510-011	9.43	6510-023	15.75
1	.020	7/8	22,000	10	6510-012	8.90	6510-024	15.42
<b>Knot Type</b>								
3/4	.020	7/8	20,000	10	6510-026	13.83	6510-030	21.38
1-1/8	.014	7/8	20,000	10	6510-027	14.46	6510-031	27.64
1-1/8	.020	7/8	20,000	10	6510-028	14.22	6510-032	24.76
<b>Crimped Wire Cup Brushes</b>								
1-3/4"	.006	3/4"	13,000	10	6514-300	10.72	-	-
1-3/4"	.0118	3/4"	13,000	10	6514-301	9.47	6514-304	19.52
2-3/4"	.0118	7/8"	6,000	1	6514-302	14.50	-	-

Conflex Narrow Face Crimped Wire Wheel



DIA.	WIRE SIZE	TRIM LENGTH	MAX SAFE FREE SPEED (RPM)	STD. PKG.	ITEM NO.	PRICE EACH	STAINLESS	
							ITEM NO.	PRICE EACH
2	.006	1/2	20,000	10	6517-609	\$13.20	-	-
2	.0118	1/2	20,000	10	6517-610	11.80	-	-
2 1/2	.006	3/4	20,000	10	6517-612	15.13	6517-611	\$18.13
2 1/2	.014	3/4	20,000	10	6517-614	10.05	-	-
3	.008	1	20,000	10	6517-615	15.36	-	-
3	.0118	1	20,000	10	6517-616	11.66	-	-
3	.014	1	20,000	10	6517-617	10.89	6517-618	25.12

# Maintenance Brushes

## Hand Wire Scratch Brushes

4

### Curved Handle



FILL MATERIAL	NUMBER OF ROWS	BLOCK SIZE	BRUSH PART	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
.012 STEEL	3 x 19	13 x 1/2 x 1	6	1	12	6525-150	\$1.90
.012 SS	3 x 19	13 x 1/2 x 1	6	1	12	6525-154	2.86
.012 STEEL†	3 x 19	14 x 7/8	5-1/2	1-3/16	12	6544-055	3.52
.012 SS	4 x 18	14 x 1-1/8	6	1	12	6525-202	3.86
.012 STEEL†	4 x 19	14 x 1-1/8	6	1-3/16	12	6544-058	4.40

† With Scraper

### Block Type



FILL MATERIAL	NUMBER OF ROWS	BLOCK SIZE	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
.012 STEEL	6 x 19	7-1/4 x 2-1/4	1-5/8	12	6544-067	\$5.54

### Scraper Type



FILL MATERIAL	NUMBER OF ROWS	BLOCK SIZE	BRUSH PART	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
.012 STEEL	4 x 11	11 x 1-1/2	5	1-5/8	12	6525-211	\$3.11

### Shoe Handle



FILL MATERIAL	NUMBER OF ROWS	BLOCK SIZE	BRUSH PART	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
.012 STEEL	4 x 16	10 x 1	5	1	12	6525-100	\$2.06
.012 SS	4 x 16	10 x 1	5	1	12	6525-104	3.44
.012 STEEL†	4 x 16	10 x 1-1/8	5	1-3/16	12	6544-065	3.88

† With Scraper

### Small



HANDLE	FILL MATERIAL	NUMBER OF ROWS	BLOCK SIZE	BRUSH PART	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
Plastic	.006 SS	3 x 7	7-1/2 x 1/2	1-3/8	1/2	36	6544-075	\$2.66
Wood	.006 SS	3 x 7	7-1/2 x 1/2	1-3/8	1/2	36	6544-167	2.61
Wood	.006 Brass	3 x 7	7-1/2 x 1/2	1-3/8	1/2	36	6544-189	2.66

## Chip and Oil Brushes

Natural White Bristle  
Wood Handle



WIDTH	THICKNESS	BRISTLE LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
1/2	5/16	1-3/4	36	6540-065	\$0.46
1	5/16	1-3/4	36	6540-066	0.59
1-1/2	5/16	1-3/4	24	6540-067	0.75
2	5/16	1-3/4	24	6540-068	0.97
2-1/2	3/8	1-3/4	12	6540-069	1.56
3	3/8	1-3/4	12	6540-070	1.60
4	5/8	2	12	6540-071	3.59

## Counter Dusters



FILL MATERIAL	BRUSH LENGTH	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
Black Tampico	8	2-1/2	12	6525-251	\$5.77
Black Synthetic	8	2-1/2	12	6525-252	4.58
Black Horsehair	8	2-1/8	12	6544-003	9.40
Grey Tampico	8	2-1/2	12	6544-004	5.55

## Parts Cleaning Brush



FILL MATERIAL	DIA.	BRISTLE LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
Nylon	1	2-1/2	12	6525-221	\$2.50
Tampico	1	2-3/4	12	6525-222	2.61

## Tin Handle Acid Brushes

Black Horsehair



WIDTH	TRIM LENGTH	OVERALL LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
3/8	3/4	5-3/4	144	6544-089	\$0.22
1/2	3/4	5-3/4	144	6544-090	0.26

## Floor Brushes



DESCRIPTION	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
<b>Fine Sweeping</b>				
18 Block Black Tampico	2-7/8	1	6525-231	\$ 10.41
24 Block Black Synthetic	2-7/8	1	6525-232	14.86
<b>Medium Sweeping</b>				
18 Block Synthetic	3	1	6525-234	9.53
24 Block Synthetic	3	1	6525-235	13.29

DESCRIPTION	TRIM LENGTH	STD. PKG.	ITEM NO.	PRICE EACH
<b>Coarse Sweeping</b>				
18 Block Synthetic	3-1/4	1	6525-238	\$ 9.42
24 Block Synthetic	3-1/4	1	6525-239	13.85
<b>Garage Sweeping</b>				
18 Block Palmyra	4	1	6525-241	8.48
24 Block Palmyra	4	1	6525-242	11.88

## Handles

Threaded End —  
5" Overall Length  
Order No. 6544-018  
Price Each \$.49

## Vitrified Bonded for Rich Stock Removal and Excellent Rigidity for Precision Grinding

### WA – White Aluminum Oxide

Friable grain for light grinding of all steels, particularly tool & die steels.

### AZ – Premium Blue Aluminum Oxide

Suitable for HSS grinding on materials 55RC and above. Exceptionally cool, fast cutting.

### CG – Green Silicon Carbide

General purpose grinding on tungsten carbide and non-ferrous metals.

### AS3 – Synthetic Ceramic Blend

Features a blend of synthetic ceramic grain with PA and WA grains for optimum fracturing. Provides a continuous, sharp cutting action.

**Buy Ctn Qty Deduct 20%**

### 32A – Premium Aluminum Oxide

Outstanding firm holding wheels with free cutting grain, ideal for medium to heavy stock removal. Excellent versatility and performance on a wide range of materials.



### RA – Ruby Aluminum Oxide

For fast stock removal on tool steels below 55RC and for high chromium steels. This grain is harder than the PA and AZ.

### 6 x 1/2 x 1-1/4 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
60K	4456	10	-	-	3323-024	\$13.35	-	-	-	-	-

### 7 x 1/4 x 1-1/4 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46I	3760	10	3320-102	\$11.50	3323-102	\$11.85	-	-	-	-	-
60I	3760	10	3320-120	11.50	3323-120	11.85	3275-120	\$13.85	-	-	-
60J	3760	10	3320-122	11.50	3323-122	11.85	-	-	-	-	-
60K	3760	10	3320-124	11.50	3323-124	11.85	-	-	10	3326-124	\$22.20
80I	3760	10	-	-	-	-	3275-130	13.85	-	-	-
80J	3760	10	3320-130	11.50	3323-130	11.85	-	-	-	-	-
80K	3760	10	3320-132	11.50	3323-132	11.85	-	-	10	3326-134	22.20
100I	3760	10	-	-	-	-	3275-140	13.85	-	-	-
100K	3760	10	3320-148	11.50	3323-148	11.85	-	-	-	-	-
120K	3760	10	3320-162	11.50	-	-	-	-	-	-	-
150K	3760	10	3320-186	11.50	3323-186	11.85	-	-	-	-	-

† Limited Quantities

### 7 x 1/2 x 1-1/4 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		GRAY ALUMINUM OXIDE (TYPE 32A)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46G	3760	10	3320-300	\$13.70	-	-	-	-	-	-	-	-	-
46H	3760	10	3320-302	13.70	3323-302	\$15.00	3330-302	\$17.10	-	-	10	3326-202	\$29.05
46I	3760	10	3320-304	13.70	3323-304	15.00	3330-304	17.10	-	-	-	-	-
46J	3760	10	3320-306	13.70	3323-306	15.00	3330-306	17.10	-	-	10	3326-204	29.05
46K	3760	10	3320-308	13.70	3323-308	15.00	3330-308	17.10	-	-	-	-	-
60H	3760	10	3320-320	13.70	3323-320	15.00	-	-	-	-	-	-	-
60I	3760	10	3320-322	13.70	3323-322	15.00	3330-322	17.10	3275-320	\$18.90	-	-	-
60J	3760	10	3320-324	13.70	3323-324	15.00	-	-	-	-	-	-	-
60K	3760	10	3320-326	13.70	3323-326	15.00	-	-	-	-	10	3326-224	29.05
60L	3760	10	-	-	3323-328	15.00	-	-	-	-	-	-	-
80H	3760	10	-	-	3323-342	15.00	-	-	-	-	-	-	-
80I	3760	10	-	-	-	-	-	-	3275-330	18.90	-	-	-
80K	3760	10	3320-346	13.70	3323-346	15.00	-	-	-	-	-	-	-
100I	3760	10	-	-	-	-	-	-	3275-340	18.90	-	-	-
100K	3760	10	3320-360	13.70	3323-360	15.00	-	-	-	-	-	-	-
120K	3760	10	3320-374	13.70	3323-374	15.00	-	-	-	-	-	-	-
150K	3760	10	3320-386	13.70	3323-386	15.00	-	-	-	-	-	-	-

# Surface Grinding Wheels



2

**Buy  
Ctn Qty  
Deduct  
20%**

## Ruby Red Aluminum Oxide

**7 x 1/2 x 1-1/4 – No Recess**

TYPE RA				
GRIT/ HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3280-102	\$17.95
46J/K	3600	10	3280-108	17.95
60J/K	3600	10	3280-120	17.95

**7 x 1/2 x 1-1/4 – Porous Bond – No Recess**

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		RUBY ALUMINUM OXIDE (TYPE RA)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
46H12	3760	10	3320-402†	\$8.15	3323-402	\$16.50	-	-
46G12	3760	10	-	-	-	-	3277-102	\$20.25
60H12	3760	10	-	-	-	-	3277-108	20.25

† Limited Quantities

**7 x 3/4 x 1-1/4 – Recessed One Side 3 x 1/4"**

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3320-500	\$18.65	3323-500	\$20.70	-	-	-	-	-
46I	3600	10	-	-	3323-502	20.70	-	-	-	-	-
46J	3600	10	3320-504	18.65	3323-504	20.70	-	-	-	-	-
46K	3600	10	3320-506†	13.40	3323-506	20.70	-	-	-	-	-
60H	3600	10	3320-518	18.65	3323-518†	11.05	-	-	-	-	-
60I	3600	10	3320-520†	8.65	3323-520†	9.50	3275-520	\$24.25	-	-	-
60J	3600	10	3320-522	18.65	3323-522	20.70	-	-	-	-	-
60K	3600	10	3320-524†	13.45	-	-	-	-	-	-	-
80I	3600	10	-	-	-	-	3275-530	24.25	-	-	-
100I	3600	10	-	-	-	-	3275-540	24.25	-	-	-

† Limited Quantities

**7 x 1 x 1-1/4 – Recessed One Side 3 x 1/2"**

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3320-700	\$21.85	3323-700	\$24.80	-	-	-	-	-
46I	3600	10	3320-702	21.85	3323-702	24.80	-	-	-	-	-
46J	3600	10	3320-704	21.85	3323-704	24.80	-	-	-	-	-
46K	3600	10	3320-706	9.50	3323-706	24.80	-	-	-	-	-
60H	3600	10	3320-718†	7.40	-	-	-	-	-	-	-
60I	3600	10	3320-720	21.85	-	-	3275-720	\$28.40	-	-	-
60J	3600	10	3320-722	21.85	3323-722	24.80	-	-	-	-	-
60K	3600	10	-	-	3323-724	24.80	-	-	-	-	-
80I	3600	10	-	-	-	-	3275-730	28.40	-	-	-
100I	3600	10	-	-	-	-	3275-740	28.40	-	-	-

† Limited Quantities

**8 x 1/4 x 1-1/4 – No Recess**

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3320-850†	\$8.80	-	-	-	-	-	-	-
46K	3600	10	3320-856†	7.40	-	-	-	-	-	-	-
60I	3600	10	3320-868†	POA	-	-	-	-	-	-	-
60K	3600	10	3320-874	15.50	-	-	-	-	-	-	-
80I	3600	10	-	-	-	-	3275-830	\$18.85	-	-	-
80J	3600	10	3320-884	15.50	-	-	-	-	-	-	-

† Limited Quantities



# Surface Grinding Wheels



**CGW**

2

**Buy  
Ctn Qty  
Deduct  
20%**

## 8 x 1/2 x 1-1/4 - No Recess

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		GREY ALUMINUM OXIDE (TYPE 32A)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3320-900	\$18.80	3323-900	\$19.90	-	-	-	-	-	-	-
46I	3600	10	3320-902	18.80	3323-902	19.90	-	-	3330-902	\$22.20	-	-	-
46J	3600	10	3320-904	18.80	3323-904	19.90	-	-	3330-904	22.20	-	-	-
46K	3600	10	3320-906	18.80	3323-906	19.90	-	-	-	-	2	3326-406	\$40.05
60H	3600	10	-	-	3323-918	19.90	-	-	-	-	-	-	-
60I	3600	10	3320-920	18.80	3323-920	19.90	3275-920	\$25.15	-	-	-	-	-
60J	3600	10	3320-922	18.80	3323-922	19.90	-	-	-	-	2	3326-424	40.05
60K	3600	10	3320-924	18.80	3323-924	19.90	-	-	-	-	-	-	-
80I	3600	10	-	-	-	-	3275-930	25.15	-	-	-	-	-
80K	3600	10	3320-936	18.80	3323-936	19.90	-	-	-	-	-	-	-
100I	3600	10	-	-	-	-	3275-940	25.15	-	-	-	-	-

## 8 x 1/2 x 1-1/4 - Porous Bond - No Recess

RUBY ALUMINUM OXIDE (TYPE RA)				
GRIT/ HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH
46H12	3600	10	3277-133	\$27.90
60H12	3600	10	3277-138	27.90

## 8 x 3/4 x 1-1/4 - Recessed One Side 3 x 1/4"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3321-000	\$25.35	3324-000	\$26.90	-	-	-	-	-
46J	3600	10	3321-004	25.35	3324-004	26.90	-	-	-	-	-
46K	3600	10	3321-006†	10.80	-	-	-	-	-	-	-
60I	3600	10	3321-020	25.35	-	-	3276-020	\$30.50	-	-	-
60J	3600	10	3321-022	25.35	3324-022	26.90	-	-	-	-	-
60K	3600	10	3321-024	25.35	-	-	-	-	-	-	-
80I	3600	10	-	-	-	-	3276-030†	14.05	-	-	-

† Limited Quantities

## 8 x 1 x 1-1/4 - Recessed One Side 3 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	3600	10	3321-100	\$20.45	3324-100	\$30.00	-	-	-	-	-
46I	3600	10	3321-102	29.35	-	-	-	-	-	-	-
46J	3600	10	3321-104	29.35	3324-104	30.00	-	-	-	-	-
46K	3600	10	3321-106	29.35	-	-	-	-	-	-	-
60I	3600	10	3321-120	29.35	-	-	3276-120	\$34.60	-	-	-
60J	3600	10	3321-122	29.35	3324-122	30.00	-	-	-	-	-
60K	3600	10	3321-124	29.35	-	-	-	-	-	-	-
80I	3600	10	-	-	-	-	3276-130†	POA	-	-	-
100I	3600	10	-	-	-	-	3276-140	34.60	-	-	-

† Limited Quantities

## 10 x 1/2 x 3 - No Recess

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46J	2630	5	-	-	3324-204†	\$19.10	-	-	-	-	-
60H	2630	5	-	-	3324-218†	19.10	-	-	-	-	-
60J	2630	5	3321-222	\$29.10	-	-	-	-	-	-	-
60K	2630	5	3321-224†	17.35	-	-	-	-	-	-	-

† Limited Quantities

# Surface Grinding Wheels



**CGW**

2

**Buy  
Ctn Qty  
Deduct  
20%**

## 10 x 3/4 x 3 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46I	2630	5	-	-	3324-302	\$38.65	-	-	-	-	-
60H	2630	5	-	-	3324-318	38.65	-	-	-	-	-
60I	2630	5	3321-320	\$37.20	-	-	-	-	-	-	-
60K	2630	5	3321-324†	15.10	-	-	-	-	-	-	-

† Limited Quantities

## 10 x 1 x 3 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2630	5	3321-500	\$44.25	3324-500	POA	-	-	-	-	-
46I	2630	5	3321-502	44.25	3324-502	\$45.95	-	-	-	-	-
46J	2630	5	3321-504	44.25	3324-504	45.95	-	-	-	-	-
46K	2630	5	3321-506†	25.25	3324-506	45.95	-	-	3	3326-706	\$94.15
60H	2630	5	-	-	3324-518†	28.60	-	-	-	-	-
60I	2630	5	3321-520†	25.25	3324-520	45.95	-	-	-	-	-
60J	2630	5	3321-522	44.25	3324-522	45.95	-	-	-	-	-
60K	2630	5	3321-524†	25.25	3324-524	45.95	-	-	-	-	-

† Limited Quantities

## 12x3/4x3 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	4	-	-	3324-600	\$50.10	-	-	-	-	-
46I	2228	4	3321-602	\$50.65	-	-	-	-	-	-	-
46K	2228	4	3321-606†	27.20	-	-	-	-	-	-	-

† Limited Quantities

## 12 x 1 x 3 – No Recess

			WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	2	3321-700	\$64.10	3324-700	\$63.40	-	-	2	3326-902	\$137.80
46I	2228	2	3321-702	POA	3324-702	POA	-	-	-	-	-
46J	2228	2	3321-704	64.10	3324-704	63.40	-	-	2	3326-904	137.80
46K	2228	2	3321-706†	38.90	3324-706	63.40	-	-	-	-	-
60I	2228	2	-	-	3324-720	63.40	-	-	2	3326-922	137.80
60K	2228	2	-	-	3324-724	63.40	-	-	-	-	-

† Limited Quantities

# Surface Grinding Wheels



2

**Buy  
Ctn Qty  
Deduct  
20%**

## 12 x 1 x 5 – No Recess

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	2	3321-800	\$64.10	3324-800	\$63.40	-	-	2	3326-932	\$137.80
46I	2228	2	3321-802†	32.85	-	-	-	-	-	-	-
46J	2228	2	3321-804	64.10	3324-804	63.40	-	-	-	-	-
46K	2228	2	3321-806†	31.80	3324-806	63.40	-	-	-	-	-
60J	2228	2	3321-822	64.10	3324-822	63.40	-	-	-	-	-
60K	2228	2	3321-824	64.10	3324-824	63.40	-	-	-	-	-

† Limited Quantities

## 12 x 1-1/2 x 3 – Recessed One Side 7-1/2 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	2	3321-900	\$91.25	-	-	-	-	-	-	-
46I	2228	2	3321-902	91.25	-	-	-	-	-	-	-
46J	2228	2	3321-904	91.25	-	-	-	-	-	-	-
60I	2228	2	3321-920	91.25	-	-	-	-	-	-	-

## 12 x 1-1/2 x 5 – Recessed One Side 7-1/2 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	2	3322-000	\$91.25	3325-000	\$96.65	-	-	-	-	-
46I	2228	2	3322-002	91.25	3325-002	POA	-	-	-	-	-
46J	2228	2	3322-004	91.25	3325-004	96.65	-	-	-	-	-
46K	2228	2	3322-006	91.25	3325-006	96.65	-	-	-	-	-
60I	2228	2	3322-020	91.25	3325-020	POA	-	-	-	-	-
60J	2228	2	3322-022	91.25	3325-022	96.65	-	-	-	-	-
60K	2228	2	3322-024	91.25	-	-	-	-	-	-	-

## 12 x 1-1/2 x 5 – Porous Bond – Recessed One Side 7-1/2 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	RUBY ALUMINUM OXIDE (TYPE RA)	
			ORDER NO.	PRICE EACH
46H12	2190	2	3277-183	\$138.00

## 12 x 2 x 5 – Recessed Two Sides 7-1/2 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	2228	3	3322-100	POA	3325-100	\$112.65	-	-	-	-	-
46I	2228	3	3322-102	\$105.35	3325-102	112.65	-	-	-	-	-
46J	2228	3	3322-104	105.35	3325-104	POA	-	-	-	-	-
60H	2228	3	3322-118	105.35	3325-118	112.65	-	-	-	-	-

# Surface Grinding Wheels



**Buy  
Ctn Qty  
Deduct  
20%**

## 14 x 1 x 5 – No Recess

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		GREY ALUMINUM OXIDE (TYPE 32A)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	1910	2	-	-	3325-200	\$103.95	3332-200	\$113.35	-	-	-
46I	1910	2	3322-202	\$89.90	3325-202	103.95	3332-202	113.35	-	-	-
46J	1910	2	-	-	3325-204	103.95	-	-	2	3326-954	\$170.65
46K	1910	2	-	-	3325-206	POA	-	-	-	-	-
60I	1910	2	3322-220	89.90	3325-220	103.95	-	-	-	-	-
60J	1910	2	-	-	3325-222	POA	-	-	-	-	-
60K	1880	2	3322-224	89.90	3325-224	103.95	-	-	-	-	-

## 14 x 1-1/2 x 5 – No Recess

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		GRAY ALUMINUM OXIDE (TYPE 32A)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
46H	1910	2	3322-250	\$120.50	3325-250	\$139.40	3332-250	\$149.20
46I	1910	2	3322-252	120.50	3325-252	POA	3332-254	149.20
46J	1910	2	3322-254	120.50	3325-254	139.40	-	-
46K	1910	2	-	-	3325-256	139.40	-	-
60H	1910	2	-	-	3325-268	139.40	-	-
60J	1910	2	-	-	3325-272	139.40	-	-

## 14 x 1-1/2 x 5 Porous Bond – No Recess

RUBY ALUMINUM OXIDE (TYPE RA)				
GRIT/ HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH
46H12	1910	2	3277-243	\$171.25

## 14 x 1-1/2 x 5 – Recessed One Side 8 x 1/2"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
46H	1910	2	3322-300	\$120.50	3325-302	\$139.40	-	-
46I	1910	2	3322-302	120.50	3325-302	139.40	-	-
46J	1910	2	3322-304	120.50	3325-304	139.40	-	-
60H	1910	2	3322-318	120.50	-	-	-	-
60I	1910	2	3322-320	120.50	3325-320	139.40	3326-966	\$260.55
60J	1910	2	-	-	3325-322	139.40	-	-
60K	1910	2	-	-	3325-324	POA	-	-

## 14 x 1-1/2 x 5 - Porous Bond Recessed One Side 8 x 1/2"

RUBY ALUMINUM OXIDE (TYPE RA)				
GRIT/ HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH
46H12	1910	2	3277-253	\$178.65

## 14 x 2 x 5 – Recessed One Side 8 x 1"

GRIT/ HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		PREMIUM BLUE ALUMINUM OXIDE (TYPE AZ)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	1910	1	3322-400	\$122.40	3325-400	\$141.55	-	-	-	-	-
46I	1910	1	3322-402	122.40	3325-402	141.55	-	-	-	-	-
46J	1910	1	3322-404	122.40	3325-404	141.55	-	-	-	-	-
46K	1910	1	3322-406	122.40	3325-406	POA	-	-	-	-	-
60I	1910	1	3322-420	122.40	-	-	-	-	-	-	-
60J	1910	1	3322-422	122.40	3325-422	141.55	-	-	-	-	-
60K	1910	1	-	-	3325-424	141.55	-	-	-	-	-

\*Carton Qty. deduction not applicable

## 14 x 2 x 5 - Porous Bond – Recessed One Side 8 x 1"

RUBY ALUMINUM OXIDE (TYPE RA)				
GRIT/ HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH
46H12	1880	1	3277-273	\$171.10

\*Carton Qty. deduction not applicable



# Tool & Cutter Grinding Wheels

2



Vitrified Bonded Assortment of the Standard Shapes Most Commonly Used in Tool and Cutter Applications.

## WA – White Aluminum Oxide

Friable grain for light grinding of all steels, particularly tool & die steels.

## CG – Green Silicon Carbide

Used for non-ferrous metals such as cemented carbides.

## AS3 – Synthetic Ceramic Blend

Features a blend of synthetic ceramic grain with PA and WA grains for optimum fracturing. Provides a continuous, sharp cutting action.



### 4/3 x 1-1/2 x 1-1/4 – Flaring Cup Wheel

			WHITE ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46I	6685	10	3102-732†	\$7.40	-	-	3	3103-820	\$34.90
46J	6685	10	3102-733	16.65	-	-	-	-	-
46K	6685	10	3102-734	16.65	-	-	-	-	-
60H	6685	10	3102-741†	10.40	-	-	-	-	-
60I	6685	10	3102-742	16.65	3103-020†	\$POA	-	-	-
60J	6685	10	3102-743	16.65	-	-	-	-	-
60K	6685	10	3102-744	16.65	-	-	3	3103-830	34.90
80K	6685	10	3102-750	16.65	-	-	-	-	-

† Limited Quantities



### 5/3-3/4 x 1-3/4 x 1-1/4 – Flaring Cup Wheel

			WHITE ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46H	5348	10	3102-802	\$24.90	-	-	-	-	-
46I	5348	10	3102-805	24.90	-	-	3	3103-880	\$46.25
46J	5348	10	3102-803	24.90	-	-	-	-	-
46K	5348	10	3102-804	24.90	-	-	-	-	-
60H	5348	10	3102-816†	POA	-	-	-	-	-
60I	5348	10	3102-815	24.90	3103-120	\$30.55	-	-	-
60J	5348	10	3102-813	24.90	-	-	3	3103-890	46.25
60K	5348	10	3102-814	24.90	-	-	-	-	-
80K	5348	10	3102-820	24.90	-	-	-	-	-



### 5 x 1-1/2 x 1-1/4 – Straight Cup Wheel

			WHITE ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
GRIT/HARDNESS	MAX RPM	CTN QTY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46J	5348	10	3102-853	\$22.85	-	-	-	-	-
46K	5348	10	3102-854	22.85	-	-	-	-	-
60I	5348	10	-	-	3103-220†	\$11.85	-	-	-
60J	5348	10	3102-863	22.85	-	-	-	-	-
60K	5348	10	3102-864	22.85	-	-	-	-	-
80K	5348	10	3102-870	22.85	-	-	-	-	-

† Limited Quantities



# Tool & Cutter Grinding Wheels

2



**Vitrified Bonded Assortment of the Standard Shapes Most Commonly Used in Tool and Cutter Applications.**

## WA – White Aluminum Oxide

Friable grain for light grinding of all steels, particularly tool & die steels.

## CG – Green Silicon Carbide

Used for non-ferrous metals such as cemented carbides.

## AS3 – Synthetic Ceramic Blend

Features a blend of synthetic ceramic grain with PA and WA grains for optimum fracturing. Provides a continuous, sharp cutting action.



### 6 x 1/2 x 1-1/4 – Dish Wheel

GRIT/HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46K	4456	10	3102-914	\$16.05	-	-	-	-	-
60J	4456	10	3102-923	16.05	-	-	-	-	-
60K	4456	10	3102-924	16.05	-	-	-	-	-
80K	4456	10	3102-930†	9.75	-	-	-	-	-

† Limited Quantities



### 6 x 1 x 4 – Plate Mounted Wheels

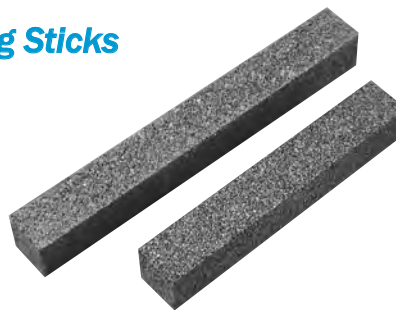
GRIT/HARDNESS	MAX RPM	CTN QTY	WHITE ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)		SYNTHETIC CERAMIC GRAIN (TYPE AS3)		
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	CTN QTY	ORDER NO.	PRICE EACH
46K	3450	10	3103-960	\$40.30	-	-	-	-	-
60I	3450	10	-	-	3103-920	\$43.40	-	-	-
80I	3450	10	-	-	3103-930	43.40	-	-	-
100I	3450	10	-	-	3103-940	43.40	-	-	-
120I	3450	10	-	-	3103-950	43.40	-	-	-



## Vitrified Bond Silicon Carbide Dressing Sticks

For cleaning, dressing and reshaping vitrified bond grinding wheels.

SIZE	GRADE	ORDER NO.	PRICE EACH
6 x 1 x 1	24S	3132-998	\$3.70
8 x 1 x 1	24S	3132-999	4.50

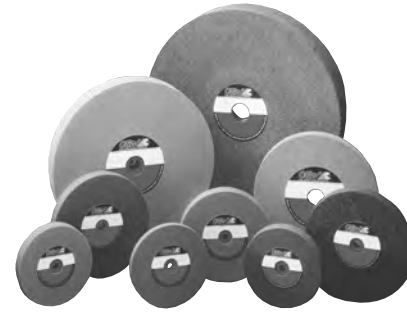


# Bench and Pedestal Wheels



**Vitrified Bonded Straight Wheels**  
**Used for Off-hand Tool Sharpening**  
**and General Purpose Bench Grinding**  
**Applications.**

**Buy**  
**Ctn Qty**  
**Deduct**  
**20%**



## A - Dark Aluminum Oxide

The most common of all grains. This grain is used for heavy duty general purpose work.

## CG - Green Silicon Carbide

Used for non-ferrous metals such as cemented carbides.

### 6 x 1/2 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	4138	10	3102-001	\$14.45	-	-
36Q	4138	10	3102-002†	4.65	-	-
46M	4138	10	3102-003	14.45	-	-
60I	4138	10	-	-	3102-402	\$13.70
60M	4138	10	3102-004	14.45	-	-
80I	4138	10	-	-	3102-404	13.70
80M	4138	10	3102-005	14.45	-	-
100I	4138	10	-	-	3102-406	13.70

† Limited Quantities

### 6 x 3/4 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	4138	10	3102-021	\$12.45	-	-
36Q	4138	10	3102-022	12.45	-	-
46M	4138	10	3102-023	12.45	-	-
60I	4138	10	-	-	3102-422	\$16.20
60M	4138	10	3102-024	12.45	-	-
80I	4138	10	-	-	3102-424	16.20
80M	4138	10	3102-025	12.45	-	-
100I	4138	10	-	-	3102-426	16.20

### 6 x 1 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	4138	10	3102-041	\$14.35	-	-
36Q	4138	10	3102-042	14.35	-	-
46M	4138	10	3102-043	14.35	-	-
60I	4138	10	-	-	3102-442	17.90
60M	4138	10	3102-044	14.35	-	-
80I	4138	10	-	-	3102-444	17.90
80M	4138	10	3102-045	14.35	-	-
100I	4138	10	-	-	3102-446	17.90

### 7 x 3/4 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	3600	10	3102-061†	\$7.75	-	-
36Q	3600	10	3102-062†	7.10	-	-
60I	3600	10	-	-	3102-462	\$18.45
60M	3600	10	3102-064	19.45	-	-
80I	3600	10	-	-	3102-464	18.45
80M	3600	10	3102-065†	POA	-	-
100I	3600	10	-	-	3102-466	18.45

† Limited Quantities

### 7 x 1 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	3600	10	3102-081	\$17.00	-	-
36Q	3600	10	3102-082	17.00	-	-
46M	3600	10	3102-083	17.00	-	-
60I	3600	10	-	-	3102-482	\$21.75
60M	3600	10	3102-084	17.00	-	-
80I	3600	10	-	-	3102-484	21.75
80M	3600	10	3102-085	17.00	-	-
100I	3600	10	-	-	3102-486	21.75

### 8 x 1 x H (Telescopic Bushing 3/4, 5/8, 1/2")

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	3600	10	3102-105	\$21.70	-	-
36Q	3600	10	3102-106	21.70	-	-
46M	3600	10	3102-107	21.70	-	-
60I	3600	10	-	-	3102-522	\$26.80
60M	3600	10	3102-108	21.70	-	-
80I	3600	10	-	-	3102-524	26.80
80M	3600	10	3102-109	21.70	-	-
100I	3600	10	-	-	3102-526	26.80

### 10 x 1 x 1-1/4"

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2483	5	3102-141	\$42.60	-	-
36Q	2483	5	3102-142	42.60	-	-
46M	2483	5	3102-143	42.60	-	-
60I	2483	5	-	-	3102-542	\$54.80
60M	2483	5	3102-144	42.60	-	-
80I	2483	5	-	-	3102-544	54.80
80M	2483	5	3102-145	42.60	-	-
100I	2483	5	-	-	3102-546	54.80

### 10 x 1-1/2 x 1-1/4"

GRIT/ HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE A)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2483	4	3102-161	\$54.75	-	-
36Q	2483	4	3102-162	54.75	-	-
46M	2483	4	3102-163	54.75	-	-
60I	2483	4	-	-	3102-562	\$63.55
60M	2483	4	3102-164	54.75	-	-
80I	2483	4	-	-	3102-564	63.55
80M	2483	4	3102-165	54.75	-	-
100I	2483	4	-	-	3102-566	63.55

# Bench and Pedestal Wheels



Vitrified Bonded Straight Wheels Used for Off-hand Tool Sharpening and General Purpose Bench Grinding Applications



**Buy Ctn Qty Deduct 20% except 16" and 18" Diameters**

## 12 x 1 x 1-1/4"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2069	2	3102-181	\$66.90	-	-
360	2069	2	3102-182†	33.20	-	-
46M	2069	2	3102-183	66.90	-	-
60I	2069	2	-	-	3102-582	\$75.60
60M	2069	2	3102-184	66.90	-	-
80I	2069	2	-	-	3102-584†	POA

† Limited Quantities

## 12 x 1-1/2 x 1-1/4"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2069	2	3102-205	\$83.85	-	-
360	2069	2	3102-206	83.85	-	-
46M	2069	2	3102-207	83.85	-	-
60I	2069	2	-	-	3102-602	\$96.45
60M	2069	2	3102-208	83.85	-	-
80I	2069	2	-	-	3102-604	96.45

## 12 x 2 x 1-1/2"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2069	3	3102-221	\$90.60	-	-
360	2069	3	3102-222	90.60	-	-
46M	2069	3	3102-223	90.60	-	-
60I	2069	3	-	-	3102-622	\$108.50
60M	2069	3	3102-224	90.60	-	-
80I	2069	3	-	-	3102-624	108.50
80M	2069	3	3102-225	90.60	-	-
100I	2069	3	-	-	3102-626	108.50

## 14 x 2 x 1-1/4" To 1-1/2"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	2069	3	3102-271	\$141.70	-	-
360	2069	3	3102-272	141.70	-	-
46M	2069	3	3102-273	141.70	-	-
60I	2069	3	-	-	3102-642	\$180.85
60M	2069	3	3102-274	141.70	-	-
80I	2069	3	-	-	3102-644	180.85
80M	2069	3	3102-275	141.70	-	-

## 16 x 2 x 1-1/2"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	1550	1	3102-301	\$187.70	-	-
360	1550	1	3102-302	187.70	-	-

Carton quantity discount does not apply

## 18 x 3 x 1-1/2"

GRIT/HARDNESS	MAX RPM	CTN QTY	DARK ALUMINUM OXIDE (TYPE WA)		SILICON CARBIDE (TYPE CG)	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
24Q	1379	1	3102-321	\$298.35	-	-
360	1379	1	3102-322	298.35	-	-
54M	1379	1	3102-324	298.35	-	-

Carton quantity discount does not apply



## Large 20 Inch Diameter Surface Grinding Wheels For Horizontal Spindle, Rotary and Reciprocating Tables.

### 83A – Friable Full Premium

#### Aluminum Oxide

Friable grain for fast stock removal. The free cutting open structure is ideal for all tool steels. V18 – Normal structures. V18P – Induced open porosity.

### 73C – Silicon Carbide

For non-ferrous metals, gray iron.

### 91A – Semi-Friable, Mixed Aluminum Oxide

A mixture of WA and A abrasives. Recommended for general purpose work and light stock removal.

### AS3 – Synthetic Ceramic Blend

Features a blend of synthetic ceramic grain with PA and WA grains for optimum fracturing. Provides a continuous, sharp cutting action.



### 20 x 1 x 8

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-402	\$115.80
83A	60J8 V18	1241	3280-404	115.80

### 20 x 1 x 10

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	36J8 V18	1241	3280-410	\$ 110.30

### 20 x 1-1/2 x 8

Recessed 1/S 11-1/2 x 1/2"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-422	\$156.55
83A	60J8 V18	1241	3280-424	156.55

### 20 x 1-1/2 x 10

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-432	\$141.80

### 20 x 2 x 8

Recessed 2/S 11-1/2 x 1/2"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-442	\$194.60
83A	60J8 V18	1241	3280-446	194.60
83A	36J/K V18P	1241	3280-448	194.60
83A	46G+ V18P	1241	3280-449	194.60
91A	46I8 V18	1241	3280-440	190.65

### 20 x 2 x 10

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	36J8 V18	1241	3280-450	\$175.70
83A	46H8 V18	1241	3280-452	175.70
83A	60J8 V18	1241	3280-454	175.70
83A	46G+ V18P	1241	3280-456	175.70

### 20 x 3 x 8

Recessed 2/S 11-1/2 x 1/2"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-462	\$274.15
83A	36J/K V18P	1241	3280-464	274.15
83A	46D V18P	1241	3280-465	274.15
83A	46G+ V18P	1241	3280-468	274.15
91A	46I8 V18	1241	3280-460	267.85
73C	46I8 VX	1241	3280-606	351.35

### 20 x 3 x 10

Recessed 1/S 12-1/2 x 5/8"  
O/S 12-1/2 x 1"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-472	\$244.20
83A	60J8 V18	1241	3280-473	244.20
83A	36J/K V18P	1241	3280-474	244.20
83A	46D V18P	1241	3280-476	244.20
83A	46G+ V18P	1241	3280-478	244.20
91A	46I8 V18	1241	3280-470	244.20
73C	46I8 VX	1241	3280-608	312.20
AS3	46H VCER	1241	3280-664	532.05

### 20 x 4 x 8

Recessed 2/S 11-1/2 x 1/2"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-482	\$362.40
83A	36J/K V18P	1241	3280-484	362.40
83A	46G+ V18P	1241	3280-488	362.40

### 20 x 4 x 10

Recessed 1/S 12-1/2 x 7/8"  
O/S 12-1/2 x 1-1/4"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-492	\$326.95
83A	36J/K V18P	1241	3280-494	326.95
83A	46G+ V18P	1241	3280-498	326.95
91A	46I8 V18	1241	3280-490	304.85

### 20 x 6 x 10

Recessed 1/S 12-1/2 x 1"  
O/S 12-1/2 x 2"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-502	\$435.15
83A	36J/K V18P	1241	3280-504	435.15
83A	46G+ V18P	1241	3280-508	435.15
91A	46I8 V18	1241	3280-500	414.45
73C	46I8 VX	1241	3280-614	614.45
AS3	46H VCER	1241	3280-674	804.70

### 20 x 6 x 12

Recessed 2/S 14-1/4 x 1"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-512	\$449.05
83A	36J/K V18P	1241	3280-514	449.05
83A	46G+ V18P	1241	3280-518	449.05
91A	46I8 V18	1241	3280-510	437.20

### 20 x 8 x 12

Recessed 2/S 14-1/2 x 1"

GRAIN	GRIT/ BOND	MAX RPM	ORDER NO.	PRICE EACH
83A	46H8 V18	1241	3280-522	\$520.40

# Centerless & Cylindrical Wheels



1

## 12" Through 24" Diameter

Centerless & Cylindrical Wheels each have accurate toleranced inside linings to protect spindles. Manufactured with varying hardness to assure consistent grindability throughout.

**94A – Aluminum Oxide**  
Very durable self-dressing grain.  
**72C – Silicon Carbide**  
For non-ferrous metals.  
**PA – Pink Aluminum Oxide**  
Excellent for pre-hardened carbon steels.



### 12 x 4 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	2190	3327-006	\$140.15

### 14 x 1 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1910	3327-012	\$53.95
94A	60L5	1910	3327-016	53.95
94A	80M6	1910	3327-020	53.95

### 14 x 1-1/4 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1910	3327-032	\$67.55
94A	60L5	1910	3327-036	67.55

### 14 x 1-1/2 x 5 – Rec 1/8 X 1/2"

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1910	3327-052	\$82.50
94A	60L5	1910	3327-056	82.50
94A	80M6	1910	3327-060	82.50

### 14 x 2 x 5 – Rec 1/8 X 1"

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1910	3327-072	\$103.80
94A	60L5	1910	3327-076	103.80
94A	80M6	1910	3327-080	103.80

### 16 x 1 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	1640	3327-096	\$77.45
94A	80M6	1640	3327-100	77.45

### 16 x 1-1/2 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	1640	3327-116	\$95.85
94A	80M6	1640	3327-120	95.85

### 16 x 2 x 5 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	1640	3327-156	\$118.00
94A	80M6	1640	3327-160	118.00

### 16 x 1 x 8 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1640	3327-192	\$74.35
94A	60L5	1640	3327-196	74.35
94A	80M6	1640	3327-200	74.35

### 16 x 1-1/2 x 8 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1640	3327-212	\$92.15
94A	60L5	1640	3327-216	92.15
94A	80M6	1640	3327-220	92.15

### 16 x 2 x 8 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	54K5	1640	3327-232	\$111.35
94A	60L5	1640	3327-236	111.35

### 16 x 4 x 10 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	1640	3327-256	\$193.20
94A	80L6	1640	3327-260	193.20

### 20 x 1 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1623	3327-276	\$90.15
94A	60L5	1623	3327-278	90.15
94A	60M6	1623	3327-280	90.15
94A	80-06	1623	3327-304	90.15

### 20 x 2 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1623	3327-316	\$141.35
94A	60L5	1623	3327-318	141.35
94A	60M6	1623	3327-320	141.35
94A	80M6	1623	3327-326	141.35
94A	80-06	1623	3327-334	141.35
94A	80-P6	1623	3327-336	141.35

HARD SIDE				
94A	80N6/120S	1623	3327-330	152.75

### 20 x 2-1/2 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
HARD SIDE				
94A	80N6/120S	1623	3327-360	\$190.65

### 20 x 3 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1623	3327-376	\$198.25
94A	60L5	1623	3327-378	198.25

### 20 x 4 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1623	3327-436	\$258.15
94A	60L5	1623	3327-438	258.15
94A	60M6	1623	3327-440	258.15
94A	80M6	1623	3327-448	258.15
94A	80-P6	1623	3327-458	258.15

HARD SIDE				
94A	80N6/120S	1623	3327-452	279.00

### 20 x 6 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
72C	60L6	1623	3327-470	\$479.00
94A	60K5	1623	3327-476	353.85
94A	60L5	1623	3327-478	353.85
94A	60M6	1623	3327-480	353.85
94A	80J5	1623	3327-484	353.85
94A	80L5	1623	3327-486	353.85
94A	80M6	1623	3327-488	353.85
94A	80-06	1623	3327-496	353.85
94A	80-P6	1623	3327-498	353.85

HARD SIDE				
94A	80N6/120S	1623	3327-492	393.95

### 20 x 8 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
72C	60L6	1623	3327-510	\$583.00
94A	54J5	1623	3327-512	454.70
94A	60K5	1623	3327-516	454.70
94A	60L5	1623	3327-518	454.70
94A	60M6	1623	3327-520	454.70
94A	80J5	1623	3327-524	454.70
94A	80L5	1623	3327-526	454.70
94A	80M6	1623	3327-528	454.70
94A	80-06	1623	3327-536	454.70

HARD SIDE				
94A	80N6/120S	1623	3327-532	504.25

### 20 x 10 x 12 – No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60L5	1623	3327-558	\$616.60

# Centerless & Cylindrical Wheels



## 24 x 1-1/2 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-616	\$242.55

## 24 x 3 x 12 - Rec 1/S 14-1/2 x 1"

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-776	\$311.00



## 24 x 2 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-656	\$242.55
94A	60L5	1323	3327-658	242.55
94A	60M6	1323	3327-660	242.55
-	-	-	-	-
94A	80-06	1323	3327-676	242.55
<b>HARD SIDE</b>				
94A	80N6/120S	1323	3327-672	277.30

## 24 x 4 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-816	\$400.70
94A	60L5	1323	3327-818	400.70
-	-	-	-	-
-	-	-	-	-
94A	80M6	1323	3327-830	400.70
-	-	-	-	-
<b>HARD SIDE</b>				
94A	80N6/120S	1323	3327-834	445.15

## 24 x 8 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
72C	60L6	1323	3327-900	\$886.35
94A	60K5	1323	3327-916	707.40
94A	60L5	1323	3327-918	707.40
94A	60M6	1323	3327-920	707.40
94A	80J5	1323	3327-924	707.40
94A	80L5	1323	3327-928	707.40

## 24 x 2-1/2 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
<b>HARD SIDE</b>				
94A	80N6/120S	1323	3327-712	\$300.95

## 24 x 6 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
72C	60L6	1323	3327-850	\$677.55
94A	60K5	1323	3327-866	542.55
94A	60L5	1323	3327-868	542.55
94A	60M6	1323	3327-870	542.55
94A	80J5	1323	3327-874	542.55
-	-	-	-	-
94A	80M6	1323	3327-880	542.55
-	-	-	-	-
<b>HARD SIDE</b>				
94A	80N6/120S	1323	3327-884	586.25

## 24 x 10 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-956	\$951.65
94A	60L5	1323	3327-958	951.65
94A	60M6	1323	3327-960	951.65

## 24 x 3 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-736	\$296.70
-	-	-	-	-
-	-	-	-	-
<b>HARD SIDE</b>				
94A	80N6/120S	1323	3327-752	330.90

## 24 x 20 x 12 - No Recess

GRAIN	GRIT	MAX RPM	ORDER NO.	PRICE EACH
94A	60K5	1323	3327-986	\$1977.50
94A	60L5	1323	3327-988	1977.50
94A	60M6	1323	3327-990	1977.50

# Feed/Regulating Wheels

Aluminum Oxide - Rubber Bonded For All Centerless Grinding Machines  
Isostatic process assures perfect gripping with standard A-80-R2-RX grade

	MAX RPM	ORDER NO.	PRICE EACH
8 x 4 x 3 R 1/S 4-1/4 x 1/2" O/S 4-1/4 x 1-1/2"	1020	3329-040	\$136.35
9 x 2 x 4	1020	3329-120	78.35
9 x 4 x 4 R 2/S 5-1/2 x 5/8"	1020	3329-140	133.45
10 x 6 x 5-1/2 R 2/S 6-1/2 x 1/2"	920	3329-260	265.00
12 x 1 x 5	800	3329-410	70.40
12 x 2 x 5	800	3329-420	122.05
12 x 2-1/2 x 5	800	3329-425	167.50
12 x 3 x 5	800	3329-430	194.25
12 x 4 x 5 R 2/S 7-1/2 x 1/2"	800	3329-442	243.00

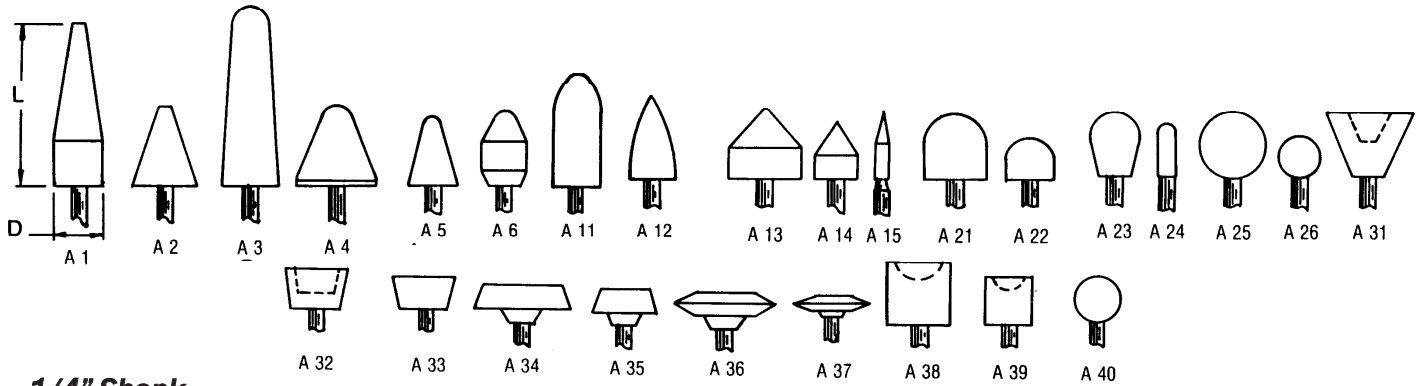
	MAX RPM	ORDER NO.	PRICE EACH
12 x 6 x 5 R 1/S 7-1/2 x 1/2" O/S 7-1/2 x 1-1/2"	800	3329-462	\$371.70
12 x 6 x 5 R 2/S 7-1/2 x 1-1/2"	800	3329-464	371.70
12 x 8 x 5 R 1/S 7-1/2 x 1-1/2"	800	3329-480	471.75
12 x 8 x 5 R 1/S 7-1/2 x 1-1/2" O/S 7-1/2 x 2-1/2"	800	3329-482	471.75
12 x 10 x 5 R 1/S 8 x 1-1/2" O/S 8 x 2"	800	3329-502	595.00

	MAX RPM	ORDER NO.	PRICE EACH
14 x 8 x 5 R 1/S 8 x 1-1/2" O/S 8 x 2"	650	3329-682	\$630.45
14 x 8 x 5 R 1/S 8 x 1-1/2" O/S 8 x 2-1/2"	650	3329-684	630.45
14 x 20 x 5 R 2/S 8 x 1-1/2"	650	3329-802	1558.90
14 x 20 x 6 R 2/S 8-1/2 x 1-1/2"	650	3329-804	1558.90

# Mounted Points

## Group "A" Special Shapes

3



### 1/4" Shank

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
A1	3/4"	2-1/2"	3133-001	\$2.30
A2	1"	1-1/4"	3133-002	1.40
A3	1"	2-3/4"	3133-003	2.50
A4	1-1/4"	1-1/4"	3133-004	1.60
A5	3/4"	1-1/8"	3133-005	1.35
A6	3/4"	1-1/8"	3133-006	1.35
A11	7/8"	2"	3133-011	1.70
A12	11/16"	1-1/4"	3133-012	1.35
A13	1-1/8"	1-1/8"	3133-013	1.60

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
A14	11/16"	7/8"	3133-014	\$1.00
A15	1/4"	1-1/16"	3133-015	1.30
A21	1"	1"	3133-021	1.10
A22	3/4"	5/8"	3133-022	1.00
A23	3/4"	1"	3133-023	1.00
A24	1/4"	3/4"	3133-024	0.90
A25	1"	1"	3133-025	1.10
A26	5/8"	5/8"	3133-026	1.00
A31	1-3/8"	1"	3133-031	1.35

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
A32	1"	5/8"	3133-032	\$1.00
A33	1"	1/2"	3133-033	1.00
A34	1-1/2"	3/8"	3133-034	1.15
A35	1"	3/8"	3133-035	1.00
A36	1-5/8"	3/8"	3133-036	1.35
A37	1-1/4"	1/4"	3133-037	1.00
A38	1"	1"	3133-038	0.90
A39	3/4"	3/4"	3133-039	0.75
A40	3/4"	3/4"	3133-040	1.00

## Group "W" Plain Shapes



### 1/8" X 1-1/2" Shank

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
W141	3/32	5/32	3133-141	\$0.65
W142	3/32	1/4	3133-142	0.65
W143	1/8	1/8	3133-143	0.65
W144	1/8	1/4	3133-144	0.65
W145	1/8	3/8	3133-145	0.70
W146	1/8	1/2	3133-146	0.70
W149	5/32	1/4	3133-149	0.65
W150	3/16	1/16	3133-150†	0.65
W151	3/16	1/8	3133-151	0.65
W152	3/16	1/4	3133-152	0.65
W153	3/16	3/8	3133-153	0.70
W154	3/16	1/2	3133-154	0.70
W155	13/64	1/4	3133-155†	0.65
W157	1/4	1/16	3133-157	0.65
W158	1/4	1/8	3133-158	0.65
W159	1/4	3/16	3133-159	0.65
W160	1/4	1/4	3133-160	0.65
W161	1/4	5/16	3133-161	0.70
W162	1/4	3/8	3133-162	0.70
W163	1/4	1/2	3133-163	0.70
W164	1/4	3/4	3133-164	0.75
W165	5/16	1/16	3133-165	0.65
W166	5/16	1/8	3133-166	0.65
W167	5/16	1/4	3133-167	0.65
W168	5/16	5/16	3133-168	0.70
W169	5/16	3/8	3133-169	0.70
W170	5/16	1/2	3133-170	0.70
W171	5/16	3/4	3133-171	0.75
W172	3/8	1/16	3133-172	0.65
W173	3/8	1/8	3133-173	0.65
W174	3/8	1/4	3133-174	0.65

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
W175	3/8	3/8	3133-175	\$0.70
W176	3/8	1/2	3133-176	0.70
W177	3/8	3/4	3133-177	0.75
W178	3/8	1	3133-178	0.80
W179	3/8	1-1/4	3133-179†	1.05
W181	1/2	1/16	3133-181	0.65
W182	1/2	1/8	3133-182	0.65
W183	1/2	1/4	3133-183	0.65
W184	1/2	3/8	3133-184	0.65
W185	1/2	1/2	3133-185	0.70
W186	1/2	3/4	3133-186	0.75
W187	1/2	1	3133-187	0.80
W190	5/8	1/16	3133-190	0.70
W191	5/8	1/8	3133-191	0.70
W192	5/8	1/4	3133-192	0.70
W193	5/8	3/8	3133-193	0.75
W194	5/8	1/2	3133-194	0.75
W195	5/8	3/4	3133-195	0.80
W199	3/4	1/16	3133-199	0.70
W200	3/4	1/8	3133-200	0.70
W201	3/4	1/4	3133-201	0.70
W202	3/4	3/8	3133-202	0.75
W203	3/4	1/2	3133-203	0.75
W204	3/4	3/4	3133-204	0.80
W210	7/8	1/16	3133-210	0.75
W211	7/8	1/8	3133-211	0.75
W212	7/8	1/4	3133-212	0.75
W213	7/8	3/8	3133-213	0.80
W214	15/16	1/4	3133-214	0.75
W215	1	1/8	3133-215	0.75
W216	1	1/4	3133-216	0.75

### 1/4" X 1-1/2" Shank

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
W178	3/8	1	3133-378	\$0.80
W187	1/2	1	3133-387	0.80
W188	1/2	1-1/2	3133-188	1.25
W189	1/2	2	3133-189	1.55
W194	5/8	1/2	3133-394	0.75
W195	5/8	3/4	3133-395	0.80
W196	5/8	1	3133-196	0.90
W197	5/8	2	3133-197	1.65
W198	5/8	2-1/2	3133-198	2.00
W204	3/4	3/4	3133-404	0.80
W205	3/4	1	3133-205	0.90
W206	3/4	1-1/4	3133-206	1.10
W207	3/4	1-1/2	3133-207	1.30
W208	3/4	2	3133-208	1.65
W209	3/4	2-1/2	3133-209	2.00
W213	7/8	3/8	3133-413	0.80
W217	1	3/8	3133-217	0.80
W218	1	1/2	3133-218	0.80
W219	1	3/4	3133-219	0.90
W220	1	1	3133-220	1.00
W221	1	1-1/2	3133-221	1.35
W222	1	2	3133-222	1.70
W223	1	2-1/2	3133-223	2.10
W224	1	3	3133-224	2.40
W225	1-1/4	1/4	3133-225	0.90
W226	1-1/4	3/8	3133-226	1.00
W227	1-1/4	1/2	3133-227	1.00
W228	1-1/4	3/4	3133-228	1.05
W229	1-1/4	1	3133-229	1.20
W230	1-1/4	1-1/4	3133-230	1.35
W231	1-1/4	1-1/2	3133-231	1.65
W232	1-1/4	2	3133-232	2.00
W235	1-1/2	1/4	3133-235	1.00
W236	1-1/2	1/2	3133-236	1.05
W237	1-1/2	1	3133-237	1.25
W238	1-1/2	1-1/2	3133-238	1.70
W239	1-1/2	2	3133-239	2.10
W242	2	1	3133-242	1.55
W243	2	1-1/2	3133-243	2.10
W244	2	2	3133-244	2.60
W245	2	2-1/2	3133-245†	3.15

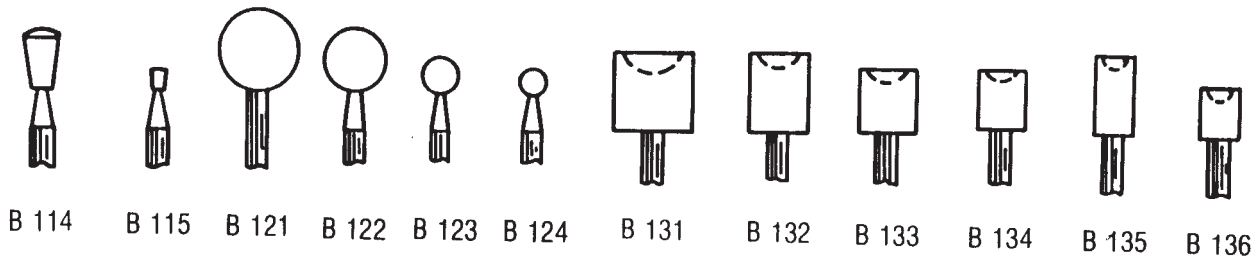
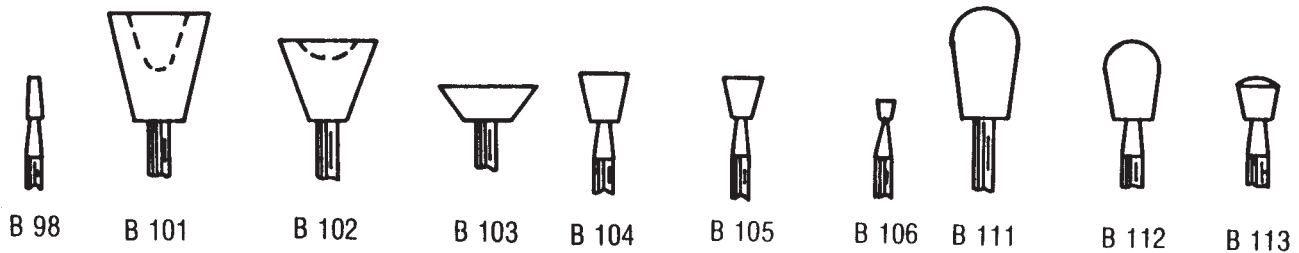
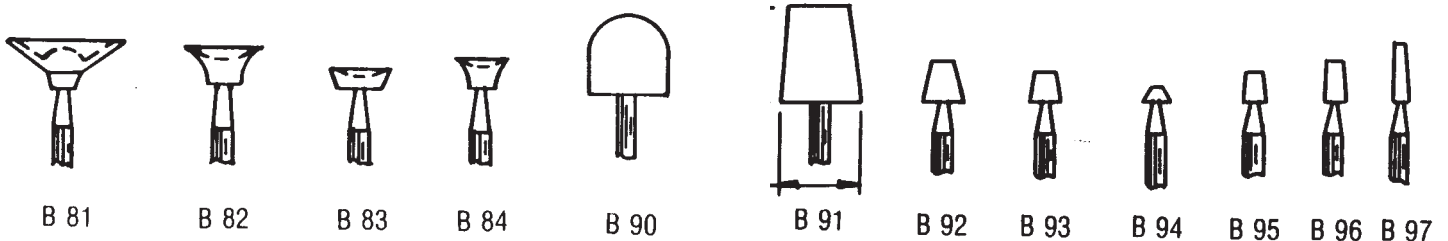
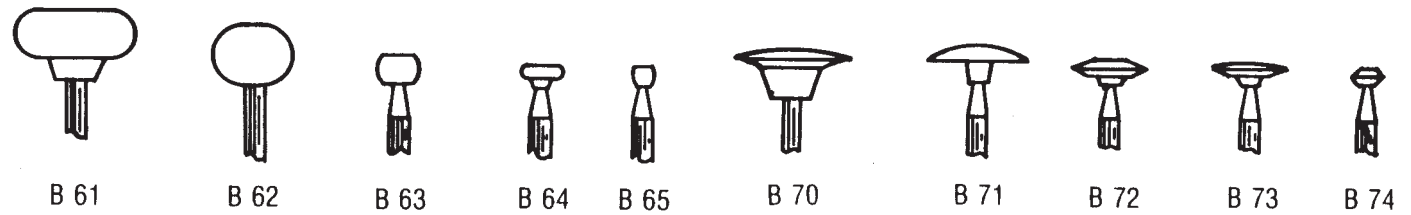
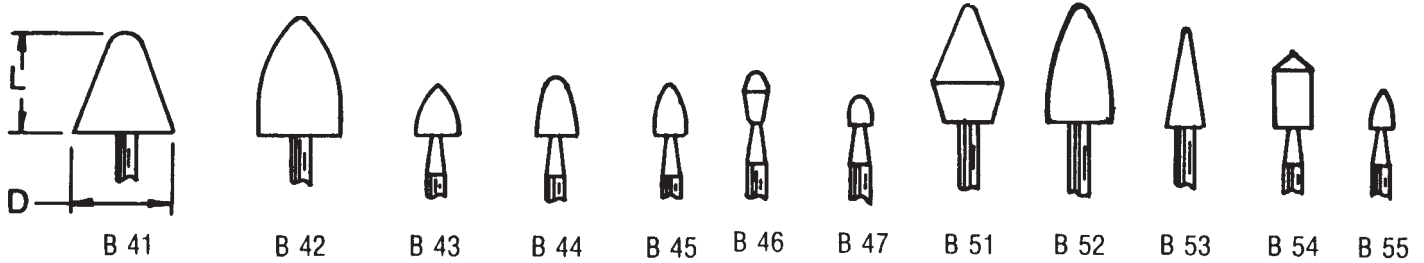
† Limited Quantities



# Mounted Points

## Group "B" Special Shapes

3



### 1/8" Shank

SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH	SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH	SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH	SHAPE NO.	SIZE DIAM.	LGTH.	ORDER NO.	PRICE EACH
B41	5/8"	5/8"	3133-041	\$1.00	B63	1/4"	3/16"	3133-063	\$0.75	B92	1/4"	1/4"	3133-092	\$0.75	B112	3/8"	1/2"	3133-112	\$0.85
B42	1/2"	3/4"	3133-042	0.90	B64	1/4"	1/16"	3133-064	0.75	B93	3/16"	3/16"	3133-093	0.75	B113	1/4"	1/4"	3133-113	0.75
B43	1/4"	5/16"	3133-043	0.85	B65	1/8"	1/8"	3133-065	0.75	B94	11/64"	3/32"	3133-094	0.75	B114	7/32"	3/8"	3133-114	0.85
B44	7/32"	5/8"	3133-044	0.85	B70	3/4"	1/8"	3133-070	0.85	B95	1/8"	3/16"	3133-095	0.75	B115	3/32"	1/2"	3133-115	0.75
B45	3/16"	5/16"	3133-045	0.85	B71	5/8"	3/32"	3133-071	0.85	B96	1/8"	1/4"	3133-096	0.75	B121	1/2"	1/2"	3133-121	0.85
B46	1/8"	5/16"	3133-046	0.85	B72	1/2"	1/8"	3133-072	0.75	B97	1/8"	3/8"	3133-097	0.85	B122	3/8"	3/8"	3133-122	0.85
B47	1/8"	5/32"	3133-047	0.75	B73	1/2"	1/8"	3133-073	0.75	B98	3/32"	1/4"	3133-098	0.75	B123	3/16"	3/16"	3133-123	0.75
B51	7/16"	3/4"	3133-051	0.90	B74	7/32"	3/32"	3133-074	0.75	B101	5/8"	11/16"	3133-101	1.00	B124	1/8"	1/8"	3133-124	0.75
B52	3/8"	3/4"	3133-052	0.90	B81	3/4"	3/16"	3133-081	0.85	B102	5/8"	1/2"	3133-102	0.90	B131	1/2"	1/2"	3133-131	0.65
B53	1/4"	5/8"	3133-053	0.90	B82	1/2"	1/4"	3133-082	0.75	B103	5/8"	3/16"	3133-103	0.85	B132	3/8"	1/2"	3133-132	0.65
B54	1/4"	1/2"	3133-054	0.85	B83	3/8"	3/16"	3133-083	0.75	B104	5/16"	3/8"	3133-104	0.85	B133	3/8"	3/8"	3133-133	0.65
B55	1/8"	1/4"	3133-055	0.75	B84	5/16"	3/16"	3133-084	0.75	B105	1/4"	1/4"	3133-105	0.75	B134	5/16"	3/8"	3133-134	0.65
B61	3/4"	5/16"	3133-061	0.90	B90	1/2"	1/2"	3133-090	0.85	B106	1/8"	7/64"	3133-106	0.75	B135	1/4"	1/2"	3133-135	0.65
B62	3/8"	1"	3133-062	0.85	B91	1/2"	5/8"	3133-091	0.90	B111	7/16"	11/16"	3133-111	0.90	B136	1/4"	5/16"	3133-136	0.65

## For Surface Grinders - 6 Inch Overall Length



**Preferred Grade -  
Made in USA**

For machine or hand dressing of all wheels. Designed for longer tool life.

**Economy Grade**

For general purpose dressing and truing of soft wheels.

RECOMMENDED DIAMOND SIZE			
WHEEL FACE	CARAT WT.	WHEEL FACE	CARAT WT.
1/4	1/4	2	1-1/2
1/2	1/3	3	1-3/4
3/4	1/2	3-1/2	2
1	3/4	4	2-1/2
1-1/4	1	6	3
1-1/2	1-1/4	8 and up	3-1/2

SHANK SIZE	CARAT SIZE	ECONOMY		PREFERRED - USA	
		ORDER NO.	PRICE	ORDER NO.	PRICE
3/8	1/4	3131-311	\$ 4.30	3131-341	\$ 18.50
3/8	1/3	3131-312	6.35	3131-342	22.00
3/8	1/2	3131-313	8.70	3131-343	27.10
3/8	3/4	3131-314	12.95	3131-344	39.00
3/8	1	3131-315	17.20	-	-
3/8	1-1/2	3131-316	25.80	-	-
3/8	2	3131-317	34.20	-	-
3/8	3	3131-318	48.55	-	-
7/16	1/4	3131-321	4.30	3131-361	18.50
7/16	1/3	3131-322	6.35	3131-362	22.00
7/16	1/2	3131-323	8.70	3131-363	27.10
7/16	3/4	3131-324	12.95	3131-364	39.00
7/16	1	3131-325	17.20	-	-
7/16	1-1/2	3131-326	25.80	-	-
7/16	2	3131-327	34.20	-	-
7/16	3	3131-328	48.55	-	-
1/2	1/4	3131-331	4.30	-	-
1/2	1/3	3131-332	6.35	-	-
1/2	1/2	3131-333	8.70	-	-
1/2	3/4	3131-334	12.95	-	-
1/2	1	3131-335	17.20	-	-
1/2	1-1/2	3131-336	25.80	-	-
1/2	2	3131-337	34.20	-	-
1/2	3	3131-338	48.55	-	-

## Economy - Super Value 1/4 Carat - Single Point



SHANK SIZE	ORDER NO.	PRICE
3/8 x 2	3131-040	\$4.55
3/8 x 3	3131-045	4.55
7/16 x 2	3131-080	4.55
7/16 x 3	3131-085	4.55

## Convex & Concave Radii Forming Tools MR and FR Series

Designed to form convex and concave radii on small diameter grinding wheels. 3/8" x 2" Shanks.



MR Series Convex Radii

TOOL NO.	RADIUS	ORDER NO.	PRICE
MR-2	.020-.125	3131-582	\$12.45
MR-4	.125-.250	3131-584	14.00
MR-6	.250 up	3131-586	17.20



FR Series Concave Radii

TOOL NO.	RADIUS	ORDER NO.	PRICE
FR-10	.010	3131-550	\$10.00
FR-15	.015	3131-555	10.00
FR-20	.020	3131-560	10.00
FR-32	.032	3131-565	11.30
FR-62	.062	3131-570	12.90
FR-125	.125	3131-575	12.90

## Phonopoint Diamond Dressing Tools

Small cone pointed tools used for precision form dressing.



SHANK SIZE	60 DEG		75 DEG		90 DEG	
	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
1/8 x 1"	3131-536	\$6.20	3131-541	\$5.60	3131-546	\$5.10
3/16 x 1"	3131-537	6.60	3131-542	6.00	3131-547	5.40
1/4 x 1-1/2"	3131-539	7.00	3131-544	6.30	3131-549	5.50

## Coned Radius Dressers



A precision shaped tool used for intricate form & radius dressing.

CARAT SIZE	INCLUDED ANGLE	3/8 x 2-1/2 SHANK		7/16 x 2-1/2 SHANK	
		ORDER NO.	PRICE	ORDER NO.	PRICE
1/4	60 DEG	3131-461	\$44.00	3131-481	\$44.00
1/4	75 DEG	3131-462	40.00	3131-482	40.00
1/4	90 DEG	3131-463	33.75	3131-483	33.75
1/3	60 DEG	3131-464	70.00	3131-484	70.00
1/3	75 DEG	3131-465	62.00	3131-485	62.00
1/3	90 DEG	3131-466	42.65	3131-486	42.65
1/2	60 DEG	3131-467	94.00	3131-487	94.00
1/2	75 DEG	3131-468	82.00	3131-488	82.00
1/2	90 DEG	3131-469	64.00	3131-489	64.00

## Thread Grinding Diamond Tools



For use on Jones & Lamson, Ex-Cell-O & similar thread grinding equipment.

SIZE	MACHINE	60 DEG		90 DEG	
		ORDER NO.	PRICE	ORDER NO.	PRICE
1/4 x 1	J & L	3131-605	\$9.80	3131-607	\$9.80
3/8 x 1-5/8	EX-CELL-O	3131-615	9.80	-	-

## Hand Diamond Dressers



7/16" Shank Size - 8" Overall Length

Dressers fitted with plastic handles. Ideal for dressing wheels for Surface Grinders, Universal Grinders, etc.

CARAT SIZE	ORDER NO.	PRICE
1/4	3131-451	\$6.75
1/3	3131-452	8.55
1/2	3131-453	10.75
3/4	3131-454	18.10
1	3131-455	25.65

# Diamond Tools

## Machine-Use Single Point Diamond Dressers

Preferred Grade Diamond



CARAT SIZE	LARGE NORTON Shank: 7/16 x 1-1/2 Head: 5/8" x 5/8"		CINCINNATI Shank: 7/16 x 2 Head: 5/8" x 5/8"	
	ORDER NO.	PRICE	ORDER NO.	PRICE
1/4	3131-391	\$18.60	3131-381	\$18.60
1/3	3131-392	22.40	3131-382	22.40
1/2	3131-393	30.00	3131-383	30.00
3/4	3131-394	44.00	3131-384	44.00
1	3131-395	60.00	3131-385	60.00
1-1/2	3131-396	95.10	3131-386	95.10

## Natural & Lapped Chisels



For use on radius dressers to form radii, steps, or contours. Tools shown are 1/4 Carat.

SHANK SIZE	NATURAL CHISEL EDGE		60° LAPPED CHISEL	
	ORDER NO.	PRICE	ORDER NO.	PRICE
3/8 x 2-1/2"	3131-520	\$30.10	3131-500	\$47.30
7/16 x 2-1/2"	3131-530	30.10	3131-510	47.30

## Multi Point Cluster Dressing Tools

5/8" Diameter Head, 7 Diamonds



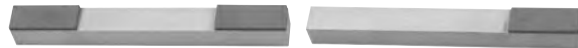
For straight face and side dressing finishes.

CARAT SIZE	3/8 SHK	7/16 SHK	1/2 SHK	PRICE
	ORDER NO.	ORDER NO.	ORDER NO.	
1	3131-400	3131-415	3131-430	\$26.00
2	3131-405	3131-420	3131-435	34.00
3	3131-410	3131-425	3131-440	42.00

## Diamond Hones

Features:

- Resin Bond. 100% Concentration.
- Diamond Length: 1"
- 3/8" width square
- Overall Length: 4"



### DOUBLE END

GRIT	ORDER NO.	PRICE
100/180	3131-640	\$39.00
150/220	3131-641	39.00
180/320	3131-642	39.00
220/400	3131-643	39.00

### SINGLE END

GRIT	ORDER NO.	PRICE
100	3131-644	\$27.00
150	3131-645	27.00
220	3131-646	27.00
320	3131-647	27.00
400	3131-648	27.00
600	3131-649	27.00

## Diamond Wheel Dressers



SIZE	ORDER NO.	PRICE EACH
0	3131-670	\$7.40
1	3131-671	8.35
2	3131-672	13.05

## Cutters For Diamond Wheel Dressers



SIZE	ORDER NO.	PRICE EACH
0	3131-675	\$1.55
1	3131-676	2.35
2	3131-677	4.65

## T-Handle Diamond Dressers



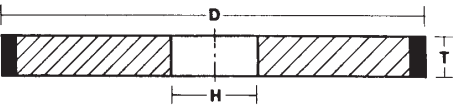
Used for hand truing and dressing. A broad, flat surface of diamonds in a matrix. 3/8" x 6" Shank. 1/2" W x 1-1/2" L head. 6-1/2" OAL.

GRADE	NO. OF DIAMONDS	ORDER NO.	PRICE
Standard	28	3131-591	\$80.00
Medium	38	3131-592	88.00
Heavy Duty	48	3131-593	96.00

# Diamond Wheels

## Straight Diamond Wheels – Type D1A1

Resin Bond, With Diamonds in Periphery  
1/8" Diamond Depth, 150 Grit



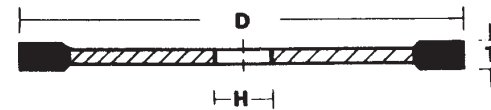
75 Concentration – Economical Grinding  
100 Concentration – For Surface Grinding, Longer life.

D DIAM.	T THICKNESS	H HOLE DIAM.	75 CONCENTRATION		100 CONCENTRATION	
			150 GRIT ORDER NO.	PRICE	150 GRIT ORDER NO.	PRICE
4	1/8	1-1/4	–	–	3130-128	\$ 78.25
4	1/4	1-1/4	–	–	3130-148	110.00
5	1/8	1-1/4	–	–	3130-228	85.35
5	1/4	1-1/4	–	–	3130-248	125.00
6	1/8	1-1/4	3130-323	\$ 86.25	3130-328	106.50
6	1/4	1-1/4	3130-343	111.10	3130-348	135.50
6	3/8	1-1/4	3130-363	150.50	3130-368	170.00
6	1/2	1-1/4	3130-383	158.25	3130-388	210.00
7	1/8	1-1/4	–	–	3130-428	138.00
7	1/4	1-1/4	3130-443	133.35	3130-448	170.00
7	3/8	1-1/4	–	–	3130-468	191.50
7	1/2	1-1/4	–	–	3130-488	232.00
8	1/4	1-1/4	–	–	3130-548	208.00
8	1/2	1-1/4	–	–	3130-588	252.00

Other Grits, Diamond Depths and Arbor Hole Diameters available.

## Diamond Cut-Off Wheels – Type D1A1R

Resin Bond, 100% Concentration, 1/4" Depth

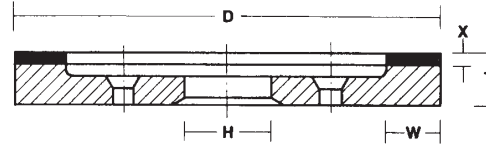


For cutting-off on Carbide.

D DIAM.	T THICKNESS	H HOLE DIAM.	GRIT	ORDER NO.	PRICE
6	.035	1-1/4	150	3130-910	\$ 84.45
6	.045	1-1/4	150	3130-915	103.10

## Diamond Face Wheels – Type D6A2C

Resin Bond, Plate Mounted, 150 Grit

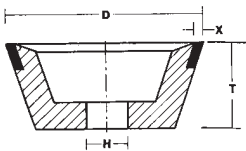


For Carbide Tool Grinders. Bolt holes countersunk for maximum safety.

D DIAM.	T THICKNESS	H HOLE DIAM.	W RIM WIDTH	X DIAMOND DEPTH	CONCN.	ORDER NO.	PRICE
6	3/4	1-1/4	1/2	1/8	75%	3130-953	\$161.00
6	3/4	1-1/4	1/2	1/8	100%	3130-958	184.00
6	3/4	1-1/4	3/4	1/16	75%	3130-963	97.80
6	3/4	1-1/4	3/4	1/16	100%	3130-968	183.00
6	1	1-1/4	3/4	1/16	75%	3130-983	131.00

## Diamond Flaring Cup Wheels – Type D11V9

Resin Bond Diamond in the periphery and on the face.  
Grind with face only.



For use with Tool & Cutter Grinders.

D DIAM.	T THICKNESS	H HOLE DIAM.	X DIAMOND DEPTH	CONCN.	100 GRIT ORDER NO.	150 GRIT ORDER NO.	PRICE
3-3/4	1-1/2	1-1/4	1/8	75%	3129-121	3129-123	\$ 99.60
3-3/4	1-1/2	1-1/4	1/8	100%	3129-126	3129-128	112.00
5	1-3/4	1-1/4	1/8	75%	3129-221	3129-223	114.70
5	1-3/4	1-1/4	1/8	100%	3129-226	3129-228	126.25

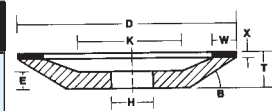
## Diamond Dish Wheels – Type D12A2

Resin Bond. Diamond on the face (rim).  
100% Concentration, 150 Grit

T THICKNESS	H HOLE DIAM.	B DISH ANGLE	E BACK THICKNESS	K INSIDE FLAT	X DIAMOND DEPTH
1"	1-1/4	30	1/2	2-5/8	1/8

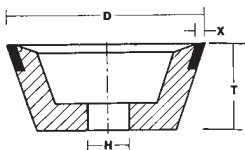
Used for sharpening Cutting Tools.

D DIAMETER	W RIM WIDTH	ORDER NO.	PRICE
6	3/16	3129-358	\$129.00
6	1/4	3129-368	142.00
6	3/8	3129-378	189.00



## Diamond Flaring Cup Wheels – Type D11A2

Resin Bond. Diamond on the face (rim).  
100% Concentration, 150 Grit



For use with Tool & Cutter Grinders.

D DIAM.	T THICKNESS	H HOLE DIAM.	W RIM WIDTH	X DIAMOND DEPTH	ORDER NO.	PRICE
3	7/8	1-1/4	3/8	1/8	3129-308	\$105.40
4	1-1/4	1-1/4	1/2	1/8	3129-318	129.00
5	1-3/4	1-1/4	3/8	1/8	3129-328	150.50

## 5 Inch Diamond Facewheels – 5" x 1/4" x 3"

Resin Bond, Steel Core, 100% Concentration

For Leonard, Cold Grind and similar type grinders.

STANDARD SECTION	120 GRIT ORDER NO.	220 GRIT ORDER NO.	320 GRIT ORDER NO.	PRICE
1/32	3129-407	3129-409	3129-412	\$172.00
1/16	3129-427	3129-429	3129-432	189.00



## Diamond Wheel Cleaning Stick Vitrified Bond Aluminum Oxide

For cleaning CBN and Diamond Wheels.

SIZE	GRADE	ORDER NO.	PRICE
4 x 1/2 x 1/2	150I	3129-054	\$2.55
4 x 3/4 x 3/4	150I	3129-064	2.80
6 x 3/4 x 3/4	150I	3129-066	4.55





## Optical Radius Angle Dresser

### Visual Universal Wheel Dresser

Adaptable to surface grinders and universal tool grinders. 3X lens magnification through the spindle allows the operator to view the diamond point for radii and angle forming. Easy and accurate.

Order No. 3131-684

Price: ...\$377.90



SPECIFICATIONS	
Center Height	2.5"
Max. Wheel Diameter	8"
Max. Convex Radius	1/2"
Max. Concave Radius	1"
Dressing Angle	90 - 0 - 90 (1 deg incr)
Tangential Travel	.89" either side
Mounting Surface	3.27 x 1.87"
Overall Length	8.39"
Overall Height	3.94"

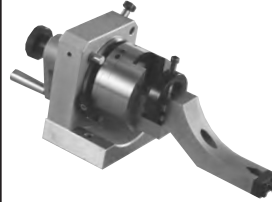
- Accuracy to 0.0001"
- Gauge block setting
- Radius and angle can be done perfectly tangent
- Compact design
- Wt. 7.7 lbs.
- Complete with Diamond Dressers, Hex Keys and Wood Case.

## Precision Punch Former & Radius Wheel Dresser

For grinding wheel and punch forming applications. Concave and Convex radii. Hardened tool steel construction. Fitted case.

Order No. 3131-686

Price: ...\$672.00



SPECIFICATIONS	
Max. Dia. - Workpiece	1-1/4"
V-Block	1-3/16"
Adjusting System	Rack and Pinion
Center Height	3-1/2"
Indexing Divisions	24 every 15 Degree +/-10 seconds
Angle Setting	By sine system
Roundness	0.0001"
Parallelism	w/i 0.0001" in 4"
Squareness	w/i 0.0002" in 4"
Graduation	360 Deg.
Weight	17.0 lbs.

## Radius and Angle Dresser

For use on all OD, ID and surface grinding applications.

No height gage or set-up aids required. Radius is set on the grinder by measuring over the two pins or by inserting a gage block, for direct reading. Inside or outside radius is determined by using either the left hand or right hand pins. Uses 3/8" shank diamond tool.



Order No. 3131-687 Price: ...\$311.40

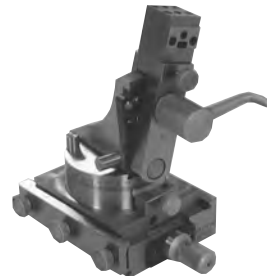
SPECIFICATIONS			
Max. Wheel Diameter	12"	Center Line Of Tool	3.4"
Max. Convex Radii	0 to 1-5/8"	Overall Length	16-5/8"
Max. Concave Radii	0 to 4"	Weight	30 lbs.
Tangent Travel	2"	Accuracy	.0005"

## Profile Wheel Dresser

Accurate and versatile Radius and Angle Wheel Dresser. \*Fast and easy set-ups without elaborate accessories. Only a micrometer and hex key wrench are needed. \*Dress 2 angles tangent to a radius in one continuous motion to within .0001". \*Precise and sharp contours, concave and convex, are consistently obtained at a full 180 Degree range.

Order No. 3131-685

Price: ...\$492.00



SPECIFICATIONS	
Max. Dia. - Workpiece	8"
Convex Radii	0 to 1-1/2"
Concave Radii	.030 to 1-1/2"
Center Height	3-1/2"
Height to center of diamond	6-1/2"
Dia. of Setting Pins	10mm
Overall Height	7"
Base	4-3/4 x 3-1/2 x 1-1/4"

## Diamond Nib Holder

Use on surface grinders. Holds Diamond Dresser at 15 Deg. angle. Base dimension: 2-1/2" x 6" Keyway: 1/2" x 7/8" Includes 7/16 x 2" 1/4 Carat dresser.

Order No. 3131-683...Price: \$21.45

Replacement Diamond Dresser

Order No. 3131-080 ....Price:\$4.55



## Low-Boy Angle Dresser

Use on all grinding machines. Base Angle-Plate heavy, precision ground, square on six sides to .0005" accuracy. Side block pivots on hardened screws. Includes 3/8 x 2 1/4 Carat dresser.

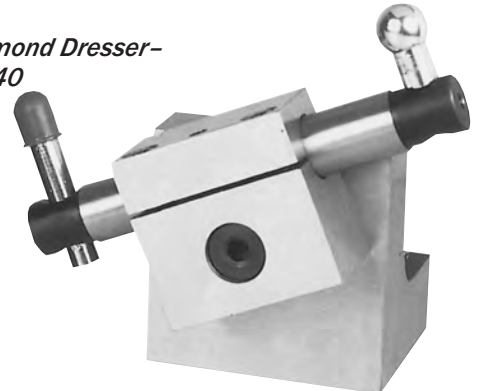
Order No. 3131-682

Price: .....\$76.75

Replacement Diamond Dresser-

Order No. 3131-040

Price: .....\$4.55



## Hi-Low Adjustable Dresser

Use on all grinding machines. Dress O.D. and face of wheels. Adjustable to 7" Height. Includes 3/8 x 3" 1/4 Ct. dresser.

Order No. 3131-681

Price: .....\$46.00

Replacement Diamond Dresser

Order No. 3131-045

Price: .....\$4.55



# Diamond & CBN Electro-Plated Mandrels/Jig Grinding Pins

2

Coarse Grit 80/120

Tolerance on Hardened Steel Shanks: +.0000/-.0006

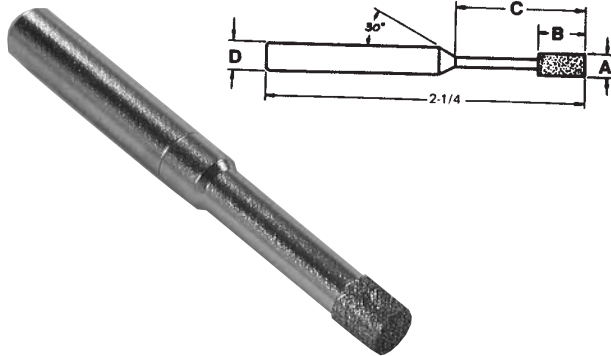
*Diamond plated mandrels are used for internal grinding of glass, ceramics, cemented carbides, and other hard and abrasive materials.*

*CBN is ideal for High Speed Steels, such as M2, M3, M7 & T16; Die Steels, such as D2, D3, HB & A&O; Alloy Steels (harder than 50Rc); Nickel and Cobalt Base Super Alloys; Titanium, and Stainless Steels.*

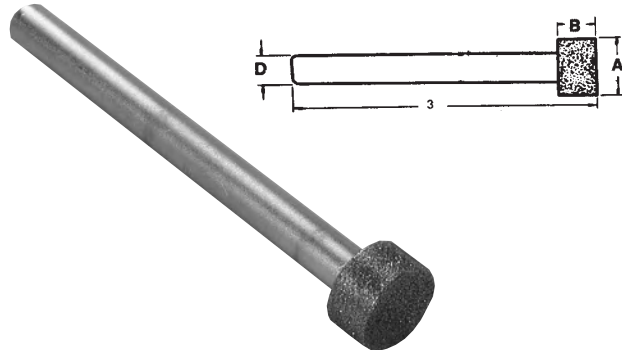
## STYLE I

A HEAD	B HEAD LENGTH	C NECK LENGTH	D SHANK SIZE	DIAMOND ORDER NO.	CBN ORDER NO.	PRICE
.020	1/16	1/8	1/8	3128-600	3126-600	\$11.00
.025	3/32	1/4	1/8	3128-601	3126-601	9.40
.030	3/32	1/4	1/8	3128-602	3126-602	9.40
.035	3/32	1/4	1/8	3128-603	3126-603	9.40
.040	1/8	3/8	1/8	3128-604	3126-604	9.40
.045	1/8	3/8	1/8	3128-605	3126-605	9.80
.050	1/8	3/8	1/8	3128-606	3126-606	9.80
.050	1/8	1	1/8	3128-607	3126-607	11.80
.055	1/8	3/8	1/8	3128-608	3126-608	9.90
.060	1/8	3/8	1/8	3128-609	3126-609	9.70
.060	1/8	1	1/8	3128-610	3126-610	11.70
.070	5/32	1/2	1/8	3128-611	3126-611	10.30
.070	5/32	1	1/8	3128-612	3126-612	11.80
.080	5/32	1/2	1/8	3128-613	3126-613	10.90
.080	5/32	1	1/8	3128-614	3126-614	12.00
.090	5/32	1/2	1/8	3128-615	3126-615	11.00
.090	5/32	1	1/8	3128-616	3126-616	12.10
.100	5/32	1/2	1/8	3128-617	3126-617	11.00
.100	5/32	1	1/8	3128-618	3126-618	12.30
.110	5/32	1/2	1/8	3128-619	3126-619	11.30
.110	5/32	1	1/8	3128-620	3126-620	12.30
.125	5/32	1/2	1/8	3128-621	3126-621	11.90
.125	5/32	1	1/8	3128-622	3126-622	13.00
.141	1/4	1	1/4	3128-623	3126-623	16.80
.156	1/4	1	1/4	3128-624	3126-624	19.40
.188	1/4	1	1/4	3128-625	3126-625	19.40
.218	1/4	1	1/4	3128-626	3126-626	19.40
.250	1/8	1	1/4	3128-627	3126-627	19.40
.250	1/4	1	1/4	3128-628	3126-628	19.40

## STYLE I



## STYLE II



## STYLE II

A HEAD	B HEAD LENGTH	D SHANK SIZE	DIAMOND ORDER NO.	CBN ORDER NO.	PRICE
.312	1/8	1/4	3128-640	3126-640	\$24.30
.312	1/4	1/4	3128-641	3126-641	27.90
.375	1/8	1/4	3128-642	3126-642	24.30
.375	1/4	1/4	3128-643	3126-643	27.90
.500	1/4	1/4	3128-644	3126-644	33.40
.500	3/8	1/4	3128-645	3126-645	33.40
.750	1/4	1/4	3128-646	3126-646	47.40
.750	1/2	1/4	3128-647	3126-647	47.40

# Diamond Polishing & Lapping Compounds

"Universal Carrier"—

Oil or Water Soluble Stocked in 5 Gram Disposable Plastic Syringes

2

FINISH	COLOR	MICRON GRADE	MICRON RANGE	LIGHT CONCENTRATION		MEDIUM CONCENTRATION		HEAVY DUTY CONCENTRATION	
				ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
Super Fine	Yellow	3	1-5	3126-570	\$10.20	3126-571	\$12.90	3126-572	\$16.00
	Orange	5	4-8	3126-573	10.80	3126-574	15.00	3126-575	20.40
	Green	9	6-12	3126-576	11.80	3126-577	16.10	3126-578	21.40
Fine	Blue	15	10-22	3126-590	11.80	3126-591	16.10	3126-592	21.40
	Red	30	20-40	3126-593	11.80	3126-594	16.10	3126-595	21.40
	Brown	45	30-60	3126-596	11.80	3126-597	16.10	3126-598	21.40



# Type 1 Cut-Off Wheels - Tool Room, Die Grinder

1

Buy  
Std. Ctn.  
Deduct  
10%

## CGW Tool Room Wheels

### Aluminum Oxide - Resin Bonded

**Reinforced:** For stationary tool room and machine shop use. Fast cutting and clean finishes where precision is necessary.

**Non-Reinforced:** Use on fixed base cut-off machines with the work piece clamped securely and the wheel properly guarded. Fast cutting with clean finish.



## CGW

### Type 1 Quickie Cut™ Reinforced Rt. Angle Grinding Wheels



CGW Quickie Cut™ Reinforced Type 1 Cut-Off wheels are safe for use on Right Angle Grinders, providing excellent results on stainless steel, alloys, and ferrous. Select from B-Flex or Rigid configurations.

SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
6 x .040 x 1/2	10186	A60-O/P	25	3896-402†	\$1.67
6 x .040 x 5/8	10186	A60-O/P	25	3896-404†	1.67
6 x .060 x 5/8	10186	A60-O/P	25	3896-604	2.17
7 x .040 x 1/2	8732	A60-O/P	25	3897-402†	1.93
7 x .040 x 1-1/4	8732	A60-O/P	25	3897-406	2.52
7 x .060 x 1/2	8732	A60-O/P	25	3897-602†	2.02
7 x .060 x 1-1/4	8732	A60-O/P	25	3897-606	2.61
8 x .040 x 1-1/4	7640	A60-O/P	25	3898-406	3.46
8 x .060 x 1-1/4	7640	A60-O/P	25	3898-608	3.56
<b>NON-REINFORCED</b>					
6 x 1/32 x 5/8	7639	A60M	25	3890-230†	2.25
6 x 1/16 x 1/2	7639	A60M	25	3890-240†	2.31
6 x 1/16 x 5/8	7639	A60M	25	3890-245†	2.07
7 x 1/32 x 1-1/4	6548	A60M	25	3890-265	3.37
7 x 1/16 x 1/2	6548	A60M	25	3890-270	3.44
7 x 1/16 x 1-1/4	6548	A60M	25	3890-280	3.44
7 x 1/8 x 1/2	6548	A60M	25	3890-300†	2.88
7 x 1/8 x 1-1/4	6548	A60M	25	3890-315	4.00
8 x 1/16 x 1/2	5729	A60M	25	3890-335†	3.13
8 x 1/16 x 5/8	5729	A60M	25	3890-340†	3.13
8 x 1/16 x 1-1/4	5729	A60M	25	3890-345	4.17
8 x 1/8 x 1/2	5729	A60M	25	3890-360†	3.20
8 x 1/8 x 1-1/4	5729	A60M	25	3890-370	4.89

† Limited Quantities



### Fiberglass Reinforced Aluminum Oxide - Resin Bonded

For tool room and machine shop use.

SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
6 x .035 x 1/2	10200	A60T	25	6556-170	\$1.79
6 x .035 x 5/8	10200	A60T	25	6556-171	1.79
7 x .035 x 5/8	8740	A60T	25	6556-183	2.04
7 x .035 x 1-1/4	8740	A60T	25	6556-184	2.04
7 x 1/16 x 5/8	8740	A36T	25	6556-188	2.14
7 x 1/16 x 1-1/4	8740	A60T	25	6556-193	2.14
8 x .035 x 1-1/4	7640	A60T	25	6556-199†	3.61

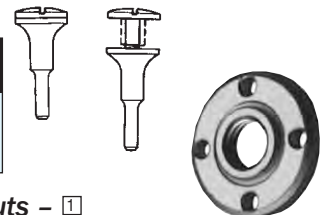
† Limited Quantities

ZAG0-TB-FLEX WHEELS					
SIZE DIA. x THICK. x ARBOR	SPEC	RPM	STD. CTN.	ORDER NO.	PRICE EACH
4 x .040 x 5/8	ZA60-TB-FLEX	19,000	25	3898-650	\$1.20
4 1/2 x .035 x 7/8	ZA60-TB-FLEX	13,300	25	3898-653	1.17
5 x .040 x 7/8	ZA60-TB-FLEX	12,250	25	3898-656	1.48
6 x .040 x 3/8	ZA60-TB-FLEX	10,200	25	3898-659	1.98
6 x .040 x 1/2	ZA60-TB-FLEX	10,200	25	3898-662	1.98
6 x .040 x 5/8	ZA60-TB-FLEX	10,200	25	3898-665	1.98
6 x .040 x 7/8	ZA60-TB-FLEX	10,200	25	3898-668	1.67
7 x 1/16 x 7/8	ZA60-TB-FLEX	8,500	25	3898-671	2.35
<b>ZA36T RIGID WHEELS</b>					
4 1/2 x .045 x 7/8	ZA36-T-BF	13,300	25	3890-471	1.16
5 x .045 x 7/8	ZA36-T-BF	12,250	25	3890-472	1.45
6 x .045 x 7/8	ZA36-T-BF	10,200	25	3890-473	1.64
7 x 1/16 x 7/8	ZA36-T-BF	8,500	25	3890-474	2.28
9 x 1/16 x 5/8	ZA36-T-BF	6,600	25	3890-476	4.19

## Mounting Mandrels

For small diameter Type 1 Wheels

ARBOR SIZE	WHEEL THICKNESS	ORDER NO.	PRICE EACH
1/4"	.035 to 1/4	6556-489	\$6.17
3/8"	.035 to 1/4	6556-490	6.17
1/4", 3/8"	.035 to 1/4	6556-491	10.61



## Reusable Flange Adapting Nuts - 1

For use with 4-1/2" and 5" Diameter Cutoff Wheels on Angle Grinders. Can be used with Type 1 or Type 27 Cutoff wheels, .045 thru 1/8 thickness, 7/8" Arbor Hole.

Flange Nuts - (Pr)

1-3/4" Dia. x 5/8-11 AH

Order No. 6556-494 Price: \$21.02

Spanner Wrench

For Adapting Nuts

Order No. 6556-495 Price: \$16.91



## Small Diameter - Portable Grinder Fiberglass Reinforced - Aluminum Oxide - Resin Bonded

For use on air or electric straight shaft high speed right angle and die grinders. Designed for fast, burr free cutting and notching. Works especially well on thin walled tube and pipe.

CGW						WELLER TIGER				FLEXOVIT USA			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
3 x .035 x 1/4	24000	A60	50	3890-410*	\$0.87	A60T	100	6556-061	\$0.69	A60T	100	3893-610	\$1.76
3 x .035 x 3/8	24000	A60	50	3890-415*	0.87	A60T	100	6556-062	0.69	A60T	100	3893-615	1.76
3 x 1/16 x 1/4	24000	A36	50	3890-420	0.89	A36T	100	6556-065	0.76	A46T	50	3893-620	1.76
3 x 1/16 x 3/8	24000	A36	50	3890-425	0.89	A36T	100	6556-068	0.76	A46T	50	3893-625	1.76
3 x 1/8 x 1/4	24000	A24	50	3890-430	1.00	-	-	-	-	A36R	25	3893-630	2.47
3 x 1/8 x 3/8	24000	A24	50	3890-435	1.00	A36T	50	6556-076	0.83	A36R	25	3893-635	2.47
4 x .035 x 1/4	19000	A60	50	3890-440*	1.15	A60T	50	6556-079	0.90	A60T	100	3893-640	2.56
4 x .035 x 3/8	19000	A60	50	3890-445*	1.15	A60T	50	6556-080	0.90	A60T	100	3893-645	2.56
4 x 1/16 x 1/4	19000	A36	50	3890-450	1.24	A36T	100	6556-083	0.94	A46T	50	3893-650	2.56
4 x 1/16 x 3/8	19000	A36	50	3890-455	1.24	A36T	100	6556-086	0.94	A46T	50	3893-655	2.56
4 x 1/8 x 1/4	19000	A24	50	3890-460	1.39	-	-	-	-	A36R	25	3893-660†	2.99
4 x 1/8 x 3/8	19000	A24	50	3890-465	1.37	A36T	50	6556-099	1.18	A36R	25	3893-665	2.99
4-1/2 x .045 x 7/8	13300	-	-	-	-	A60T	100	6556-103**	1.34	A60SST	25	3893-670	2.56
5 x .045 x 7/8	12000	-	-	-	-	A36T	25	6556-118**	1.51	A60SST	25	3893675	3.26

\* 1/32" Thick, \*\* 1/16" Thick

† Limited Quantities



Use on  
Straight & Die  
Grinders

# Type 1 Cut-Off Wheels

1

**Buy  
Std. Ctn.  
Deduct  
10%**

## Circular Saw Wheels

### Fiberglass Reinforced – Resin Bonded

Designed to meet the demands of the professional contractor. A general purpose wheel providing fast cutting action.



SIZE DIA. x THICK. x ARBOR	MAX. RPM	CGW			CGW			FLEXOVIT USA			FLEXOVIT USA		
		METAL, STAINLESS			MASONRY, CONCRETE			METAL, STAINLESS			MASONRY, CONCRETE		
		GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH
7 x 3/32 x 5/8	8600	A24R	3890-475	\$1.90	C24R	3890-477	\$2.02	A36T	3893-700	\$4.39	-	-	-
7 x 1/8 x 5/8	8600	-	-	-	-	-	-	-	-	-	C30U	3893-710	\$4.68
8 x 3/32 x 5/8	7500	-	-	-	-	-	-	A36T	3893-705	4.93	-	-	-
8 x 1/8 x 5/8	7500	-	-	-	-	-	-	-	-	-	C30U	3893-715	5.31

CGW – Std. Ctns. of 25

Flexovit USA – Std. Ctns. of 25

## Chopsaw/Mitre Saw Wheels

### Fiberglass Reinforced – Resin Bonded

Used on lower horsepower bench top chopsaws and mitre saws, these wheels combine optimum cutting speed and wheel life.



SIZE DIA. x THICK. x ARBOR	MAX. RPM	CGW				FLEXOVIT USA			
		GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
12 x 3/32 x 1	5100	A36P	10	3890-510	\$4.83	A30R	10	3893-730	\$6.39
14 x 3/32 x 1	4400	A36P	10	3890-515	4.81	A30R	10	3893-735	8.57

## Masonry Saw Wheels

### Fiberglass Reinforced – Resin Bonded

A long life wheel for common brick, light aggregate cement block and fireclay.



SIZE DIA. x THICK. x ARBOR	MAX. RPM	CGW				FLEXOVIT USA			
		GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
14 x 1/8 x 1	4365	C24R	10	3890-518	\$7.11	C24S	10	3893-740†	\$11.97

† Limited Quantities

## High Speed Gas & Electric Saw Wheels

### Fiberglass Reinforced – Resin Bonded

Durable, hard working wheels for a variety of job site applications.



SIZE DIA. x THICK. x ARBOR	MAX. RPM	CGW			CGW			FLEXOVIT USA			FLEXOVIT USA		
		METAL, STAINLESS			MASONRY, CONCRETE			METAL, STAINLESS			MASONRY, CONCRETE		
		GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH	GRADE	ORDER NO.	PRICE EACH
12 x 1/8 x 1	6300	-	-	-	-	-	-	A24/30S	3893-800	\$6.46	C30U	3893-820	\$6.46
12 x 1/8 x 20MM	6300	-	-	-	-	-	-	A24/30S	3893-805	6.46	C30U	3893-825	6.46
12 x 5/32 x 1	6300	A24R	3890-520	\$5.13	C24R	3890-530	\$5.30	-	-	-	-	-	
12 x 5/32 x 20MM	6300	A24R	3890-522	5.13	C24R	3890-532	5.30	-	-	-	-	-	
14 x 1/8 x 1	5200	-	-	-	-	-	-	A24/30S	3893-810	11.54	C30U	3893-830	11.54
14 x 1/8 x 20MM	5200	-	-	-	-	-	-	A24/30S	3893-815	11.54	C30U	3893-840	11.54
14 x 5/32 x 1	5200	A24R	3890-524	8.74	C24R	3890-534	7.83	-	-	-	-	-	
14 x 5/32 x 20MM	5200	A24R	3890-526	8.74	C24R	3890-536	7.83	-	-	-	-	-	

CGW – Std. Ctns. of 10

Flexovit USA – Std. Ctns. of 10

## Type 1 Stationary Saw Wheels

### Fiberglass Reinforced – Resin Bonded

For use in production cut-off applications. Fast cutting, reliable performance.

SIZE DIA. x THICK. x ARBOR	MAX. RPM	CGW				FLEXOVIT USA			
		GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
10 x 1/16 x 5/8	6130	A24R	10	3890-480	\$4.98	-	-	-	-
10 x 3/32 x 5/8	6130	A24R	10	3890-485	4.83	-	-	-	-
10 x 1/8 x 5/8	6130	A24R	10	3890-487	5.00	A30R	10	3893-750	\$8.42
10 x 1/8 x 1	6130	A24R	10	3890-488	5.00	A30R	10	3893-755	8.42
12 x 1/8 x 1	5100	A24R	10	3890-490	5.31	A30R	10	3893-760	10.73
14 x 1/8 x 1	4300	A24R	10	3890-495	4.58	A30R	10	3893-765	15.26
16 x 5/32 x 1	3820	A24R	10	3890-500	13.22	A30R	10	3893-770	21.64
20 x 5/32 x 1	3050	A24R	10	3890-505	18.19	-	-	-	-
20 x 3/16 x 1	3066	-	-	-	-	A30R	10	3893-775	39.04





## Turbo

- Turbo rim • Advanced high density bond • High diamond content
- High strength center • Wet or dry cutting
- Clean & smooth, cool & fast cutting; long life
- Use with natural/artificial stone, especially granite
- Masonry products: brick, block
- Concrete, ceramic tile



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
4"x.080"x7mm	7/8"-20mm-5/8"B	13,700	5720-138	\$10.80
4-1/2"x.080"x5mm	7/8"-20mm-5/8"B	13,300	5720-140	12.10
5"x.080"x7mm	7/8"-20mm-5/8"B	12,200	5720-142	15.00
7"x.120"x8mm	DIA-7/8"-5/8"B	8,500	5720-144	31.00
7"x.110"x7mm	DIA-7/8"-5/8"B	8,500	5720-146	36.40

## Continuous Rim Tile

- Advanced high density bond • High strength center
- High diamond concentration • Chip-free cutting
- Flat, smooth cutting; long life • 4": wet/dry cutting, 8-10": wet
- Use for tile, masonry, stone, granite, marble



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
4"x.060"x5mm	7/8"-20mm-5/8"B	13,700	5720-130	\$7.00
8"x.095"x5mm	5/8"	6,800	5720-132	32.20
10"x.110"x7mm	5/8"	6,100	5720-134	39.30

## Segmented

- Advanced high density bond • High Diamond content • High strength center
- Segmented rim • High efficiency, fast cutting, long life • Wet or dry cutting
- Masonry products: brick, block
- Concrete, granite, marble



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
4"x.070"x7mm	7/8"-20mm-5/8"B	13,700	5720-160	\$11.70
4-1/2"x.080"x7mm	7/8"-20mm-5/8"B	13,300	5720-162	12.10
7"x.090"x7mm	DIA-7/8"-5/8"B	8,500	5720-164	36.40
12"x.120"x10mm	1"-20mmB w/DPH	6,300	5720-166	109.40
14"x.130"x10mm	1"-20mmB w/DPH	5,400	5720-168	130.80

## Segmented Turbo

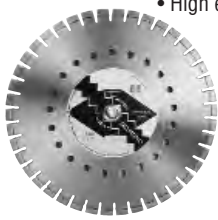
- Segmented turbo-type rim • Advanced high density bond • High Diamond content
- High strength center • Fast cutting, high efficiency, long life
- Wet or dry cutting • Masonry products: brick, block • Marble, concrete



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
4"x.085"x7mm	7/8"-20mm-5/8"B	13,700	5720-150	\$13.50
4-1/2"x.090"x7mm	7/8"-20mm-5/8"B	13,300	5720-152	15.50
5"x.100"x7mm	7/8"-20mm-5/8"B	12,200	5720-154	19.00
7"x.110"x7mm	DIA-7/8"-5/8"B	8,500	5720-156	31.30

## Segmented Laser

- Laser-welded segments • High density metal bond
- High diamond content • High strength center
- Fast, smooth cutting • Wet or dry cutting
- High efficiency, long life
- Use with walk-behind saws, hard or green concrete, and masonry products



MAX SIZE	ID/BUSHING	RPM	ORDER NO.	PRICE EACH
7"x.085"x7mm	DIA-7/8"-5/8"B	8,500	5720-170	\$55.90
12"x.120"x7mm	1"-20mmB w/DPH	6,300	5720-172	126.40
14"x.125"x7mm	1"-20mmB w/DPH	5,400	5720-174	155.00
14"x.125"x10mm	1"-20mmB w/DPH	5,400	5720-176	253.40

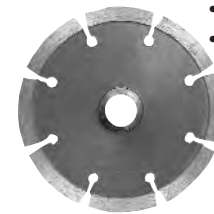
## Combo Segmented Laser Segmented Tuck Point

- Laser-welded segments • High density metal bond
- High diamond content • High strength center
- Carbide inserts behind diamond segment
- Fast cutting, high efficiency
- Wet cutting, long life
- Use for walk-behind saws, green concrete, asphalt



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
12"x 10mm	1"-20mmB w/DPH	6,300	5720-180	\$171.60
14"x 10mm	1"-20mmB w/DPH	5,400	5720-182	259.00

- Wide welded segments • High strength center
- Effective in repairing or removing grout and mortar joints
- For small circular saws and small right-angle grinders
- High efficiency, good flexibility
- Excellent finishing properties



SIZE	ID/BUSHING	MAX RPM	ORDER NO.	PRICE EACH
4"x.250"x8mm	7/8"-5/8"B	14,600	5720-186	\$41.40
7"x.250"x8mm	7/8"-5/8"B	8,500	5720-188	73.30



## Type 27 General Purpose Wheels – Aluminum Oxide

**Fiberglass Reinforced – Resin Bonded For Metal, Stainless**

For safe and efficient metal removal in all portable grinding operations. Remove weld beads, burrs, and rough edges aggressively, yet economically. Long life.



						FLEXOVIT USA			
		ALUMINUM OXIDE				ALUMINUM OXIDE			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
4 x 1/4 x 5/8	15000	A24R	25	3890-035	\$1.11	A30S	25	3890-635	\$2.81
4-1/2 x 1/8 x 7/8	13300	A24R	25	3890-040	1.01	A30S	25	3890-640	2.20
4-1/2 x 1/4 x 7/8	13300	A24R	25	3890-045	1.26	A30S	25	3890-645	2.32
4-1/2 x 1/4 x 5/8-11	13300	A24R	10	3890-050	2.59	A30S	10	3890-650	3.83
5 x 1/4 x 7/8	12000	A24R	25	3890-060	1.55	A30S	25	3890-660	3.80
7 x 1/8 x 7/8	8600	A24R	25	3890-063	2.08	A30S	25	3890-663	4.61
7 x 1/8 x 5/8-11	8600	A24R	10	3890-065	3.69	A30S	10	3890-665	6.34
7 x 1/4 x 7/8	8600	A24R	25	3890-070	2.30	A30S	25	3890-670	4.72
7 x 1/4 x 5/8-11	8600	A24R	10	3890-075	4.04	A30S	10	3890-675	6.46
9 x 1/8 x 7/8	6800	A24R	25	3890-083	2.61	A30S	25	3890-683	6.41
9 x 1/8 x 5/8-11	6800	A24R	10	3890-085	4.35	A30S	10	3890-685	8.14
9 x 1/4 x 7/8	6800	A24R	25	3890-090	3.65	A30S	25	3890-690	6.62
9 x 1/4 x 5/8-11	6800	A24R	10	3890-095	5.41	A30S	10	3890-695	8.37

## Type 27 Premium Performance – Zirconia Aluminum

**Fiberglass Reinforced – Resin Bonded For Metal, Stainless Alloys**

						FLEXOVIT USA			
		ZIRCONIA ALUMINUM				ZIRCONIA ALUMINUM			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
4 x 1/4 x 5/8	15000	ZA24T	25	3890-835†	\$ 2.39	–	–	–	–
4-1/2 x 1/8 x 7/8	13300	ZA24T	25	3890-840	2.26	ZA24S	10	3890-940†	\$ 7.43
4-1/2 x 1/4 x 7/8	13300	ZA24T	25	3890-845	2.89	ZA20Q	10	3890-945	8.91
4-1/2 x 1/4 x 5/8-11	13300	ZA24T	10	3890-850	4.39	–	–	–	–
7 x 1/8 x 5/8-11	8600	–	–	–	–	ZA24S	10	3890-973	10.91
7 x 1/4 x 7/8	8600	ZA24T	25	3890-874	4.96	ZA20Q	10	3890-974	12.26
7 x 1/4 x 5/8-11	8600	ZA24T	10	3890-875	6.89	ZA20Q	10	3890-975	13.99
9 x 1/8 x 7/8	6800	–	–	–	–	ZA24S	10	3890-990	13.10
9 x 1/8 x 5/8-11	6800	–	–	–	–	ZA24S	10	3890-993	14.85
9 x 1/4 x 7/8	6800	ZA24T	25	3890-894	8.17	ZA20Q	10	3890-994	16.27
9 x 1/4 x 5/8-11	6800	ZA24T	10	3890-895	10.09	ZA20Q	10	3890-995	18.02

† Limited Quantities

# Depressed Center Wheels

1

Buy  
Std. Ctn.  
Deduct  
10%



## Type 27 Quickie Cut™ Thin Reinforced Cut-Off Wheels

CGW Quickie Cut™ Thin Reinforced Type 27 Cut-Off wheels are an excellent general purpose wheel with an Aluminum Oxide / Zirconia mixture. Zirconia grain allows for faster cutting and longer life. Use on Steel and Stainless Steel.

		CGW USA			
SIZE DIA. x THICK. x ARBOR	SPEC	MAX. RPM	STD. CTN.	ORDER NO.	PRICE EACH
4 x .040 x 5/8	ZA60-S-BF	15,300	25	3898-705	\$1.22
4 1/2 x .045 x 7/8	ZA60-S-BF	13,300	25	3898-710	1.22
5 x .045 x 7/8	ZA60-S-BF	12,250	25	3898-715	1.39
6 x .045 x 7/8	ZA60-S-BF	10,200	25	3898-720	1.72
7 x 1/16 x 7/8	ZA60-S-BF	8,500	25	3898-725	2.39
9 x 1/16 x 7/8	ZA60-S-BF	6,600	25	3898-730	3.13



## Type 27 For Masonry, Concrete

### Silicon Carbide Depressed Center Wheels

Made with silicon carbide grain, C24R is designed for all concrete and masonry applications. Also offers fast grinding action on nonferrous materials.

		CGW USA			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
4-1/2 x 1/4 x 7/8	13300	C24R	25	3898-780	\$2.56
7 x 1/4 x 5/8-11	8600	C24R	10	3898-785	6.39
9 x 1/4 x 5/8-11	6600	C24R	10	3898-790	8.69

## Type 28 General Purpose Wheels

### Fiberglass Reinforced – Resin Bonded For Metal, Stainless

Type 28 ("saucer shaped") wheels will grind aggressively at less than a 15 Degree angle to the workpiece, versus 30 to 45 Degrees for a Type 27 wheel. This brings the operators elbow down to a more comfortable level in some applications, reducing fatigue.



		CGW USA				FLEXOVIT USA			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	GRADE	STD. CTN.	ORDER NO.	PRICE EACH	GRADE	STD. CTN.	ORDER NO.	PRICE EACH
4-1/2 x 1/4 x 7/8	12000	-	-	-	-	A30S	25	3890-740	\$3.64
7 x 1/4 x 7/8	8600	A24R	25	3890-170	\$3.04	A30S	25	3890-770	6.17
7 x 1/4 x 5/8-11	8600	A24R	10	3890-175	4.80	A30S	10	3890-775	7.92
9 x 1/4 x 7/8	6800	A24R	25	3890-190	4.93	A30S	25	3890-790	8.95
9 x 1/4 x 5/8-11	6800	A24R	10	3890-195	6.67	A30S	10	3890-795	10.69



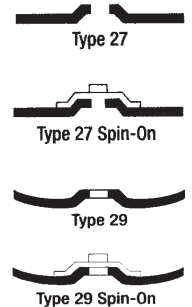
## Type 27 Cut/Grind/Finish Reinforced Rt. Angle Grinder Wheels

High performance wheels made to cut quickly, grind easily and finish work surfaces with ONE wheel. Fiberglass net reinforcement provides added strength and flexibility. For working on flat grinding surfaces. Most efficient when used between 0° - 15° angle. The best choice for smooth finishing. Suitable For: Steel & Stainless Steel. Contaminate free wheel has < 0.1% iron, sulfur, or chlorine for rust-free and corrosion-free results.

		CGW USA			
SIZE DIA. x THICK. x ARBOR	SPEC	MAX. RPM	STD. CTN.	ORDER NO.	PRICE EACH
4 1/2 x 3/32 x 7/8	A36S	13,300	25	3898-755	\$2.07
4 1/2 x 3/32 x 5/8-11	A36S	13,300	10	3898-756	3.67
5 x 3/32 x 7/8	A36S	12,250	25	3898-760	2.46
5 x 3/32 x 5/8-11	A36S	12,250	10	3898-761	4.06
6 x 3/32 x 7/8	A36S	10,200	25	3898-765	3.31
6 x 3/32 x 5/8-11	A36S	10,200	10	3898-766	4.89

## Type 27 & Type 29 Semi-Flexible Wheels

Eliminate wheel-change downtime by grinding and finishing with the same wheel. A high quality aluminum grinding product, runs virtually "load free". Performs well in all metal applications. Available in convex faced Type 29 for contoured surfaces, or Type 27 for flat surfaces. Use at a minimum 15 Degree angle. Do not use flat.



		FLEXOVIT USA			
SIZE DIA. x THICK. x ARBOR	MAX. RPM	FINISH	STD. CTN.	ORDER NO.	PRICE EACH
		Type 27 Medium			
4-1/2 x 1/8 x 7/8	13300	24-60 Grit	25	3893-504	\$5.78
7 x 1/8 x 5/8-11	8600	24-60 Grit	25	3893-517	10.40
		Type 29 Medium			
7 x 1/8 x 5/8-11	8600	24-60 Grit	25	3893-547	10.40

# Abrasive Flap Discs

1

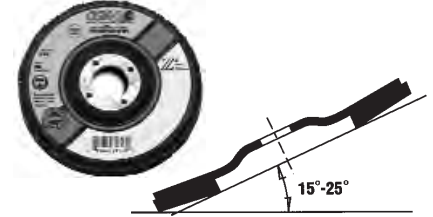
Buy  
Std. Ctn.  
Deduct  
10%

Zirconium Abrasive Flap Discs are used for coarse and intermediate grinding of welds, deburring, rust removal and snagging. Bridges the gap between angle grinding wheels and resin fiber discs, providing aggressive cutting action and longer life than fiber discs.

## Type 29 – Angled Style Flap Discs – Zirconium Grain

A working angle of 15 to 25 Degrees. Excellent for contour or edge work.

- Phenolic resin/fiber backing is used to prevent scratching the work piece during operation.
- Aluminum backing provides rigid support for maximum aggression; recyclable.
- CGW XL discs have approximately 60% more material.



				VORTEC		CGW USA MADE		CGW XL USA MADE		Weiler TIGER			
				PHENOLIC BACKING		PHENOLIC BACKING		PHENOLIC BACKING		PHENOLIC BACKING		ALUMINUM BACKING	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	
4-1/2 x 7/8	24	10	6531-342	\$3.20	5720-422	\$3.70	-	-	6550-601	\$5.98	6550-511	\$7.00	
4-1/2 x 7/8	36	10	6531-343	3.20	5720-423	3.70	5720-823	\$4.65	6550-602	5.98	6550-512	7.00	
4-1/2 x 7/8	40	10	6531-344	3.20	5720-424	3.70	5720-824	4.65	6550-603	5.98	6550-513	7.00	
4-1/2 x 7/8	60	10	6531-345	3.20	5720-426	3.70	5720-826	4.65	6550-604	5.98	6550-514	7.00	
4-1/2 x 7/8	80	10	6531-346	3.20	5720-428	3.70	5720-828	4.65	6550-605	5.98	6550-515	7.00	
4-1/2 x 7/8	120	10	6531-347	3.20	5720-432	3.70	5720-832	4.65	6550-606	5.98	6550-516	7.00	
7 x 7/8	40	10	-	-	5720-484	7.24	-	-	-	-	6550-533	14.00	
7 x 7/8	60	10	-	-	5720-486	7.24	-	-	-	-	6550-534	14.00	
7 x 7/8	80	10	-	-	5720-488	7.24	-	-	-	-	6550-535	14.00	

Other sizes, and 5/8-11 Hub Style are also available. Std. Carton Qty. only.

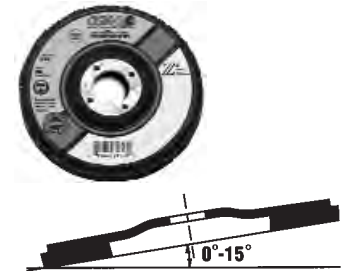
## Type 27 – Flat Style Flap Discs

Ideal for working angles less than 15 Degrees. Smooth grinding.

Zirconium Grain

High rate of stock removal and long life in demanding applications.

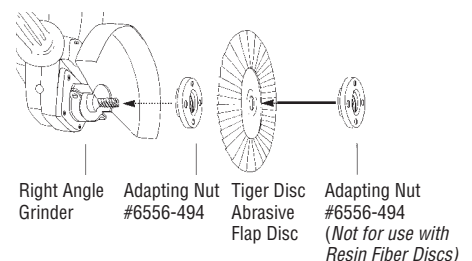
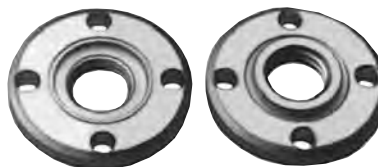
CGW XL and Weiler Big Cat® Abrasive Flap Discs feature a thicker disc with a higher density of flaps which conform to curved surfaces producing a consistent finish. 30% to 40% longer life than standard flap discs. For those who value parts-per-disc over price-per-disc.



				CGW USA MADE		Weiler TIGER		CGW XL USA MADE		Weiler TIGER Big Cat®	
				PHENOLIC BACKING ZIRCONIUM GRAIN		PHENOLIC BACKING ZIRCONIUM GRAIN		PHENOLIC BACKING ZIRCONIUM GRAIN		PHENOLIC BACKING ZIRCONIUM GRAIN	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	
4-1/2 x 7/8	24	10	5720-222	\$3.70	-	-	-	-	-	-	
4-1/2 x 7/8	36	10	5720-223	3.70	-	-	5720-623	\$4.65	-	-	
4-1/2 x 7/8	40	10	5720-224	3.70	6550-703	\$5.98	5720-624	4.65	6550-803	\$ 7.44	
4-1/2 x 7/8	60	10	5720-226	3.70	6550-704	5.98	5720-626	4.65	6550-804	7.44	
4-1/2 x 7/8	80	10	5720-228	3.70	6550-705	5.98	5720-628	4.65	6550-805	7.44	
4-1/2 x 7/8	120	10	5720-232	3.70	6550-706	5.98	5720-632	4.65	6550-806	7.44	
7 x 7/8	40	10	5720-284	7.24	-	-	-	-	-	-	
7 x 7/8	60	10	5720-286	7.24	-	-	-	-	-	-	
7 x 7/8	80	10	5720-288	7.24	-	-	-	-	-	-	

### Adapting Nuts & Spanner Wrench – For discs with 7/8" arbor hole

DESCRIPTION	THREAD	ORDER NO.	PRICE EACH
Adapting nuts	5/8-11	6556-494	\$21.02
Spanner wrench	-	6556-495	16.91





# Mini Flap Discs & Quick Change Discs

1

Buy  
Std. Ctn.  
Deduct  
10%

## Mini Flap Discs - Type 27 Zirconia Grain



For use on Die Grinders, these mini flap discs combine grinding and finishing applications into one step, while providing the convenience and versatility of Quick Change Discs. They are designed to prevent walking, allow access to tight areas, and reduce heat build-up.

Applications:

- Grinding and finishing in one step.
- Grinding, deburring and blending on steel/stainless steel.
- Jobs requiring high aggression & rapid stock removal.
- Metal fabrication requiring light weld blending or edge chamfering.

				CGW USA MADE		TIGER BOBCat®			
				TYPE 27 (S HUB)		TYPE 27 (R HUB)		TYPE 27 (S HUB)	
SIZE	GRIT	RPM	PKG. QTY.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
2"	36	24,000	10	5722-003	\$24.41	5722-023	\$24.41	6550-932	\$38.99
2"	40	24,000	10	5722-004	24.41	5722-024	24.41	6550-933	38.99
2"	60	24,000	10	5722-006	24.41	5722-026	24.41	6550-934	38.99
2"	80	24,000	10	5722-008	24.41	5722-028	24.41	6550-935	38.99
2"	120	24,000	10	5722-010	24.41	5722-030	24.41	6550-936	38.99
3"	36	20,000	10	5722-013	36.72	5722-033	36.72	6550-912	50.30
3"	40	20,000	10	5722-014	36.72	5722-034	36.72	6550-913	50.30
3"	60	20,000	10	5722-016	32.62	5722-036	32.62	6550-914	50.30
3"	80	20,000	10	5722-018	32.62	5722-038	32.62	6550-915	50.30
3"	120	20,000	10	5722-020	32.62	5722-040	32.62	6550-916	50.30

## CGW Quick Change Laminated Discs

Use on Die Grinders for deburring, blending, finishing, removing tool marks, and die polishing on all types of materials. Suitable for a wide variety of light fabrication, repair and maintenance applications. Strong 2-Ply design for flat or contour work.

**Aluminum Oxide - Color: Brown** General purpose disc for grinding, deburring, and blending on ferrous metals.

**Zirconia AO w/Grinding Aid - COLOR: GREEN** Excellent disc for rapid stock removal on Stainless Steel. Lubricated super-size Grinding Aid coat for cooler running.

**Premium Ceramic - Color: Pink** Premium grain for greater durability and aggressive cut rates, including hard metals.

Turn On style,  
(S-Hub) shown



				CGW USA MADE								
				ALUMINUM OXIDE			ZIRCONIA AO W/GRINDING AID			PREMIUM CERAMIC		
DIAM.	GRIT	RPM	PKG. QTY.	ROLL ON (R HUB) ORDER NO.	TURN ON (S HUB) ORDER NO.	PRICE PER PACK	ROLL ON (R HUB) ORDER NO.	TURN ON (S HUB) ORDER NO.	PRICE PER PACK	ROLL ON (R HUB) ORDER NO.	TURN ON (S HUB) ORDER NO.	PRICE PER PACK
2"	36	25,000	50	5722-223	5722-623	\$22.56	5722-323	5722-723	\$31.79	5722-523	5722-923	\$35.90
	40	25,000	50	5722-224	5722-624	20.51	5722-324	5722-724	28.72	5722-524	5722-924	33.85
	50	25,000	50	5722-225	5722-625	20.51	5722-325	5722-725	28.72	5722-525	5722-925	31.79
	60	25,000	50	5722-226	5722-626	20.51	5722-326	5722-726	28.72	5722-526	5722-926	28.72
	80	25,000	50	5722-228	5722-628	19.49	5722-328	5722-728	28.72	5722-528	5722-928	27.69
	100	25,000	50	5722-230	5722-630	19.49	-	-	-	5722-530	5722-930	27.69
	120	25,000	50	5722-232	5722-632	19.49	5722-332	5722-732	28.72	5722-532	5722-932	27.69
3"	36	20,000	25	5722-243	5722-643	17.95	5722-343	5722-743	23.59	5722-543	5722-943	33.33
	40	20,000	25	5722-244	5722-644	16.41	5722-344	5722-744	20.00	5722-544	5722-944	31.28
	50	20,000	25	5722-245	5722-645	16.41	5722-345	5722-745	20.00	5722-545	5722-945	29.23
	60	20,000	25	5722-246	5722-646	16.41	5722-346	5722-746	20.00	5722-546	5722-946	25.64
	80	20,000	25	5722-248	5722-648	14.87	5722-348	5722-748	20.00	5722-548	5722-948	24.10
	100	20,000	25	5722-250	5722-650	14.87	-	-	-	5722-550	5722-950	23.08
	120	20,000	25	5722-252	5722-652	14.87	5722-352	5722-752	20.00	5722-552	5722-952	23.08

## Quick Change Disc Rubber Holder Pads

- Medium grade reinforced rubber holder pad.
- Available for either internally threaded (S Hub) or externally threaded (R Hub) Quick Change discs.



SIZE	RPM	R-HUB		S-HUB	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1"	40,000	5723-400	\$4.82	5723-410	\$5.49
1-1/2"	25,000	5723-401	5.39	5723-411	5.98
2"	25,000	5723-402	5.98	5723-412	6.29
3"	20,000	5723-403	6.63	5723-413	7.09

# Resin Fibre Discs

1

Buy  
Std. Ctn.  
Deduct  
10%

GRAIN SELECTOR		
GRAIN	FEATURES	APPLICATIONS
Aluminum Oxide	<ul style="list-style-type: none"> <li>Fast, smooth cutting action</li> <li>Tough and flexible</li> <li>High resistance to heat, glazing, and loading</li> </ul>	<ul style="list-style-type: none"> <li>All purpose weld removal and blending</li> <li>Surface preparation and finishing of ferrous metals, plastic, and wood</li> </ul>
Zirconium	<ul style="list-style-type: none"> <li>Superior cutting action</li> <li>More durable – longer life</li> <li>Ultra high resistance to heat, glazing, and loading</li> </ul>	<ul style="list-style-type: none"> <li>High performance grinding of stainless steel, tool steel, and hard-to-grind materials and exotic metals.</li> </ul>



						CGW		Weiler TIGER		SA STANDARD ABRASIVES	
				ALUMINUM OXIDE		ZIRCONIUM		ALUMINUM OXIDE		ALUMINUM OXIDE	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	
4 x 5/8	24	25	5710-152	\$0.50	-	-	-	-	-	-	
4 x 5/8	36	25	5710-153	0.46	-	-	-	-	-	-	
4 x 5/8	50	25	5710-155	0.44	-	-	-	-	-	-	
4 x 5/8	60	25	5710-156	0.44	-	-	-	-	-	-	
4 x 5/8	80	25	5710-158	0.42	-	-	-	-	-	-	
4-1/2 x 7/8	16	25	5710-201	0.61	-	-	-	-	-	-	
4-1/2 x 7/8	24	25	5710-202	0.54	5710-432	\$0.75	6559-571	\$0.94	5616-132	\$1.21	
4-1/2 x 7/8	36	25	5710-203	0.48	5710-433	0.71	6559-573	0.86	5616-133	1.17	
4-1/2 x 7/8	50	25	5710-205	0.48	5710-435	0.69	6559-575	0.82	5616-135	1.12	
4-1/2 x 7/8	60	25	5710-206	0.44	5710-436	0.65	6559-576	0.80	5616-136	1.04	
4-1/2 x 7/8	80	25	5710-208	0.42	5710-438	0.60	6559-577	0.73	5616-138	0.99	
4-1/2 x 7/8	100	25	5710-210	0.42	-	-	-	-	-	-	
4-1/2 x 7/8	120	25	5710-212	0.42	-	-	-	-	-	-	
5 x 7/8	16	25	5710-251	0.82	-	-	-	-	-	-	
5 x 7/8	24	25	5710-252	0.56	5710-462	0.85	6559-501	1.04	5616-162	1.27	
5 x 7/8	36	25	5710-253	0.54	5710-463	0.77	6559-503	1.01	5616-163	1.21	
5 x 7/8	50	25	5710-255	0.52	5710-465	0.73	6559-505	0.97	5616-165	1.17	
5 x 7/8	60	25	5710-256	0.48	5710-466	0.71	6559-506	0.86	5616-166	1.10	
5 x 7/8	80	25	5710-258	0.46	5710-468	0.67	6559-507	0.84	5616-168	1.03	
5 x 7/8	100	25	5710-260	0.46	-	-	6559-508	0.84	-	-	
5 x 7/8	120	25	5710-262	0.46	-	-	6559-509	0.84	-	-	
7 x 7/8	16	25	5710-301	1.00	-	-	6559-520	1.91	-	-	
7 x 7/8	24	25	5710-302	0.88	-	-	6559-521	1.71	5616-202	1.96	
7 x 7/8	36	25	5710-303	0.82	-	-	6559-523	1.64	5616-203	1.90	
7 x 7/8	50	25	5710-305	0.79	5710-505	1.21	6559-525	1.54	5616-205	1.84	
7 x 7/8	60	25	5710-306	0.79	5710-506	1.11	6559-526	1.54	5616-206	1.70	
7 x 7/8	80	25	5710-308	0.73	5710-508	1.05	6559-527	1.41	5616-208	1.60	
7 x 7/8	100	25	5710-310	0.73	-	-	6559-528	1.41	-	-	
7 x 7/8	120	25	5710-312	0.73	-	-	6559-529	1.41	-	-	

## Spiralcool Standard Air-Cooled Backing Pads

Ideal for all sanding operations on metal, plastic, fiberglass, etc. Smooth face pads available upon request.



Supplied with 5/8-11 Arbor Hole, except the 4-1/2" which will be supplied with a 5/8" smooth bore. Other arbor holes available upon request.

SIZE	DENSITY	MAX. RPM	ORDER NO.	PRICE EACH
4"	Flexible	12,000	5710-600	\$11.50
4"	Medium	12,000	5710-601	11.50
4"	Rigid	12,000	5710-602	11.50
4-1/2"	Flexible	11,000	5710-612	11.50
4-1/2"	Medium	11,000	5710-613	11.50
4-1/2"	Rigid	11,000	5710-614	11.50
5"	Flexible	10,000	5710-624	13.05
5"	Medium	10,000	5710-625	13.05
5"	Rigid	10,000	5710-626	13.05
7"	Flexible	7,000	5710-636	19.60
7"	Medium	8,500	5710-637	19.60
7"	Rigid	8,500	5710-638	19.60
9"	Flexible	6,500	5710-648	23.45
9"	Medium	6,500	5710-649	23.45
9"	Rigid	6,500	5710-650	23.45

1



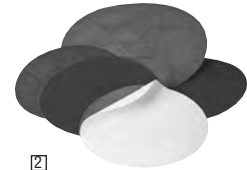
Nuts and wrenches do not come with pads. Must be ordered separately.

DESCRIPTION	ORDER NO.	PRICE EACH
#102 Nut; 5/8-11	5710-665	\$4.55
#103 Nut; 5/8-11 For 4" - 5" Pads	5710-666	4.55
3/8-24 - 5/8-11 Adapter	5710-660	7.25
7/16-20 - 5/8-11 Adapter	5710-661	7.25
Spanner Wrench	5710-670	4.55

# PSA Discs

## PSA Aluminum Oxide Resin Bond Cloth Discs

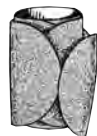
Abrasive cloth discs have a pressure sensitive adhesive backing making them easy to apply to a rubber disc holder. Protective liner speeds disc changing and protects adhesive from work dust. Resin bond discs are made with a heavy resin abrasive cloth, assuring long life, with fast stock removal.



IMPORT				STANDARD ABRASIVES		
GRIT	ORDER NO.	PKG QTY	PRICE PER PKG	ORDER NO.	PKG QTY	PRICE PER PKG
<b>1/2" DIAMETER</b>						
60	-	-	-	5620-006	100	\$8.15
80	-	-	-	5620-008	100	8.15
100	-	-	-	5620-010	100	8.15
120	-	-	-	5620-012	100	8.15
180	-	-	-	5620-018	100	8.15
240	-	-	-	5620-024	100	8.15
320	-	-	-	5620-032	100	8.15
<b>3/4" DIAMETER</b>						
40	-	-	-	5620-054	100	\$9.78
50	-	-	-	5620-055	100	9.78
60	-	-	-	5620-056	100	9.78
80	-	-	-	5620-058	100	9.78
100	-	-	-	5620-060	100	9.78
120	-	-	-	5620-062	100	9.78
180	-	-	-	5620-068	100	9.78
240	-	-	-	5620-074	100	9.78
320	-	-	-	5620-082	100	9.78
<b>1" DIAMETER</b>						
36	5711-103	100	\$11.35	-	-	-
40	5711-104	100	10.20	5620-104	100	\$17.93
50	5711-105	100	10.20	5620-105	100	17.93
60	5711-106	100	10.20	5620-106	100	17.93
80	5711-108	100	10.20	5620-108	100	17.93
100	5711-110	100	10.20	5620-110	100	17.93
120	5711-120	100	10.20	5620-112	100	17.93
180	-	-	-	5620-118	100	17.93
240	-	-	-	5620-124	100	17.93
320	-	-	-	5620-132	100	17.93
<b>1-1/2" DIAMETER</b>						
36	5711-153	100	\$14.50	5620-153	100	\$24.45
40	5711-154	100	13.90	-	-	-
50	5711-155	100	13.20	5620-155	100	22.82
60	5711-156	100	13.20	5620-156	100	22.01
80	5711-158	100	13.20	5620-158	100	22.01
100	5711-160	100	13.20	5620-160	100	22.01
120	5711-162	100	13.20	5620-162	100	22.01
180	-	-	-	5620-168	100	22.01
240	-	-	-	5620-174	100	22.01
320	-	-	-	5620-182	100	22.01
<b>2" DIAMETER</b>						
36	5711-203	100	\$26.90	-	-	-
40	5711-204	100	25.60	5620-204	100	\$44.01
50	5711-205	100	24.40	5620-205	100	42.38
60	5711-206	100	23.20	5620-206	100	39.94
80	5711-208	100	22.15	5620-208	100	38.31
100	5711-210	100	21.05	5620-210	100	37.49
120	5711-212	100	21.05	5620-212	100	36.68
180	-	-	-	5620-218	100	37.49
240	-	-	-	5620-224	100	37.49
320	-	-	-	5620-232	100	37.49

IMPORT				STANDARD ABRASIVES		
GRIT	ORDER NO.	PKG QTY	PRICE PER PKG	ORDER NO.	PKG QTY	PRICE PER PKG
<b>3" DIAMETER</b>						
36	5711-253	100	\$38.65	5620-253	100	\$50.53
40	5711-254	100	36.90	5620-254	100	49.72
50	5711-255	100	34.40	5620-255	100	47.27
60	5711-256	100	30.90	5620-256	100	44.83
80	5711-258	100	30.65	5620-258	100	43.20
100	5711-260	100	29.25	5620-260	100	41.57
120	5711-262	100	29.25	5620-262	100	41.57
180	-	-	-	5620-268	100	42.38
240	-	-	-	5620-274	100	42.38
320	-	-	-	5620-282	100	42.38
<b>4" DIAMETER</b>						
36	-	-	-	5620-303	50	\$33.82
60	-	-	-	5620-306	50	27.71
80	-	-	-	5620-308	50	26.49
100	-	-	-	5620-310	50	25.67
120	-	-	-	5620-312	50	25.67
180	-	-	-	5620-318	50	25.67
240	-	-	-	5620-324	50	25.67
<b>5" DIAMETER</b>						
36	5711-303	50	\$38.90	5620-353	50	\$25.06
40	5711-304	50	36.70	5620-354	50	47.68
50	5711-305	50	34.65	5620-355	50	44.01
60	5711-306	50	32.65	-	-	-
80	5711-308	50	30.80	5620-358	50	39.94
100	5711-310	50	28.85	5620-360	50	38.31
120	5711-312	50	28.80	5620-362	50	38.31
180	-	-	-	5620-368	50	38.31
240	-	-	-	5620-374	50	38.31
320	-	-	-	5620-382	50	38.31
<b>6" DIAMETER</b>						
36	5711-353	50	\$59.30	-	-	-
40	5711-354	50	56.85	5620-404	50	70.91
50	5711-355	50	52.85	5620-405	50	66.83
60	5711-356	50	45.55	5620-406	50	60.31
80	5711-358	50	44.70	5620-408	50	57.87
100	5711-360	50	41.80	5620-410	50	55.83
120	5711-362	50	41.80	5620-412	50	55.83
180	-	-	-	5620-418	50	55.83
240	-	-	-	5620-424	50	55.83
320	-	-	-	5620-432	50	55.83
<b>8" DIAMETER</b>						
24	-	-	-	5620-452	10	\$29.01
36	5711-453	50	\$100.45	5620-453	10	26.41
40	5711-454	50	96.40	5620-454	10	25.10
50	5711-455	50	89.55	5620-455	10	23.96
60	5711-456	50	83.60	5620-456	10	22.74
80	5711-458	50	75.75	5620-458	10	21.68
100	5711-460	50	73.60	5620-460	10	20.70
120	5711-462	50	73.60	5620-462	10	20.70
180	-	-	-	5620-468	10	20.70
240	-	-	-	5620-474	10	20.70

IMPORT				STANDARD ABRASIVES		
GRIT	ORDER NO.	PKG QTY	PRICE PER PKG	ORDER NO.	PKG QTY	PRICE PER PKG
<b>9" DIAMETER</b>						
36	5711-503	50	\$139.15	5620-503	10	\$37.57
40	5711-504	50	133.30	5620-504	10	35.45
50	5711-505	50	120.95	5620-505	10	33.42
60	5711-506	50	109.25	5620-506	10	31.46
80	5711-508	50	104.00	5620-508	10	29.75
100	5711-510	50	98.55	5620-510	10	28.04
120	-	-	-	5620-512	10	28.04
<b>12" DIAMETER</b>						
24	-	-	-	5620-552	10	\$72.78
36	-	-	-	5620-553	10	63.57
40	5711-604	25	\$115.75	5620-554	10	61.13
50	5711-605	25	109.20	5620-555	10	57.78
60	5711-606	25	93.70	5620-556	10	53.38
80	5711-608	25	91.70	5620-558	10	50.37
100	5711-610	25	87.05	5620-560	10	48.57
120	5711-612	25	87.05	5620-562	10	48.57
180	-	-	-	5620-568	10	48.57
240	-	-	-	5620-574	10	48.57
320	-	-	-	5620-582	10	48.57
<b>16" DIAMETER</b>						
36	-	-	-	5620-653	10	\$119.40
40	-	-	-	5620-654	10	112.63
50	-	-	-	5620-655	10	106.28
60	-	-	-	5620-656	10	100.98
80	-	-	-	5620-658	10	94.46
120	-	-	-	5620-662	10	89.24
<b>20" DIAMETER</b>						
24	-	-	-	5620-702	10	\$206.85
36	-	-	-	5620-703	10	180.52
40	-	-	-	5620-704	10	170.99
50	-	-	-	5620-705	10	163.73
60	-	-	-	5620-706	10	151.59
80	-	-	-	5620-708	10	143.03
100	-	-	-	5620-710	10	137.49
120	-	-	-	5620-712	10	137.49
180	-	-	-	5620-718	10	137.49
240	-	-	-	5620-724	10	137.49
<b>24" DIAMETER</b>						
24	-	-	-	5620-752	10	\$ 295.76
36	-	-	-	5620-753	10	261.70
40	-	-	-	5620-754	10	244.66
50	-	-	-	5620-755	10	229.75
60	-	-	-	5620-756	10	216.30
80	-	-	-	5620-758	10	201.31



### PSA Abrasive Disc - Disc Rolls With Liner

Silicon Carbide Grain glue bond, "A" weight paper. Treated for load resistance, recommended for all grinding of metal, wood and fiberglass. With release paper liner and self storing dispenser. Trouble free, the most efficient disc/roll package available. No grit or dust contamination, great shelf life. Stearate coated.

GRIT	PKG QTY	5"		6"	
		ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG
80	100	5712-308	\$21.30	5712-408	\$25.95
100	100	5712-310	20.35	5712-410	24.80
120	100	5712-312	20.35	5712-412	24.80
150	100	5712-315	20.35	5712-415	24.80
180	100	5712-318	20.35	5712-418	24.80
220	100	5712-322	20.35	5712-422	24.80
320	100	5712-332	20.35	5712-432	24.80

### PSA Disc Holders - Optimum performance with PSA Discs



DIAM.	MAX. RPM	SHK	ORDER NO.	PRICE EACH
1/2	18,000	1/4	5642-190	\$ 2.63
3/4	18,000	1/4	5642-191	2.79
1	15,000	1/4	5642-192	3.51
1-1/2	15,000	1/4	5642-193	4.49
2	12,000	1/4	5642-194	5.81
3	10,000	1/4	5642-195	6.40
4	7,000	1/4	5642-196	7.04
5	5,000	1/4	5642-197	

# STANDARD ABRASIVES Quick Change Discs

Available in a Choice of Quick Change Locking Systems.

4

## A/O 2 Ply Discs

Color: Brown

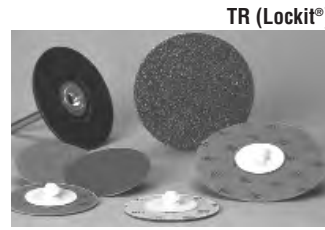
Best Disc For: General Purpose grinding, deburring, and blending on ferrous metals.

	TS-STYLE	TR-STYLE	TP-STYLE		
GRIT	ORDER NO.	ORDER NO.	ORDER NO.	PKG QTY	PRICE PER PKG
<b>1" DIAMETER</b>					
24	5600-102	-	-	100	\$45.00
36	5600-103	-	-	100	43.20
40	5600-104	-	-	100	42.30
50	5600-105	-	-	100	40.50
60	5600-106	-	-	100	37.80
80	5600-108	-	-	100	36.00
100	5600-110	-	-	100	36.00
120	5600-112	-	-	100	36.00
150	5600-115	-	-	100	36.00
180	5600-118	-	-	100	36.00
240	5600-124	-	-	100	36.00
320	5600-132	-	-	100	36.00

<b>1-1/2" DIAMETER</b>					
24	5600-152	5600-652	-	100	\$52.20
36	5600-153	5600-653	5601-153	100	49.50
40	5600-154	5600-654	5601-154	100	48.60
50	5600-155	5600-655	5601-155	100	48.60
60	5600-156	5600-656	5601-156	100	47.70
80	5600-158	5600-658	5601-158	100	46.80
100	5600-160	5600-660	5601-160	100	46.80
120	5600-162	5600-662	5601-162	100	46.80
150	5600-165	5600-665	5601-165	100	46.80
180	5600-168	5600-668	5601-168	100	46.80
240	5600-174	5600-674	5601-174	100	46.80
320	5600-182	5600-682	5601-182	100	46.80

<b>2" DIAMETER</b>					
24	5600-202	5600-702	-	100	\$81.90
36	5600-203	5600-703	5601-203	100	77.40
40	5600-204	5600-704	5601-204	100	73.80
50	5600-205	5600-705	5601-205	100	72.00
60	5600-206	5600-706	5601-206	100	69.30
80	5600-208	5600-708	5601-208	100	68.40
100	5600-210	5600-710	5601-210	100	67.50
120	5600-212	5600-712	5601-212	100	67.50
150	5600-215	5600-715	5601-215	100	67.50
180	5600-218	5600-718	5601-218	100	67.50
240	5600-224	5600-724	5601-224	100	67.50
320	5600-232	5600-732	5601-232	100	67.50

<b>3" DIAMETER</b>					
24	5600-302	5600-802	-	50	\$51.75
36	5600-303	5600-803	5601-303	50	48.60
40	5600-304	5600-804	5601-304	50	47.25
50	5600-305	5600-805	5601-305	50	45.45
60	5600-306	5600-806	5601-306	50	44.10
80	5600-308	5600-808	5601-308	50	42.75
100	5600-310	5600-810	5601-310	50	41.85
120	5600-312	5600-812	5601-312	50	41.85
150	5600-315	5600-815	5601-315	50	41.85
180	5600-318	5600-818	5601-318	50	47.25
240	5600-324	5600-824	5601-324	50	41.85
320	5600-332	5600-832	5601-332	50	47.25



## A/O Extra 2 Ply Discs

Color: Light Brown

Best Disc For: Difficult to grind metals such as aircraft grade Aluminum, High Nickel, Chrome Alloys, and heat sensitive metals. Provides lower heat generation than regular Aluminum Oxide on Ferrous metals.

	TS-STYLE	TR-STYLE	TP-STYLE		
GRIT	ORDER NO.	ORDER NO.	ORDER NO.	PKG QTY	PRICE PER PKG
<b>1" DIAMETER</b>					
36	5601-603	-	-	100	\$45.00
50	5601-605	-	-	100	42.30
60	5601-606	-	-	100	41.40
80	5601-608	-	-	100	40.50
100	5601-610	-	-	100	40.50
120	5601-612	-	-	100	40.50
<b>1-1/2" DIAMETER</b>					
36	5601-653	5602-153	-	100	\$52.20
40	5601-654	-	-	100	51.30
50	5601-655	-	-	100	51.30
60	5601-656	5602-156	-	100	49.50
80	5601-658	5602-158	-	100	48.60
100	5601-660	-	-	100	48.60
120	5601-662	5602-162	-	100	48.60
<b>2" DIAMETER</b>					
36	5601-703	5602-203	-	100	\$80.10
40	5601-704	5602-204	5602-704	100	77.40
50	5601-705	5602-205	-	100	74.70
60	5601-706	5602-206	-	100	72.90
80	5601-708	5602-208	-	100	72.00
100	5601-710	5602-210	-	100	70.20
120	5601-712	5602-212	5602-712	100	70.20
<b>3" DIAMETER</b>					
36	5601-803	5602-303	5602-803	50	\$50.85
40	5601-804	5602-304	-	50	49.50
50	5601-805	5602-305	-	50	48.15
60	5601-806	5602-306	-	50	46.80
80	5601-808	5602-308	-	50	45.45
100	5601-810	5602-310	-	50	44.10
120	5601-812	5602-312	-	50	44.10

## ZirconiaPro 2 Ply Discs

Color: Green

Best Disc For: Rapid stock removal on Stainless Steel. Utilizes a Y weight cloth backing, with a fused Zirconium grain and lubricated super-size coating.

	TS-STYLE	TR-STYLE	TP-STYLE		
GRIT	ORDER NO.	ORDER NO.	ORDER NO.	PKG QTY	PRICE PER PKG
<b>1-1/2" DIAMETER</b>					
36	5604-653	5605-153	-	100	\$54.90
40	5604-654	5605-154	-	100	54.00
50	5604-655	5605-155	-	100	54.00
60	5604-656	5605-156	5605-656	100	52.20
80	5604-658	5605-158	5605-658	100	51.30
120	5604-662	5605-162	-	100	51.30
<b>2" DIAMETER</b>					
36	5604-703	5605-203	5605-703	100	\$84.60
40	5604-704	5605-204	-	100	81.00
50	5604-705	5605-205	-	100	79.20
60	5604-706	5605-206	5605-706	100	76.50
80	5604-708	5605-208	5605-708	100	75.60
120	5604-712	5605-212	-	100	74.70
<b>3" DIAMETER</b>					
36	5604-803	5605-303	5605-803	50	\$53.55
40	5604-804	5605-304	-	50	52.20
50	5604-805	5605-305	5605-805	50	50.85
60	5604-806	5605-306	5605-806	50	49.50
80	5604-808	5605-308	5605-808	50	48.60
120	5604-812	5605-312	-	50	47.70

## Holder Pads

### For All Quick Change Style Discs

Available for all small diameter Quick Change style discs, in soft, medium, and firm grades.

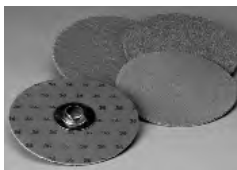


TS (SocAtt) TR (Lockit) TP (ClickOn)

## Quick Change Discs

### With 5/8-11 Hub

Incorporates a 5/8-11 metal TS hub for easy attachment to any pneumatic or electric right angle grinder with a 5/8-11 spindle. For use with large diameter holder pads, listed at the bottom of the Holder Pad chart. Max RPM: 10,000



DIAM.	DESC.	GRIT	ORDER NO.	PRICE EACH
4-1/2"	A/O	36	5614-103	\$2.74
4-1/2"	A/O	60	5614-106	2.48
4-1/2"	A/O	80	5614-108	2.40
4-1/2"	ZirconiaPro	36	5614-113	3.54
4-1/2"	ZirconiaPro	60	5614-116	2.97
4-1/2"	ZirconiaPro	80	5614-118	2.88
4-1/2"	Ceramic Pro	36	5614-123	4.80
4-1/2"	Ceramic Pro	60	5614-126	3.64
4-1/2"	Ceramic Pro	80	5614-128	3.45

SIZE	DEN-SITY	MAX. RPM	TS - TA4 ORDER NO.	TR - TA4 ORDER NO.	TP - TA4 ORDER NO.	PRICE EACH
3/4"	Med.	40,000	5641-014	-	-	\$ 8.61
1"	Med.	40,000	5641-015	-	-	8.20
1-1/2"	Soft	20,000	5641-016	5641-059	-	9.93
1-1/2"	Med.	25,000	5641-017	5641-060	5641-100	9.16
1-1/2"	Firm	30,000	5641-018	5641-061	-	10.29
2"	Soft	20,000	5641-019	5641-062	-	10.99
2"	Med.	25,000	5641-020	5641-063	5641-102	10.54
2"	Firm	30,000	5641-021	5641-064	-	12.57
3"	Soft	12,000	5641-022	5641-065	-	13.39
3"	Med.	20,000	5641-023	5641-066	5641-104	12.20
3"	Firm	20,000	5641-024	5641-067	-	14.53
<b>5/8-11" ARBOR - LARGE DIAMETER, HARD FACE - TS HOLDER PADS</b>						
4-1/2"	Med.	18,000	Low Profile		5641-160	28.70
4-1/2"	Med.	18,000			5641-150	28.70



# Flap Wheels

Perfect tool for deburring, blending, finishing and cleaning inside and outside diameters of ferrous and non-ferrous materials.

## Mounted Flap Wheels (1"-3" Diameters)

### Aluminum Oxide Resin Bond

\* Permanently affixed 1/4" or 1/4-20 threaded steel shank allows choice of best system for your tooling, and fast wheel changes. Affixed mandrel for concentricity and reduced chatter; less operator fatigue.



			1/4" SHANK				1/4-20 SHANK					
			IMPORT		Weiber TIGER ABRASIVES		SA STANDARD ABRASIVES		Weiber TIGER ABRASIVES		SA STANDARD ABRASIVES	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
1" x 1"	60	10	5714-156	\$1.90	6552-003	\$3.23	5615-006	\$5.44	6552-601	\$3.23	5615-136	\$6.11
	80	10	5714-158	1.90	6552-004	3.23	5615-008	5.44	6552-603	3.23	5615-138	6.11
	120	10	5714-162	1.90	6552-005	3.23	5615-012	5.44	6552-605	3.23	5615-142	6.11
1-1/2" x 1"	60	10	5714-406	2.27	6552-009	4.01	5615-026	6.44	-	-	5615-156	7.14
	80	10	5714-408	2.27	6552-010	4.01	5615-028	6.44	-	-	5615-158	7.14
	120	10	5714-412	2.27	6552-011	4.01	5615-032	6.44	-	-	5615-162	7.14
2" x 1"	60	10	5714-556	2.69	6552-015	4.46	5615-056	8.15	6552-611	4.46	5615-186	8.24
	80	10	5714-558	2.69	6552-016	4.46	5615-058	8.15	6552-613	4.46	5615-188	8.24
	120	10	5714-562	2.69	6552-017	4.46	5615-062	8.15	6552-615	4.46	5615-192	8.96
2-1/2" x 1"	60	10	5714-706	3.25	6552-486	4.83	5615-076	9.81	-	-	5615-206	10.12
	80	10	5714-708	3.25	6552-487	4.83	5615-078	9.81	-	-	5615-208	10.12
	120	10	5714-712	3.25	6552-489	4.83	5615-082	9.81	-	-	5615-212	10.12
3" x 1"	60	10	5714-906	3.31	6552-027	6.46	5615-106	9.97	6552-621	6.46	5615-236	10.01
	80	10	5714-908	3.31	6552-028	6.46	5615-108	9.97	6552-623	6.46	5615-238	10.01
	120	10	5714-912	3.31	6552-029	6.46	5615-112	9.97	6552-625	6.46	5615-242	10.88



## Mounted Flap Wheel Drive Arbor



THREAD SIZE	ADAPTED SIZE	ORDER NO.	PRICE EACH
1/4-20	1/4"	5642-100	\$2.40

## Large Flap Wheels (4"-6" Diameters)

### Aluminum Oxide Resin Bond

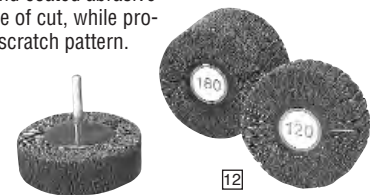
\* Best Flap Wheel for applications requiring high stock removal. Provides maximum stability and smaller contact areas on work surface. Highest initial cut rate.



			IMPORT		Weiber TIGER ABRASIVES		SA STANDARD ABRASIVES	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
4" x 1" x 5/8"	60	1	5716-156	\$ 9.00	6553-166	\$16.99	5615-526	\$19.51
	80	1	5716-158	9.20	6553-167	18.00	5615-528	20.66
	120	1	5716-162	9.85	6553-169	19.20	5615-532	22.07
6" x 1" x 1"	60	1	5716-356	17.45	6553-286	29.18	5615-546	28.81
	80	1	5716-358	17.80	6553-287	31.21	5615-548	30.32
	120	1	5716-362	18.70	6553-289	33.51	5615-552	32.83
6" x 2" x 1"	60	1	5716-456	26.25	6553-326	48.57	5615-576	47.51
	80	1	5716-458	26.85	6553-327	51.83	5615-578	50.54
	120	1	5716-462	28.85	6553-329	56.29	5615-582	61.34

## Buff & Blend Combi Wheels

\* Wheels are constructed with alternating flaps of Buff & Blend and coated abrasive material. High rate of cut, while providing a uniform scratch pattern.



			SA STANDARD ABRASIVES	
SIZE	GRIT	STD. CTN.	ORDER NO.	PRICE
2" x 1" x 1/4"	60	10	5650-788	\$ 11.77
	80	10	5650-789	11.77
	120	10	5650-790	11.77
	180	10	5650-791	11.77
3" x 1" x 1/4"	60	10	5650-792	14.29
	80	10	5650-793	14.29
	120	10	5650-794	14.29
3" x 2" x 1/4"	60	5	5650-796	21.23
	80	5	5650-797	21.23
	120	5	5650-798	21.23
	180	5	5650-799	21.23

## Unmounted Flap Wheel Reducer Bushings

(Used in Pairs)



SIZE	ORDER NO.	PRICE/PAIR
1 to 1/2	6503-833	\$2.37
1 to 5/8	6503-834	2.37
1 to 3/4	6503-835	2.37

## Unmounted Flap Wheel Spindle Adapters

SIZE	ORDER NO.	PRICE
1/4" Male (For 4" to 5" Wheels)	5642-120	\$20.41
3/8" Male (For 4" to 8" Wheels)	5642-122	20.41
5/8-11" Female (For 4" to 8" Wheels)	5642-124	20.41

# Shop Rolls & Sanding Belts

## Cloth Shop Rolls – Aluminum Oxide

\* For Quick Stock Removal in Metal Finishing and Polishing Applications

\* Ability to Tear Desired Amount Eliminates Waste

SIZE	GRIT	IMPORT		MADE IN USA		STANDARD ABRASIVES	
		ORDER NO.	PRICE	ORDER NO.	PRICE	ORDER NO.	PRICE
1"	50	—	—	—	—	5621-005	\$24.89
1"	60	5700-006	\$ 10.95	5700-306	\$22.80	5621-006	23.33
1"	80	5700-008	10.45	5700-308	21.80	5621-008	19.32
1"	100	5700-010	10.15	5700-310	21.20	5621-010	19.05
1"	120	5700-012	10.15	5700-312	21.20	5621-012	19.05
1"	150	5700-015	10.15	5700-315	21.20	5621-015	19.05
1"	180	5700-018	10.15	5700-318	21.20	5621-018	19.05
1"	220	5700-022	10.15	5700-322	21.20	—	—
1"	240	5700-024	10.15	5700-324	21.20	5621-024	19.05
1"	320	5700-032	10.15	5700-332	21.20	5621-032	19.05
1-1/2"	50	—	—	—	—	5621-105	34.76
1-1/2"	60	5700-106	15.70	5700-406	30.75	5621-106	32.84
1-1/2"	80	5700-108	14.95	5700-408	29.05	5621-108	27.09
1-1/2"	100	5700-110	14.65	5700-410	28.25	5621-110	26.09
1-1/2"	120	5700-112	14.65	5700-412	28.25	5621-112	26.09
1-1/2"	150	5700-115	14.65	5700-415	28.25	5621-115	26.09
1-1/2"	180	5700-118	14.65	5700-418	28.25	5621-118	26.09
1-1/2"	220	5700-122	14.65	5700-422	28.25	—	—
1-1/2"	240	5700-124	14.65	5700-424	28.25	5621-124	26.09
1-1/2"	320	5700-132	14.65	5700-432	28.25	5621-132	26.09
2"	50	—	—	—	—	5621-205	44.91
2"	60	5700-206	20.60	5700-506	39.75	5621-206	41.51
2"	80	5700-208	19.60	5700-508	36.80	5621-208	34.81
2"	100	5700-210	19.05	5700-510	34.35	5621-210	33.12
2"	120	5700-212	19.00	5700-512	34.35	5621-212	33.12
2"	150	5700-215	19.00	5700-515	34.35	5621-215	33.12
2"	180	5700-218	19.00	5700-518	34.35	5621-218	33.12
2"	220	5700-222	19.00	5700-522	34.35	—	—
2"	240	5700-224	19.00	5700-524	34.35	5621-224	33.12
2"	320	5700-232	19.00	5700-532	34.35	5621-232	33.12



## Cloth Sanding Belts – Aluminum Oxide

GRIT	PKG QTY	1 x 42"		2 x 48"		3 x 21"		3 x 24"		4 x 24"	
		ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG
40	10	5701-754	\$10.55	5702-754	\$18.55	5703-754	\$14.95	5703-854	\$16.35	5704-604	\$22.55
50	10	5701-755	10.20	5702-755	18.00	5703-755	14.65	5703-855	16.10	5704-605	21.45
60	10	5701-756	9.70	5702-756	17.35	5703-756	14.20	5703-856	15.90	5704-606	21.05
80	10	5701-758	9.00	5702-758	15.25	5703-758	13.30	5703-858	15.40	5704-608	20.25
100	10	5701-760	8.65	5702-760	14.85	5703-760	12.35	5703-860	14.70	5704-610	19.55
120	10	5701-762	8.65	5702-762	14.85	5703-762	12.35	5703-862	14.70	5704-612	19.55
150	10	—	—	5702-765†	14.85	5703-765	12.35	5703-865	14.70	5704-615	19.55
180	10	—	—	5702-768†	14.85	5703-768	12.35	5703-868	14.70	5704-618	19.55



† Limited Quantities

\* X-Weight

\* Resin Bonded

\* Heavy Duty Construction

\* Ideal for sanding wood or metal

Other sizes and grits available upon request. Please inquire.

GRIT	PKG QTY	4 x 36"		6 x 48"	
		ORDER NO.	PRICE PER PKG	ORDER NO.	PRICE PER PKG
40	5	—	—	5705-654	\$32.55
50	5	5704-705	\$16.10	5705-655	31.15
60	5	5704-706	15.75	5705-656	30.45
80	5	5704-708	15.00	5705-658	28.45
100	5	5704-710	14.45	5705-660	27.50
120	5	5704-712	14.45	5705-662	27.50
150	5	5704-715	14.45	5705-665	27.50
180	5	5704-718	14.45	5705-668	27.50

# Abrasive Sheets

## Quality Import



### Aluminum Oxide 9" x 11" Cloth Sheets

- Resin Bonded
- Ideal for Sanding Wood or Metal
- Outlasts Paper by as much as 5 Times

GRIT	STD PKG	ORDER NO.	PRICE PER PKG
50	50	3273-050	\$31.45
60	50	3273-060	30.15
80	50	3273-080	29.55
100	50	3273-100	27.95
120	50	3273-120	27.95
150	50	3273-150	27.95
180	50	3273-180	27.95
220	50	3273-220	27.95
240	50	3273-240	27.95
320	50	3273-320	27.95
400	50	3273-400	27.95

### Emery 9" x 11" Cloth Sheets

- Resin Bonded
- Ideal for Metal Finishing where Polishing is more important than Stock Removal

GRIT	STD PKG	ORDER NO.	PRICE PER PKG
Coarse	50	3273-500	\$30.10
Medium	50	3273-510	28.00
Fine	50	3273-520	28.00

### Crocus Cloth 9" x 11" Sheets

- Resin Bonded
- Flexible cloth backing
- Used by machinists & mechanics for smoothing metal surfaces

GRIT	STD PKG	ORDER NO.	PRICE PER PKG
Fine	50	3273-700	\$40.05

### Silicon Carbide 9" x 11" Waterproof Sheets

- Latex Impregnated Paper
- Offers Versatility of Wet or Dry Sanding

GRIT	STD PKG	ORDER NO.	PRICE PER PKG
100	50	3273-600	\$22.60
120	50	3273-605	22.60
150	50	3273-610	19.40
180	50	3273-615	16.30
220	50	3273-620	16.30
240	50	3273-625	16.30
280	50	3273-630	16.30
320	50	3273-635	16.30
400	50	3273-640	16.30
500	50	3273-645	16.30
600	50	3273-650	16.30
800	50	3273-655	16.30
1000	50	3273-660	16.30
1200	50	3273-665	16.30

### Silicon Carbide 9" x 11" Sandscreen Sheets

- Unique Screen Mesh Prevents Loading
- Will Outlast Ordinary Sandpaper by as much as 10 Times
- Use Wet or Dry on Metal or Wood

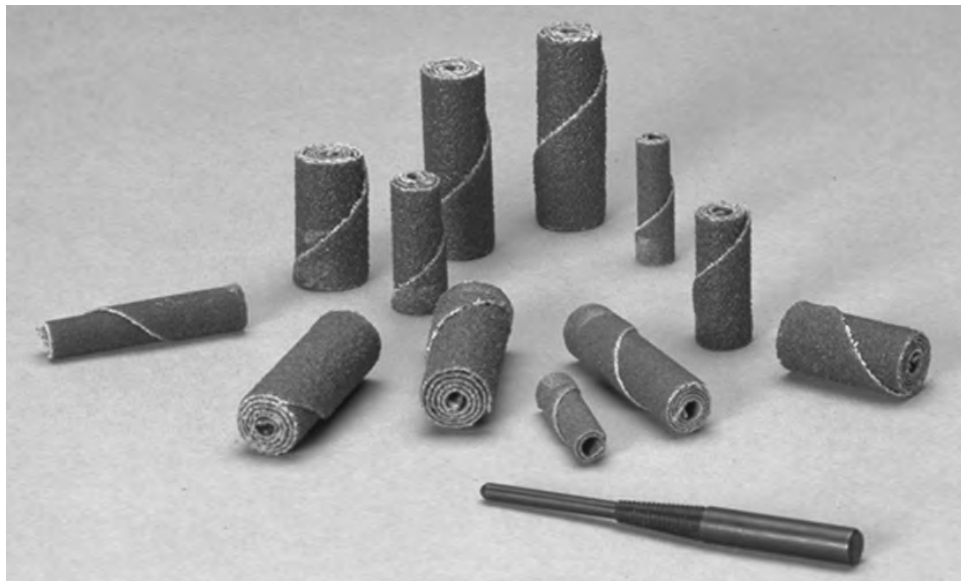
GRIT	STD PKG	ORDER NO.	PRICE PER PKG
80	25	5718-008	\$42.00
100	25	5718-010	37.80
120	25	5718-012	37.80
150	25	5718-015	37.80
180	25	5718-018	37.80
220	25	5718-022	37.80

# Cartridge Rolls

## Straight Cartridge Rolls

2

Aluminum Oxide Resin Bond Cartridge Rolls feature a multi-layer, multi-wear design for long lasting durability. New abrasive cutting points are exposed throughout the life of the roll. Use for flash removal, polishing, removing machine tool marks, edge breaking, etc.



SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
3/16 x 1 x 3/32	80	100	5618-001	\$24.45
3/16 x 1 x 3/32	100	100	5618-002	24.45
3/16 x 1 x 3/32	120	100	5618-003	25.27
3/16 x 1 x 3/32	150	100	5618-004	26.08
3/16 x 1 x 3/32	180	100	5618-005	26.08
3/16 x 1 x 3/32	240	100	5618-006	26.90
1/4 x 3/4 x 1/8	120	100	5618-007	26.08
1/4 x 1 x 1/8	60	100	5618-008	24.45
1/4 x 1 x 1/8	80	100	5618-009	24.45
1/4 x 1 x 1/8	100	100	5618-010	25.27
1/4 x 1 x 1/8	120	100	5618-011	25.27
1/4 x 1 x 1/8	180	100	5618-012	26.08
1/4 x 1 x 1/8	240	100	5618-013	26.90
1/4 x 1 x 1/8	320	100	5618-014	26.90
1/4 x 1-1/2 x 1/8	60	100	5618-015	29.34
1/4 x 1-1/2 x 1/8	80	100	5618-016	30.16
1/4 x 1-1/2 x 1/8	100	100	5618-017	30.97
1/4 x 1-1/2 x 1/8	120	100	5618-018	30.16
1/4 x 1-1/2 x 1/8	150	100	5618-019	31.79
1/4 x 1-1/2 x 1/8	180	100	5618-020	31.79
1/4 x 1-1/2 x 1/8	320	100	5618-021	32.60
1/4 x 1-1/2 x 1/8	400	100	5618-022	35.05
1/4 x 2 x 1/8	80	100	5618-023	39.12
1/4 x 2 x 1/8	100	100	5618-024	39.12
1/4 x 2 x 1/8	120	100	5618-025	39.94
5/16 x 1 x 1/8	60	100	5618-026	26.90
5/16 x 1 x 1/8	80	100	5618-027	27.71
5/16 x 1 x 1/8	120	100	5618-028	28.53
5/16 x 1-1/2 x 1/8	60	100	5618-029	35.05
5/16 x 1-1/2 x 1/8	80	100	5618-030	34.23
5/16 x 1-1/2 x 1/8	100	100	5618-031	36.68
5/16 x 1-1/2 x 1/8	120	100	5618-032	37.49
3/8 x 1 x 1/8	50	100	5618-033	26.90
3/8 x 1 x 1/8	60	100	5618-034	26.90
3/8 x 1 x 1/8	80	100	5618-035	27.71
3/8 x 1 x 1/8	100	100	5618-036	27.71
3/8 x 1 x 1/8	120	100	5618-037	27.71
3/8 x 1 x 1/8	180	100	5618-038	28.53
3/8 x 1 x 1/8	240	100	5618-039	29.34

SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
3/8 x 1-1/2 x 1/8	40	100	5618-040	\$35.05
3/8 x 1-1/2 x 1/8	50	100	5618-041	35.05
3/8 x 1-1/2 x 1/8	60	100	5618-042	32.60
3/8 x 1-1/2 x 1/8	80	100	5618-043	34.23
3/8 x 1-1/2 x 1/8	100	100	5618-044	35.05
3/8 x 1-1/2 x 1/8	120	100	5618-045	34.23
3/8 x 1-1/2 x 1/8	150	100	5618-046	37.49
3/8 x 1-1/2 x 1/8	180	100	5618-047	37.49
3/8 x 1-1/2 x 1/8	240	100	5618-048	38.31
3/8 x 1-1/2 x 1/8	400	100	5618-049	39.94
3/8 x 2 x 1/8	60	100	5618-050	39.94
3/8 x 2 x 1/8	80	100	5618-051	40.75
3/8 x 2 x 1/8	100	100	5618-052	40.75
3/8 x 2 x 1/8	120	100	5618-053	41.57
1/2 x 1 x 1/8	50	100	5618-054	30.97
1/2 x 1 x 1/8	60	100	5618-055	30.16
1/2 x 1 x 1/8	80	100	5618-056	30.97
1/2 x 1 x 1/8	100	100	5618-057	31.79
1/2 x 1 x 1/8	120	100	5618-058	32.60
1/2 x 1 x 1/8	240	100	5618-059	34.23
1/2 x 1-1/2 x 1/8	36	100	5618-060	45.64
1/2 x 1-1/2 x 1/8	40	100	5618-061	44.01
1/2 x 1-1/2 x 1/8	50	100	5618-062	44.01
1/2 x 1-1/2 x 1/8	60	100	5618-063	42.38
1/2 x 1-1/2 x 1/8	80	100	5618-064	43.20
1/2 x 1-1/2 x 1/8	100	100	5618-065	44.01
1/2 x 1-1/2 x 1/8	120	100	5618-066	42.38
1/2 x 1-1/2 x 1/8	180	100	5618-067	45.64
1/2 x 1-1/2 x 1/8	240	100	5618-069	47.27
1/2 x 1-1/2 x 1/8	320	100	5618-070	47.27
1/2 x 2 x 1/8	60	50	5618-071	25.67
1/2 x 2 x 1/8	80	50	5618-072	26.08
1/2 x 2 x 1/8	100	50	5618-073	26.08
1/2 x 2 x 1/8	120	50	5618-074	26.49
1/2 x 2 x 3/16	60	50	5618-075	25.67
1/2 x 2 x 3/16	100	50	5618-077	26.08
1/2 x 2 x 1/4	40	50	5618-078	26.08

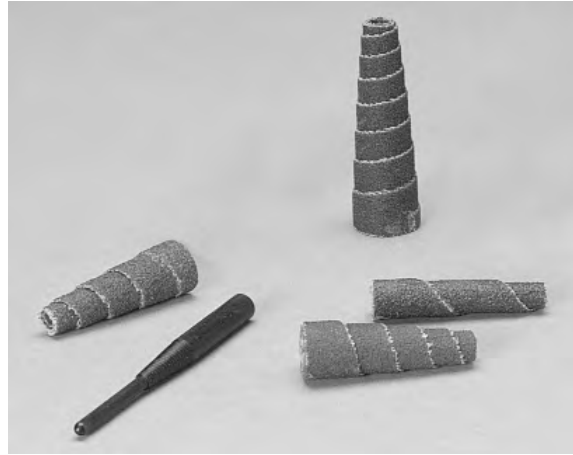
SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
5/8 x 1 x 3/16	80	50	5618-079	\$24.86
5/8 x 1-1/2 x 1/8	80	50	5618-080	31.38
5/8 x 1-1/2 x 3/16	60	50	5618-081	30.56
5/8 x 1-1/2 x 3/16	80	50	5618-082	29.75
5/8 x 2 x 3/16	50	50	5618-084	35.05
5/8 x 2 x 3/16	60	50	5618-085	35.05
5/8 x 2 x 3/16	80	50	5618-086	37.49
5/8 x 2 x 3/16	100	50	5618-087	37.49
5/8 x 2-1/2 x 1/4	80	25	5618-088	28.53
3/4 x 1 x 1/8	80	50	5618-089	28.93
3/4 x 1 x 3/16	40	50	5618-090	27.71
3/4 x 1 x 3/16	80	50	5618-091	28.93
3/4 x 1-1/2 x 1/8	60	50	5618-092	35.45
3/4 x 1-1/2 x 1/8	80	50	5618-093	35.86
3/4 x 1-1/2 x 3/16	36	50	5618-094	35.86
3/4 x 1-1/2 x 3/16	60	50	5618-095	35.45
3/4 x 1-1/2 x 3/16	80	50	5618-096	35.05
3/4 x 1-1/2 x 3/16	120	50	5618-097	35.45
3/4 x 1-1/2 x 1/4	60	50	5618-098	35.45
3/4 x 1-1/2 x 1/4	80	50	5618-099	36.27
3/4 x 1-1/2 x 1/4	120	50	5618-100	37.08
3/4 x 2 x 1/8	100	25	5618-101	24.45
3/4 x 2 x 3/16	40	25	5618-102	22.62
3/4 x 2 x 3/16	60	25	5618-103	22.62
3/4 x 2 x 3/16	80	25	5618-104	23.64
3/4 x 2 x 3/16	100	25	5618-105	24.25
3/4 x 2 x 3/16	120	25	5618-106	23.64
3/4 x 2 x 1/4	60	25	5618-107	22.62
3/4 x 2 x 1/4	80	25	5618-108	24.45
3/4 x 2 x 1/4	100	25	5618-109	24.65
3/4 x 2 x 1/4	120	25	5618-110	24.65
1 x 1-1/2 x 1/4	60	25	5618-111	30.56
1 x 1-1/2 x 1/4	80	25	5618-112	31.38
1 x 2 x 1/4	60	25	5618-113	38.10
1 x 2 x 1/4	80	25	5618-114	39.32



# Cartridge Rolls

## Full Taper Cartridge Rolls

2



SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
3/8 x 1 x 1/8	60	100	5618-300	\$50.53
3/8 x 1 x 1/8	80	100	5618-301	52.16
3/8 x 1 x 1/8	120	100	5618-302	52.98
3/8 x 1 x 1/8	180	100	5618-303	52.98
3/8 x 1-1/2 x 1/8	50	100	5618-304	50.53
3/8 x 1-1/2 x 1/8	60	100	5618-305	57.05
3/8 x 1-1/2 x 1/8	80	100	5618-306	54.61
3/8 x 1-1/2 x 1/8	120	100	5618-307	54.61

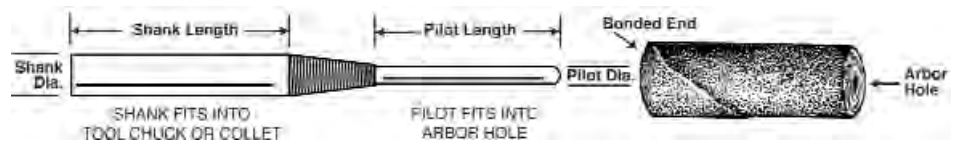
SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
1/2 x 1 x 1/8	60	100	5618-308	\$53.79
1/2 x 1 x 1/8	80	100	5618-309	54.61
1/2 x 1 x 1/8	120	100	5618-310	57.05
1/2 x 1 x 1/8	180	100	5618-311	57.05
1/2 x 1-1/2 x 1/8	36	100	5618-312	61.94
1/2 x 1-1/2 x 1/8	50	100	5618-313	59.50
1/2 x 1-1/2 x 1/8	60	100	5618-314	58.68
1/2 x 1-1/2 x 1/8	80	100	5618-315	59.50
1/2 x 1-1/2 x 1/8	100	100	5618-316	61.13
1/2 x 1-1/2 x 1/8	120	100	5618-317	59.50
1/2 x 1-1/2 x 1/8	180	100	5618-318	61.94

SIZE	GRIT	STD PKG	ORDER NO.	PRICE PER PKG
1/2 x 2 x 1/8	60	50	5618-319	\$31.79
1/2 x 2 x 1/8	80	50	5618-320	32.60
1/2 x 2 x 1/8	180	50	5618-321	33.42
5/8 x 1 x 3/16	80	50	5618-322	33.42
5/8 x 2 x 1/4	100	50	5618-323	46.86
3/4 x 1-1/2 x 1/8	80	50	5618-324	41.57
3/4 x 1-1/2 x 3/16	50	50	5618-325	40.75
3/4 x 1-1/2 x 3/16	60	50	5618-326	40.75
3/4 x 1-1/2 x 3/16	80	50	5618-327	41.57
3/4 x 2 x 3/16	60	25	5618-328	23.43

## Mandrels For Cartridge Rolls

2

- Cartridge Rolls of 3/4" length – 1/2" Pilot Length
- Cartridge Rolls of 1" length – 3/4" Pilot Length
- Cartridge Rolls of 1-1/2" length – 1" Pilot Length
- Cartridge Rolls of 2" length – 1-1/2" Pilot Length
- Cartridge Rolls of 2-1/2" length – 2" Pilot Length



DESCRIPTION	PILOT DIA.	PILOT LGTH	SHANK DIA.	SHANK LGTH	O/A LGTH	ORDER NO.	PRICE EACH
CM-2B	3/32	3/4	1/8	1	2-3/4	5642-150	\$2.31
CM-2C	3/32	1	1/8	1	3	5642-151	2.31
CM-2E	3/32	3/4	1/4	1	2-3/4	5642-152	2.61
CM-2F	3/32	1	1/4	1-1/4	3	5642-153	2.61
CM-3	1/8	1/2	1/8	1	2-1/2	5642-154	2.31
CM-4	1/8	3/4	1/8	1	2-3/4	5642-155	2.31
CM-5	1/8	1	1/8	1	2-1/2	5642-156	2.31
CM-6	1/8	1-1/2	1/8	1	3-1/2	5642-157	2.61
CM-7	1/8	1/2	1/4	1-1/4	2-1/4	5642-158	2.61
CM-8	1/8	3/4	1/4	1-1/4	2-1/2	5642-159	2.61
CM-9	1/8	1	1/4	1-1/4	2-3/4	5642-160	2.23

DESCRIPTION	PILOT DIA.	PILOT LGTH	SHANK DIA.	SHANK LGTH	O/A LGTH	ORDER NO.	PRICE EACH
CM-10	1/8	1-1/2	1/4	1-1/4	3-1/4	5642-161	\$2.23
CM-11	1/8	2	1/4	1-1/4	4	5642-162	2.84
CM-15	3/16	3/4	1/4	1-1/4	2-1/2	5642-163	2.61
CM-16	3/16	1	1/4	1-1/4	2-1/2	5642-164	2.61
CM-17	3/16	1-1/2	1/4	1-1/4	3-3/8	5642-165	2.97
CM-18	3/16	2	1/4	1-1/4	4	5642-166	2.97
CM-20	1/4	3/4	1/4	1-1/4	2-3/4	5642-167	2.61
CM-21	1/4	1	1/4	1-1/4	3	5642-168	2.61
CM-22	1/4	1-1/2	1/4	1-1/4	3-1/2	5642-169	2.97
CM-23	1/4	2	1/4	1-1/4	4	5642-170	2.97

## Surface Conditioning Discs <sup>4</sup> Quick Change Discs, Aluminum Oxide (A/O), FE

Type "FE" material is very flexible, with high edge durability. FE provides a high initial and extended rate of cut. Performs well on flat and contoured surfaces. Ideal on a variety of deburring, blending and cleaning applications.



SIZE	GRIT	MAX. RPM	TS-STYLE	TR-STYLE	TP-STYLE	HOOK & LOOP		PKG QTY	PRICE PER PKG
			ORDER NO.	ORDER NO.	ORDER NO.	MAX. RPM	ORDER NO.		
1"	Coarse	12,000 – 20,000	5650-103	5650-127	–	–	–	50	\$35.55
1"	Medium	12,000 – 20,000	5650-104	5650-128	–	–	–	50	35.55
1"	Very Fine	12,000 – 20,000	5650-105	5650-129	–	–	–	50	35.55
1-1/2"	Coarse	12,000 – 20,000	5650-106	5650-130	–	–	–	50	38.70
1-1/2"	Medium	12,000 – 20,000	5650-107	5650-131	–	–	–	50	38.70
1-1/2"	Very Fine	12,000 – 20,000	5650-108	5650-132	–	–	–	50	38.70
2"	Coarse	12,000 – 20,000	5650-109	5650-133	5650-163	–	–	50	56.25
2"	Medium	12,000 – 20,000	5650-110	5650-134	5650-164	–	–	50	56.25
2"	Very Fine	12,000 – 20,000	5650-111	5650-135	5650-165	–	–	50	56.25
3"	Coarse	10,000 – 18,000	5650-112	5650-136	5650-166	–	–	25	53.55
3"	Medium	10,000 – 18,000	5650-113	5650-137	5650-167	–	–	25	53.55
3"	Very Fine	10,000 – 18,000	5650-114	5650-138	5650-168	–	–	25	53.55
4-1/2"	Coarse	–	–	–	–	6,000 – 8,000	5650-256	10	28.44
4-1/2"	Medium	–	–	–	–	6,000 – 8,000	5650-257	10	25.02
4-1/2"	Very Fine	–	–	–	–	6,000 – 8,000	5650-258	10	25.02
5"	Coarse	–	–	–	–	5,000 – 7,000	5650-259	10	34.29
5"	Medium	–	–	–	–	5,000 – 7,000	5650-260	10	29.79
5"	Very Fine	–	–	–	–	5,000 – 7,000	5650-261	10	29.79
7"	Coarse	–	–	–	–	3,000 – 6,000	5650-262	10	58.50
7"	Medium	–	–	–	–	3,000 – 6,000	5650-263	10	52.38
7"	Very Fine	–	–	–	–	3,000 – 6,000	5650-264	10	52.38

Type "GP" Surface Conditioning Discs are also available upon request. Call for delivery. Not as flexible as Type "FE", works especially well on flat surfaces.

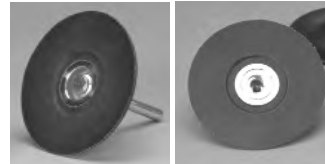
## Holder Pads For All Quick Change Style Discs <sup>2</sup>

Available for all small diameter Quick Change style discs, in soft, medium and firm grades.

SIZE	DENSITY	MAX. RPM	TS-STYLE	TR-STYLE	TP-STYLE	PRICE EACH
			w/TA4	w/TA4	w/TA4	
3/4"	Medium	40,000	5641-014	–	–	\$ 8.61
1"	Medium	40,000	5641-015	–	–	8.20
1-1/2"	Soft	20,000	5641-016	5641-059	–	9.93
1-1/2"	Medium	25,000	5641-017	5641-060	5641-100	9.16
1-1/2"	Firm	30,000	5641-018	5641-061	–	10.29
2"	Soft	20,000	5641-019	5641-062	–	10.99
2"	Medium	25,000	5641-020	5641-063	5641-102	10.54
2"	Firm	30,000	5641-021	5641-064	–	12.57
3"	Soft	12,000	5641-022	5641-065	–	13.39
3"	Medium	20,000	5641-023	5641-066	5641-104	12.20
3"	Firm	20,000	5641-024	5641-067	–	14.53

TS (SocAtt®)

TR (Lockit®)



TP (ClickOn™)

## Holder Pads For Hook & Loop Style Discs <sup>2</sup>

SIZE	MAX. RPM	HOOK & LOOP		PRICE EACH
		MANDREL ORDER NO.	BUTTON STYLE* ORDER NO.	
4-1/2"	10,000	5642-502	5642-505	\$22.34
5"	10,000	5642-503	5642-506	22.34
7"	6,000	5642-504	–	26.24

\* For Hook & Loop Style Discs with 5/8" nominal hole.

## High Strength Buff & Blend Discs With Center Hole, Aluminum Oxide (A/O)

The best product for finishing and light deburring applications. A very conformable and durable tool for finishing and polishing applications on metals, plastics and glass.



<sup>4</sup>

SIZE	HOLE	GRADE	MAX. RPM	PKG QTY	ORDER NO.	PRICE PER PKG
5"	1/2"	Very Fine	4,000	10	5650-670	\$ 19.53
6"	1/2"	Very Fine	3,600	10	5650-671	24.66
7"	1/2"	Very Fine	3,000	10	5650-672	33.57
8"	1/2"	Very Fine	2,700	10	5650-673	40.59
10"	1/2"	Very Fine	2,000	10	5650-674	54.45
12"	1-1/4"	Very Fine	1,800	5	5650-675	36.18

## Buff & Blend Discs <sup>4</sup>

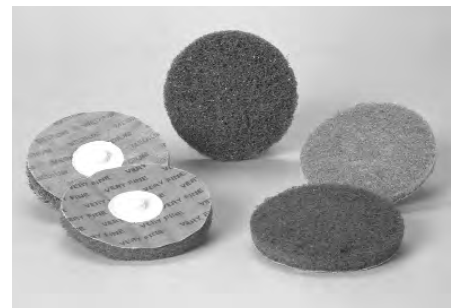
### Buff & Blend Quick Change "GP" Discs, Aluminum Oxide (A/O)

Flexible, conformable discs constructed of GP material, which provides a high rate of cut while producing consistent finishes. Applications include blending, cleaning, deburring and finishing.

SIZE	GRIT	MAX. RPM	PKG QTY	TS-STYLE	TR-STYLE	PRICE PER PKG
				ORDER NO.	ORDER NO.	
1-1/2"	Medium	12,000	50	5650-506	5650-536	\$51.30
1-1/2"	Fine	12,000	50	5650-507	5650-537	49.95
1-1/2"	Very Fine	12,000	50	5650-508	5650-538	49.95
2"	Medium	12,000	50	5650-509	5650-539	55.80
2"	Fine	12,000	50	5650-510	5650-540	52.20
2"	Very Fine	12,000	50	5650-511	5650-541	52.20
3"	Medium	8,000	25	5650-512	5650-542	45.45
3"	Fine	8,000	25	5650-513	5650-543	41.18
3"	Very Fine	8,000	25	5650-514	5650-544	41.18



TS (SocAtt®)



TR (Lockit®)

# Non-Woven Abrasives

**Buy  
Std. Ctn.  
Deduct  
10%\***

**SA STANDARD  
ABRASIVES**

\*excluding accessories

## Type 27 Unitized Discs

Manufactured from the highest quality Unitized material. Unique design offers material removal while imparting a final finish. Used in conjunction with, and sometimes in lieu of, a coated abrasive Resin Fibre Disc or Flap Disc.

- Deburring
- Edge Breaking
- Blending
- Cleaning
- Final Polishing

<b>500</b>	Soft Density - Finishing & Polishing
<b>600</b>	Medium Density - Blending & Polishing
<b>700</b>	Medium Density - Deburring & Cleaning
<b>800</b>	Hard Density - Deburring

12

SIZE	SERIES	STD. CTN.	ORDER NO.	PRICE PER PKG
4-1/2 x 7/8	532	5	5651-130	\$17.83
4-1/2 x 7/8	632	5	5651-131	19.48
4-1/2 x 7/8	732	5	5651-132	20.36
4-1/2 x 7/8	821	5	5651-135	23.23
4-1/2 x 7/8	811	5	5651-133	23.23



## Surface Conditioning Flap Discs

**SA STANDARD  
ABRASIVES**

Deburring, edge breaking, blending, cleaning, finishing, and polishing after traditional grinding is done with a Resin Fibre or Flap Disc on Steel, Stainless or Aluminum.

12

SIZE	GRADE	STD. CTN.	ORDER NO.	PRICE PER PKG
4-1/2 x 7/8	Coarse	5	5651-850	\$14.88
4-1/2 x 7/8	Medium	5	5651-852	14.88
4-1/2 x 7/8	Very Fine	5	5651-854	14.88



## Quick Change Surface Conditioning Discs

Use on Die Grinders for deburring, blending, finishing, cleaning and polishing. Suitable for a wide variety of light fabrication, repair and for stainless steel, and ferrous & non-ferrous metals.

**CGW**

4

				<b>CGW</b>		
				ALUMINUM OXIDE		
DIAM.	GRIT	RPM	PKG. QTY.	ROLL ON (R HUB) ORDER NO.	TURN ON (S HUB) ORDER NO.	PRICE PER PACK
2"	Coarse	25,000	50	5723-300	5723-320	\$38.97
	Medium	25,000	50	5723-301	5723-321	38.97
	A Very Fine	25,000	50	5723-302	5723-322	36.92
3"	Coarse	20,000	25	5723-305	5723-325	36.41
	Medium	20,000	25	5723-306	5723-326	36.41
	A Very Fine	20,000	25	5723-307	5723-327	34.87



Roll On style, (R-Hub) shown

## Convolute Wheels

Convolute Wheels are constructed by wrapping non-woven nylon, impregnated throughout with abrasive grain, around a hard core.

### GP Plus Wheels

Removes medium to heavy burrs and edge breaking.

SIZE	GRAIN	SPEC.	GRADE	MAX. RPM	ORDER NO.	PRICE EACH
6 x 1/2 x 1	S/C	8SF	Fine	6,000	5651-880	\$ 44.23
6 x 1/2 x 1	S/C	8SM	Medium	6,000	5651-882	44.74
6 x 1/2 x 1	S/C	9SF	Fine	6,000	5651-881	44.23
6 x 1 x 1	S/C	8SF	Fine	6,000	5651-884	61.91
6 x 1 x 1	S/C	8SM	Medium	6,000	5651-887	62.64
6 x 1 x 1	S/C	9SF	Fine	6,000	5651-885	61.91
6 x 2 x 1	S/C	9SF	Fine	6,000	5651-888	110.26
8 x 1/2 x 3	S/C	8SF	Fine	4,500	5651-892	52.61
8 x 1/2 x 3	S/C	9SF	Fine	4,500	5651-893	52.61
8 x 1 x 3	S/C	8SF	Fine	4,500	5651-896	77.44
8 x 1 x 3	S/C	8SM	Medium	4,500	5651-894	78.31
8 x 1 x 3	S/C	9SF	Fine	4,500	5651-897	77.44
8 x 2 x 3	S/C	8SF	Fine	4,500	5651-900	135.02
8 x 2 x 3	S/C	8SM	Medium	4,500	5651-901	136.59
12 x 1/2 x 5	S/C	8SF	Fine	3,000	5651-904	74.23
12 x 1 x 5	S/C	8SF	Fine	3,000	5651-908	121.49
12 x 1 x 5	S/C	9SF	Fine	3,000	5651-909	121.49
12 x 2 x 5	S/C	8SF	Fine	3,000	5651-912	215.96
12 x 2 x 5	S/C	9SF	Fine	3,000	5651-913	215.96

### LDW (Light Deburring Wheels)

Removes light burrs; use prior to polishing.

SIZE	GRAIN	SPEC.	GRADE	MAX. RPM	ORDER NO.	PRICE EACH
6 x 1/2 x 1	S/C	6SF	Fine	6,000	5651-920	\$ 44.86
6 x 1/2 x 1	S/C	7SF	Fine	6,000	5651-921	47.84
6 x 1/2 x 1	S/C	8SF	Fine	6,000	5651-922	47.84
6 x 1 x 1	S/C	6SF	Fine	6,000	5651-926	62.78
#6 x 1 x 1	S/C	7SF	Fine	6,000	5651-927	66.97
6 x 1 x 1	S/C	8SF	Fine	6,000	5651-928	66.97
8 x 1/2 x 3	S/C	8SF	Fine	4,500	5651-934	56.93
8 x 1 x 3	S/C	7SF	Fine	4,500	5651-939	83.78
8 x 1 x 3	S/C	8SF	Fine	4,500	5651-940	83.78
12 x 1/2 x 5	S/C	7SF	Fine	3,000	5651-945	73.60
12 x 1/2 x 5	S/C	8SF	Fine	3,000	5651-946	73.60
12 x 1 x 5	S/C	7SF	Fine	3,000	5651-951	120.44
12 x 1 x 5	S/C	8SF	Fine	3,000	5651-952	120.44
12 x 2 x 5	S/C	8SF	Fine	3,000	5651-958	214.10



### Deburring Wheels

Excellent starting point for medium to heavy deburring and polishing.

SIZE	DENSITY	GRAIN	GRADE	MAX. RPM	ORDER NO.	PRICE EACH
6 x 1/2 x 1	Medium	S/C	Fine	6,000	5651-002	\$44.74
6 x 1/2 x 1	Hard	S/C	Fine	6,000	5651-003	44.74
6 x 1 x 1	Medium	S/C	Fine	6,000	5651-006	62.64
6 x 1 x 1	Hard	S/C	Fine	6,000	5651-007	62.64
6 x 2 x 1	Hard	S/C	Fine	6,000	5651-008	102.27
8 x 1/2 x 3	Hard	S/C	Fine	4,500	5651-010	53.23
8 x 1 x 3	Medium	S/C	Fine	4,500	5651-013	78.31
8 x 1 x 3	Hard	S/C	Fine	4,500	5651-014	78.31



## Standard Abrasives – Unitized Mounted Points

Unitized Mounted Points are made from high durability material and are available in standard ANSI shapes for varying workpiece dimensions and applications.



### Series:

**600** – High Durability, Medium density (Blending/Polishing)

**700** – High Durability, Medium density (Deburring/Cleaning)

**800** – High Durability, Hard density (Deburring/Cleaning)

### Size Chart:

A SHAPES							
SHAPE	MAX. RPM	SERIES	GRAIN	GRADE	PKG QTY	ORDER NO.	PRICE EACH
A21	34,500	631	A/O	Fine	5	5651-500	\$10.84
A21	34,500	632	S/C	Fine	5	5651-501	10.84
A21	34,500	731	A/O	Fine	5	5651-502	12.54
A21	34,500	732	S/C	Fine	5	5651-503	12.54
A21	34,500	811	A/O	Coarse	5	5651-504	12.65
A21	34,500	821	A/O	Medium	5	5651-505	12.65
A25	35,600	811	A/O	Coarse	5	5651-506	12.56
A25	35,600	821	A/O	Medium	5	5651-507	12.56

SHAPE	SIZE
A21	1" x 1" x 1/4"
A25	1" x 1" x 1/4"
B52	3/8" x 3/4" x 1/8"
B90	1/2" x 1/2" x 1/8"
B121	1/2" x 1/2" x 1/8"

SHAPE	SIZE
W160	1/4" x 1/4" x 1/8"
W163	1/4" x 1/2" x 1/8"
W183	1/2" x 1/4" x 1/8"
W185	1/2" x 1/2" x 1/8"
W220	1" x 1" x 1/4"

B SHAPES							
SHAPE	MAX. RPM	SERIES	GRAIN	GRADE	PKG QTY	ORDER NO.	PRICE EACH
B52	45,300	731	A/O	Fine	5	5651-508	\$5.09
B52	45,300	732	S/C	Fine	5	5651-509	5.09
B52	45,300	811	A/O	Coarse	5	5651-510	5.32
B52	45,300	821	A/O	Medium	5	5651-511	5.32
B90	34,500	731	A/O	Fine	5	5651-512	4.04
B90	34,500	732	S/C	Fine	5	5651-513	4.04
B90	34,500	811	A/O	Coarse	5	5651-514	4.60
B90	34,500	821	A/O	Medium	5	5651-515	4.60
B121	45,300	731	A/O	Fine	5	5651-516	4.41
B121	45,300	811	A/O	Coarse	5	5651-517	4.82
B121	45,300	821	A/O	Medium	5	5651-518	4.82

W SHAPES							
SHAPE	MAX. RPM	SERIES	GRAIN	GRADE	PKG QTY	ORDER NO.	PRICE EACH
W160	81,300	811	A/O	Coarse	5	5651-519	\$2.72
W160	81,300	821	A/O	Medium	5	5651-520	2.72
W163	60,000	811	A/O	Coarse	5	5651-521	3.20
W163	60,000	821	A/O	Medium	5	5651-522	3.20
W183	51,700	632	S/C	Fine	5	5651-523	3.08
W183	51,700	731	A/O	Fine	5	5651-524	3.20
W183	51,700	732	S/C	Fine	5	5651-525	3.22
W183	51,700	811	A/O	Coarse	5	5651-526	3.52
W183	51,700	821	A/O	Medium	5	5651-527	3.52
W185	34,500	631	A/O	Fine	5	5651-528	3.82
W185	34,500	632	S/C	Fine	5	5651-529	3.82
W185	34,500	731	A/O	Fine	5	5651-530	4.02
W185	34,500	732	S/C	Fine	5	5651-531	4.02
W185	34,500	811	A/O	Coarse	5	5651-532	4.46
W185	34,500	821	A/O	Medium	5	5651-533	4.46
W220	25,000	811	A/O	Coarse	5	5651-534	12.21
W220	25,000	821	A/O	Medium	5	5651-535	12.21

### 6" x 9" Hand Pads

Hand Pads are flexible, washable, and conform to workpiece. Ideal for hand applications on metals, composite or plastic surfaces. Use for cleaning, finishing or polishing. Color coded.



2

### Hand Pad Holder

For use with 3" x 6" pads

Order No. 5642-520

Price each ..... \$13.75



4

4

COLOR CODE	APPLICATION	IMPORT			TIGER			STANDARD ABRASIVES		
		ORDER NO.	PKG QTY	PRICE PER PKG	ORDER NO.	PKG QTY	PRICE PER PKG	ORDER NO.	PKG QTY	PRICE PER PKG
White	<b>Non-Abrasive Pad</b> For Polishing and Light Cleaning	5718-100	20	\$15.65	-	-	-	5651-700	60	\$59.91
Grey	<b>Ultra-Fine S/C Abrasive Pad</b> For Free Hand Cleaning & Finishing Usable with mild detergents	5718-105	20	15.65	6551-434	60	\$69.14	5651-705	60	58.90
Maroon	<b>General Purpose A/O Abrasive Pad</b> For Basic Cleaning and Finishing Usable with most solvents	5718-110	20	15.65	6551-444	60	69.14	5651-710	60	58.90
					Economy Grade					
					6551-460	60	52.16			
Tan	<b>Heavy Duty A/O Abrasive Pad</b> For Heavy Duty Cleaning or Fast Action Finishing Usable with most solvents	5718-120	10	20.80	6551-454	40	110.68	5651-720	40	98.80

### Scouring Hand Pads

Green	Industrial	5718-115	20	15.65	-	-	-	5651-715	60	61.13
Green	Commercial (Food Processing)	-	-	-	6551-457	60	55.06	-	-	-

# HAND TOOLS

**VAUGHAN®**  
PROFESSIONAL HAMMERS

**GROBET®**  
PATTERN & PRECISION FILES

**WILLIAMS.**  
SOCKETS, WRENCHES &  
MISCELLANEOUS TOOLS

**BONDHUS®**  
HEX & BALL  
DRIVER TOOLS

**Pittsburg**  
ALLEGHANY  
GLOBALLY SOURCED  
TOOLS PROVIDING A  
BALANCE OF QUALITY & PRICE

**LUTZ**  
FILE HANDLES

**ARMSTRONG®**  
SOCKETS, WRENCHES &  
MISCELLANEOUS TOOLS

**GENERAL®**  
SHOP TOOLS

**RAYOVAC**  
BATTERIES & FLASHLIGHTS

**IRWIN.**  
ELECTRONIC MARKING

**WISE-GRIP®**  
LOCKING PLIERS

**GEARWRENCH®**  
SOCKET SETS

**Wiha®**  
SCREWDRIVERS, TORX TOOLS,  
INSULATED TOOLS

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## 6 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/8	-	-	-	0.82	7510-004	\$4.49
5/32	-	-	-	0.82	7510-005	4.49
3/16	1	7230-106	\$2.60	0.82	7510-006	4.49
7/32	1	7230-107	2.63	0.82	7510-007	4.49
1/4	1	7230-108	2.65	0.82	7510-008	4.52
9/32	1	7230-109	2.68	0.82	7510-009	4.56
5/16	1	7230-110	2.69	0.82	7510-010	4.56
11/32	1	7230-111	2.71	0.82	7510-011	4.61
3/8	1	7230-112	2.74	0.82	7510-012	4.68
7/16	1	7230-114	2.77	0.82	7510-014	4.71
1/2	1	7230-116	2.78	0.82	7510-016	4.76
9/16	1	7230-118	2.81	0.82	7510-018	4.79

## 6 Pt. - Deep Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/8	-	-	-	2.010	7510-204	\$6.57
5/32	-	-	-	2.010	7510-205	6.67
3/16	1-31/32	7230-306	\$3.77	2.010	7510-206	6.68
7/32	1-31/32	7230-307	3.86	2.010	7510-207	6.76
1/4	1-31/32	7230-308	3.91	2.010	7510-208	6.87
9/32	1-31/32	7230-309	3.96	2.010	7510-209	6.91
5/16	1-31/32	7230-310	4.00	2.010	7510-210	7.03
11/32	1-31/32	7230-311	4.03	2.010	7510-211	7.10
3/8	1-31/32	7230-312	4.04	2.010	7510-212	7.10
7/16	1-31/32	7230-314	4.07	2.010	7510-214	7.14
1/2	1-31/32	7230-316	4.09	2.010	7510-216	7.18
9/16	1-31/32	7230-318	4.12	2.010	7510-218	7.22

## Metric Sockets- 6 Pt. - Standard Length

SIZE MM	WILLIAMS®			ARMSTRONG®		
	L'GTH	ORDER NO.	PRICE EACH	L'GTH	ORDER NO.	PRICE EACH
4	1	7230-504	\$2.59	0.82	7537-004	\$4.83
4.5	-	-	-	0.82	7537-081	4.83
5	1	7230-505	2.60	0.82	7537-005	4.86
5.5	1	7230-599	2.63	0.82	7537-083	4.90
6	1	7230-506	2.68	0.82	7537-006	4.95
7	1	7230-507	2.68	0.82	7537-007	5.10
8	1	7230-508	2.69	0.82	7537-008	5.01
9	1	7230-509	2.71	0.82	7537-009	5.06
10	1	7230-510	2.74	0.82	7537-010	5.09
11	1	7230-511	2.77	0.82	7537-011	5.13
12	1	7230-512	2.78	0.82	7537-012	5.17
13	1	7230-513	2.81	0.82	7537-013	5.21
14	1	7230-514	2.84	0.82	7537-014	5.25
15	-	-	-	0.82	7537-015	5.29

## Metric Sockets- 6 Pt. - Deep Length

SIZE MM	WILLIAMS® USA			ARMSTRONG®		
	L'GTH	ORDER NO.	PRICE EACH	L'GTH	ORDER NO.	PRICE EACH
4	2	7220-220	\$6.57	2.010	7537-204	\$7.44
4.4	-	-	-	2.010	7537-281	7.46
5	2	7220-221	6.57	2.010	7537-205	7.52
5.5	2	7220-222	6.62	2.010	7537-283	7.51
6	2	7220-223	6.66	2.010	7537-206	7.60
7	2	7220-224	6.67	2.010	7537-207	7.68
8	2	7220-225	6.69	2.010	7537-208	7.93
9	2	7220-226	6.71	2.010	7537-209	7.71
10	2	7220-227	6.74	2.010	7537-210	7.76
11	2	7220-228	6.75	2.010	7537-211	7.76
12	2	7220-229	6.78	2.010	7537-212	7.87
13	2	7220-230	6.80	2.010	7537-213	7.90
14	2	7220-231	6.83	2.010	7537-214	7.99
15	-	-	-	2.010	7537-215	8.04



Standard Length



Deep Length

## 12 Pt. - Standard Length

SIZE	WILLIAMS® USA			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/16	-	-	-	0.82	7510-106	\$4.76
7/32	-	-	-	0.82	7510-107	4.76
1/4	7/8	7220-080	\$4.31	0.82	7510-108	4.83
9/32	-	-	-	0.82	7510-109	4.86
5/16	7/8	7220-081	4.43	0.82	7510-110	4.90
11/32	7/8	7220-082	4.43	0.82	7510-111	4.90
3/8	7/8	7220-083	4.43	0.82	7510-112	4.98
7/16	7/8	7220-084	4.44	0.82	7510-114	5.06
1/2	7/8	7220-085	4.47	0.82	7510-116	5.09
9/16	7/8	7220-086	4.48	0.82	7510-118	5.13

## 12 Pt. - Deep Length

SIZE	WILLIAMS® USA			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/16	-	-	-	1.940	7510-306	\$7.06
7/32	-	-	-	1.940	7510-307	7.14
1/4	-	-	-	1.940	7510-308	7.18
9/32	-	-	-	1.940	7510-309	7.25
5/16	2	7220-115	\$6.36	1.940	7510-310	7.33
11/32	2	7220-116	6.41	1.940	7510-311	7.37
3/8	2	7220-117	6.44	1.940	7510-312	7.44
7/16	2	7220-118	6.48	1.940	7510-314	7.56
1/2	2	7220-119	6.50	1.940	7510-316	7.60
9/16	2	7220-120	6.55	1.940	7510-318	7.68

## GEARWRENCH® XL Pass-Thru Ratchet Set - 1/4" 27 Pc.



• 27 Pc. Set includes 1/4" XL Pass-Thru Ratchet with Locking Flex GearRatchet feature, SAE and METRIC Vortex Sockets (5/32" - 9/16", 4 - 13 mm), 3" & 6" Vortex Extension, and 1/4" Pass-Thru Adapter. Eliminates need for deep sockets.

Order No. 7440-667 Price Each: \$64.27

# 3/8" Drive Sockets



Standard Length



Deep Length

## 6 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG®			Pittsburg® ALLEGHANY		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	1	7231-108	\$3.03	0.872	7511-008	\$5.08	1.102	7706-031	\$1.17
5/16	1	7231-110	3.03	0.872	7511-010	5.08	1.102	7706-032	1.17
11/32	-	-	-	0.872	7511-011	5.09	-	-	-
3/8	1	7231-112	3.03	0.872	7511-012	5.09	1.102	7706-033	1.98
7/16	1	7231-114	3.14	0.872	7511-014	5.16	1.102	7706-034	1.98
1/2	1	7231-116	3.14	0.900	7511-016	5.25	1.102	7706-035	1.98
9/16	1-1/16	7231-118	3.24	0.900	7511-018	5.38	1.102	7706-036	1.98
5/8	1-1/16	7231-120	3.24	0.972	7511-020	5.46	1.102	7706-037	2.21
11/16	1-1/16	7231-122	3.24	0.972	7511-022	5.62	1.181	7706-038	2.26
3/4	1-1/8	7231-124	3.35	1.097	7511-024	5.88	1.181	7706-039	2.29
13/16	1-1/8	7231-126	3.66	1.097	7511-026	6.39	1.181	7706-040	3.28
7/8	1-7/32	7231-128	3.78	1.200	7511-028	6.88	1.181	7706-041	3.45
15/16	1-7/32	7231-130	4.33	1.505	7511-030	7.74	1.181	7706-042	3.52
1	1-7/32	7231-132	4.52	1.580	7511-032	8.20	-	-	-

## 12 Pt. - Standard Length

SIZE	WILLIAMS® USA			ARMSTRONG®			Pittsburg® ALLEGHANY		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	29/32	7221-090	\$4.56	0.872	7511-108	\$5.08	1.102	7706-075	\$1.21
5/16	29/32	7221-091	4.56	0.872	7511-110	5.08	1.102	7706-076	1.16
11/32	29/32	7221-092	4.56	0.872	7511-111	5.09	-	-	-
3/8	29/32	7221-093	4.56	0.872	7511-112	5.09	1.102	7706-077	1.16
7/16	29/32	7221-094	4.65	0.872	7511-114	5.16	1.102	7706-078	1.16
1/2	15/16	7221-095	4.65	0.900	7511-116	5.25	1.102	7706-079	1.21
17/32	1	7221-096	4.98	-	-	-	-	-	-
9/16	1	7221-097	4.92	0.900	7511-118	5.38	1.102	7706-080	1.28
19/32	1-1/32	7221-098	5.19	0.972	7511-119	5.68	-	-	-
5/8	1-3/32	7221-099	4.92	0.972	7511-120	5.39	1.102	7706-081	1.36
11/16	1-3/32	7221-100	4.92	0.972	7511-122	5.62	1.102	7706-082	1.48
3/4	1-3/16	7221-101	5.10	1.097	7511-124	5.62	1.181	7706-083	1.73
13/16	1-7/32	7221-102	5.54	1.135	7511-126	6.39	-	-	-
7/8	1-5/16	7221-103	5.70	1.200	7511-128	6.83	1.181	7706-085	2.07
15/16	1-3/8	7221-104	6.48	1.265	7511-130	7.74	1.181	7706-086	2.21
1	1-13/32	7221-105	6.67	1.312	7511-132	8.13	-	-	-

## 6 Pt. - Deep Length

SIZE	WILLIAMS® USA			ARMSTRONG®			Pittsburg® ALLEGHANY		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	2-1/8	7221-110	\$5.69	1.953	7511-208	\$6.75	-	-	-
5/16	2-1/8	7221-111	5.84	1.953	7511-210	7.14	2.460	7706-341	\$2.09
11/32	2-1/8	7221-112	5.84	1.953	7511-211	7.17	-	-	-
3/8	2-1/8	7221-113	6.00	2.430	7511-212	7.18	2.460	7706-342	3.09
7/16	2-1/8	7221-114	6.00	2.430	7511-214	7.18	2.460	7706-343	3.09
1/2	2-1/8	7221-115	6.00	2.430	7511-216	7.18	2.460	7706-344	3.23
9/16	2-3/8	7221-116	6.29	2.430	7511-218	7.65	2.460	7706-345	3.57
5/8	2-3/8	7221-117	6.49	2.430	7511-220	7.87	2.460	7706-346	3.59
11/16	2-5/8	7221-118	7.17	2.430	7511-222	8.68	2.460	7706-347	3.62
3/4	2-5/8	7221-119	8.15	2.430	7511-224	9.19	2.460	7706-348	3.86
13/16	2-3/4	7221-120	8.64	2.460	7511-226	10.07	2.460	7706-349	4.23
7/8	2-3/4	7221-121	9.71	2.460	7511-228	11.00	2.460	7706-350	4.71
15/16	2-3/4	7221-122	11.38	2.500	7511-230	12.97	-	-	-
1	2-3/4	7221-123	12.58	2.500	7511-232	14.36	-	-	-

## 12 Pt. - Deep Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	2-1/2	7231-408	\$3.98	1.953	7511-308	\$6.75
5/16	2-1/2	7231-410	3.98	1.953	7511-310	7.14
11/32	-	-	-	1.953	7511-311	7.17
3/8	2-1/2	7231-412	3.98	2.430	7511-312	7.18
7/16	2-1/2	7231-414	3.98	2.430	7511-314	7.18
1/2	2-1/2	7231-416	3.98	2.430	7511-316	7.18
9/16	2-3/2	7231-418	4.22	2.430	7511-318	7.65
5/8	2-3/2	7231-420	4.37	2.430	7511-320	7.87
11/16	2-5/2	7231-422	4.80	2.430	7511-322	8.68
3/4	2-5/2	7231-424	5.45	2.430	7511-324	9.19
13/16	2-3/2	7231-426	5.82	2.460	7511-326	10.07
7/8	2-3/2	7231-428	6.52	2.460	7511-328	11.00
15/16	2-3/2	7231-430	7.67	2.500	7511-330	12.97
1	2-3/2	7231-432	8.49	2.500	7511-332	14.36

## Metric Sockets - 6 Pt. - Standard Length

SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
6	1	7231-506	\$2.78	22.1	7538-006	\$5.32
7	1	7231-507	3.02	22.1	7538-007	5.32
8	1	7231-508	3.02	22.1	7538-008	5.32
9	1	7231-509	3.02	22.1	7538-009	5.41
10	1	7231-510	3.02	22.1	7538-010	5.44
11	1	7231-511	3.12	22.1	7538-011	5.48
12	1	7231-512	3.12	22.9	7538-012	5.52
13	1	7231-513	3.12	22.9	7538-013	5.71
14	1	7231-514	3.24	22.9	7538-014	5.56
15	1-1/16	7231-515	3.24	22.9	7538-015	5.56
16	1-1/16	7231-516	3.24	24.7	7538-016	5.56
17	1-1/16	7231-517	3.24	24.7	7538-017	5.79
18	1-1/16	7231-518	3.24	27.9	7538-018	5.79
19	1-5/32	7231-519	3.35	27.9	7538-019	5.79
20	-	-	-	31.2	7538-020	6.09
21	-	-	-	30.5	7538-021	6.18
22	-	-	-	34.9	7538-022	6.40
23	-	-	-	34.9	7538-023	6.98
24	-	-	-	-	-	-
25	-	-	-	-	-	-
26	-	-	-	41.3	7538-026	7.95

## Metric Sockets - 12 Pt. - Standard Length

SIZE (MM)	WILLIAMS® USA			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
6	29/32	7221-225	\$4.63	22.2	7538-106	\$5.32
7	29/32	7221-226	4.66	22.2	7538-107	5.32
8	29/32	7221-227	4.66	22.2	7538-108	5.32
9	29/32	7221-228	4.70	22.1	7538-109	5.41
10	29/32	7221-229	4.70	22.1	7538-110	5.44
11	29/32	7221-230	4.77	22.2	7538-111	5.48
12	15/16	7221-231	4.77	22.9	7538-112	5.52
13	31/32	7221-232	4.77	22.9	7538-113	5.56
14	1	7221-233	5.02	22.9	7538-114	5.56
15	1-1/32	7221-234	5.02	22.9	7538-115	5.56
16	1-3/32	7221-235	5.02	24.7	7538-116	5.56
17	1-3/32	7221-236	5.02	24.7	7538-117	5.79
18	1-1/8	7221-237	5.02	27.9	7538-118	5.79
19	1-3/16	7221-238	5.25	27.9	7538-119	5.79
20	1-7/32	7221-239	5.32	31.2	7538-120	5.91
21	1-1/4	7221-240	5.56	30.5	7538-121	6.21
22	1-9/32	7221-241	5.71	34.9	7538-122	6.40
23	1-5/16	7221-242	5.90	34.9	7538-123	6.98
24	1-3/8	7221-243	6.71	-	-	-
26	1-7/16	7221-245	7.17	41.3	7538-126	7.95



## Metric Sockets - 6 Pt. - Deep Length



SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	OVERALL LENGTH	ORDER NO.	PRICE EACH	OVERALL LENGTH	ORDER NO.	PRICE EACH
6	2-1/8	7221-250	\$6.14	50.8	7538-206	\$7.22
7	2-1/8	7221-251	6.14	50.8	7538-207	7.22
8	2-1/8	7221-252	6.14	50.8	7538-208	7.22
9	2-1/8	7221-253	6.23	61.7	7538-209	7.33
10	2-1/8	7221-254	6.23	61.7	7538-210	7.33
11	2-1/8	7221-255	6.23	61.7	7538-211	7.33
12	2-1/8	7221-256	6.23	61.7	7538-212	7.33
13	2-1/8	7221-257	6.23	61.7	7538-213	7.33
14	2-3/8	7221-258	6.65	61.7	7538-214	7.71
15	2-3/8	7221-259	6.65	61.7	7538-215	7.71
16	2-3/8	7221-260	6.69	61.7	7538-216	7.71
17	2-5/8	7221-261	6.76	61.7	7538-217	7.71
18	2-5/8	7221-262	7.24	61.7	7538-218	8.29
19	2-5/8	7221-263	7.62	61.7	7538-219	8.84
20	2-5/8	7221-264	8.28	71.5	7538-220	9.53
21	-	-	-	71.5	7538-221	9.84
22	2-7/8	7221-265	10.00	73.0	7538-222	11.00
23	2-7/8	7221-266	11.59	73.0	7538-223	12.97
24	2-7/8	7221-267	12.33	-	-	-
25	2-7/8	7221-268	12.67	-	-	-
26	-	-	-	77.0	7538-226	14.11

## Metric Sockets - 12 Pt. - Deep Length



SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	OVERALL LENGTH	ORDER NO.	PRICE EACH	OVERALL LENGTH	ORDER NO.	PRICE EACH
6	-	7231-806	\$4.10	50.8	7538-306	\$7.22
7	-	7231-807	4.10	2.513	7538-307	7.22
8	-	7231-808	4.10	2.513	7538-308	7.22
9	-	7231-809	4.10	2.513	7538-309	7.33
10	-	7231-810	4.10	2.513	7538-310	7.33
11	-	7231-811	4.10	2.513	7538-311	7.33
12	-	7231-812	4.10	2.513	7538-312	7.33
13	-	7231-813	4.10	2.513	7538-313	7.33
14	-	7231-814	4.28	2.513	7538-314	7.71
15	-	7231-815	4.28	2.513	7538-315	7.71
16	-	7231-816	4.28	2.513	7538-316	7.71
17	-	7231-817	4.28	2.513	7538-317	7.71
18	-	7231-818	4.58	2.513	7538-318	8.29
19	-	7231-819	4.90	2.513	7538-319	8.84
20	-	-	-	2.513	7538-320	9.53
21	-	-	-	2.513	7538-321	9.57
22	-	-	-	2.513	7538-322	10.35
23	-	-	-	2.513	7538-323	12.20
26	-	-	-	2.513	7538-326	15.42

## Socket Sets with Clips & Rail



SET PIECES	SIZES/ DESCRIPTION	SOCKET TYPE	WILLIAMS®		ARMSTRONG®		Pittsburg® ALLEGHANY	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
10	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" (6 pt.)	standard deep	-	-	-	-	7707-836	\$9.51
			-	-	-	-	7707-840	17.72
			-	-	-	-	-	-
			-	-	-	-	-	-
10	9-15mm metric (6 pt.)	standard deep	-	-	-	-	7707-837	9.51
			-	-	-	-	7707-841	17.72
12	8-19mm metric (12 pt.)	standard deep	-	-	7544-340	\$66.38	-	-
			-	-	7544-360	90.63	-	-
14	6-19mm metric	standard deep	7231-932	\$37.18	-	-	-	-
			7231-936	50.45	-	-	-	-
13	1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1"	standard	7231-924	38.03	7515-355	79.67	-	-
			(6 pt.)	-	(12 pt.)	-	-	-
		deep	7231-928	57.15	7515-375	118.73	-	-
			(12 pt.)	-	(12 pt.)	-	-	-

## 3/8" Hex Bit and TORX® Bit Sets



SET PIECES	SIZES/ DESCRIPTION	WILLIAMS®		ARMSTRONG®	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7 (hex)	1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8"	-	-	7515-440	\$63.99
7 (TORX)	T25, T27, T30, T40, T45, T47, T50	7231-910	\$39.78	-	-
8 (TORX)	T15, T20, T25, T27, T30, T40, T45, T50	-	-	7515-445	73.34

## WILLIAMS® TURBOSOCKET® Salvage Socket Sets, 6 pt.



• Clips and Rail Included • Black Finish

SET PCS.	DESCRIPTION	ORDER NO.	PRICE
7	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"	7232-477	\$125.85
9	metric (mm): 10, 11, 12, 13, 14, 15, 16, 17, 19	7232-476	167.93
13	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4" 10, 12-15, 17mm	7232-475	212.53



## 15 pc. Drive Socket Set

- Pro-quality, high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE® lobular openings for greater turning power
- Packed in rugged compact high-density polyethylene (HDPE) case: strong, durable, lightweight



DESCRIPTION	ORDER NO.	PRICE
Std. 12pt. 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8	7296-437	\$36.49
DRIVE TOOLS		
7-3/4" Pear Head Ratchet, Extensions: 3, 6", Universal Joint		



## 22 pc. Socket Set

- Contains 18 sockets, 4 drive tools in steel case



DESCRIPTION	ORDER NO.	PRICE
3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8" (std./deep)	7515-325	\$224.68
DRIVE TOOLS		
Extensions- 3, 6", Universal Joint, Ratchet-7-3/8"		



## 57 pc. Drive Socket Set (Metric)

- Contains: 44 sockets, 14 Drive Tools, in Steel Case



DESCRIPTION	ORDER NO.	PRICE
57 pc. set	7544-305	\$694.09
STANDARD SOCKETS	DEEP SOCKETS	
17 pc. - 6-22mm	14 pc. - 6-19mm	
SCREWDRIVER SOCKETS	HEX DRIVER SOCKETS	
1/4 x 1/32", #2,3,4	4-10mm	
DRIVE TOOLS (3/8" DR.)		
Breaker Bar- 8-1/2" Flex Extension, 7-1/4" Speeder, T-Handle Plastic Handle Driver, 6" Ratchet Spinner Ratchet, 7-3/8"	Extensions, 3, 6, 12" Locking Adapter Adapter, 1/2" M Ratchet Adapter Universal Joint Ratchet Flex Head	



## 29 pc. Socket Set



- In Metal Box • Fully Polished

DESCRIPTION	ORDER NO.	PRICE
5/8-7/8" (12 pt.) 1/4-5/16" (6 pt.) 6-19mm (6 pt. metric)	7292-885	\$219.89
DRIVE TOOLS		
Enclosed Head Ratchet, 8" Extensions, 3, 6", Universal Joint		



## 29 pc. Socket Set (Metric)

- Includes Socket Bar • Fully Polished



DESCRIPTION	ORDER NO.	PRICE
8-19mm std./deep (metric)	7544-310	\$283.35
DRIVE TOOLS		
Ratchet Handle, 3, 6" Extension Bar Universal Joint		



## XL Pass-Thru Ratchet Set - 3/8" 23 Pc.

23 Pc. Set includes 3/8" XL Pass-Thru Ratchet with Locking Flex GearRatchet feature, SAE and Metric Vortex Sockets (3/8" - 7/8", 8mm - 19mm), 3" & 6" Vortex Extension, and 1.17" Pass-Thru Adapter. Eliminates need for deep sockets.



Order No. 7440-669 Price Each: \$80.35



## 95 pc. Master Socket & Tool Set

### 3/8" & 1/4" Drive



DESCRIPTION	ORDER NO.	PRICE
1/4: 3/16-9/16 std./deep, 1/8-5/16, 3-8mm hex, T10-T30 Torx, 5/32 slotted-#2 phillips bit 3/8: 3/8-1 std./deep (4) Screwdrivers: 3/16", 1/4" x 4" slt., #1, #2 x 4" phillips (9) 12pt. Wrenches: 1/4"-3/4"	7250-611	\$305.79
DRIVE TOOLS		
38-tooth Quick-Release Ratchet (1/4, 3/8), Extensions: 1/4: 1-1/2, 3", 3/8: 3.6, 10" Flex Handle (1/4, 3/8: 10"), Spinner Handle (1/4), Universal Joint (1/4, 3/8), Sliding T-Handle (3/8) 1/4"F x 3/8" M Adapter, 3/8"F x 1/4" M Adapter, 3/8"F x 1/2" M Adapter		

3

- Pro-quality, hi-grade chrome vanadium steel
- Supertorque® lobular openings for greater turning power without deforming the fastener
- Rugged high-density polyethylene (HDPE) case - strong, durable, and lightweight
- 2-component handles, easy-grip, comfortable to carry
- Shock-proof case at high/low temps, equipped with heavy-duty metal latches & hinges



DESCRIPTION	ORDER NO.	PRICE
1/4: 5/32-1/4 slotted, #0-#3 phillips bit #1-#2 sq. tip, 1/8-1/4 hex tip 3/8: 1/4-1 std./deep, 6/12pt. 6-19 mm std./deep	7250-607	\$204.67
DRIVE TOOLS		
38-tooth Quick-Release Ratchet (3/8), Extensions: 3/8: 3.6, 10" Flex Handle (3/8: 10"), Spinner Handle (1/4), Universal Joint (1/4, 3/8), Sliding T-Handle (3/8) 1/4"F x 3/8" M Adapter, 3/8"F x 1/4" M Adapter, 3/8"F x 1/2" M Adapter 1/4" Hex Bit Holder		

3



## 34 pc., 3/8" Drive Basic Tool Set



DESCRIPTION	ORDER NO.	PRICE
3/8": 1/4-1 std., 6 pt. 1/4" hex bits: 5/32-1/4 slt. #0-#3 phillips, #1-#2 sq. tip 1/8-1/4 hex tip	7250-603	\$81.69
DRIVE TOOLS		
1/4: Spinner Handle, Universal Joint, 1/4" 1/4" Hex Bit Holder 3/8: 7-3/4" Ratchet, Extensions: 3", 6", Universal Joint, 1/4" Hex Bit Holder		

3

# 1/2" Drive Sockets

## 6 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	1-1/2	7222-070	\$5.69	1.455	7512-012	\$7.05
7/16	1-1/2	7222-071	5.69	1.455	7512-014	7.05
1/2	1-1/2	7222-072	5.77	1.455	7512-016	7.05
9/16	1-1/2	7222-073	5.80	1.455	7512-018	7.05
19/32	1-17/32	7222-074	5.95	-	-	-
5/8	1-17/32	7222-075	5.90	1.455	7512-020	7.28
21/32	1-17/32	7222-076†	5.35	-	-	-
11/16	1-17/32	7222-077	6.52	1.455	7512-022	7.81
3/4	1-17/32	7222-078	6.57	1.455	7512-024	7.81
25/32	1-17/32	7222-079	6.79	-	-	-
13/16	1-9/16	7222-080	7.53	1.455	7512-026	8.70
7/8	1-3/4	7222-081	7.53	1.455	7512-028	8.70
15/16	1-3/4	7222-082	7.62	1.455	7512-030	9.42
1	1-3/4	7222-083	8.58	1.580	7512-032	10.06
1-1/16	1-3/4	7222-084	9.02	1.580	7512-034	11.35
1-1/8	1-3/4	7222-085	10.77	1.640	7512-036	13.16
1-3/16	-	-	-	1.718	7512-038	14.45
1-1/4	2	7222-086	12.22	1.715	7512-040	15.41
1-5/16	-	-	-	2.063	7512-042	17.79
1-3/8	-	-	-	2.125	7512-044	20.64
1-7/16	-	-	-	2.188	7512-046	23.26
1-1/2	-	-	-	2.250	7512-048	24.90



## 12 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG®			Pittsburg®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	1-1/2	7232-212	\$3.72	1.455	7512-112	\$7.05	1.496	7706-140	\$1.60
7/16	1-1/2	7232-214	3.72	1.455	7512-114	6.75	1.496	7706-141	2.76
1/2	1-1/2	7232-216	3.72	1.455	7512-116	6.75	1.496	7706-142	2.76
9/16	1-1/2	7232-218	3.72	1.455	7512-118	6.75	1.496	7706-143	2.81
19/32	-	-	-	1.455	7512-119	6.87	-	-	-
5/8	1-1/2	7232-220	3.72	1.455	7512-120	6.99	1.496	7706-144	2.92
21/32	-	-	-	1.455	7512-121	7.44	-	-	-
11/16	-	7232-222	4.24	1.455	7512-122	7.49	1.496	7706-145	2.95
3/4	-	7232-224	4.24	1.455	7512-124	7.49	1.496	7706-146	2.95
25/32	-	-	-	1.455	7512-125	7.95	-	-	-
13/16	1-1/2	7232-226	4.90	1.455	7512-126	8.60	1.496	7706-147	3.07
7/8	1-5/8	7232-228	4.90	1.455	7512-128	8.60	1.496	7706-148	3.28
15/16	1-5/8	7232-230	4.90	1.455	7512-130	9.03	1.496	7706-149	4.38
31/32	-	-	-	-	-	-	-	-	-
1	1-5/8	7232-232	5.50	1.580	7512-132	9.64	1.575	7706-150	4.95
1-1/16	1-3/4	7232-234	5.96	1.580	7512-134	10.87	1.575	7706-151	5.43
1-1/8	1-3/4	7232-236	6.84	1.640	7512-136	12.23	1.654	7706-152	5.95
1-3/16	1-3/4	7232-238	7.41	1.718	7512-138	13.86	1.654	7706-153	3.74
1-1/4	1-3/4	7232-240	8.06	1.770	7512-140	14.77	1.654	7706-154	7.02
1-5/16	-	-	-	2.063	7512-142	17.05	-	-	-
1-3/8	-	-	-	2.125	7512-144	19.79	-	-	-
1-7/16	-	-	-	2.187	7512-146	22.30	-	-	-
1-1/2	1-31/32	7232-248	11.57	2.187	7512-148	24.61	-	-	-

## 6 Pt. - Deep Length

† Limited Quantities

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	-	-	-	3.185	7512-212	\$11.81
7/16	-	-	-	3.185	7512-214	11.81
1/2	3-7/32	7222-135	\$10.12	3.185	7512-216	11.88
9/16	3-7/32	7222-136	10.32	3.185	7512-218	11.96
5/8	3-1/4	7222-137	10.42	3.205	7512-220	12.15
11/16	3-1/4	7222-138	10.46	3.205	7512-222	12.20
3/4	3-1/4	7222-139	10.91	3.205	7512-224	12.27
13/16	3-1/4	7222-140	11.00	3.205	7512-226	13.31
7/8	3-1/4	7222-141	11.94	3.205	7512-228	14.14
15/16	3-1/4	7222-142	12.45	3.205	7512-230	15.24
1	3-1/4	7222-143	13.56	3.205	7512-232	15.32
1-1/16	3-1/4	7222-144	14.16	3.205	7512-234	16.90
1-1/8	3-1/4	7222-145	14.72	3.205	7512-236	18.25
1-3/16	-	-	-	3.235	7512-238	21.60
1-1/4	-	-	-	3.235	7512-240	22.92
1-5/16	-	-	-	3.235	7512-242	26.47
1-3/8	-	-	-	3.235	7512-244	29.05
1-7/16	-	-	-	3.235	7512-246	32.53
1-1/2	-	-	-	3.235	7512-248	37.27

## 12 Pt. - Deep Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	-	-	-	3.185	7512-312	\$11.81
7/16	-	-	-	3.185	7512-314	11.81
1/2	3-1/4	7222-150	\$10.12	3.185	7512-316	11.88
9/16	3-1/4	7222-151	10.32	3.185	7512-318	11.96
5/8	3-1/4	7222-152	10.42	3.205	7512-320	12.15
11/16	3-1/4	7222-153	10.46	3.205	7512-322	12.20
3/4	3-1/4	7222-154	10.91	3.267	7512-324	12.27
25/32	3-1/4	7222-155	11.14	-	-	-
13/16	3-1/4	7222-156	11.00	3.267	7512-326	13.31
7/8	3-1/4	7222-157	11.94	3.267	7512-328	14.14
15/16	3-1/4	7222-158	12.45	3.267	7512-330	14.77
1	3-1/4	7222-159	13.56	3.267	7512-332	15.32
1-1/16	3-1/4	7222-160	14.16	3.267	7512-334	16.90
1-1/8	3-1/4	7222-161	14.72	3.267	7512-336	18.25
1-3/16	-	-	-	1.718	7512-338	19.99
1-1/4	-	-	-	1.715	7512-340	22.05
1-5/16	-	-	-	2.063	7512-342	26.47
1-3/8	-	-	-	2.125	7512-344	29.05
1-7/16	-	-	-	2.188	7512-346	32.53
1-1/2	-	-	-	2.250	7512-348	37.27

## Metric Sockets- 12 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG®			Pittsburg®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
9	1-1/2	7232-609	\$3.94	-	-	-	-	-	-
10	1-1/2	7232-610	3.94	1.510	7539-110	\$6.99	-	-	-
11	1-1/2	7232-611	3.94	1.510	7539-111	6.99	-	-	-
12	1-1/2	7232-612	3.94	1.510	7539-112	6.99	1.496	7706-187	\$2.76
13	1-1/2	7232-613	3.94	1.510	7539-113	6.99	1.496	7706-188	2.76
14	1-1/2	7232-614	3.94	1.510	7539-114	6.99	1.496	7706-189	2.79
15	1-1/2	7232-615	3.94	1.510	7539-115	6.99	1.496	7706-190	2.81
16	1-1/2	7232-616	3.94	1.510	7539-116	6.99	1.496	7706-191	2.81
17	1-1/2	7232-617	4.52	1.510	7539-117	7.60	1.496	7706-192	2.92
18	1-1/2	7232-618	4.52	1.510	7539-118	7.60	1.496	7706-193	2.95
19	1-1/2	7232-619	4.52	1.510	7539-119	7.60	1.496	7706-194	3.02
20	1-1/2	7232-620	5.22	1.510	7539-120	8.60	1.496	7706-195	3.07
21	1-1/2	7232-621	5.22	1.510	7539-121	8.60	1.496	7706-196	3.07
22	1-5/8	7232-622	5.22	1.510	7539-122	8.60	1.496	7706-197	3.23
23	1-5/8	7232-623	5.22	1.510	7539-123	9.19	1.496	7706-198	4.38
24	1-5/8	7232-624	5.37	1.510	7539-124	9.41	1.496	7706-199	4.38
25	1-5/8	7232-625	5.84	1.510	7539-125	10.11	-	-	-
26	1-3/4	7232-626	6.18	1.635	7539-126	10.92	-	-	-
27	1-3/4	7232-627	6.34	1.635	7539-127	11.12	-	-	-
28	1-3/4	7232-628	7.46	1.697	7539-128	12.31	-	-	-
29	1-3/4	7232-629	7.52	-	-	-	-	-	-
30	1-3/4	7232-630	8.39	1.697	7539-130	14.16	-	-	-
31	1-3/4	7232-632	10.30	-	-	-	-	-	-
32	1-31/32	7232-636	13.06	1.770	7539-132	17.02	-	-	-
36	-	-	-	1.920	7539-136	21.54	-	-	-

## Metric Sockets- 12 Pt. - Deep Length

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
10	-	-	-	81.4	7539-310	\$11.78
11	-	-	-	81.4	7539-311	11.81
12	-	-	-	81.4	7539-312	11.88
13	3-1/4	7222-240	\$10.59	81.4	7539-313	11.92
14	3-1/4	7222-241	10.64	81.4	7539-314	12.01
15	3-1/4	7222-242	10.76	81.4	7539-315	12.07
16	3-1/4	7222-243	11.02	81.4	7539-316	12.15
17	3-1/4	7222-244	11.02	81.4	7539-317	12.20
18	3-1/4	7222-245	11.02	81.4	7539-318	12.20
19	3-1/4	7222-246	11.02	81.4	7539-319	12.27
20	-	-	-	81.4	7539-320	13.31
21	3-1/4	7222-248	12.33	81.4	7539-321	14.14
22	3-1/4	7222-249	12.96	81.4	7539-322	14.14
23	-	-	-	81.4	7539-323	14.36
24	3-1/4	7222-251	13.86	81.4	7539-324	14.77
25	-	-	-	81.4	7539-325	15.71
26	-	-	-	81.4	7539-326	17.27
27	3-1/4	7222-254	14.66	81.4	7539-327	17.25
28	-	-	-	81.4	7539-328	18.33
29	-	-	-	81.4	7539-329	18.30
30	3-1/4	7222-257	15.84	81.4	7539-330	19.91





## 16 pc. Socket Set



- Supertorque® lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on 6 and 12 point fasteners

DESCRIPTION	ORDER NO.	PRICE
3/8 - 1-1/2" std.	7232-924	\$74.03



## 15 pc. Socket Set



- Includes Socket Bar • Fully Polished

DESCRIPTION	ORDER NO.	PRICE
10-24mm (12 pt. metric)	7544-540	\$120.47



## 11 pc. Socket Set



- On Reusable Rack (12pt.)

DESCRIPTION	ORDER NO.	PRICE
10-15, 17, 19, 21, 22mm (metric)	7707-863	\$15.01



## TURBOSOCKET® Salvage Socket Set (6 pt.)



- Clips and Rail Included • Black Finish

SET PCS.	DESCRIPTION	ORDER NO.	PRICE
5	3/4-1", 19mm	7232-478	\$111.94
7	14-19, 21mm (metric)	7232-479	151.67



## 22 pc. Socket Set



- Includes Socket Bar • Fully Polished

DESCRIPTION	ORDER NO.	PRICE
10-32mm (12 pt. metric)	7544-550	\$328.08



## 19 pc. Socket Set



- Includes Socket Bars and Clips
- Fully Polished

DESCRIPTION	ORDER NO.	PRICE
3/8-1-1/2" std. (12 pt.)	7515-545	\$221.81
3/8-1-1/2" std. (6 pt.)	7515-550	221.81



## 6 pc. Hex Bit Set



- High-polished chrome finish socket cleans easily
- Clip rail included

DESCRIPTION	ORDER NO.	PRICE
8-19mm (metric)	7232-904	\$48.61



## 6 pc. Hex Bit Set



- Includes Socket Bar • Fully Polished

DESCRIPTION	ORDER NO.	PRICE
1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8	7515-610	102.43



## 6 pc. TORX® Bit Set



- Includes Socket Bar • Fully Polished

DESCRIPTION	ORDER NO.	PRICE
T27, T30, T40, T45, T50, T55	7515-615	\$77.89



## 8 pc. Hex Bit Set



- High-polished chrome finish socket cleans easily
- Clip rail included

DESCRIPTION	ORDER NO.	PRICE
1/4 - 3/4"	7232-903	\$69.50



## 5 pc. TORX® Bit Set



- High-polished chrome finish socket cleans easily
- Clip rail included

DESCRIPTION	ORDER NO.	PRICE
T40, T45, T50, T55, T60	7232-908	\$39.23



## XL Pass-Thru Ratchet Set 1/2" Drive, 25 Pc.



- 25 Pc. Set includes 1/2" XL Pass-Thru Ratchet with Locking Flex GearRatchet feature, SAE and METRIC Vortex Sockets (5/8" - 1-1/4", 15 - 32 mm), 6" Vortex Extension, and Square Drive Quick-Release Adapter. Eliminates need for deep sockets.

Order No. 7440-668 Price Each: \$171.42



# 1/2" Drive Socket Sets

## WILLIAMS 30 pc. Socket Set



- Keep-Safe-Foam system organizes, prevents loss
- Pro-quality, hi-grade chrome vanadium steel
- Supertorque® lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use

DESCRIPTION	ORDER NO.	PRICE
1/2-1-1/8" deep 3/8-1-1/4" std.	<b>7232-819</b>	<b>\$414.39</b>
DRIVE TOOLS		
15-1/2" Flex Handle, 10-3/8" Enclosed Head Ratchet, 5 & 10" Extensions, Universal Joint		

## ARMSTRONG 30 pc. Socket Set



- In Steel Case • 27 Sockets, 4 Drive Tools

DESCRIPTION	ORDER NO.	PRICE
1/2-1-1/4" deep 3/8-3/4" std./case	<b>7515-510</b>	<b>\$471.17</b>
DRIVE TOOLS		
Ratchet, 10-1/2" Extension, 5, 10" Breaker Bar, 17"		

## ARMSTRONG 31 pc. Socket Set (Metric)



- In Steel Case • 27 Sockets, 4 Drive Tools

DESCRIPTION	ORDER NO.	PRICE
10-26mm/std. 16-26mm deep (metric)	<b>7544-510</b>	<b>\$473.66</b>
DRIVE TOOLS		
Ratchet, 10-1/2" Extension, 5, 10" Breaker Bar, 17"		

## WILLIAMS 23 pc. Socket Set



- Pro-quality, hi-grade chrome vanadium steel
- Supertorque® lobular openings for greater turning power without deforming the fastener
- Rugged high-density polyethylene (HDPE) case - strong, durable, and lightweight
- Shock-proof case at high/low temps, equipped with heavy-duty metal latches & hinges
- 2-component handles, comfortable easy-grip

DESCRIPTION	ORDER NO.	PRICE
3/8-1/4" std.	<b>7250-609</b>	<b>\$119.78</b>
DRIVE TOOLS		
9-7/8" Quick- Release Ratchet, 3, 6, 10" Extensions, 15" Flex Handle Breaker Bar, Universal Joint, 1/2" FX 3/8" M Adapter, 1/2" FX 3/4" M Adapter		

## WILLIAMS 23 pc. Socket Set (Metric)



- Pro-quality, hi-grade chrome vanadium steel
- Supertorque® lobular openings for greater turning power without deforming the fastener
- Rugged high-density polyethylene (HDPE) case - strong, durable, and lightweight
- Shock-proof case at high/low temps, equipped with heavy-duty metal latches & hinges
- 2-component handles, comfortable easy-grip

DESCRIPTION	ORDER NO.	PRICE
10mm - 32mm	<b>7250-619</b>	<b>\$119.78</b>
DRIVE TOOLS		
9-7/8" Quick- Release Ratchet, 3, 6, 10" Extensions, 15" Flex Handle Breaker Bar, Universal Joint, 1/2" FX 3/8" M Adapter, 1/2" FX 3/4" M Adapter		

# 3/4" Drive Sockets

## 12 Pt. - Standard Length

SIZE	WILLIAMS®			ARMSTRONG® USA		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/4	-	-	-	1.812	7513-124	\$16.13
13/16	-	-	-	1.875	7513-126	16.59
7/8	1-15/16	7233-228	8.88	1.937	7513-128	16.98
15/16	2	7233-230	8.88	1.937	7513-130	16.78
31/32	-	-	-	-	-	-
1	2-1/16	7233-232	8.81	2.000	7513-132	17.72
1-1/16	2-1/16	7233-234	8.95	2.062	7513-134	17.38
1-1/8	2-1/16	7233-236	9.07	2.125	7513-136	17.38
1-3/16	2-1/8	7233-238	9.11	2.125	7513-138	17.41
1-1/4	2-3/16	7233-240	9.99	2.187	7513-140	18.64
1-5/16	2-3/16	7233-242	11.23	2.250	7513-142	20.68
1-3/8	2-1/4	7233-244	12.36	2.312	7513-144	23.05
1-7/16	2-1/4	7233-246	13.35	2.375	7513-146	25.25
1-1/2	2-3/8	7233-248	13.93	2.437	7513-148	26.79
1-9/16	-	-	-	2.437	7513-150	30.11
1-5/8	2-1/2	7233-252	16.61	2.500	7513-152	30.87
1-11/16	-	-	-	2.562	7513-154	33.29
1-3/4	2-9/16	7233-256	18.40	2.625	7513-156	33.61
1-13/16	2-11/16	7233-258	18.90	2.750	7513-158	36.52
1-7/8	2-3/4	7233-260	21.02	2.812	7513-160	40.66
2	2-13/16	7233-264	23.62	2.875	7513-164	45.95
2-1/16	-	-	-	2.937	7513-166	50.98
2-1/8	-	-	-	3.000	7513-168	54.77
2-3/16	-	-	-	3.062	7513-170	58.59
2-1/4	-	-	-	3.125	7513-172	65.75
2-5/16	-	-	-	3.312	7513-174	72.08
2-3/8	-	-	-	3.437	7513-176	76.63



Standard Length



Deep Length

## 6 & 12 Pt. - Deep Length

SIZE	WILLIAMS®			ARMSTRONG® 12 POINT		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
7/8	1-5/16	7223-085	\$22.62	3.250	7513-328	\$25.11
15/16	1-23/64	7223-086	23.38	3.250	7513-330	25.16
1	1-7/16	7223-087	23.62	3.375	7513-332	25.44
1-1/16	1-9/16	7223-088	24.18	3.500	7513-334	26.41
1-1/8	1-5/8	7223-089	24.29	3.500	7513-336	26.39
1-1/4	1-3/4	7223-091	25.38	3.500	7513-340	26.72
1-5/16	1-7/8	7292-189	26.91	3.500	7513-342	27.90
1-3/8	1-15/16	7223-093	30.16	3.500	7513-344	31.48
1-7/16	2	7223-094	30.76	3.500	7513-346	33.29
1-1/2	2-1/16	7223-095	33.85	3.500	7513-348	35.37
1-5/8	2-1/4	7223-097	39.97	3.500	7513-352	43.03

## WILLIAMS® 20 pc. Socket Set



- Unique Socket-Lok® safety retention system features spring-loaded locking button for max. socket retention, and quick disassembly
- Chamfered ends provide easy engagement of the drive tool and fastener
- Pro-quality, hi-grade chrome vanadium steel
- Supertorque® lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use

DESCRIPTION	ORDER NO.	PRICE
7/8-2" std.	7233-901	\$292.65
<b>DRIVE TOOLS</b>		
20" Socket-Lok® Ratchet, 18" T-Handle, Extensions: 4, 8"		

## ARMSTRONG® USA 29 pc. Socket Set



- In Steel Case • 22 Sockets, 7 Drive Tools

DESCRIPTION	ORDER NO.	PRICE
7/8-2-3/8" std.	7515-705	\$1249.32
<b>DRIVE TOOLS</b>		
Ratchet, 19" Extension, 5, 8, 16" Breaker Bar, 22", T-Handle, Universal Joint		

## Metric Sockets- 12 Pt. - Standard Length

SIZE (MM)	WILLIAMS®			ARMSTRONG® USA		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
19	1-1/8	7223-100	\$15.49	46.0	7540-119	\$17.67
20	-	-	-	47.7	7540-120	17.67
21	-	-	-	47.7	7540-121	17.67
22	1-5/16	7290-769	15.49	49.1	7540-122	17.67
23	-	-	-	49.1	7540-123	17.87
24	1-3/8	7290-770	15.49	49.1	7540-124	17.87
25	-	-	-	50.8	7540-125	17.87
26	-	-	-	52.4	7540-126	18.52
27	1-1/2	7223-108	16.65	52.4	7540-127	18.52
28	-	-	-	52.4	7540-128	18.52
29	-	-	-	52.4	7540-129	18.52
30	1-11/16	7223-111	17.95	54.0	7540-130	19.94
32	1-3/4	7223-113	19.57	54.0	7540-132	23.04
33	-	-	-	-	-	-
35	1-15/16	7223-116	23.24	-	-	-
36	2-1/32	7223-117	25.91	88.9	7540-136	24.47
38	2-1/8	7223-119	25.91	-	-	-
41	2-1/4	7223-122	29.47	88.9	7540-141	33.03
46	2-3/8	7223-126	33.22	-	-	-
50	2-23/32	7223-130	41.00	-	-	-
54	2-29/32	7223-134	52.14	-	-	-
55	2-7/8	7223-135	65.05	-	-	-
58	-	-	-	-	-	-
60	2-3/16	7223-140	79.15	-	-	-

## Metric Sockets- 12 Pt. - Deep Length

SIZE (MM)	ARMSTRONG® USA						
	LENGTH	ORDER NO.	PRICE EACH	SIZE (MM)	LENGTH	ORDER NO.	PRICE EACH
19	82.6	7540-319	\$27.17	35	85.7	7540-335	\$34.04
21	-	-	-	36	88.9	7540-336	36.04
22	82.6	7540-322	27.17	38	88.9	7540-338	38.32
23	82.6	7540-323	27.17	41	88.9	7540-341	42.92
24	88.9	7540-324	27.22	46	95.2	7540-346	51.42
26	-	-	-	50	101.6	7540-350	61.80
27	88.9	7540-327	27.72	54	-	-	-
30	88.9	7540-330	28.02	55	107.8	7540-355	74.15
32	88.9	7540-332	28.15	60	114.3	7540-360	88.97
33	-	-	-	-	-	-	-

# Ratchet Handles

## Narrow and Flex Head



- Single pawl ratchet design with 36 tooth gear has 10° of engagement for working in a confined area
- 3/4" drive has 24 tooth gear, with 15° of engagement
- Shift lever reverses action instantly
- Nickel/Chrome plated
- ANSI B107.10m Fed. Spec. GGG-W-641e



- Single pawl, double tooth design will not operate in neutral position
- Shift lever reverses action instantly
- Unique concave handle minimizes fatigue
- ANSI B107.10m Fed. Spec. GGG-W-641e



- Hardened and Tempered
- Chrome Vanadium Steel
- Nickel Chrome Plated
- Meets ANSI B107.10m

WILLIAMS® USA				ARMSTRONG® USA			ARMSTRONG® USA			Pittsburg® ALLEGHENY		
DRIVE	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	5-1/4	7290-494	\$ 25.36	5-9/32	7510-972	\$26.32	-	-	-	5	7707-014	\$17.30
3/8	8	7290-496	33.95	7-3/8	7511-972	36.23	-	-	-	8	7707-024	25.05
3/8	10-3/4	7290-498	39.97	-	-	-	10-1/2	7511-973	\$43.49	-	-	-
1/2	10-1/4	7290-499	50.92	10-1/2	7512-972	55.91	-	-	-	10	7707-046	34.66
1/2	15	7290-501	56.25	-	-	-	15	7512-973	58.57	-	-	-
3/4	20-1/8	7223-002	125.45	-	-	-	-	-	-	-	-	-

## Flex Head



- Flex head swings 90° in either direction
- Nickel/Chrome plated
- ANSI B107.10m Fed. Spec. GGG-W-641e

- Flex head swings 90° in either direction
- Nickel/Chrome plated
- ANSI B107.10m Fed. Spec. GGG-W-641e

- Hardened and Tempered
- Chrome Vanadium Steel
- Nickel Chrome Plated
- Meets ANSI B107.10m

## Drive Speeder



		WILLIAMS® USA		ARMSTRONG® USA	
DRIVE	LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	15-1/2	7290-775	\$18.50	-	-
1/4	15-3/4	-	-	7510-935	\$19.13
3/8	16-1/2	-	-	7511-935	21.44
3/8	18	7221-030	19.24	-	-
1/2	13-5/8	7222-041	28.52	-	-
1/2	18-1/16	7222-042	31.33	-	-
1/2	19	-	-	7512-935	34.51

WILLIAMS® USA				ARMSTRONG® USA			Pittsburg® ALLEGHENY		
DRIVE	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	7	7294-564	\$34.32	-	-	-	-	-	-
3/8	9-11/16	7294-565	53.87	9-1/2	7511-974	\$60.28	11	7707-028	\$26.96
1/2	14-1/4	7294-566	69.27	14-1/4	7512-974	70.59	-	-	-

## Round Head



- Single pawl ratchet design with 72 teeth action provides a 5° ratcheting angle
- Shift lever reverses action instantly
- Chrome plated
- ANSI B107.10m Fed. Spec. GGG-W-641e



- Single pawl, double tooth design will not operate in neutral position
- Shift lever reverses action instantly
- Unique concave handle minimizes fatigue
- ANSI B107.10m Fed. Spec. GGG-W-641e



- Hardened and Tempered
- Chrome Vanadium Steel
- Nickel Chrome Plated
- Meets ANSI B107.10m

## Flexible Extension



		WILLIAMS® USA		ARMSTRONG® USA	
DRIVE	LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	6	7220-025	\$11.58	7510-929	\$12.68
3/8	7-7/8	7221-025	15.97	-	-
3/8	8-9/16	-	-	7511-929	18.31

## 1/4" Plastic Handle Driver



		WILLIAMS® USA		ARMSTRONG® USA	
LENGTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
6	7291-136	\$9.93	7510-943	\$10.75	

WILLIAMS® USA				ARMSTRONG® USA			Pittsburg® ALLEGHENY		
DRIVE	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	5	7220-001	\$24.22	-	-	-	5	7707-012	\$20.60
3/8	7-5/8	7221-000	34.44	7-1/2	7511-915	\$43.95	8	7707-022	22.86
3/8	10-1/2	7221-004	40.38	-	-	-	-	-	-
1/2	11-5/16	7222-000	51.98	10-1/2	7512-915	61.28	10	7707-042	30.97
1/2	15	7222-005	54.69	-	-	-	-	-	-
3/4	-	-	-	-	-	-	20	7707-060	68.07

# Ratchet Handles & Accessories

## Flex Handles



- Designed to provide additional leverage in turning nuts or fasteners
- 1/2" male adapter slides on bar for flexibility

DRIVE	LENGTH	WILLIAMS®		ARMSTRONG		Pittsburg®	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	5-11/16	7220-015	\$16.12	-	-	-	-
1/4	5-3/4	-	-	7510-918	\$17.44	-	-
3/8	8	-	-	-	-	7707-150	\$14.35
3/8	8-1/2	-	-	7511-918	22.95	-	-
3/8	8-9/16	7221-012	20.14	-	-	-	-
1/2	10-7/16	7222-024	36.37	-	-	-	-
1/2	12	-	-	7512-917	40.13	-	-
1/2	15	7232-005*	23.72	-	-	7707-152	19.96
1/2	15-1/2	7222-025	41.68	-	-	-	-
1/2	17	-	-	7512-918	46.92	-	-
3/4	22	7223-011	66.41	7513-918	70.47	-	-

\* IMPORT

## T-Handles



- Designed to provide additional leverage in turning nuts or fasteners
- 1/2" male adapter slides on bar for flexibility

DRIVE	LENGTH	WILLIAMS®		ARMSTRONG	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	4-1/2	7230-008	\$8.03	7510-938	\$18.76
3/8	7-3/4	7231-007	8.97	-	-
3/8	8	-	-	7511-938	19.41
1/2	11	-	-	7512-938	28.90
1/2	15	7232-007	14.10	-	-
3/4	17-1/2	-	-	7513-938	50.71
3/4	18	7233-006	27.10	-	-

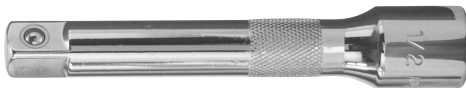
## Universal Joint



- Designed to drive sockets at an offset angle

DRIVE	WILLIAMS®		ARMSTRONG	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	7230-007	\$10.01	7510-947	\$17.34
3/8	7231-006	10.32	7511-947	20.64
1/2	7232-006	12.58	7512-947	25.22
3/4	7233-007	39.30	7513-947	69.89

## Drive Extensions



- Designed for use with ratchet and socket to access hard to reach areas
- Provided with ball and spring holding mechanism
- Hardened and Tempered
- Chrome Vanadium Steel
- Nickel Chrome Plated

DRIVE	LENGTH	WILLIAMS®		ARMSTRONG		Pittsburg®	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	2	-	-	7510-921	\$6.00	-	-
1/4	4	7230-003	\$4.33	7510-922	8.12	-	-
1/4	6	7230-004	4.52	7510-923	8.49	7707-068	\$3.69
1/4	10	-	-	7510-924	12.09	-	-
1/4	14	-	-	7510-925	13.83	-	-
3/8	1-1/2	-	-	7511-921	5.75	-	-
3/8	3	7231-002	4.60	7511-922	9.24	7707-070	3.47
3/8	5	-	-	-	-	7707-072	3.35
3/8	6	7231-003	5.88	7511-923	11.71	7707-073	5.74
3/8	8	-	-	7511-925	12.73	-	-
3/8	10	7231-004	7.17	-	-	-	-
3/8	12	-	-	7511-927	14.40	7707-076	7.26
3/8	20	-	-	7511-928	17.73	-	-
1/2	2	7222-031*	9.07	7512-921	10.27	-	-
1/2	5	-	-	7512-923	13.88	7707-082	5.57
1/2	6	7232-003	7.11	-	-	-	-
1/2	10	7232-004	9.40	7512-924	17.65	7707-084	10.70
1/2	20	7222-040*	25.20	7512-927	29.27	-	-
3/4	5	-	-	7513-922	27.05	-	-
3/4	8	7233-003	17.72	7513-923	33.10	-	-
3/4	16	7233-004	25.04	7513-925	48.92	-	-

\* MADE IN USA

## Drive Adapters



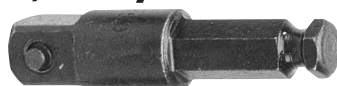
- Allows use of drivers of one drive size with sockets of the next larger size

FEMALE END	MALE END	WILLIAMS®		ARMSTRONG		Pittsburg®	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/4	3/8	7230-009	\$4.02	7510-952	\$6.18	7707-130	\$2.71
3/8	1/4	7231-008	4.16	7511-951	7.72	7707-131	2.59
3/8	1/2	7231-009	3.23	7511-952	6.50	7707-132	3.54
1/2	3/8	7232-008	4.37	7512-951	8.41	7707-133	3.97
1/2	3/4	7222-053	9.44	7512-952	10.55	7707-134	7.26
3/4	1/2	7233-008	10.21	-	-	-	-
3/4	1	7223-040	22.96	7513-952	23.92	-	-
1	3/4	7223-041	33.56	-	-	-	-
3/4	1/2	-	-	7513-951	17.20	-	-



# Impact Accessories

## Extensions, Universal Impact, Adapters



### Extensions (Hexagon/Square Shank)

DRIVE	LENGTH	MALE	WILLIAMS® USA		ARMSTRONG	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	2	3/8" SQ. x 1/4" HEX	7229-020	\$13.28	-	-
3/8	2 3/4	3/8" SQ. x 7/16" HEX	7229-021	13.27	-	-
1/2	2 3/4	1/2" SQ. x 1/2" HEX	7226-003	10.91	-	-
1/2	5	1/2" SQ. x 1/2" HEX	7226-004	14.36	-	-
1/2	2 3/4	1/2" SQ. x 5/8" HEX	7226-005	13.34	-	-
1/2	2 3/4	1/2" SQ. x 7/16" HEX	-	-	7520-959	\$9.40



### Extensions

DRIVE	LENGTH	WILLIAMS®		ARMSTRONG		Pittsburg® ALLEGHANY	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	3	7236-002	\$5.34	7519-922	\$ 9.36	-	-
3/8	6	7236-003	6.76	7519-923	11.80	-	-
1/2	5 1/2	7237-003	6.39	7520-923	12.45	7707-106	\$4.43
1/2	10	7237-004	8.45	7520-924	15.48	-	-
3/4	7	7238-002	22.93	7521-923	39.51	-	-
3/4	10	7238-003	28.60	7521-924	46.12	-	-
3/4	13	7238-004	29.12	7521-925	49.98	-	-



### Universal Joint

DRIVE	WILLIAMS®		ARMSTRONG	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	7236-001	\$12.66	7519-947	\$27.29
1/2	7237-001	15.64	7520-947	31.07
3/4	7238-001	30.39	7521-947	57.76



### Adapters

DRIVE	MALE END	FEMALE END	WILLIAMS®		ARMSTRONG	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/8	1/2	3/8	7236-004	\$4.40	7519-952	\$9.13
1/2	3/8	1/2	7225-207*	9.81	7520-951	9.34
1/2	1/2	3/8	7237-005	4.40	-	-
1/2	3/4	1/2	7225-208*	15.04	7520-952	17.62
1/2	5/8	1/2	-	-	7520-953	11.91
1/2	1/2	5/8	-	-	7520-996	16.77
3/4	1/2	3/4	7238-005	13.64	7521-951	22.48
3/4	1	3/4	7238-006	13.05	-	-
3/4	5/8	3/4	-	-	7521-953	25.95

\* MADE IN USA



**3/8" Drive - 6 pt. - Standard Length**

SIZE	WILLIAMS® USA			ARMSTRONG® USA		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	1-5/32	7236-108	\$4.01	1.141	7519-608	\$4.78
5/16	1	7236-110	4.03	1.141	7519-610	4.93
3/8	1	7236-112	4.12	1.141	7519-612	4.90
7/16	1-3/32	7236-114	4.13	1.141	7519-614	5.11
1/2	1-5/32	7236-116	4.26	1.141	7519-616	4.96
9/16	1-1/16	7236-118	4.38	1.141	7519-618	5.11
5/8	1-1/16	7236-120	4.51	1.141	7519-620	5.11
11/16	1-1/16	7236-122	4.72	1.141	7519-622	5.11
3/4	1-1/8	7236-124	4.85	1.141	7519-624	5.16



**3/8" Drive - 6 pt. - Deep Length**

SIZE	WILLIAMS® USA			ARMSTRONG® USA		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/4	2-1/2	7236-308	\$2.86	2.516	7519-708	\$6.18
5/16	2-1/2	7236-310	2.86	2.516	7519-710	6.11
3/8	2-1/2	7236-312	2.89	2.516	7519-712	6.27
7/16	2-1/2	7236-314	2.92	2.516	7519-714	6.45
1/2	2-1/2	7236-316	3.01	2.516	7519-716	6.67
9/16	2-1/2	7236-318	3.10	2.797	7519-718	6.95
5/8	2-1/2	7236-320	3.18	2.797	7519-720	6.83
11/16	2-1/2	7236-322	3.32	2.797	7519-722	7.31
3/4	2-1/2	7236-324	3.44	2.797	7519-724	7.35
13/16	-	-	-	2.797	7519-726	7.86
7/8	-	-	-	2.797	7519-728	8.15
15/16	-	-	-	2.797	7519-730	9.56
1	-	-	-	2.797	7519-732	10.46

**1/2" Drive - 6 pt. - Standard Length**

SIZE	WILLIAMS®			ARMSTRONG®			Pittsburg® ALLEGHENY		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	1-1/2	7237-112	\$2.87	1.531	7520-012	\$6.07	-	-	-
7/16	1-1/2	7237-114	2.92	1.531	7520-014	6.07	1.500	7706-541	\$2.67
1/2	1-1/2	7237-116	2.92	1.531	7520-016	6.07	1.500	7706-542	3.07
9/16	1-1/2	7237-118	2.92	1.531	7520-018	6.07	1.500	7706-543	3.14
5/8	1-1/2	7237-120	3.17	1.531	7520-020	6.07	1.500	7706-544	3.31
11/16	1-1/2	7237-122	3.61	1.531	7520-022	6.64	1.500	7706-545	3.47
3/4	1-1/2	7237-124	3.61	1.531	7520-024	6.84	1.500	7706-546	3.57
13/16	1-1/2	7237-126	4.33	1.656	7520-026	7.82	1.500	7706-547	3.80
7/8	1-1/2	7237-128	4.54	1.656	7520-028	8.30	1.500	7706-548	4.09
15/16	1-3/4	7237-130	4.88	1.797	7520-030	9.86	1.500	7706-549	4.09
1	1-3/4	7237-132	5.16	1.750	7520-032	10.23	-	-	-
1-1/16	1-3/4	7237-134	6.44	1.750	7520-034	11.60	-	-	-
1-1/8	1-3/4	7237-136	12.01	2.000	7520-036	12.04	-	-	-
1-3/16	-	-	-	2.000	7520-038	12.86	-	-	-
1-1/4	1-3/4	7237-140	13.60	2.000	7520-040	14.91	1.500	7706-554	7.76
1-5/16	-	-	-	2.000	7520-042	17.84	-	-	-
1-3/8	-	-	-	2.000	7520-044	17.83	-	-	-
1-7/16	-	-	-	2.000	7520-046	19.87	-	-	-
1-1/2	-	-	-	2.000	7520-048	25.04	-	-	-

**1/2" Drive - 6 pt. - Deep Length**

SIZE	WILLIAMS®			ARMSTRONG®			Pittsburg® ALLEGHENY		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
3/8	3-1/4	7237-312	\$4.97	3.266	7520-212	\$9.26	-	-	-
7/16	3-1/4	7237-314	4.97	3.266	7520-214	9.26	-	-	-
1/2	3-1/4	7237-316	4.97	3.266	7520-216	9.26	3.071	7706-737	\$5.52
9/16	3-1/4	7237-318	5.11	3.266	7520-218	9.67	3.071	7706-738	5.52
5/8	3-1/4	7237-320	5.11	3.266	7520-220	9.56	3.071	7706-739	5.66
11/16	3-1/4	7237-322	5.11	3.266	7520-222	10.01	3.071	7706-740	5.90
3/4	3-1/4	7237-324	5.56	3.266	7520-224	10.44	3.071	7706-741	6.33
13/16	3-1/4	7237-326	5.56	3.266	7520-226	10.89	3.071	7706-742	6.57
7/8	3-1/2	7237-328	6.59	3.266	7520-228	12.45	3.071	7706-743	6.80
15/16	3-1/2	7237-330	6.59	3.500	7520-230	12.54	3.071	7706-744	8.99
1	3-1/2	7237-332	7.51	3.500	7520-232	13.52	-	-	-
1-1/16	3-1/2	7237-334	8.58	3.500	7520-234	16.16	-	-	-
1-1/8	3-1/2	7237-336	11.99	3.500	7520-236	19.52	-	-	-
1-3/16	3-1/2	7237-338	12.49	-	-	-	-	-	-
1-1/4	3-1/2	7237-340	13.10	3.500	7520-240	20.79	-	-	-
1-5/16	-	-	-	3.500	7520-242	23.65	-	-	-
1-3/8	-	-	-	3.500	7520-244	26.09	-	-	-
1-7/16	-	-	-	3.500	7520-246	29.63	-	-	-
1-1/2	-	-	-	3.500	7520-248	34.17	-	-	-

**3/4" Drive - 6 pt. - Standard Length**

SIZE	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
1/2	-	-	-	1.750	7521-016	\$14.24
9/16	-	-	-	1.750	7521-018	14.31
5/8	-	-	-	1.750	7521-020	14.31
11/16	-	-	-	1.750	7521-022	14.31
3/4	-	-	-	1.750	7521-024	14.57
13/16	-	-	-	1.875	7521-026	16.38
7/8	2	7238-128	\$9.02	1.875	7521-028	16.38
15/16	2	7238-130	9.05	2.000	7521-030	16.38
1	2-1/16	7238-132	9.28	2.000	7521-032	16.61
1-1/16	2-1/16	7238-134	10.26	2.000	7521-034	17.72
1-1/8	2-1/16	7238-136	10.58	2.000	7521-036	18.76
1-3/16	2-1/16	7238-138	11.11	2.125	7521-038	19.10
1-1/4	2-1/4	7238-140	11.11	2.125	7521-040	19.90
1-5/16	2-1/4	7238-142	12.24	2.125	7521-042	20.39
1-3/8	2-1/4	7238-144	12.55	2.250	7521-044	21.06
1-7/16	2-1/4	7238-146	13.11	2.250	7521-046	22.39
1-1/2	2-1/4	7238-148	13.13	2.375	7521-048	24.12
1-9/16	2-1/4	7238-150	14.00	2.375	7521-050	24.88
1-5/8	2-1/4	7238-152	14.79	2.375	7521-052	25.40
1-11/16	2-7/16	7238-154	15.19	2.375	7521-054	24.88
1-3/4	2-7/16	7238-156	15.24	2.625	7521-056	24.88
1-13/16	2-7/16	7238-158	16.19	2.625	7521-058	24.88
1-7/8	2-11/16	7238-160	17.63	2.750	7521-060	26.71
1-15/16	2-11/16	7238-162	19.87	2.750	7521-062	27.97
2	2-11/16	7238-164	21.06	2.875	7521-064	33.28

**3/4" Drive - 6 pt. - Deep Length**

SIZE	WILLIAMS® USA			ARMSTRONG® USA		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
9/16	-	-	-	3.250	7521-218	\$20.51
5/8	-	-	-	3.250	7521-220	20.09
11/16	-	-	-	3.250	7521-222	19.49
3/4	3	7225-554	\$18.70	3.250	7521-224	20.09
13/16	3	7225-555	18.85	3.250	7521-226	20.09
7/8	3	7225-556	19.33	3.500	7521-228	20.87
15/16	3	7225-557	20.42	3.500	7521-230	21.84
1	3	7225-558	20.59	3.500	7521-232	22.61
1-1/16	3	7225-559	21.06	3.500	7521-234	23.21
1-1/8	3	7225-560	21.16	3.500	7521-236	25.37
1-3/16	3-3/16	7225-561	24.97	3.500	7521-238	25.58
1-1/4	3-1/4	7225-562	25.55	3.500	7521-240	27.82
1-5/16	3-1/4	7225-563	27.65	3.562	7521-242	28.36
1-3/8	3-1/4	7225-564	28.62	3.562	7521-244	30.51
1-7/16	3-1/2	7225-565	30.09	3.562	7521-246	33.32
1-1/2	3-1/2	7225-566	31.07	3.562	7521-248	33.47
1-9/16	3-1/2	7225-567	31.01	3.562	7521-250	32.63
1-5/8	3-1/2	7225-568	31.30	3.562	7521-252	35.88
1-11/16	3-1/2	7225-569	31.90	3.562	7521-254	34.80
1-3/4	3-1/2	7225-570	33.80	3.500	7521-256	37.51
1-13/16	3-3/4	7225-571	33.80	3.500	7521-258	37.51
1-7/8	2-3/4	7225-572	37.49	3.500	7521-260	40.35
1-15/16	-	-	-	3.500	7521-262	40.00
2	2-7/8	7225-574	39.07	3.750	7521-264	40.03



### 3/8" Drive - 6 pt. - Standard Length

SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
7	1	7236-507	\$3.47	27.4	7546-607	\$5.22
8	1	7236-508	3.47	27.4	7546-608	5.22
9	1	7236-509	3.47	27.4	7546-609	5.22
10	1	7236-510	2.76	29.0	7546-610	5.22
11	1	7236-511	2.76	29.0	7546-611	5.22
12	1	7236-512	2.76	29.0	7546-612	5.22
13	1	7236-513	2.76	29.0	7546-613	5.22
14	1-1/16	7236-514	2.76	29.0	7546-614	5.22
15	1-1/16	7236-515	2.76	29.0	7546-615	5.22
16	1-1/16	7236-516	2.92	29.0	7546-616	5.34
17	1-1/16	7236-517	3.13	29.0	7546-617	5.63
18	1-1/16	7236-518	3.13	29.0	7546-618	5.78
19	1-5/32	7236-519	3.13	30.0	7546-619	5.90
20	-	-	-	30.0	7546-620	6.73
21	-	-	-	30.0	7546-621	6.98
22	-	-	-	30.0	7546-622	7.32

### 1/2" Drive - 6 pt. - Standard Length

SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
9	-	-	-	38.9	7547-009	\$6.20
10	1-1/2	7237-510	\$5.59	38.9	7547-010	6.20
11	1-1/2	7237-511	5.59	38.9	7547-011	6.20
12	1-1/2	7237-512	3.65	38.9	7547-012	6.20
13	1-1/2	7237-513	3.69	38.9	7547-013	6.20
14	1-1/2	7237-514	3.72	38.9	7547-014	6.20
15	1-1/2	7237-515	3.80	38.9	7547-015	6.34
16	1-1/2	7237-516	3.88	38.9	7547-016	6.48
17	1-1/2	7237-517	3.96	38.9	7547-017	6.71
18	1-1/2	7237-518	3.99	38.9	7547-018	6.71
19	1-1/2	7237-519	4.60	38.9	7547-019	7.20
20	-	-	-	42.1	7547-020	7.67
21	1-1/2	7237-521	5.12	42.1	7547-021	8.15
22	1-1/2	7237-522	5.72	42.1	7547-022	9.00
23	-	-	-	45.2	7547-023	9.56
24	1-3/4	7237-524	6.18	45.2	7547-024	10.71
25	-	-	-	44.5	7547-025	12.79
26	2	7237-527	8.11	50.8	7547-026	13.32
27	-	-	-	50.8	7547-027	13.04
29	-	-	-	50.8	7547-028	14.08

### 3/4" Drive - 6 pt. - Standard Length

SIZE (MM)	WILLIAMS® USA			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
17	2	7290-459	\$13.54	-	-	-
19	2	7290-460	14.11	44.5	7548-019	\$14.05
20	2	7290-461	14.32	47.6	7548-020	14.05
21	-	-	-	47.6	7548-021	14.05
22	2	7290-462	15.60	47.6	7548-022	14.71
23	-	-	-	50.8	7548-023	15.19
24	2	7290-463	16.76	50.8	7548-024	15.83
25	-	-	-	50.8	7548-025	16.08
26	-	-	-	50.8	7548-026	16.42
27	2	7290-464	17.32	50.8	7548-027	16.91
30	2-3/32	7225-603	18.12	54.0	7548-030	17.88
31	2-1/8	7225-604	18.71	-	-	-
32	2-1/8	7225-605	19.35	54.0	7548-032	19.44
34	2-1/8	7225-607	20.84	-	-	-
35	2-1/4	7225-608	21.13	-	-	-
36	2-1/4	7225-609	21.39	57.2	7548-036	22.00
38	2-1/4	7225-611	22.12	-	-	-
41	2-5/8	7225-615	26.77	60.3	7548-041	28.10
46	2-5/8	7225-620	38.91	63.5	7548-046	37.43
50	-	-	-	68.3	7548-050	47.35



### 3/8" Drive - 6 pt. - Deep Length

SIZE (MM)	WILLIAMS®			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
7	2-1/2	7236-707	\$3.46	63.9	7546-707	\$6.85
8	2-1/2	7236-708	3.46	63.9	7546-708	6.71
9	2-1/2	7236-709	3.46	63.9	7546-709	6.85
10	2-1/2	7236-710	3.46	63.9	7546-710	7.07
11	2-1/2	7236-711	3.46	63.9	7546-711	6.85
12	2-1/2	7236-712	3.46	63.9	7546-712	6.85
13	2-1/2	7236-713	3.46	63.9	7546-713	6.85
14	2-1/2	7236-714	3.46	63.9	7546-714	6.85
15	2-1/2	7236-715	3.46	71.0	7546-715	6.85
16	2-1/2	7236-716	3.51	71.0	7546-716	7.01
17	2-1/2	7236-717	3.71	71.0	7546-717	7.26
18	2-1/2	7236-718	3.71	71.0	7546-718	7.26
19	2-1/2	7236-719	3.71	71.0	7546-719	7.26

### 1/2" Drive - 6 pt. - Deep Length

SIZE (MM)	WILLIAMS® USA			ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH	LENGTH	ORDER NO.	PRICE EACH
9	-	-	-	83.0	7547-209	\$10.22
10	3-1/4	7225-380	\$9.26	83.0	7547-210	10.01
11	3-1/4	7225-381	9.26	83.0	7547-211	10.01
12	3-1/4	7225-382	9.30	83.0	7547-212	10.29
13	3-1/4	7225-383	9.30	83.0	7547-213	10.08
14	3-1/4	7225-384	9.53	83.0	7547-214	10.08
15	3-1/4	7225-385	9.72	83.0	7547-215	10.29
16	3-1/4	7225-386	9.72	83.0	7547-216	11.05
17	3-1/4	7225-387	10.05	83.0	7547-217	11.05
18	3-1/4	7225-388	10.22	83.0	7547-218	11.05
19	3-1/4	7225-389	10.42	83.0	7547-219	11.05
20	3-1/4	7225-390	10.75	83.0	7547-220	12.04
21	3-1/4	7225-391	12.14	83.0	7547-221	13.16
22	3-1/2	7225-392	12.31	83.0	7547-222	13.44
23	3-1/2	7225-393	12.88	83.0	7547-223	14.05
24	3-1/2	7225-394	13.41	83.0	7547-224	14.97
25	3-1/2	7225-395	14.37	88.9	7547-225	17.21
26	3-1/2	7225-396	14.67	88.9	7547-226	16.86
27	3-1/2	7225-397	15.37	88.9	7547-227	17.12
28	-	-	-	88.9	7547-228	17.50
29	3-1/2	7225-399	15.89	88.9	7547-229	18.35
30	3-1/2	7225-400	15.94	88.9	7547-230	18.35
32	3-1/2	7225-402	16.53	88.9	7547-232	18.79
34	3-1/2	7225-404	17.80	88.9	7547-234	19.35
35	3-1/2	7225-405	18.52	88.9	7547-235	19.35
36	3-1/2	7225-406	18.83	88.9	7547-236	19.33

### 3/4" Drive - 6 pt. - Deep Length

SIZE (MM)	ARMSTRONG®		
	LENGTH	ORDER NO.	PRICE EACH
21	82.5	7548-221	\$20.76
22	88.9	7548-222	20.76
23	88.9	7548-223	20.76
24	88.9	7548-224	21.51
26	88.9	7548-226	22.24
27	88.9	7548-227	22.24
30	88.9	7548-230	26.14
32	88.9	7548-232	27.09
36	88.9	7548-236	31.12
41	88.9	7548-241	37.07

# Combination Wrenches

## 12 Point



**Satin Finish**

- Satin chrome textured finish provides great feel and extra gripping power
- 12-pt. box end provides easy socket engagement and max versatility
- Recessed corners in box end for extra turning power



**Satin Finish**

- SUPERTORQUE® box opening design allows application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points.
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application.



**Fully Polished**

- Meets Fed. Std. GGG-W-636c ANSI Spec. B107.6
- 15 degree Offset
- Nickel-chrome finish provides lifetime corrosion resistance
- With AllenGrip® the wrench holds the fastener across a broader contact area and allows for greater torque loads without wrench slippage



**Fully Polished**

- Dyna-Drive™ Torque System dramatically improves fastener driving performance

SIZE (INCH)	LENGTH (INCH)	ORDER NO.	PRICE EACH
1/4	5-1/8	7211-108	\$5.76
5/16	5-3/4	7211-110	5.76
3/8	6-1/2	7211-112	6.20
7/16	7-1/4	7211-114	6.50
1/2	8-1/8	7211-116	6.76
9/16	8-3/4	7211-118	7.67
5/8	9-1/2	7211-120	8.49
11/16	10-1/4	7211-122	9.26
3/4	11	7211-124	10.11
13/16	12	7211-126	12.63
7/8	12-3/8	7211-128	12.88
15/16	13-1/4	7211-130	14.35
1	14	7211-132	17.34
1-1/16	14-5/8	7211-134	20.19
1-1/8	16-1/4	7211-136	23.51
1-1/4	17	7211-140	27.69

SIZE (INCH)	LENGTH (INCH)	ORDER NO.	PRICE EACH
1/4	5-1/16	7290-055	\$9.92
5/16*	5-27/32	7290-056	9.92
11/32*	6-7/32	7290-057	10.12
3/8*	6-5/8	7290-058	10.60
7/16*	7-11/32	7290-059	11.03
1/2*	8-3/32	7290-060	11.65
9/16*	8-7/8	7290-061	12.94
5/8*	9-5/8	7290-062	14.52
11/16*	10-3/8	7290-063	15.75
3/4*	11-1/8	7290-064	17.29
13/16*	11-29/32	7290-065	18.68
7/8*	12-5/8	7290-066	22.01
15/16*	13-15/32	7290-067	24.22
1*	14-3/16	7290-068	29.31
1-1/16*	14-7/8	7290-069	34.85
1-1/8*	15-21/32	7290-071	40.63
1-3/16*	16-17/32	7290-070	43.78
1-1/4*	17-1/4	7290-072	47.78
1-5/16*	18	7290-073	53.36
1-3/8	18-25/32	7290-074	58.00
1-7/16	19-17/32	7290-075	64.52
1-1/2	20-7/32	7290-076	74.67
1-9/16	21	7210-039	83.46
1-5/8*	21-25/32	7210-040	84.17
1-11/16	22-17/32	7210-041	92.64
1-3/4	23-1/8	7210-042	101.42
1-13/16	23-11/16	7210-043	106.67
1-7/8	24-11/32	7210-044	123.08
2	25-1/4	7210-045	136.98
2-1/16	25-7/8	7210-046	154.32
2-1/8	26-1/2	7210-047	174.11
2-3/16	27	7210-048	184.58
2-1/4	27-21/32	7210-049	188.04
2-3/8	28-11/16	7210-050	237.70
2-1/2	29-15/16	7210-051	249.04
2-5/8	31-13/16	7210-052	376.43
2-3/4	31-13/16	7210-053	397.09
2-7/8	31-13/16	7210-054	412.84
2-15/16	31-13/16	7210-055	384.68
3	31-13/16	7210-056	390.16
3-1/8	31-13/16	7210-057	401.31
3-3/8	31-13/16	7210-058	393.88
3-1/2	31-13/16	7210-059	467.30

SIZE (INCH)	LENGTH (INCH)	ORDER NO.	PRICE EACH
1/4	5.000	7525-208	\$11.58
5/16	5.750	7525-210	11.83
11/32	5.750	7525-211	11.85
3/8	6.500	7525-212	12.87
7/16	7.250	7525-214	13.58
1/2	6.540	7525-216	14.12
9/16	8.750	7525-218	16.03
5/8	9.500	7525-220	17.75
11/16	10.250	7525-222	19.35
3/4	11.000	7525-224	21.11
13/16	11.750	7525-226	22.90
7/8	12.500	7525-228	26.88
15/16	13.250	7525-230	29.35
1	14.000	7525-232	35.47
1-1/16	14.750	7525-234	41.24
1-1/8	15.500	7525-236	49.08
1-3/16	16.310	7525-238	51.95
1-1/4	17.060	7525-240	57.79
1-5/16*	20.125	7525-242	59.19
1-3/8*	20.125	7525-244	63.09
1-7/16*	21.125	7525-246	72.38
1-1/2*	21.125	7525-248	85.03
1-5/8*	24.125	7525-252	92.24
1-11/16*	24.125	7525-254	94.59
1-3/4*	25.625	7525-256	101.52
1-13/16*	25.625	7525-258	107.19
1-7/8*	27.125	7525-260	128.12
2*	27.125	7525-264	134.70
2-1/16*	27.125	7525-266	157.65
2-1/8*	28.000	7525-268	177.70
2-3/16*	28.000	7525-270	188.34
2-1/4*	28.000	7525-272	197.60
2-3/8*	30.000	7525-276	242.53
2-1/2*	30.000	7525-280	254.13
2-9/16*	32.000	7525-282	359.63
2-5/8*	32.000	7525-284	355.96
2-3/4*	32.000	7525-288	410.18

SIZE (INCH)	LENGTH (INCH)	ORDER NO.	PRICE EACH
1/4	5.000	7704-300	\$3.92
5/16	5.750	7704-301	4.62
3/8	6.500	7704-302	4.45
7/16	7.250	7704-303	6.43
1/2	6.540	7704-304	6.95
9/16	8.750	7704-305	7.83
5/8	9.500	7704-306	8.80
11/16	10.250	7704-307	9.75
3/4	11.000	7704-308	11.06
13/16	11.750	7704-309	12.23
7/8	12.500	7704-310	14.30
15/16	13.250	7704-311	16.98
1	14.000	7704-312	19.03
1-1/16	14.750	7704-313	23.08
1-1/8	15.500	7704-314	25.83
1-1/4	17.060	7704-315	30.40
1-5/16	18.500	7704-316	45.70
1-3/8	18.500	7704-317	46.86
1-7/16	20.100	7704-318	53.82
1-1/2	20.100	7704-319	54.55

## Williams Reversible Ratcheting Combination Wrenches



- High-polished chrome finish cleans easily
- Ratchet level is easily accessible for quick direction changes
- Recessed corners in ends for extra turning power

SIZE	ORDER NO.	PRICE EACH
1/4	7291-883	\$12.83
5/16	7290-301	14.02
3/8	7290-302	14.39
7/16	7290-303	14.76
1/2	7290-304	16.23
9/16	7290-305	16.97
5/8	7290-306	18.45
11/16	7290-307	19.19
3/4	7290-308	20.66
13/16	7291-884	24.93
7/8	7291-885	26.30
1 5/16	7291-886	29.47
1	7291-887	30.84

\* SUPERTORQUE®

\* Satin Finish



## Double Offset Box Wrenches



- Hardened and Tempered
- Drop Forged Chrome Vanadium Steel
- Chrome Plated • Long Pattern
- 45° Angle • Shallow Offset
- Cam-Lock™ Design

SIZE (INCH)	ORDER NO.	PRICE EACH
3/8 x 7/16	7704-530	\$2.85
5/8 x 3/4	7704-532	4.28



# Combination Wrenches—Metric

## 12 Point



**Satin Finish**



**Satin Finish**



**Full Polish**



**Satin Finish**

- SUPERTORQUE® box opening design allows application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points.
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application.

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- Meets Fed. Std. GGG-W-636c ANSI Spec. B107.6
- 15 degree Offset
- Nickel-chrome finish provides lifetime corrosion resistance
- With AllenGrip® the wrench holds the fastener across a broader contact area and allows for greater torque loads without wrench slippage

- Hardened and tempered
- Chrome Vanadium Steel
- Long Pattern
- Quad Grip® Flat Panel
- Nickel-satin finish
- Cam-Lock™ design

SIZE (MM)	LENGTH (INCH)	ORDER NO.	PRICE EACH
6	5-1/8	7211-506	\$ 5.71
7	5-3/8	7211-507	5.88
8	5-3/4	7211-508	6.04
9	6-1/2	7211-509	6.52
10	6-3/4	7211-510	6.65
11	7-1/4	7211-511	6.79
12	7-3/4	7211-512	7.09
13	8-1/8	7211-513	7.44
14	8-3/4	7211-514	7.83
15	9-1/8	7211-515	8.45
16	9-1/2	7211-516	8.90
17	10-1/4	7211-517	9.73
18	10-1/2	7211-518	10.13
19	11	7211-519	10.60
20	11-3/8	7211-520	11.49
21	12	7211-521	13.48
22	12-1/2	7211-522	14.29
23	12-1/2	7211-523	15.09
24	13-1/4	7211-524	16.60
25	14	7211-525	18.18
26	14	7211-526	19.05
27	14-5/8	7211-527	22.25
29	16-1/4	7211-529	23.58
30	16-1/4	7211-530	26.89
32	17	7211-532	29.02

SIZE (MM)	LENGTH (INCH)	ORDER NO.	PRICE EACH
6	4-27/32	7290-167	\$ 12.67
7	5-5/16	7290-168	12.74
8	5-25/32	7290-169	12.20
9	6-9/32	7290-170	11.92
10	6-3/4	7290-171	11.85
11	7-1/4	7290-172	12.10
12	7-11/16	7290-173	12.61
13	8-1/32	7290-174	13.22
14	8-5/8	7290-175	13.93
15	9-3/32	7290-176	15.06
16	9-1/2	7290-177	15.88
17	10-1/16	7290-178	17.34
18	10-17/32	7290-179	18.07
19	11-1/32	7290-180	18.91
20	11-1/2	7290-181	20.45
21	11-25/32	7290-182	24.04
22	12-1/2	7290-183	25.44
23	12-7/8	7290-184	26.85
24	13-9/32	7290-185	29.54
25	14-1/32	7290-186	32.40
26	14-5/16	7290-187	33.91
27	14-25/32	7290-188	39.64
29	15-17/32	7290-189	42.80
30	16-9/32	7290-190	44.03
32	17-1/32	7290-191	51.73
34	17-25/32	7290-192	53.60
36	19-9/32s	7290-193	67.74

SIZE (MM)	LENGTH (MM)	ORDER NO.	PRICE EACH
6	127.0	7552-206	\$ 11.71
7	135.0	7552-207	11.84
8	127.0	7552-208	12.41
9	155.7	7552-209	13.61
10	170.9	7552-210	13.93
11	184.2	7552-211	14.24
12	195.1	7552-212	14.87
13	207.0	7552-213	15.57
14	218.9	7552-214	16.06
15	230.9	7552-215	17.71
16	241.3	7552-216	18.69
17	256.0	7552-217	20.37
18	267.0	7552-218	21.22
19	279.4	7552-219	22.27
20	292.1	7552-220	24.15
21	304.0	7552-221	26.84
22	317.5	7552-222	27.97
23	327.9	7552-223	30.73
24	338.1	7552-224	33.75
25	355.6	7552-225	37.22
26	374.7	7552-226	38.94
27	374.7	7552-227	45.51
28	393.7	7552-228	50.51
29	393.7	7552-229	51.21
30	414.3	7552-230	53.09
32	433.3	7552-232	59.42
36*	511.2	7552-236	74.37
41*	612.8	7552-241	90.87
46*	650.9	7552-246	135.55
50*	689.0	7552-250	139.71

SIZE (MM)	ORDER NO.	PRICE EACH
7	7704-327	\$ 3.95
8	7704-328	4.97
9	7704-329	5.85
10	7704-330	5.95
11	7704-331	6.35
12	7704-332	6.64
13	7704-333	6.95
14	7704-334	7.83
15	7704-335	8.54
16	7704-336	9.07
17	7704-337	9.75
18	7704-338	10.32
19	7704-339	11.06
20	7704-340	12.37
21	7704-341	12.65
22	7704-342	14.66
23	7704-343	12.27
24	7704-344	16.84

\* Satin Finish



## Reversible Ratcheting Combination Wrenches (metric)



SIZE (MM)	ORDER NO.	PRICE EACH
8	7290-310	\$14.02
9	7290-311	14.02
10	7290-312	14.39
11	7290-313	14.76
12	7290-314	15.12
13	7290-315	16.23
14	7290-316	16.97
15	7290-317	17.34
16	7290-318	18.45
17	7290-319	19.19
18	7290-420	19.93
19	7290-521	20.66
21	7291-890	24.92
22	7291-891	26.30
24	7291-892	29.47
25	7291-893	30.84



## Geared Combination Wrenches



- All Steel Construction
- Long Pattern
- 45° Angle
- Shallow Offset
- Maximum Torque Design



SIZE (MM)	ORDER NO.	PRICE EACH
10	7552-810	\$ 19.08
11	7552-811	19.49
12	7552-812	20.35
13	7552-813	21.34
14	7552-814	22.48
15	7552-815	24.28
16	7552-816	25.58
17	7552-817	27.94
18	7552-818	29.13
19	7552-819	30.44

# Combination Wrench Sets

## Fractional

SET PIECES	SIZES/ DESCRIPTION	•Satin Finish - 12 pt. •Vinyl Pouch Included		•Satin Finish - 12 pt. •Roll Included		•Full Polish - 12 pt. •Roll Included	
		WILLIAMS®		WILLIAMS® USA		ARMSTRONG® USA	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"	-	-	7290-194	\$96.97	7525-631	\$109.08
7	sizes above (midgig)	-	-	7211-030	28.94	7525-609	107.80
9	1/4-3/4"	7211-002	\$ 59.85	-	-	-	-
15	5/16-1-1/4"	-	-	7290-196	328.88	-	-
16	1/4-1-1/4"	7211-006	175.58	-	-	-	-
22	1/4-1-5/8" (satin finish)	-	-	-	-	7525-682†	764.93

† Without vinyl roll



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## Metric

SET PIECES	SIZES/ DESCRIPTION	•Satin Finish - 12 pt. •Roll Included		•Full Polish - 12 pt. •Roll Included		•Quad Grip - 12 pt. •Tray Included	
		WILLIAMS®		ARMSTRONG® USA		Pittsburg® ALLEGHANY	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
5	12-15mm, 17mm	7290-209†	\$62.60	-	-	-	-
7	10-15mm	-	-	-	-	7704-803	\$14.41
9	7-15mm	-	-	7552-630	\$124.54	-	-
10	10-19mm	-	-	7552-631	166.52	-	-
14	6-19mm	7211-012	148.06	-	-	-	-
15	7-10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 29, 30, 32mm	-	-	7552-632	431.95	-	-
19	6-24mm	7211-014	319.08	-	-	-	-

† Limited Quantities



## Geared (Ratcheting)- Fractional and Metric

SET PIECES	SIZES/ DESCRIPTION	•Satin Finish - 12 pt. •Roll Included		•Full Polish - 12 pt. •Roll Included	
		WILLIAMS®		ARMSTRONG® USA	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7	3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"	-	-	7525-661	\$166.41
8	5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"	7290-309	\$119.20	-	-
10	1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4"	-	-	7525-667	216.43
10	10-19mm	-	-	7552-667	248.88
12	8-19mm	7290-322	175.09	-	-



## Adjustable Wrenches



### Black Finish

- Fed Spec.: GGG-W-631B-5; ANSI B107 8M
- Drop forged, heat-treated industrial finish with satin finish handles for firm, safe grip.



### Chrome Finish

- Fed Spec.: GGG-W-631B; ANSI B107 8M
- Chrome or Black Oxide Finish

SIZE	WILLIAMS®		ARMSTRONG		Pittsburg® ALLEGHANY					
	CHROME ORDER NO.	PRICE EACH	BLACK ORDER NO.	PRICE EACH	CHROME ORDER NO.	PRICE EACH				
4"	7213-404	11.50	7213-604	9.88	7528-404	\$17.45	7534-404	\$15.74	7701-004	\$11.33
6"	7213-406	11.94	7213-606	9.97	7528-406	18.36	7534-406	15.97	7701-006	13.21
8"	7213-408	12.54	7213-608	11.96	7528-408	19.06	7534-408	17.31	7701-008	14.77
10"	7213-410	15.97	7213-610	14.37	7528-410	24.19	7534-410	21.60	7701-010	18.96
12"	7213-412	23.06	7213-612	20.51	7528-412	34.93	7534-412	32.03	7701-012	27.03
15"	7213-415	40.33	7213-615	34.86	7528-415	59.42	7534-415	55.56	7701-015	48.65
18"	7213-418	68.67	7213-618	55.68	7528-418	101.17	7534-418	84.97	7701-018	82.69
24"	7213-424	113.80	7213-624	106.09	7528-424	167.66	-	-	-	-

### Striking Face Wrenches Offset Pattern - Black Finish - 12 Point



- Fed Spec.: GGG-W-636E.
- Straight handle available upon request.
- Striking face wrenches are designed to be struck by a hammer on the anvil area in order to loosen frozen fasteners or to set and tighten fasteners. Anvils are proportional to opening sizes. Special heat treating provides maximum durability for long life.
- Offset handle designed close to head to provide clearance in confined areas.

SIZE (INCHES)	WILLIAMS®		ARMSTRONG	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-1/16	7210-430	\$46.48	7533-034	\$45.15
1-1/8	7210-431	47.71	7533-036	46.71
1-3/16	7210-432	49.28	7533-038	49.93
1-1/4	7210-433	50.39	7533-040	49.98
1-5/16	7210-434	51.64	7533-042	51.53
1-3/8	7210-435	63.71	7533-044	62.11
1-7/16	7210-436	61.95	7533-046	60.14
1-1/2	7210-438	62.27	7533-048	62.12
1-5/8	7210-439	72.93	7533-052	73.61
1-11/16	7210-440	76.24	7533-054	75.32
1-3/4	7210-441	84.07	7533-056	81.54
1-13/16	7210-442	84.81	7533-058	89.35
1-7/8	7210-443	89.48	7533-060	88.36
1-15/16	7210-444	97.32	7533-062	95.32
2	7210-446	93.72	7533-064	90.82
2-1/8	7210-447	100.70	7533-068	94.08
2-3/16	7210-449	104.13	7533-070	99.12

SIZE (INCHES)	WILLIAMS®		ARMSTRONG	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2-1/4	7210-448	\$109.29	7533-072	\$105.50
2-5/16	7210-450	113.63	7533-074	107.28
2-3/8	7210-451	117.47	7533-076	111.80
2-1/2	7210-452	142.39	7533-080	137.38
2-9/16	7210-453	145.93	7533-082	140.79
2-5/8	7210-454	147.52	7533-084	142.41
2-3/4	7210-455	148.97	7533-088	153.38
2-7/8	7210-456	192.80	7533-092	230.21
2-15/16	7210-457	178.53	7533-094	171.99
3	7210-458	186.87	7533-096	181.85
3-1/8	7210-459	189.85	7533-100	194.01
3-3/8	7210-460	315.62	-	-
3-1/2	7210-461	336.16	-	-
3-3/4	7210-462	340.19	-	-
3-7/8	7210-463	366.28	-	-
4-1/8	7210-464	421.27	-	-
4-1/4	7210-465	484.48	-	-

### Adjustable Face Spanner Wrench

SPAN DIA. (INCHES)	OAL LENGTH	PIN DIA.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
2	6 1/4	3/16	7210-421	\$25.87	7534-151	\$28.26
3	8 1/8	1/4	7210-422	37.89	7534-154	38.59
4	10 3/8	5/16	7210-423	53.98	7534-157	55.03

### Adjustable Hook Spanner Wrench

SPAN DIA. (INCHES)	HOOK DEPTH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4-2	1/8	7210-416	\$28.93	7534-301	\$30.53
1 1/4-3	5/32	7210-417	32.69	7534-305	34.73
2-4 3/4	3/16	7210-418	45.70	7534-307	48.45
4 1/2-6 1/4	1/4	7210-419	48.36	7534-310	50.20
6 1/8-8 3/4	5/16	7210-420	58.24	7534-313	61.24

### Adjustable Pin Spanner Wrench

SPAN DIA. (INCHES)	PIN LENGTH	PIN DIA.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/4-2	6 3/8	1/8	7210-410	\$30.50	7534-351	\$32.17
3/4-2	6 3/8	3/16	7210-411	30.50	7534-354	34.26
1 1/4-3	8 1/8	3/16	7210-412	34.48	7534-358	37.22
1 1/4-3	8 1/8	1/4	7210-413	34.48	7534-361	37.22
2-4 3/4	11 3/8	1/4	7210-414	47.37	7534-363	52.40
4 1/2-6 1/4	12 1/8	3/8	7210-415	50.60	7534-366	54.32

### Adjustable Construction Wrench



- One wrench covers a wide range of fastener sizes up to 1-13/16".
- Tapered (spud) handle designed to locate and align bolt and rivet holes.

SIZE (INCHES)	LENGTH	CAPACITY	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1-1/2	15	1-13/16	7213-625	\$39.59	7532-495	\$87.62

### Original Chain Pipe Tong



- Fed Spec.: GGG-W-00651D-1
- The "original" Williams Chain Pipe Tong is still the favorite tong for general work. Chain swings from the center and can be used on either side of the jaws, which reduces tooth wear. Flat link chains are heat-treated for greater strength and reliability.
- Fully adjustable to fit any shape pipe. • Heat-treated chains for greater strength.

PIPE MIN.	DIA. MAX.	TONG LENGTH	CHAIN LENGTH	LOADING CAP (LBS.)	LBS.	KGS.	ORDER NO.	PRICE EACH
1/4	2-1/2	27	18-1/2	13,800	9.48	4.30	7230-602	\$303.48
3/4	4	38-1/8	25	17,600	17.42	7.90	7230-605	352.81
1	6	46-1/4	33	20,000	23.98	10.82	7230-608	482.99
1-1/2	8	50-1/2	40-3/4	22,000	31.00	14.10	7230-611	519.05
2	12	67	56	31,000	52.00	23.60	7230-614	800.10

# Pliers & Pipe Wrenches

**IRWIN.**

*GrooveLock Pliers*



- Press and slide button quickly adjusts lower jaw
- All purpose jaw grips on round, flat, square and hex shapes
- More groove positions provide the optimum hand location for a better grip on the work piece
- ProTouch™ Grips provide extra comfort and reduces hand fatigue

3

LENGTH	ORDER NO.	PRICE EACH
8"	3255-385	\$17.00
10"	3255-386	20.41
12"	3255-387	24.49



QUICK-LOCK

BOX-JOINT

- **TECHNOGRIP:** For 37% increased jaw capacity
- **MAXIGRIP:** For 37% increased jaw capacity and quick-lock push button release
- **CLASSIC:** For heavy-duty standard jaw design



TECHNOGRIP

MAXIGRIP

CLASSIC

SIZE	DESCRIPTION	ORDER NO.	PRICE EACH
10"	TECHNOGRIP	6610-402	\$38.42
12"	TECHNOGRIP	6610-403	68.67
10"	MAXIGRIP	6610-406	58.27
12"	MAXIGRIP	6610-407	81.91
7"	CLASSIC	6610-409	35.40
10"	CLASSIC	6610-410	37.17
12"	CLASSIC	6610-411	66.71

**ARMSTRONG** 

*Tongue & Groove Pliers*



- Precision milled undercut rib joint
- Angled teeth provide superior gripping power

3

LENGTH	ORDER NO.	PRICE EACH
5	7567-717	\$15.40
7	7567-777	14.58
10	7567-779	16.61
12	7567-781	19.48
16	7567-783	30.25

**WILLIAMS** 

*Utility Groove Joint Pliers*



- Double dipped plastic handle grips are comfortable/durable
- Jaws are phosphate finished for rust protection
- Parallel jaw grip in all positions to maximum opening

3

LENGTH	ORDER NO.	PRICE EACH
5	7223-104	\$15.01
10	7223-105	18.09
12	7223-106	22.39
16	7223-107	39.04

**ARMSTRONG** 

*Pipewrench  
Tongue & Groove Pliers*



- Pipe wrench design with 90° offset head provides up to 20% more leverage

3

LENGTH	ORDER NO.	PRICE
10.000	7567-789	\$20.20
12.750	7567-791	27.97

## Pipe Wrenches



**ARMSTRONG**

- Handles made from pearlitic malleable alloy or aluminum
- Hook jaw is drop forged, with replaceable insert jaw

3



**WILLIAMS**

- Heavy duty construction for strength & durability
- Scale on wrench indicates pipe diameter
- Aluminum pipe wrenches are approx. 40% lighter than cast iron

3

3

3

SIZE (INCH)	CAPACITY (INCH)	USA-MADE		CAST IRON		ALUMINUM		ALUMINUM		CAST IRON	
		<b>ARMSTRONG</b>		<i>Pittsburg</i> <sup>®</sup> ALLEGHANY		<i>Pittsburg</i> <sup>®</sup> ALLEGHANY		<b>WILLIAMS</b> <sup>®</sup>		<b>WILLIAMS</b> <sup>®</sup>	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6	1/8-3/4	7573-006	\$19.30	-	-	-	-	-	-	7213-516	\$7.87
8	1/8-1	7573-008	21.57	7701-308	\$12.18	-	-	7213-500	\$16.34	7213-518	10.12
10	1/8-1 1/2	7573-010	27.69	7701-310	15.34	-	-	7213-502	22.73	7213-520	17.66
12	1/8-2	7573-012	34.55	-	-	-	-	7213-504	29.86	7213-522	19.93
14	1/4-2	7573-014	40.32	7701-314	22.50	7701-614	\$32.28	-	-	7213-524	22.71
18	1/4-2 1/2	7573-018	57.45	7701-318	35.64	7701-618	48.67	-	-	7213-526	29.06
24	1/4-3	7573-024	85.59	7701-324	54.88	7701-624	73.27	7213-510	71.55	7213-528	45.98
36	1/4-4 1/2	7573-036	193.17	7701-336	99.13	7701-636	146.00	-	-	-	-
48	1-6	7573-048	282.46	-	-	-	-	-	-	-	-





## Combination Slip Joint Pliers



- Jaws polished with rust-proof coating
- Gripping surfaces will grip round & flat surfaces
- 2-position joint for a wide range of grips
- Shear type wire-cutter extends tool use

LENGTH	ORDER NO.	PRICE EACH
6-1/4	7223-101	\$ 7.13
8	7223-102	8.97
9-3/4	7223-103	11.53



## Slip Joint Pliers



- Angled teeth provide superior gripping power over standard teeth.
- Specially designed fastener ensures permanent assembly and smooth operation.

LENGTH	ORDER NO.	PRICE EACH
6.500	7567-667	\$12.20
8.000	7567-669	14.90
10.000	7567-671	18.40



## Slip Joint Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished
- Matte Finish
- Precision Jaws
- Cushion Grip Handles

LENGTH	ORDER NO.	PRICE EACH
6-1/2"	7710-006	\$7.87
8"	7710-008	9.19
10"	7710-010	12.04



## Side Cutters



- **Fed Spec.:** Linesman's GGG-F-471E
- Designed for wiring, electrical equipment installation and maintenance for utility linemen
- Polished faces • Cushion grip handles
- Induction hardened cutting edges
- Diamond serrated jaws

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6 1/2	Electricians'	7227-023†	\$19.00
7	Electricians'	7227-024	25.35
8 1/2	Electricians'	7227-025	27.21
8*	Linesman's	7223-403	19.42
9 1/2	New England	7227-030	40.49

\* Williams Global

† Limited Quantities



## Side Cutting Slip-Joint Pliers



- **Fed Spec.:** GGG-P-471E
- Polished Head
- Serrated jaws

LENGTH	ORDER NO.	PRICE EACH
7-1/2	7227-032†	\$25.22

† Limited Quantities



## Duckbill Pliers



- **Fed Spec.:** Regular: GGG-P-471E
- **Fed Spec.:** High Leverage: GGG-P-4710
- Provided with polished faces
- Flat wide nose provides a better grip than the regular needle nose models
- Cushion grip handles

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6 1/2	regular nose	7227-020	\$19.87
8	high leverage, short nose	7227-021	21.70



## Lineman's Pliers



- Precision machined cutting edges meet at the hinge, providing improved cutting performance.
- Induction hardened cutting edge ensures maximum durability and long life.
- Diamond serrated jaws provides a firm grip.

LENGTH	ORDER NO.	PRICE
6.438	7567-063	\$26.97
7.375	7567-065	28.76
8.375	7567-067	30.31
9.500	7567-069	31.14



## Lineman's Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished
- Matte Finish
- Precision Jaws
- Cushion Grip Handles

LENGTH	ORDER NO.	PRICE
7"	7710-307	\$10.13
8"	7710-308	11.02



## Heavy-Duty Diagonal Cutting Pliers



- Fed Spec.: Regular: GGG-P-468A
- Supplied with polished faces
- Induction hardened cutting edges
- Handles are designed to cut wire with ease
- Regular flush cutters are used for cutting hard wire

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6-1/4	Double Dipped Handle	7223-406	\$15.53
7	Double Dipped Handle	7223-407	16.84



## Diagonal Pliers



- Precision machined cutting edges meet at the tip, providing improved cutting performance.
- Induction hardened cutting edge ensures maximum durability and long life.

LENGTH	ORDER NO.	PRICE
4.500	7567-184	\$19.20
4.250	7567-155	19.03
5.125	7567-159	19.30
6.375	7567-161	19.03
7.438	7567-163	21.04



## Diagonal Cutting Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished Precision Jaws
- Cushion Grip Handles
- Matte Finish

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6"	Diagonal Cutting Pliers	7710-406	\$8.28
7"	Heavy Duty Cutting Pliers	7710-407	9.44
7-1/2"	Diagonal Cutting Pliers	7710-408	12.25



## End Cutting Pliers



- Precision machined cutting edges meet at the tip, providing improved cutting performance.
- Induction hardened cutting edge ensures maximum durability and long life.

LENGTH	ORDER NO.	PRICE
7.375	7567-535	\$30.93



## End Nipper



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished Precision Jaws
- Matte Finish

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6"	End Nipper	7710-507	\$7.88



## Long Reach High Leverage Diagonal Cutting Pliers



- Extra long handle provides high leverage cutting capabilities with less effort
- Extra wide handle provides more comfort and reduces hand fatigue
- 30° angled head provides access to hard to reach areas

LENGTH	ORDER NO.	PRICE
11.125	7567-101	\$44.65



## Diagonal Pliers, Angled Head, Heavy Duty



- Extra long handle provides high leverage cutting capabilities with less effort

LENGTH	ORDER NO.	PRICE
8.000	7567-123	\$24.36



## Long Reach Diagonal Pliers



- Gripping tips provide cutting and gripping capabilities in one plier

LENGTH	ORDER NO.	PRICE
11.125	7567-103	\$44.51



## Diagonal Pliers with Spring



- Precision machined cutting edges meet at the tip, providing improved cutting performance.

LENGTH	ORDER NO.	PRICE
4.468	7567-183	\$20.20
5.125	7567-173	21.00
6.313	7567-175	31.85



### Needle Nose Pliers



- Polished heads reduce rust and corrosion, extending the tool life
- Serrated jaws provide extra gripping power

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
7	Regular nose	7227-009†	\$18.90
4-1/2	Short nose w/spring	7227-016	19.97
7	Long nose	7227-017	19.46
5-1/2	Long curved nose	7227-019†	20.44

†Limited Quantities



### Chain Nose Pliers with Wire Cutter

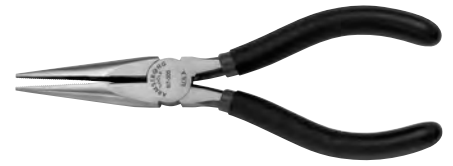


- Precision machined cutting edges meet at the tip, providing improved cutting performance.
- Induction hardened cutting edge ensures maximum durability and long life.

LENGTH	ORDER NO.	PRICE
5.625	7567-303	\$21.52
6.375	7567-305	20.74
7.750	7567-307	25.04



### Chain Nose Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished Precision Jaws
- Cushion Grip Handles
- Matte Finish

LENGTH	ORDER NO.	PRICE EACH
4.750	7567-253	\$17.60
5.313	7567-255	18.55
6.313	7567-257	19.66
7.875	7567-259	20.92



### Long Nose Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished Precision Jaws
- Matte Finish

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
6"	Long Nose Pliers	7710-206	\$7.95
8"	Long Nose Pliers	7710-208	9.26



### Chain Nose Pliers with Wire Stripper



- Precision machined cutting edges meet at the tip, providing improved cutting performance.
- Induction hardened cutting edge ensures maximum durability and long life.

LENGTH	ORDER NO.	PRICE
7.813	7567-331	\$35.07



### Long Reach Chain Nose Pliers



### Long Reach Bent Chain Nose Pliers



- Extra long handle provides high leverage cutting capabilities with less effort
- Bent nose design allows access around obstructions

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
11.562	Long Chain Nose	7567-240	\$37.70
11.375	Bent Long Chain Nose	7567-241	37.73



### Long Neck Pliers



- Hardened and Tempered
- Drop Forged Steel
- Fully Polished
- Matte Finish Cushion Grips
- Leaf Spring Handles

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
11"	Pliers, straight	7710-540	\$15.30
11"	Pliers, 45°	7710-542	15.30
11"	Pliers, 90°	7710-544	9.16



### Chain Nose Pliers - Extra Long Reach



- Polished heads reduce rust and corrosion, extending the tool life
- Extra long handles provide access into confined areas, and greater holding power at the tip
- Bent nose provides access to obstructed areas

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
11	Straight Jaw	7292-227	\$33.81
11	45° Bent Nose	7292-228	33.81

# Miniature Pliers

## Retaining Ring Pliers - Internal



8



RANGE	RING SIZE	ORDER NO.	PRICE EACH
5.5"	5/16-1/2	7832-681	\$22.42
5.5"	1/2-1	7832-682	22.42
7"	3/4-2-3/8	7832-683	23.88
8.9"	1-1/2-4	7832-684	30.74

- Shape C, straight tips
- Die forged cylindrical precision formed
- Chrome-vanadium special tool steel
- For inserting/removing internal retaining rings

## Retaining Ring Pliers - External



8



- Shape A, straight tips, CV special tool steel
- Die forged cylindrical precision formed
- For inserting/removing external retaining rings
- Soft vinyl grips

RANGE	RING SIZE	ORDER NO.	PRICE EACH
5.5"	1/8-3/8	7832-689	\$25.22
5.5"	3/8-1	7832-690	25.22
7"	3/4-2-3/8	7832-691	26.20
8.9"	1-1/2-4	7832-692	32.02

## 4 Pc. External Ring Pliers Set



- Shape C, straight tips
- Die forged cylindrical precision formed
- Chrome-vanadium special tool steel
- For inserting/removing internal retaining rings

Order No. 7832-628 Price Each \$109.96

## 4 Pc. Internal Ring Pliers Set



- Shape C, straight tips
- Die forged cylindrical precision formed
- Chrome-vanadium special tool steel
- For inserting/removing internal retaining rings

Order No. 7832-626 Price Each \$95.60



- Hardened and Tempered, Drop Forged Steel
- Fully Polished Precision Jaws, Matte Finish, Cushion Grip Handles
- Handles do not provide protection against electric shock

3

### 5" Bent Nose



Order No. 7710-615  
Price Each: \$3.33

### 5" Needle Nose



Order No. 7710-625  
Price Each: \$3.33

### 4 1/2" End Nipper



Order No. 7710-645  
Price Each: \$3.33

### 4 1/2" Diagonal Cut



Order No. 7710-655  
Price Each: \$3.33

### 5" Flat Nose



Order No. 7710-635  
Price Each: \$3.33

### 5" Long Nose



Order No. 7710-665  
Price Each: \$3.33



**ESD-Safe**

8

- Cutters drop-forged for an ideal material structure.
- Precise aligned cutting edges are additionally induction hardened at a hardness of approx. 64°HRC.
- Two component non-slip soft grip handle
- ESD Safe Dissipative. ESD standard IEC 61340-5-1

### 4-1/2" Precision Cutters, Small Tapered Head, Flush



Order No. 7832-705  
Price Each: \$55.26

### 4-3/4" Snipe Nose (Chain Nose) Bent 45°, Smooth Jaws



Order No. 7832-744  
Price Each: \$48.50

### 4-3/4" Short Flat Nose Pliers, Smooth Jaws



Order No. 7832-752  
Price Each: \$47.18

### 4-3/4" Short Round Nose Plier, Smooth Jaws



Order No. 7832-750  
Price Each: \$47.18

### 4-3/4" Short Snipe Nose (Chain Nose) Straight, Serrated Jaws



Order No. 7832-742  
Price Each: \$47.18

### 4-1/2" Wide Oval Head, Bevel



Order No. 7832-716  
Price Each: \$52.40



# Cutting Pliers

## ARMSTRONG Cable Cutters



- For use with copper or aluminum cable up to 3/0 gauge
- Jamb nut on joint helps maintain even pressure on inside surface of blades
- Ground blades cut easily and cleanly

3

LENGTH	ORDER NO.	PRICE
7.500	7567-850	\$28.85

## Insulated Ratcheting Cable Cutters



- Insulation According to ENIEC 50900, DIN ISO 8976, ASTM F-1505 & CSA Specification. Up To 1000 Volt. Individually Tested.
- High leverage ratchet cable cutter with shear type blades cuts stranded and flexible copper and aluminum cable. Not for use on steel.
- Features built in safety release in all cutting positions. locking mechanism for safe transport and high-visibility comfort grip handles.

8

LENGTH	DIAMETER	ORDER NO.	PRICE
10"	1.25"	7811-960	\$438.98
11"	2.0"	7811-975	598.98

## Pittsburg ALLEGHANY Bolt Cutters



- Hardened and Tempered
- Cuts bolts, wire, and cable
- Drop Forged chrome molybdenum blades

3

LENGTH	DESCRIPTION	ORDER NO.	PRICE EACH
8"	center cut	7739-008	\$9.13
14"	center cut	7739-014	20.60
18"	center cut	7739-018	26.05
24"	center cut	7739-024	35.81
30"	center cut	7739-028	57.74
36"	center cut	7739-036	57.62

## BAHCO 24" Bolt Cutters



- Comfortable rubber grips combine durability and a secure non-slip grip. • Lightweight steel tube handles provide ease of control while offering solid durability.
- Unique manufacturing method results in high-precision cutting edges.

Order No. 7302-452 Price Each...\$221.73

3

## BAHCO 22.5" Cable Cutter For Ferrous Materials



- Lightweight handles provide ease of control while offering solid durability. • Rubber grips offer control and comfort during working application.
- Cutting notch below top cutting blades provided for cuts on ferrous material.

Order No. 7302-375 Price Each...\$ 154.44

3

## BAHCO 31.5" Cable Cutter For Non-Ferrous Materials



- For non-ferrous material cutting only.
- Lightweight handles provide ease of control while offering solid durability.
- Rubber grips offer control and comfort during working application.

Order No. 7302-094 Price Each...\$ 251.87

3

## IRWIN Aviation Snips



- Cold forged blades are 44% stronger, requires 25% less cutting force
- 10% reduced hand span to decrease fatigue
- One handed release for ease of use

2

TYPE	ORDER NO.	PRICE EACH
straight	3255-392	\$16.97
left	3255-390	16.97
right	3255-391	16.97
left - offset	3255-397	19.00
right - offset	3255-398	19.00

## Pittsburg ALLEGHANY Aviation Tin Snips



- Precision machined
- Heat Treated Chrome Alloy Compound Blades
- Color Coded Vinyl Handle Grips

3

LENGTH	CUT	ORDER NO.	PRICE
10"	right	7739-101	\$5.50
10"	left	7739-102	5.50
10"	straight	7739-103	5.50

## Pittsburg ALLEGHANY Straight Tin Snips



- Alloy Steel, Drop Forged, Cushion Handle Grips

3

LENGTH	ORDER NO.	PRICE
8"	7739-108	\$5.43
10"	7739-110	6.75
12"	7739-112	8.63

## GENERAL PVC Cutter



- For cutting PVC, PE, ABS pipe.
- Professional quality, all-metal construction for greater durability.
- Ratchet-action for easy cutting. • Exclusive angle cutting feature.
- High carbon steel blade provides longer sharpness and clean cuts.
- Handle lock for safety. • Ergonomically designed handle for comfort.

MFG. NO.	CAPACITY	LENGTH	ORDER NO.	PRICE EACH
119	1/8" to 1-5/8"	8-1/4"	6931-173	\$29.23
119BG	Replacement Blade		6931-175	17.45

8

# Wire Strippers, Cutters & Crimpers

## **ARMSTRONG** Electrician's Stripper/Cutter Crimper Pliers



- Strips Wire Sizes: 10, 12, 14, 16, 18, 20, 22
  - Crimps Wire Sizes: Auto 7&8 mm, 22-14, 12-10
  - Cuts Bolt Sizes: 4-40, 6-32, 8-32, 10-32, 10-24
- Order No. 7567-905 Price Each: \$24.03** 3



## **Wiha**® Ratchet Crimper For Standard Connectors



- Crimps insulated & non-insulated connectors.
- 3 crimp positions range
- AWG 20-16 red, 16-14 blue, 12-10 yellow.
- Soft grip non-slip handles.
- Factory set auto release at end of crimp cycle.

**Order No. 7843-618 Price Each: \$197.38** 8

## **ARMSTRONG** Wire Stripper with Spring



- Strips Wire Sizes: 10, 12, 14, 16, 18, 20

**Order No. 7567-889 Price Each: \$17.25** 3

## **WILLIAMS** Multi-Purpose Combination Wire Tool



- Crimp and strip wire sizes 10-22 AWG
- Double-dipped handles w/air cushion pockets
- Bolt cutter cuts 5 sizes:  
4-40, 6-32, 8-32, 10-32, 10-24
- Front end crimper, with Anvil Cutter style nose

**Order No. 7223-524 Price Each: \$19.87** 3

## **WILLIAMS** Super Duty Front End Wire Stripper w/Bolt Cutters



- Capacity: AWG-solid 10-18, Stranded 12-20
- Double-dipped handles w/air cushion pockets
- Longer, curved handles for extra leverage
- Bolt cutter cuts 6-32, 8-32 screws cleanly
- Serrated gripping jaws in nose for use as pliers

**Order No. 7223-533 Price Each: \$17.11** 3

## **Wiha**® ESD Safe Wire Stripper



- ESD standard IEC 61340-5-1.
- C70 special tool steel. Glare Free, black finish.
- ESD safe handle with non-slip grips.
- Strips 0.2, 0.3, 0.4, 0.5, 0.6, 0.8mm

**Order No. 7845-810 Price Each: \$17.08** 8

## **Wiha**® Heavy Duty Adjustable Cable Stripper



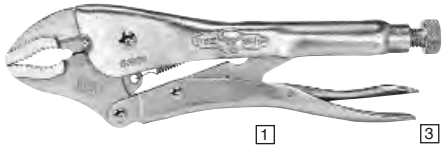
- Professional stripping tool for cables of all insulation types. Positive locking positions for circular, lengthways and spiral strips.
- Interchangeable cable retention hooks give cable stripping capacity of up to 40mm/1.57" diameter.
- Replacement cutting blades can be stored within the tool.

**Order No. 7844-217 Price Each: \$99.02** 8

# Locking Pliers

## WISE-GRIP Curved Jaw Locking Pliers

With wire cutter



		WISE-GRIP ORIG. HANDLE		Pittsburg® ALLEGHANY		
L'GTH	JAW ADJ.	MODEL NO.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4"	15/16	4WR	3255-212	\$10.46	-	-
5"	1-1/8	5WR	3255-210	11.69	7711-005	\$4.42
7"	1-1/2	7WR	3255-208	12.01	7711-007	5.66
10"	1-7/8	10WR	3255-206	12.21	7711-010	7.14

## WISE-GRIP Bent Nose Locking Pliers

With wire cutter 1



SIZE	JAW ADJST.	MODEL NO.	ORIG. HANDLE	
			ORDER NO.	PRICE EACH
6"	0-2	6BN	3255-226†	\$12.19
9"	0-2-3/4"	9BN	3255-228†	13.01

## WISE-GRIP Curved Jaw Locking Pliers

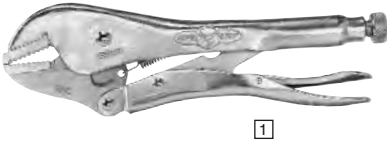
Without wire cutter 1



		ORIG. HANDLE		
L'GTH	JAW ADJ.	MODEL NO.	ORDER NO.	PRICE EACH
7"	1-1/2	7CR	3255-218	\$12.01
10"	1-7/8	10CR	3255-214	12.21

## WISE-GRIP Straight Jaw Locking Pliers

Without wire cutter



		WISE-GRIP ORIG. HANDLE		
L'GTH	JAW ADJ.	MODEL NO.	ORDER NO.	PRICE EACH
7"	1-1/2	7R	3255-204	\$12.01
10"	1-3/4	10R	3255-202	12.21

## Long Nose Locking Pliers

With wire cutter



		WISE-GRIP ORIG. HANDLE		Pittsburg® ALLEGHANY		
L'GTH	JAW ADJ.	MODEL NO.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4"	0-1-5/8h"	4LN	3255-224	\$11.85	-	-
6"	0-2"	6LN	3255-220	12.59	7711-306	\$5.42
9"	0-2-3/4"	9LN	3255-222	15.08	7711-309	5.68

## WISE-GRIP Locking Wrench

With wire cutter 1



WRENCH SIZE RANGE	ITEM	ORIG. HANDLE	
		ORDER NO.	PRICE EACH
1/4"-9/16" 7mm-14mm	4LW	3255-256	\$10.93
7/16"-3/4" 11mm-19mm	7LW	3255-257	12.59
5/8"-1-1/8" 16mm-28mm	10LW	3255-258	\$15.99

## WISE-GRIP Locking Sheet Metal Tool

Makes bending, forming, & crimping sheet metal jobs easier.



L'GTH	JAW WIDTH	THROAT DEPTH	MODEL NO.	ORIG. HANDLE	
				ORDER NO.	PRICE EACH
8"	3-1/8	1-3/4	8R	3255-252	\$17.76

## WISE-GRIP Large Jaw Locking Pliers 1

Heavy-duty jaw grips work of all shapes; ideal for plumbers, mechanics, welders, and large jobs.



		ORIG. HANDLE		
L'GTH	JAW ADJ.	MODEL NO.	ORDER NO.	PRICE EACH
12"	0-3-1/8"	12LC	3255-216	\$18.48

## WISE-GRIP Locking Pinch Off Tool

Pinches off and locks onto tubing, leaving both hands free.



SIZE	JAW ADJ.	JAW DEPTH	MODEL NO.	ORDER NO.	PRICE EACH
7"	1-1/4"	1"	RR	3255-255	\$14.38

## WISE-GRIP Welding Clamp 1



L'GTH	JAW WIDTH	THROAT DEPTH	MODEL NO.	ORDER NO.	PRICE EACH
9"	1-5/8	2-3/4	9R	3255-253	\$21.17

## WISE-GRIP Locking "C" Clamp 1

\*With swivel pads



L'GTH	JAW WIDTH	THROAT DEPTH	MODEL NO.	ORDER NO.	PRICE EACH
4"	0-1-5/8	1-1/4	4SP*	3255-249	\$11.06
6"	0-2-1/8	1-1/2	6SP*	3255-242	12.64
11"	0-4"	2-5/8	11SP*	3255-244	20.38
18"	0-8"	9-1/2"	18SP*	3255-246	28.51
24"	0-10"	15-1/2"	24SP*	3255-248	35.60

## WISE-GRIP Locking "C" Clamp 1



L'GTH	JAW ADJ.	THROAT DEPTH	MODEL NO.	ORDER NO.	PRICE EACH
6"	0-2-1/8	1-1/2	6R	3255-241	\$11.23
11"	0-4"	2-5/8	11R	3255-243	18.94
18"	0-8"	9-1/2"	18R	3255-245	27.73
24"	0-12-1/2	15-1/2"	24R	3255-251	34.18

## WISE-GRIP Sets

### 3 Piece Tool Set

Contains:  
5" Locking Pliers,  
6" Long Nose Locking Pliers,  
10" Locking Pliers and Kit Bag

Order No. 3255-235  
Price Each .....\$36.49



## Locking Chain Clamp

18" effective chain length holds and locks around any shape, any size. Adjusts for ratchet action in either direction. Wide variety of uses.

Order No. 3255-254 Price Each: \$26.87



# Screwdrivers

## Industrial Screwdrivers and Sets

### WILLIAMS. Standard-Round Shank



- Comfort-grip handle w/thumb stop

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
3/16	3	7292-627	\$6.00
1/4	stubby	7292-638	5.23
1/4	4	7292-628	6.55
5/16	6	7292-629	7.86
3/8	8	7292-630	9.66
3/8	12	7292-637*	15.57
7/16	10	7292-631	12.13

\*Square shank

### WILLIAMS. Electrician's Thin Blade-Round Shank



- Comfort-grip handle w/thumb stop

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1/4	4	7292-615	\$6.31
1/4	6	7227-663†	6.20
1/4	8	7292-620	8.76
1/4	12	7227-665†	8.24
3/16	3	7292-616	6.58
3/16	6	7292-617	6.91
3/16	10	7292-618	7.73
1/8	3	7292-619	5.51

† Limited Quantities

### 3 Standard-Pocket Size



- Magnetized Tip, Large PVC handle

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1/8	4	7722-104	\$1.43

### Standard-Electrician's



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
3/16	3	7722-113	\$3.02
3/16	4	7722-114	3.23
3/16	6	7722-116	3.43

### WILLIAMS. Standard-Bi-Mold Comfort Grip Handles



- Bi-mold handles provide comfortable grip reducing hand fatigue • Handle end shows size

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
3/16	4	7224-205	\$5.36
3/16	6	7224-209	5.44
1/4	4	7224-219	7.26
1/4	6	7224-229	7.87
5/16	6	7224-237	9.50
5/16	8	7224-239	10.15
3/8	8	7224-241	10.23
3/8	12	7224-243	11.16

### WILLIAMS. Phillips-Round Shank



- Comfort-grip handle w/thumb stop

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1	3	7292-621	\$6.52
2	4	7292-622	7.21
2	8	7292-623	9.22
3	6	7292-625	10.50
4	6	7292-626	11.85
2	Stubby	7292-624	5.39

### Standard-Mechanic's



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1/4	1-1/2	7722-121	\$2.86
1/4	4	7722-124	3.55
1/4	6	7722-126	3.78
5/16	6	7722-136	4.80

### Phillips-Assorted



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
#0	2-1/2	7722-152	\$1.43
#1	3	7722-163	2.83
#2	1-1/2	7722-171	2.67
#2	4	7722-174	3.55
#3	6	7722-186	4.80

### WILLIAMS. 8-pc. Screwdriver Set



- 1/4-4", 5/16-6", 3/8-8", No. 1-3", No. 2-4", 3-6", 3/16-3", 3/16-6"
  - 3 Slotted, 3 Phillips, 2 Electrician's
  - Comfort grip handle w/thumb stop
  - Blades made from special alloy steel for extra strength
  - Vapor-blasted tips grip fasteners, and prevent chipping, extending tool life
- Order No. 7292-897 Price Each: \$ 60.61

### WILLIAMS. 6-pc. Screwdriver Set



- 6-pc. (3"-12") Standard Tip- Round Shank
- Order No. 7292-895 \$ 55.86

### WILLIAMS. 6-pc. Screwdriver Set



- 6-pc. 1-3", 2-4", 2-8", 3-6", 4-6", 2-Stubby Phillips- Round Shank
- Order No. 7292-894 \$51.18



# Screwdrivers

## Industrial Screwdrivers and Sets

**ARMSTRONG**



Standard-Square Shank



- Blue/Black Fluted Handle

BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
1/8	3	2,3	7566-202	\$6.75
3/16	4	5,6,7	7566-203	7.33
3/16	6	5,6,7	7566-205	8.92
3/16	1-1/2	5,6,7	7566-206	6.75
1/4	4	8,9	7566-208	8.07
1/4	8	8,9	7566-209	10.06
1/4	6	8,9	7566-211	9.00
1/4	3	8,9	7566-212	6.75
5/16	8	10	7566-214	10.07
5/16	10	10	7566-215	10.85
5/16	6	10	7566-217	9.99
5/16	5	10	7566-218	9.39
3/8	8	12	7566-220	12.23
3/8	10	14-24	7566-221	12.50
3/8	12	1/4-3/8	7566-223	17.29
3/8	6	^	7566-224	10.21
7/16	12	-	7566-226	16.74
7/16	10	-	7566-227	15.34

**ARMSTRONG**



Standard-Round Shank



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
1/4	4	8,9	7566-102	\$7.40
5/16	6	10	7566-103	8.57
5/16	10	10	7566-105	14.26
3/8	8	12	7566-106	9.54
3/8	10	14-24	7566-108	14.04
3/8	12	1/4-3/8	7566-109	14.66

**ARMSTRONG**



Standard-Stubby



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
3/16	1	5,6,7	7566-230	\$5.82
1/4	1-1/2	8,9	7566-232	5.71

**ARMSTRONG**



Phillips-Stubby



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
#2	1-1/2	P2	7566-150	\$5.48

**ARMSTRONG**



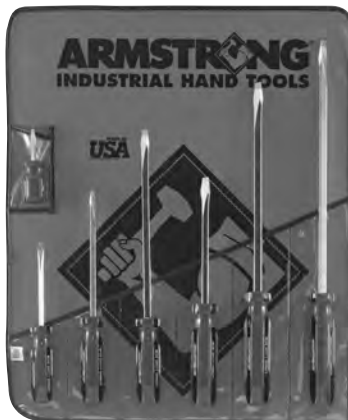
8-pc. Screwdriver Set



8-pc. Standard, Phillips, and Cabinet Standard: 4", 6" Phillips: #1, #2, #3 Cabinet: 3", 4", 5"  
Order No. 7566-620 \$68.42

**ARMSTRONG**

7-pc. Screwdriver Set



7-pc. Standard, Square Shank 4", 6" (1/4" tip & 5/16" tip), 8", 10", 12", 1-1/2"  
Order No. 7566-626 \$85.63

**ARMSTRONG**



Phillips-with Pocket Clip



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
#0	2-1/2	P0	7566-152	\$5.81

**GENERAL** Ratchet Offset Screwdrivers



Model 807X

- For reaching hard to get at screws, especially where leverage is required.
- Individually carded.
- Blades are made of machined ground & hardened tool steel.
- Ratchet adjusts for forward or reverse position.
- Conforms to government specifications GGG-S-1408.

MODEL	INCLUDES	ORDER NO.	PRICE
807X	No. 1 and No. 2 crosspoint blades	6942-670	\$11.95
807SX	1/4" straight and No. 2 crosspoint blades	6942-667	10.62

**ARMSTRONG**



Standard-with Pocket Clip



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
1/8	3	2,3	7566-253	\$5.96 (Round Shank)
1/8	3	2,3	7566-202	\$6.75 (Square Shank)

**ARMSTRONG**



Cabinet Tip-Round Shank



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
.020	3	5-1/4	7566-253	\$5.96
.020	4	6-1/4	7566-255	6.40
.020	5	7-1/4	7566-256	6.55
.020	6	8-1/4	7566-258	6.80
.020	8	10-1/4	7566-259	7.03
.037	3	6-3/4	7566-261	7.33
.037	4	7-3/4	7566-262	7.33
.037	5	8-3/4	7566-265	7.49
.037	6	9-3/4	7566-267	7.65
.037	8	11-3/4	7566-268	7.80
.037	10	13-3/4	7566-270	8.37
.040	10	14-1/4	7566-271	8.53

**ARMSTRONG**



Phillips-Round Shank



BLADE WIDTH/ SIZE	BLADE LENGTH	SCREW SIZE#	ORDER NO.	PRICE EACH
#0	2-1/2	4-3/4	7566-152	\$5.81
#1	3	6-3/4	7566-153	7.03
#1	6	9-3/4	7566-155	8.72
#2	4	8-1/4	7566-156	9.38
#2	8	12-1/4	7566-158	11.03
#3	6	11	7566-161	11.03
#4	8	13-1/2	7566-164	13.04

**GENERAL** Ratchet Offset Screwdriver Set



- For reaching inaccessible screws where leverage is desired.
- Ratchet driver is plated steel and instantly adjusts for right or left hand use.
- Has hardened tempered steel blades.
- Five piece set includes 1/4" and 3/8" straight blades, No. 1 and No. 2 crosspoint blades, & handle.

MODEL	ORDER NO.	PRICE
8071	6942-673	\$14.70

# Screwdrivers



## Wiha Soft-Finish® Handle – Ergonomic Cushion Grip

- Achieves 40% more torque than conventional handles
- Blades made of chrome-vanadium-molybdenum tool steel
- Tips are precision machined
- Red and black handles

Slotted-Round Blade 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1/8	3.9*	7830-205	\$5.86
9/64	3.9*	7830-210	5.86
5/32	3.9*	7830-215	6.12
5/32	5.9*	7830-217	6.12
7/32	5*	7830-220	6.70
7/32	11.8*	7830-238	9.28
1/4	3.9	7830-223	8.20
1/4	5.9	7830-225	8.66
5/16	5.9	7830-227	11.72
5/16	7	7830-230	11.72
3/8	8	7830-235	13.00
15/32	9.8	7830-236	17.32

\* Cabinet Tip

Phillips-Round Blade 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
#0	2.4	7831-105	\$4.62
#1	3.0	7831-110	6.50
#1	8.0	7831-112	8.40
#1	12.0	7831-114	12.22
#2	4.0	7831-115	8.64
#2	8.0	7831-117	9.04
#2	12.0	7831-118	10.22
#3	6.0	7831-120	11.72
#4	8.0	7831-125	18.20

Slotted - Hex Blade - Hex Bolster - Metal Cap 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
9/64	3	7853-010	\$11.30
3/16	3.5	7853-015	11.80
7/32	3.9	7853-020	14.54
1/4	5	7853-025	15.96
5/16	5.9	7853-027	22.14
3/8	7	7853-035	22.76
1/2	8	7853-040	23.32

Phillips - Hex Blade Hex Bolster - Metal Cap 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
#1	3.1	7853-110	\$12.02
#2	3.9	7853-115	14.82
#3	5.9	7853-120	19.36

Phillips-Hex Blade 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
#1	3.1	7831-201	\$8.52
#2	3.9	7831-202	11.60
#3	5.9	7831-203	16.32




Slotted-Hex Blade 



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
7/32	3.9	7830-815	\$10.98
1/4	5	7830-817	11.84
9/32	5	7830-820	11.84
5/16	5.9	7830-825	13.00
3/8	7	7830-830	18.58
1/2	8	7830-835	23.06

### 8-pc. Screwdriver Set



8-pc. Standard/Phillips Hex Blade - Hex Bolster   
 Std. Tip Dia.: 5.5, 6.5, 7, 8, 10mm   
 Phillips: #1-3   
 Order No. 7830-898 \$103.88

### 5-pc. Screwdriver Set



5-pc. Standard/Phillips Hex Blade - Hex Bolster   
 Std. Tip Dia.: 5.5, 7, 8mm   
 Phillips: #1-2   
 Order No. 7830-892 \$55.38

## Ergonomic Screwdrivers

- 3K Ergonomic handle, cushion grip
- Blade chrome-vanadium-moly steel, hardened, nickel plated
- Blue & black handles

### Standard – 3K Series



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
3/32	3**	7845-040	\$ 4.08
1/8	3.9**	7845-050	4.08
9/64	3.9**	7845-052	4.70
5/32	3.9**	7845-054	4.70
3/16	3.9	7845-055	4.32
3/16	5.9	7845-056	5.18
3/16	8	7845-057	5.54
7/32	5	7845-058	4.82
1/4	3.9	7845-060	5.42
1/4	5.9	7845-061	6.02
1/4	8	7845-062	6.26
1/4	1-1/2*	7845-064	5.28
1/4	5.9	7845-065	6.42
5/16	5.9	7845-067	7.88
3/8	8	7845-069	8.76

\*Stubby-Powerhandle, not a 3K handle  
\*\*Cabinet Tips

### Phillips– 3K Series





BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
#0	2.4	7845-135	\$4.08
#1	3.1	7845-137	4.54
#1	8.0	7845-140	5.66
#2	3.9	7845-142	6.16
#2	5.9	7845-144	6.42
#2	8.0	7845-147	8.84
#2	1.6*	7845-150	4.82
#3	6.0	7845-152	7.88

\*Stubby-Powerhandle, not a 3K handle



### 8-pc. - 3K Series - Screwdriver Set



8-pc. Standard/Phillips–Round Blade   
Standard: 3, 4.5, 6, 100mm, 8mm (150mm)  
Phillips: #1, #2 (40, 100mm), #3 150mm   
Order No. 7846-097 \$46.96

### 5-pc. - 3K Series - Screwdriver Set



5-pc. Standard/Phillips–Round Shank;   
Standard: 4.5, 6mm   
Phillips: #0, #1, #2  
Order No. 7846-095 \$25.38

### IRWIN. 9-in-1 Multi-Tool



- Ergonomic ProTouch™ grip provides maximum torque and comfort
- Slip resistant grip
- Internal storage keeps bits and nut setters locked in place and close at hand
- 9 bits and nut setters for use on a variety of fasteners and nuts

Order No. 3255-380 ...Price Each: \$13.30 3

### LUTZ 6-in-1 Multi-Tool



- Contains 1/4" & 3/16" slotted bit and a #1 & #2 phillips bit.
- The chrome/nickel plated tube is a hex tube to create a 1/4" & 5/16" nut driver.
- Handle has a wide diameter for a better, more comfortable grip.

COLOR	ORDER NO.	PRICE EACH
Orange	9622-063	\$5.22
Yellow	9622-064	5.22
Red	9622-065	5.22

1

# Screwdrivers— Professional Quality

## Precision Series

Slotted Screwdriver, with Precision Handle



Blade high alloy chrome-vanadium-molybdenum-steel.

BLADE WIDTH INCH	BLADE LENGTH INCH	ORDER NO.	PRICE EACH
1/32	1.6	7826-008	\$6.38
.039	1.6	7826-010	5.86
3/64	1.6	7826-012	4.98
1/16	1.6	7826-015	4.66
.070	1.6	7826-018	4.48
5/64	1.6	7826-020	4.30
5/64	2.0	7826-022	4.30
5/64	3.9	7826-023	4.30
3/32	2.0	7826-025	4.04
3/32	3.9	7826-027	4.04
3/32	6.0	7826-028	4.48
1/8	2.0	7826-030	3.92
1/8	2.4	7826-032	4.18
1/8	3.9	7826-033	4.48
1/8	5.9	7826-034	4.84
9/64	2.4	7826-035	4.30
5/32	2.4	7826-040	4.84
5/32	3.9	7826-041	4.84
5/32	5.9	7826-042	5.48

## 6 Piece Precision Handle Screwdriver Set - Slotted



Slotted Driver 6 Piece Set  
Blade: alloy chrome-vanadium-molybdenum-steel.  
Contains mm sizes: 1.5, 2.0, 2.5, 3.0, 3.5, 4.0  
Order No. 7826-090 Price Each \$26.04

## 7-pc. Extra Long Screwdriver Set



BLADE WIDTH/ SIZE	BLADE LENGTH	BLADE WIDTH/ SIZE	BLADE LENGTH
2.5mm	100mm	4.0mm	100mm
2.5mm	50mm	3.0mm	150mm
3.0mm	100mm	4.0mm	150mm
Ph. 0	75mm		

7-pc. Slotted/Phillips— Blade high-alloy chrome-vanadium molybdenum steel  
Order No. 7826-092 \$32.16

TORX® Screwdriver, with Precision Handle



Blade high alloy chrome-vanadium-molybdenum-steel.

SIZE	BLADE LENGTH		ORDER NO.	PRICE EACH
	mm	INCH		
T3	40	1.6	7826-703	\$5.62
T4	40	1.6	7826-704	5.62
T5	40	1.6	7826-705	5.62
T6	40	1.6	7826-706	5.62
T7	40	1.6	7826-707	5.62
T8	40	1.6	7826-708	5.62
T9	50	2	7826-709	5.62
T10	50	2	7826-710	5.86
T15	60	2.4	7826-715	5.86
T20	60	2.4	7826-720	5.86

## 6 Piece Precision Handle Screwdriver Set - TORX®



TORX® 6 Piece Set  
Blade: alloy chrome-vanadium-molybdenum-steel.  
Contains sizes: T6, T7, T8, T9, T10, T15  
Order No. 7826-790 Price Each \$36.12

## Master Technicians Benchtop Set



SET INCLUDES:  
Screwdrivers: Phillips #000, #00, #0, #1  
Slotted: .8, 1.0, 1.2, 1.5, 1.8, 2.0, 2.5, 3.0, 3.5, 4.0  
Torx: T1, T2, T3, T4, T5, T6, T7, T8, T9, T10  
Metric Hex: 1.27, 1.5, 2.0, 2.5, 3.0  
Inch Hex: .028, .035, .050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32  
Metric Nut Drivers: 1.5, 1.8, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5  
Chip Lifter

• Plexiglass frame, equipped with 50 precision drivers.

Order No. 7892-190 Price Each \$261.26

Phillips Screwdriver, with Precision Handle



Blade high alloy chrome-vanadium-molybdenum-steel.

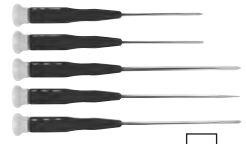
SIZE	BLADE LENGTH		ORDER NO.	PRICE EACH
	mm	INCH		
000	40	1.6	7826-102	\$6.22
00	40	1.6	7826-100	4.78
00	75	3.0	7826-101	4.98
0	50	2.0	7826-105	4.30
0	75	3.0	7826-108	4.18
0	100	3.9	7826-107	4.62
0	150	5.9	7826-109	4.98
1	60	2.4	7826-110	4.66
1	80	3.1	7826-113	4.84
1	100	3.9	7826-114	4.84
1	150	5.9	7826-115	5.48

## 7 Piece Precision Handle Screwdriver Set



Slotted & Phillips Driver 7 Piece Set  
Blade: alloy chrome-vanadium-molybdenum-steel.  
Contains: Slotted sizes (mm)- 1.5, 2.0, 2.5, 3.0  
Phillips sizes (mm)- 00, 0, 1  
Order No. 7826-190 Price Each \$28.84

## GENERAL® Screwdriver Sets



MODEL	DESCRIPTION & SIZE	ORDER NO.	PRICE
701	#00 x 2 1/2" (#00 x 60mm)	6922-048	\$ 4.28
703	#1 x 4" (#1 x 100mm)	6922-050	4.28
705	3/8 x 2 1/2" (2.5 x 60mm)	6922-052	3.46
706	1/2 x 4" (3 x 100mm)	6922-053	3.86
707	3/4 x 4" (3.5 x 100mm)	6922-054	4.44
708	5/8 x 4" (4 x 100mm)	6922-055	3.86
700	5 pc. Set: 701, 702, 703, 705, 706	6922-066	20.23



## Torque Tool & Blade Set

- Ergonomic, multi-component handle, cushion grip
- Window scale, audible click at each torque setting



### 24-pc. Micro Bit Set

incl. Ergonomic Adjustable Handle, 21 Micro Bits, Holder, and Torque Adjustment Tool, in steel box  
 Handle Range: 7.5 - 20" lbs,  
 Slotted: 1.5, 2.0, 3.0, 4.0mm  
 Phillips: #00, #0, #1  
 TORX: T6, T7, T8, T9, T10, T15  
 Hex Inch: .050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32

Order No. 7828-590  
 Price Each: \$185.24

## Adjustable Handle



RANGE INCH/LBS.	ORDER NO.	PRICE EACH
5-10" lbs.	7828-502	\$117.08
10-50" lbs.	7828-506	134.06

## TORX Plus Blades - Hex Shaft



BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
IP5	175	7828-571	\$6.36
IP6	175	7828-572	6.36
IP7	175	7828-573	6.36
IP8	175	7828-574	6.36
IP9	175	7828-575	6.36
IP10	175	7828-576	6.36
IP15	175	7828-577	6.36
IP20	175	7828-578	6.36
IP25	175	7828-579	6.36

## TORX Blades - Hex Shaft



## Phillips Blades - Hex Shaft



## Standard Blades - Hex Shaft



BLADE SIZE	BLADE LENGTH (mm)	ORDER NO.	PRICE EACH
T5	175	7828-561	\$6.36
T6	175	7828-562	6.36
T7	175	7828-563	6.36
T8	175	7828-564	6.36
T9	175	7828-565	6.36
T10	175	7828-566	6.36
T15	175	7828-567	6.36
T20	175	7828-568	6.36
T25	175	7828-569	6.36

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
000	175	7828-540	\$6.36
#00	175	7828-541	6.36
#0	175	7828-542	6.36
#1	175	7828-543	6.36

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
1/16	175	7828-534	\$6.44
5/64	175	7828-535	6.44
3/32	175	7828-536	6.44
1/8	175	7828-537	6.44
9/64	175	7828-538	6.44
5/32	175	7828-539	6.44

## Nutdriver- Fractional Wiha SoftFinish Handle



- CVM Steel, Hardened. Deep drawn 1" socket.
- Solid shafts. Multi-component, cushion grips.
- Red and black handle

BLADE WIDTH/ SIZE	BLADE LENGTH (INCH)	ORDER NO.	PRICE EACH
9/64	5	7834-134	\$7.24
5/32	5	7834-135	7.24
3/16	5	7834-136	7.42
7/32	5	7834-137	7.42
1/4	5	7834-138	7.42
5/16	5	7834-139	7.42
11/32	5	7834-140	7.48
3/8	5	7834-141	7.98
7/16	5	7834-142	9.18
1/2	5	7834-143	9.84
9/16	5	7834-144	11.34
5/8	5	7834-145	12.60

## Nutdriver- Metric Wiha SoftFinish Handle



- CVM Steel, Hardened. Deep drawn 1" socket.
- Solid shafts. Multi-component, cushion grips.
- Red and black handle

SIZE (MM)	BLADE LENGTH (INCH)	ORDER NO.	PRICE EACH
5.0	5	7834-120	\$7.30
5.5	5	7834-121	7.30
6.0	5	7834-122	7.64
7.0	5	7834-123	7.64
8.0	5	7834-124	7.64
9.0	5	7834-125	7.66
10.0	5	7834-126	7.88
11.0	5	7834-127	8.92
12.0	5	7834-128	9.28
13.0	5	7834-129	9.66
14.0	5	7834-130	11.34
15.0	5	7834-131	12.12

## 10-pc. Nutdriver Set



- CVM Steel, Hardened. Deep drawn 1" socket.
    - Solid shafts. Multi-component,
    - Red and black handle
- Inch: 3/16, 7/32, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2, 9/16, 5/8  
Order No. 7834-195 Price: \$85.98

## 7-pc. Nut Driver Set



DESCRIPTION	ORDER NO.	PRICE
7 Piece - Metric Set Wt. .1.89 lbs. Contains 1 each (mm): 5.0, 5.5, 6.0, 7.0, 8.0, 10.0, 13.0	7834-194	\$54.46
7 Piece Inch Set Wt. 1.89 lbs. Contains 1 each: 3/16, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2	7834-193	56.14

## 8-pc. Nutdriver Set



Blade Chrome Vanadium steel  
Inch: 3/32, 7/64, 1/8, 9/64,  
5/32, 3/16, 7/32, 1/4  
Order No. 7826-591 Price: \$44.82



# Insulated Tools

**WARNING: All Insulated tool for use with Insulated sockets and attachments only.**



## 11-pc. Insulated Pliers & Screwdriver Set



- 11 Pc. Pliers & Screwdriver Set.
- Insulation According to VDE 0682/part 201, DIN EN 60900, EN/IEC 60900, ASTM F-1505-01, NFPA70E, ⚡ up to 1000 volt. Individually Tested.
  - In Roll Out Pouch

- Set Includes:**
- 6.3" Long Nose Pliers
  - 6.3" Diagonal Cutters
  - 8.0" Combination Pliers
  - 6.3" Stripping Pliers
  - Insulated Slotted: 3.0, 4.5, 5.5mm
  - Insulated Phillips: #1, #2
  - Insulated Square: #1, #2

**Order No. 7832-986**  
**Price Each \$ 193.98**

## 7-pc. Insulated Pliers/Cutters & Screwdriver Set

7 Pc. Insulated Industrial Pliers/Cutters & Screwdrivers



- Set Includes:**
- 8.0" Combo Pliers
  - 6.3" Long Nose
  - 6.3" Diagonal Cutters
  - Insulated Drivers: Slotted: 3.0, 4.5mm Phillips: #1, #2
  - In Belt Pack Pouch



**Order No. 7832-985**  
**Price Each \$ 157.98**

## Insulated Terminal Block Xeno Screwdrivers



- Combination Slotted/Phillips Terminal Block Drivers
- With Wiha SoftFinish® Handle.
  - Insulation According to ASTM F-1505-01, VDE, 0682/part 201, EN/IEC 60900, NFPA70E & CSA specification. Individually Tested.
  - Blade CVM steel, hardened, black finish. Insulation molded directly onto blade. Multi-component, Cushion grip.
  - For combination Slotted/Phillips head terminal screws.

BLADE WIDTH/ SIZE	ORDER NO.	PRICE EACH
PT1 x 7.5	7830-700	\$8.20
PT2 x 8.6	7830-701	9.92



Insulation according to VDE0682/part 201, EN/IEC 60900, ASTM F-1505-01, NFPA70E & CSA, ⚡ up to 1000 volt.

## Insulated Long Nose Pliers w/Cutters

LENGTH	ORDER NO.	PRICE
6.3"	7832-926	\$31.98
8"	7832-923	37.98



## Combination Pliers w/Dynamic Joint

LENGTH	ORDER NO.	PRICE
8"	7832-930	\$38.98



## Insulated Diagonal Cutters

LENGTH	ORDER NO.	PRICE
6.3"	7832-933	\$31.98
8"	7832-929	39.98



## Insulated Stripping Pliers

LENGTH	ORDER NO.	PRICE
6.3"	7832-947	\$35.98



## Insulated High Leverage Diagonal Cutters

LENGTH	ORDER NO.	PRICE
7"	7832-836	\$59.34
8"	7832-838	62.82



## Insulated Serrated Edge Cable Cutters

LENGTH	ORDER NO.	PRICE
6.3"	7832-826	\$42.58
8"	7832-828	58.56



## Insulated Stripping Knife w/Insulated Handle



- Insulation According to VDE Specification.
- Up to 1,000 Volt. • Individually Tested.
- Blade tool steel, hardened. Insulation molded directly on.
- Hooked cutting edge, half round ground. Cover included.

LENGTH	ORDER NO.	PRICE
7"	7815-050	\$23.76

## Slotted Insert Bit - IRWIN. 1/4" Hex Shank - 1" OAL



SCREW SIZE	BLADE THICKNESS	BLADE WIDTH	STD. PK.	ORDER NO.	PRICE EACH
4F-5R	.034	3/16	25	4222-000	\$0.34
6F-8R	.040	7/32	25	4222-004	0.34
8F-10R	.042	1/4	25	4222-008	0.34
10F-12R	.046	9/32	25	4222-012	0.34
12F-14R	.050	9/32	25	4222-016	0.34
14F-16R	.055	9/32	25	4222-020	0.34

## Slotted Power Bit - IRWIN. 1/4" Hex Shank - 1-15/16" OAL



SCREW SIZE	BLADE THICKNESS	BLADE WIDTH	STD. PK.	ORDER NO.	PRICE EACH
3F-4R	.032	.156	10	4214-000	\$0.61
4F-5R	.034	.187	10	4214-004	0.61
5F-6R	.036	.245	10	4214-008	0.61
6F-8R	.038	.250	10	4214-012	0.61
8F-10R	.042	.281	10	4214-016	0.61
10F-12R	.046	.312	10	4214-020	0.61
12F-14R	.050	.375	10	4214-024	1.02

## Slotted/Phillips Bit - IRWIN. For Speed Control Drills 1/4" Hex Size



OAL	SCREW SIZE	STD. PK.	ORDER NO.	PRICE EACH
1-1/2"	#1 Phillips/6-8 Slot	10	4230-000	\$0.78
1-1/2"	#2 Phillips/8-10 Slot	10	4230-004	0.78
1-1/2"	#3 Phillips/10-12 Slot	10	4230-008	0.78
2-3/8"	#1 Phillips/6-8 Slot	10	7874-303	2.42
2-3/8"	#2 Phillips/8-10 Slot	10	7874-306	2.42
2-3/8"	#3 Phillips/10-12 Slot	10	7874-309	2.42

## IRWIN. 30-Pc. Fastener Bit Set



Includes most popular insert bits, power bits, and nutsetters

QTY.	CONTENTS DESCRIPTION
16	Phillips Insert Bits 1" - #1 (2), #2 (12), #3 (2)
7	Square Recess Insert Bits 1" - #1 (1), #2 (5), #3 (1)
3	Nutsetter - 1/4"x 1-7/8", 5/16"x1-7/8", 3/8"x1-7/8"
1	Phillips Power Bit 2" - #2
5	Slotted Insert Bits 1" - 6-8(2), 8-10(2), 10-12(1)
1	Magnetic Bit Holder 2-1/4"

Order No. 4296-501 Price Each: \$32.47

## Phillips Insert Bit - Wiha. 1/4" Hex Shank - 1" OAL



POINT SIZE	STD. PK.	ORDER NO.	PRICE EACH
0	10	7871-100	\$0.72
1	10	7871-101	0.62
2	10	7871-102	0.58
3	10	7871-103	0.62

## Phillips Power Bit - Wiha. 1/4" Hex Shank



POINT SIZE	OVERALL LENGTH	STD. PK.	ORDER NO.	PRICE EACH
1	2"	10	7874-103	\$1.16
2	2"	10	7874-112	1.16
3	2"	10	7874-124	1.16
1	2-3/4"	10	7874-106	3.64
2	2-3/4"	10	7874-115	3.64
3	2-3/4"	10	7874-127	3.64

\*Longer Lengths Available

## Phillips Double End Bits - Wiha. 1/4" Hex Shank



END SIZES	STD. PK.	ORDER NO.	PRICE EACH
1x1"	10	7871-404	\$2.90
2x2"	10	7871-414	2.90
3x3"	10	7871-424	2.90

## IRWIN. 33-Pc. Fastener Bit Set



QTY.	CONTENTS DESCRIPTION
11	Phillips Insert Bits - #1 (2), #2 (7), #3 (2)
7	Square Recess Insert Bits - #1 (1), #2 (5), #3 (1)
3	Nutsetter - 1/4"x 1-7/8", 5/16"x1-7/8", 3/8"x1-7/8"
3	Slotted Insert Bits 1" - 6-8, 8-10, 10-12
2	Phillips Double End Bit #2/#2
1	Square Recess Double End Bit #2
1	Slotted Double End Bits 8-10
5	Magnetic Nutsetters - 1/4"(2), 5/16"(1), 3/8"(1), 7/16"(1), all 2-9/16"
1	Magnetic Bit Holder 2-1/4"

Order No. 4296-502 Price Each: \$30.95

## Mag. 1 Pc. Bit Holders - Wiha. 1/4" Hex Shank



OAL	STD. PK.	ORDER NO.	PRICE EACH
2-31/32	10	7871-130	\$6.02
2-1/4	10	7871-131	4.28

## Bit Selector with Slotted, Phillips and TORX® Bits - 10-Piece Set

This handy set includes 10 hardened bits of chrome-vanadium-molybdenum steel. 1/4" magnetic bit holder can be used in power tools. Plastic storage box is compact, durable and light weight. Molded hex cavity turns box into handle for quick fastening jobs.



SLOTTED BLADE WIDTH mm	PHILLIPS SIZE	TORX® SIZE	ORDER NO.	PRICE EACH
5.5	0	T10	7879-243	\$17.96
5.5	1	T15		
6.5	2	T20		
8.0	3	-		

Universal Holder 1/4" x 2.3"

## Bit Selector with TORX® Bits - 10-Piece Set



TORX® SIZES	ORDER NO.	PRICE EACH
T7, T8, T9, T10, T15, T20, T25, T27, T30, T40	7879-245	\$20.08

## Bits Collector with Security Bits - 39-Piece Set



Bits Collector with Security Bits in Tamper Resistant TORX®, Triwing, Torq Set, Spanner, Tamper resistant Hex, Slotted, Phillips, Pozidriv®, and Square bits. 39-Piece set including handle, 1/4" magnetic bit holder, 1/4" bit holding socket adapter.

Order No. 7871-990 Price Each: \$81.02



## ClicFix® 1/4" Magnetic Bit Holder



- Internal bit lock mechanism
- Spring loaded, no fumbling
- One handed bit changes

OAL 2.4" Order No. 7871-490 \$13.18  
OAL 2.9" Order No. 7871-491 \$17.00

## RapidFix® 1/4" Hi-Precision Tool Holder



- Quick release tool for drills, countersinks, power bits
- OAL 2.3" Order No. 7871-480 \$22.66

## Magnetic Nutsetters 2-9/16" OAL & 1-7/8" OAL



**IRWIN**

LOBULAR DESIGN GoldSet® MAGNETIC NUTSETTER	STD. PK.	ORDER NO.	PRICE EACH
1-7/8 OAL x 1/4	10	4210-560	\$3.00
1-7/8 OAL x 5/16	10	4210-576	3.26
1-7/8 OAL x 3/8	10	4210-584	3.38
1-7/8 OAL x 7/16	10	4210-592	3.85
2-9/16 OAL x 1/4	10	4210-504	3.64
2-9/16 OAL x 5/16	10	4210-520	4.03
2-9/16 OAL x 3/8	10	4210-536	4.20
2-9/16 OAL x 7/16	10	4210-552	4.88

## TORX® Bits, 1/4"



TORX SIZE	OVERALL LENGTH (MM)	STD. PK.	ORDER NO.	PRICE EACH
T5	25	10	7871-505	\$1.52
T6	25	10	7871-506	1.52
T7	25	10	7871-507	1.52
T8	25	10	7871-508	1.52
T9	25	10	7871-509	1.52
T10	25	10	7871-510	1.28
T15	25	10	7871-515	1.28
T20	25	10	7871-517	1.28
T25	25	10	7871-525	1.28
T27	25	10	7871-527	1.28
T30	25	10	7871-530	1.28
T40	25	10	7871-540	1.52

## TORX® Power Bits, 1/4" Drive, 2" OAL



TORX SIZE	OVERALL LENGTH (MM)	STD. PK.	ORDER NO.	PRICE EACH
T6	50	10	7874-511	\$3.36
T7	50	10	7874-512	3.36
T8	50	10	7874-513	3.36
T9	50	10	7874-517	3.36
T10	50	10	7874-519	3.36
T15	50	10	7874-521	3.36
T20	50	10	7874-523	3.36
T25	50	10	7874-529	3.36
T27	50	10	7874-531	3.36
T30	50	10	7874-533	3.36
T40	50	10	7874-535	3.36

## Hex Inch Power Bits 1/4" Hex Shank - 2" OAL



SIZE	STD. PK.	ORDER NO.	PRICE EACH
3/32	10	7874-311	\$3.62
7/64	10	7874-312	3.62
1/8	10	7874-313	3.62
9/64	10	7874-314	3.62
5/32	10	7874-315	3.62
3/16	10	7874-316	3.62
7/32	10	7874-317	3.62
1/4	10	7874-318	3.62

## TORX® Double End Bits, 1/4" Hex Drive

TIP DIA. SIDE TO SIDE	OAL (MM)	STD. PK.	ORDER NO.	PRICE EACH
T6 x T6	65	10	7874-411	\$3.48
T7 x T7	65	10	7874-413	3.48
T8 x T8	65	10	7874-415	3.48
T9 x T9	65	10	7874-417	3.48
T10 x T10	65	10	7874-419	3.36
T15 x T15	65	10	7874-421	3.36
T20 x T20	65	10	7874-423	3.36
T25 x T25	65	10	7874-429	3.36
T27 x T27	65	10	7874-431	3.36
T30 x T30	65	10	7874-433	3.36
T40 x T40	65	10	7874-435	3.36

## TORX® Plus® Insert Bits, 1/4" Hex, 1" OAL



SIZE	OAL (MM)	STD. PK.	ORDER NO.	PRICE EACH
IP6	25	10	7871-606	\$1.94
IP7	25	10	7871-607	1.94
IP8	25	10	7871-608	1.94
IP9	25	10	7871-609	1.56
IP10	25	10	7871-610	1.56
IP15	25	10	7871-615	1.56
IP20	25	10	7871-620	1.56
IP25	25	10	7871-625	1.56
IP27	25	10	7871-627	1.56
IP30	25	10	7871-630	1.94
IP40	25	10	7871-640	1.94

## TORX® Plus® Power Bits, 1/4" Hex, 2" OAL



SIZE	OAL (MM)	STD. PK.	ORDER NO.	PRICE EACH
IP8	50	10	7874-604	\$4.12
IP9	50	10	7874-608	4.12
IP10	50	10	7874-612	4.12
IP15	50	10	7874-616	4.12
IP20	50	10	7874-620	4.12
IP25	50	10	7874-624	4.12
IP27	50	10	7874-628	4.12
IP30	50	10	7874-632	4.12
IP40	50	10	7874-636	4.12

## Hex Metric Insert Bits 1/4" Hex Shank



SIZE	STD. PK.	ORDER NO.	PRICE EACH
1.5	10	7871-303	\$1.40
2.0	10	7871-306	1.40
2.5	10	7871-308	1.40
3.0	10	7871-309	1.40
4.0	10	7871-312	1.40
5.0	10	7871-315	1.40
6.0	10	7871-318	1.40
8.0	10	7871-321	3.10
10.0	10	7871-324	3.10

## Hex Inch Insert Bits 1/4" Hex Shank



SIZE	STD. PK.	ORDER NO.	PRICE EACH
1/16	10	7871-326	\$1.36
5/64	10	7871-328	1.36
3/32	10	7871-330	1.36
7/64	10	7871-333	1.36
1/8	10	7871-336	1.36
9/64	10	7871-339	1.36
5/32	10	7871-342	1.36
3/16	10	7871-345	1.36
7/32	10	7871-348	1.36
1/4	10	7871-351	1.36
5/16	10	7871-353	3.10
7/32	10	7871-356	3.10

## TORX® Bits, Tamper Resistant 1/4" Hex Shank



SIZE	OAL (MM)	STD. PK.	ORDER NO.	PRICE EACH
T7s	25	10	7870-127	\$2.34
T8s	25	10	7870-128	2.34
T9s	25	10	7870-129	2.34
T10s	25	10	7870-135	2.10
T15s	25	10	7870-139	2.10
T20s	25	10	7870-142	2.10
T25s	25	10	7870-148	2.10
T27s	25	10	7870-160	2.10
T30s	25	10	7870-163	2.10
T40s	25	10	7870-168	2.34

## TORX® Power Bits, Tamper Resistant 1/4" Hex Shank



SIZE	OAL (MM)	STD. PK.	ORDER NO.	PRICE EACH
T7s	50	10	7870-507	\$4.46
T8s	50	10	7870-508	4.46
T9s	50	10	7870-509	4.46
T10s	50	10	7870-510	4.46
T15s	50	10	7870-515	4.46
T20s	50	10	7870-520	4.46
T25s	50	10	7870-525	4.46
T27s	50	10	7870-527	4.46
T30s	50	10	7870-530	4.46
T40s	50	10	7870-540	4.46
T45s	50	10	7870-545	5.16
T50s	50	10	7870-550	5.16
T55s	50	10	7870-555	5.16

# Insulated Tools



## Screwdrivers



- Insulated according to ASTM F-1505-01, New VDE Spec. 0682/part 201 and EN/IEC 60900, up to 1000V. Yellow & red handle.

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
5/64	3	7832-005	\$5.50
3/32	3	7832-010	5.56
1/8	4	7832-012	5.56
9/64	4	7832-015	5.94
3/16	5	7832-024	7.12
7/32	7	7832-026	8.06
1/4	6	7832-039	9.86
5/16	7	7832-042	12.66
3/8	8	7832-045	16.32

## Phillips



SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
0	2.4	7832-100	\$5.94
1	3.0	7832-101	6.90
2	4.0	7832-102	8.72
3	6.0	7832-103	12.40



## 6-Pc. Set



SLOTTED		PHILLIPS	
BLADE WIDTH	BLADE LENGTH	SIZE	BLADE LENGTH
mm	INCH	mm	INCH
3.5	100	1	80
4.5	125	2	100
6.5	150	3	50

Order No. 7832-092 Price Each \$49.52



## 10-Pc. Set



SLOTTED		PHILLIPS	
BLADE WIDTH	BLADE LENGTH	SIZE	BLADE LENGTH
mm	INCH	mm	INCH
2.0	60	0	60
2.5	75	1	80
3.0	100	2	100
3.5	100	3	150
4.5	125		
6.5	150		

Order No. 7832-093 Price Each \$72.68

## Retaining Ring/Bit Holding Screwdriver - 1/4" Size



ORDER NO.	PRICE EACH
7832-650	\$15.44

## Nut Drivers



- Insulated according to ASTM F-1505-01, New VDE Spec. 0682/part 201 and EN/IEC 60900, up to 1000V. Yellow & red handle.

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
5/32	5	7832-255	\$10.04
3/16	5	7832-258	10.30
7/32	5	7832-261	10.30
1/4	5	7832-264	10.30
5/16	5	7832-267	12.40
3/8	5	7832-270	13.98
7/16	5	7832-273	15.18
1/2	5	7832-276	15.96
9/16	5	7832-278	16.24
5/8	5	7832-280	17.94

## Metric



BLADE WIDTH/ SIZE (MM)	BLADE LENGTH (MM)	ORDER NO.	PRICE EACH
4.0	125	7832-206	\$10.00
5.0	125	7832-209	10.30
5.5	125	7832-212	10.30
6.0	125	7832-215	10.30
7.0	125	7832-218	11.62
8.0	125	7832-221	12.40
9.0	125	7832-224	13.98
10.0	125	7832-227	14.38
11.0	125	7832-230	15.18
12.0	125	7832-233	15.58
13.0	125	7832-236	15.96



## 5-Pc. Set



STANDARD			
SIZE	BLADE LENGTH	SIZE	BLADE LENGTH
INCH	INCH	INCH	INCH
7/32	5	3/8	5
1/4	5	1/2	5
5/16	5		

Order No. 7832-292 Price Each \$62.06



## 5-Pc. Set



SIZE	BLADE LENGTH	SIZE	BLADE LENGTH
mm	mm	mm	mm
6.0	125	9.0	125
7.0	125	10.0	125
8.0	125		

Order No. 7832-291 Price Each \$62.22

## TORX® Screwdrivers



- Insulated according to ASTM F-1505-01, New VDE Spec. 0682/part 201 and EN/IEC 60900, up to 1000V. Yellow & red handle.

BLADE WIDTH/ SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
T5	2.4	7832-505	\$6.20
T6	2.4	7832-511	6.20
T7	2.4	7832-516	6.20
T8	2.4	7832-521	6.20
T9	2.4	7832-526	6.20
T10	2.4	7832-531	6.20
T15	3.0	7832-536	7.66
T20	3.0	7832-541	7.66
T25	3.0	7832-546	7.66
T27	4.0	7832-551	9.94
T30	4.0	7832-556	9.94
T40	6.0	7832-561	13.64

## 6-Pc. Set

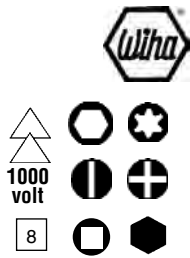


SIZE	BLADE LENGTH	SIZE	BLADE LENGTH
	INCH	mm	INCH
T8	60	T15	80
T9	60	T20	80
T10	60	T25	80

Order No. 7832-590 Price Each \$41.02



## Master Electrician's Set - 66 Pc.

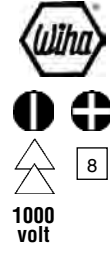


**SET INCLUDES:** **Pliers:** 8" Long Nose, 6.3" Long Flat Nose, 9" Combination Pliers/Crimpers, 8" Cable Cutters, 6.3" Side Cutters, 8" High Leverage Cutters; **Screwdrivers:** Ins. Slotted 2.0, 2.5, 3.0, 4, 4.5, 5.5, 6, 8.0, 10.0, Ins. Phillips #0-3; **Nut Drivers:** 1/4", 5/16", 11/32", 3/8", 7/16"; Metric (mm): 5.0, 5.5, 6.0, 7.0, 8.0, 10.0, 13.0; **T-Handle Hex:** 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"; Metric (mm): 4.0, 5.0, 6.0, 8.0 **Torx:** T8, T10, T15, T20, T25, T30; **Hex L-Key:** 10mm, 1/2"; **Insulated Sockets:** 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8"; Metric: 8.0, 10.0, 13.0, 14.0, 15.0, 17.0, 19.0, 22.0 **Tools:** Ins. Cable Knife 50mm, 8" Adjustable Wrench, Ins. Square #1-#2, Ins. Sit/Ph Terminal #1x80, #2x100, Ins. Extension 4.9", Ins. Ratchet 3/8" drive

- Pliers drop-forged from special tool steel, individually high frequency induction hardened, chrome and nickel plated, mirror polished
- Insulation according to VDE 0682/part 201, EN/IEC 60900, ASTM F-1505-01, NFPA70E & CSA, up to 1000 volt. Individually Tested.

**Order No. 7832-876....Price Each \$1481.16**

## 24 Pc. Insulated Combo Set



**SET INCLUDES:** 11 insulated metric sockets: 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 19mm; 2 Extensions: 5" & 10"; Insulated 3/8" Ratchet: 10-1/4" OAL; Insulated Pliers: 8" Combination, 6.3" Long Nose, 6.3" Diagonal Cutter; Screwdrivers: Standard: 9/64, 3/16, 1/4; Phillips: #1-3; Insulated knife; In molded storage box

- CV Steel, forged, oil-hardened sockets. Insulated to EN/IEC 60900
- Sockets for use with insulated ratchets & extensions.

**Order No. 7831-592....Price Each \$825.70**

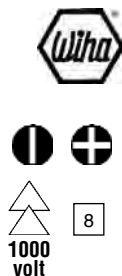
## Insulated Bit Holder



Multi-bit Screwdriver with Wiha Powerhandle and insulated shaft. Set includes 1/4" bits: Slotted: 5.5, 6mm Phillips: #0, #1, #2, #3

**Order No. 7838-006 \$21.02**

## 14 Pc. Pliers & Screwdriver Set



**SET INCLUDES:** Pliers: 8" Long Nose, 9" Combination, 6.3" Stripping; 6.3" Side Cutters, 8" High Leverage Cutters; Screwdrivers: Ins. Phillips #1-3, Ins. Slotted 2.0, 2.5, 3.0, 3.5, 4.5, 6.5

- Pliers drop-forged from special tool steel, individually high frequency induction hardened, chrome and nickel plated, mirror polished
- In zipper carry case

- Insulation according to VDE 0682/part 201, EN/IEC 60900, ASTM F-1505-01, NFPA70E, up to 1000 volt. Individually Tested.

**Order No. 7832-895....Price Each \$352.86**

## ESD Safe Sets

### 27 pc. Precision Interchangeable Bit Set - System 4, ESD Safe

- Sets include your choice of Wiha precision handle, bit extension, and 25 Wiha interchangeable bits.
- Plexiglass frame, equipped with 50 precision drivers.

**SET INCLUDES:** Phillips #000-1, Slotted 1.5, 2.0, 3.0, 4.0 **Torx:** T3, T4, T5, T6, T7, T8, T9, T10, T15 **Metric Hex:** 1.3, 1.5, 2.0, 2.5, 3.0 **Inch Hex:** .050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32 **105mm Bit Extension**

Set with ESD Safe Precision Handle: **Order No. 7875-992 Price Each \$61.82**

### 9-pc. Interchangeable Blade Set - System 4, ESD Safe

ESD safe precision collet lock handle and 8 Wiha interchangeable blades.

**SET INCLUDES:** Phillips #000-1, Slotted 1.5, 2.0, 3.0, 4.0 **Torx:** T3, T4, T5, T6, T7, T8, T9, T10, T15 **Metric:** 1.5, 2.0, 2.5, 3.0, 3.5, 4.0

**Order No. 7826-997 Price Each \$68.64**

## T-Handle TORXPlus®



BLADE WIDTH/ SIZE	BLADE LENGTH (INCH)	ORDER NO.	PRICE EACH
IP9	3.9	7836-461	\$6.26
IP10	3.9	7836-463	7.34
IP15	3.9	7836-466	7.52
IP20	3.9	7836-469	8.54
IP25	5.9	7836-472	8.94
IP27	5.9	7836-474	10.22
IP30	5.9	7836-476	10.18

## TORXPlus® SoftFinish Handle



**Adjustable TorqueVario® with Direct Reading Scale**  
 EN ISO 6798, BS EN 26789, ASME B107.14M. Ergonomic molded multi-component handle, light and compact. Handle sizes proportioned to optimize torque range. Audible and perceptible click when the torque setting has been attained, automatically resets for next torque cycle.

- +/- 6% accuracy tolerance
- Certificate of calibration
- Blue and black handle

## 6-pc. TORXPlus® T-Handle Set



• Blade high Alloy CVM Steel, hardened, hard chromed, high quality plastic handle, impact resistant  
**TORXPlus: IP10, IP15, IP20, IP25, IP30, IP40**  
**Order No. 7836-496 \$53.60**

BLADE WIDTH/ SIZE	BLADE LENGTH (INCH)	ORDER NO.	PRICE EACH
IP6	2.4	7836-211	\$4.82
IP7	2.4	7836-223	4.82
IP8	2.4	7836-228	4.88
IP9	2.4	7836-229	5.54
IP10	3.1	7836-233	5.64
IP15	3.1	7836-238	5.90
IP20	3.9	7836-239	6.16
IP25	3.9	7836-243	7.08
IP27	4.5	7836-248	8.08
IP30	4.5	7836-253	9.60
IP40	5.1	7836-255	10.26

## TORXPlus® Pocketstar Fold Outs 8 Pc. Set

• High Alloy CVM Steel, hardened, hardened molded ergonomic handle  
**TORXPlus: IP6, IP7, IP8, IP9, IP10, IP15, IP20, IP25**  
**Order No. 7836-697 \$30.28**



## 7-pc. TORXPlus® Set



• Blade high Alloy CVM Steel, hardened, hard chromed, Wiha-SoftFinish handle, multi-component  
 • Blue and black handle  
**TORXPlus: IP8, IP10, IP15, IP20, IP25, IP30, IP40**  
**Order No. 7836-299 \$49.54**



## EasyTorque® TorqueControl Tool w/Blade



## TORX®

BLADE WIDTH/ SIZE	TORQUE (LBS.)	TORX® ORDER NO.	PRICE EACH
T5	4.4	7829-132	\$45.64
T6	5.3	7829-133	45.64
T7	8	7829-134	45.64
T8	10.6	7829-136	45.64
T9	12.4	7829-137	45.64
T10	17.7	7829-138	45.64
T15	26.6	7829-140	45.64

## TORXPlus®

BLADE WIDTH/ SIZE	TORQUE (LBS.)	TORXPLUS® ORDER NO.	PRICE EACH
IP5	4.4	7829-151	\$45.64
IP6	5.3	7829-152	45.64
IP7	8	7829-153	45.64
IP8	10.6	7829-155	45.64
IP9	12.4	7829-156	45.64
IP10	17.7	7829-157	45.64
IP15	26.6	7829-159	45.64

## 6-pc. TORXPlus® Set



• Blade high Alloy CVM Steel, hardened, hard chromed, Wiha-SoftFinish handle, multi-component  
 • Blue and black handle  
**TORXPlus: IP6, IP7, IP8, IP9, IP10, IP15**  
**Order No. 7836-296 \$32.10**

\* No calibration certificates; Release accuracy +/- 10%



# TORX® Screwdrivers Ergonomic, Cushion, and Standard Grip

## TORX® Screwdriver, with Wiha-3K Series Handle



- Blade high alloy CVM steel, black finish.
- Ergonomic, blue & black handle
- Chromed shaft

8

SIZE	BLADE LENGTH INCH	ORDER NO.	PRICE EACH
T6	2.4	7845-504	\$4.08
T7	2.4	7845-507	4.08
T8	2.4	7845-508	4.20
T9	2.4	7845-509	4.42
T10	3.1	7845-510	4.42
T15	3.1	7845-515	4.70
T20	3.9	7845-520	4.92
T25	4.5	7845-525	5.50
T27	4.5	7845-527	6.28
T30	4.5	7845-530	6.84
T40	5.1	7845-540	7.78
T45	5.1	7845-545	7.88
T50	5.1	7845-550	8.00

## TORX® Screwdriver, with Wiha-SoftFinish® Handle



- Round blade, high alloy CVM steel, chrome plated.
- Multi-component, red & black handle, cushion grips.

8

SIZE	BLADE LENGTH INCH	ORDER NO.	PRICE EACH
T5	2.4	7836-264	\$6.52
T6	2.4	7836-266	4.96
T7	2.4	7836-268	4.96
T8	2.4	7836-270	4.96
T9	2.4	7836-272	5.36
T10	3.1	7836-274	5.60
T15	3.1	7836-276	5.84
T20	3.9	7836-278	6.14
T25	3.9	7836-280	7.00
T27	4.5	7836-282	8.00
T30	4.5	7836-284	9.66
T40	5.1	7836-286	10.22
T45	5.1	7836-288	10.70

## Tamper Resistant TORX® Screwdriver, with Wiha-SoftFinish® Handle



- Round blade, high alloy CVM steel, chrome plated.
- Multi-component, red & black handle, cushion grips.

8

SIZE	BLADE LENGTH INCH	ORDER NO.	PRICE EACH
T7s	2.4	7836-269	\$8.18
T8s	2.4	7836-271	8.18
T9s	2.4	7836-273	8.66
T10s	3.1	7836-275	8.66
T15s	3.1	7836-277	8.92
T20s	3.9	7836-279	11.10
T25s	3.9	7836-281	11.20
T27s	4.5	7836-283	13.12
T30s	4.5	7836-285	15.52
T40s	5.1	7836-287	16.76

## 8 Piece TORX® Screwdriver Set - Wiha-3K Series Handle



TORX® 8 Piece Set  
Blade: high alloy CVM steel, chromed shaft. Blue & black handle.  
Contains sizes: T8, T9, T10, T15, T20, T25, T27, T30

Order No. 7845-595 Price Each \$40.00

## 6 Piece TORX® Screwdriver Set - Wiha-SoftFinish® Handle



TORX® 6 Piece Set  
Blade: high alloy CVM steel, chrome-plated. Red handle.  
Contains sizes: T6, T7, T8, T9, T10, T15

Order No. 7836-291 Price Each \$31.28

## 7 Piece TORX® Screwdriver Set - Wiha-SoftFinish® Handle



TORX® 7 Piece Set  
Blade: high alloy CVM steel, chrome-plated. Red & black handle.  
Contains sizes: T7s, T8s, T9s, T10s, T15s, T20s, T25s

Order No. 7836-298 Price Each \$64.02

## TORX® Screwdriver, with Wiha-Powerhandle



- CVM steel blade, hardened, hard chromed.
- Wiha Powerhandle cellulose-acetate

8

SIZE	BLADE LENGTH MM	ORDER NO.	PRICE EACH
T5	2.0	7836-205	\$6.50
T6	2.0	7836-210	4.88
T7	2.0	7836-212	4.66
T8	2.4	7836-215	4.78
T9	2.4	7836-220	5.38
T10	3.1	7836-225	5.50
T15	3.1	7836-230	5.76
T20	3.9	7836-235	5.98
T25	3.9	7836-240	6.84
T27	4.5	7836-245	8.18
T30	4.5	7836-250	9.26

## 8 Piece TORX® Screwdriver Set - Wiha-PowerHandle



TORX® 8 Piece Set  
Blade: CVM steel blade, hardened, hard chromed.  
Red handle. Contains sizes: T6 -T30

Order No. 7836-292 Price Each \$51.78

## 6 Piece TORX® Screwdriver Set - Wiha-PowerHandle



TORX® 6 Piece Set  
Blade: CVM steel blade, hardened, hard chromed.  
Red handle. Contains sizes: T6 -T15

Order No. 7836-293 Price Each \$32.52



**TORX® Screwdriver, BI-Mold Comfort Grip Handles**



3

SIZE	OAL	ORDER NO.	PRICE EACH
	INCH		
T10	7-1/4	7224-263	\$5.98
T15	7-1/4	7224-265	6.22
T20	7-3/4	7224-267	6.46
T25	8-1/4	7224-269	6.69
T27	8-1/4	7224-271	6.94
T30	8-1/4	7224-273	7.17



**TORX® Screwdriver, BI-Mold Comfort Grip Handles**



3

TORX® 6 Piece Set  
Contains sizes: T10, T15, T20, T25, T27, T30  
Order No. 7224-010 Price Each \$35.51



**Standard Grip TORX® Screwdriver, with Round Blade**



3

SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
	INCH		
T10	3	7566-321	\$5.77
T15	3	7566-323	6.21
T15	1-1/4	7566-324	6.05
T20	3	7566-326	6.18
T25	3	7566-327	6.18
T27	4	7566-329	6.57
T30	4	7566-330	6.57
T40	6	7566-332	7.03

**TORX® Screwdriver, w/ Wiha-Proturn Handle**



8

- Blade high alloy CVM steel, black finish.
- Ergonomic, impact resistant, red handle

SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
	INCH		
T6	2.0	7845-505	\$2.96
T7	2.0	7845-506	2.82
T8	2.4	7845-511	2.96
T9	2.4	7845-516	3.38
T10	3.1	7845-521	3.38
T10	10.8	7845-522	5.52
T15	3.1	7845-526	3.38
T20	3.9	7845-531	3.58
T25	3.9	7845-536	4.26
T27	4.5	7845-541	4.88
T30	4.5	7845-546	5.80
T40	5.1	7845-551	6.56
T45	5.1	7845-556	6.84
T50	5.1	7845-561	7.02



**Standard Grip TORX® Screwdriver, with Round Blade**



3

- Chrome Vanadium Steel Blade
- Cellulose Acetate Handle

SIZE	BLADE LENGTH	ORDER NO.	PRICE EACH
	INCH		
T10	3	7729-261	\$3.43
T15	3	7729-262	3.43
T20	3	7729-263	3.43
T25	4	7729-264	3.69
T27	4	7729-265	3.69
T30	4	7729-266	3.69
T40	6	7729-267	5.18



**Standard Grip TORX® Screwdriver, with Round Blade**



3

TORX® 8 Piece Set In Vinyl Pouch  
Contains sizes: T10, T15, T20, T25, T27, T30, T40  
Order No. 7566-604 Price Each \$61.28



**Star T-Handle Sets**

- Model TTHX8
- 8 tools with stand
- Contains: T9, T10, T15, T20, T25, T27, T30, T40

Order No. 3188-599  
Price Each \$50.85

5

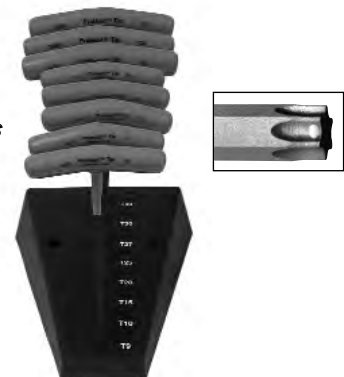


**Star Pro Hold T-Handle Sets**

- Model PHTTHX8
- Never drop a screw again
- 8 tools with stand
- Contains: T9, T10, T15, T20, T25, T27, T30, T40

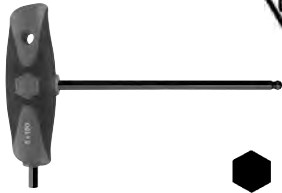
Order No. 3188-600  
Price Each \$77.80

5



# Wiha Torx For Tooling—Professional Quality

## ComfortGrip Hex T-handle

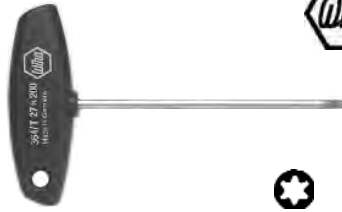


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DESCRIPTION	ORDER NO.	PRICE
2.0MM x 150MM	7833-442*	\$4.90
2.5MM x 150MM	7833-444*	4.90
3.0MM x 150MM	7833-446*	4.90
4.0MM x 150MM	7833-448	5.90
5.0MM x 150MM	7833-450	7.02
6.0MM x 150MM	7833-452	7.52
8.0MM x 200MM	7833-454	10.72
10.0MM x 200MM	7833-458	14.36
8 Piece Set In Vinyl Pouch		
Contains 1 each of T-Handle Torx listed above		
Order No. 7833-496 Price Each \$59.42		

\*No Ball - Standard Hex

## T-Handle TORX



8

DESCRIPTION	ORDER NO.	PRICE
T9 x 100MM	7836-409	\$ 5.86
T10 x 100MM	7836-410	6.10
T15 x 100MM	7836-415	6.82
T15 x 200MM	7836-417	7.02
T20 x 100MM	7836-420	7.74
T20 x 200MM	7836-422	8.00
T25 x 100MM	7836-425	8.08
T25 x 200MM	7836-427	8.30
T27 x 200MM	7836-432	9.46
T30 x 100MM	7836-435	9.06
T40 x 200MM	7836-442	10.14
T45 x 150MM	7836-445	12.20
T50 x 150MM	7836-450	14.26

## 7 Piece T-Handle Set

DESCRIPTION	ORDER NO.	PRICE
7 Piece Set	7836-492	\$53.56
Contains 1 each T-Handle Torx:		
T9, T10, T15, T20, T25, T27, T30		

MADE IN GERMANY

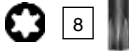
## ComfortGrip T-Handle TORX



8

DESCRIPTION	ORDER NO.	PRICE
T10 x 100MM	7836-480	\$7.20
T15 x 100MM	7836-481	7.92
T20 x 100MM	7836-482	9.00
T25 x 150MM	7836-483	9.40
T27 x 150MM	7836-484	10.56
T30 x 150MM	7836-486	10.64
T40 x 150MM	7836-487	11.60
7 Piece Set In Vinyl Pouch		
Contains 1 each T-Handle Torx:		
T10, T15, T20, T25, T27, T30, T40		
Order No. 7836-497 Price Each \$65.60		

## TORX Short Arm L-Keys



8

DESCRIPTION	ORDER NO.	PRICE
T5 x 37MM	7836-305	\$2.32
T6 x 39MM	7836-306	2.32
T7 x 42MM	7836-307	2.32
T8 x 45MM	7836-308	2.16
T9 x 48MM	7836-309	2.16
T10 x 51MM	7836-310	2.16
T15 x 54MM	7836-315	2.16
T20 x 58MM	7836-320	2.16
T25 x 63MM	7836-325	2.16
T27 x 67MM	7836-327	2.32
T30 x 73MM	7836-330	3.16
T40 x 79MM	7836-340	4.48
T45 x 82MM	7836-345	5.68
T50 x 95MM	7836-350	6.20
T55 x 108MM	7836-355	8.06
T60 x 120MM	7836-360	9.86

## TORX L-Keys In Plastic Holder



8

DESCRIPTION	ORDER NO.	PRICE
7 Piece Set Wt. .3 lbs. Contains 1 each Short Arm TORX L-Keys: T6, T7, T8, T9, T10, T15, T20	7836-392	\$16.80
9 Piece Set Wt. 1.0 lbs. Contains 1 each Short Arm TORX L-Keys: T8, T9, T10, T15, T20, T25, T27, T30, T40	7836-394	24.22

## Wing Style TORX



8

DESCRIPTION	ORDER NO.	PRICE
T6 x 35MM	7836-510	\$3.94
T7 x 35MM	7836-512	3.94
T8 x 40MM	7836-515	3.94
T9 x 40MM	7836-520	3.94
T10 x 40MM	7836-525	3.94
T15 x 45MM	7836-530	3.94
T20 x 45MM	7836-535	3.94

## 7 Piece Wing TORX Set in Metal Stand



8

DESCRIPTION	ORDER NO.	PRICE
7 Piece Set Contains 1 each Wing TORX Keys: T6, T7, T8, T9, T10, T15, T20	7836-590	\$33.34

## Flag Style TORX



8

DESCRIPTION	ORDER NO.	PRICE
T5 x 35MM	7837-013	\$3.66
T6 x 35MM	7837-016	3.66
T7 x 35MM	7837-019	3.66
T8 x 40MM	7837-022	3.66
T9 x 40MM	7837-026	3.66
T10 x 40MM	7837-029	3.66
T15 x 45MM	7837-032	3.66
T20 x 45MM	7837-036	3.66

## 7 Piece Flag Style TORX Key Set in Metal Stand

DESCRIPTION	ORDER NO.	PRICE
7 Piece Set Wt. .7 lbs. Contains 1 each Wing TORX Keys: T6, T7, T8, T9, T10, T15, T20	7837-090	\$30.28

**WE ALSO STOCK  
TORXPLUS®  
SEE PAGE: 382**

## Balldriver® L-Wrench Sets



9

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
BLX8	8 pc. (.050-5/32)	3188-121	\$8.40
BLX12	12 pc. (7/64-5/16)	3188-123	14.55
BLX13	13 pc. (.050-3/8)	3188-199	18.65
BLX10	10 pc. (1/16-1/4)	3188-122	11.65
BLX7	7 pc. (5/64-3/16)	3188-124	7.90
BLX6M	6 pc. (1.5-5mm)	3188-126	6.90
BLX15	15 pc. (1.27-10mm)	3188-234	25.45
BLX9M	9 pc. (1.5-10mm)	3188-125	15.15
BLX 21	21 pc. (BLX12, BLX9M)	3188-235	28.05
BLX22	22 pc. (BLX13, BLX9M)	3188-227	31.80

## Balldriver® L-Wrench Singles



8

SIZE (IN.)	PKG. QTY.	ORDER NO.	PRICE EACH	SIZE (mm)	PKG. QTY.	ORDER NO.	PRICE EACH
.050	10	3188-085	\$0.97	1.27	10	3188-103	\$0.97
1/16	10	3188-086	0.97	1.5	10	3188-104	0.97
5/64	10	3188-087	0.97	2.0	10	3188-105	0.97
3/32	10	3188-088	1.01	2.5	10	3188-106	1.04
7/64	10	3188-089	1.13	3.0	10	3188-107	1.15
1/8	10	3188-090	1.18	3.5	10	3188-109	1.21
9/64	10	3188-091	1.18	4.0	10	3188-108	1.23
5/32	10	3188-092	1.23	4.5	10	3188-110	1.41
3/16	10	3188-093	1.43	5.0	10	3188-111	1.57
7/32	5	3188-094	1.72	5.5	10	3188-112	1.82
1/4	5	3188-095	1.98	6.0	10	3188-113	2.10
5/16	5	3188-096	3.12	7.0	10	3188-114	2.83
3/8	5	3188-097	4.39	8.0	5	3188-115	3.34
7/16	5	3188-098	9.09	9.0	5	3188-116	4.01
1/2	5	3188-099	11.65	10	5	3188-117	4.89
9/16	5	3188-100	14.25	11	1	3188-118	9.01
5/8	5	3188-101	15.92	12	1	3188-119	10.81
3/4	5	3188-102	26.33	14	1	3188-120	13.51
				17	1	3188-202	21.43
				19	1	3188-203	25.41

## ProHold® Ballpoint Sets



9

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
PBLX13	13 pc. (.050-3/8")	3188-315	\$28.80
PBLX9M	9 pc. (1.5-10mm)	3188-318	23.35
PBLX22	22 pc. combination	3188-598	49.05

## Stubby L-Wrenches



- Model SBLX13
- Stubby L-Wrenches have smaller inside radius for tight spaces
- Allows for lower clearance
- Balldriver® Tip on long arm for angle entry and fast screw removal

Order No. 3188-337 \$22.90 9

## Fractional BriteGuard® & Metric GoldGuard®



- Model BLX22GB
- Quickly identify metric from inch keys
- Fractional sizes are silver BriteGuard® and metric keys have GoldGuard® finish
- Fractional set contains: 13 pcs., .050" to 3/8"
- Metric set contains: 9 pcs., 1.5mm to 10mm
- Double pack sets come in Bondhex® locking tool cases

Order No. 3188-601 \$45.05 9

## Extra Long Balldrivers



- Fractional Set Model BLX13XL
- Extra long length for greater reach
- Fractional set contains: 13 pcs., .050" to 3/8"

Order No. 3188-404 \$22.50

- Metric Set Model BLX9MXL
- Extra long length for greater reach
- Metric set contains: 9 pcs., 1.5mm to 10mm

Order No. 3188-407 \$18.20 9



## Balldriver® T-Handle Sets



9

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
BTX10	3/32-3/8"	3188-221	\$55.90
BTX60	5/32-3/8"	3188-220	41.45
BTX10/S	3/32-3/8"+Stand	3188-336	59.60
BTX50M	4-10mm	3188-222	35.60
BTX80M	2-10mm	3188-223	45.80
BTX80M/S	2-10mm+Stand	3188-335	49.50

## Balldriver® T-Handle Singles



8

SIZE (IN.)	PKG. QTY.	ORDER NO.	PRICE EACH
3/32*	2	3188-250	\$3.80
7/64*	2	3188-251	4.08
1/8*	2	3188-252	4.32
9/64*	2	3188-253	4.58
5/32	2	3188-254	4.98
3/16	2	3188-255	5.25
7/32	2	3188-256	6.17
1/4	2	3188-257	6.33
5/16	2	3188-258	9.69
3/8	2	3188-259	10.69
METRIC			
2.0*	2	3188-269	\$4.32
2.5*	2	3188-270	4.32
3.0*	2	3188-271	4.58
4.0	2	3188-272	5.24
5.0	2	3188-273	6.02
6.0	2	3188-274	6.54
8.0	2	3188-275	9.84
10.0	2	3188-276	10.78

\*STRAIGHT HEX END TO PREVENT BREAKAGE

## ProHold® T-Handle Ballpoint Sets



9

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
PBTX60	6 pc.(5/32-3/8)	3188-346	\$46.20
PBTX50M	5 pc.(4-10mm)	3188-347	39.50

## GorillaGrip® Fold-Up Sets



- Handle is 40% stronger than steel handles
- Comfortable to hold, and does not conduct heat or cold
- 90° stop convert the tool into a non-stop, time saving, speed wrench

9

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
FHX5	5pc 3/16-3/8"	3188-290	\$10.60
FHX9	9pc 5/64-1/4"	3188-286	7.50
FHX9S	9pc .050-3/16"	3188-285	5.80
FHX7M	2, 2.5, 3, 4, 5, 6, 8mm	3188-288	8.05
FHX6M	3, 4, 5, 6, 8, 10mm	3188-291	11.25
FTX8S	TORX-T6, T7, T8, T9, T10, T15, T20, T25	3188-289	14.50
FTX8	TORX-T9, T10, T15, T20, T25, T27, T30, T40	3188-294	14.85

## Metal Fold-Up Wrenches



9

SIZE RANGE	NO. OF PIECES	ORDER NO.	PRICE EACH
5/64" - 1/4"	9	3188-311	\$6.70
1.5 - 6mm	7	3188-313	5.50

## Balldriver® Screwdriver Sets



- ComfortGrip ergonomically designed handle delivers maximum torque
- Handle shape prevents rolling on surfaces angled up to 15°
- Faster than ball end hex keys in assembly applications

• Fractional set contains: 13 pcs., .050" to 3/8"  
 • Fractional Set Model BSX13  
**Order No. 3188-184 \$55.95**

9

• Metric set contains: 9 pcs., 1.5mm to 10mm  
 • Metric Set Model BSX9M  
**Order No. 3188-188 \$44.10**

# Hex Keys

## Wiha MagicRing Ball End Hex L-Key - Long - Metric



8

BLADE WIDTH/ SIZE	BLADE LENGTH (mm)	ORDER NO.	PRICE EACH
1.5*	90	7866-904	\$1.46
2.0*	99	7866-908	1.46
2.5*	111	7866-912	1.46
3.0	125	7866-916	3.34
4.0	138	7866-920	3.34
5.0	158	7866-924	3.58
6.0	178	7866-928	4.22
8.0	198	7866-936	5.96
10.0	221	7866-944	7.70

\* Standard Ball - No Ring

## Wiha 22-Pc. Combination MagicRing L-Key Set in ProStar Holder



8

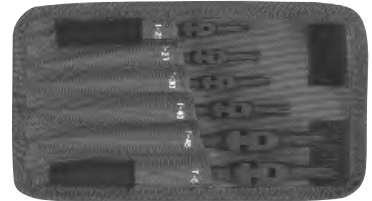
• Blade CVM steel, hardened, hard chromed.

DESCRIPTION	ORDER NO.	PRICE
22 Piece Combination Set Wt. 2.21 lbs. Contains 1 each MagicRing Long Ball End L-Keys: 1.5*, 2.0*, 2.5*, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0mm .050*, 1/16", 5/64", 3/32", 7/64", 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8"	7866-992	\$75.30

\* Standard Ball - No Ring

## GEARWRENCH Flexible Hex Key Set - 6-pc. Torx®

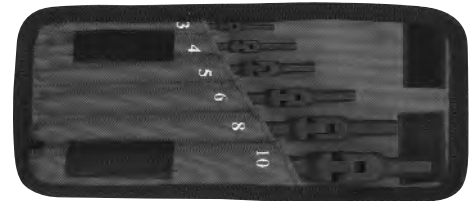
Flexible Hex Key Set - 6-pc. Torx®



• With 1/2 turn clearance, 180° flex head eliminates need to reposition Torx® key  
TORX: T25, T27, T30, T40, T45, T50  
Order No. 7440-985 Price Each: \$38.44

## GEARWRENCH Flexible Hex Key Set - 6-pc. Metric

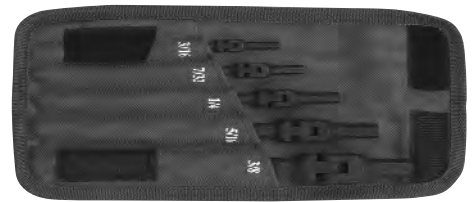
Flexible Hex Key Set - 6-pc. Metric



• With 1/2 turn clearance, 180° flex head eliminates need to reposition Torx® key  
Metric (mm): 3, 4, 5, 6, 8, 10  
Order No. 7440-984 Price Each: \$33.31

## GEARWRENCH Flexible Hex Key Set - 5-pc. Fractional

Flexible Hex Key Set - 5-pc. Fractional



• With 1/2 turn clearance, 180° flex head eliminates need to reposition Torx® key  
Fractional: 3/16", 7/32", 1/4", 5/16", 3/8"  
Order No. 7440-983 Price Each: \$31.56

## Wiha MagicRing Ball End Hex L-Key - Long - Fractional



8

BLADE WIDTH/ SIZE	BLADE LENGTH (INCH)	ORDER NO.	PRICE EACH
.050*	2.8	7866-945	\$1.38
1/16*	3.1	7866-946	1.34
5/64*	3.5	7866-947	1.34
3/32*	3.9	7866-950	1.34
7/64*	4.3	7866-952	1.70
1/8	4.6	7866-953	3.30
9/64	5.2	7866-955	3.30
5/32	5.7	7866-956	3.30
3/16	6.2	7866-959	3.30
7/32	6.7	7866-962	3.54
1/4	7.3	7866-965	3.94
5/16	8.0	7866-968	6.04
3/8	8.8	7866-971	7.74

\* Standard Ball - No Ring

## Wiha MagicRing Ball End Hex Long L-Key Set in ProStar Holder



8

DESCRIPTION	ORDER NO.	PRICE
9 Piece Metric Set Wt. 1.07 lbs. Contains 1 each MagicRing Long Ball End L-Keys (mm): 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0	7866-990	\$34.70
13 Piece Inch Set Wt. 1.14 lbs. Contains 1 each MagicRing Long Ball End L-Keys: .050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8	7866-991	43.38

\* Standard Ball - No Ring

## GEARWRENCH Flexible Hex Keys - Fractional

Flexible Hex Keys - Fractional



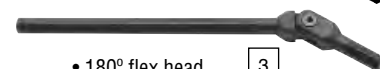
• 180° flex head

3

BLADE WIDTH/ SIZE	ORDER NO.	PRICE EACH
3/16	7440-986	\$7.10
7/32	7440-987	7.47
1/4	7440-988	7.62
5/16	7440-989	7.88
3/8	7440-990	8.28

## GEARWRENCH Flexible Hex Keys - Metric

Flexible Hex Keys - Metric



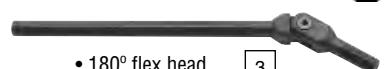
• 180° flex head

3

BLADE WIDTH/ SIZE	ORDER NO.	PRICE EACH
3mm	7440-997	\$7.10
4mm	7440-998	7.47
5mm	7440-999	7.62
6mm	7441-000	7.88
8mm	7441-001	8.11
10mm	7441-002	8.28

## GEARWRENCH Flexible Hex Keys - Torx®

Flexible Hex Keys - Torx®



• 180° flex head

3

BLADE WIDTH/ SIZE	ORDER NO.	PRICE EACH
T25	7440-991	\$7.10
T27	7440-992	7.33
T30	7440-993	7.62
T40	7440-994	7.80
T45	7440-995	7.88
T50	7440-996	8.08

# Hex Keys



## Fractional- Short Arm

2

2

QUALITY IMPORT				BONDHUS			BONDHUS BULK QTY.		
HEX SIZE (IN)	QTY PER BOX	ORDER NO.	PRICE PER BOX	QTY PER BOX	ORDER NO.	PRICE PER BOX	QTY PER BOX	ORDER NO.	PRICE PER BOX
.028	100	3186-001	\$8.99	10	3188-410	\$2.88	100	3188-436	\$17.60
.035	100	3186-002	9.52	10	3188-411	2.88	100	3188-437	17.60
.050	100	3186-003	8.57	10	3188-412	2.08	100	3188-438	10.40
1/16	100	3186-004	4.48	10	3188-413	2.08	100	3188-439	10.40
5/64	100	3186-005	5.62	10	3188-414	2.24	100	3188-440	12.00
3/32	100	3186-006	7.90	10	3188-415	2.24	100	3188-441	12.00
7/64	100	3186-007	9.81	10	3188-416	2.40	100	3188-442	12.80
1/8	100	3186-008	9.94	10	3188-417	2.40	100	3188-443	12.80
9/64	100	3186-009	10.67	10	3188-418	2.64	100	3188-444	14.40
5/32	100	3186-010	12.67	10	3188-419	2.64	100	3188-445	14.40
3/16	100	3186-012	18.10	10	3188-420	3.20	100	3188-446	20.80
7/32	50	3186-014	13.95	10	3188-421	2.08	50	3188-447	15.20
1/4	50	3186-016	18.76	5	3188-422	2.56	50	3188-448	18.40
5/16	50	3186-020	29.62	5	3188-423	3.80	50	3188-449	30.40
3/8	25	3186-024	22.38	5	3188-424	5.60	-	-	-
7/16	10	3186-028	18.10	1	3188-425	2.62	-	-	-
1/2	10	3186-032	22.86	1	3188-426	3.10	-	-	-
9/16	10	3186-036	31.43	1	3188-427	4.25	-	-	-
5/8	10	3186-040	56.19	1	3188-428	5.51	-	-	-
3/4	10	3186-048	71.43	1	3188-429	8.77	-	-	-
7/8	1	3186-056	12.29	1	3188-430	13.97	-	-	-
1"	1	3186-064	16.19	1	3188-431	20.48	-	-	-
1-1/4	-	-	-	1	3188-432	58.68	-	-	-
1-1/2	-	-	-	1	3188-433	73.32	-	-	-
1-3/4	-	-	-	1	3188-434	140.12	-	-	-
2"	-	-	-	1	3188-435	188.12	-	-	-

## Fractional- Long Arm

2

2

QUALITY IMPORT				BONDHUS			BONDHUS BULK QTY.		
HEX SIZE (IN)	QTY PER BOX	ORDER NO.	PRICE PER BOX	QTY PER BOX	ORDER NO.	PRICE PER BOX	QTY PER BOX	ORDER NO.	PRICE PER BOX
.028	-	-	-	10	3188-456	\$4.00	100	3188-480	\$24.80
.035	-	-	-	10	3188-457	4.00	100	3188-481	24.80
.050	-	-	-	10	3188-458	2.40	100	3188-482	12.80
1/16	100	3186-104	\$7.33	10	3188-459	2.72	100	3188-483	14.40
5/64	100	3186-105	7.81	10	3188-460	2.72	100	3188-484	14.40
3/32	100	3186-106	9.16	10	3188-461	2.72	100	3188-485	14.40
7/64	100	3186-107	9.87	10	3188-462	3.20	100	3188-486	20.80
1/8	100	3186-108	12.57	10	3188-463	3.36	100	3188-487	21.60
9/64	100	3186-109	14.61	10	3188-464	3.36	100	3188-488	21.60
5/32	100	3186-110	16.19	10	3188-465	3.68	100	3188-489	24.80
3/16	100	3186-112	23.81	10	3188-466	4.00	100	3188-490	29.60
7/32	50	3186-114	16.19	10	3188-467	2.96	50	3188-491	23.20
1/4	50	3186-116	23.33	10	3188-468	4.08	50	3188-492	32.00
5/16	50	3186-120	35.48	10	3188-469	6.16	50	3188-493	51.20
3/8	25	3186-124	30.71	5	3188-470	8.08	-	-	-
7/16	10	3186-128	22.76	1	3188-471	3.74	-	-	-
1/2	10	3186-132	31.43	1	3188-472	4.23	-	-	-
9/16	10	3186-136	51.43	1	3188-473	5.54	-	-	-
5/8	5	3186-140	31.20	1	3188-474	8.70	-	-	-
3/4	1	3186-148	9.70	1	3188-475	12.65	-	-	-
7/8	1	3186-156	14.46	1	3188-476	21.42	-	-	-
1"	1	3186-164	30.65	1	3188-477	29.34	-	-	-
1-1/4	-	-	-	1	3188-478	116.63	-	-	-
1-1/2	-	-	-	1	3188-479	186.26	-	-	-

## BONDHUS Metric Hex Keys



## BONDHUS Straight Hex L-Wrench Sets



HEX SIZE (IN)	QTY PER BOX	SHORT ARM			LONG ARM							
		ORDER NO.	PRICE PER BOX	BULK QTY.	ORDER NO.	PRICE PER BOX	BULK QTY.					
0.71mm	10	3188-500	\$2.88	100	3188-527	\$17.60	10	3188-550	\$4.00	100	3188-576	\$24.80
0.89mm	10	3188-501	2.88	100	3188-528	17.60	10	3188-551	4.00	100	3188-577	24.80
1.27mm	10	3188-502	2.08	100	3188-529	10.40	10	3188-552	2.40	100	3188-578	12.80
1.5mm	10	3188-503	2.08	100	3188-530	10.40	10	3188-553	2.72	100	3188-579	14.40
2.0mm	10	3188-504	2.24	100	3188-531	12.00	10	3188-554	2.72	100	3188-580	14.40
2.5mm	10	3188-505	2.24	100	3188-532	12.00	10	3188-555	3.20	100	3188-581	20.80
3.0mm	10	3188-506	2.40	100	3188-533	12.80	10	3188-556	3.20	100	3188-582	20.80
3.5mm	1	3188-507	0.26	100	3188-534	14.40	1	3188-557	0.37	100	3188-583	24.80
4.0mm	10	3188-508	2.64	100	3188-535	14.40	10	3188-558	3.68	100	3188-584	24.80
4.5mm	1	3188-509	0.32	100	3188-536	24.80	1	3188-559	0.56	100	3188-585	38.40
5.0mm	5	3188-510	1.60	100	3188-537	24.80	5	3188-560	2.80	100	3188-586	38.40
5.5mm	1	3188-511	0.51	50	3188-538	18.40	1	3188-561	0.80	50	3188-587	32.00
6.0mm	5	3188-512	2.56	50	3188-539	18.40	5	3188-562	4.00	50	3188-588	32.00
7.0mm	1	3188-513	0.80	50	3188-540	32.00	1	3188-563	1.30	50	3188-589	56.00
8.0mm	5	3188-514	4.00	50	3188-541	32.00	5	3188-564	6.48	50	3188-590	56.00
9.0mm	1	3188-515	1.30	-	-	-	1	3188-565	2.06	-	-	-
10.0mm	5	3188-516	6.48	-	-	-	5	3188-566	10.28	-	-	-
11.0mm	1	3188-517	3.32	-	-	-	1	3188-567	4.42	-	-	-
12.0mm	1	3188-518	3.32	-	-	-	1	3188-568	4.42	-	-	-
14.0mm	1	3188-519	4.54	-	-	-	1	3188-569	5.86	-	-	-
17.0mm	1	3188-520	4.94	-	-	-	1	3188-570	8.38	-	-	-
19.0mm	1	3188-521	8.38	-	-	-	1	3188-571	11.65	-	-	-
22.0mm	1	3188-522	19.55	-	-	-	1	3188-572	21.89	-	-	-
24.0mm	1	3188-523	24.46	-	-	-	1	3188-573	30.72	-	-	-
27.0mm	1	3188-524	48.92	-	-	-	-	-	-	-	-	-
32.0mm	1	3188-525	58.68	-	-	-	1	3188-574	120.00	-	-	-
36.0mm	1	3188-526	73.32	-	-	-	1	3188-575	195.60	-	-	-

MODEL	PCS.	DESCRIPTION	ORDER NO.	PRICE EACH
HLX8	8 pc.	(.050-5/32)	3188-319	\$4.85
HLX12	12 pc.	(.050-5/16)	3188-231	8.50
HLX13	13 pc.	(.050-3/8)	3188-320	10.70
HLX10	10 pc.	(1/16-1/4)	3188-321	5.90
HLX7	7 pc.	(5/64-3/16)	3188-232	4.25
HLX6M	6 pc.	(1.5-5mm)	3188-322	5.10
HLX15M	15 pc.	(1.27-10mm)	3188-324	17.10
HLX9M	9 pc.	(1.5-10mm)	3188-325	10.15
HLX22	22 pc.	Multi Pack (HLX13, HLX9M)	3188-326	19.75

# Hammers



## Professional Nail Hammers— Full Octagon Hickory



1

- Full polished head with octagon neck and face
  - Top quality, full octagon white hickory handles
  - Triple wedged and epoxy sealed for "Sure-Lock" handle tightness
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
D016	13"	16	9543-080	\$20.20
D020	14"	20	9543-085	21.50



## Professional Fiberglass Hammers— Full Octagon Curved Claw



1

- Full polished head with octagon neck and face
  - Patented hollow core fiberglass handle, absorbs shock
  - Steel wedged and epoxy sealed for "Sure-Lock" handle tightness
  - Slip-resistant grip, contoured for comfort
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WT. (OZ.)	ORDER NO.	PRICE EACH
FS16	13"	16	9543-081	\$23.20
FS20	14"	20	9543-086	25.10



## Claw Hammer, Fiberglass Handle



3

- Drop Forged Alloy Steel
- Fully Polished Head
- Hollow Core Fiberglass Handle

WEIGHT (OZ)	ORDER NO.	PRICE
20	7569-350	\$46.38



## Curved Claw Hammer



3

- Drop Forged Alloy Steel
- Fully Polished Head
- Flame-Treated Hickory Handle

WEIGHT (OZ)	ORDER NO.	PRICE
16	7569-308	\$42.97



## Claw Hammers, Hardwood Handle



3

- Hardened and Tempered
- Drop Forged Alloy Steel Head, Fully Polished
- Epoxy Bonded, Hardwood Handle

WEIGHT (OZ.)	DESCRIPTION	ORDER NO.	PRICE EACH
8	claw hammer	7760-014	\$5.66
16	claw hammer	7760-034	12.66



## Claw Hammers, Fiberglass Handle



8

- Hardened and Tempered
- Drop Forged Alloy Steel Head, Fully Polished
- Epoxy Bonded, Fiberglass Handle

WEIGHT (OZ.)	DESCRIPTION	ORDER NO.	PRICE EACH
16	claw hammer	7760-330	\$11.75



# Hammers



## Ball Pein Hammers – Fiberglass Handle



- Exclusive Hollow Core fiberglass handle improves balance and absorbs shock
- Drop forged heat treated head • Slip resistant cushioned grip
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
FS308	12-1/2"	8	9543-124	\$19.95
FS2012	13"	12	9543-125	20.70
FS016	13"	16	9543-126	21.70
FS224	14-1/2"	24	9543-127	23.75
FS432	14-3/4"	32	9543-128	25.35



## Ball Pein Hammers – Steel Handle



- Patented "ShockBlok" plug absorbs shock and reduces vibration
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
R308	11-3/4"	8	9543-119	\$23.70
R2012	12"	12	9543-120	24.55
R016	13-3/4"	16	9543-121	25.45
R224	15-1/4"	24	9543-122	28.10
R432	15-3/4"	32	9543-123	29.85



## Commercial Ball Pein Hammers Hickory Handle



- Drop forged heat treated head • American hickory handle
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
TC504	10-1/4"	4	9543-110	\$10.65
TC308	11-3/4"	8	9543-111	11.00
TC2012	12"	12	9543-112	12.05
TC016	13-3/4"	16	9543-113	13.00
TC120	15"	20	9543-114	14.20
TC224	15-1/4"	24	9543-115	15.85
TC432	15-3/4"	32	9543-116	17.80
TC640	16"	40	9543-117	20.40
TC848	16"	48	9543-118	24.05



## Ball Pein Hammers Fiberglass Handle



- Forged High Carbon Steel Head, Polished Striking Head & Pein
- Jacketed Fiberglass Handle w/Rubber Grip
- Meets or Exceeds ANSI Standards

3

WEIGHT (OZ.)	DESCRIPTION	ORDER NO.	PRICE EACH
16	–	7761-274	10.54
24	–	7761-276	17.54



## Blacksmith Hammers – Fiberglass Handle



- Exclusive Hollow Core fiberglass handle improves balance and absorbs shock
- High impact overstrike guard
- Drop forged heat treated head
- Slip resistant cushioned grip
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
S40F	10-1/4"	2-1/2	9543-148	\$25.00
S48F	10-3/4"	3	9543-149	25.85



## Blacksmith Hammers – Hickory Handle



- Drop forged heat treated head • American hickory handle
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
S40	15-1/2"	2-1/2	9543-146	\$20.25
S48	16"	3	9543-147	21.20



## Tinner's Riveting Hammers



- Flat striking face • Rounded cross pein
- Exclusive Hollow Core fiberglass handle improves balance and absorbs shock
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
TR16F	12-1/2"	16	9543-131	\$21.70



## Welder's Chipping Hammers



- Sharp 1" blade with back bevel
- Tapered point
- Drop forged head
- Flame treated American Hickory handle
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
WC12	11-1/4"	12	9543-132	\$16.95



## Scaling Hammers



- Double beveled straight blade for removing scale
- Single beveled cross blade for removing flash
- Drop forged head
- Flame treated American Hickory handle
- Made in USA **STD. PKG.: 4**

1

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
SC16	12-1/4"	16	9543-133	\$16.20

# Hammers



## Rubber Mallets



- Drop Forged head provides extra driving power
- Non-marring white and black tips
- American Hickory handle
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
RM24	14"	24	9543-182	\$18.30

1



## Split Head Hammers



- Patented head design allows quick face and handle change.
- Malleable iron heads provide uniform clamping.
- Extension collar transfers shock reducing used fatigue.
- Top quality hardwood handles.
- STD. PKG.: 4 (SH200, SH275: 2)**

MFG. NO.	LENGTH	WEIGHT (LB.)	ORDER NO.	PRICE EACH
SH125	11"	1-1/2	9543-340	\$28.45
SH150	12"	2	9543-341	33.00
SH175	12-3/4"	3-1/4	9543-342	38.70
SH200	12-3/4"	4-1/2	9543-343	45.90
SH275	15-3/4"	7-1/2	9543-344	75.70

1



## Nylon Face Hammers



- Molded one piece replaceable threaded faces.
- Supplied with two white nylon faces.
- Serrated head helps keep faces tight.
- Top quality hardwood handles.
- STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
NT100	10"	1/2	9543-321	\$17.00
NT125	11"	1	9543-322	18.95
NT150	11-1/4"	1-1/2	9543-323	21.85
NT175	12"	2	9543-324	25.90
NT200	13"	2-3/4	9543-325	36.65
NT250	14"	5-1/2	9543-326	49.35

1



## Soft Face Hammers—Plastic Tip



- Forged Steel Head
- Press fitted replaceable tips
- Soft Red/Hard Yellow
- Flame Treated Hickory Handle
- Made in USA
- STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (OZ.)	ORDER NO.	PRICE EACH
SF6	10-1/2"	6	9543-176	\$14.70
SF12	12-1/2"	12	9543-177	16.35

1



## Copper Hammers



- Soft Head Reduces Risk of Marring Work
- Ideal for Driving Bushings or Gears
- Second Growth White Hickory Handle

LENGTH	WEIGHT (LBS.)	ORDER NO.	PRICE EACH
13-7/16"	1-1/2	7569-480	\$40.97
13-1/2"	2	7569-485	43.49

3



## Rawhide Mallets



- Compressed & seasoned rawhide ideal for non-marring applications
- Extra large striking face
- Hardwood handle
- STD. PKG.: 4 (RM250, RM275: 2)**

MFG. NO.	LENGTH	APPROX. WEIGHT	ORDER NO.	PRICE EACH
RM100	10"	3 oz.	9543-333	\$11.95
RM125	10"	4 oz.	9543-334	14.90
RM150	10-3/4"	6 oz.	9543-335	18.40
RM175	12"	8 oz.	9543-336	21.50
RM200	12"	12 oz.	9543-337	25.45
RM250	13-1/2"	1-1/4 lbs.	9543-338	37.05
RM275	13-1/2"	1-1/2 lbs.	9543-339	43.70

1



## Rubber Mallets



- Black Rubber Head
- Hardwood Handle

WEIGHT (OZ.)	ORDER NO.	PRICE EACH
8	7761-108	\$3.28
16	7761-116	4.35

3

# Hammers



## Double Face Hammers — Fiberglass Handle



- Exclusive Hollow Core fiberglass handle improves balance and absorbs shock
- High impact overstrike guard
- Drop forged heat treated head
- Slip resistant cushioned grip
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
SDF48F	15-1/4"	3	9543-153	\$25.80
SDF64F	15-1/2"	4	9543-154	28.45

1



## Double Face Hammers — Hickory Handle



- Drop forged, heat treated head
- American hickory handle
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
SDF40	15-1/2"	2-1/2	9543-150	\$19.80
SDF48	16"	3	9543-151	21.10

1



## Hand Drilling Hammers



- 3 lb. Forged Steel Head provides extra driving power for greater impact
- Patented shock absorbing plug ergonomically designed to reduce vibration transfer to users arm, wrist and elbow
- Cushioned PVC Grip for extra comfort
- Designed for striking star drills, cold chisels, brick chisels and punches.
- Made in USA **STD. PKG.: 4**

MFG. NO.	LENGTH	HEAD WEIGHT (LB.)	ORDER NO.	PRICE EACH
RHD3	10-1/4"	3	9543-190	\$27.80

1



## Rubber Mallet, Fiberglass Handle



- Solid Rubber Head • Molded Rubber Grip

WEIGHT (LB.)	MALLET LENGTH	ORDER NO.	PRICE EACH
2	15-3/8"	7569-490	\$27.62

3



## "Powerdrive" Dead Blow Hammers



- Shot-loaded Head allows up to 30% greater impact while eliminating rebound
- Thermoplastic head is non-marring
- Fiberglass handle reinforced with polyester-plastic permanently epoxied to head
- Molded grip is immune to solvents

HANDLE LENGTH	WEIGHT (LBS.)	ORDER NO.	PRICE EACH
11"	1	7569-501	\$33.22
11-3/4"	2	7569-503	39.01
12-5/8"	3	7569-505	51.44
13"	4	7569-507	70.84

3



## Dead-Blow Hammers, Standard Head



- Shot Filled Canister
- Hot Cast Urethane with Steel Reinforced Handle
- Will not spark or mar surfaces
- Resists chipping and splitting

LENGTH	WEIGHT (OZ.)	ORDER NO.	PRICE EACH
10.125"	10	7569-530	\$23.80
11.250"	18	7569-531	29.23
12.750"	21	7569-532	34.02
14.375"	42	7569-533	48.02
15.250"	52	7569-534	66.27

3



## Double Face Sledge Hammers



- Polished Striking Faces and Bevels
- Smooth Ground Sides with Rust-Resistant Black Finish
- Flame-Treated Hickory Handle

HANDLE LENGTH	WEIGHT (LBS.)	ORDER NO.	PRICE EACH
15-1/2"	1-3/8	7569-643	\$46.45
16"	1-1/2	7569-645	46.45
16"	1-3/4	7569-647	49.38
36"	2-1/8	7569-649	60.24
36"	2-1/4	7569-651	67.23
36"	2-1/2	7569-653	76.42
36"	2-5/8	7569-655	85.72

3



## Sledge Head One-Piece Dead Blow Hammers



OVERALL LENGTH	WEIGHT (LBS.)	ORDER NO.	PRICE EACH
20"	5	7569-550	\$93.45
30"	8	7569-551	137.05
30"	10.5	7569-552	186.73
36"	11.5	7569-554	200.46

3

**Center Punch**  
*Knurled Body - Round Head*



Marking work by indentation for starting drills in metal and other materials.

POINT EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
1/16"	1/4"	3"	3109-104	\$0.98
5/64"	5/16"	4"	3109-105	1.33
3/32"	5/16"	4"	3109-106	1.33
1/8"	5/16"	4"	3109-108	1.33
5/32"	3/8"	4"	3109-110	1.60
3/16"	3/8"	4"	3109-112	1.60
1/4"	7/16"	5"	3109-116	1.87
<b>5 PIECE SET</b>				
1/16", 5/64", 3/32", 1/8", 5/32"			3109-954	\$6.81

**Drive Pin Punch**  
*4" Knurled Body*



Driving and removing such things as pins and keys after initial movement by a starting punch.

POINT EDGE	BODY DIA.	PIN LG'TH	OAL	ORDER NO.	PRICE EACH
1/16"	1/4"	3/4"	4"	3109-134	\$1.09
3/32"	1/4"	3/4"	4"	3109-136	1.09
1/8"	1/4"	7/8"	4"	3109-138	1.09
5/32"	1/4"	7/8"	4"	3109-140	1.09
3/16"	5/16"	1"	4"	3109-142	1.33
7/32"	5/16"	1"	4"	3109-144	1.33
1/4"	3/8"	1"	4"	3109-146	1.60
5/16"	7/16"	1"	4"	3109-150	1.77
<b>8 PIECE SET</b>					
1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16"			3109-956	10.28	

**Drive Pin Punch**  
*8" Knurled Body*



Driving and removing such things as pins and keys after initial movement by a starting punch.

POINT EDGE	BODY DIA.	PIN LG'TH	OAL	ORDER NO.	PRICE EACH
1/16"	3/8"	3-1/2"	8"	3109-174	\$2.30
3/32"	3/8"	3-1/2"	8"	3109-176	2.30
1/8"	3/8"	3-1/2"	8"	3109-178	2.30
5/32"	3/8"	3-1/2"	8"	3109-180	2.30
3/16"	1/2"	3-1/2"	8"	3109-182	2.60
1/4"	1/2"	3-1/2"	8"	3109-186	2.60
5/16"	1/2"	3-1/2"	8"	3109-190	2.60
3/8"	1/2"	3-1/2"	8"	3109-194	2.60
<b>SETS</b>					
5 pc.: 1/8", 3/16", 1/4", 5/16", 3/8"			3109-958	\$12.55	
8 pc.: (1 of each size)			3109-959	18.87	

**Center Punches**  
*Hex Body*



Marking work by indentation for starting drills in metal and other materials.

POINT EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
5/64"	1/4"	3-1/2"	3109-215	\$1.05
1/8"	5/16"	4-1/4"	3109-218	1.60
5/32"	3/8"	5"	3109-220	1.77
1/4"	1/2"	6"	3109-226	2.30
3/8"	5/8"	6-1/4"	3109-234	3.40
<b>5 PIECE SET</b>				
5/64", 1/8", 5/32", 1/4", 3/8"			3109-960	10.76

**Pin Punches**  
*Hex Body*



Driving and removing such things as pins and keys after initial movement by a starting punch.

POINT EDGE	BODY DIA.	PIN LG'TH	OAL	ORDER NO.	PRICE EACH
1/16"	1/4"	3/4"	4"	3109-254	\$1.30
3/32"	5/16"	1"	4-1/2"	3109-256	1.50
1/8"	5/16"	1"	4-3/4"	3109-258	1.50
5/32"	5/16"	1"	5"	3109-260	1.50
3/16"	3/8"	1-1/8"	5-1/4"	3109-262	1.87
7/32"	3/8"	1-1/4"	5-1/2"	3109-264	1.87
1/4"	3/8"	1-1/4"	5-3/4"	3109-266	1.87
5/16"	7/16"	1-3/8"	6"	3109-270	2.03
<b>7 PIECE SET</b>					
1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"			3109-962	13.27	

**Pin Punches,**  
*Extra Long - Hex Body*



Pin punch for use where an extra length is needed.

POINT EDGE	BODY DIA.	PIN LG'TH	OAL	ORDER NO.	PRICE EACH
1/8"	5/16"	3-1/2"	8"	3109-308	\$1.96
3/16"	3/8"	3-1/2"	8"	3109-312	2.14
1/4"	3/8"	3-1/2"	8"	3109-316	2.24
5/16"	7/16"	3-1/2"	8"	3109-320	2.52
3/8"	1/2"	3-1/2"	8"	3109-324	3.01
<b>5 PIECE SET</b>					
1/16", 5/64", 3/32", 9/64", 5/32"			3109-964	11.41	



## Taper Line Up/Drift Punches Hex Body



Aligning and sizing holes in light gauge metal and other materials.

POINT EDGE	BODY DIA.	TAPER	OAL	ORDER NO.	PRICE EACH
1/8"	5/16"	3-1/2"	8"	3109-338	\$1.89
5/32"	3/8"	4-1/4"	9"	3109-340	2.57
3/16"	1/2"	6-1/2"	10"	3109-342	4.03
7/32"	1/2"	6-1/2"	10"	3109-344	4.03
1/4"	5/8"	7-1/2"	12"	3109-346	5.27
5/16"	3/4"	7-1/2"	12"	3109-350	6.33
3/8"	3/4"	8"	15"	3109-354	7.80
1/2"	7/8"	9-1/2"	18"	3109-362	9.66
<b>7 PIECE SET</b>					
1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"				3109-951	32.95

## Aligning Punch Set 4 Piece - Knurled Body



For aligning and sizing holes in light gauge metal and other materials. Pouch included.

Includes sizes:  
1/8" tip x 7" OAL, 3/16" tip x 9" OAL  
1/4" tip x 10" OAL, 5/16" tip x 12" OAL

Order No. 3109-950 Price Each: \$15.80

## Solid/Starter Punches Hex Body



Loosening frozen or tight pins and keys, or knocking out rivets.

POINT EDGE	BODY DIA.	PIN LG'TH.	OAL	ORDER NO.	PRICE EACH
1/16"	3/8"	1-3/4"	5"	3109-374	\$1.73
3/32"	3/8"	1-3/4"	5"	3109-376	1.73
1/8"	3/8"	1-3/4"	5"	3109-378	1.73
5/32"	3/8"	2-1/4"	5"	3109-380	1.73
3/16"	3/8"	2-1/4"	5"	3109-382	1.73
1/4"	3/8"	2-1/8"	5"	3109-386	1.73
5/16"	1/2"	2"	6"	3109-390	2.35
3/8"	5/8"	2-1/4"	6-1/2"	3109-394	3.40
1/2"	5/8"	2-1/2"	7"	3109-398	3.64
<b>6 PIECE SET</b>					
3/32", 1/8", 5/32", 3/16", 1/4", 5/16"				3109-966	11.70

## Cold Chisels



Cutting, shaping, and removing metal softer than the cutting edge itself.

CUTTING EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
1/4"	1/4"	5"	3109-604	\$1.07
5/16"	1/4"	5"	3109-605	1.07
3/8"	5/16"	5-1/2"	3109-606	1.33
1/2"	7/16"	6"	3109-608	1.70
5/8"	1/2"	6-1/2"	3109-610	2.17
3/4"	5/8"	7"	3109-612	2.97
7/8"	3/4"	7-1/2"	3109-614	4.37
1"	7/8"	8"	3109-616	5.20
<b>6 PIECE SET</b>				
1/4", 5/16", 3/8", 1/2", 5/8, 3/4"			3109-601	\$9.96

## Prick Punches Hex Body



Marking by small indentation along drawn or scribed lines in layout work. Also for piercing holes in light gauge metal and other materials.

POINT EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
5/64"	1/4"	3"	3109-405	\$1.12
5/32"	3/8"	5"	3109-410	1.83
1/4"	1/2"	6"	3109-416	2.57

## Automatic Center Punch



Adjustable center punch for light-to-heavy markings. Marking punch force can be regulated by rotating the threaded screw head.

TAP DIA.	BODY DIA.	OAL	ORDER NO.	PRICE EACH
1/8"	1/2"	5"	3109-952	\$5.10
1/8"	5/8"	5-1/2"	3109-953	7.95

## Extra Long Cold Chisels



Same outstanding features as Cold Chisels, but with extra long overall size.

CUTTING EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
1/2"	7/16"	12"	3109-638	\$2.73
5/8"	1/2"	12"	3109-640	3.33
3/4"	5/8"	12"	3109-642	4.50
7/8"	3/4"	12"	3109-644	5.53
1"	3/4"	12"	3109-646	6.60
3/4"	5/8"	18"	3109-664	6.07
1"	3/4"	18"	3109-666	8.68

## Floor Chisels



Blade is tempered to cut nails. Thin blade allows cutting tongues off floor board and lifting them without marring surface.

POINT EDGE	BODY DIA.	OAL	ORDER NO.	PRICE EACH
2-1/2"	5/8"	9"	3109-682	\$6.27
3"	3/4"	12"	3109-684	8.87

## 16 Piece - Hex Body Punch & Chisel Kit



- Set Includes:  
**Cold Chisels (5):** 1/4", 1/2", 5/8", 3/4", 1"  
**Punches (11):** Prick (1): 3/8", Center (2): 5/32", 1/4"  
 Pin (5): 3/32", 1/8", 5/32", 3/16", 1/4"  
 Drift (3): 1/8", 5/32", 3/16"

Order No. 3109-700 Price Each ... \$54.60

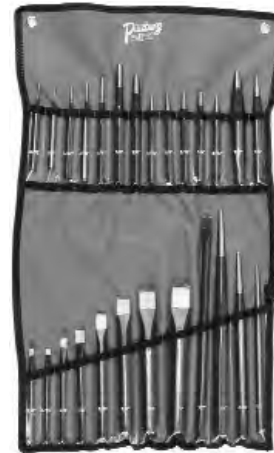
## 14 Piece - Hex Body Punch & Chisel Kit



- Set Includes:  
**Cold Chisels (5):** 3/8", 1/2", 5/8", 3/4", 7/8"  
**Punches (9):** Center (2): 5/32", 1/4"  
 Line-up (2): 1/8", 5/32"  
 Pin (3): 1/16", 1/8", 3/16"  
 Solid (2): 5/16", 1/8"

Order No. 3109-705 Price Each ... \$36.40

## 26 Piece - Hex Body Punch & Chisel Kit



- Set Includes:  
 • Plastic pouch  
**Cold Chisels (7):**  
 1/4", 1/16", 1/2" extra long,  
 3/8", 1/2", 5/8", 3/4", 7/8"  
**Punches (17):**  
 Prick (1): 3/8"  
 Center (3): 5/32", 1/4", 3/8"  
 Pin (6): 3/32", 1/8", 5/32",  
 3/16", 1/4", 7/32"  
 Drift (3): 1/8", 3/16", 1/4"  
 Starting (4): 1/16", 1/8",  
 3/16", 1/4"

Order No. 3109-715  
Price Each ... \$61.66

## 24 Piece - Hex Body - Punch & Chisel Kit



- Set Includes:  
**Cold Chisels (7):**  
 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8"  
**Punches (17):**  
 Center (3): 5/64", 5/32", 1/4"  
 Pin (7): 1/16", 3/32", 1/8", 5/32", 3/16", 1/4", 5/16"  
 Solid (6): 1/16", 1/8", 5/32", 3/16", 1/4", 5/16"

Order No. 3109-710 Price Each ... \$56.70

## Transfer Punch Sets



**28 Pc. Set:**  
**3/32" thru 1/2"**  
**by 64ths & 17/32**  
 Order No. 3254-000  
 Price Each: \$12.90



**33 Pc. Set:**  
**1/2" thru 1"** by 64ths  
 Order No. 3254-001  
 Price Each: \$59.00

## Transfer Punches – Individual Sizes

Transfer punches are used to mark the center of an existing hole onto a workpiece below.



SIZE	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH
1/16	3254-004	\$2.41	27/64	3254-027	\$3.65	25/32	3254-050	\$6.83
5/64	3254-005	2.41	7/16	3254-028	3.77	51/64	3254-051	6.89
3/32	3254-006	2.41	29/64	3254-029	3.90	13/16	3254-052	6.95
7/64	3254-007	2.41	15/32	3254-030	4.02	53/64	3254-053	7.02
1/8	3254-008	2.41	31/64	3254-031	4.15	27/32	3254-054	7.08
9/64	3254-009	2.41	1/2	3254-032	4.40	55/64	3254-055	7.14
5/32	3254-010	2.47	33/64	3254-033	4.71	7/8	3254-056	7.20
11/64	3254-011	2.47	17/32	3254-034	4.95	57/64	3254-057	7.26
3/16	3254-012	2.47	35/64	3254-035	5.33	29/32	3254-058	7.45
13/64	3254-013	2.47	9/16	3254-036	5.58	59/64	3254-059	7.51
7/32	3254-014	2.53	37/64	3254-037	5.64	15/16	3254-060	7.57
15/64	3254-015	2.53	19/32	3254-038	5.70	61/64	3254-061	7.64
1/4	3254-016	2.60	39/64	3254-039	5.76	31/32	3254-062	7.70
17/64	3254-017	2.66	5/8	3254-040	5.82	63/64	3254-063	7.76
9/32	3254-018	2.72	41/64	3254-041	5.89	1	3254-064	7.82
19/64	3254-019	2.78	21/32	3254-042	5.95	1-1/32	3254-066	8.50
5/16	3254-020	2.84	43/64	3254-043	6.01	1-1/16	3254-068	8.82
21/64	3254-021	2.91	11/16	3254-044	6.07	1-3/32	3254-070	9.99
11/32	3254-022	3.03	45/64	3254-045	6.39	1-1/8	3254-072	11.94
23/64	3254-023	3.15	23/32	3254-046	6.46	1-3/16	3254-076	14.79
3/8	3254-024	3.28	47/64	3254-047	6.52	1-1/4	3254-080	17.71
25/64	3254-025	3.40	3/4	3254-048	6.64			
13/32	3254-026	3.46	49/64	3254-049	6.77			

# Punches & Chisels

## GENERAL® Extra Long Drive Pin Punches

- Made of tool steel, hardened and centerless ground.
- Knurled body is 4-1/2" long and the drive pin section 3-1/2" long.
- For use on work not accessible with shorter punches.
- Set contains five punches, one of each of 1/8, 3/16, 1/4, 5/16, & 3/8, in a vinyl case.
- Conforms to government specifications GGG-P-831E.



MODEL	CAPACITY	ORDER NO.	PRICE
SPC76	1/8", 3/16", 1/4", 5/16", 3/8"	6931-050	\$37.10

8

## GENERAL® Hollow Steel Punches

- For punching holes in leather, rubber, canvas, cardboard, plastic and other materials.
- Made of forged steel with side clearance hole for easy removal of punched material.
- The 1280ST, which consists of six punches, 3/16", 1/4", 5/16", 3/8", 7/16" and 1/2", comes in a plastic roll pouch.



MFG. NO.	ORDER NO.	PRICE
1280ST	6943-896	\$42.57

8

## Steel Automatic Center Punch

GENERAL®



- For making lighter markings than Heavy Duty Punch No. 78.
- Black oxide finish inhibits rust.
- All steel 5" body with threaded, replaceable hardener steel point and shaft.
- Body diameter is 1/2".

8

MODEL	ORDER NO.	PRICE
79	6931-072	\$27.72
79P Replacement point	6931-078	4.02

## Pocket Automatic Center Punch

GENERAL®



- Punches, marks, scribes and starts nail or screw holes.
- Lightweight aluminum body with replaceable alloy steel point for long wear.
- Adjusts for light or heavy markings.
- Pencil slim design with pocket clip.

8

MODEL	ORDER NO.	PRICE
87	6931-108	\$16.55
87P Replacement point	6931-110	3.76

## Ball Bearing Automatic Center Punch

GENERAL®



- Unique ball bearing action.
- Lightweight aluminum body with long wearing alloy steel parts.
- Body diameter 5/8"; overall length 5".
- All steel solid point is replaceable.

8

MODEL	ORDER NO.	PRICE
77	6931-062	\$20.40
77P Replacement point	6931-064	6.13

## TruPunch™ Punch & Die Set

### FEATURES:

- Nine (9) punch sizes: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4"
- Eight (8) I.D. sizes: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8"
- Precision Brand TruPunch™ makes perfect, custom washers, shims, and gaskets in seconds
- Eliminates time and material wasted with conventional punch & dies
- The base and punches are made of a hardened and A2 steel
- Exclusive, patented punch, pilot and pin system
- No guess work needed to center the I.D.
- Packaged in a durable plastic case

Order No.: 3238-672

Price Each: \$260.05

2



How to use the TruPunch® by PRECISION BRAND:

1. Punch the I.D. hole first
2. Attach the appropriate I.D. pilot to the O.D. punch
3. Move the material so the I.D. hole is beneath the O.D. guide
4. Insert the O.D. punch so that the I.D. pilot moves into the I.D. hole, which should automatically center the material. Make sure the O.D. punch is pushed completely through the plastic top and is touching the material
5. Strike the punch squarely with enough force to penetrate the material with one blow

## "THE BIG" TruPunch™ Punch & Die Set

### FEATURES:

- Four (4) punch sizes: 7/8", 1", 1-1/8", 1-1/4"
- Four (4) I.D. pilot sizes: 3/4", 7/8", 1", 1-1/8"
- "THE BIG" TruPunch™ makes perfect, custom washers, shims, and gaskets in seconds, and can accommodate up to 1-1/4" OD
- Works in conjunction with PRECISION BRAND's TruPunch® I.D. pilots are interchangeable to allow for 77 O.D. and I.D. shim combinations
- Cut brass, copper, aluminum, rubber, and plastic effortlessly up to .020" thick. Cuts steel up to .015" thick.
- Cut stainless and blue tempered shim up to .010" thick

Order No.: 3238-675.....Price Each: \$345.78

2



## Spellmaco® Transfer Punches

2



1.0mm thru 13.0 by .5mm  
Order No. 3254-903  
Price Each: \$96.12



### 28 Pc. Set

3/32" thru 1/2" by 64ths & 17/32  
Order No. 3254-901 Price Each: \$55.34



### 33 Pc. Set

1/2" thru 1"  
Order No. 3254-902 Price Each: \$226.84

A to Z  
Order No. 3254-905  
Price Each: \$87.82

No. 1 thru 60  
Order No. 3254-904  
Price Each: \$109.39



## Flat Files



Used primarily by machinists and repair people whenever rapid stock removal is desired. Both sides are double cut.

SIZE	W.	THK.	QUALITY IMPORT						GROBET (SWISS MADE)					
			BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	15/32	5/64	3620-001	\$ 3.53	3620-010	\$ 4.01	3620-020	\$ 4.53	3619-001	\$ 6.11	-	-	3619-020	\$ 7.44
6	5/8	5/32	3620-002	3.66	3620-011	4.17	3620-021	4.55	3619-002	6.29	3619-011	\$ 6.65	3619-021	7.87
8	25/32	7/32	3620-003	4.78	3620-012	5.38	3620-022	6.06	3619-003	7.79	3619-012	8.65	3619-022	9.22
10	31/32	1/4	3620-004	5.96	3620-013	7.31	3620-023	8.12	3619-004	9.72	3619-013	11.15	3619-023	12.12
12	1-5/32	9/32	3620-005	8.64	3620-014	9.70	3620-024	10.45	3619-005	13.26	3619-014	14.94	3619-024	16.52
14	1-11/32	5/16	3620-006	11.82	3620-015	12.73	3620-025	13.81	-	-	-	-	-	-
16	-	-	3620-007	15.85	3620-016	17.72	3620-026	18.47	-	-	-	-	-	-
18	-	-	3620-008	20.65	-	-	-	-	-	-	-	-	-	-

## Knife Files



File of choice by tool and die makers for filing keyways, slots, and acute angles. Both sides are double cut, top edge is safe, knife edge is single cut.

SIZE	W.	THK.	QUALITY IMPORT						GROBET (SWISS MADE)					
			BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	15/32	7/64	3620-180	\$ 5.28	3620-190	\$ 5.86	3620-200	\$ 6.23	3619-180	\$ 9.80	3619-190	\$ 10.37	3619-200	\$ 10.80
6	21/32	5/32	3620-181	5.52	3620-191	6.02	3620-201	6.71	3619-181	11.33	3619-191	12.91	3619-201	13.76
8	27/32	3/16	3620-182	6.73	3620-192	7.31	3620-202	8.12	3619-182	13.44	3619-192	14.48	3619-202	15.05
10	1-1/32	1/4	3620-183	9.06	3620-193	10.01	3620-203	10.66	3619-183	15.84	3619-193	18.23	-	-

## Square Files



For filing slots, keyways and square holes. Four filing surfaces and slightly tapered to the point.

SIZE	PCS. P/BOX	QUALITY IMPORT						GROBET (SWISS MADE)					
		BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	12	3620-060	\$ 4.03	3620-070	\$ 4.51	3620-080	\$ 4.78	3619-150	\$ 6.54	3619-160	\$ 7.08	3619-170	\$ 7.69
6	12	3620-061	4.09	3620-071	4.59	3620-081	4.80	3619-151	6.83	3619-161	7.69	3619-171	8.04
8	12	3620-062	4.99	3620-072	5.38	3620-082	5.75	3619-152	8.04	3619-162	9.22	3619-172	10.08
10	12	3620-063	6.46	3620-073	7.42	3620-083	7.85	3619-153	10.73	3619-163	12.30	3619-173	13.26
12	6	3620-064	8.74	3620-074	9.43	3620-084	10.57	3619-154	15.19	3619-164	17.37	-	-
14	6	3620-065	11.07	3620-075	12.73	3620-085	13.54	-	-	-	-	-	-

## Pillar Files

Quality Import



These files are parallel in width and tapered in thickness to make perfectly flat filing possible. Double cut top and bottom— both edges are safe.

SIZE	PCS. P/BOX	BASTARD CUT		SECOND CUT		SMOOTH CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6	12	3620-150	\$ 3.95	3620-160	\$ 4.72	3620-170	\$ 5.42
8	12	3620-151	5.32	3620-161	6.07	3620-171	6.75
10	12	3620-152	7.71	3620-162	8.58	3620-172	9.30

## Hand Files



Used primarily for rapid metal removal on sharp corners, shoulders, and flat surfaces. This double cut file is similar to the Flat file without the taper. It offers one safety edge which reduces damage to the workpiece when filing up to a corner. Double cut top and bottom, one edge single cut, one edge is safe.

SIZE	PCS. P/BOX	BASTARD CUT		SECOND CUT		SMOOTH CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6	12	3619-061	\$ 5.26	3619-071	\$ 7.54	3619-081	\$ 7.69
8	12	3619-062	7.44	3619-072	8.94	3619-082	9.12
10	12	3619-063	10.30	3619-073	12.12	3619-083	13.05
12	12	3619-064	14.48	3619-074	16.73	3619-084	21.77



## Half Round Files



Popular with foundries and machinists, the half round file is good for quick material removal, while leaving a smooth finish. Used for filing convex, concave, and flat surfaces, as well as rounding out holes. Double cut, both sides.

SIZE	W.	THK.	QUALITY IMPORT						GROBET (SWISS MADE)					
			BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	7/16	1/8	3620-030	\$ 4.71	3620-040	\$ 5.73	3620-050	\$ 6.15	3619-030	\$ 8.94	3619-040	\$ 9.80	3619-050	\$ 10.37
6	19/32	5/32	3620-031	5.32	3620-041	6.06	3620-051	6.69	3619-031	9.30	3619-041	10.62	3619-051	10.87
8	3/4	7/32	3620-032	6.88	3620-042	8.29	3620-052	8.89	3619-032	11.23	3619-042	12.37	3619-052	13.26
10	15/16	9/32	3620-033	8.89	3620-043	10.80	3620-053	11.38	3619-033	12.19	3619-043	15.05	3619-053	15.84
12	1-1/8	11/32	3620-034	12.52	3620-044	13.65	3620-054	14.48	3619-034	17.88	3619-044	19.38	3619-054	20.41
14	1-9/32	13/32	3620-035	13.31	3620-045	17.55	3620-055	19.50	3619-035	23.17	3619-045	24.52	3619-055	27.03
16	-	-	3620-036	21.27	3620-046	23.66	3620-056	24.49	-	-	-	-	-	-

## Mill Files



Where a smooth finish is desired, a Mill file is the file of choice. The Mill file has many applications such as sharpening saws and tools, finishing metal, lathe work, draw filing, and general shop use. All sides are single cut.

SIZE	W.	THK.	QUALITY IMPORT						GROBET (SWISS MADE)					
			BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	7/16	5/64	3620-210	\$2.58	3620-220	\$3.05	3620-230	\$3.32	3619-210	\$ 4.25	3619-220	\$ 5.83	3619-230	\$ 6.47
6	19/32	7/64	3620-211	2.62	3620-221	3.30	3620-231	3.66	3619-211	4.25	3619-221	6.11	3619-231	6.47
8	25/32	9/64	3620-212	3.09	3620-222	4.03	3620-232	4.71	3619-212	4.97	3619-222	6.83	3619-232	7.54
10	31/32	11/64	3620-213	4.18	3620-223	5.46	3620-233	6.17	3619-213	6.47	3619-223	8.76	3619-233	9.30
12	1-5/32	7/32	3620-214	6.71	3620-224	7.56	3620-234	8.70	3619-214	10.62	3619-224	11.51	3619-234	12.55
14	1-5/16	1/4	3620-215	8.95	3620-225	9.91	3620-235	10.43	3619-215	14.26	3619-225	16.23	3619-235	17.59

## Round Files



When holes need enlarging, and corners need rounding, a round file is the solution. This file tapers, making it adaptable to a variety of hole sizes.

SIZE	DIA.	QUALITY IMPORT						GROBET (SWISS MADE)					
		BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	5/32	3620-090	\$ 3.09	3620-100	\$ 3.59	3620-110	\$ 3.93	3619-090	\$ 5.11	3619-100	\$ 5.68	3619-110	\$ 6.18
6	7/32	3620-091	3.16	3620-101	3.72	3620-111	4.11	3619-091	3.115	3619-101	6.04	3619-111	6.47
8	5/16	3620-092	3.97	3620-102	4.49	3620-112	5.23	3619-092	6.04	3619-102	6.90	3619-112	7.69
10	3/8	3620-093	4.98	3620-103	6.00	3620-113	6.34	3619-093	7.69	3619-103	9.01	3619-113	9.94
12	1/2	3620-094	7.08	3620-104	7.91	3620-114	8.49	3619-094	10.62	3619-104	12.01	3619-114	13.19
14	5/8	3620-095	9.82	3620-105	11.86	3620-115	12.32	3619-095	15.05	-	-	-	-
16	-	3620-096	13.71	-	-	-	-	-	-	-	-	-	-

## Three Square Files



File of choice by machinists when filing angles more acute than 90°, cleaning out corners, and filing taps and cutters. Double cut on all three sides.

LG'TH.	W.	QUALITY IMPORT						GROBET					
		BASTARD CUT		SECOND CUT		SMOOTH CUT		BASTARD CUT		SECOND CUT		SMOOTH CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	-	3620-120	\$ 4.34	3620-130	\$ 4.71	3620-140	\$ 5.19	3619-120	\$ 7.08	-	-	-	-
6	15/32	3620-121	4.53	3620-131	4.90	3620-141	5.19	3619-121	8.76	3619-131	\$ 9.72	3619-141	\$ 9.80
8	5/8	3620-122	5.84	3620-132	6.44	3620-142	7.14	3619-122	10.37	3619-132	11.76	3619-142	12.37
10	3/4	3620-123	8.23	3620-133	9.08	3620-143	9.76	3619-123	12.91	3619-133	13.98	3619-143	14.76
12	-	3620-124	11.40	3620-134	12.07	3620-144	12.86	-	-	-	-	-	-
14	-	3620-125	14.98	3620-135	15.62	3620-145	16.43	-	-	-	-	-	-

## Regular Pillar Files

Parallel in width and tapered in thickness, for perfectly flat filing. Double cut top and bottom - both edges are safe.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	3/8	1/8	3619-245	\$ 17.30	3619-255	\$ 18.65
6	1/2	11/64	3619-246	20.30	3619-256	17.50
8	19/32	13/64	3619-247	28.05	3619-257	30.35
10	23/32	15/64	3619-248	38.70	3619-258	41.50
12	25/32	9/32	3619-249	51.70	-	-

## Warding Files

Parallel in thickness and tapered in width. Useful for removal of burrs.

Double cut top and bottom, both edges single cut.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	23/64	1/32	3619-408	\$ 21.30	3619-412	\$ 22.85
6	1/2	3/64	3619-409	25.00	3619-413	27.05
8	5/8	5/64	3619-410	34.55	3619-414	37.25
10	7/8	7/64	-	-	-	-

## Hand Files

A general purpose file, parallel in width and tapered in thickness. Sides are double cut - single cut one edge, safe on the other edge. No. 4 cut safe on both edges.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	17/32	1/8	3619-279	\$ 15.55	3619-289	\$ 16.75
6	3/4	5/32	3619-280	19.60	3619-290	21.15
8	29/32	3/16	3619-281	26.90	3619-291	29.05
10	1	1/4	3619-282	36.95	3619-292	39.90
12	1-3/16	5/16	3619-283	49.70	-	-

## Knife Files

Tapered in width and thickness, with the knife edge having the same thickness from point to shoulder. The included angle of the sharp edge is approx. 10°. Generally used to file in a slot or wedge shaped opening. Curved knife edge allows for easy filing in restricted areas. Both sides double cut, top edge safe, knife edge is single cut.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	15/32	1/8	3619-423	\$ 24.70	3619-429	\$ 26.70
6	23/32	5/32	3619-424	29.05	3619-430	31.50
8	7/8	13/64	3619-425	40.15	3619-431	43.35

## Half Round Files

Tapered in width and thickness, coming to a point. Double cut on both sides.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	15/32	9/64	3619-320	\$ 29.00	3619-332	\$ 32.35
6	19/32	3/16	3619-321	35.30	3619-333	38.10
8	13/16	15/64	3619-322	48.60	3619-334	52.55
10	1	19/64	3619-323	66.90	3619-335	72.30

## Three Square Files

Gradually tapered, cut, and workable to the point. Double cut on all three sides.



SIZE	WIDTH	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	9/32	3619-439	\$ 19.70	3619-447	\$ 21.35
6	3/8	3619-440	23.30	3619-448	25.15
8	1/2	3619-441	32.20	3619-449	34.60

## Round Files

Gradually tapered and workable to the point. Used where it is necessary to enlarge a hole, or round off a radius. Double cut.



SIZE	DIA. (IN.)	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3	3/32	3619-361	\$ 15.25	3619-371	\$ 16.50
4	5/32	3619-362	13.85	3619-372	16.95
5	13/64	-	-	3619-373	18.50
6	1/4	3619-363	16.20	3619-374	19.80
8	5/16	3619-364	22.40	3619-375	27.30
10	3/32	3619-365	29.90	3619-376	37.65

## Square Files

General purpose file, cut and useable to the point. Gradually tapered. Double cut on all four sides.



SIZE	WIDTH	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	5/32	3619-459	\$ 17.20	3619-467	\$ 19.45
6	15/64	3619-460	21.20	3619-468	22.85
8	5/16	3619-461	27.80	3619-469	31.60

## Equalling Files

Parallel in width and thickness. Used primarily for filing slots and corners. Double cut top and bottom - both edges are single cut.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	13/32	5/64	3619-394	\$ 22.10	3619-397	\$ 23.85
6	1/2	7/64	3619-395	26.10	3619-398	28.15
8	21/32	1/8	3619-396	35.70	3619-399	38.75

## Crossing Files

Half-round on two sides, with one side having a larger radius than the other. Tapered in width and thickness. Cut and useable to the point. Used primarily for filing interior curved surfaces. Double radius makes it possible to file at the junction of two curved surfaces or a straight and curved surface. Double cut on both sides.



SIZE	WIDTH	THICKNESS	#0 CUT		#2 CUT	
			ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	15/32	9/64	3619-475	\$ 41.15	3619-478	\$ 44.45
6	19/32	3/16	3619-476	48.60	3619-479	52.40
8	13/16	15/64	3619-477	65.65	3619-480	72.30

# Swiss Precision Needle Files

Precision files, for exacting work, especially under magnification. Made of highest quality steel, machined and finished for precision shape, accuracy, and balance. With round, knurled handles.



2

## Barrette Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-488	\$ 12.56	3619-492	\$ 12.56
5-1/2	2-1/2	3619-489	10.44	3619-493	10.44
6-1/4	3	3619-490	11.41	3619-494	11.41
7-3/4	4-1/8	3619-491	13.94	3619-495	13.94

## 12-pc. Assorted Grobet Needle File Sets

Each set consists of one each: Barrette, Crossing, Equalling, Half-Round, Joint Round Edge, Knife, Marking, Round, Slitting, Square, Three-square, and Warding.



FILE LG'TH.	#0 CUT		#2 CUT	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
5-1/2	3619-688	\$ 115.95	3619-696	\$ 116.05
6-1/4	3619-689	124.50	3619-697	123.20

## Crossing Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-517	\$ 16.01	3619-521	\$ 16.01
5-1/2	2-1/2	3619-518	12.47	3619-522	12.47
6-1/4	3	3619-519	12.97	3619-523	12.97
7-3/4	4-1/8	3619-520	16.10	3619-524	16.10

## Knife Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-705	\$ 15.00	3619-709	\$ 15.00
5-1/2	2-1/2	3619-706	11.78	3619-710	11.78
6-1/4	3	3619-707	12.60	3619-711	12.60
7-3/4	4-1/8	3619-708	15.64	3619-712	15.64

## Equalling Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-549	\$ 11.27	3619-553	\$ 11.27
5-1/2	2-1/2	3619-550	9.34	3619-554	9.34
6-1/4	3	3619-551	10.12	3619-555	10.12
7-3/4	4-1/8	3619-552	13.48	3619-556	13.48

## Round Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-737	\$ 11.87	3619-741	\$ 11.87
5-1/2	2-1/2	3619-738	9.71	3619-742	9.80
6-1/4	3	3619-739	10.12	3619-743	10.12
7-3/4	4-1/8	3619-740	12.24	3619-744	12.24

## Half-Round Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-581	\$ 15.18	3619-585	\$ 15.18
5-1/2	2-1/2	3619-582	12.24	3619-586	12.24
6-1/4	3	3619-583	12.97	3619-587	12.97
7-3/4	4-1/8	3619-584	16.10	3619-588	16.10

## Square Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-770	\$ 12.93	3619-774	\$ 12.93
5-1/2	2-1/2	3619-771	10.76	3619-775	10.76
6-1/4	3	3619-772	11.41	3619-776	11.41
7-3/4	4-1/8	3619-773	13.94	3619-777	13.94

## Joint, Round Edge

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-629	\$ 15.36	3619-633	\$ 15.36
5-1/2	2-1/2	3619-630	12.14	3619-634	12.14
6-1/4	3	3619-631	12.60	3619-635	12.60

## Slitting Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-798	\$ 15.18	3619-802	\$ 15.18
5-1/2	2-1/2	3619-799	11.91	3619-803	11.91
6-1/4	3	3619-800	12.60	3619-804	12.60

## Marking Files

OAL	LG'TH. OF CUT	#0 CUT		#2 CUT	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
4	1-3/4	3619-656	\$ 15.46	3619-660	\$ 15.46
5-1/2	2-1/2	3619-657	12.14	3619-661	12.14
6-1/4	3	3619-658	12.60	3619-662	12.60

## GENERAL® 6-pc. Swiss Pattern Needle File Set

8

Round, Half-Round, Three-Square, Equalling (Mill)

- Designed to meet the exacting requirements of tool and die makers, instrument makers, jewelers, watchmakers, and other craftspeople. • Precision made of the finest tool steel.

- Packed in snap button plastic case.

MODEL	LENGTH	FILES IN SET	ORDER NO.	PRICE
S476	5-1/2"	6	6942-318	\$29.06

# File Handles and Accessories

## Long Ferrule File Handles

Waxed white birch handles.

Bright Zinc Plated, heavy steel ferrule. Packed 3 dozen per box.



1

SIZE	LENGTH	DIAM.	BORE	DEPTH	ORDER NO.	PRICE EACH
#1 (for 3" to 6" files)	4"	1"	1/8" x 1-3/4"		9610-001	\$1.60
#2 (for 6" to 8" files)	4-1/2"	1-3/16"	11/64" x 2"		9610-002	1.70
#3 (for 8" to 12" files)	5"	1-5/16"	1/4" x 2-3/4"		9610-003	2.08
#4 (for 12" to 16" files)	5-1/2"	1-7/16"	5/16" x 2-9/16"		9610-004	2.32
#5 (for 16" to 20" files)	6"	1-9/16"	11/32" x 2-9/16"		9610-005	2.52

## SKROO-ZON® File Handles



1

SIZE	LENGTH	DIAM.	ORDER NO.	PRICE EACH
#T1 (for small files)	3-1/2"	1-1/16"	9610-201	\$1.70
#T2 (for 4" files)	3-1/2"	1-1/16"	9610-202	1.70
#T3 (for 5" files)	4"	1-1/8"	9610-203	1.80
#T4 (for 6" files)	4"	1-1/8"	9610-204	1.80
#T5 (for 8" files)	4-1/2"	1-1/4"	9610-205	2.12
#T6 (for 10" files)	4-1/2"	1-1/4"	9610-206	2.12
#T7 (for 12" files)	5"	1-3/8"	9610-207	2.28
#T8 (for 14" files)	5"	1-3/8"	9610-208	2.28
#T9 Rasp handle	5"	1-3/8"	9610-209	2.58

Waxed white birch handles. Ferrules heavy gauge steel bright zinc plated.

Case hardened threaded steel insert holds tang of file tightly in two places.

Packed 3 dozen per box.

## No. 10 Lutz File Cleaner



1

Sharp steel bristles dig and quickly remove filings from grooves of files to restore their clean cutting capacity. For machinists, mechanics and others in cutting, cleaning and roughing applications. 8 1/2" long. Packed one dozen per box.

ORDER NO.	PRICE EACH
9620-010	\$5.05

## Short Ferrule File Handles

An excellent waxed white birch handles.

Packed 3 dozen per box.



1

SIZE	LENGTH	DIAM.	BORE	DEPTH	ORDER NO.	PRICE EACH
#00 (for small files)	3-1/2"	13/16"	1/8" x 1-1/4"		9610-100	\$0.77
#01 (for 3" to 4" files)	3-1/2"	13/16"	5/32" x 1-1/4"		9610-101	0.77
#02 (for 4" to 6" files)	4"	15/16"	3/16" x 1-5/8"		9610-102	0.85
#03 (for 6" to 8" files)	4-1/4"	1-3/64"	7/32" x 2"		9610-103	0.93
#04 (for 8" to 10" files)	4-3/4"	1-1/8"	9/32" x 2-1/4"		9610-104	0.98
#05 (for 10" to 14" files)	5"	1-1/4"	3/8" x 2-1/2"		9610-105	1.07

## Adjustable File/Tool Handle



- For holding files, reamers, hacksaw blades and other tang handled tools.
- Exclusive steel parallel clamping jaws grip the entire length of the inserted tang to prevent slipping.
- Large, quick adjusting knurled knob ensures positive locking.
- Rustproof handle with steel parts.



8

MFG. NO.	ORDER EACH	PRICE EACH
890	6943-666	\$7.69

## No. 20 Combination File Card and Brush Combo



1

File Card same as No. 10. Brush side used especially to remove filings on finer cut files. Also, to brush clean saws, drill bits and in other areas where hand brush is needed. 9 1/4" long. Packed one dozen per box.

ORDER NO.	PRICE EACH
9620-020	\$10.40

## WALTON



## Ergonomic File Handle

- Design incorporates the natural wrist angle of approx. 35°
- Constructed so the tool's axis is better aligned with the forearm, significantly reducing muscle fatigue-
- Grooved surface provides a perfect non-slip grip
- Protect your workers, while making them more efficient and comfortable

6

FITS SIZE	ORDER EACH	PRICE EACH
4"	3154-411	\$18.35
6-8"	3154-412	18.35
10-12"	3154-413	18.35
14"	3154-414	18.35
GRIP (replacement)	3153-721	5.65



## Industrial File Handles

- Ergonomically shaped bi-molded plastic handle provides soft, textured grip.



9484 series



9485/9486 series

2

LENGTH (IN.)	FILE TYPES	SERIES	ORDER NO.	PRICE EACH
4	Half Round	9484	3640-251	\$4.11
6	Mill, Square, 3 Square, Round	9486	3640-255	5.99
6	Flat, Half Round	9486	3640-256	5.99
8	Hand, Flat, Half Round	9485	3640-253	5.99
8	Mill	9485	3640-252	5.99
8	Square, Round	9486	3640-256	5.99
12	Hand, Flat, Mill, Half Round	9485	3640-254	5.99



# Knives and Blades

## No. 82 Safety Nose Retractable Blade Knife

Retractable utility knife, heavy duty industrial quality with zinc retractor for smoother operation, with 3 cutting positions. Knife is available in Black, Safety Orange or Construction Yellow. Knife is designed to fit the hand for a more comfortable grip and is equipped with a safety nose consisting of top and bottom overlap for security. Uses heavy duty .025 blade. Packed 1 dozen per box. Available carded.



ORDER NO.	PRICE EACH
9630-082-Black	\$4.38
9630-182-Orange	4.38
9630-282-Yellow	4.38

## Standard & Heavy Duty Utility Knife Blade

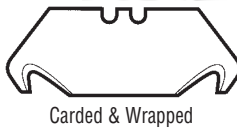
CAT. NO.	THICKNESS	PACK	ORDER NO.	PRICE PER PK.
L91	.018	5	9600-091	\$0.62
L92	.025	5	9600-092	0.69
L92	.025	100 (20-5's)	9630-092	13.83
L92D	.025	100/dispenser	9631-092	15.43
L92C	.025	50 (5/card, 10 cards)	9630-192	8.50
L92B	.025	400	9631-192	39.57



Carded, Wrapped, Bulk, Dispenser

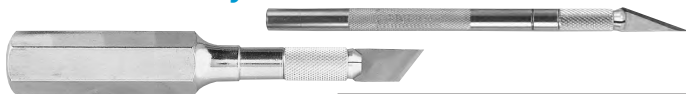
## Small & Large Heavy Duty Utility Hook Blade

CAT. NO.	THICKNESS	PACK	ORDER NO.	PRICE PER PK.
L92HS	.025	5	9600-892	\$ 1.94
L92HS	.025	100 (20-5's)	9630-892	38.75
L92HSC	.025	50 (5/card, 10 cards)	9630-894	20.58
L92HL	.025	5	9601-392	1.94
L92HL	.025	100 (20-5's)	9631-392	38.75



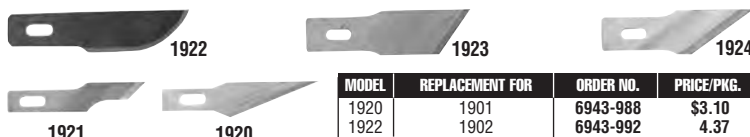
Carded & Wrapped

## Precision Hobby Knives



MODEL	HANDLE CONSTRUCTION	KNIFE WEIGHT	ORDER NO.	PRICE
1901	Aluminum	Light duty	6943-974	\$3.22
1903	Aluminum	Heavy duty	6943-978	6.73

## Hobby Knife Blades



MODEL	REPLACEMENT FOR	ORDER NO.	PRICE/PKG.
1920	1901	6943-988	\$3.10
1922	1902	6943-992	4.37

## "Cut-It" No. 1 Precision Hobby Knife

MFG. NO.	ORDER NO.	PRICE EACH
70601	6970-959	\$5.59



- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Hex-shaped swivel head prevents rolling.
- Eight sided cushion grip has a non-slip finish.
- Solid locking screw chuck holds blades securely in place.
- Precision knife handle accepts industry standard blades and accessories.

## IRWIN.

### ProTouch® Retractable Utility Knife



- Quick change mechanism allows for easy blade removal without opening the knife
  - Smooth, three-position slide provides increased durability for frequent use
  - Easy tool-free entry with push button operation opens the knife and exposes replacement blades
  - Features inside storage for up to 5 blades
  - Includes 3 IRWIN BLUE BLADE™ Bi-Metal Utility Blades
- Order No. 3255-410...Price Each: \$12.92**

### Standard Retractable Utility Knife



- Optimized cutting angle for reduced fatigue
- Slide Assembly Durable 3 Position Design
- Magnetic Nose For Easy Blade Changes
- Captured Screw Prevents Loss During Blade Change
- Features inside storage for up to 5 blades
- Includes 1 IRWIN BLUE BLADE™ Blade, Lasts 3X Longer, Shatter Proof Bi-Metal

**Order No. 3255-412...Price Each: \$4.29**

## Safety Knife & Bi-Metal Safety Blades



- Self-retracting spring action returns blade safely into the housing when not in use
- Ergonomic grip fits comfortably in the hand
- Two blade positions - 2mm extension for box cutting and full extension for general use
- Tool-free entry

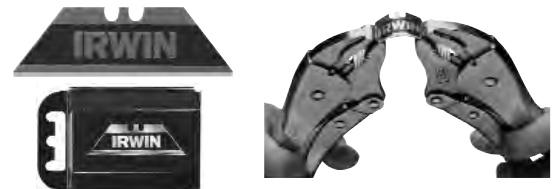
### Safety Knife

**Order No. 3255-415 Price Each: \$6.76**

**Safety blade:** Blunted ends inhibit puncture wounds

DESCRIPTION	QTY.	ORDER NO.	PRICE PER PK.
Bi-Metal Safety Blades	5 pack	3255-430	\$1.89
	50 pack	3255-433	15.13

## Blue Blade - Bi-Metal Utility Blade



- Features patented Bi-Metal technology that sets new standards of performance
- UNBREAKABLE\*: Spring steel body delivers superior flexibility to prevent breaking (\*under normal working conditions)
- LASTS LONGER\*: High speed steel cutting edge stays sharp longer than traditional carbon utility blades (\*tested on 20lb recycled paper)
- Fits most utility knives

QTY.	ORDER NO.	PRICE EACH
5 pack	3255-420	\$1.72
100 pack	3255-425	25.88

## SHAVIV® "B" Set w/Telescopic Holder



- Takes all "B" series blades, includes (1) B-10 blade, (1) B-20 blade.
- Holder telescopes from 1/2" to 5".
- Handle has storage compartment for spare blades.
- Blade can be inserted at 90° for deburring cross holes.

DESCRIPTION	ORDER NO.	PRICE EACH
Complete "B" Set	3259-020	\$9.95
Handle Only	3259-030	3.54
B Holder Only	3255-102	4.71

## Double-Header Versa/Burr



- Includes handle, one B-10 blade, one B-20 blade and a Double-Header telescoping blade (B/E) reversible holder

DESCRIPTION	ORDER NO.	PRICE EACH
Complete Double-Header Versa/Burr	3255-015	\$8.60
Versa/Burr Handle Only	3255-186	4.60
B/E Holder Only	3255-185	5.80

## SHAVIV® Set B Aluminum "The Workhorse"



- Popular set for holes, slots, & edges.
- B holder supports all B blades
- Blades can be inserted axially of perpendicular to holder

DESCRIPTION	ORDER NO.	PRICE EACH
Aluminum handle, B Holder B10, B20 blades	3259-021	\$13.56

## SHAVIV® Heavy Duty "E" Set w/Telescopic Holder



- Holder telescopes from 1/2" to 5".
- Handle has storage compartment for spare blades.
- Includes one E-100 blade, one E-200 blade & one E-300 blade.

DESCRIPTION	ORDER NO.	PRICE EACH
Complete "E" Set	3259-022	\$11.61
Handle Only	3259-030	3.54
E Holder Only	3255-105	4.71

## SHAVIV® Non-Telescopic Sets



### 3259-023 – Shaviv® Set 1 – The Original Deburring Tool

- Holds all "E" series blades • Contains E100, E200, E300 blades, Shaviv-1 handle

### 3259-024 – Shaviv® Set 1-5 • Set 1, + 2 extra "E" series blades (E111, E120)

DESCRIPTION	ORDER NO.	PRICE EACH
Plastic handle complete w/3 blades	3259-023	\$8.84
Plastic handle complete w/5 blades	3259-024	12.02
Shaviv-1 handle only	3259-029	6.49

## SHAVIV® Set E Aluminum Heavy DeBurr



- Rugged deburring set for heavy-duty deburring of holes, slots, & edges.
- E holder supports all E blades

DESCRIPTION	ORDER NO.	PRICE EACH
Aluminum handle, E Holder E100, E200, E300 blades	3259-141	\$15.91

## SHAVIV® Rainbow Series: GLO-BURR "B"



- Popular, easy-to-grip deburring tool, strong, lightweight
- Supplied with B10 blade, holds other popular B blades
- Deburrs Steel, Aluminum, Copper, and Plastics

DESCRIPTION	ORDER NO.	PRICE EACH
GLO-BURR "B" Blue	3259-072	\$2.95
GLO-BURR "B" Yellow	3259-075	3.54
GLO-BURR "B" Green	3259-073	2.95
GLO-BURR "B" Red	3259-074	2.95

## SHAVIV® Rainbow Series: GLO-BURR "E"



- Popular, easy-to-grip deburring tool, strong, lightweight
- Supplied with heavy-duty E100 blade, holds all E blades
- Deburrs Steel, Aluminum, Copper, and Plastics

DESCRIPTION	ORDER NO.	PRICE EACH
GLO-BURR "E" Blue	3259-077	\$2.95
GLO-BURR "E" Yellow	3259-080	3.54
GLO-BURR "E" Green	3259-078	2.95
GLO-BURR "E" Red	3259-079	2.95

## SHAVIV® UNIBURR™ Disposable Deburring Tool



- Low-priced yet can handle almost every deburring job.
- Choice of E100 or B10 blade, blue handle, & handy pocket clip.
- For removing burrs from steel and aluminum.

DESCRIPTION	ORDER NO.	PRICE EACH
UB1 with E100 blade (blue)	3259-005	\$3.54
UB2 with B10 blade (blue)	3259-000	2.95

## GENERAL® Swivel Head Deburring Tool



- Economically priced, with the quality and performance of higher priced deburring tools. • (2) interchangeable blades, 5" aluminum handle w/push button blade release.

MODEL	DESCRIPTION	ORDER NO.	PRICE EACH
482	Tool with 2 blades	6942-324	\$12.38
482A	Blade for steel, copper aluminum, and plastic	6942-327	2.70
482B	Blade for Brass and cast iron	6942-330	2.63

## Pittsburg ALLEGHANY® Scraper & Burring Tool



- Economical. • Sure Grip handle.
- Comes with Double End Straight Blade.

DESCRIPTION	ORDER NO.	PRICE EACH
Scraper & Burring Tool	3255-013	\$6.25
Replacement Blade	3255-009	1.85

## GENERAL® Triangular Scraper



- Hardened and tempered triple edge blade
- Heavy-Duty ergonomic handle, 8-sided cushion grip.
- Hollow ground edges stay sharp longer/resharpen easily.

MFG. NO.	ORDER NO.	PRICE EACH
810478	6981-017	\$11.52

## Mango II Set B "The Workhorse"

### Telescoping Holder



- Popular set for holes, slots, & edges.
- Supports all B series blades
- Blades can be inserted axially or perpendicular to holder

DESCRIPTION	ORDER NO.	PRICE EACH
Mango II handle, B Holder B10, B20 blades	3259-025	\$11.49

## Mango II Set C "The Scraper"



- Features triangular blade with 3 cutting edges for high quality finishing and scraping.
- Telescopic blade holder gets into hard-to-reach areas.
- Includes key for safe removal of blades.

DESCRIPTION	ORDER NO.	PRICE EACH
Mango II handle, C holder, C42 blade	3259-142	\$13.26

## Mango II Set E "Heavy DeBurr"

### Telescoping Holder



- Rugged deburring set for heavy-duty deburring of holes, slots, and edges

DESCRIPTION	ORDER NO.	PRICE EACH
Mango II handle, E Holder E100, E200, E300 blades	3259-026	\$13.26

## Mango II Set F "The Countersink"



- Powerful tool, excellent for chamfering and countersinking.
- Use for hole-edge applications with up to 0.79" (20mm) dia.

DESCRIPTION	ORDER NO.	PRICE EACH
Mango II handle, F Holder F20 blade	3259-143	\$25.05

## Mango IIE +3, +5 Sets

### Non-Telescoping Holder



- Sets contain the Mango IIE handle, and a variety of blades for deburring materials with spiral chips

#### Features:

- Permanent adapters for simple blade replacement
- Comfortable, ergonomic handle for standard-sized hands
- Deburrs steel, aluminum, copper, brass, cast iron, plastics

DESCRIPTION	ORDER NO.	PRICE EACH
Mango IIE handle, E200, E350, E100	3259-027	\$7.84
Mango IIE handle, E200, E350, E100 E111, E120 blades	3259-028	\$10.02

## Mango II Set Burr-Bi

### Heavy-Duty Sheet Cleaner



- For heavy-duty deburring of materials with double or straight edges up to 0.56" (14mm).
- Holder can take 2 R10, R20, or R30 blades for arc shaped finishes on workpieces up to 0.63" (16mm) thick.

DESCRIPTION	ORDER NO.	PRICE EACH
Mango II handle, BR holder, R10 blades, BR key	3259-144	\$18.57

## Deburring & Scraping Kit

### Standard Duty

- Set contains the Mango II handle, Holder B, Holder C, C Key, Blades: B10, B20, B30, B60, B11, B70, C40

Order No. 3259-145 .....\$34.44



## Deburring & Scraping Kit

### Heavy Duty










- Set contains the Mango II handle, Holder E, Holder C, C Key, Blades: C42, E100P, E111, E200, E300, E600, E700

Order No. 3259-146 .....\$36.18


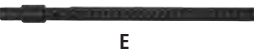





## Replacement Blades

### Standard Duty "B" Series Blades, "C" Series Scrapers



MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
 B-10	B10 HSS for steel and aluminum	3255-110	\$0.89
	B10B Bulk package (100)	3255-110B	80.00
	B10C Solid carbide for hardened steel	3259-100	5.89
	B10P PVD TiN coated, highly wear-resistant	3259-103	1.77
	B10S Cobalt-enriched, long-lasting	3259-105	0.94
 B-11	Extra thin, HSS. Deburrs holes with min. diameter .08" (2mm)	3259-106	0.94
 B-20	B20 HSS for brass & cast iron; rotates clockwise & counterclockwise	3255-111	0.89
	B20C Solid carbide for hardened steel	3259-109	5.89
	B20P PVD TiN coated, wear-restnt.	3259-110	1.77
 B-30	HSS; removes internal and external burrs simultaneously from holes drilled into tubing and sheet metal	3255-112	1.30
 B-50	Carbide-tipped scribe, can be reground	3255-113	4.42
 B-60	HSS; for internal deburring, especially for inaccessible locations	3255-114	1.77
 C-40	Small, 0.16" (4mm), triangular HSS scraper for precision work	3255-116	5.89
 C-42	Standard size, 0.31" (8mm) triangular HSS scraper	3255-117	10.02
 C-50	Double-sided, 0.30" (7.8mm) triangular scraper	3259-151	23.58

## Replacement Holders







MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
 B	Blade Holder B for all B blades. Use axially or perpendicular.	3255-102	\$4.71
 E	Blade Holder E for all E blades.	3255-105	\$4.71
 C	Blade Holder C for C40 & C42 blades.	3255-103	4.71
 F	Blade Holder F for all F blades.	3255-106	4.71
 FR	Blade Holder FR: Ratchet holder for all F blades.	3259-050	11.20

## Replacement Handles








MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
	Mango II Handle Long Reach	3259-152	\$4.42
	Mango II Handle B Extra Close	3259-153	4.42
	Mango II Handle E Extra Close	3259-154	4.42
	Mango Click E	3259-155	5.31

## Heavy Duty "E" Series Blades

MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
 E-100	E100 HSS for steel & aluminum	3255-120	\$1.18
	E100B Bulk package (100)	3255-120B	104.90
	E100C Wear-resistant carbide	3259-117	5.89
	E100P PVD TiN coated	3259-120	2.36
	E100S Long-lasting, cobalt enriched	3259-121	1.30
	E110 For material w/spiral chips	3259-122	1.30
 E-111	E111 Thin-nosed, HSS	3259-124	1.30
	E120 E shaft with B-20 cutting edge; rotates counter/clockwise	3259-140	1.30
 E-200	E200 HSS for brass and cast iron	3255-121	1.18
	E200C Wear-resistant carbide	3259-125	5.89
	E200P PVD TiN coated	3259-126	2.36
 E-300	HSS; removes internal/ external burrs simultaneously from holes drilled into tubing & sheet metal	3255-122	1.47
 E-350	HSS for straight edges/all materials	3255-123	1.18
 E-600	HSS to facilitate deburring in the most inaccessible locations	3255-124	2.36

## "F" Series Countersinks, "R" Series Round Blade

MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
 F-12	F12 Countersink for hole edges with up to 0.47" (12mm) dia.	3255-125	\$11.20
 F-20	F20 Countersink for hole edges with up to 0.78" (20mm) dia.	3255-126	15.33
 F-30	F30 Countersink for hole edges with up to 1.18" (30mm) dia.	3255-127	26.53
 F-26X	F26X Excellent for internal chamfering of pipes, tubes with up to 1.02" (26mm) dia.	3255-128	21.22
<b>"R" Series Round Deburring Blade</b>			
 R-10	R10 Double sided, round HSS blade. "A" side deburrs materials with spiral chips, B side with powdery chips.	3259-083	4.13

## Replacement Handles - Standard

MODEL	DESCRIPTION	ORDER NO.	PRICE EA.
	Classic Handle A	3259-030	\$3.54
	Handle A Aluminum	3259-031	7.07
	Handle 1	3259-029	6.49
	HandyChuck Pin Vise	3259-070	20.63



# Shop Tools

## Machinery's Handbook

Useful, practical, easy-to-read data and information— often hard to find elsewhere — are its trademark and are made readily available to answer questions and help solve problems sure to arise in the drafting room, manufacturing plant, machine shop, laboratory or classroom. Its wealth of engineering and shop standards, illustrations, formulas and easy-to-read graphs and tables have all been retained in this new edition.

Order No. 3258-000 Price Each \$94.95  
**CD Rom** .....  
 Order No. 3258-005 Price Each \$94.95

**Large Type**  
 Order No. 3258-001 Price Each \$115.95  
**Upgrade CD**  
 Order No. 3258-006 Price Each \$65.00



### GENERAL®

#### Swivel Head Pin Vise



- An exceptional pin vise for delicate work on models, instruments, and jewelry.
- Single collet made of hardened tool steel.
- Has large free wheeling swivel head.
- 4" overall and 5/16" diameter body.
- Comes with 3 drills No. sizes 66, 70, 72 that store in body.

MODEL	CAPACITY	ORDER NO.	PRICE EACH
92	.10 to .125" .0 to 3.2mm	6941-062	\$11.95

### GENERAL®

#### Double End Pin Vise



- Each end has a double end collet which may be reversed to desired size.
- Nickel plated body is made of tubing to permit use of long wire or rods.
- 3-3/4" long with 5/16" body diameter.

MODEL	CAPACITY	ORDER NO.	PRICE EACH
90	.0 to .125" .0 to 3.2mm	6941-058	\$15.49

### Pittsburg ALLEGHANY Adjustable Pin Vise



- 0-1/4" Capacity
- 3 Jaw Steel screw Chuck
- Unbreakable Plastic Handle
- Ideal for holding small drills, burs, wires, reamers and other miniature tools

Order No. 3131-750  
 Price Each: \$6.20

### GENERAL® 4-in-1 Pin Vise



- Contains 2 double ended collets: 0 - 0.031" and 0.093" - 0.125" 0.031" - 0.062" and 0.062" - 0.093"
- Internal storage under cap for spare collet.
- Has large, freewheeling hex shaped swivel head that prevents rolling.

MFG. NO.	ORDER NO.	PRICE EACH
75801	6975-973	\$16.27

### GENERAL®



#### 1/4" Adjustable Hand Vise



- Use for electronic assembling, tool making, model making and hobbies.

MFG. NO.	ORDER NO.	PRICE EACH
810093	6981-012	\$13.61

- Holds small drills, burs, wires, files, reamers and other small tools.
- 1/4" capacity, 3-jaw hardened steel keyless chuck and sturdy plastic handle.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish.



#### Adapter Pin Chuck Set

- For use with miniature drills
- Lock this adapter in chuck to convert it for precise drilling
- Also adapts 3/32" collets on rotary tools & flexible shafts to a for useful No. 0 to 3/32



Order No. 3131-740  
 Price Each .....\$7.75

### GENERAL® Adjustable Pin Vise



- Use for electronic assembling, tool-making, model making and hobbies.
- Holds small drills, burs, wires, files, reamers and other small tools.
- 3 jaw hardened steel keyless chuck, sturdy plastic handle.
- Overall length 6-7/8"; body diameter 1".

MODEL	CAPACITY	ORDER NO.	PRICE EACH
93	.040 to .250" 1mm to 6.4mm	6941-065	\$14.89

#### 4-Piece Pin Vise Set



- Capacity:  
0-1.0mm;  
0.8-1.5mm;  
1.3-3.1mm  
& 3.0-4.8mm
- Heavy knurled bodies with a black finish
- Collet grips firmly when screw chuck is tightened
- Attractive plastic pouch included

Order No. 3131-745 Price Each...\$9.95

#### Brown & Sharpe Pin Chucks



A convenient means of holding small work on lathes and other machines. Set consists of a chuck and three collets to hold work from .010" to .100" diameter.

DESCRIPTION	B&S NUMBER	ORDERING NUMBER	PRICE EACH
Pin Chuck Set	599-793	7146-480	\$50.00

### GENERAL® Single End Pin Vise Set



- For holding small rods, wire, drills, taps, and other small tools.
- Tool steel collets are hardened and grip firmly when screw chuck is tightened.
- Nickel plated body is hollow to permit holding of long rods of wire.
- Available in individual sizes.
- Conforms to government specifications GGG-V-412a.

MODEL	RANGE	ORDER NO.	PRICE EACH
S94	Set of 4 sizes, A-D, listed below, packed in a plastic case 0 to .055" (0 to 1.40mm) .025 to .075" (64 to 1.01mm) .045 to .125" (1.14 to 3.2mm) .110 to .187" (2.80 to 4.75mm)	6941-068	\$71.02

## GENERAL® Pocket Scriber

- Replaceable hardened and centerless ground point.
- Point reverses into knurled body for safety.
- Body diameter 3/8".
- Conforms to government specifications GGG-S-131e.



MODEL	BODY DIA.	BLADE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE
81	3/8"	2-7/8"	5-7/8"	6931-092	\$6.39
81P				6931-094	1.19

## GENERAL® Pocket Scriber

- Replaceable hardened and centerless ground point.
- Point reverses into knurled body for safety.
- Body diameter 1/4".
- Conforms to government specifications GGG-S-131e.

MODEL	BODY DIA.	BLADE LENGTH	OVERALL LENGTH	ORDER NO.	PRICE
83	1/4"	2-3/8"	4-3/4"	6931-098	\$5.35
83P				6931-100	1.07

## GENERAL® 3 Piece Marking Tool Set



- Used for marking, etching, or engraving metal, glass, plastics and ceramics.

MFG. NO.	ORDER NO.	PRICE EACH
707088	6970-708	\$8.79

- Set includes: one Multi-Purpose Handle assembly; one Steel Awl (For marking and piercing); one Tungsten Carbide Scriber (For etching hard materials) and one Steel Scribe (For marking soft materials).
- Close tolerance locking screw chuck holds steel point securely in place.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish. Internal storage under cap for extra tips.



## GENERAL®

### Drill Stop Set

- For use on twist or brad point drills to prevent excessive drill penetration.
- Positive depth control assures exact hole depths for multiple drilling jobs.
- Black oxide finish on cold rolled steel.
- Includes hex wrench.

MODEL	SIZE INCLUDED	ORDER NO.	PRICE
S838	3/16" dia., 1/4" dia. 5/16" dia., 3/8" dia. 7/16" dia., 1/2" dia.	6923-096	\$14.03

## GENERAL®

### Full Size Awl

MFG. NO.	ORDER NO.	PRICE EACH
810817	6981-018	\$6.01



- Allow steel blade runs through the handle and is securely fastened to the cap.
- Designed for scribing and layout work, starting screw holes and piercing soft materials.
- Heavy duty ergonomically designed handle with free spinning comfort knob and eight-sided cushion grip.

## GENERAL® Three Point Scriber



- Finest quality machinist's scriber.
- Aluminum knurled body, with three interchangeable threaded points: short straight, short bent, and long bent.
- Overall length of tool with two short points is 9".
- Overall length with one short and one long point is 12".
- Handle and short points are 3" long.

MODEL	ORDER NO.	PRICE
380A	6931-400	\$5.46

## GENERAL® Tungsten Carbide Scriber and Magnet



- Tungsten carbide tip marks hard materials including hardened steel, ceramics, and glass.
- 88CM features Alinco permanent magnet picks up small parts and retrieves steel chips from hard to reach places.
- Scriber point reverses for safety.
- Replacement Point No. 88P.
- Overall length 6".

MODEL	DESCRIPTION	ORDER NO.	PRICE
88	Scriber	6931-112	\$6.41
88CM	Scriber & Magnet	6931-116	7.84
88P	Repl. Point	6931-114	3.28

## GENERAL®

### Precision Scriber

MFG. NO.	ORDER NO.	PRICE EACH
71001B	6970-964	\$5.13



- For marking hard materials including hardened steel, stainless steel, ceramics and glass.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Hex-shaped swivel head prevents rolling.
- Eight sided cushion grip has a non-slip finish.

## GENERAL® Inspection Mirrors



- These mirrors facilitate inspection of inaccessible workpieces and machines by toolmakers, assemblers, inspectors, and mechanics.
- Fully polished mirrors are enclosed in plated holders which are attached to knurled handles with ball and socket joints.
- # 557 & 560 have telescoping arms and vinyl cushion grip handles.

MODEL	SIZE	OVERALL LENGTH	ORDER NO.	PRICE
555	1 1/2" dia.	8"	6942-465	\$7.74
557	2 1/4" dia.	10 1/2" extends to 15"	6942-468	11.08
558	1" by 2" oval	9"	6942-471	9.29
560	3 1/2" x 2" oblong	11 1/2" extends to 16"	6942-473	12.32

## GENERAL® Hardwood Handle Scratch Awl

- Our finest quality scratch awl is also our best seller.
- Alloy steel blade runs through the handle and is securely fastened to both the plated steel ferrule and the cap.
- Hardwood fluted handle is contoured for comfortable grip.
- Overall length is 6-1/2" with 3-1/2" blade.



MODEL	ORDER NO.	PRICE
818	6924-047	\$6.63

## GENERAL®

### 3-Piece Probe Set

- For probing, cleaning, picking or marking small work surfaces.
- Three heat-treated, high carbon steel point configurations: 45 degree, double bend, and hook bend.
- Extra long aluminum knurled body.
- Hex head prevents rolling.
- Overall length 6-1/2".



MODEL	ORDER NO.	PRICE
862	6924-500	\$9.62

## GENERAL®

### 4-Piece Precision Fixed Blade Probe Set

MFG. NO.	ORDER NO.	PRICE EACH
60004	6960-004	\$10.42



- For probing, cleaning, picking/marking small work surfaces.
- 8-sided cushion grip handle insures a firm grip.
- Set includes the most popular mini-tool styles.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Set includes: 4 heat treated stainless steel point configurations: Straight, 180° hook, 35° bend, 90° bend.
- Each blade is 2-5/8" (67mm) with an overall length of 6".

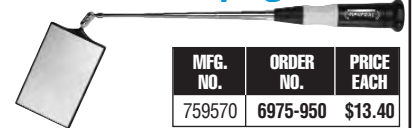
## GENERAL® Fixed Two Point Scriber

- Hardened and ground steel needle points are fixed to a knurled body.
- Has one straight point and one bent point.
- Measures 8-1/2" overall.

## GENERAL®

MODEL	ORDER NO.	PRICE
80	6931-090	\$4.13

## GENERAL® 2"x3" Rectangular Telescoping Mirror



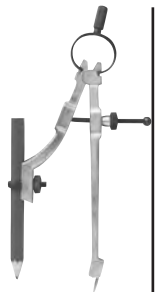
MFG. NO.	ORDER NO.	PRICE EACH
759570	6975-950	\$13.40

- For the inspection of obstructed and hard to see objects.
- 2" x 3" (51mm x 76mm) rectangular shatter resistant Lexan™ mirror, fastened to a stainless steel wand with a double ball joint, adjusts to any angle, and telescopes from 9-1/4" to 30" (235mm to 762mm).
- Ergonomically designed, rugged impact ABS plastic handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish.

## GENERAL®

### Precision Pencil Compass

- Carpentry quality pencil compass is made of long lasting die cast, rust resistant metal.
- Spring tension adjustment for marking up to 8" diameters.
- Scribe guide for edge marking.
- For use with pencil (included) or slim ballpoint pen.



MODEL	ORDER NO.	PRICE
842	6924-126	\$6.76

# Tools

## 3" Diam. Bench Black



- Handy for holding work when driving pins, drilling, etc.
- V-Groove across face accommodates round & odd shaped stock
- Hardened & ground
- Smooth finish on the face preserves the work being held
- Holes vary in size from 1/8" to 5/8"
- Approx. 3" diam. and 1-1/2" high

Order No. 3131-735  
Price Each . . . . \$16.55

### GENERAL®

## Individual Styles Of Industrial Tweezers

8

General's quality tweezers for toolmakers, repairmen, electronic assemblers, and other professionals.

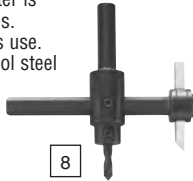
MODEL	POINT STYLE	LENGTH	ORDER NO.	PRICE
401XX	Strong sharp	4-1/2"	6942-263	\$7.13
403	Blunt serrated	6"	6942-266	6.91
407	Blunt (soldering)	4"	6942-269	3.89
408	Sharp bent	4-1/4"	6942-271	6.37
410	Narrow sharp	4-1/4"	6942-280	5.25
411	Sharp (self closing)	4-3/4"	6942-283	5.51
412	Blunt (side lock)	6-1/2"	6942-286	6.98
413	Sharp	4-1/2"	6942-289	5.25



### GENERAL®

## Heavy Duty Circle Cutter

- General's industrial quality cutter is most preferred by professionals.
- 1/2" round shank for drill press use.
- Replaceable 1/4" high speed tool steel bit and replaceable 1/4" pilot drill.
- Maximum safe speed is 500 RPM.



8

MODEL	CAPACITY	ORDER NO.	PRICE
55	1-3/4" to 7-7/8"	6921-012	\$32.16
5/6/55 Drill		6921-014	3.95
55 Blade		6927-015	6.17



## Lathe Boring Tools



- Made from accurately machined steel
- Includes holder & 1 double end boring bar one end 45°, other end 90°
- Black shining finish
- Tool bits not included

2

BAR DIA.	FOR SQ. TOOL BIT	SHANK SIZE	ORDER NO.	PRICE EACH
9/16	3/16	3/8 x 7/8 x 5-3/8	3143-500	\$39.90
3/4	1/4	1/2 x 1-1/8 x 6-1/8	3143-502	46.55
15/16	5/16	5/8 x 1-3/8 x 7-7/16	3143-504	53.15

### GENERAL®

## Precision Trammel Set\*

Will accurately transfer measurements, scribe arcs, and lay out circles too large for conventional compasses.

- Will fit any scale 1/2" to 1-1/8" wide.
- Two scriber points and two pencil points included.
- Up to four points can be stored in body.
- Free-wheeling thimble for greater precision.
- Aluminum knurled body.
- Steel collet holds replacement leads, scribers and crayons.
- Points reverse into body for safety.

\* Ruler not included in set.



8

MODEL	ORDER NO.	PRICE
524	6923-095	\$19.67

# Plumbing Tools

## Gold Standard Replacement Cutter Wheels

RW121/2- For thin wall cutting- Fits all General tubing cutters, Pro or Classic Series; mini, standard or high performance sizes. (Packed 2 per card)

RW122- Larger capacity: For iron or PVC pipe-Fits Nos. 1240, 120, 1209, 125, 1259, 126 and 127 cutters. (Replaces RW122P)



RW122

MFG. NO.	DESCRIPTION	ORDER NO.	PRICE EACH
RW122	Iron Pipe	6912-027	\$7.46
RW121/2	Fits all tubing cutters	6912-023	4.76

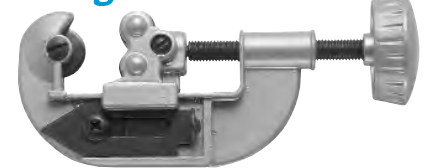
## Heavy Duty Cutter



- Newly redesigned comfort grip for heavy duty industrial applications
- Bearing tool steel cutter wheel.
- Wider, hardened flared grooved rollers allow cuts close to a flared end to avoid tube replacement in existing installations.
- Full size fold-out reamer.
- Cuts copper, aluminum, brass, thin wall tubing and stainless steel.
- Oversize knob for additional leverage.
- Spare cutting wheel storage position in handle.
- Replaceable cutting wheels: RW121/2, RW122.

MFG. NO.	CAPACITY	ORDER NO.	PRICE EACH
125	1/4" to 1-5/8"	6912-015	\$19.43

## Tubing Cutter



- Newly redesigned contoured shape comfort grip design.
- Bearing tool steel cutter wheel.
- Wide hardened flared grooved rollers allow cuts close to a flared end to avoid tube replacement in existing installations.
- Full sized fold out reamer with double cutting edges.
- Cuts copper, aluminum, brass, thin wall tubing and stainless steel.
- Large knob with a covered extra cutter wheel storage space.
- Replaceable cutting wheels: RW121/2, RW122.

MFG. NO.	CAPACITY	ORDER NO.	PRICE EACH
120	1/8" to 1-1/8"	6912-003	\$11.88

## E-Z Ratchet Tubing Cutter



- Ratcheting action rotates the cutter around the tube allowing a standard size cutter to be used in close quarter applications.
- Longer handle requires less effort to rotate cutter, reducing hand fatigue.
- Wide hardened flared grooved rollers allow true cuts close to flared end tubing to avoid tube replacement in existing installations.
- Replaceable bearing tool steel cutting wheel, RW121/2.
- Cuts copper, aluminum, brass, thin wall tubing and stainless steel.
- Spare cutting wheel supplied in handle.

MFG. NO.	CAPACITY	ORDER NO.	PRICE EACH
133	5/16" to 1-1/8"	6913-300	\$24.44

## Compound Tubing Bender

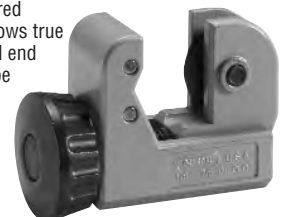
- Will bend copper, brass, thin wall tubing, aluminum, soft wire and rods.
- 180° bends in a single action.
- Bender has calibrated angle markings from 0° to 180° for making accurate left, right and offset bends.
- Bends four sizes.



MFG. NO.	CAPACITY	ORDER NO.	PRICE EACH
153	3/16", 1/4", 5/16", 3/8"	6914-019	\$31.75

## Mini Tubing Cutter

- Comfort grip design for easy turning.
- Full size bearing tool steel cutter wheel.
- Large fluted adjusting knob for greater torque.
- Cuts copper, aluminum, brass, thin wall tubing and stainless steel.
- Wide hardened flared grooved rollers allows true cuts close to flared end tubing to avoid tube replacement in existing installations.



MFG. NO.	CAPACITY	ORDER NO.	PRICE EACH
129X	1/8" to 7/8"	6912-032	\$9.90



# Shop Tools

## Pittsburg ALLEGHANY Round Magnifiers



2

- Plastic handle light weight magnifiers ideal for engineers, professionals and hobbyists
- Ideal reading glass assuring edge to edge clarity

LENS DIAMETER	POWER	ORDER NO.	PRICE EACH
1-1/2"	3.5X	3100-650	\$2.45
2"	2.5X	3100-651	3.15
2-1/2"	2.5X	3100-652	4.70
3"	2.25X	3100-653	6.75
4 piece set 1-1/2" thru 3"			20.00

## Pittsburg ALLEGHANY Folding Pocket Magnifiers - Triplet



- 4X, 7X, 10X magnification range
- High power inspection magnifiers for machinist, laboratory technicians and students

2

ORDER NO.	PRICE EACH
3100-646	\$2.45

## GENERAL® 5-1/2" Magnifier



8

MODEL	ORDER NO.	PRICE EACH
538	6942-414	\$6.81

- Economical and versatile magnifier for laboratory and industrial uses, for do-it-yourselfers, mechanics and inspectors
- 2" diameter with 4 power lens
- Lightweight, durable 1-piece molded plastic frame

## GENERAL® 4" Illuminated Magnifier



8

- 4" diameter with 3 power lens covers large areas of print
- 5 power bifocal lens insert gives even greater magnification
- Bulb gives wide circle of illumination
- Plastic body and optical plastic lens
- Replaceable bulb and 2 C batteries included

MODEL	POWER	FOCAL LENGTH	ORDER NO.	PRICE EACH
554	3.0	3-1/3"	6942-462	\$34.73

## 4 Power Pocket Illuminated Magnifier

GENERAL®



8

- Handy 4 power magnifier has plastic body and lens
- Comes with 2 AAA batteries and No. 222 bulb

MODEL	ORDER NO.	PRICE EACH
553	6942-456	\$10.12

## Folding Pocket Magnifiers in Leather Case



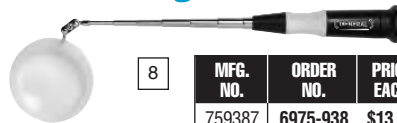
- 2-1/2" diameter
- 4X magnification power
- Ground and polished optical glass

2

ORDER NO.	PRICE EACH
3100-645	\$2.05

GENERAL®

## 2-3/8" Round Telescoping 3X Power Magnifier



8

MFG. NO.	ORDER NO.	PRICE EACH
759387	6975-938	\$13.40

- Fine quality, 3x power, magnifier for Laboratory Technicians, Engineers, Mechanics and Inspectors.
- 2-3/8" (60mm) diameter shatter resistant acrylic lens, fastened to a stainless steel wand with a double ball joint, adjusts to any angle, and telescopes from 8-1/2" to 29" (216mm to 737mm).
- Rugged impact ABS plastic handle.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish.

GENERAL®

## 2-1/2" Round Telescoping 3X Power Magnifying Mirror



8

MFG. NO.	ORDER NO.	PRICE EACH
759563	6975-959	\$14.45

- For the inspection of obstructed and hard to see objects.
- 2-1/2" (64mm) diameter glass mirror, fastened to a stainless steel wand with a double ball joint, adjusts to any angle, and telescopes from 8-1/2" to 29" (216mm to 737mm).
- Rugged impact ABS plastic handle.
- Ergonomically designed handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish.

## Binocular Magnifiers

GENERAL®



- For assemblers and inspectors of electronic and small parts
- Leaves hands free to work
- Ground and polished optical lenses eliminate eye strain
- Tilt up lens frame
- Fits over prescription glasses
- All lenses interchangeable and replaceable
- AL950 auxiliary lens not included; sold separately

8

MODEL	POWER	FOCAL LENGTH	ORDER NO.	PRICE EACH
950-3	1.75	14"	6943-731	\$35.34
950-5	2.25	8"	6943-734	\$35.34
950-7	2.75	6"	6943-735	\$36.48

- Extra auxiliary lens may be attached to either side of lens plate for added power

MODEL	POWER	FOCAL LENGTH	ORDER NO.	PRICE EACH
AL950	3.5	4"	6943-740	\$9.00

## Pittsburg ALLEGHANY 3-Piece Eye Loupe Set



Contains one each:  
2X, 5X, and 10X loupes

2

ORDER NO.	PRICE EACH
3100-640	\$4.25

## IRWIN® I-Beam Level



- MagnaVials™ are 20% larger for easy, accurate reading
- Shock absorbing rubber end caps
- Patent-Pending dual chamber design is 2x stronger than traditional I-Beam levels
- Acrylic vial housings are impact resistant
- Top Read™ window allows for convenient viewing

TYPE	ORDER NO.	PRICE EACH
24" non-mag	3255-403	\$27.35
48" non-mag	3255-404	45.20
72" non-mag	3255-405	68.99

## 9" Torpedo Level



- Compact, rugged. Practically pocket-sized.
- PlumbSite™ vial for easy reading.
- Concave sides and slope set buttons let you quickly find correct slope. Perfect on drain pipes.
- Hang hole serves as B tank valve key.
- Powerful rare earth magnets for hands-free leveling from steel studs and beams.

Order No. 3255-400 Price Each: \$32.55



**GENERAL®**

## Power Alnico Magnets



- Strong magnetic pull for lifting, holding, sorting, clamping, or retrieving steel or iron parts.
- Hole in top of magnet for attaching conveyors, racks, and welding jigs.

MODEL	SIZE OZ.	APPROX. PULL LBS.	ORDER NO.	PRICE
370-2	2	13	6942-044	\$15.01
370-3	3	17	6942-047	19.53
370-4	4	22	6942-050	23.14
370-6	6	30	6942-053	30.87
370-8	8	32	6942-056	49.63
370-12	12	42	6942-061	75.75
370-16	16	50	6942-064	104.56
370-24	24	70	6942-067	145.40

**GENERAL®**

## Alnico Shallow Pot Magnets



- Our best quality shallow pot magnets.
- Shallow depth permits use in confined spaces.
- Alnico metal capable of withstanding extreme heat.
- Will not lose magnetism.

MODEL	DIA.	PULL	DEPTH	HOLE	ORDER NO.	PRICE
378B	1.125"	11 lbs.	.344"	.190"	6942-129	\$12.29
378C	1.5"	29 lbs.	.406"	.190"	6942-130	16.27

**GENERAL®**

## Pickup Stick



- An ideal tool for retrieving iron, steel and ferrous materials.
- Powerful, permanent magnet
- Vinyl-coated magnet for long-life and durability.
- 37-inch steel shaft for greater strength.
- Plastic handle grip for greater control and comfort.

MODEL	ORDER NO.	PRICE EACH
397	6931-434	\$22.63

**GENERAL®**

## Flexible Magnetic Pick Up



- An excellent tool for retrieving steel parts from hard-to-reach places.
- High-power neodymium magnet is six times more powerful than a cobalt magnet of the same size and density.
- Knurled aluminum body with flexible 15" wire.
- Overall length is 20".
- Lifts up to 2 pounds.

MODEL	SPECIFICATIONS	ORDER NO.	PRICE
395	2 lb. pull	6942-229	\$7.79

**Pittsburg ALLEGHENY Pot Magnets**



- Use for magnetic holding and lifting applications • Hole is tapped 1/4-20
- Supplied with keeper plate

DIAM	HEIGHT	HOLE	ORDER NO.	PRICE
13/16	3/4"	1/4-20	3131-690	\$3.80
1-1/16	1"	1/4-20	3131-695	5.35

**GENERAL®**

## Telescoping High-Power Magnetic Pickup



- A powerful permanent magnetic pickup tool.
- Ideal for retrieving steel and iron parts from hard-to-reach work areas.
- Magnet is fitted in a 5/2" long nickel-plated steel handle that can extend up to 23 2".
- Holder is fitted with a pocket clip.

MODEL	PULL	ORDER NO.	PRICE
383NX	2 lb. pull	6942-208	\$9.19

**GENERAL®**

## Pocket Magnetic Pickups



- Powerful permanent magnet in a knurled aluminum holder with handy pocket clip.
- High-powered neodymium magnet which is six times more powerful than standard magnet.
- Ideal for retrieving small steel and iron parts from hard-to-reach areas.

MODEL	PULL	ORDER NO.	PRICE EA.
386	2 lb. pull	6942-219	\$6.11

**GENERAL®**

## Flex-O-Stiff Neodymium Magnetic Pickup

- An ideal tool for retrieving steel parts from hard-to-reach places.
- Permanent magnetic power.
- Magnet is fitted into an 18" nickel-plated holder, which can be extended to a 32" flexible receiver.

MODEL	PULL	ORDER NO.	PRICE
384N	2 lb. pull	6942-210	\$11.63

**GENERAL®**

## Telescoping Magnetic Pick-Ups



- 10 lb. smooth surface pull capacity Neodymium magnet.
- Neodymium Magnet is fastened to a stainless steel wand with a double ball joint that adjusts to any angle and telescopes from 6-1/2" to 27" (165mm to 686mm).
- Neodymium Magnet is 6 times stronger than Cobalt Magnets of equal size.
- Magnet holder is made of high-strength reinforced nylon.
- Ergonomically designed, rugged high impact ABS plastic handle with contoured head allows for greater control and comfort.
- Eight sided cushion grip has a non-slip finish.

MODEL	PULL	ORDER NO.	PRICE
759398	10 lb.	6975-939	\$14.57

**GENERAL®**

## Mini-Light with Magnetic Pick-Up



- Mini Light with 2 lb. Neodymium Magnetic pick-up are both fastened to a stainless steel telescoping wand molded into a rugged high-impact ABS plastic handle.
- Handle is ergonomically designed with an eight-sided, cushion grip and contoured head for greater control and comfort.
- Telescope from 7-3/4" to 28-3/4" (197mm to 720mm).
- 4 Silver-Oxide, SR-48, Batteries with battery life of 64 hrs. of continuous use.

MODEL	ORDER NO.	PRICE EACH
759582	6975-967	\$21.65

**GENERAL®**

## Welding Magnet



- Designed to enable fast & accurate holding of ferrous metal for welding and assemble jobs.
- Holds both sheet and tube at angles of 180°, 90°, 45° & 30°.
- Two body holes enable the clamp to be built into jigs or hung when not in use.

MFG. NO.	THICKNESS	PULL LBS.	WT. OZ.	ORDER NO.	PRICE
377	.468	50.0	9.0	6942-122	\$15.44

**Wihro®**

## Magnetizer and Demagnetizer

To magnetize and demagnetize steel screw-driver blades, tweezers and similar tools. Box is high quality plastic, shock resistant, green, cadmium free. **Application:** To magnetize, lead tool away slowly through the lower square opening (+). To demagnetize guide tool slowly through the upper opening (-). Packaged dimensions: 85 x 160mm 3.3" x 6.3" Uses 2-C8 Ind. Permanent magnets. **Order No. 7840-010**  
**Price each . . . . . \$5.98**



**GENERAL®**

## Magnetizer/Demagnetizer



- Powerful rare earth magnet specially designed for magnetizing and demagnetizing screwdrivers, nut runners, wrenches, taps, and small tools.
- Converts any tool blade into a magnetic retriever for screws, nuts, and metallic particles.

MODEL	DIMENSIONS	ORDER NO.	PRICE
360	1" x 1" x 1"	6942-021	\$2.93

**GENERAL®**

## Extra-Long, Magnetic Pickup with Pivot Joint



- An excellent tool for retrieving steel parts from hard-to-reach places.
- High-power neodymium magnet lifts up to five pounds and will never lose its magnetism.
- Steel body measures 13" and can be extended to 27".
- Locking pivot joint allows user to pick up objects around corners.
- Body is chrome plated with vinyl cushion grip handle.

MODEL	SPECIFICATIONS	ORDER NO.	PRICE
394	5 lb. pull	6942-228	\$13.91

## Industrial Flashlights

- Polypropylene construction resists impact, chemicals, oil, gas, water, and corrosion.
- Toolbox tough. Barrier wall and shock-absorbing spring protect bulb.



IN2

RAYOVAC MODEL NO.	USES BATT.	DESCRIPTION	ORDER NO.	PRICE EACH
IN2*	2-D	Yellow Industrial Flashlight w/ring hanger	9520-046	\$4.20
IN2-KML*	2-D	Yellow Industrial Flashlight w/Krypton bulb and magnet	9520-047	6.82
IN2-MS*	2-D	Orange Industrial Safety Flashlight w/safety head and ring hanger	9520-051	6.03
IN4*	2-AA	Yellow Industrial Flashlight w/ring hanger	9520-053	4.13
I2AAB	2-AA	Yellow Industrial Flashlight w/batteries	9520-054	5.60

\*Sold without batteries

## Sportsman® Xtreme Multi-Function Head-Lite™

- SE1WHLT-BA • Lightweight & Water Resistant
- 3 - 5mm LEDs in red and blue, plus diffuser
- Runtime = 2 Hours
- 1W Luxeon LED up to 45 Lumens and lasts for 100,000 Hours
- Uses "AA" Rayovac Alkaline Battery (included)
- DC-DC voltage boost up technology maintains maximum brightness over battery life.

Order No. 9520-076 Price Each...\$ 24.18



SE1WHLT-BA

## Sportsman® 3-N-1 3 LED+ Xenon Head-Lite™

- SPHLTLED-BA • Unique 3-way hands-free system - close range use (super white LED), "night vision" (2 super red LED's), and super-bright, long-range, krypton beam
- 200 hours run time between battery changes
- Batteries last 20 times longer than with normal bulbs
- Rubber, spot-flood reflector, 5-position pivoting head rotates 180°
- Water resistant, heavy duty construction • Lifetime Warranty.

Order No. 9520-061 Price Each...\$ 13.48



SPHLTLED-BA

## Indestructible LED Flashlight

- DIY3AAA-B • 30 ft Drop Test Performance! • Rubber head and tail cap - shock absorbers, Aluminum titanium alloy - toughness • High performance LEDs, custom optics and 2 modes: 120 Lumens, 19 Lumens (energy saver) • Uses 3AAA Batteries (included) • Battery Run time: 5 hours, 40 hours (energy saver) • IPX4 Water resistant • Lifetime Guarantee

Order No. 9520-086 Price Each...\$ 17.98



DIY3AAA-B

## Sportsman® LED Flashlight

- SPHW3AAA-BXA • Bright .5 Watt High-Powered LED • 20 Lumens • Run Time: 45 Hours • Machined Aluminum with Knurled Grip • Water Resistant • Bronze Finish • Handy Holster Included • Run Time: 45 Hours • Uses 3AAA Batteries (included) • Lifetime Warranty

Order No. 9520-080 Price Each...\$ 14.28

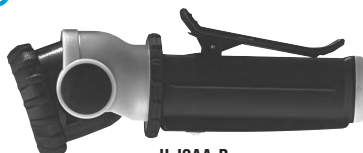


SPHW3AAA-BXA

## Industrial Swivel-Lite™

- ILJ2AA-B • Full lifetime warranty
- Sure grip rubber handle • Spring Clip
- Contractor grade construction
- Uses 2AA Batteries (included)

Order No. 9520-058 Price Each...\$7.45



ILJ2AA-B

## Industrial 3-LED Flashlight

- I2DLED-B • 2D Size batteries included • Water, Oil, & Corrosion Resistant
- Protected slide switch • 150 Hours of run time • 7 ft. drop tested
- 3 Super Bright LED Lights • Extra tough hanging ring

Order No. 9520-065 Price Each...\$ 8.98



I2DLED-B

## Aluminum Multi-LED Flashlight



- SE4W3CA: New and Ultra Bright 4W LED and lasts for 100,000 Hours
- Water Resistant • Yields an amazing 150 lumens • Runtime: 100 Hrs
- Powered by 3 C Batteries (not included) • Anodized Aluminum
- Rubber Comfort Grip • Sleek Titanium Color

Order No. 9520-075 Price Each...\$ 29.68



SE4W3CA

## Roughneck® 200 Lumen Metal Flashlight

- RNT3AAA-B: • High performance Cree XRE LED • 3 modes: low, high and strobe • 200 lumens (high); 70 lumens (low) • Spot to flood • Beam distance of 130 meters (415 ft) • Run time: 2 hours (high); 6 hours (low); 8 hrs (strobe) • Aircraft grade aluminum body • Water resistant • Holster included
- (3) AAA batteries included Order No. 9520-074 Price Each...\$ 26.58



RNT3AAA-B

## Mini High Powered LED Flashlight



- SE3AAAMN-BA: • High Performance 1W LED lasts 100,000 hours • 2 Modes: High and Low • 80 Lumens (High) 30 Lumens (Low) • 6 Hour Run Time (High) 22 Hour Run Time (Low) • Impact Resistant to 9' • Water Resistant • Anodized Aluminum Body • Silicon Rubber Comfort Grip Handle • Holster and Alkaline Batteries Incl. Order No. 9520-073 Price Each...\$ 14.98



SE3AAAMN-BA



I6V-B2



KFL

## Industrial Lanterns

RAYOVAC MODEL NO.	DESCRIPTION	ORDER NO.	PRICE EACH
KFL*	Lantern w/Krypton bulb and flip stand: 1-6 Volt	9520-057	\$ 7.25
I6V-B2	Krypton bulb, flip stand, w/6V HD Battery	9520-056	10.88

\*Sold without batteries

## Industrial Maximum Alkaline Batteries Contractor Packs

- Easy to open container is resealable and reusable.
- Keeps batteries upright and organized. No more loose or lost batteries.
- Protects batteries from damage and short circuiting.



RAYOVAC MODEL NO.	DESCRIPTION	CROSS REFERENCE			STD. PACK	ORDER NO.	PRICE PER PACK
		EVEREADY	BRIGHT STAR	DURACELL			
ALC-12	Alkaline C size	EN93	7522	PC1400	12	9520-041	\$11.89
ALD-12	Alkaline D size	EN95	7520	PC1300	12	9520-042	14.60
ALAA-24	Alkaline AA size	EN91	7524	PC1500	24	9520-043	13.16
ALAAA-18	Alkaline AAA size	EN92	7256	PC2400	18	9520-044	9.55
AL9V-8	Alkaline 9 Volt	EN22	7590	PC1604	8	9520-045	15.54

## Alkaline Batteries Shrink Packages



RAYOVAC MODEL NO.	DESCRIPTION	CROSS REFERENCE			STD. PACK	ORDER NO.	PRICE PER PACK
		EVEREADY	BRIGHT STAR	DURACELL			
AL-C	Alkaline C size	EN93	7522	PC1400	6	9520-005	\$ 5.63
AL-D	Alkaline D size	EN95	7520	PC1300	6	9520-006	6.86
ALAA	Alkaline AA size	EN91	7524	PC1500	8	9520-007	3.82
AL-AAA	Alkaline AAA size	EN92	7256	PC2400	8	9520-008	3.82
AL-9V	Alkaline 9 Volt	EN22	7590	PC1604	6	9520-009	11.11

## Alkaline Batteries— Bulk Packages

Big Buyers Save! Buy Bulk Packages

RAYOVAC MODEL NO.	SIZE	STD. PACK	ORDER NO.	PRICE PER PACK
814 BULK	Alkaline C size	168	9520-000	\$148.62
813 BULK	Alkaline D size	105	9520-001	116.28
815 BULK	Alkaline AA size	500	9520-002	221.15
824 BULK	Alkaline AAA size	500	9520-003	221.15
A1604 BK210	Alkaline 9 Volt	210	9520-004	381.23

## Heavy Duty Batteries



RAYOVAC MODEL NO.	DESCRIPTION	CROSS REFERENCE			STD. PACK	ORDER NO.	PRICE PER PACK
		EVEREADY	BRIGHT STAR	DURACELL			
HD-C	Alkaline C size	EV135		M14SHD	6	9520-036	\$3.12
HD-D	Alkaline D size	EV150	10PS	M13SHD	6	9520-037	3.36
HD-AA	Alkaline AA size	EV115		M15SHD	8	9520-038	2.99
HD-9V	Alkaline 9 Volt	EV122		M9VSHD	6	9520-039	7.10

## Rechargeable Batteries



PL714-2 GEN

PL715-4



PS20-PL GEN

RAYOVAC MODEL NO.	SIZE	STD. PACK	ORDER NO.	PRICE PER PACK
PL714-2 GEN	C	2	9520-015	\$13.69
PL713-2 GEN	D	2	9520-016	13.69
PL715-2 GEN	AA	4	9520-017	13.69
PL724-4	AAA	4	9520-018	13.69
PL1604-1 GEN	9 Volt	1	9520-019	13.69
CHARGERS				
PS20PL GEN	4AA or AAA, 4D or C, 1 9V		9520-022	28.95
PS33-4B	AA/AAA, C, D, 9V		9520-023	16.40



PS33-4B

## Industrial Lantern Battery

RAYOVAC MODEL NO.	DESCRIPTION	CROSS REF. BRIGHT STAR	STD. PACK	ORDER NO.	PRICE EACH
6V-HD	6-Volt heavy duty spring terminals	466-M EVEREADY EV190	1	9520-040	\$3.12
6V-GP	6-Volt general purpose	-	1	9520-029	2.88



## Silver Watch/Electronic Batteries

New Zero Mercury Formula!

RAYOVAC MODEL NO.	DESC.	CROSS REF.	STD. PACK	ORDER NO.	PRICE EACH
303/357-12M	1.5V Silver Watch/Elec.	303, 357, SR44W, V357	6	9520-031	\$1.54



## Lithium Batteries— 3V



RL123A-1



KECR2016-1

RAYOVAC MODEL NO.	STD. PACK	INTERCHANGEABLE NUMBERS	ORDER NO.	PRICE EACH
Photo/Electronic RL123A-1	1	DL123AS, EL123APBP	9520-025	\$4.72
RLCR2-1	1	DLCR2B, CL1CR2BP	9520-026	4.72
Keyless/Elect. KECR2016-1	1	CR2016, BR2016, FA, BB, ECR2016, DL2016B	9520-027	1.55
KECR2032-1	1	CR2032, BR2032, ECR2032, CL2032B	9520-028	1.55



# AIR & POWER TOOLS

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## POWER TOOLS

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**DREMEL®**  
 ROTARY TOOLS &  
 ACCESSORIES

**MILTON®**  
 AIR TOOLS & ACCESSORIES

**VIKING**  
 AIR TOOLS



# Air Tools — Die Grinders



## Mid-Size Die Grinder



**2-YEAR  
Warranty**



- Compact yet delivers more power than mini version
- Easy handling, superior 22,000 RPM
- Great for hard-to-reach areas • Model V363

ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-703	22,000	1/4"	90	4	\$154.00

### V363 SET

**Molded Case, Mid-Size Die Grinder, 1oz. Pneumatic Oil, Mounted Pts. (2), Carbide Burrs (4)**  
**Order No.: 3280-736... Price Each \$195.00**

## Heavy Duty Die Grinder

The V324 Heavy Duty Die Grinder features 1/4" collet with 20,000 RPM performance. State-of-the-art rear exhaust design with a direct drive 4 vane motor.

- Model V324



**2-YEAR  
Warranty**

ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-737	22,000	1/4"	90-100	4	\$144.00

### V324 SET

**Molded Case, Heavy Duty Die Grinder, 1oz. Pneumatic Oil, Flap Wheels (2), Mounted Point**  
**Order No.: 3280-738... Price Each \$235.00**

## Mid-Size Angle Head Die Grinder

The V364 Mid-Size Angle Head Die Grinder is slightly larger than the mini version and has more torque for those tougher applications. Lightweight 15,000 RPM design with heavy weight durability. • Model V364



**2-YEAR  
Warranty**

ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-741	20,000	1/4"	90-100	4	\$162.00

### V364 SET

**Molded Case, Mid-Size Angle Die Grinder, 1oz. Pneumatic Oil, 3" Pad Holder, 3" Surface Discs**  
**Order No.: 3280-742... Price Each \$263.00**

## 1/4" Extended Die Grinder



**1-YEAR  
warranty**

- Durable precision machined and hardened steel gears
- Precision air motor with exceptionally high turning force
- Ergonomic square handle design for positive grip • High quality ball bearings for longer tool life
- Safety throttle lever • Rear exhaust • Industrial duty • Model VT3002E

ORDER NO.	AIR SPEED (R.P.M.)	AIR COLLECT SIZE	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-706	22,000	1/4"	90	4	\$125.00

## Mini Die Grinder



**2-YEAR  
Warranty**



Our V361 Mini Die Grinder is small in size but big in performance, allowing easy access to confined work areas. Their in-line 22,000 RPM design offers quiet, reliable service with less vibration. Fitted with 1/4" drill chuck. • Model V361

ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-734	22,000	1/4"	90-100	4	\$132.00

### V361 SET

**Molded Case, Mini Die Grinder, 1oz. Pneumatic Oil, Mounted Pts. (2), Carbide Burrs (4)**  
**Order No.: 3280-735... Price Each \$232.00**

## 1/4" Air Die Grinder



**1-YEAR  
warranty**

- Model # 3280-700 - 25,000 RPM
- Model # 3280-701 - 22,000 RPM
- All ball bearing construction • Self locking safety throttle to prevent accidental starts
- Ergonomic positive grip • Rear exhaust • Viking Model # VT3001, VT5003

ORDER NO.	AIR SPEED (R.P.M.)	AIR COLLECT SIZE	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-700	25,000	1/4"	90	14	\$38.00
3280-701	22,000	1/4"	90	4	\$37.00

## Mini Angle Head Die Grinder

The V362 Mini Angle Head Die Grinder is our latest, lightweight and versatile design, permitting close work in those hard-to-reach areas. It features 20,000 RPM reliability with minimal vibration.

- Model V362



**2-YEAR  
Warranty**

ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-739	22,000	1/4"	90-100	4	\$211.00

### V362 SET

**Molded Case, Mini Angle Head Die Grinder, 1 oz. Pneumatic Oil, Flap Wheels (2), 2" Pad Holder, 2" Discs (10)**  
**Order No.: 3280-740... Price Each \$248.00**

## 1/4" Mini Angle Die Grinder



**1-YEAR  
warranty**

- Lightweight and versatile design
- Great for hard-to-reach areas
- Features 20,000 RPM reliability, minimal vibration
- Model VT3000A

ORDER NO.	AIR SPEED (R.P.M.)	AIR COLLECT SIZE	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-704	20,000	1/4"	100	4	\$85.00

## 3/8" Heavy Duty Reversible Drill

- One hand quick reverse lever • Ergonomic design, elastomer handle grip
- Heavy duty ball and needle bearing construction
- Planetary gear reduction balances the drilling load, maximizing performance
- Precision air motor with exceptionally high turning force • Model VT5000



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	SPINDLE THREAD	AIR CONSUMPTION (CFM)	PRICE EACH
3280-729	1,800	3/8"	3/8"-24	4	\$156.00

## 1/2" Heavy Duty Reversible Drill

- One hand quick reverse lever • Ergonomic design, elastomer handle grip
- Heavy duty ball and needle bearing construction
- Planetary gear reduction balances the drilling load, maximizing performance
- Precision air motor with exceptionally high turning force • Model VT5007



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	SPINDLE THREAD	AIR CONSUMPTION (CFM)	PRICE EACH
3280-713	800	1/2"	3/8"-24	4	\$191.00

## 3/8" Heavy Duty Reversible Air Drill

The V341 3/8" Heavy Duty Reversible Air Drill is our latest compact powerhouse drill with a 1/2 HP motor and 2,500 RPM capacity. Built to last with its caged planetary gear design and steel gear case. • Model V341



**2-YEAR**  
Warranty

ORDER NO.	AIR SPEED (R.P.M.)	AIR INLET (IN. - NPT)	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-743	2,500	1/4-18	90-100	3-1/2	\$269.00

### V341 SET

**Molded Case, 3/8" Heavy Duty Reversible Air Drill, 4 oz. Pneumatic Oil, RH Cobalt Drill Bits (5) (5/64, 7/64, 5/32, 1/4, 19/64), 3/4" Wire Brush**  
Order No.: 3280-744... Price Each \$322.00

## 1/2" Heavy Duty Reversible Air Drill

The V343 1/2" Heavy Duty Reversible Air Drill provides power, endurance and leverage for the toughest jobs. This rugged drill features a 450 RPM, 1/2 HP motor, 2 stage planetary gear and an adjustable side handle. • Model V343



**2-YEAR**  
Warranty



ORDER NO.	AIR SPEED (R.P.M.)	AIR INLET (IN. - NPT)	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-745	450	1/4-18	90-100	3-1/2	\$288.00

### V343 SET

**Molded Case, 1/2" Heavy Duty Reversible Air Drill, 4 oz. Pneumatic Oil, RH Cobalt Drill Bits (5) (5/64, 7/64, 5/32, 1/4, 19/64)**  
Order No.: 3280-746... Price Each \$390.00

## 3/8" Non-Reversing Heavy Duty Drill

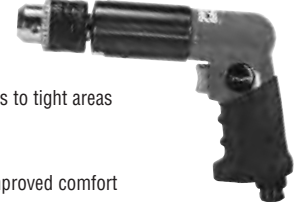
- Ergonomic design with elastomer handle grip for improved comfort
- Heavy duty ball and needle bearing construction
- Planetary gear reduction balances the drilling load and maximizes performance
- Precision air motor with exceptionally high turning force
- Model No. VT5001



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	SPINDLE THREAD	AIR CONSUMPTION (CFM)	PRICE EACH
3280-748	2,600	3/8"	3/8"-24	4	\$143.00

## 1/2" Non-Reversing Heavy Duty Drill

- Compact, low profile angle head enables easy access to tight areas
- Light weight and powerful
- Comfortable lever throttle
- One hand quick reverse lever
- Ergonomic design with elastomer handle grip for improved comfort
- Heavy duty ball and needle bearing construction
- Planetary gear reduction balances the drilling load and maximizes performance
- Precision air motor with exceptionally high turning force • Model No. V5006



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	SPINDLE THREAD	AIR CONSUMPTION (CFM)	PRICE EACH
3280-712	1,500	3/8"	3/8"-24	4	\$223.00

## 3/8" Reversible Angle Drill

- Compact, low profile angle head enables easy access to tight areas
- Light weight and powerful
- Comfortable lever throttle
- One hand quick reverse lever
- Ergonomic design with elastomer handle grip for improved comfort
- Heavy duty ball and needle bearing construction
- Planetary gear reduction balances the drilling load and maximizes performance
- Precision air motor with exceptionally high turning force • Model No. VT5004AR



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	SPINDLE THREAD	AIR CONSUMPTION (CFM)	PRICE EACH
3280-747	1,400	3/8"	3/8"-24	4	\$149.00

## Mini Saw Cut-Off Tool

- Features a 3" Heavy Duty wheel and metal guard for operator safety
- 20,000 RPM direct drive motor provides low vibration cutting with a safety throttle lever
- Model No. V325



**2-YEAR**  
Warranty

ORDER NO.	AIR SPEED (R.P.M.)	INLET NPT	HOSE SIZE	AIR CONSUMPTION (CFM)	PRICE EACH
3280-749	20,000	1/4	3/8"	4	\$173.00

### V325 SET

**Molded Case, Mini Saw Cut-Off Tool, 1oz. Pneumatic Oil, 10 3" Cut-off Wheels**  
Order No.: 3280-750... Price Each \$218.00

## 4" Angle Grinder

- Precision air motor with exceptionally high turning force
- Sealed ball bearing motor
- Compact body for working in tight places
- Front exhaust keeps working area clear
- Safety locking lever with variable throttle to prevent accidental starts
- Removable side handle for left or right hand operation
- Unique motor controller that virtually eliminates over speeding
- Precision gearing (bevel/pin) for long life/smooth operation
- Uses Type 27 4" capacity wheels • Model No. VT3104



ORDER NO.	AIR SPEED (R.P.M.)	WHEEL SIZE	SPINDLE THREAD	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-718	11,000	4"	3/8"-24	90	6	\$209.00

## 4.5"/5" Right Angle Grinder

- Precision air motor with exceptionally high turning force
- Sealed ball bearing motor
- Compact body for working in tight places
- Front exhaust keeps working area clear
- Safety locking lever with variable throttle to prevent accidental start-ups
- Removable side handle for left or right hand operation
- Unique motor controller that virtually eliminates over speeding
- Precision gearing (bevel/pin) for long life and smooth operation
- Includes guard, hex wrenches and spanner
- Uses Type 27 4.5"/5" capacity wheels • Model No. VT3105



ORDER NO.	AIR SPEED (R.P.M.)	CHUCK SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-719	11,000	1/4"	90-100	6	\$209.00

## Air Needle Scaler, Straight Handle

- Heat treated barrels and pistons for extended tool life
- Comfortable throttle lever
- Needleless are made form Chrome Vanadium SCM-4 steelheat treated for extended life
- Model No. VT6200



ORDER NO.	BLOWS PER MIN. (B.P.M.)	NEEDLE SIZE	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-751	4,400	0.12" - 7" long	90	10	\$173.00

## Air Needle Scaler, Pistol Grip Handle

- Heat treated barrels and pistons for extended tool life
- Comfortable throttle lever
- Ergonomic rubber grip for greater vibration absorption and operator convenience
- Needles are made form Chrome Vanadium SCM-4 steelheat treated for extended life
- Model No. VT6202



ORDER NO.	BLOWS PER MIN. (B.P.M.)	NEEDLE SIZE	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-752	3,700	0.12"(3mm) 7" long	90	10	\$233.00

## Air Blow Gun - 2 Tips

- 1/4" NPT Threads
- 11 CFM - OSHA round tip • 8 CFM - Point tip
- Easy one-hand operation
- Baked dry powder finish for maximum durability
- Model No. VT9000



ORDER NO.	WEIGHT (LBS)	THREAD SIZE - NPT	AIR CONSUMPTION (CFM)	PRICE EACH
3280-722	.035	1/4"	11	\$5.00

## Random Orbital Palm Sander

Lightweight composite base with integrated rubber over the mold, create a non-slip feel and insulates from cold air

- Muffling system reduces sound levels with universal rear exhaust nozzle
- Hardened steel cylinder provides for longer cylinder life and less maintenance
- Low profile design improves control (3-1/2" high)
- Precision air motor with exceptionally high power
- Tighter random circular and elliptical pattern (3/16") provides higher degree of finishes on metal, wood and composites
- 5" or 6" pad • Model VT4000



ORDER NO.	AIR SPEED (R.P.M.)	WHEEL SIZE	AIR INLET (IN. - NPT)	AIR PRESSURE (P.S.I.)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-755	10,000	5"	1/4	90	5	\$231.00
3280-717	10,000	6"	1/4	90	5	234.00

## High Speed Rotary Sander

Our V320 High Speed Rotary Sander offers a unique built-in regulator providing precise speed control. Its compact, lightweight design delivers 20,000 RPM low vibration sanding.

- Model V320



ORDER NO.	AIR SPEED (R.P.M.)	BACK-UP PAD SIZE (IN.)	MAX. PRESSURE (PSI)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-753	20,000	5	90	4	\$225.00

### V320 SET

**Molded Case, High Speed Rotary Sander, 1oz. Pneumatic Oil, Coarse Sanding Discs (2)**  
**Order No.: 3280-754... Price Each \$231.00**

## 1/2" Belt Sander

- Precision air motor, exceptionally high turning force

- Anti-slip on drive drum
- Used for internal/external finishing
- Quick change belt replacement system
- Lightweight ergonomic handle design for control & comfort
- 360° head rotation is versatile for every job

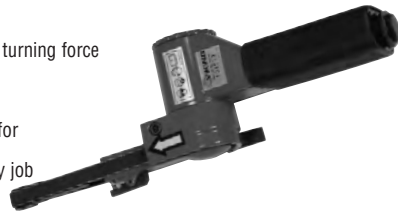
- Model VT4504



ORDER NO.	AIR SPEED (R.P.M.)	AIR CONSUMPTION (CFM)	BELT SIZE	PRICE EACH
3280-732	16,000	14.2	1/2 x 24	\$214.00

## 3/8" Belt Sander

- Precision air motor, exceptionally high turning force
- Anti-slip on drive drum
- Used for internal/external finishing
- Quick change belt replacement system
- Lightweight ergonomic handle design for control & comfort
- 360° head rotation is versatile for every job
- Model VT4501



ORDER NO.	AIR SPEED (R.P.M.)	AIR CONSUMPTION (CFM)	BELT SIZE	PRICE EACH
3280-731	16,000	8	3/8 x 13	\$156.00

## 3/8" Ratchet Wrench

- Planetary gear design
- Combines speed and power for small applications
- Lever throttle for easy operation and enhanced speed control
- Great for hard-to-reach areas
- Lightweight and well balanced
- Model VT1001



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-725	3/8"	150	45	14	\$66.00

## 3/8" Professional Impact Wrench

- Durable pin clutch impact mechanism
- Ergonomic contoured elastomer handle grip for improved comfort
- Built in regulator with 4 power settings
- Easy touch trigger provides greater control and operator comfort • Model VT2100



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	SQUARE DRIVE	AIR CONSUMPTION (CFM)	PRICE EACH
3280-710	3/8"	10,000	75	3/8"	3	\$173.00

## 1/2" Ratchet Wrench

- Planetary gear design
- Lever throttle for easy operation and enhanced speed control
- Great for hard-to-reach areas
- Combines speed and power for exceptional durability
- Lightweight and well balanced • Model VT1003



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-726	1/2"	150	45	14	\$66.00

## 1/2" Professional Impact Wrench

- Durable pin clutch impact mechanism
- Ergonomic contoured elastomer handle grip for improved comfort
- Handle exhaust directs the air away from operator and workpiece
- 360° air inlet swivel prevents air hose from becoming twisted or kinked, for snag-free operator comfort
- Push button forward/reverse for single hand operation
- Easy touch trigger provides greater control and operator comfort
- Model VT2101



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-756	1/2"	8,000	241-400	13.6	\$ 212.00

## 1/4" Ratchet Wrench

- Planetary gear design
- Lever throttle for easy operation and enhanced speed control
- Great for hard-to-reach areas
- Combines speed and power for exceptional durability
- Ergonomic square handle design for positive grip
- Lightweight and well balanced • Model VT1000



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-707	1/4"	240	20	12	\$65.00

## 3/4" Professional Impact Wrench

- Durable pin clutch impact mechanism
- Ergonomic contoured elastomer handle grip for improved comfort
- Handle exhaust directs the air away from operator and workpiece
- 360° air inlet swivel prevents air hose from becoming twisted or kinked, for snag-free operator comfort
- Push button forward/reverse for single hand operation
- Easy touch trigger provides greater control and operator comfort
- Model VT2102



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-757	3/4"	4,500	700-1000	20	\$ 363.00

## 3/8" Butterfly Impact Wrench

- Economical rocking dog clutch for smooth operation and maximum durability
- Butterfly throttle for comfort and control; controls forward and reverse
- Compact size
- 360° swivel inlet
- Model VT2001



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-709	3/8"	10,000	75	3	\$81.00

## 1/2" General Purpose Impact Wrench

- Economical rocking dog impact delivers smooth operation and max. durability
- Built in regulator with 4 power settings
- Delivers max. torque in the reverse direction
- One hand push button forward and reverse • Model VT2000



ORDER NO.	SQUARE DRIVE	FREE SPEED (R.P.M.)	MAX TORQUE (FT/LBS)	AIR CONSUMPTION (CFM)	PRICE EACH
3280-711	1/2"	7,000	230	16	\$77.00



## Push To Connect Nylon Tube Fittings

Easy push-in/one touch mechanism allows for easy connection/disconnection. Nylon push to connect fittings allow for maximum air flow and faster connection than standard compression fittings. Re-usable. T and elbow fittings pivot 360° for installation ease. For use with Milton "PUVEX", nylon, polyurethane, or low and high density polyethylene tubing. Milton push to connect fitting with 5/16" tube OD also fits 8mm metric tube OD.



2200-9  
Ctn. Qty.: 10

MALE CONNECTOR				
PART NO.	TUBE OD	NPT	ORDER NO.	PRICE EACH
2200-2	1/4"	1/8"	3351-181	\$0.93
2200-3	1/4"	1/4"	3351-182	0.93
2200-8	3/8"	1/8"	3351-187	1.20
2200-9	3/8"	1/4"	3351-188	1.22
2200-10	3/8"	3/8"	3351-189	1.28
2200-11	3/8"	1/2"	3351-190	1.73
2200-12	1/2"	1/4"	3351-191	1.84
2200-13	1/2"	3/8"	3351-192	1.90
2200-14	1/2"	1/2"	3351-193	1.95



2202-2  
Ctn. Qty.: 10

MALE SWIVEL ELBOW				
PART NO.	TUBE OD	NPT	ORDER NO.	PRICE EACH
2202-2	1/4"	1/8"	3351-195	\$1.34
2202-3	1/4"	1/4"	3351-196	1.36
2202-9	3/8"	1/4"	3351-201	1.55
2202-10	3/8"	3/8"	3351-202	1.55
2202-11	3/8"	1/2"	3351-203	3.38
2202-12	1/2"	1/4"	3351-204	3.38
2202-14	1/2"	1/2"	3351-206	3.38



2204-6

MALE SWIVEL BRANCH TREE					
PART NO.	NPT	TUBE OD	CTN. QTY.	ORDER NO.	PRICE EACH
2204-1	1/8"	1/4"	10	3351-219	\$2.16
2204-2	1/4"	1/4"	10	3351-220	2.16
2204-7	1/4"	3/8"	10	3351-225	2.61
2204-10	1/4"	1/2"	5	3351-228	4.96
2204-11	3/8"	1/2"	5	3351-229	4.96



2209-1  
Ctn. Qty.: 10

ELBOW UNION			
PART NO.	TUBE OD	ORDER NO.	PRICE EACH
2209-1	1/4"	3351-259	\$1.47
2209-3	3/8"	3351-261	1.60
2209-4	1/2"	3351-262	2.32



2210-3

"TEE" UNION				
PART NO.	TUBE OD	CTN. QTY.	ORDER NO.	PRICE EACH
2210-1	1/4"	10	3351-263	\$2.26
2210-3	3/8"	10	3351-265	2.46
2210-4	1/2"	5	3351-266	4.96



2212-1  
Ctn. Qty.: 5

"TEE" UNION			
PART NO.	TUBE OD	ORDER NO.	PRICE EACH
2212-1	1/4"	3351-269	\$6.66



2214-1  
Ctn. Qty.: 5

FLOW CONTROL-METER OUT				
PART NO.	TUBE OD	NPT	ORDER NO.	PRICE EACH
2214-1	1/4"	1/8"	3351-281	\$6.66
2214-2	1/4"	1/4"	3351-282	7.28

## "PUVEX" Tubing Reels & Coils

You no longer need polyurethane, nylon or polyethylene tubing. Puvex tubing combines the flexibility of polyurethane straight tubing, with the strength, flexibility, and maximum working pressure of nylon straight tubing, and costs only pennies more than polyethylene. Puvex has the same abrasion resistant properties of polyethylene, nylon, and polyurethane. Remains flexible even at extreme temperatures of -40°F to +175°F. Use with Milton push to connect fittings. Many uses: airlines, instrumentation, pneumatic circuitry, chemical processing, food & beverage dispensing, refrigeration, high pressure gas, vacuum-water-chemical products, and robotics.



2300

- Maximum working pressure:  
1/4" 125 PSI  
5/16" 75 PSI  
3/8" 100 PSI
- Temperature Range: -40°F to 175°F

PUVEX TUBING					
PART NO.	LENGTH	OD	COLOR	ORDER NO.	PRICE EACH
<b>REELS</b>					
2340-300	300'	1/4"	Natural	3351-292	\$30.48
2341-300	300'	1/4"	Blue	3351-295	30.48
2360-300	300'	3/8"	Natural	3351-304	68.16
2361-300	300'	3/8"	Blue	3351-307	68.16
2380-300	300'	1/2"	Natural	3351-310	101.76
2381-300	300'	1/2"	Blue	3351-313	101.76
<b>COILS</b>					
2340-100	100'	1/4"	Natural	3351-291	10.29
2341-100	100'	1/4"	Blue	3351-294	10.29
2360-100	100'	3/8"	Natural	3351-303	22.80
2361-100	100'	3/8"	Blue	3351-306	22.96
2380-100	100'	1/2"	Natural	3351-309	34.24
2381-100	100'	1/2"	Blue	3351-312	34.24

# Coupler & Plug Interchanges

With the Milton "Match-up system" all couplers and plugs with same letter code (on face of skin-card) can be used together regardless of thread sizes. Milton "M" style "Kwik-change" couplers and plugs will INTERCHANGE with all manufacturers who comply with the dimensional requirements of military specification MIL-C-4109

MILTON	AMFLO	ARO	CAMEL	COIL HOSE	DIXON	FORNEY	LINCOLN	NAPA	PARKER	TRU-FLATE	MILTON
<b>1/4" Basic size: MILTON INDUSTRIAL "M" STYLE</b>											
711	C20-AU		61-572			75305	5878	90-669		13-201	711
715	C20	MSCF22-000	61-573	150	DC20	75317	632004	90-670	B23	13-235/13-236	715
716	C21	MSCM22-000	61-574	152	DC21	75316		90-672	B22	13-224/13-225	716
717	C20-42	MSCH22-000	61-575	153	DC2042	75480		90-671	B20-3B	13-264	717
717-6	C20-44	MSCH23-000	61-720		DC2044					13-266	717-6
718	C20-23	MSCF23-000	61-718	151	DC2023	75479		90-667	B23E	13-236	718
719	C21-03	MSCM23-000	61-716	155	DC2103			90-657	B22E	13-225	719
726	CP21-01	23902-110		1504	DC2101		630102	90-675	H0C		726
727	CP21	23902-210	61-578	1501	DCP21	75301	630104	90-674	H2C	12-224/12-225	727
728	CP20	23902-200	61-579	1502	DCP20	75302	630204	90-676	H3C	12-234/12-235	728
729	CP20-21	23902-100		1509	DCP2021			90-665	H1C		729
731	CP22		61-023								731
732	CP20-23	23902-300		1505	DCP2023			90-659	H3C-E	12-236	732
733	CP21-03	23902-310	61-535	1503	DCP2103	75471		90-677	H2C-E	12-226	733
736	CP21-42	23902-220	61-576	1506	DCP2142			90-673	H8C	12-264	736
736-6	CP21-44	23902-420		1508	DCP2144	75472			H9C	12-266	736-6
745						75527				13-510/13-511	745
746						75526				13-508/13-509	746
755	C40B	MSCF22-X00	61-013		DCB20	75520		90-615	B33	13-755	755
756	C41B	MSCM22-X00	61-011		DCB21	75521		90-617	B32	13-756	756
1717-4	C20-42L	MSCP22-000							B20-3BP		1717-4
1717-6	C20-44L	MSCP23-000							B20-5BP		1717-6
1736-4	CP21-42L	23902-227							H8CP		1736-4
1736-6	CP21-44L	23902-228							H9CP		1736-6
<b>1/4" Basic size: ARO 210 "A" STYLE</b>											
772						75522				13-301	772
775	C38, C46	210	61-518, 61-526	140	DC38	75318		90-613	B53	13-334/13-335	775
776	C37, C45	210-212	61-527, 61-581		DC37	75482			B50	13-324/13-325	776
776-4	C38-42	210-022			DC3842			90-679	B50-3BP		776-4
776-6	C38-44	210-215			DC3844				B50-5BP		776-6
777	CP37	2608	61-528	1401	DCP37	75303	13329	90-618	A2C	12-324/12-325	777
777-4	CP37-42	3946		1406	DCP3742				A8C		777-4
777-6	CP37-44	22238			DCP3744						777-6
778	CP38	2609	61-529	1402	DCP38	75473	13331	90-620	A3C	12-334/12-335	778
1776-4	C38-42L	210-227									1776-4
1776-6	C38-44L	210-028									1776-6
1777-4	CP37-42L	6944							A8CP		1777-4
1777-6	CP37-44L										1777-6
<b>3/8" Basic size: ARO "AA" STYLE</b>											
1875	C36	310			DC36						1875
1877	CP35	3804			DCP35						1877
1878	CP36	3806			DCP36						1878
<b>1/4" Basic size: LINCOLN "L" STYLE</b>											
790	C28	LNCF22-000	61-548	170	DC28	75523 w/plug	815	90-644	B73	13-434/13-435	790
791	CP27	LNPM22-000	61-550	1701	DCP27	75304	11659	90-648	L2C	12-424/12-425	791
792	CP28	LNPF22-000	61-551	1702	DCP28	75524	11661	90-650	L3C	12-434/12-435	792
794	C27	LNCM22-000	61-486		DC27	75525		90-645		13-424/13-425	794
<b>1/4" Basic size: TRU-FLATE/PARKER "T" STYLE</b>											
779	CP12		61-544							12-104	779
780			61-543					90-634			780
781	CP14		61-552					90-652			781
782						75519		90-624		13-101	782
783	CP1	TFPM22-000	61-538	1601	DCP1	75300	5872	90-628	2C	12-124/12-125	783
783-4	CP1-42	TFPH22-000		1606	DCP142	75470		90-630	8C	12-117	783-4
783-6	CP1-44	TFPH23-000		1608	DCP143			90-626	9C		783-6
784	CP2	TFPF22-000	61-539	1602	DCP2	75308	5873	90-600	3C	12-134/12-135	784
785	C2	TFCF22-000	61-523	160	DC2	75315	5871	90-610	B13	13-134/13-135	785
786	C1	TFCM22-000	61-524	162	DC1	75309	5870	90-607	B12	13-124/13-125	786
786-4	C2-42	TFCH22-000		163	DC242			90-611	B10-3B	13-164	786-4
786-6	C2-44	TFCH23-000		166	DC244			90-609	B10-5B		786-6
787	C2R		61-487, 61-545			75478				13-136/13-137	787
788	C2-23	TFCF23-000	61-704							13-138	788
789	C1-03	TFCM23-000			DC103						789
1783-4	CP1-42L	TFPP22-000							8CP		1783-4
1783-6	CP1-44L	TFPP23-000							9CP		1783-6
1786-4	C2-42L	TFCH22-000							B10-3BP		1786-4
1786-6	C2-44L	TFCH23-000							B10-5BP		1786-6

# Coupler & Plug Interchanges

MILTON	AMFLO	ARO	CAMEL	COIL HOSE	DIXON	FORNEY	LINCOLN	NAPA	PARKER	TRU-FLATE	MILTON
<b>3/8" Basic size: MILTON INDUSTRIAL "H" STYLE</b>											
1796-6	C26-44L	MSCP33-000							24-5BP		1796-6
1797-6	CP25-44L	23903-28							H5EP		1797-6
1833	C26-22	MSCM32-000		582	DC2622			90-629	25C		1833
1834	C25-02							90-625			1834
1835	C26	MSCF33-000	61-482	580	DC26	75321	642006	90-680	25	13-536/13-537	1835
1836	C25	MSCM33-000	61-483	581	DC25	75483		90-682	24	13-526/13-527	1836
1836-6	C26-44	MSCH33-000		586	DC2644			90-635	24-6B		1836-6
1837	CP25	23903-310	61-484	5801	DCP25	75307	640108	90-683	H2E	12-526/12-527	1837
1837-6	CP25-44	23903-420		5806	DCP2544			90-651	H5E		1837-6
1838	CP26	23903-300	61-485	5802	DCP26	75474	640206	90-681	H3E	12-536/12-537	1838
1839	CP25-02	23903-210		5803	DCP2502		640104	90-605	H0E	12-525	1839
1840	CP26-22	23903-200		5804	DCP2622		640204	90-606	H1E	12-535	1840
<b>3/8" Basic size: TRU-FLATE/PARKER "P" STYLE</b>											
1746-6	C6-44L	TFCP23-000							14-5BP		1746-6
1747-6	CP5-44L	TFPP23-000							5EP		1747-6
1803	C8	TFCF32-000	61-476	592	DC8	75485		90-686	15C	13-610/13-611	1803
1804	C7	TFCM32-000	61-478		DC7			90-684		13-602	1804
1805	C6	TFCF33-000	61-553	590	DC6	75320	5874	90-654	15	13-612/13-613	1805
1806	C5	TFCM33-000	61-554	591	DC5	75484		90-656	14	13-604	1806
1806-6	C6-44	TFCH33-000		598	DC644			90-521	14-5B	13-666	1806-6
1807	CP5	TFPM33-000	61-558	5901	DCP5		5875	90-658	2E	12-604/12-605	1807
1807-6	CP5-44	TFPH33-000		5906	DCP544			90-530	5E		1807-6
1808	CP6	TFPF33-000	61-559	5902	DCP6	75476	5876	90-660	3E	12-612	1808
1809	CP7	TFPM32-000	61-480	5903	DCP7	75475		90-685	0E	12-602/12-603	1809
1810	CP8	TFPF32-000	61-481	5904	DCP8			90-687	1E	12-610	1810
<b>1/2" Basic size: MILTON INDUSTRIAL "G" STYLE</b>											
1813	C10-23	TFCF43-000	61-472	123	DC1023			90-690	17E	13-710	1813
1814	C9-03	TFCM43-000		121	DC903			90-688	16E	13-702	1814
1815	C10	TFCF44-000	61-563	120	DC10		652008	90-662	B37	13-712/13-713	1815
1816	C9	TFCM44-000	61-564	122	DC9			90-664	B36	13-704	1816
1855											1855
1857	CP17	23904-410	61-134	1201	DCP17		650108	90-578	H2F	12-752	1857
1858	CP18	23904-400	61-137	1202	DCP18		650208	90-588	H3F	12-762	1858
1859	CP17-03	23904-310	61-133	1203	DCP1703		650106	90-575	H0F		1859
1860	CP18-23	23904-3	61-136	1204	DCP1823		650206	90-587	H1F		1860
<b>1/2" Basic size: TRU-FLATE/PARKER "G" STYLE</b>											
1813	C10-23	TFCF43-000	61-472	123	DC1023			90-690	17E	13-710	1813
1814	C9-03	TFCM43-000		121	DC903			90-688	16E	13-702	1814
1815	C10	TFCF44-000	61-563	120	DC10			90-662	B37	13-712/13-713	1815
1816	C9	TFCM44-000	61-564	122	DC9			90-664	B36	13-704	1816
1817	CP9	TFPM44-000	61-568		DCP9			90-666	2F	12-704/12-705	1817
1818	CP10	TFPF44-000	61-569		DCP10			90-668	3F	12-712	1818
1819	CP9-03	TFPM43-000	61-474		DCP903			90-689	0F	12-702	1819
1820	CP10-23	TFPF43-000	61-475		DCP1023			90-691	1F	12-710	1820

## Milton Industrial Interchange Series



**"M"STYLE 1/4" BASIC SIZE** Ctn. Qty.: 10

NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH	BARB	ORDER NO.	PRICE EACH
<b>COUPLERS</b>									
1/4"	S-715	3350-389	\$4.08	S-716	3350-392	\$4.08	717	3350-394	\$5.22
3/8"	S-718	3350-399	\$5.34	S-719	3350-402	\$5.34	717-6	3350-396	\$5.57



**"M"STYLE 1/4" BASIC SIZE** Ctn. Qty.: 10, Male/Female: 2/cd

NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
<b>PLUGS</b>											
1/4"	S-728	2	3350-409	\$1.92	S-727	2	3350-406	\$1.81	736	3350-419	\$1.71
3/8"	S-732	2	3350-414	\$3.14	S-733	2	3350-417	\$3.14	736-6	3350-421	\$1.82

**"M-STYLE 1/4" COUPLER & PLUG COMBOS AND KITS**

KIT PART NO.	DESCRIPTION	COUPLER	PLUG	CTN. QTY.	ORDER NO.	PRICE EACH
S-711	M style coupler & plug combo	(1) 715	(1) 727	10	3350-383	\$4.96
S-210	M style coupler & plug kit- 12 pc.	(2) 715	(8) 727, (2) 728	5	3350-068	\$17.06
S-211	M style coupler & plug kit- 5 pc.	(1) 715	(3) 727, (1) 728	10	3350-069	\$7.65
S-212	M style coupler & plug kit- 7 pc.	(1) 715	(3) 727, (3) 728	10	3350-070	\$9.50



**"H"STYLE 3/8" BASIC SIZE** Ctn. Qty.: 5

NPT THREAD	FEMALE	ORDER NO.	PRICE PER CARD	MALE	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
<b>COUPLERS</b>									
1/4 "	S-1833	3350-995	\$8.72	1834	3350-997	\$8.77	—	—	—
3/8"	S-1835	3351-000	\$8.72	S-1836	3351-003	\$8.72	1836-6	3351-005	\$9.54

**"H"STYLE 3/8" BASIC SIZE** Ctn. Qty.: 10, Male/Female: 2/cd

NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
<b>PLUGS</b>											
1/4 "	S-1840	2	3351-018	\$3.22	S-1839	2	3351-015	\$3.22	—	—	—
3/8"	S-1838	2	3351-012	\$3.22	S-1837	2	3351-007	\$3.25	1837-6	3351-009	\$2.37



**"G"STYLE 1/2" BASIC SIZE** Ctn. Qty.: 5

NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
<b>COUPLERS</b>						
3/8"	1813	3350-976	\$10.80	1814	3350-977	\$11.65
1/2"	S-1815	3350-979	\$10.88	S-1816	3350-982	\$10.88
<b>PLUGS</b>						
1/4"	—	—	—	1855	3351-020	\$2.48
3/8"	1860	3351-024	\$2.85	1859	3351-023	\$2.64
1/2"	1858	3351-022	\$2.85	1857	3351-021	\$2.67

## M-Style Couplers & Plugs

Milton M-style "Kwik-change" couplers and plugs will interchange with all manufacturers who comply with the dimensional requirements of military specification MIL-C-4109.

- M-style coupler bodies are brass with brass sleeves
- M-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 40 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**

## M-Style Synthetic Washer

- Replacement M-Style part

**Order No. 3350-457 Price Each: \$0.32**

## H-Style Couplers & Plugs

- H-style coupler bodies steel, plated to resist rust
- H-style plugs are case hardened steel plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**

## G-Style Couplers & Plugs (Industrial Interchange)

- G-style coupler bodies are steel, plated to resist rust
- G-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 99 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



## ARO Interchange Series

2



S-775



S-776



S-776-4

### A 210 Style Couplers & Plugs

- A-style couplers are push type
- A-style coupler bodies are steel, plated to resist rust
- A-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 34 SCFM
- Seals: Buna-N

Ctn. Qty.: 10

"A 210" STYLE 1/4" BASIC SIZE									
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH	BARB	ORDER NO.	PRICE EACH
<b>COUPLERS</b>									
1/4"	S-775	3350-460	\$5.28	S-776	3350-463	\$6.18	776-4	3350-465	\$6.70
3/8"	—	—	—	—	—	—	776-6	3350-466	\$6.85

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-777



S-778



S-777-4

Ctn. Qty.: 10 Male/Female: 2/cd

"A 210" STYLE 1/4" BASIC SIZE											
NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
<b>PLUGS</b>											
1/4"	S-778	2	3350-475	\$1.98	S-777	2	3350-468	\$1.97	777-4	3350-470	\$1.73
3/8"	—	—	—	—	—	—	—	—	777-6	3350-472	\$1.76
<b>A-STYLE 1/4" COUPLER &amp; PLUG COMBOS AND KITS</b>											
KIT PART NO.	DESCRIPTION				COUPLER		PLUG		ORDER NO.	PRICE EACH	
S-772	A style coupler & plug combo				(1) 775		(1) 777		3350-458	\$6.21	
S-213	A style coupler & plug kit - 5 pc.				(1) 775		(3) 777, (1) 778		3350-071	\$9.02	

### AA-ARO 310 Style Couplers & Plugs

- AA-style couplers are push type
- AA-style coupler bodies are heavy duty steel
- AA-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 59 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



1875



1877



1878

Ctn. Qty.: 5

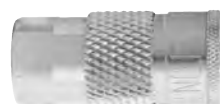
"AA 310" STYLE 3/8" BASIC SIZE							
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH	
<b>COUPLERS</b>							
3/8"	1875	3351-048	\$9.82	—	—	—	—
<b>PLUGS</b>							
3/8"	1878	3351-050	\$2.13	1877	3351-049	\$1.94	

## Tru-flate (Automotive) Interchange Series

### T Style Couplers & Plugs

- T-style coupler bodies are brass
- T-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 40 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-785



S-786



786-4

Ctn. Qty.: 10

"T" STYLE 1/4" BASIC SIZE									
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH	BARB	ORDER NO.	PRICE EACH
<b>COUPLERS</b>									
1/4 "	S-785	3350-490	\$4.56	S-786	3350-493	\$4.58	786-4	3350-495	\$5.52
3/8"	788	3350-499	\$5.42	789	3350-500	\$5.42	786-6	3350-496	\$5.58

# MILTON® Air Couplers & Plugs

## Tru-flate (Automotive) Interchange Series (Continued)

2



S-784



S-783



783-4

### T Style Couplers & Plugs

- T-style coupler bodies are brass
- T-style plugs are case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 40 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**

"T" STYLE 1/4" BASIC SIZE											
NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
PLUGS											
1/4"	S-784	2	3350-487	\$1.92	S-783	2	3350-482	\$1.92	783-4	3350-484	\$1.71
3/8"	—	—	—	—	—	—	—	—	783-6	3350-485	\$1.71
T-STYLE 1/4" COUPLER & PLUG COMBOS AND KITS											
KIT PART NO.	DESCRIPTION			COUPLER	PLUG	ORDER NO.	PRICE EACH				
S-782	T style coupler & plug combo			(1) 785	(1) 783	3350-480	\$5.49				
S-215	T style coupler & plug kit - 5 pc.			(1) 785	(3) 783, (1) 784	3350-072	\$8.29				



S-1807



S-1808



1807-6

### P Style Couplers & Plugs

- P-style coupler bodies are heavy duty steel
- P-style plugs are case hardened steel plated to resist rust
- Bodies have 8 locking balls
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 68 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**

"P" STYLE 3/8" BASIC SIZE											
NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD	BARB	ORDER NO.	PRICE EACH
PLUGS											
1/4"	S-1810	2	3350-973	\$3.44	S-1809	2	3350-970	\$3.25	—	—	—
3/8"	S-1808	2	3350-967	\$3.82	S-1807	2	3350-963	\$3.33	1807-6	3350-965	\$2.29



S-1803



1804



1806-6

### Push Button Safety Couplers

Double click to engage properly. First click locks coupler and plug; the second click engages the air pressure. To disconnect, push button twice. First push relieves pressure; second push allows plug and coupler to be disengaged.



S-99705



S-99706



S-99773



S-99774

SAFETY COUPLERS					
PART NO.	THREAD TYPE	STYLE	NPT SIZE	ORDER NO.	PRICE EACH
S-99705	Female	M	1/4"	3351-355	\$10.64
S-99706	Male	M	1/4"	3351-356	10.64
S-99773	Female	A	1/4"	3351-357	10.85
S-99774	Male	A	1/4"	3351-358	10.85

### G Style Couplers & Plugs (Tru-flate/Automotive)

- G-style coupler bodies are steel plated to resist rust
- G-style plug bodies are case hardened steel to resist rust
- Maximum inlet pressure: 300 PSI
- Air flow: 99 SCFM
- Maximum temperature: 250° F
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-1813



S-1814



S-1818

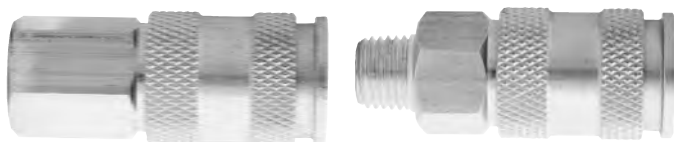


S-1817

"G" STYLE 1/2" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
COUPLERS						
3/8"	1813	3350-976	\$10.80	1814	3350-977	\$11.65
1/2"	S-1815	3350-979	\$10.88	S-1816	3350-982	\$10.88

"G" STYLE 1/2" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
PLUGS						
3/8"	1820	3350-992	\$2.66	1819	3350-990	\$2.51
1/2"	S-1818	3350-988	\$3.12	S-1817	3350-985	\$2.80

## V-Style Hi-Flow Interchange Series



S-764

S-765

Ctn. Qty.: 10

"V" STYLE 1/4" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
<b>COUPLERS</b>						
1/4"	S-764	3350-450	\$4.96	S-765	3350-452	\$4.96
3/8"	S-766	3350-454	\$5.22	S-767	3350-456	\$5.22



S-761-1

S-760-1

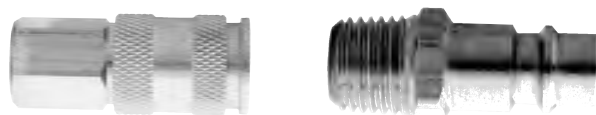
Ctn. Qty.: 10, 2/cd

"V" STYLE 1/4" BASIC SIZE								
NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD
<b>PLUGS</b>								
1/4"	S-761-1	2	3350-440	\$2.38	S-760-1	2	3350-436	\$2.30
3/8"	S-763-1	2	3350-448	\$2.93	S-762-1	2	3350-444	\$2.82

## V Style Couplers & Plugs

- V-style specifically designed for HVLP (High Volume Low Pressure) applications.
- V-style couplers will accept "M" and "A" style plugs, however to retain max. flow, use "V" style plugs
- V-style couplers are push-type
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 74 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-764

S-760-1

"V" STYLE 1/4" BASIC SIZE					
KIT NO.	DESCRIPTION	COUPLER	PLUG	ORDER NO.	PRICE EACH
<b>V-STYLE 1/4" COUPLER &amp; PLUG COMBOS AND KITS</b>					
S-216	1/4" V style coupler & plug combo	(1) 764	(1) 760-1	3350-073	\$6.03
S-217	1/4" V style coupler & plug kit- 6 pc.	(2) 764	(2) 760-1, (2) 761-1	3350-074	\$13.73

## Lincoln Interchange Series — L Style Couplers & Plugs

- L-style couplers are push type
- L-style plugs are case hardened steel, plated to resist rust
- L-style couplers are steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250° F
- Air flow: 32 SCFM
- Seals: Buna-N

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-790

794

Ctn. Qty.: 10

"L" STYLE 1/4" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
<b>COUPLERS</b>						
1/4"	S-790	3350-502	\$7.68	794	3350-510	\$8.16



S-792

S-791

Ctn. Qty.: 10, 2/cd

"L" STYLE 1/4" BASIC SIZE								
NPT THREAD	FEMALE	CARD PACK	ORDER NO.	PRICE PER CARD	MALE	CARD PACK	ORDER NO.	PRICE PER CARD
<b>PLUGS</b>								
1/4"	S-792	2	3350-508	\$3.01	S-791	2	3350-505	\$2.85

## AMT-Style Interchange Series— 3-Way Couplers

- AMT-style are push type with drag guard
- Heavy duty brass-rust resistant
- Accepts the 3 most popular 1/4" basic style plugs sold
  - 1- Milton or industrial style plugs (M-style)
  - 2- Aro 210-style plugs (A-style)
  - 3- Tru-Flate/Parker automotive style plugs (T-style)

**WARNING: COUPLERS IN THIS SECTION ARE FOR USE WITH SHOP AIR ONLY.**



S-745

S-746

Ctn. Qty.: 10

"AMT" STYLE 1/4" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
<b>COUPLERS</b>						
1/4"	S-745	3350-424	\$7.57	S-746	3350-427	\$7.65

## Straight Thru Couplers & Plugs

- Straight thru couplers are brass with stainless steel balls and spring
- Straight thru plugs are case hardened steel, plated to resist rust
- Compatible with other major manufacturers of straight thru couplers
- Application: high pressure washers, industrial carpet cleaning



1765

1762

1764

1763

Ctn. Qty.: 10

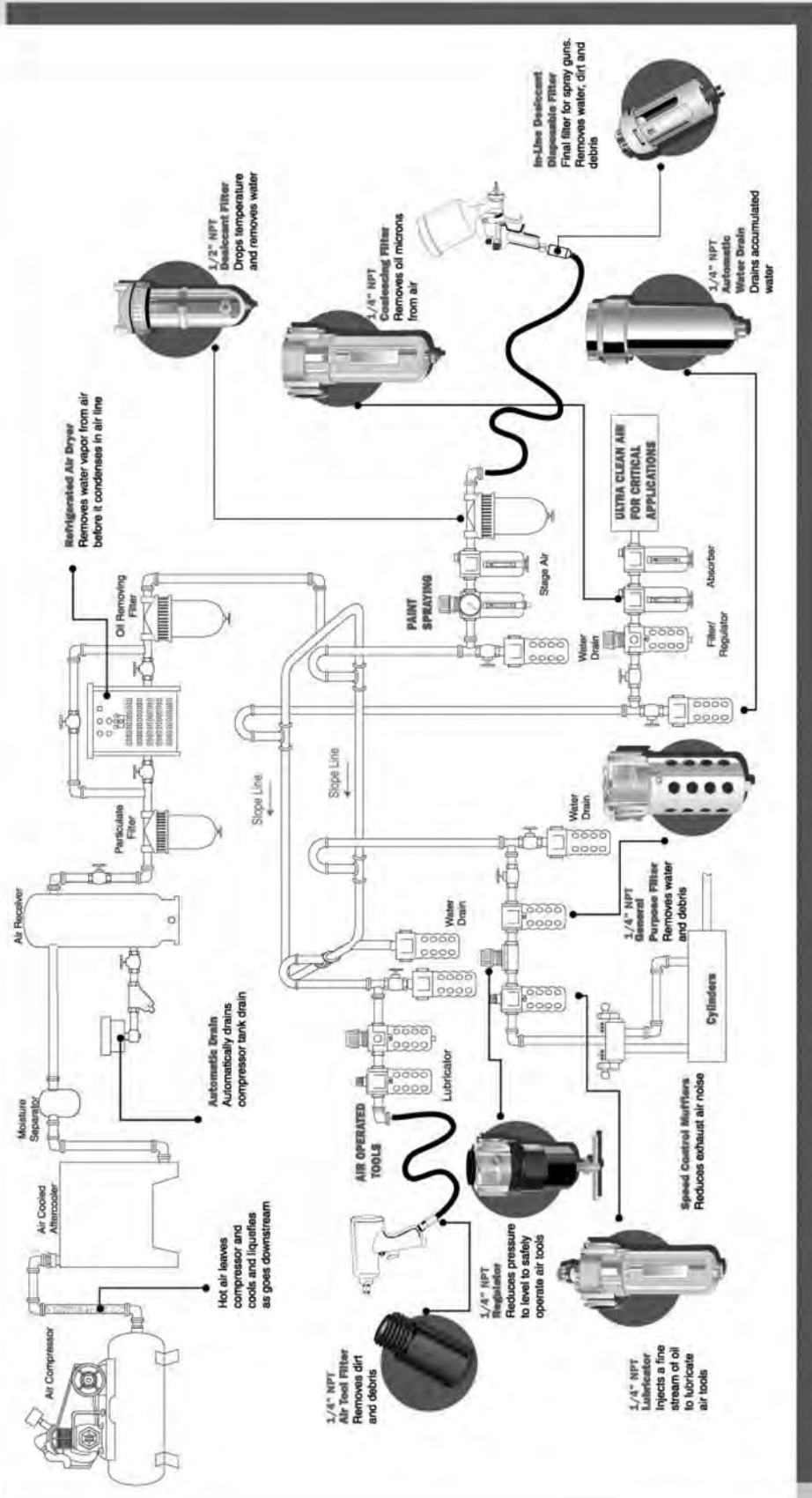
STRAIGHT THRU 1/4" & 3/4" BASIC SIZE						
NPT THREAD	FEMALE	ORDER NO.	PRICE EACH	MALE	ORDER NO.	PRICE EACH
<b>COUPLERS</b>						
1/4"	1761	3350-919	\$5.28	1762	3350-921	\$6.18
3/8"	1765	3350-927	\$5.79	1766	3350-929	\$6.21
<b>PLUGS</b>						
1/4"	1764	3350-925	\$1.66	1763	3350-923	\$1.33
3/8"	1768	3350-933	\$2.37	1767	3350-931	\$2.69



# TECH TIPS

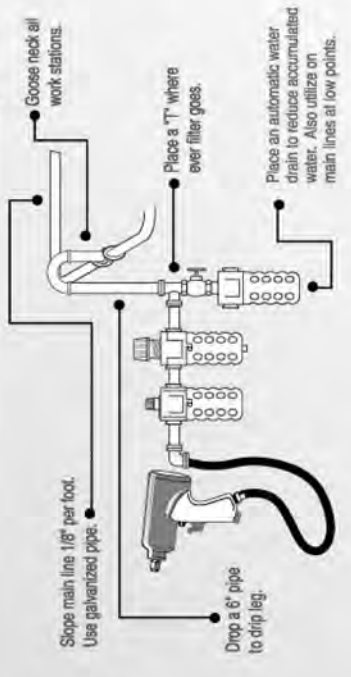
## BUILDING AN EFFICIENT AIR SYSTEM

Compressed air powered equipment and machinery are critical elements in the productivity, efficiency, and economy of today's industry and quality air is the essential element. Water and dirt cause more problems in compressed air lines than anything else. High speed pneumatic production lines operate efficiently because of air dryers and filters that remove moisture and impurities from the air, which results in eliminating downtime. Regulators and lubricators can be added to control and lubricate downstream equipment. A good air system is the key to saving time, money and to operating at maximum efficiency.



### 5 IMPORTANT STEPS TO AN AIR SYSTEM SETUP

1. Main line filter and regulator should be placed at least 20 feet from the compressor. The air will cool down, allowing much of the water vapor to condense naturally for removal by filtration.
2. Main line piping should slope down from point of origin by 1/8" per foot. Any water in the line will flow down to the lowest point for draining.
3. All line drops (work stations) should be taken from the top of the main line. This prevents water from flowing into branch lines.
4. Galvanized pipe is recommended when building an air system.
5. Follow illustration to the right when building a work station drop.





## Micro Filters



1018



1018-8

- All micro filters supplied with preassembled AUTOMATIC OVERNIGHT DRAIN
- Porous bronze 40 micron filter element allows less pressure drop and longer cleaning intervals
- Safety metal bowl guards or metal bowls standard on 1/4", 3/8", 1/2" models
- Metal bowls only on 3/4" and 1" models
- 3 stage baffle system for exceptional moisture removal.
- Sintered bronze elements are permanent and cleanable
- Light weight aluminum die-cast housing
- Element range 10 or 40 microns exactly matching filter and air flow needs
- Corrosion resistant metal bowls
- 1022-8 and 1022-10 include sight glass for visual check of condensation collection

**WARNING: FOR COMPRESSED AIR SERVICE ONLY. NOT TO BE USED ON LIFE SUPPORT SYSTEMS OR BREATHING AIRSYSTEMS. NEVER USE POLYCARBONATE PLASTIC BOWLS ON AIR SUPPLIED BY A COMPRESSOR LUBRICATED WITH SYNTHETIC OILS OR OIL CONTAINING PHOSPHATE ESTERS OR CHLORINATE HYDROCARBONS.**

## Coalescing Filters

An extremely efficient filter designed for applications that require air free of oil and all foreign particles. Effective filtration and low pressure drop make these filters perfect for fluidics, body shop, spray painting, food processing, instrumentation and pharmaceuticals.

- Automatic overnight drain
- Metal bowl
- .03 SUB-MICRON = 99.97 efficiency
- 1037-8 includes sight glass for visual check of condensation collection



1035



1037-8

COALESCING FILTERS									
PART NO.	NPT	ORDER NO.	PRICE EACH	BOWL TYPE	BOWL CAPACITY	MAX. SCFM	MAX INLET PSI	TEMP. OP. RANGE	FILTER ELEMENT(MICRON)
1035	1/4"	3350-581	\$89.60	METAL	6 OZ	24	250	40°F-200°F	.03 Sub micron
1036	3/8"	3350-582	90.16	METAL	6 OZ	37	250	40°F-200°F	.03 Sub micron
1037	1/2"	3350-583	90.40	METAL	6 OZ	37	250	40°F-200°F	.03 Sub micron
1037-8	3/4"	3350-584	134.16	METAL	10 OZ	60	250	40°F-160°F	.03 Sub micron

### MICRO & MINI FILTERS

PART NO.	NPT	ORDER NO.	PRICE EACH	BOWL TYPE	BOWL CAPACITY	MAX. SCFM	MAX INLET PSI	TEMP. OP. RANGE	FILTER ELEMENT(MICRON)
1018	1/4"	3350-552	\$39.97	POLY w/GUARD	5 OZ	48	150	40°F-120°F	40, 10 opt.
1018-8	1/4"	3350-554	46.72	METAL	6 OZ	48	250	40°F-160°F	40, 10 opt.
1019	3/8"	3350-557	39.97	POLY w/ GUARD	5 OZ	75	150	40°F-120°F	40, 10 opt.
1019-8	3/8"	3350-559	46.32	METAL	6 OZ	75	250	40°F-160°F	40, 10 opt.
1020	1/2"	3350-560	40.64	POLY w/ GUARD	5 OZ	100	150	40°F-120°F	40, 10 opt.
1020-8	1/2"	3350-562	46.32	METAL	6 OZ	100	250	40°F-160°F	40, 10 opt.
1022-8	3/4"	3350-563	93.92	METAL	10 OZ	230	250	40°F-160°F	40
1022-10	3/4"	3350-564	145.52	METAL	20 OZ	245	250	40°F-160°F	40
1120-8	1/2"	3350-682	63.68	METAL	9 OZ	115	250	40°F-160°F	40
1122-8	1"	3350-683	108.64	METAL	29 OZ	300	250	40°F-160°F	40
S-1144	1/4"	3350-694	25.92	POLY	1 OZ	27	150	40°F-120°F	20
1144 M	1/4"	3350-697	31.97	METAL	1 OZ	27	250	40°F-120°F	20
1144-2	1/8"	3350-696	31.97	METAL	1 OZ	27	250	40°F-120°F	20

### REPAIR PARTS

MICRO FILTER PART NO.	BOWL KIT	ORDER NO.	PRICE EACH	FILTER (40 MICRON)	ORDER NO.	PRICE EACH	FILTER (10 MICRON)	ORDER NO.	PRICE EACH
1018	1018-P	3350-556	\$23.52	1118-1	3350-679	\$9.36	1118-2	3350-680	\$10.72
1018-8	1018-M	3350-555	37.92	1118-1	3350-679	9.36	1118-2	3350-680	10.72
1019	1018-P	3350-556	23.52	1118-1	3350-679	9.36	1118-2	3350-680	10.72
1019-8	1018-M	3350-555	37.92	1118-1	3350-679	9.36	1118-2	3350-680	10.72
1020	1018-P	3350-556	23.52	1118-1	3350-679	9.36	1118-2	3350-680	10.72
1020-8	1018-M	3350-555	37.92	1118-1	3350-679	9.36	1118-2	3350-680	10.72
1022-8	P1022-11	3351-360	71.32	P1022-18	3351-364	16.22	-	-	-
1022-10	P1022-12	3351-361	97.26	P1022-20	3351-365	18.70	-	-	-
1120-8	P1120-19	3351-362	36.90	P1120-17	3351-366	34.28	-	-	-
1122-8	P1155-1	3351-363	121.64	P1121-1	3351-367	38.74	-	-	-
(20 MICRON)									
S-1144	1152	3350-706	10.37	1144-1	3350-695	6.16	-	-	-
1144 M	1152-1	3350-707	16.96	1144-1	3350-695	6.16	-	-	-
1144-2	1152	3350-706	10.37	1144-1	3350-695	6.16	-	-	-

REPAIR PARTS						
COALESCING FILTER PART NO.	BOWL KIT	ORDER NO.	PRICE EACH	FILTER	ORDER NO.	PRICE EACH
1035	1018-M	3350-555	\$37.92	P1035-1	3351-368	\$30.26
1036	1018-M	3350-555	37.92	P1035-1	3351-368	30.26
1037	1018-M	3350-555	37.92	P1035-1	3351-368	30.26
1037-8	P1022-11	3351-360	71.32	P1037-5	3351-369	60.06

## Mid-Size & Heavy Duty Regulators

The Milton heavy duty and mid-size RELIEVING TYPE regulators offer stable downstream air pressure over a wide range of air flows with accurate control, fast response and minimal pressure drop. Offset 1/4" gage ports can also serve as two 1/4" supply lines, allowing up to three regulated full flow out ports. Gage not included, but available as an accessory.

**WARNING: REGULATORS SHOULD ALWAYS BE PRECEDED BY A FILTER TO ELIMINATE DAMAGE TO THE UNIT OR INACCURATE AIR FLOW.**



REPAIR KITS						
REG. PART NO.	DIAPHRAGM KIT	ORDER NO.	PRICE EACH	VALVE KIT	ORDER NO.	PRICE EACH
1113	1113-17	3350-672	\$9.87	P1113-18	3351-370	\$19.46
1113-8	1113-17	3350-672	9.87	P1113-18	3351-370	19.46
1114	1113-17	3350-672	9.87	P1113-18	3351-370	19.46
1114-8	1113-17	3350-672	9.87	P1113-18	3351-370	19.46
1115	1113-17	3350-672	9.87	P1113-18	3351-370	19.46
1115-8	1113-17	3350-672	9.87	P1113-18	3351-370	19.46
1026	1113-17	3350-672	9.87	P1026-18	3351-371	14.98
1026-8	1113-17	3350-672	9.87	P1026-18	3351-371	14.98
1027	1113-17	3350-672	9.87	P1026-18	3351-371	14.98
1027-8	1113-17	3350-672	9.87	P1026-18	3351-371	14.98
S-1145	P1145-10	3351-372	12.52	P1145-12	3351-373	22.84
S-1146	P1145-10	3351-372	12.52	P1145-12	3351-373	22.84
1145-2	P1145-10	3351-372	12.52	P1145-12	3351-373	22.84

- Inlet pressure: 250 PSI
- Operating temperature: 40° F to 120° F
- Aluminum die-cast body
- Buna-N diaphragm and O rings
- Balanced piston, molded rubber seat

MID-SIZE & HEAVY DUTY REGULATORS								
PART NO.	NPT	ORDER NO.	PRICE EACH	MAX. SCFM	OP. RANGE PSI	MAX INLET PSI	GAGE PORT NPT	TEMP. OP. RANGE
1113	1/4"	3350-669	\$ 39.44	50	5-125	250	1/4"	40°F-120°F
1113-8	1/4"	3350-671	43.04	50	10-250	250	1/4"	40°F-120°F
1114	3/8"	3350-673	39.44	80	5-125	250	1/4"	40°F-120°F
1114-8	3/8"	3350-675	43.04	80	10-250	250	1/4"	40°F-120°F
1115	1/2"	3350-676	49.36	100	5-125	250	1/4"	40°F-120°F
1115-8	1/2"	3350-678	53.60	100	10-250	250	1/4"	40°F-120°F
1026	3/4"	3350-565	64.48	220	5-125	250	1/4"	40°F-120°F
1026-8	3/4"	3350-566	68.77	220	10-250	250	1/4"	40°F-120°F
1027	1"	3350-567	87.92	250	5-125	250	1/4"	40°F-120°F
1027-8	1"	3350-568	95.12	250	10-250	250	1/4"	40°F-120°F
S-1145	1/4"	3350-698	24.32	25	5-125	250	1/8"	40°F-120°F
S-1146	1/4"	3350-702	23.04	25	0-60	250	1/8"	40°F-120°F
1145-2	1/8"	3350-701	24.32	25	5-125	250	1/8"	40°F-120°F

## Precision Lubricators

Ideal for the customer who wants trouble-free protection and tamper proof reliability. Drop style allows precise setting and then removal of adjustment knob. Perfect for lubrication of air motors, tools, valves or where low air flow is encountered or where extremely fine adjustments are necessary.

**WARNING: POLYCARBONATE BOWLS CAN BE CHEMICALLY ATTACKED AND RUPTURE. CHECK INSTRUCTION SHEET WITH EACH LUBRICATOR FOR LIST OF KNOWN HARMFUL CHEMICALS.**

- Sight glass dome on drop type allows observation for instant drip rate adjustment
- Tamper proof
- Lubricator may be filled without shutting down line pressure
- Oil supply tube check valve guarantees INSTANT START-UP LUBRICATION
- Low pressure drop at full air flow
- Oil delivered at an air flow as low as 2 SCFM



PRECISION LUBRICATORS									
PART NO.	NPT	ORDER NO.	PRICE EACH	BOWL TYPE	BOWL CAPACITY	MAX. SCFM	MAX INLET PSI	TEMP. OP. RANGE	TYPE
1028	1/4"	3350-569	\$49.12	POLY W/ GUARD	5 OZ	16	150	40°F-125°F	DROP
1028-8	1/4"	3350-571	54.88	METAL	6 OZ	16	200	40°F-160°F	DROP
1029	3/8"	3350-574	49.60	POLY W/ GUARD	5 OZ	82	150	40°F-125°F	DROP
1029-8	3/8"	3350-576	55.04	METAL	6 OZ	82	200	40°F-160°F	DROP
1030	1/2"	3350-577	49.60	POLY W/ GUARD	5 OZ	142	150	40°F-125°F	DROP
1030-8	1/2"	3350-579	55.04	METAL	6 OZ	142	200	40°F-160°F	DROP
1031-8	1/2"	3350-580	64.56	METAL	9 OZ	142	200	40°F-160°F	DROP
1131-9	3/4"	3350-684	81.52	METAL	10 OZ	142	250	40°F-160°F	DROP
1131-10	3/4"	3350-685	140.96	METAL	20 OZ	142	250	40°F-160°F	DROP
1132-8	1"	3350-686	108.64	METAL	29 OZ	175	250	40°F-160°F	WICK
S-1150	1/4"	3350-703	39.36	POLY	1 OZ	16	150	40°F-120°F	DROP
1150 M	1/4"	3350-705	43.12	METAL	1 OZ	16	150	40°F-120°F	DROP
1150-1	1/8"	3350-704	43.12	METAL	1 OZ	16	150	40°F-120°F	DROP

REPAIR PARTS			
LUBRICATOR PART NO.	BOWL KIT	ORDER NO.	PRICE EACH
1028	1028-P	3350-573	\$22.32
1028-8	1028-M	3350-572	35.04
1029	1028-P	3350-573	22.32
1029-8	1028-M	3350-572	35.04
1030	1028-P	3350-573	22.32
1030-8	1028-M	3350-572	35.04
1031-8	P1031M	3351-374	59.12
1131-9	P1131-18	3351-375	71.32
1131-10	P1131-19	3351-376	97.26
1132-8	P1155-2	3351-377	127.20
S-1150	1152	3350-706	10.37
1150 M	1152-1	3350-707	16.96
1150-1	1152-1	3350-707	16.96

## Piggyback Filter/Regulator

Piggyback duo has the features of the standard regulator, plus the space saving convenience of a combined filter. Gage not included, but available as an accessory.

- Non-rising adjustment
- 3 position knob lock/adjust/remove

FILTER/REG. PART NO.	BOWL KIT	REPAIR PARTS		FILTER	ORDER NO.	PRICE EACH
		ORDER NO.	PRICE EACH			
1109	P1109 M	3351-378	\$71.16	P1110-9	3351-379	\$18.06
1110	P1109 M	3351-378	71.16	P1110-9	3351-379	18.06
1111	P1109 M	3351-378	71.16	P1110-9	3351-379	18.06
S-1142	1152	3350-706	10.37	1144-1	3350-695	6.16
1142-1	1152	3350-706	10.37	1144-1	3350-695	6.16



1109

### PIGGYBACK FILTERS/REGULATORS

PART NO.	NPT	ORDER NO.	PRICE EACH	BOWL TYPE	BOWL CAPACITY	MAX. SCFM	OPEN RANGE PSI	MAX INLET PSI	TEMP. OP. RANGE	FILTER ELEMENT (MICRON)	AUTO OVERN'T DRAIN
1109	1/4"	3350-663	\$81.12	METAL	6 OZ	50	2-125	200	40°F-160°F	40	YES
1110	3/8"	3350-665	81.52	METAL	6 OZ	80	2-125	200	40°F-160°F	40	YES
1111	1/2"	3350-667	81.76	METAL	6 OZ	100	2-125	200	40°F-160°F	40	YES
S-1142	1/4"	3350-691	53.28	POLY	1 OZ	25	0-125	150	40°F-120°F	20	YES
1142-1	1/8"	3350-692	59.04	METAL	1 OZ	25	0-125	150	40°F-120°F	20	YES

## Deluxe F-R Duo

- Factory assembled
- Automatic overnight drains
- Relieving regulator
- Complete with gage #1191
- 40 micron filter element
- Outlet pressure range: 2-125 PSI
- Temperature range: 40° F to 150° F



1106

## Deluxe F-R-L Trios

- Filter has automatic overnight drain
- Relieving regulator, drop style lubricator
- Complete with gage #1191
- 40 micron filter element
- Outlet pressure range: 2-125 PSI
- Temperature range: 40° F to 150° F



1100

### DELUXE F-R DUO

MILTON PART. NO.	NPT	BOWL TYPE	MAX SCFM	MAX PSI	ORDER NO.	PRICE EACH
1106	1/4"	Poly with metal guard	48	150	3350-660	\$97.28
1107	3/8"	Poly with metal guard	75	150	3350-661	97.28
1108	1/2"	Metal bowl	100	250	3350-662	110.40

### DELUXE F-R-L TRIOS

MILTON PART. NO.	NPT	BOWL TYPE	FACTORY ASSEMBLED	MAX SCFM	MAX PSI	ORDER NO.	PRICE EACH
1100	1/4"	Poly with metal guard	Yes	150	16	3350-657	\$142.32
1101	3/8"	Poly with metal guard	Yes	150	80	3350-658	142.32
1102	1/2"	Metal bowl	No	250	100	3350-659	167.84

## Deluxe Mini F-R-L Trio



S-1140

When space is a problem we recommend the mini filter-regulator-lubricator which offers most of the same features as our full size units. Comes pre-assembled with 0-160 PSI gage (#1189). Length: 5 1/4" x height: 6 1/2". Maximum SCFM 20.

MILTON PART. NO.	DESCRIPTION	ORDER NO.	PRICE EACH
S-1140	1/4" NPT Filter, Regulator, Lubricator	3350-690	\$97.44

## Pressure Gages

Milton high quality dry gages for reliable service with compressors, filters-regulators-lubricators, air lines, pneumatic tools & equipment.

- Resistant to heat, corrosion, water, salt water, and oil
- Can be used in steam applications if less than 120° F
- Brass mechanism. ABS case. Polycarbonate lens
- Maximum working pressure: Should be limited to 75% of dial range
- Maximum working temperature: -13° F to +120° F



1193

MILTON PART. NO.	NPT	MOUNT	PSI RANGE	FACE	ORDER NO.	PRICE EACH
1188	1/8"	Mini center back	0-60 PSI	1 1/2"	3350-724	\$12.24
1189	1/8"	Mini center back	0-160 PSI	1 1/2"	3350-725	12.24
1190	1/4"	Center back	0-60 PSI	2"	3350-726	10.96
1191	1/4"	Center back	0-160 PSI	2"	3350-727	10.96
1192	1/4"	Center back	0-300 PSI	2"	3350-728	10.96
1193	1/4"	Bottom	0-60 PSI	2"	3350-729	10.96
1194	1/4"	Bottom	0-160 PSI	2"	3350-730	10.96
1195	1/4"	Bottom	0-300 PSI	2"	3350-731	10.96

## Compressor Pressure Switches

Furnas universal pressure switches are suitable to replace pressure switches on compressors up to: 2 HP @ 120V 1 phase, 3 HP @ 240V 1 phase or 5 HP @ 240V 3 phase. Combination terminals can be used with quick connects (slip on terminals) or standard screw terminals. Auto-off disconnect lever and rotating unloader valve for applications requiring these modifications. Four 1/4" NPT female port manifold complete with plugs. UL listed, CSA certified. Switches are in displayable packaging.

S-1060 PRESSURE SWITCH 95-125 PSI  
Order No. 3350-591 ...Price Each: \$46.16

S-1062 PRESSURE SWITCH 140-175 PSI  
Order No. 3350-592 ...Price Each: \$46.72



S-1060

## Pneumatic Exhaust Mufflers

Muffler-filters use a porous sintered bronze, bonded to a copper plated steel pipe threaded fitting. These 40 micron exhaust mufflers diffuse air and muffle noise from exhaust ports of air tools, cylinders and valves to an acceptable OSHA noise requirements.



S-1086-2

- Maximum operating pressure: 300 PSI
- Operating temperatures: 40° F to 300° F

Ctn. Qty.: 5

MILTON PART. NO.	SIZE	LENGTH	HEX	WEIGHT (LBS.)	CTN. QTY.	ORDER NO.	PRICE EACH
S-1086-2	1/8" NPT	1 1/8"	7/16"	.02	5	3350-603	\$4.03
S-1086-4	1/4" NPT	1 3/8"	9/16"	.04	5	3350-606	4.35
S-1086-6	3/8" NPT	1 1/2"	9/16"	.05	5	3350-609	5.60
1086-8	1/2" NPT	1 7/8"	7/8"	.10	-	3350-611	5.36

## ASME Coded Safety Valves



S-1090-70

Valves are manufactured to ASME standards and certified by the national board of boiler and pressure vessel inspectors. Bubble tight to 10% of set pop-off pressure. Milton ASME safety valves are interchangeable with all other ASME valves of same size and pressure. 2" length.

MILTON PART. NO.	MALE NPT	POP-OFF PRESSURE	AIR FLOW POP-OFF PSI	ORDER NO.	PRICE EACH
S-1090-70	1/4"	70 PSI	70 CFM	3350-621	\$10.51
S-1090-125	1/4"	125 PSI	120 CFM	3350-623	10.51
S-1090-150	1/4"	150 PSI	140 CFM	3350-625	10.51
S-1090-200	1/4"	200 PSI	170 CFM	3350-627	10.51

## Full Port Brass Ball Valves

These high capacity ball valves are designed for use with compressed air, water or oil to isolate segments of the system without disrupting service to the rest of the system. All brass body with plated steel ball, teflon seals, plated 1/4 turn handle.



S-1094-4

- Maximum working pressure air, water, oil: 400 PSI
- Maximum working pressure steam: 150 PSI
- Temperature: -20° F to 350° F

MILTON PART. NO.	FEM. X FEM NPT	BODY LENGTH	MAX PRESSURE AT 210° F (PSI)	ORDER NO.	PRICE EACH
S-1094-4	1/4" x 1/4"	1 3/4"	280	3350-642	\$10.56
S-1094-6	3/8" x 3/8"	1 3/4"	260	3350-644	11.44
S-1094-8	1/2" x 1/2"	2 1/2"	250	3350-646	12.16
1094-12	3/4" x 3/4"	2 1/2"	220	3350-647	16.48
1094-16	1" x 1"	3 1/4"	190	3350-648	23.52

## Breather Vents

Offer vacuum relief or pressure equalization on gear boxes, oil tanks or reservoirs. Prevents dirt and particles from entering open ports. 40 micron units have standard pipe thread for quick assembly or removal.

- Maximum working pressure: 150 PSI
- Operating temperatures: 35° F to 300° F

MILTON PART. NO.	MALE NPT SIZE	CTN. QTY.	ORDER NO.	PRICE EACH
1088-2	1/8"	10	3350-613	\$1.60
S-1088-4	1/4"	10	3350-615	2.18
S-1088-6	3/8"	5	3350-617	2.86
S-1088-8	1/2"	5	3350-619	3.65



S-1088-6



Milton "safety" blo-guns in this section meet OSHA requirements of special relief holes in nozzle which limits pressure to 30 PSI when dead ended (static pressure). 2  
 For use on regulated compressed air lines maximum PSI 150. Always use personal protective equipment such as safety goggles and ear protection.

## Safety Button Blo-Gun

Compact hand held unit can be used anywhere with compressed air. Streamlined comfort fit and full volume control. Many uses such as cleaning fuel and oil lines, or air cleaners, drying out wet ignition systems and spark plugs or blowing out dirt filings and metal chips.

- Maximum working pressure: 150 PSI
  - Maximum nozzle pressure: 30 PSI when dead ended
  - SCFM 11.4 @ 100 PSI
  - 1/4" NPT air inlet, nozzle thread 5/16"-24
  - Zinc die cast body
  - OSHA compliant
- Ctn. Qty.: 10

**S-107 SAFETY BUTTON BLO-GUN**

Order No. 3350-012...Price Each: \$6.38



S-107

## Compact Safety Lever Blo-Gun

Compact and versatile blo-gun comes with both a safety nozzle and rubber tip nozzle. Hang-up hook for easy storage. Ctn. Qty.: 10

- Maximum working pressure: 150 PSI
- SCFM 11.7 @ 100 PSI safety-tip
- SCFM 12.9 @ 100 PSI rubber tip
- 1/4" NPT air inlet
- Zinc die-cast body
- OSHA compliant with safety tip only

**S-148 COMPACT SAFETY LEVER BLO-GUN**

Order No. 3350-030...Price Each: \$6.67



S-148

## Adjustable Aluminum Pocket Blo-Guns

Easy grip two finger control to adjust from full volume air flow to complete shut off. Knurled grip for secure handling even with oily or greasy fingers. Always keep one handy with included shirt pocket clip. 4 different models to fit popular coupler interchange styles.

- Maximum inlet pressure: 150 PSI
  - SCFM 15.9 @ 100 PSI
- Ctn. Qty.: 10

**S-115 M-style** Fits M-style or any 1/4" Industrial style coupler

Order No. 3350-016...Price Each: \$4.96

**S-116 A-style** Fits A-style or any 1/4" Aro 210 style coupler

Order No. 3350-018...Price Each: \$4.96

**S-117 T-style** Fits T-style or any 1/4" Tru-Flate/Parker style coupler

Order No. 3350-019...Price Each: \$4.96

**S-118 L-style** Fits L-style or any 1/4" Lincoln style coupler

Order No. 3350-020...Price Each: \$5.63



S-115

S-116

S-117

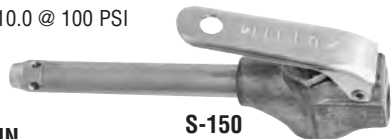
S-118

## Full-Flow Safety Lever Blo-Gun

- Maximum working pressure: 150 PSI
  - SCFM 10.0 @ 100 PSI
  - 1/4" NPT air inlet, nozzle thread size: 7/16"-27
  - Body outlet thread size 1/2"-27
  - OSHA compliant
- Ctn. Qty.: 10

**S-150 FULL FLOW SAFETY LEVER BLO-GUN**

Order No. 3350-034...Price Each: \$9.33



S-150

## Rubber Tip Blo-Guns

- 1/4" NPT air inlet. Rubber tip

**S-153 LEVER BLO-GUN**

Order No. 3350-041...Price Each: \$9.90

- 1/4" NPT air inlet.

- Rubber tip. 45° bent tube is ideal for automatic transmissions

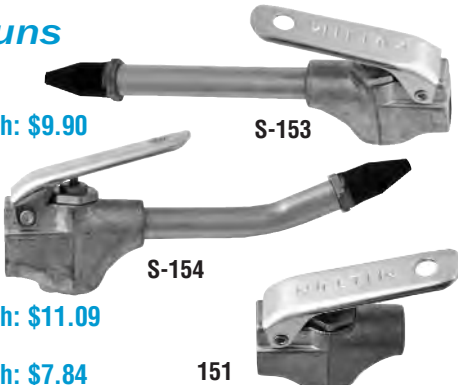
- Maximum working pressure: 150 PSI
- SCFM 11.4 @ 100 PSI

**S-154 LEVER BLO-GUN** Ctn. Qty.: 5

Order No. 3350-043...Price Each: \$11.09

**151 CONTROL VALVE** Ctn. Qty.: 10

Order No. 3350-036...Price Each: \$7.84



S-153

S-154

151

## Siphon Spray Blo-Gun

Excellent for degreasing engines, garage bays and parts, spraying live stock, plants and flowers. Perfect for rust proofing tools and machinery and lubricating parts and engines. Kit comes complete with #156 siphon blo-gun, 8' of tubing, and displayable vinyl storage pouch.

**S-156 SIPHON SPRAY BLO-GUN**

Order No. 3350-045

Price Each: \$12.35

Ctn. Qty.: 5



S-156

- Maximum working pressure: 150 PSI

- SCFM 14.0 @ 100 PSI

- 1/4" NPT air inlet

**S-157 SIPHON SPRAY BLO-GUN KIT**

Order No. 3350-046

Price Each: \$17.31



S-157

## Pistol Grip Blo-Gun

Pistol style multi use blo-gun.

Accepts Milton #122, 6" ext. and #123, 10" ext.

- Maximum working pressure: 150 PSI
- SCFM 10.0 @ 100 PSI

- 1/4" NPT air inlet
- Nozzle thread 1/8"-27 NPS

- Zinc die-cast, chrome plated body
- Ctn. Qty.: 5

**S-160 PISTOL GRIP BLO-GUN**

Order No. 3350-051...Price Each: \$14.56



S-160

## Lever Hook Blo-Gun

- Max. working pressure: 150 PSI
  - Max. nozzle pressure: 30 PSI when dead ended
  - SCFM 10.6 @ 100 PSI
  - 1/4" NPT air inlet, nozzle thread 1/8"-27
  - Zinc die cast body, steel plated handle
  - OSHA compliant
- Ctn. Qty.: 5

**S-120 LEVER HOOK BLO-GUN**

Order No. 3350-022...Price Each: \$9.81



S-120

## Brass Extensions

Fits most blo-guns with nozzle thread of 1/8" NPS including Milton numbers 120, S 120, S160

**122 - 6" BLO-GUN EXTENSION**

No. 3350-024 Price: \$8.29

**123 - 10" BLO-GUN EXTENSION**

No. 3350-025 Price: \$10.35



## Comfort Grip Blo-Guns

Comfort grip squeeze handle allows variable air volume. Built in hang-up hole allows for easy storage. Angled brass nozzle allows easy access to hard to reach areas.

- Maximum working pressure: 142 PSI
- SCFM 11.4 @ 100 PSI

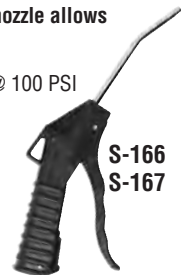
- 1/4" NPT air inlet
  - Plastic body
- Ctn. Qty.: 5

**S-166 COMFORT GRIP BLO-GUN, 4" EXTENSION**

Order No. 3350-055...Price Each: \$11.68

**S-167 COMFORT GRIP BLO-GUN, 10" EXTENSION**

Order No. 3350-056...Price Each: \$12.32



S-166

S-167

Adjustable air flow regulator allows variable air volume. Rubber tip won't mar delicate surfaces. Built in hang-up hook allows for easy storage.

- Maximum working pressure: 110 PSI

- 4" extension
- SCFM 13 @ 90 PSI

- 1/4" NPT brass air inlet
- Plastic body

Ctn. Qty.: 5

**S-174 RUBBER TIP BLO-GUN**

Order No. 3350-061...Price Each: \$11.31



S-174

## Safety Extension Blo-Gun

OSHA approved multi-punction blo-gun comes with a safety nozzle and rubber tip nozzle. Extension is bent to access hard to reach areas such as motors, machinery, transmissions, combines, and hidden areas . Display packed.

S-158 2' EXTENSION BLO-GUN

Order No. 3350-047

Price Each: \$18.80



S-158

S-158 4' EXTENSION BLO-GUN

Order No. 3350-049 Price Each: \$22.56

## Rubber Tip For Blo-Guns

For use where leak-proof connection is required when blowing out fluid lines. O-ring seals create an air-tight connection. A must where metal tip could mar delicate finish in molds or paint. Dual thread design permits use on all blo-guns with 7/16"-27 and 1/8" NPS

S-152 RUBBER BLO-GUN TIP

Order No. 3350-038

Price Each: \$2.85



## Window Inflator Gage

Heavy duty construction provides long service life even with constant use. Gage cartridge and valve cartridge replaceable. All window inflator gages equipped with magnifying lens for full view of scale.

Model 501: For high pressure truck tires. 10 lbs. to 160 lbs., in 2 lb. increments. Gage complete with a 5' hose with dual head straight foot chuck for innerduals with lock on threads both ends (full swivel). Built in deflator to relieve excess pressure. Meets OSHA regulation No. 1910.177 on inflation.

Model 501 WINDOW INFLATOR GAGE

Order No. 3350-173 Price Each: \$59.68



## Truck Inflator Gage With 15' Hose

Newer steel belted sidewall tires on trucks present a potential danger during inflation. Milton's NEW 501 inflator keeps the technician 15' out of harm's way. Heavy duty construction provides long service life even with constant use. Gage & valve cartridges are replaceable. All window inflator gages equipped with magnifying glass for full view of scale.

- 15' hose, 10 -160 PSI
- Built in deflator to relieve excess pressure
- Dual foot locking chuck
- Heavy duty construction
- Magnifying lens
- Unit pack qty. - 1, wt. 4 lbs.



98-A1-501 TRUCK INFLATOR GAGE

WITH 15' HOSE

Order No. 3350-174 Price Each: \$74.08

## Filler Faucets

Easy operation and smooth flow due to long flexible rubber spout with lever control. Heavy duty, ruggedly built with stainless steel springs. Operating pressure: standard municipal (city) water Pressure 30 - 35 psi, nitrile rubber, zinc alloy body 209 FEMALE 1/4" NPT THREAD

Order No. 3350-066 Price Each: \$11.52



## Window Inflator Gage Replacement Parts

OSHA approved multi-punction blo-gun comes with a safety nozzle and rubber tip nozzle. Extension is bent to access hard to reach areas such as motors, machinery, transmissions, combines, and hidden areas . Display packed.

507 REPLACEMENT GAGE CARTRIDGE

Order No. 3350-182

Price Each: \$12.24



507 HOSE WHIP ASSEMBLY COMPLETE

Order No. 3350-185

Price Each: \$11.20



512 REPLACEMENT VALVE CARTRIDGE

Order No. 3350-188

Price Each: \$6.96



## Repair Parts For Inflator Gages

OSHA approved multi-punction blo-gun comes with a safety nozzle and rubber tip nozzle. Extension is bent to access hard to reach areas such as motors, machinery, transmissions, combines, and hidden areas . Display packed.

500-4 DUAL HEAD CHUCK

(Free flowing for tire gages only)

Order No. 3350-169

Price Each: \$2.88



500-6 STANDARD SIZE WASHER

(For dual head chuck & straight head chuck)

Order No. 3350-170

Price Each: \$0.29



500-6 STANDARD SIZE WASHER

(For single head chuck)

Order No. 3350-171

Price Each: \$0.29

## Brass Hose Ferrules

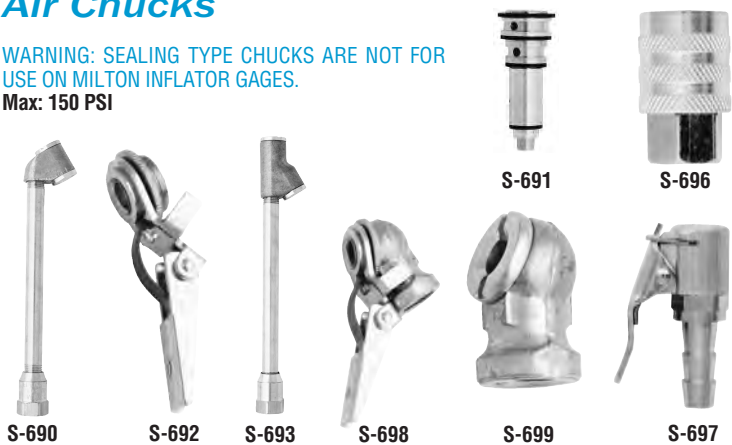
Economical and dependable brass ferrules to make custom hose assemblies. Refer to chart to choose ferrules required for custom sizes.



MILTON PART. NO.	SIZE	HOSE OD	ORDER NO.	PRICE EACH
1654-2	1" x .525 ID	1/2	3350-838	\$0.42
1654-3	1" x .562 ID	9/16	3350-840	0.43
1654-4	1" x .593 ID	19/32	3350-842	0.43
1654-5	1" x .625 ID	5/8	3350-844	0.45
1654-6	1" x .656 ID	21/32	3350-846	0.46
1654-7	1" x .687 ID	11/16	3350-848	0.46
1654-8	1" x .718 ID	23/32	3350-850	0.51
1654-9	1" x .750 ID	3/4	3350-852	0.51
1654-12	1" x .900 ID	7/8	3350-854	0.51

## Air Chucks

WARNING: SEALING TYPE CHUCKS ARE NOT FOR USE ON MILTON INFLATOR GAGES.  
Max: 150 PSI



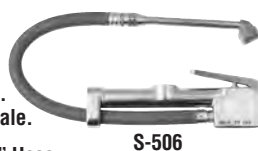
MILTON PART. NO.	DESCRIPTION	SIZE	ORDER NO.	PRICE EACH
S-690	Dual Head	1/4" female NPT	3350-362	\$5.68
S-691	Straight Head	1/4" female NPT	3350-364	0.00
S-692	Safety Grip Chuck Clip: fits all standard single head air chucks		3350-365	4.67
S-693	Dual Head Straight Foot, for inner duals, ends lock on threads	1/4" female NPT	3350-367	8.16
S-696	Kwik-Grip Safety Chuck	1/4" NPT	3350-372	7.52
S-697	Euro Style Chuck Clip	1/4" ID hose barb	3350-374	11.39
S-698	Chuck Clip w/Female Chuck	1/4" NPT	3350-376	6.32
S-699	Female Single Head Chuck	1/4" NPT	3350-379	1.86

Ctn. Qty.: 10

## Inflator Gage (Window)

Heavy-duty construction provides long service life, even with constant use. Gage/valve cartridges replaceable. All gages equipped with magnifying lens for full view of scale.

S-506 Gage Complete, Dual Head Chuck (Full Swivel), 15" Hose  
Order No. 3350-181...Price Each: \$38.34



## Dial Type Pressure Gages

Precision made, rugged bronze bourdon tube, 2" face with unbreakable lens, and easy to read dial. Pressure is indicated until release valve is depressed. Every gage is tested against master gages prior to packaging.

Ctn. Qty.: 5

• Angled single head chuck  
S-901 0-15 PSI in 1/2 lb increments.  
Order No. 3350-523...Price Each: \$18.24

• Angled single head chuck  
S-902 0-60 PSI in 1 lb increments.  
Order No. 3350-524...Price Each: \$18.24



## Mini Disposable Air Line Dessicant Filter/Dryer

Removes all traces of dirt, dust, water vapor, oil vapor. Unit ideal for spray guns and applications requiring clean supply of air. 3 3/4" x 1 1/2" size. Light weight 2 oz. Male & female 1/4" NPT ports. See through, non-metallic chemical resistant material. Replace unit when desiccant changes to pink in color.

• Maximum working pressure: 125 PSI  
• Maximum flow capacity: 15 SCFM  
• Working temperature: 32° F to 130° F (0° to 54° C)  
• 2/cd  
S-1173 MINI IN LINE DESICCANT DRYER  
Order No. 3350-718...Price Per Card: \$22.16



## Pencil Type Pressure Gages

Consumer tire gages are molded of rugged Delrin with strong flexible white NYLON INDICATOR BAR to provide long trouble free life with the same certified accuracy associated with all Milton tire gages. Always check tire pressure when tires are cold. (Ctn. Qty.: 10)



• Flat bar is marked 5 to 50 PSI in 1 lb increments on both sides.  
S-911 CAR TIRE GAGE FOR RADIAL AND CONVENTIONAL TIRES.  
Order No. 3350-529...Price Each: \$3.04

USA made tire gages provide accurate, long life with trouble free performance. Durable plated brass with 4 side nylon indicator bar. Always check tire pressure when tires are cold. (Ctn. Qty.: 10)



• 2 sides 2 to 20 PSI, in 1 lb increments and 2 sides 20 to 140 kPa, in 10 kPa units  
S-917 LOW PRESSURE GAGE IDEAL FOR USE ON ATV'S, GOLF CARTS AND AIR SPRINGS.  
Order No. 3350-535...Price Each: \$5.60



• PSI mini spare tire. Built in tire tread depth gage in 1/16" increments.  
• 2 sides 10 to 70 PSI in 2 lb increments and 2 sides 60 to 500 kPa in 10 kPa units  
S-920 HIGHER PRESSURE AUTOMOBILE TIRES, including 60  
Order No. 3350-536...Price Each: \$5.52



• 2 sides 5 to 50 PSI in 1 lb increments and 2 sides 40 to 350 kPa in 10 kPa units  
S-921 PASSENGER CAR TIRE GAGE FOR RADIAL & CONVENTIONAL TIRES.  
Order No. 3350-537...Price Each: \$4.64



• 2 sides 5 to 50 PSI in 1 lb increments and 2 sides 40 to 350 kPa in 10 kPa units  
• 1 lb increments and 2 sides 40 to 350 kPa in 10 kPa units  
S-923 STRAIGHT CHUCK CAR TIRE GAGE FOR RADIAL & CONVENTIONAL TIRES. Order No. 3350-538...Price Each: \$4.96



• 2 sides 20 to 120 PSI in 2 lb increments and 2 sides 120 to 820 kPa in 20 kPa units  
S-925 TRUCK, RV, BICYCLE TIRE GAGE.  
Order No. 3350-539...Price Each: \$4.80



• 2 sides 20 to 120 PSI in 2 lb increments 2 sides 120 to 820 kPa in 20 kPa units  
S-927 DUAL CHUCK TRUCK TIRE GAGE.  
Order No. 3350-540...Price Each: \$7.04



• 2 sides 5 to 50 PSI in 1 lb increments and 2 sides 40 to 350kPa in 10 kPa units  
S-928 TRACTOR TIRE GAGE FOR AIR/WATER FILLED TIRES.  
Order No. 3350-541...Price Each: \$6.64

## Service Gages

Milton precision engineered service gages provide accurate, long life trouble free performance. Plated brass tube and 4 sided nylon indicator bar. Calibrated 2 sides 10 to 160 PSI, in 2 lb increments and 2 sides 80 to 1100 kPa, in 20 kPa units. (Ctn. Qty.: 5)



S-976 DUAL HEAD CHUCK SERVICE GAGE  
Order No. 3350-543...Price Each: \$15.60



S-986 STRAIGHT FOOT DUAL HEAD CHUCK SERVICE GAGE FOR INNER STYLE DUALS  
Order No. 3350-545 ...Price Each: \$18.56



## Brass Hose Ends

Brass hose fittings packed 10 per Box. Skin cards bulk packed, fitting quantities check Milton price sheet. NPT=National Pipe Taper (Tapered Thread for general use)

Hose ID = Inside diameter of hose. Hose OD = Outside diameter of hose.



S-600

S-605

Ctn. Qty.: 10, 2/cd

MILTON PART. NO.	DESC.	HOSE ID	THREAD	CARD PACK	ORDER NO.	PRICE PER CARD
S-600	Male	1/4"	1/4" NPT	2	3350-206	\$1.81
S-601	Male	5/16"	1/4" NPT	2	3350-212	2.03
S-602	Male	3/8"	1/4" NPT	2	3350-215	2.03
S-603	Male	3/8"	3/8" NPT	2	3350-218	2.53
S-605	Female, non swivel	1/4"	1/4" NPT	2	3350-224	2.53
S-605-2	Female, non swivel	3/8"	1/4" NPT	2	3350-228	2.59

## Brass Male Full Swivel Fittings



Ctn. Qty.: 5

S-611-6

MILTON PART. NO.	HOSE ID	NPT THREAD	ORDER NO.	PRICE EACH
S-611-6	3/8"	1/4"	3350-240	\$ 3.30

## Brass Hose Menders



Ctn. Qty.: 10, 2/cd

S-640

MILTON PART. NO.	HOSE ID	CARD PACK	ORDER NO.	PRICE PER CARD
S-640	1/4" x 1/4"	2	3350-276	\$2.64
S-641	5/16" x 5/16"	2	3350-279	2.58
S-642	3/8" x 3/8"	2	3350-281	2.58

## Variable Angle Swivel Fittings

Fittings rotate 360° at a 45° angle in any direction virtually eliminating hose twisting and kinking. Rubber dust cover.

- Max. working pressure: 145 PSI
- Temp. range



S-99681-1

S-99681

S-99681-4

Ctn. Qty.: 5

SWIVEL FITTINGS				
PART NO.	NPT SIZE	CONNECTION	ORDER NO.	PRICE EACH
S-99681	1/4" Male NPT	1/4" Male	3351-347	\$5.92
S-99681-1	1/4" Female NPT	1/4" Male	3351-348	5.92
S-99681-4	1/4" M-Style Plug	1/4" Male	3351-351	5.92

## Full Swivel Hose Ends

Ctn. Qty.: 10

MILTON PART. NO.	MALE NPT SIZE	NPT OR ID	ORDER NO.	PRICE EACH
S-659	1/4"	1/4" NPT female swivel end	3350-331	\$ 6.29



S-659

## Reusable Brass Hose Fittings



S-617

Note: S-617 may be used with 5/16" hose.

Ctn. Qty.: 10

MILTON PART. NO.	DESCRIPTION	HOSE OD	HOSE ID	NPT	ORDER NO.	PRICE EACH
S-617	Male end	5/8"	1/4"	1/4"	3350-260	\$2.74
S-621	Male end	3/4"	3/8"	1/4"	3350-264	3.49

## Brass Fittings

Ctn. Qty.: 10, 2/cd

MILTON PART. NO.	DESC.	THREAD SIZE (NPT)	CARD PACK	ORDER NO.	PRICE PER CARD
S-643	Female	1/4" x 1/4"	2	3350-285	\$2.13
S-646	Male hex nipple	1/4" x 1/4"	2	3350-291	\$2.14



S-646

## Air Hose Swivel Connector

Attach portable air tools to air hose. 360° swivel in two places prevents hose kinking, and keeps the hose out of the way. Female pipe threads connect to most hose fittings and adapters. Not for use with percussion tools.



S-657-2

MILTON PART. NO.	DESC.	ORDER NO.	PRICE EACH
S-657	1/4" Swivel Connector	3350-320	\$ 8.69
S-657-1	3/8" Swivel Connector	3350-321	9.46
S-657-2	1/4" Swivel Connector w/Flow Control	3350-322	10.96

## 3-in-1 Air Manifolds

Supply 3 air tools from a single inlet. No need to disconnect and connect for every tool change. Sturdy and lightweight aluminum body.



S-685-4

MILTON PART. NO.	INLET NPT FEMALE	3 OUTLETS NPT FEMALE	ORDER NO.	PRICE EACH
S-685-4	1/4"	1/4"	3350-354	\$ 8.54
S-685-6	3/8"	1/4"	3350-356	8.99

## Drain Cocks

- Brass body • Steel handle

Ctn. Qty.: 10, 2/cd

MILTON PART. NO.	NPT	CARD PACK	ORDER NO.	PRICE PER CARD
S-614-2	1/8"	2	3350-246	\$ 2.45
S-614-4	1/4"	2	3350-249	2.82



S-614-2

## In-Line Air Flow Regulators

To regulate air pressure to air tools from full flow to complete shut-off. Use as shut-off valve for air and non-corrosive liquids.

- Maximum: 150 PSI
- SCFM 5 @ 100 PSI
- Temperature range: 40° F to 250° F

MILTON PART. NO.	FEMALE NPT	MALE NPT	ORDER NO.	PRICE EACH
S-638	1/4"	1/4"	3350-271	\$12.16
S-638-1	1/4"	1/4" w/gage	3350-272	21.28



S-638-1

## In-Line Lubricator

To lubricate pneumatic tools for full protection by accurately metering correct amount of oil. 1/2 oz capacity.

MILTON PART. NO.	MALE NPT SIZE	FEMALE NPT SIZE	ORDER NO.	PRICE EACH
S-639	1/4"	1/4"	3350-274	\$16.32



S-639



## Tank Valves

Attach portable air tools to air hose. 360° swivel in two places prevents hose kinking, and keeps the hose out of the way. Female pipe threads connect to most hose fittings and adapters. Not for use with percussion tools.

Ctn. Qty.: 10

MILTON PART. NO.	NPT	CARD PACK	ORDER NO.	PRICE PER CARD
S-684	1/8"	2	3350-349	\$2.53
S-684-4	1/4"	2	3350-352	3.84



S-684

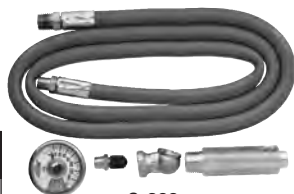
## Tank Conversion Kit

Do it yourself kit allows you to convert all no longer allowed R-12 freon tanks to portable air tanks.

**WARNING: NOT FOR PROPANE TANK CONVERSION.**

KIT contains: filler valve, gage, 4' air hose assembly, manifold, chuck

MILTON PART. NO.	DESC.	ORDER NO.	PRICE EACH
S-682	filler valve, gage, 4' air hose assembly, manifold, chuck	3350-342	\$23.31



S-682

## Driveway Signal

Completely self contained unit is easy to install and use just plug into any 110 volt electric outlet. Offers instant signal every time, operating with up to 300 feet of signal hose. For use at service stations, bank or restaurant drive up windows, or any drive up application where an attendant needs to be alerted.

805 DRIVEWAY SIGNAL BELL (6" diameter)  
Order No. 3350-516 Price Each: \$56.96



805

## Remote Control Air Switch, Signal Bell, Chime

Deluxe terminal box construction assures maximum sensitivity with long term performance. Weatherproof for use inside and outside. Easy connections with Barrier terminal strip and conduit openings for versatility in installation.

• Conduit type box construction for wall or conduit mounting. Burn out proof coil assures long service.

825 REMOTE CONTROL AIR SWITCH (use with any voltage from 6V to 220V, 10 amps maximum)  
Order No. 3350-518...Price Each: \$73.60

Requires Milton air switch #825

827 REMOTE CONTROLLED SIGNAL BELL (110V)  
Order No. 3350-519...Price Each: \$61.44

• Key slot opening in back makes installation easy. Tone is clear and melodious. Burn out proof coil assures long service.

• Requires Milton Air switch #825

830 REMOTE CONTROLLED CHIME (110V)  
Order No. 3350-520...Price Each: \$53.92



825



827



830

## Nylon Re-Koil Air Hose

Assembled with re-usable, full flow male NPT swivel fittings on both ends to avoid twisting and kinking. Individual display bag packaged. Resists abrasions.

- Maximum working pressure: 200 PSI @ 70° F
- Working temperature: -40° F to 180° F (-38° C to 82° C)
- Material: Equivalent to nylon 12
- Color: Yellow

MILTON PART. NO.	HOSE ID	LENGTH	SWIVEL MALE NPT	ORDER NO.	PRICE EACH
1667	1/4"	12'	1/4"	3350-856	\$12.40
1669	1/4"	25'	1/4"	3350-857	16.00
1670	1/4"	50'	1/4"	3350-861	28.56
1674	3/8"	25'	3/8"	3350-872	30.88



1669

## Swivel End Snubber Hose

Absorb shock to air couplers from impact tools and/or air hammers. Snubber hoses are fitted with a full 360° steel swivel fitting for greater flexibility and easier use.

- Burst pressure: 800 lbs.
- Maximum working pressure: 200 PSI

MILTON PART. NO.	HOSE ID	LENGTH	360° SWIVEL FITTING NPT	BRASS FITTING	ORDER NO.	PRICE EACH
S-680-1	1/4"	5'	Male 1/4"	Female 1/4"	3350-337	\$15.12
S-680-2	3/8"	30"	Male 1/4"	Female 1/4"	3350-338	11.94



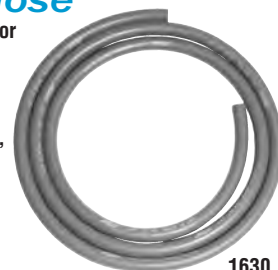
S-680-1

## EPDM 2 Braid Air Hose

Deluxe heavy duty EPDM rubber is designed for tough service station and shop applications. Kink resistant and flexible in extreme temperatures, resists abrasion, weathering and ozone. Assemblies coupled with brass fittings, bulk hose comes without fittings in either a dispensing box or handy reel. Individually boxed. Limited oil resistance.

- Maximum working pressure: 250 PSI
- Burst pressure: 1000 PSI
- Working temperature: -40° F to 190° F (-38° C to 87° C)
- Material: EPDM rubber tube & cover, spiral synthetic yarn reinforcement
- Color: Red

MILTON PART. NO.	HOSE ID	LENGTH	FITTINGS, NPT	ORDER NO.	PRICE EACH
1630	1/4"	25'	Male 1/4" both ends	3350-816	\$26.08
1631	1/4"	50'	Male 1/4" both ends	3350-820	47.97
1632	3/8"	25'	Male 3/8" both ends	3350-821	34.56
1633	3/8"	50'	Male 3/8" both ends	3350-825	63.97



1630

## 800 Series Accessories

Ctn. Qty.: 5  
819 HOSE ANCHOR (for 3/8" ID signal hose)  
Order No. 3350-517...Price Each: \$9.92

838 DELUXE DRIVEWAY SIGNAL HOSE SBR RUBBER (3/8" ID 50' length)  
Order No. 3350-521...Price Each: \$39.36

839 DELUXE DRIVEWAY SIGNAL HOSE SBR RUBBER (3/8" ID 300' reel)  
Order No. 3350-522...Price Each: \$205.92



819



838  
839

## 7.2V MultiPro Cordless Kit 7700-1/15



Ready to go on a minute's notice, this two-speed cordless tool is perfect for a variety of do-it-yourself jobs inside or out. Capable of doing almost anything the standard MultiPro does - except plug into an electrical outlet - you'll want to keep it charged up and handy at all times.

- Go anywhere convenience
- 7.2 Volts for general applications
- Two speeds 10,000 and 20,000 rpm to match the proper speed required
- Removable battery pack lets you use additional packs for continuous use
- 3-hour charger with LED light shows proper charging
- Compact and lightweight for easier handling and less fatigue
- Two-year warranty

### 7700-1/15 Kit Contains:

- 7.2V Cordless Rotary Tool • 3-Hour Battery Charger
- Lawn Mower and Garden Tool Sharpener
- Wrench • Instruction sheet • Plus 15 more accessories

**Order No. 3267-715 Price Each: \$55.45**

## Rotary Tool Kit 4000-2/30



The Dremel 4000 variable speed rotary tool offers the highest performance and most versatility of all Dremel rotary tools. The increased strength of its motor plus electronic feedback circuitry enables consistent performance at all speed levels. Dremel 4000 can use all existing Dremel accessories and attachments plus high-performance attachments to complete the widest range of projects. A slim, ergonomic body provides a 360-degree grip zone for comfort and control in any grip position.

### Kit Contains:

- Dremel 4000 High Performance Rotary Tool
- Circle Cutter/Straight Edge Guide
- Sanding/Grinding Guide
- Storage Case
- Includes 30 genuine Dremel accessories
- Quick Start Book

**Order No. 3264-030 Price Ea: 110.60**

## Rotary Tool Kit - 4000-6/50



The Dremel 4000 variable speed rotary tool offers the highest performance and most versatility of all Dremel rotary tools. The increased strength of its motor plus electronic feedback circuitry enables consistent performance at all speed levels. Dremel 4000 can use all existing Dremel accessories and attachments plus high-performance attachments to complete the widest range of projects. A slim, ergonomic body provides a 360-degree grip zone for comfort and control in any grip position.

### Kit Contains:

- Dremel 4000 High Performance Rotary Tool
- Planer attachment • Flex Shaft attachment
- Circle Cutter/Straight Edge Guide
- Sanding/Grinding Guide
- Multipurpose Cutting Guide attachment
- Detail Nose Piece
- Lawn Mower and Garden Tool Sharpening Attachment
- Storage Case • Quick Start Book
- Includes 50 genuine Dremel accessories

**Order No. 3264-034 Price Ea: \$190.30**

## 12VMax Lithium-Ion Cordless Rotary Tool Kit - 8220-1/28



The Dremel 8220 variable-speed cordless rotary tool offers the highest performance and versatility of all Dremel cordless rotary tools. The strength of its motor facilitates maximum performance at all speed levels. The ability to use all existing Dremel accessories and attachments let the Dremel 8220 complete a wide range of projects. A slim ergonomic body provides a 360-degree grip zone for control in any position. Powered by 12VMAX Lithium-ion battery technology, the Dremel 8220 has a 33% longer run-time than the Dremel 8200 cordless rotary tool when cutting screws.

- Can be used with all Dremel accessories and attachments
- Lithium-ion battery maintains charge up to 2 years while in storage
- 33% longer run time compared to the Dremel 8200 when cutting screws

### 8220-1/28 Kit Contains:

- 12V Cordless Rotary Tool
- 1-Hour Battery Charger
- Plus 16 more accessories

**Order No. 3268-220 Price Each: \$125.00**

## Flex Shaft Attachment Model 225-01

- Ideal for hard to reach places and fine detail work
- Quick connect attach system.
- 36" long cable with new 5" bend radius
- Comfort grip handle
- Integrated shaft lock button
- Holds up to 1/8" shank
- Works with collet system and Dremel chuck

**Order No. 3260-225 Price Each: \$31.60**

## Single Speed Rotary Tool Kit 100-N/7



- Ideal for sanding, carving, and drillin

### Set Includes:

- 100 Series Single Speed Rotary Tool
- 402 Mandrel
- 407 Coarse 1/2" Sanding Drum
- 415 Dressing Stone
- 420 Heavy Duty Emery Cut-Off Wheel
- 432 1/2" 120 Grit Sanding Band
- 932 Aluminum Oxide Grinding Stone
- 84922 Silicon Carbide Grinding Stone
- CORD LENGTH: 6' • SPEED: 35,000 rpm
- VOLTAGE: 120 AC, 50-60 Hz
- WARRANTY: 2 years

**Order No. 3260-098 Price:\$ 49.30**

## Variable-Speed Rotary Tool Kit 3000-1/24



- Rotary Tool
- Includes Storage Case and 24 Accessories
- Sanding/Grinding Guide Attachment
- EZ Twist™ nose cap with wrench for fast accessory changes
- Tool works with all Dremel accessories and attachments, except PL400 and MS400
- Variable speed from 5,000 to 32,000 RPM

- Cool-running ball bearing construction for smooth and quiet operation
- Replaceable motor brushes extend tool life
- Four year warranty

**Order No. 3263-001 Price Each: \$ 85.95**

## Cordless Two-Speed Rotary Tool Kit 7300-N/8



Designed for drilling, sanding, shaping, detailing and other light-duty jobs:

Can be used with any Dremel accessory bit with up to a 1/8" shank. Two speeds 6,500 and 13,000 rpm to match the proper speed required. Compact and lightweight for easy handling. Two-year warranty

**Order No. 3267-300 Price Each: \$ 33.70**

### 4.8V Battery Pack

- For use with model 7300-N/8

**Order No. 3267-551 Price Ea. \$ 17.70**



## Electric Engraver Model 290-01



### Contains:

- Engraver Tool • Carbide Point (9924)
- Letter/Number Template
- Engraves permanently on metal, wood, plastic, ceramics and more.
- Protect valuables, discourage theft.
- Perfect for hobbies and crafts.

**Order No. 3260-290 Price Each: \$21.60**

Extra CARBIDE Point for normal applications:

**Order No. 3269-924 Price Each: \$5.38**

Extra DIAMOND Point for Commercial Work:

**Order No. 3269-929 Price Each: \$16.58**





## Right Angle Attachment Model 575







- Enhances the versatility of the Dremel tool, by allowing use in hard-to reach areas
- Ball bearings and spiral bevel gears provide smooth and cool operation
- Coupling system allows orientation of attachment in 12 different directions
- Quick connect system easily attaches to rotary tool in place of the housing cap, no wrench required
- Compact, durable design, for hard-to reach places

**Order No. 3260-575 Price Each: \$23.10**




## Grinding/Sharpening Silicon Carbide Grinding Stones

 9/32" 7,1mm	 3/16" 4,8mm	 25/32" 19,8mm	 13/32" 10,3mm
Order No. 3263-142 Price Ea. \$2.30	Order No. 3264-922 Price Ea. \$2.30	Order No. 3265-422 Price Ea. \$2.30	Order No. 3269-952 Price Ea. \$2.30





## Aluminum Oxide Grinding Stones

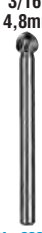



 3/8" 9,5mm	 1/4" 6,4mm	 3/8" 9,5mm	 1" 25,4mm
Order No. 3260-932 Price Ea. \$2.32	Order No. 3260-953 Price Ea. \$2.32	Order No. 3260-952 Price Ea. \$2.32	Order No. 3268-215 Price Ea. \$2.30

## Cut-Off Wheels

 15/16" 23,8 mm .025"thickness 36 per pack	 15/16" 23,8 mm .040"thickness 20 per pack	 1-1/4" 31,8 mm .045"thickness 5 per pack
Order No. 3260-409 Price/Pk. \$4.83	Order No. 3260-420 Price/Pk. \$5.25	Order No. 3260-426 Price/Pk. \$7.02

## Carving/Engraving

 5/16" 7,9mm	 1/4" 6,4mm	 1/4" 6,4mm	 1/4" 6,4mm
Order No. 3260-115 Price Ea. \$4.62	Order No. 3260-117 Price Ea. \$4.62	Order No. 3260-121 Price Ea. \$4.62	Order No. 3260-125 Price Ea. \$4.62

 3/16" 4,8mm	 1/8" 3,2mm	 3/8" 9,5mm	 3/32" 2,4mm
Order No. 3260-192 Price Ea. \$4.62	Order No. 3260-194 Price Ea. \$4.62	Order No. 3260-199 Price Ea. \$4.62	Order No. 3260-107 Price Ea. \$2.32


## Structured Tooth Tungsten Carbide Cutters

 1/4" 6,4mm	 5/16" 7,9mm	 5/16" 7,9mm
Order No. 3269-931 Price Ea. \$12.12	Order No. 3269-933 Price Ea. \$12.12	Order No. 3269-935 Price Ea. \$12.12

## Cleaning/Polishing

 1/2" 6 per pk.	 3/8" Felt	 1" Felt	 Emery Polishing Wheel
Order No. 3260-414 Price Ea. \$2.33	Order No. 3260-422 Price Ea. \$2.33	Order No. 3260-429 Price Ea. \$2.33	Order No. 3260-425 Price Ea. \$2.30




## Bristle Brushes

 3/4" 19,1mm	 1/2" 12,7mm
Order No. 3260-403 Price Ea. \$2.30	Order No. 3260-404 Price Ea. \$2.30


## C.S. Bristle Brushes

 13/32" 10,3mm	 9/32" 7,1mm	 3/16" 4,8mm
Order No. 3260-428 Price Ea. \$2.32	Order No. 3260-442 Price Ea. \$2.32	Order No. 3260-443 Price Ea. \$2.32

## Tungsten Carbide Cutters

 1/8" 3,2mm	 1/8" 3,2mm	 1/8" 3,2mm
Order No. 3269-901 Price Ea. \$8.62	Order No. 3269-903 Price Ea. \$8.62	Order No. 3269-909 Price Ea. \$8.62

## Sanding

 1/4"	 1/2"	 1/2" 60 Grit 6 per pk.	 1/2" 120 Grit 6 per pk.	 fine 240 Grit 36 per pk.
Order No. 3260-430 Price Ea. \$3.10	Order No. 3260-407 Price Ea. \$3.13	Order No. 3260-408 Price/Pk. \$2.32	Order No. 3260-432 Price/Pk. \$2.32	Order No. 3260-413 Price/Pk. \$2.57










## Flapwheels

 3/8" 9,5mm 80 Grit	 3/16" 4,8mm 120 Grit
Order No. 3260-502 Price Ea. \$5.67	Order No. 3260-505 Price Ea. \$5.67



## Collets & Chucks

 1/8" 3,2mm	 1/8" 3,2mm	 1/32" 0,8mm
Order No. 3264-486 Price Ea. \$9.60	Order No. 3260-480 Price Ea. \$2.30	Order No. 3260-483 Price Ea. \$2.30

## EZ Lock™ Mandrels/Wheels

 EZ Lock Mandrel	 1" Cloth	 1-1/2" Diamond Wheel	 1-1/2" Cutoff Wheel-Thin Cut 5 per pk.	 1-1/2" Cutoff Wheel-Metal 5 per pk.	 Abrasive Buffs 2 per pk. 180/280 grit	 Detail Abrasive Brush - Coarse 36 grit	 Detail Abrasive Brush - Medium 120 grit	 Detail Abrasive Brush - Fine 220 grit
Order No. 3261-402 Price Ea. \$8.38	Order No. 3261-423 Price Ea. \$3.17	Order No. 3261-545 Price Ea. \$21.13	Order No. 3261-409 Price/Pk. \$9.42	Order No. 3261-546 Price/Pk. \$9.82	Order No. 3261-511 Price/Pk. \$4.13	Order No. 3261-471 Price Ea. \$7.20	Order No. 3261-472 Price Ea. \$7.20	Order No. 3261-473 Price Ea. \$7.20

### Mandrels

 Order No. 3260-401 Price Ea. \$2.32	 Order No. 3260-402 Price Ea. \$2.32
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### 709-01 110 Pcs. Super Accessory Kit

This versatile and re-usable accessory kit includes everything you need to cut, grind, sand, polish, drill, sharpen, clean and more.

Order No. 3260-709  
Price Each: \$23.75



### 710-5 160-Pcs. All Purpose Accessory Kit

This versatile and re-usable accessory kit includes everything you need to cut, grind, sand, polish, drill, sharpen, clean and more. Includes 8 EZ Lock™ accessories.

Order No. 3260-710  
Price Each: \$35.42





# FASTENERS



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# Socket Head Cap Screws— 1960 Series

**Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability**



		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>0-80 UNF</b> .050 hex					
1/8	100	4411-035	\$21.93	-	-
3/16	100	4411-038	22.01	-	-
1/4	100	4411-041	22.17	-	-
3/8	100	4411-044	22.32	-	-
<b>1-72 UNF</b> 1/16" hex					
1/8	100	4411-047	22.01	-	-
3/16	100	4411-050	22.17	-	-
1/4	100	4411-053	22.24	-	-
3/8	100	4411-056	22.47	-	-
<b>2-56 UNC</b> 5/64" hex					
3/16	100	4410-003	21.24	-	-
1/4	100	4410-006	21.39	-	-
3/8	100	4410-012	21.62	-	-
1/2	100	4410-015	21.78	-	-
<b>3-48 UNC</b> 5/64" hex					
3/16	100	4410-024	21.16	-	-
1/4	100	4410-027	21.62	-	-
3/8	100	4410-030	22.17	-	-
1/2	100	4410-033	22.39	-	-
<b>4-40 UNC</b> 3/32" hex					
3/16	100	4410-040	11.45	-	-
1/4	100	4410-042	10.91	4430-042	\$10.91
5/16	100	4410-043	11.07	-	-
3/8	100	4410-048	11.14	4430-048	11.14
1/2	100	4410-054	11.37	4430-054	11.37
5/8	100	4410-057	11.45	4430-057	11.45
3/4	100	4410-060	11.75	4430-060	11.75
7/8	100	4410-061	13.64	-	-
1	100	4410-062	14.17	-	-
1-1/4	100	4410-065	25.85	-	-
1-1/2	100	4410-068	28.65	-	-
<b>5-40 UNC</b> 3/32" hex					
1/4	100	4410-078	10.99	4430-078	10.99
3/8	100	4410-084	11.07	4430-084	11.07
1/2	100	4410-090	11.52	4430-090	11.52
5/8	100	4410-093	11.60	-	-
3/4	100	4410-096	11.83	-	-
1	100	4410-099	18.49	-	-
<b>6-32 UNC</b> 7/64" hex					
1/4	100	4410-108	11.07	4430-108	11.07
3/8	100	4410-114	11.22	4430-114	11.22
1/2	100	4410-120	11.37	4430-120	11.37
5/8	100	4410-123	11.37	4430-123	11.37
3/4	100	4410-126	12.13	4430-126	12.13
7/8	100	4410-129	13.34	-	-
1	100	4410-132	14.70	4430-132	14.70
1-1/4	100	4410-133	16.97	-	-
1-1/2	100	4410-136	18.57	-	-
1-3/4	100	4410-139	19.71	-	-
2	100	4410-141	21.07	-	-
<b>6-40 UNF</b> 7/64" hex					
1/4	100	4411-062	12.81	-	-
3/8	100	4411-068	12.96	-	-
1/2	100	4411-074	13.18	-	-
5/8	100	4411-077	13.18	-	-
3/4	100	4411-080	13.18	-	-

		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>8-32 UNC</b> 9/64" hex					
1/4	100	4410-156	\$10.84	4430-156	\$10.84
5/16	100	4410-165	10.99	-	-
3/8	100	4410-162	11.14	4430-162	11.14
1/2	100	4410-168	11.45	4430-168	11.45
5/8	100	4410-174	11.52	4430-174	11.52
3/4	100	4410-177	12.73	4430-177	12.73
7/8	100	4410-180	13.34	4430-180	13.34
1	100	4410-186	14.93	4430-186	14.93
1-1/4	100	4410-192	16.37	4430-192	16.37
1-1/2	100	4410-198	17.73	4430-198	17.73
1-3/4	100	-	-	-	-
2	100	4410-201	21.98	-	-
2-1/2	100	4410-208	24.48	-	-
<b>8-36 UNF</b> 9/64" hex					
3/8	100	4411-089	16.67	-	-
1/2	100	4411-092	16.97	-	-
3/4	100	4411-095	19.18	-	-
<b>10-24 UNC</b> 5/32" hex					
1/4	100	4410-210	15.08	-	-
3/8	100	4410-216	11.22	4430-216	11.22
1/2	100	4410-219	11.45	4430-219	11.45
5/8	100	4410-225	11.83	4430-225	11.83
3/4	100	4410-228	12.66	4430-228	12.66
7/8	100	4410-231	13.72	4430-231	13.72
1	100	4410-234	14.94	4430-234	14.93
1-1/4	100	4410-240	16.22	4430-240	16.22
1-1/2	100	4410-246	18.11	4430-246	18.11
1-3/4	100	4410-249	19.93	-	-
2	100	4410-255	21.60	4430-255	21.60
2-1/4	100	4410-258	23.49	-	-
2-1/2	100	4410-260	23.34	-	-
3	100	4410-262	32.51	-	-
<b>10-32 UNF</b> 5/32" hex					
1/4	100	4411-105	15.01	-	-
3/8	100	4411-107	11.45	4431-107	11.45
1/2	100	4411-113	11.60	4431-113	11.60
5/8	100	4411-119	12.43	4431-119	12.43
3/4	100	4411-122	12.96	4431-122	12.96
7/8	100	4411-125	14.86	4431-125	14.86
1	100	4411-128	15.24	4431-128	15.24
1-1/4	100	4411-134	16.98	4431-134	16.98
1-1/2	100	4411-137	19.03	4431-137	19.03
1-3/4	100	4411-140	20.76	4431-140	20.76
2	100	4411-143	23.12	4431-143	23.12
2-1/4	100	4411-145	25.47	-	-
2-1/2	100	4411-147	27.28	-	-
3	100	4411-150	36.01	-	-
<b>1/4-20 UNC</b> 3/16" hex					
1/4	100	4410-265	14.40	-	-
3/8	100	4410-267	11.83	4430-267	11.83
1/2	100	4410-270	12.13	4430-270	12.13
5/8	100	4410-273	12.58	4430-273	12.58

# Socket Head Cap Screws—1960 Series

Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability



		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>1/4-20 UNC</b> 3/16" hex		30IP			
3/4	100	4410-276	\$13.64	4430-276	\$13.64
7/8	100	4410-279	14.70	4430-279	14.70
1	100	4410-282	15.62	4430-282	15.62
1-1/4	100	4410-291	16.75	4430-291	16.75
1-1/2	100	4410-294	18.95	4430-294	18.95
1-3/4	100	4410-300	20.73	4430-300	20.73
2	100	4410-306	22.44	4430-306	22.44
2-1/4	100	4410-309	28.04	4430-309	28.04
2-1/2	100	4410-312	31.15	4430-312	31.15
2-3/4	100	4410-315	37.67	4430-315	37.67
3	100	4410-318	41.68	4430-318	41.68
3-1/4	100	4410-319	44.42	-	-
3-1/2	100	4410-320	52.37	-	-
3-3/4	100	-	-	-	-
4	100	4410-322	69.43	-	-
<b>1/4-28 UNF</b> 3/16" hex		30IP			
1/4	100	-	-	-	-
3/8	100	4411-161	13.26	4431-161	13.26
1/2	100	4411-164	13.56	4431-164	13.56
5/8	100	4411-170	7.36	4431-170	13.79
3/4	100	4411-176	14.93	4431-176	14.93
7/8	100	4411-179	16.52	-	-
1	100	4411-182	17.51	4431-182	17.51
1-1/4	100	4411-188	19.25	4431-188	19.25
1-1/2	100	4411-191	21.30	4431-191	21.30
1-3/4	100	4411-194	23.49	4431-194	23.49
2	100	4411-200	25.69	4431-200	25.69
2-1/4	100	4411-203	31.53	-	-
2-1/2	100	-	-	-	-
3	100	-	-	-	-
4	100	-	-	-	-
<b>5/16-18 UNC</b> 3/16" hex		45IP			
3/8	100	4410-348	20.01	4430-348	20.01
1/2	100	4410-351	15.46	4430-351	15.46
5/8	100	4410-354	16.14	4430-354	16.14
3/4	100	4410-357	16.67	4430-357	16.67
7/8	100	4410-360	18.27	4430-360	18.27
1	100	4410-363	18.72	4430-363	18.72
1-1/4	100	4410-369	20.99	4430-369	20.99
1-1/2	100	4410-372	22.28	4430-372	22.28
1-3/4	100	4410-375	25.01	4430-375	25.01
2	100	4410-381	26.98	4430-381	26.98
2-1/4	100	4410-387	33.35	4430-387	33.35
2-1/2	100	4410-393	36.46	4430-393	36.46
2-3/4	100	4410-396	49.64	4430-396	49.64
3	100	4410-399	57.14	4430-399	57.14
3-1/4	100*	4410-402	71.24	-	-
3-1/2	100*	4410-405	78.52	4430-405	78.52
4	100*	4410-410	82.46	-	-
4-1/2	100	4410-413	92.61	-	-
5	100	4410-416	130.44	-	-
<b>5/16-24 UNF</b> 3/16" hex		45IP			
1/2	100	4411-221	16.52	-	-
5/8	100	4411-224	17.28	-	-
3/4	100	4411-227	18.42	4431-227	18.42
7/8	100	4411-230	20.31	4431-230	20.31
1	100	4411-233	20.69	4431-233	20.69
1-1/4	100	4411-239	21.90	4431-239	21.90
1-1/2	100	4411-242	24.48	4431-242	24.48
1-3/4	100	4411-248	26.98	-	-
2	100	4411-254	29.71	-	-
2-1/4	100	4411-257	35.16	-	-
2-1/2	100	4411-260	40.78	-	-

		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>3/8-16 UNC</b> 5/16" hex		50IP			
1/2	100	4410-435	\$19.03	4430-435	\$19.03
5/8	100	4410-438	19.63	4430-438	19.63
3/4	100	4410-441	20.08	4430-441	20.08
7/8	100	4410-444	21.98	4430-444	21.98
1	100	4410-447	22.74	4430-447	22.74
1-1/4	100	4410-450	24.48	4430-450	24.48
1-1/2	50	4410-456	13.49	4430-456	13.49
1-3/4	50	4410-459	15.39	4430-459	15.39
2	50	4410-462	16.60	4430-462	16.60
2-1/4	50	4410-465	20.77	4430-465	20.77
2-1/2	50	4410-468	22.59	4430-468	22.59
2-3/4	50	4410-471	30.81	4430-471	30.81
3	50	4410-474	33.66	4430-474	33.66
3-1/4	50	4410-477	40.32	4430-477	40.32
3-1/2	50	4410-483	45.90	4430-483	45.90
4	50	4410-489	54.19	4430-489	54.19
4-1/2	50	4410-495	64.91	-	-
5	50	4410-501	77.61	-	-
5-1/2	50	-	-	-	-
6	50	4410-510**	21.71	-	-
<b>3/8-24 UNF</b> 5/16" hex		50IP			
1/2	100	4411-275	27.13	-	-
5/8	100	4411-278	27.58	-	-
3/4	100	4411-281	23.65	4431-281	23.65
7/8	100	4411-284	25.77	-	-
1	100	4411-287	26.23	4431-287	26.23
1-1/4	100	4411-290	28.34	4431-290	28.34
1-1/2	50	4411-293	15.50	4431-293	15.50
1-3/4	50	4411-296	17.77	4431-296	17.77
2	50	4411-299	19.52	4431-299	19.52
2-1/4	50	4411-302	24.94	-	-
2-1/2	50	4411-305	27.28	-	-
3	50	4411-308	36.99	-	-
3-1/2	50	-	-	-	-
4	50	-	-	-	-
5	50	-	-	-	-
<b>7/16-14 UNC</b> 3/8" hex		55IP			
1/2	100	4410-517	41.16	-	-
5/8	100	4410-518	41.76	-	-
3/4	100	4410-519	42.74	-	-
7/8	100	4410-521	45.77	-	-
1	100	4410-525	46.99	4430-525	46.99
1-1/4	100*	4410-528	50.86	4430-528	50.86
1-1/2	100*	4410-531	55.78	4430-531	55.78
1-3/4	100*	4410-537	61.62	-	-
2	50	4410-540	33.28	-	-
2-1/4	50	4410-543	36.87	-	-
2-1/2	50	4410-546	39.03	-	-
2-3/4	25	4410-549	22.49	-	-
3	25	4410-552	24.25	-	-
3-1/4	25	-	-	-	-
3-1/2	25	4410-558	28.06	-	-
4	25	4410-564	31.13	-	-
4-1/2	25	-	-	-	-
5	25	-	-	-	-
<b>7/16-20 UNF</b> 3/8" hex		55IP			
1	100	4411-326	51.77	-	-
1-1/4	100*	4411-329	55.41	-	-
1-1/2	100*	4411-332	62.38	-	-
2	50	4411-338	72.84	-	-

# Socket Head Cap Screws— 1960 Series

Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability



		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>1/2–13 UNC</b> 3/8" hex				55IP	
1/2	50	4410-573	\$28.35	4430-573	\$28.35
5/8	50	4410-576	29.67	4430-576	29.67
3/4	50	4410-579	23.65	4430-579	23.65
7/8	50	4410-582	26.26	–	–
1	50	4410-585	26.46	4430-585	26.46
1-1/4	50	4410-588	27.43	4430-588	27.43
1-1/2	25	4410-591	15.54	4430-591	15.54
1-3/4	25	4410-594	17.20	4430-594	17.20
2	25	4410-597	18.27	4430-597	18.27
2-1/4	25	4410-600	20.75	4430-600	20.75
2-1/2	25	4410-606	22.19	4430-606	22.19
2-3/4	25	4410-609	25.54	4430-609	25.54
3	25	4410-612	27.11	4430-612	27.11
3-1/4	25	4410-618	29.64	4430-618	29.64
3-1/2	25	4410-621	31.42	4430-621	31.42
4	25	4410-627	37.78	4430-627	37.78
4-1/2	25	4410-633	44.30	–	–
5	25	4410-639	49.15	–	–
5-1/2	25	4410-645	54.59	–	–
6	25	4410-654	58.27	–	–
6-1/2	10	4410-657	36.33	–	–
7	10	4410-660	41.42	–	–
8	10	4410-663	51.67	–	–

		CAMCAR			
		ALLOY STEEL		TORX	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>1/2–20 UNF</b> 3/8" hex					
1	50	4411-356	\$27.02	–	–
1-1/4	50	4411-359	30.74	–	–
1-1/2	25	4411-362	16.55	–	–
1-3/4	25	4411-365	18.21	–	–
2	25	4411-368	19.53	–	–
2-1/4	25	4411-371	21.85	–	–
2-1/2	25	4411-374	22.99	–	–
3	25	4411-377	29.43	–	–
<b>5/8–11 UNC</b> 1/2" hex					
1	25	–	–	–	–
1-1/4	50	4410-672	56.14	–	–
1-1/2	50	4410-678	60.27	–	–
1-3/4	50	4410-681	64.25	–	–
2	50	4410-684	68.28	–	–
2-1/4	25	4410-687	36.64	–	–
2-1/2	25	4410-690	38.09	–	–
2-3/4	25	4410-693†	40.67	–	–
3	25	4410-696	44.79	–	–
3-1/4	25	–	–	–	–
3-1/2	25	4410-702	49.21	–	–
<b>3/4–10 UNC</b> 5/8" hex					
2	25	4410-753	59.87	–	–
2-1/2	25	4410-759	65.54	–	–
3	25	4410-765	82.37	–	–

† Limited Quantities

## See our selection of Tools:

Hex Keys: Pages 388 - 389

Balldrivers: Pages 386 - 388

Torx®: Pages 383 - 385

TorxPlus®: Pages 382

Fastener Drive Tools: Pages 378 - 379

# Socket Head Shoulder Screws

**Alloy Steel Heat Treated—  
Class 3A Thread Fit Standard—  
Complete Traceability**

3



# Socket Button Head Cap Screws

**Alloy Steel Heat Treated— Class 3A  
Thread Fit Standard — Complete  
Traceability**

3



		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>1/4 UNC 1/8" hex</b>			
1/4	25	4413-755	\$21.47
3/8	25	4413-759	18.78
1/2	25	4413-762	18.97
5/8	25	4413-765	19.71
3/4	25	4413-768	20.29
1	25	4413-771	21.16
1-1/4	25	4413-774	22.94
1-1/2	25	4413-777	23.84
2	25	4413-780	28.40
<b>5/16 UNC 5/32" hex</b>			
1/4	25	4413-793	26.41
3/8	25	4413-795	22.24
1/2	25	4413-798	22.47
5/8	25	4413-801	22.89
3/4	25	4413-804	23.34
1	25	4413-810	23.91
1-1/4	25	4413-813	26.30
1-1/2	25	4413-816	27.23
1-3/4	25	4413-819	28.73
2	25	4413-822	28.97
<b>3/8 UNC 3/16" hex</b>			
1/4	25	4413-834	33.28
3/8	25	4413-837	25.33
1/2	25	4413-840	25.68
5/8	25	4413-843	25.90
3/4	25	4413-846	26.38
1	25	4413-849	26.56
1-1/4	25	4413-852	28.19
1-1/2	25	4413-855	28.99
1-3/4	25	4413-858	29.82
2	25	4413-861	32.06
2-1/4	25	4413-864	33.75
2-1/2	25	4413-867	37.19
2-3/4	25	4413-870	39.32
3	25	4413-873	41.40
3-1/4	25	4413-876	47.10
3-1/2	25	4413-879	51.18
3-3/4	25	4413-882	58.44
4	25	4413-885	59.46
<b>1/2 UNC 1/4" hex</b>			
3/8	25	4413-889	48.16
1/2	25	4413-891	40.95
5/8	25	4413-894	42.79
3/4	25	4413-897	43.01
1	25	4413-900	43.24
1-1/4	25	4413-903	44.36
1-1/2	25	4413-906	45.35
1-3/4	25	4413-909	47.94
2	25	4413-912	50.29
2-1/4	25	4413-915	52.73
2-1/2	25	4413-918	54.45

		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>1/2 UNC 1/4" hex</b>			
2-3/4	25	4413-921	\$57.69
3	25	4413-924	61.15
3-1/4	25	4413-927	67.95
3-1/2	25	4413-930	72.85
3-3/4	25	4413-933	81.62
4	25	4413-936	83.66
4-1/4	25	4413-939	98.94
4-1/2	10	4413-942	40.26
4-3/4	10	4413-945	44.19
5	10	4413-948	45.41
<b>5/8 UNC 5/16" hex</b>			
3/4	25	4413-956	82.15
1	25	4413-958	96.70
1-1/4	25	4413-960	69.85
1-1/2	25	4413-963	73.92
1-3/4	25	4413-966	75.76
2	25	4413-969	78.51
2-1/4	25	4413-972	86.93
2-1/2	25	4413-975	92.97
2-3/4	25	4413-978	96.76
3	25	4413-981	97.24
3-1/4	25	4413-984	124.53
3-1/2	25	4413-987	139.27
3-3/4	10	4413-990	63.08
4	10	4413-993	65.97
4-1/4	10	4413-996	74.12
4-1/2	10	4413-999	75.99
4-3/4	10	4414-002	81.50
5	10	4414-005	82.63
5-1/2	10	4414-008	129.92
6	10	4414-011	154.76
<b>3/4 UNC 3/8" hex</b>			
1-1/2	10	4414-020	51.68
1-3/4	10	4414-023	52.07
2	10	4414-026	49.53
2-1/4	10	4414-029	55.07
2-1/2	10	4414-032	59.78
2-3/4	10	4414-035	62.83
3	10	4414-038	65.65
3-1/4	10	4414-041	76.97
3-1/2	10	4414-044	78.88
3-3/4	10	4414-047	83.39
4	10	4414-050	85.94
4-1/4	10	4414-053	95.95
4-1/2	10	4414-056	97.10
4-3/4	10	4414-059	106.30
5	10	4414-062	106.61
5-1/2	10	4414-065	166.33
6	10	4414-068	189.30

		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>2-56 UNC .050 hex</b>			
3/16	100	4414-070	\$24.78
1/4	100	4414-072	26.38
3/8	100	4414-074	28.34
<b>4-40 UNC 1/16" hex</b>			
3/16	100	4414-078	14.78
1/4	100	4414-080	10.31
3/8	100	4414-083	10.99
1/2	100	4414-089	11.75
<b>6-32 UNC 5/64" hex</b>			
3/16	100	4414-095	15.54
1/4	100	4414-101	10.61
3/8	100	4414-107	10.84
1/2	100	4414-110	11.52
5/8	100	4414-113	12.13
<b>8-32 UNC 3/32" hex</b>			
1/4	100	4414-125	11.52
3/8	100	4414-131	11.98
1/2	100	4414-134	12.13
5/8	100	4414-137	13.79
3/4	100	4414-140	14.40
1	100	4414-143	15.39
<b>10-24 UNC 1/8" hex</b>			
1/4	100	4414-152	11.45
3/8	100	4414-155	11.67
1/2	100	4414-158	12.13
5/8	100	4414-161	13.72
3/4	100	4414-164	14.70
7/8	100	4414-167	16.67
1	100	4414-170	17.28
<b>10-32 UNC 1/8" hex</b>			
1/4	100	4414-302	11.45
3/8	100	4414-305	11.67
1/2	100	4414-311	12.13
5/8	100	4414-314	13.72
3/4	100	4414-317	14.70
7/8	100	4414-320	16.67
1	100	4414-323	17.28
<b>17-28 1/4-20 UNC 1/16 hex</b>			
3/8	100	4414-176	13.03
1/2	100	4414-179	13.26
5/8	100	4414-182	13.64
3/4	100	4414-185	14.17
7/8	100	4414-188	16.29
1	100	4414-191	16.52
1-1/4	100	4414-194	20.23
1-1/2	100	4414-197	21.98

		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>1/4-28 UNF 1/4" hex</b>			
3/8	100	4414-329	\$13.03
1/2	100	4414-332	13.26
5/8	100	4414-335	13.64
3/4	100	4414-338	14.17
1	100	4414-344	16.52
<b>5/16-18 UNF 5/16" hex</b>			
3/8	100	4414-203	17.05
1/2	100	4414-206	17.20
5/8	100	4414-209	20.38
3/4	100	4414-212	20.69
7/8	100	4414-215	22.74
1	100	4414-218	23.12
1-1/4	100	4414-221	36.76
1-1/2	100	4414-224	38.80
<b>5/16-24 UNF 5/16" hex</b>			
3/8	100	4414-350	17.05
1/2	100	4414-353	17.20
5/8	100	4414-356	20.38
3/4	100	4414-359	20.69
1	100	4414-365	23.12
<b>3/8-16 UNF 3/8" hex</b>			
1/2	100	4414-230	25.39
5/8	100	4414-233	28.04
3/4	100	4414-236	29.86
7/8	100	4414-239	32.82
1	100	4414-242	31.07
1-1/4	100	4414-245	33.20
1-1/2	100	4414-248	41.46
<b>3/8-24 UNF 3/8" hex</b>			
1/2	100	4414-371	25.39
3/4	100	-	-
1	100	4414-380	31.07
<b>1/2-13 UNF 5/16" hex</b>			
1	25	4414-260	26.30
1-1/4	25	4414-263	31.12
1-1/2	25	4414-266	34.71
2	25	4414-272	44.49



# Socket Set Screws – Cup Point

**Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability**



		AMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>2-56 UNC</b> .035 hex			
1/16	100	4411-449	\$36.68
3/32	100	4411-450	38.20
1/8	100	4411-452	38.65
3/16	100	4411-455	40.40
1/4	100	4411-458	40.93
<b>3-48 UNC</b> .050 hex			
3/32	100	4411-463	30.02
1/8	100	4411-464	30.32
3/16	100	4411-467	30.77
1/4	100	4411-470	31.07
<b>4-40 UNC</b> .050 hex			
1/8	100	4411-473	10.31
3/16	100	4411-476	10.46
1/4	100	4411-479	10.53
5/16	100	4411-482	10.69
3/8	100	4411-485	11.37
1/2	100	4411-491	13.34
5/8	100	4411-494	16.14
<b>4-48 UNF</b> .050 hex			
1/8	100	4411-962	10.31
3/16	100	4411-965	10.46
1/4	100	4411-968	10.53
<b>5-40 UNC</b> 1/16 hex			
1/8	100	4411-497	11.07
3/16	100	4411-500	11.29
1/4	100	4411-503	11.52
5/16	100	4411-506	11.67
3/8	100	-	-
1/2	100	4411-515	13.64
5/8	100	4411-518	14.17
3/4	100	4411-521	14.86
<b>5-44 UNF</b> 1/16 hex			
1/8	100	4411-977	11.07
<b>6-32 UNC</b> 1/16 hex			
1/8	100	4411-524	12.13
3/16	100	4411-527	10.84
1/4	100	4411-530	10.99
5/16	100	4411-533	11.14
3/8	100	4411-536	11.29
1/2	100	4411-542	11.98
5/8	100	4411-545	16.14
3/4	100	4411-548	18.04
7/8	100	4411-551	25.01
1	100	4411-554	26.83
<b>6-40 UNF</b> 1/16 hex			
1/8	100	4411-986	12.13
3/16	100	4411-989	10.84
1/4	100	4411-992	10.99
3/8	100	4411-998	11.29
<b>8-32 UNC</b> 5/64 hex			
1/8	100	4411-557	10.08
3/16	100	4411-560	10.23
1/4	100	4411-563	10.38
5/16	100	4411-566	10.61
3/8	100	4411-569	10.91

		AMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>8-32 UNC</b> 5/64 hex			
7/16	100	-	-
1/2	100	4411-575	\$12.36
5/8	100	4411-578	16.90
3/4	100	4411-581	17.89
7/8	100	4411-584	23.80
1	100	4411-587	26.38
<b>8-36 UNF</b> 5/64 hex			
1/8	100	-	-
3/16	100	-	-
1/4	100	4412-007	10.38
3/8	100	4412-013	10.91
<b>10-24 UNC</b> 3/32 hex			
3/16	100	4411-590	10.38
1/4	100	4411-593	10.61
5/16	100	4411-596	10.91
3/8	100	4411-599	11.75
1/2	100	4411-602	12.66
5/8	100	4411-605	13.18
3/4	100	4411-608	14.93
7/8	100	4411-611	25.01
1	100	4411-617	27.58
1-1/4	100	4411-620	28.88
<b>10-32 UNF</b> 3/32 hex			
3/16	100	4412-022	10.38
1/4	100	4412-025	10.61
5/16	100	4412-028	10.91
3/8	100	4412-031	11.75
1/2	100	4412-037	12.66
5/8	100	4412-040	13.18
3/4	100	4412-043	14.93
1	100	4412-049	27.58
1-1/4	100	4412-052	28.88
<b>1/4-20 UNC</b> 1/8 hex			
3/16	100	4411-626	11.37
1/4	100	4411-629	10.38
5/16	100	4411-632	10.61
3/8	100	4411-635	11.60
1/2	100	4411-641	12.28
5/8	100	4411-644	14.70
3/4	100	4411-647	16.67
7/8	100	4411-650	21.07
1	100	4411-653	23.95
1-1/4	100	4411-656	30.32
1-1/2	100*	4411-659	38.12
1-3/4	100*	4411-662	48.73
2	100*	4411-665	55.56
<b>1/4-28 UNF</b> 1/8 hex			
3/16	100	4412-061	11.37
1/4	100	4412-064	10.38
5/16	100	4412-067	10.61
3/8	100	4412-070	11.60
1/2	100	4412-076	12.28
5/8	100	4412-079	14.70
3/4	100	4412-082	16.67
1	100	4412-085	23.95
1-1/4	100	4412-088	30.32

*(Continued)*

# Socket Set Screws – Cup Point (Continued)

**Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability**

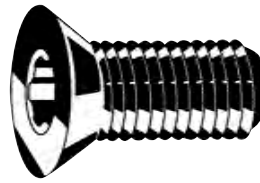


		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>5/16–18 UNC</b>			
5/32 hex			
1/4	100	4411-671	\$12.43
5/16	100	4411-674	11.75
3/8	100	4411-677	11.90
7/16	100	4411-680	12.21
1/2	100	4411-683	12.43
5/8 100 4411-686 15.77			
3/4 100 4411-689 18.19			
7/8 100 4411-692 25.47			
1 100 4411-695 27.13			
1-1/4 100 4411-698 31.07			
1-1/2 100 4411-701 41.16			
1-3/4 100* 4411-704 50.86			
2 100* 4411-707 54.04			
<b>5/16–24 UNF</b>			
5/32 hex			
1/4	100	4412-094	12.43
5/16	100	4412-097	11.75
3/8	100	4412-100	11.90
1/2	100	4412-106	12.43
5/8	100	4412-109	15.77
3/4	100	4411-687	18.19
1	100	4412-118	27.13
<b>3/8–16 UNC</b>			
3/16 hex			
1/4	100	4411-713	15.31
5/16	100	4411-716	16.29
3/8	100	4411-719	13.64
7/16	100	–	–
1/2	100	4411-725	15.92
5/8	100	4411-728	18.42
3/4	100	4411-731	19.71
7/8	100	–	–
1	100	4411-737	27.13
1-1/4	100	4411-740	34.41
1-1/2	100	4411-743	44.79
1-3/4	100	4411-746	54.42
2	100	–	–
2-1/2	100	4411-752	68.97
<b>3/8–24 UNF</b>			
3/16 hex			
1/4	100	4412-124	15.31
3/8	100	4412-130	13.64
1/2	100	4412-136	15.92

		CAMCAR	
		ALLOY STEEL	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>3/8–24 UNF</b>			
3/16 hex			
5/8	100	4412-139	\$18.42
3/4	100	4412-142	19.71
1	100	4412-148	27.13
1-1/4	100	4412-151	34.41
1-1/2	100	4412-134	44.79
<b>7/16–14 UNC</b>			
7/32 hex			
3/8	100	–	–
7/16	100	4411-758†	25.25
1/2	100	4411-761	33.05
5/8	100	4411-764	36.08
3/4	100	4411-767	38.95
7/8	50	–	–
<b>7/16–14 UNF</b>			
7/32 hex			
1	100*	4411-773	50.25
1-1/4	100*	4411-776	53.96
1-1/2	100*	4411-779	62.98
2	50	4411-782	39.68
<b>7/16–20 UNF</b>			
7/32 hex			
3/8	100	4412-163	37.90
7/16	100	–	–
1/2	100	4412-169	33.05
<b>1/2–13 UNC</b>			
1/4 hex			
3/8	100	4411-794	40.15
1/2	100	4411-800	39.61
5/8	100	4411-803	43.55
3/4	100	4411-806	45.10
7/8	100*	4411-809	50.42
1	100*	4411-812	56.99
1-1/4	100*	4411-815	71.66
1-1/2	100*	4411-818	79.77
1-3/4	50◇	4411-821	46.18
2	50◇	4411-824	52.28
2-1/2	50◇	4411-830	67.30
3	50◇	4411-833	70.04
<b>1/2–20 UNF</b>			
1/4 hex			
1/2	100	4412-187	39.61
3/4	100	4412-193	45.10
1	100	4412-196	56.99

# Socket Flat Countersunk Head Cap Screws

**Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability**



		<b>ALLOY STEEL</b>	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX.
<b>2-56 UNC</b> 5/32 hex			
3/16	100	4414-382	\$28.12
1/4	100	4414-385	30.24
3/8	100	4414-387	32.89
1/2	100	4414-390	35.32
<b>4-40 UNC</b> 1/16 hex			
1/4	100	4414-392	13.64
3/8	100	4414-395	14.10
1/2	100	4414-398	14.93
5/8	100	4414-401	15.62
3/4	100	4414-404	17.81
<b>5-40 UNC</b> 5/64 hex			
1/4	100	4414-413	14.78
3/8	100	4414-416	14.70
1/2	100	4414-419	15.62
5/8	100	4414-422	17.28
3/4	100	4414-425	19.56
<b>6-32 UNC</b> 5/64 hex			
1/4	100	4414-434	15.31
3/8	100	4414-440	15.69
1/2	100	4414-443	16.14
5/8	100	4414-446	17.51
3/4	100	4414-449	17.89
1	100	4414-451	21.14
<b>8-32 UNC</b> 3/32 hex			
3/8	100	4414-458	15.39
1/2	100	4414-461	15.62
5/8	100	4414-464	17.05
3/4	100	4414-467	18.65
1	100	4414-473	20.76
<b>10-24 UNC</b> 1/8 hex			
3/8	100	4414-482	15.46
1/2	100	4414-485	15.62
5/8	100	4414-488	17.73
3/4	100	4414-491	17.89
1	100	4414-497	21.45
1-1/4	100	4414-500	27.58
1-1/2	100	4414-503	31.68
<b>10-32 UNF</b> 1/8 hex			
1/4	100	4414-770	14.51
3/8	100	4414-773	15.46
1/2	100	4414-779	15.62
5/8	100	4414-782	17.73
3/4	100	4414-785	17.89
1	100	4414-791	21.45
1-1/4	100	4414-794	27.58
1-1/2	100	4414-797	31.68
<b>1/4-20 UNC</b> 5/32 hex			
3/8	100	4414-506	17.43
1/2	100	4414-509	16.82
5/8	100	4414-515	17.89
3/4	100	4414-518	17.96
1	100	4414-524	20.01

		<b>ALLOY STEEL</b>	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>1/4-20 UNC</b> 5/32 hex			
1-1/4	100	4414-527	\$26.53
1-1/2	100	4414-530	31.07
1-3/4	100	4414-533	37.67
2	100	4414-536	40.93
2-1/2	100	4414-542	44.79
<b>1/4-28 UNF</b> 5/32 hex			
3/8	100	4414-809	17.43
1/2	100	4414-815	16.82
5/8	100	4414-818	17.89
3/4	100	4414-821	17.96
1	100	4414-824	20.01
1-1/4	100	4414-827	26.53
1-1/2	100	4414-830	31.07
<b>5/16-18 UNC</b> 3/16 hex			
1/2	100	4414-548	19.93
5/8	100	4414-554	20.92
3/4	100	4414-557	21.22
7/8	100	4414-560	21.98
1	100	4414-563	22.74
1-1/4	100	4414-566	29.03
1-1/2	100	4414-572	32.21
1-3/4	100	4414-575	46.23
2	100	4414-578	50.93
2-1/4	100	4414-581	58.82
2-1/2	100	4414-584	66.02
<b>5/16-24 UNF</b> 3/16 hex			
1/2	100	4414-839	19.93
5/8	100	4414-842	20.92
3/4	100	4414-845	21.22
7/8	100	4414-846	21.98
1	100	4414-848	22.74
1-1/4	100	4414-851	29.03
1-1/2	100	4414-854	32.21
<b>3/8-16 UNC</b> 7/32 hex			
1/2	100	4414-590	30.77
5/8	100	4414-593	29.56
3/4	100	4414-596	31.91
1	100	4414-602	32.21
1-1/4	100	4414-605	34.33
1-1/2	100	4414-608	36.15
1-3/4	100	4414-611	52.37
2	100	4414-614	57.60
2-1/4	100	4414-617	68.51
2-1/2	50	4414-620	36.99
3	50	4414-626	43.73
<b>3/8-24 UNF</b> 7/32 hex			
5/8	100	4414-866	29.56
3/4	100	4414-869	31.91
1	100	4414-872	32.21
1-1/4	100	4414-875	34.33
1-1/2	100	4414-878	36.08

		<b>ALLOY STEEL</b>	
LENGTH UNDER HEAD	QTY PER BOX	ORDER NO.	PRICE PER BOX
<b>7/16-14 UNC</b> 7/16 hex			
3/4	100	4414-635	\$ 62.98
1	100	4414-638	69.20
1-1/4	100	4414-641	75.79
1-1/2	100	4414-644	80.95
1-3/4	100	4414-647	84.73
2	100	4414-650	88.22
<b>1/2-13 UNC</b> 5/16 hex			
3/4	100	4414-653	64.48
1	100	4414-662	67.41
1-1/4	100	4414-665	77.68
1-1/2	100	4414-668	82.08
1-3/4	50	4414-671	46.33
2	50	4414-674	48.26
2-1/4	25	4414-677	28.92
2-1/2	25	4414-680	31.10
3	25	4414-686	35.50
<b>1/2-20 UNF</b> 5/16 hex			
3/4	25	4414-884	64.48
1	25	4414-887	67.41
1-1/4	25	4414-890	77.68
1-1/2	25	4414-893	82.08
1-3/4	25	4414-896	46.33
2	25	4414-902	48.26
<b>5/8-11 UNC</b> 3/8 hex			
1-1/4	25	4414-698	36.62
1-1/2	25	4414-701	39.96
1-3/4	25	4414-704	46.24
2	25	4414-707	48.18
2-1/4	25	-	-
2-1/2	25	-	-
3	25	-	-
<b>3/4-10 UNC</b> 1/2 hex			
1-1/2	25	-	-
1-3/4	25	-	-
2	25	-	-
2-1/2	25	-	-
3	25	-	-

# Metric Socket Head Cap Screws

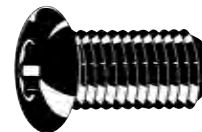
**Alloy Steel Heat Treated – Class 12.9 – Complete Traceability**



SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX
M 3.0 x 0.50 x 6	2.5	100	4460-003	\$13.51	M 6.0 x 1.00 x 20	5	100	4460-077	\$15.32	M 10.0 x 1.50 x 60	8	50	4460-151	\$24.18			
M 3.0 x 0.50 x 8	2.5	100	4460-005	12.16	M 6.0 x 1.00 x 25	5	100	4460-079	16.37	M 10.0 x 1.50 x 70	8	50	4460-155	31.27			
M 3.0 x 0.50 x 10	2.5	100	4460-007	12.31	M 6.0 x 1.00 x 30	5	100	4460-081	17.57	M 12.0 x 1.75 x 25	10	50	4460-165	27.28			
M 3.0 x 0.50 x 12	2.5	100	4460-009	12.84	M 6.0 x 1.00 x 35	5	100	4460-083	20.27	M 12.0 x 1.75 x 20	10	50	4460-167	28.35			
M 3.0 x 0.50 x 16	2.5	100	4460-011	13.06	M 6.0 x 1.00 x 40	5	100	4460-085	21.40	M 12.0 x 1.75 x 30	10	50	4460-169	29.18			
M 3.0 x 0.50 x 20	2.5	100	4460-013	13.51	M 8.0 x 1.25 x 12	6	100	4460-103	17.73	M 12.0 x 1.75 x 35	10	50	4460-171	32.74			
M 3.0 x 0.50 x 25	2.5	100	4460-015	16.14	M 8.0 x 1.25 x 16	6	100	4460-105	18.11	M 12.0 x 1.75 x 40	10	50	4460-173	37.78			
M 4.0 x 0.70 x 8	3	100	4460-025	12.31	M 8.0 x 1.25 x 20	6	100	4460-107	18.95	M 12.0 x 1.75 x 45	10	50	4460-175	41.16			
M 4.0 x 0.70 x 10	3	100	4460-027	12.54	M 8.0 x 1.25 x 25	6	100	4460-109	20.92	M 12.0 x 1.75 x 50	10	50	4460-177	43.62			
M 4.0 x 0.70 x 12	3	100	4460-029	13.06	M 8.0 x 1.25 x 30	6	100	4460-111	22.28	M 12.0 x 1.75 x 55	10	25	4460-179	23.69			
M 4.0 x 0.70 x 16	3	100	4460-031	13.66	M 8.0 x 1.25 x 35	6	100	4460-113	24.25	M 12.0 x 1.75 x 60	10	25	4460-181	25.22			
M 4.0 x 0.70 x 20	3	100	4460-033	14.64	M 8.0 x 1.25 x 40	6	100	4460-115	25.54	M 16.0 x 2.00 x 30	14	25	4460-199	31.60			
M 4.0 x 0.70 x 25	3	100	4460-035	16.52	M 8.0 x 1.25 x 50	6	100	4460-119	30.84	M 16.0 x 2.00 x 35	14	25	4460-201	34.75			
M 5.0 x 0.80 x 10	4	100	4460-049	13.51	M 10.0 x 1.50 x 16	8	100	4460-133	26.83	M 16.0 x 2.00 x 40	14	25	4460-203	35.09			
M 5.0 x 0.80 x 12	4	100	4460-051	14.64	M 10.0 x 1.50 x 20	8	100	4460-135	27.13	M 16.0 x 2.00 x 45	14	25	4460-205	38.62			
M 5.0 x 0.80 x 16	4	100	4460-053	15.32	M 10.0 x 1.50 x 25	8	100	4460-137	27.81	M 16.0 x 2.00 x 50	14	25	4460-207	39.88			
M 5.0 x 0.80 x 20	4	100	4460-055	15.77	M 10.0 x 1.50 x 30	8	100	4460-139	29.10	M 16.0 x 2.00 x 55	14	25	4460-209	43.07			
M 5.0 x 0.80 x 25	4	100	4460-057	16.22	M 10.0 x 1.50 x 35	8	100	4460-142	31.83	M 16.0 x 2.00 x 60	14	25	4460-211	44.68			
M 5.0 x 0.80 x 30	4	100	4460-059	17.05	M 10.0 x 1.50 x 40	8	100	4460-143	34.33								
M 6.0 x 1.00 x 12	5	100	4460-073	13.81	M 10.0 x 1.50 x 45	8	50	4460-145	18.19								
M 6.0 x 1.00 x 16	5	100	4460-075	14.64	M 10.0 x 1.50 x 50	8	50	4460-147	19.44								

# Camcar Metric Socket Button Head Cap Screws

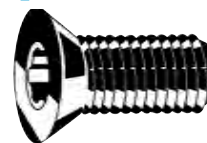
**Alloy Steel Heat Treated – Class 3A Thread Fit Standard – Complete Traceability**



SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX
M 3.0 x 0.50 x 8	2	100	4460-405	\$10.61	M 5.0 x 0.80 x 10	3	100	4460-419	\$12.43	M 6.0 x 1.00 x 25	4	100	4460-439	\$17.73			
M 3.0 x 0.50 x 10	2	100	4460-407	10.84	M 5.0 x 0.80 x 12	3	100	4460-421	12.73	M 8.0 x 1.25 x 12	5	100	4460-445	17.89			
M 3.0 x 0.50 x 12	2	100	4460-409	11.37	M 5.0 x 0.80 x 16	3	100	4460-423	14.02	M 8.0 x 1.25 x 16	5	100	4460-447	16.55			
M 4.0 x 0.70 x 8	2.5	100	4460-411	11.98	M 6.0 x 1.00 x 10	4	100	4460-431	12.88	M 8.0 x 1.25 x 20	5	100	4460-449	18.27			
M 4.0 x 0.70 x 10	2.5	100	4460-413	12.43	M 6.0 x 1.00 x 12	4	100	4460-433	13.34	M 8.0 x 1.25 x 25	5	100	4460-451	21.07			
M 4.0 x 0.70 x 12	2.5	100	4460-415	12.81	M 6.0 x 1.00 x 16	4	100	4460-435	14.63	M 8.0 x 1.25 x 30	5	100	4460-453	23.49			
M 4.0 x 0.70 x 16	2.5	100	4460-417	14.02	M 6.0 x 1.00 x 20	4	100	4460-437	15.54	M 8.0 x 1.25 x 40	5	100	4477-133	25.81			

# Camcar Metric Socket Flat Countersunk Head Cap Screws

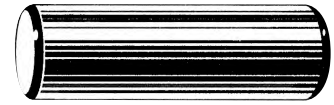
**Alloy Steel Heat Treated – Complete Traceability**



SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX	SIZE	L'GTH UNDER HEAD MM	HEX KEY MM	QTY PER BOX	ORDER NO.	PRICE PER BOX
M 3.0 x 0.50 x 8	2	100	4460-277	\$14.40	M 5.0 x 0.80 x 16	3	100	4460-307	\$18.27	M 8.0 x 1.25 x 16	5	100	4460-337	\$26.38			
M 3.0 x 0.50 x 10	2	100	4460-279	15.46	M 5.0 x 0.80 x 20	3	100	4460-309	18.65	M 8.0 x 1.25 x 20	5	100	4460-339	26.98			
M 3.0 x 0.50 x 12	2	100	4460-281	15.92	M 5.0 x 0.80 x 25	3	100	4460-311	21.30	M 8.0 x 1.25 x 25	5	100	4460-341	28.04			
M 3.0 x 0.50 x 16	2	100	4460-283	16.97	M 6.0 x 1.00 x 12	4	100	4460-319	17.43	M 8.0 x 1.25 x 30	5	100	4460-343	29.64			
M 4.0 x 0.70 x 8	2.5	100	4460-287	15.46	M 6.0 x 1.00 x 16	4	100	4460-321	17.89	M 8.0 x 1.25 x 35	5	100	4460-345	32.44			
M 4.0 x 0.70 x 10	2.5	100	4460-289	15.84	M 6.0 x 1.00 x 20	4	100	4460-323	19.33	M 10.0 x 1.50 x 20	6	100	4460-351	33.81			
M 4.0 x 0.70 x 12	2.5	100	4460-291	16.52	M 6.0 x 1.00 x 25	4	100	4460-325	22.28	M 10.0 x 1.50 x 25	6	100	4460-353	34.11			
M 4.0 x 0.70 x 16	2.5	100	4460-293	16.97	M 6.0 x 1.00 x 30	4	100	4460-327	25.85	M 10.0 x 1.50 x 30	6	100	4460-355	36.99			
M 5.0 x 0.80 x 10	3	100	4460-303	17.73	M 6.0 x 1.00 x 35	4	100	4460-329	29.64								
M 5.0 x 0.80 x 12	3	100	4460-305	17.89	M 8.0 x 1.25 x 12	5	100	4477-057	25.81								



**Alloy Steel Heat Treated - Standard Size  $\pm .0002$  Over Nominal Diameter  
Oversize  $\pm .001$  Over Nominal Diameter**



DIA.	Pittsburgh ALLEGHENY		CAMCAR		
	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL	
LENGTH OVER-ALL	QTY PER BOX	ORDER NO.	PRICE PER BOX	ORDER NO.	PRICE PER BOX
<b>1/16" dia</b>					
3/16	100	3185-005	\$11.68	415-766	\$17.15
1/4	100	3185-010	11.77	4415-769	17.38
3/8	100	3185-020	12.12	4415-775	17.62
1/2	100	3185-030	12.45	4415-781	18.40
5/8	100	3185-035	12.78	4415-784	18.56
3/4	100	3185-040	12.91	4415-787	18.80
1	100	3185-050	15.77	-	-
<b>3/32" dia</b>					
3/16	100	3185-055	9.37	4415-736	16.28
1/4	100	3185-060	9.48	4415-739	16.36
5/16	100	3185-065	9.64	4415-742	16.44
3/8	100	3185-070	9.77	4415-745	16.60
7/16	100	3185-075	10.34	4415-748	17.15
1/2	100	3185-080	10.49	4415-751	17.46
5/8	100	3185-085	10.63	4415-754	17.77
3/4	100	3185-090	10.76	4415-757	17.93
1	100	3185-100	11.09	4415-763	18.09
<b>1/8" dia</b>					
3/8	100	3185-110	7.19	4415-802	16.91
1/2	100	3185-115	7.33	4415-808	17.15
5/8	100	3185-120	7.57	4415-811	17.30
3/4	100	3185-125	7.74	4415-814	18.15
7/8	100	3185-130	8.14	4415-817	19.61
1	100	3185-135	8.67	4415-820	21.31
1-1/4	100	3185-145	9.64	4415-826	21.85
1-1/2	100	3185-155	10.71	4415-832	25.25
1-3/4	100	3185-160	12.06	4415-835	27.57
2	100	3185-165	14.59	4415-838	30.27
<b>3/16" dia</b>					
1/2	100	3185-175	8.49	4415-841	18.23
5/8	100	3185-180	8.91	4415-844	18.69
3/4	100	3185-185	9.22	4415-847	20.08
7/8	100	3185-190	9.92	4415-850	21.31
1	100	3185-195	10.21	4415-853	22.24
1-1/4	100	3185-205	11.68	4415-859	24.71
1-1/2	100	3185-220	12.76	4415-865	27.33
1-3/4	100	3185-225	14.78	4415-868	30.34
2	100	3185-230	17.25	4415-871	33.75
<b>1/4" dia</b>					
1/2	100	3185-235	12.06	4415-874	20.46
5/8	100	3185-240	12.32	4415-877	21.54
3/4	100	3185-245	12.89	4415-880	21.93
7/8	100	3185-250	13.46	4415-883	23.94
1	100	3185-255	14.17	4415-886	24.55
1-1/4	100	3185-265	15.64	4415-892	26.72
1-1/2	100	3185-275	17.73	4415-898	29.96
1-3/4	100	3185-280	19.84	4415-901	33.90
2	100	3185-285	22.15	4415-904	37.53
2-1/4	100	3185-290	25.50	4415-907	45.79
2-1/2	100	3185-295	29.72	4415-910	46.64
<b>5/16" dia</b>					
1/2	100	3185-300	16.43	4415-919	25.18
5/8	100	3185-305	17.01	4415-922	26.41
3/4	100	3185-310	17.42	4415-925	27.26
7/8	100	3185-320	18.44	4415-928	27.94
1	100	3185-325	19.62	4415-931	28.03
1-1/4	100	3185-335	21.32	4415-937	31.05
1-1/2	100	3185-345	24.62	4415-943	34.75

DIA.	Pittsburgh ALLEGHENY			CAMCAR		
	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL	ALLOY STEEL
LENGTH OVER-ALL	ORDER NO.	QTY PER BOX	PRICE PER BOX	ORDER NO.	QTY PER BOX	PRICE PER BOX
<b>5/16" dia</b>						
1-3/4	3185-350	50	\$13.89	4415-946	100	\$42.16
2	3185-355	50	15.90	4415-952	100	45.48
2-1/4	-	-	-	-	-	-
2-1/2	-	-	-	4415-958	100	56.60
3	3185-370	50	28.83	4415-961	100	67.65
<b>3/8" dia</b>						
1/2	3185-375	100	21.96	4415-967	20	6.18
5/8	3185-380	100	23.03	4415-970	20	6.41
3/4	3185-385	100	23.78	4415-973	20	6.58
7/8	3185-390	100	25.74	4415-976	20	6.75
1	3185-395	100	26.97	4415-979	20	6.84
1-1/4	3185-400	100	29.94	4415-985	20	7.34
1-1/2	3185-410	100	35.16	4415-991	20	8.34
1-3/4	3185-415	50	20.33	4415-994	20	9.57
2	3185-420	50	21.88	4415-997	20	10.53
2-1/4	-	-	-	4416-000	20	11.52
2-1/2	3185-430	50	27.52	4416-003	20	13.13
3	3185-440	50	35.21	4416-009	20	16.20
<b>7/16" dia</b>						
1	3185-455	50	24.57	4416-021	20	12.71
1-1/4	3185-460	50	26.09	-	-	-
1-1/2	3185-465	50	27.41	4416-027	20	14.69
1-3/4	3185-470	50	31.22	-	-	-
2	3185-475	50	38.30	-	-	-
2-1/2	3185-485	50	44.35	-	-	-
3	3185-495	50	51.74	-	-	-
<b>1/2" dia</b>						
3/4	3185-505	20	9.87	4416-051	20	13.61
1	3185-520	20	11.09	4416-057	20	14.41
1-1/4	3185-525	20	11.75	4416-060	20	15.35
1-1/2	3185-530	20	12.75	4416-063	20	16.31
1-3/4	3185-540	20	14.63	4416-066	20	17.36
2	3185-545	20	15.67	4416-069	20	19.31
2-1/4	3185-550	20	18.04	4416-072	20	21.70
2-1/2	3185-555	20	20.66	4416-075	20	23.26
3	3185-565	20	22.84	4416-081	20	27.68
3-1/2	3185-570	20	28.29	-	-	-
4	3185-575	20	32.28	-	-	-
<b>5/8" dia</b>						
1	3185-580	10	8.78	-	-	-
1-1/4	3185-585	10	9.70	4416-099	10	12.35
1-1/2	3185-590	10	12.13	4416-102	10	12.84
1-3/4	3185-595	10	12.47	4416-106	10	14.89
2	3185-600	10	12.98	4416-108	10	16.12
2-1/4	3185-605	10	13.83	-	-	-
2-1/2	3185-610	10	15.12	4416-114	10	18.98
3	3185-615	10	18.00	4416-120	10	22.52
3-1/2	3185-620	10	22.31	-	-	-
4	3185-625	10	25.16	-	-	-
4-1/2	3185-630	10	29.34	-	-	-
<b>3/4" dia</b>						
2	3185-650	10	22.66	-	-	-
2-1/2	3185-660	10	25.55	-	-	-
3	3185-665	10	31.96	-	-	-
3-1/2	3185-670	10	37.89	-	-	-
4	3185-675	10	46.44	-	-	-
<b>7/8" dia</b>						
2	-	-	-	-	-	-
2-1/2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	-
<b>1" dia</b>						
2	3185-695	10	48.05	-	-	-
2-1/2	3185-700	10	54.94	-	-	-
3	3185-705	10	59.44	-	-	-
3-1/2	3185-710	10	74.29	-	-	-
4	3185-720	10	84.30	-	-	-

## Cotter Pins



### Contents:

130	1/16" x 1"
100	1/8" x 1-1/4"
80	1/8" x 2"
150	3/32" x 1"
100	3/32" x 1-3/4"
40	5/32" x 2-1/2"

Strong and flexible zinc plated steel pins with one prong extended for easy insertion and bending. Pins also have chisel point ends.

PIECES	ORDER NO.	PRICE EACH
600	3237-605	\$31.75

## Hitch Pin Clips



### Contents:

60	1/16"	#18
30	3/32"	#3
20	3/32"	#7
20	1/8"	#16
15	5/32"	#10
5	3/16"	#6

Reusable, quick release pins for fast assembly and disassembly. Made of spring steel to maintain tension.

PIECES	ORDER NO.	PRICE EACH
150	3237-615	\$31.07

## Machinery Keys



### Contents:

3	1/8" x 1/8" x 3/4"
3	1/8" x 1/8" x 1"
5	3/16" x 3/16" x 3/4"
5	3/16" x 3/16" x 1"
5	3/16" x 3/16" x 1-1/4"
5	1/4" x 1/4" x 3/4"
5	1/4" x 1/4" x 1-1/4"
5	1/4" x 1/4" x 1-1/2"
5	5/16" x 5/16" x 1-1/4"
5	5/16" x 5/16" x 1-1/2"
5	3/8" x 3/8" x 1-1/4"
5	3/8" x 3/8" x 1-1/2"
2	1/2" x 1/2" x 1-1/2"

Zinc plated steel, square keys have chamfered ends for easy insertion into keyways.

PIECES	ORDER NO.	PRICE EACH
58	3237-655	\$51.44

## E-Clips



### Contents:

30	1/8"	30	3/8"
20	5/32"	25	7/16"
30	3/16"	20	1/2"
20	7/32"	15	5/8"
30	1/4"	10	3/4"
30	5/16"	5	7/8"

External clips made of carbon steel to retain positive retention of pulleys, sprockets, springs and bearings on shafts and rods.

PIECES	ORDER NO.	PRICE EACH
265	3237-610	\$32.55

## Housing Rings



### Contents:

15	1/2"	10	1-1/16"
15	5/8"	10	1-1/8"
15	11/16"	10	1-1/4"
15	3/4"	5	1-3/8"
15	13/16"	5	1-1/2"
15	7/8"	5	1-5/8"
10	1"	5	1-3/4"

Internal rings with tapered design maintains constant pressure to prevent slippage of axles, gears and bearings inside machinery housing.

PIECES	ORDER NO.	PRICE EACH
150	3237-620	\$35.91

## O Rings



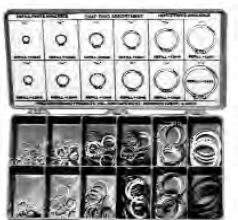
### Contents:

140 pieces of 1/16" body, 80 pieces of 3/32" body, and 80 pieces of 1/8" body. Various sizes are included for each body size.

Made of BUNA-N 70 durometer rubber compound. Creates a tight seal for fluid or gas connections.

PIECES	ORDER NO.	PRICE EACH
300	3237-630	\$51.92

## Snap Rings



### Contents:

30	1/4"	30	5/8"
20	5/16"	35	3/4"
50	3/8"	10	13/16"
20	7/16"	20	7/8"
50	1/2"	10	1"
20	9/16"	5	1-1/4"

External, spring steel snap rings used to retain pulleys, gears or wheels on shafts.

PIECES	ORDER NO.	PRICE EACH
300	3237-600	\$37.57

## Roll Pins



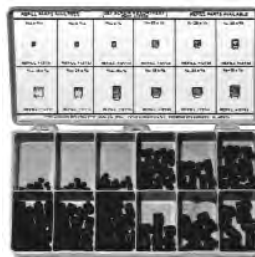
### Contents:

1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", and 3/8" diameters. Four lengths included for each diameter.

Made of flexible spring steel, cold rolled, hardened and tempered. Chamfered ends simplify insertion.

PIECES	ORDER NO.	PRICE EACH
300	3237-625	\$38.82

## Set Screws



### Contents:

10	6-32 x 3/16"
10	8-32 x 3/16"
10	10-24 x 1/4"
30	1/4-20 x 1/4"
20	1/4-28 x 1/4"
20	1/4-20 x 3/8"
30	5/16-18 x 3/8"
20	5/16-24 x 3/8"
20	5/16-18 x 1/2"
10	3/8-16 x 3/8"
10	3/8-24 x 3/8"
10	3/8-16 x 1/2"

High grade alloy steel set screws with hexagon recessed heads. Ends have cup points for positive torque.

PIECES	ORDER NO.	PRICE EACH
200	3237-650	\$33.98

## Socket Head Cap Screws



### Contents:

10	6-32 x 1/2"
10	6-32 x 1"
10	8-32 x 1/2"
10	8-32 x 3/4"
10	8-32 x 1"
10	10-32 x 1/2"
10	10-32 x 3/4"
10	10-32 x 1"
10	10-24 x 1/2"
10	10-24 x 1"
10	1/4-20 x 1/2"
10	1/4-20 x 3/4"
10	1/4-20 x 1"
10	1/4-20 x 1-1/4"
10	1/4-20 x 1-1/2"
10	1/4-28 x 3/4"
10	1/4-28 x 1"
10	1/4-28 x 1-1/4"
10	1/4-28 x 1-1/2"

High grade alloy steel socket head screws with hexagon recessed heads.

PIECES	ORDER NO.	PRICE EACH
190	3237-670	\$36.05

# Rivets & Installation Tools



## Buttonhead Style Rivets

2

## Open-End Blind Rivets



### Open end blind rivets - Features/Benefits:

- For blind fastening where there is no access to opposite side of work
- Simple to install
- Wide variety of head styles & lengths available from 1/8" to 1/4" diameters

RIVET DIA.	GRIP RANGE	DRILL NO. HOLE SIZE	PKG. QTY.	PART NO.	PRICE EACH	BULK QTY.	PART NO.	PRICE EACH
<b>PLATED CARBON STEEL RIVET - CARBON STEEL MANDREL</b>								
1/8"	.032-.125	#30	500	3538-042	\$9.19	10M	3538-542	\$110.76
	.126-.187	(.129-.133)	500	3538-043	9.49	10M	3538-543	116.09
	.188-.250		500	3538-044	9.72	10M	3538-544	119.82
	.313-.375		500	3538-046	11.00	10M	3538-546	141.87
	.376-.500		500	3538-048	13.14	10M	3538-548	177.96
3/16"	.032-.125	#11	500	3538-062	13.30	5M	3538-562	90.40
	.188-.250	(.192-.196)	500	3538-064	13.76	5M	3538-564	94.31
	.313-.375		500	3538-066	16.91	5M	3538-566	120.98
	.376-.500		500	3538-068	20.46	5M	3538-568	151.20
1/4"	.126-.250	#F Drill	100	3538-084	8.05	2M	3538-584	91.70
	.251-.375	(.257-.261)	100	3538-086	9.55	2M	3538-586	117.05
	.376-.500		100	3538-088	9.56	2M	3538-588	117.19
	.501-.625		100	3538-090	10.40	2M	3538-590	131.41
	.626-.750		100	3538-092	11.48	2M	3538-592	149.97
<b>ALUMINUM RIVET - ALUMINUM MANDREL</b>								
1/8"	.032-.125	#30	500	3538-142	\$8.07	10M	3538-642	\$91.91
	.126-.187	(.129-.133)	500	3538-143	8.39	10M	3538-643	97.24
	.188-.250		500	3538-144	8.46	10M	3538-644	98.49
	.313-.375		500	3538-146	9.62	10M	3538-646	118.22
	.376-.500		500	3538-148	10.67	10M	3538-648	136.00
3/16"	.032-.125	#11	500	3538-162	14.52	5M	3538-662	100.71
	.188-.250	(.192-.196)	500	3538-164	14.88	5M	3538-664	103.73
	.313-.375		500	3538-166	16.52	5M	3538-666	117.69
	.376-.500		500	3538-168	17.24	5M	3538-668	123.82
1/4"	.126-.250	#F Drill	100	3538-184	9.44	2M	3538-684	115.02
	.251-.375	(.257-.261)	100	3538-186	10.17	2M	3538-686	127.61
	.376-.500		100	3538-188	10.93	2M	3538-688	140.44
	.501-.625		100	3538-190	12.27	2M	3538-690	163.09
	.626-.750		100	3538-192	12.55	2M	3538-692	168.00

## Multi-Grip Open-End Blind Rivets



### Open end blind rivets - Features/Benefits:

- Extended grip range capacity
- Reduces inventory (fewer sizes required)
- Use as a standard open end rivet
- 1/8" to 3/16" diameters

RIVET DIA.	GRIP RANGE	DRILL NO. HOLE SIZE	PKG. QTY.	PART NO.	PRICE EACH	BULK QTY.	PART NO.	PRICE EACH
<b>ALUMINUM RIVET - CARBON STEEL MANDREL</b>								
1/8"	.031-.187	#30	500	3538-443	\$10.33	10M	3538-943	\$130.13
	.125-.315	(.129-.133)	500	3538-445	11.04	10M	3538-945	142.22
	.188-.377		500	3538-446	11.70	8M	3538-946	122.88
3/16"	.062-.250	#11	500	3538-464	16.73	5M	3538-964	119.56
	.189-.437	(.192-.196)	500	3538-467	19.00	4M	3538-967	111.08
	.315-.500		500	3538-468	19.98	4M	3538-968	117.76
	.440-.750		500	3538-472	23.32	4M	3538-972	140.44

**Stainless steel rivets are also available, please inquire.**

## Installation Tools



### Model VHR-1

- Sets 3/32" - 5/32" diameter rivets in all alloys, 3/16" in steel
- Hand operated rivet tool • Service wrench included

**Order No. 3538-001 Price Each: \$27.93**



### Model VHR-2

- Sets 1/8" - 1/4" diameter rivets in all materials
- Longer handles permit access to hard-to-reach areas

**Order No. 3538-002 Price Each: \$92.88**



### Model V-2

- Sets 3/32" - 3/16" diameter rivets in all materials
- Pulling force: 1,940 lbs.; Stroke .551"
- Weight: 4.2 lbs.

**Order No. 3538-012**

**Price Each: \$100.98**



### Model V-3

- Sets 1/8" - 3/16" diameter rivets in all materials
- Pulling force: 1,983 lbs.; Stroke .551"
- Weight: 3.2 lbs.

**Order No. 3538-013**

**Price Each: \$141.40**



### Model V-4

- Sets 3/32" - 1/4" diameter rivets in all materials
- Pulling force: 3,055 lbs.; Stroke .562"
- Weight: 4.2 lbs.

**Order No. 3538-014 Price Each: \$293.08**

# WORK HOLDING & TOOL STEEL

**IRWIN**  
CLAMPS



**"Jorgensen"**  
CLAMPS

**WILTON**  
CORPORATION  
TOOL GROUP  
CLAMPS & VISE

**Adjustable**<sup>TM</sup>  
CLAMPS

**PRECISION  
BRAND**

SHIM STOCK, KEY STOCK, FEELER GAGE

**Pittsburg**  
ALLEGHANY  
CLAMPS & VISES

**CLAMP-RITE**  
CLAMPS

PAGE

Bushings	472
Clamps	451-470
Clamp-Rite Clamps	458-466
De-Sta-Co Clamps	451-457
Drill Rod	482-483
Flat Stock	479-481
Jig Fixtures & Components	473-478
Threaded Rod	483
Shim & Key Stock	485-486
Vises	471





## DE-STA-CO® Toggle Lock Plus Clamps

DE-STA-CO® has taken several of their popular toggle clamps and have added a locking lever for improved safety. The locking lever helps ensure that the over-center locking condition is maintained. In order to open each clamp, the locking lever must first be released.

If a clamp application warrants concerns over accidental clamp opening, severe stresses of vibrations on the clamps, or overhead installations, then the DE-STA-CO® Toggle Lock Plus is the right clamp for the job.

### Vertical Style

These clamps are unique in that they lock with the aid of the locking lever in both the clamped and unclamped position. Bolt retainer supplied with solid bar Models 207-LR and 210-SR. Spindle assembly and flanged washers supplied with "U" bar Models 207-UR and 210-UR.



Model 207-UR

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
207-LR	4352-071	6-29/32	1-1/4	4-37/64	500	\$31.55
207-UR	4352-078	6-29/32	1-1/4	4-37/64	500	31.63
210-SR	4352-104	8	1-11/16	6-39/64	750	46.71
210-UR	4352-108	8	1-11/16	6-39/64	750	46.03

### Horizontal Style

Equipped with a locking lever which locks in the clamped position only. Clamps are supplied with bonded neoprene-tipped spindle assemblies and flanged washers.



Model 225-UR

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
225-UR	4352-251	1-59/64	1-21/64	7-9/64	500	\$29.90
235-UR	4352-351	2-35/64	1-45/64	10-17/32	750	49.09
305-UR	4353-051	1-7/16	1/2	2-1/4	150	22.76
307-UR	4353-071	2-7/16	7/8	3-39/64	350	30.96

### Pull Action Latch Style - Horizontal Type

Supplied with a locking lever catch accessory which allows the clamp to lock in the closed position only. Latch plates are supplied with the clamp.



Model 331-R

### J-Hook Pull Action

Supplied with a release lever catch accessory which allows the clamp to lock in the closed position only. Large handle pad improves operability of the clamp.



Model 351-R

MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL LENGTH	DRAWING MOV'MT	HOLDING CAPACITY LBS.	PRICE EACH
323-R	4353-233	1-3/16	4	1-11/64	360	\$20.50
323-RSS	4353-234	1-3/16	4	1-11/64	360	38.47
331-R	4353-311	2-5/64	5-31/32	1-3/4	700	29.38
331-RSS	4353-318	2-1/64	6-11/64	2	700	51.80
341-R	4353-411	2-57/64	7-1/2	2-1/2	2000	43.02
341-RSS	4353-414	2-7/8	8-9/32	2-1/2	2000	85.94
375-R	4353-751	4-3/16	9-5/8	3-1/2	4000	75.12
385-R	4353-854	1-3/8	8-3/4	2-3/16	7500	95.37

MODEL NO.	ORDER NO.	HEIGHT TO (*)	OVERALL LENGTH	DRAWING MOV'MT	HOLDING CAPACITY LBS.	PRICE EACH
351-R	4353-511	3/4	9-7/64	4	375	\$27.03
371-R	4353-712	1-27/64	12-7/8	5-3/8	750	50.78

### Plunger Style

Patented design locks the release lever into the forged steel base to prevent accidental opening. Clamps lock in both the extended and retracted positions while the release lever secures the clamp in the extended position only.



Model 603-R

### Pull Action Latch Style - Vertical Type



Model 324-R

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT TO (*) OF PLUNGER	OVERALL LENGTH	DRAWING MOV'MT	HOLDING CAPACITY LBS.	PRICE EACH
6015-M-R	4356-014	1-39/64	1/2	2-61/64	45/64	560	\$38.81
603-R	4356-032	3-27-64	31/32	4-11/16	1-1/2	600	40.90
630-R	4356-301	3-1/16	13/16	7-1/32	2	2500	81.68

MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL LENGTH	DRAWING MOV'MT.	CAPACITY LBS.	PRICE EACH
324-R	4353-248	2-5/64	3-15/32	1-17/32	500	\$29.73
334-R	4353-343	2-35/64	4-1/8	2	1000	36.87
344-R	4353-443	2-25/64	5-49/64	2-1/2	2000	55.74



Model Identification Code:  
 S Solid Holding Bar (bolt retainer furnished)  
 SS Stainless Steel  
 U Shaped Holding Bar  
 \*Measured to (C) of mounting holes on straight base models.



Model 601

## Fully Retractable Plunger Clamps



Model 602

These models have fully retractable plunger, mount directly through a member by a jam nut on the work side or flush by drilling and tapping the member. Locks over center in either extended or retracted position. Red vinyl handle.

## Straight-Line Action Clamps

### Straight-Line Toggle Clamps

Smallest of the straight-line clamps, ideal for electronic applications and similar small fixturing. Model 601 has an 8-32 nylon spindle.

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT TO (C) OF PLUNGER	OVERALL LENGTH	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
601	4356-010	1-3/16	1/2	2-5/8	5/8	150	\$11.25
601-O	4356-016	1-3/16	1/2	2-55/64	5/8	100	12.24
601-SS	4356-019	1-3/16	1/2	2-5/8	5/8	100	24.06
6001	4356-003	1-17/64	1/2	2-5/8	5/8	150	15.94
6001-SS*	4356-005	1-17/64	1/2	2-5/8	5/8	150	30.15

MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL LENGTH	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
602	4356-020	3-9/64	2-7/16	3/4	200	\$15.91
602-SS	4356-029	3-9/64	2-7/16	3/4	200	52.57
604	4356-040	4-5/32	4-25/32	1-1/2	300	17.80
604-SS	4356-049	4-5/32	4-25/32	1-1/2	400	47.06
624	4356-240	5-5/8	6-11/16	2-5/8	700	37.45
624-SS	4356-249	5-5/8	6-11/16	2-5/8	700	98.29

## Low Profile Plunger Clamps

Compact models feature De-Sta-Co balanced construction for durability and rigid holding ability. Red vinyl grip. Clamps lock in both the extended and retracted position.



Model 630

## Fully Retractable Plunger Clamp Mounting Brackets



604106  
Mounting Plate for 604

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT TO (C) OF PLUNGER	OVERALL LENGTH	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
607	4356-070	3-19/32	11/16	6-1/64	1-5/8	800	\$32.57
610	4356-100	4-3/8	1-45/64	6-23/32	1-5/8	800	29.90
630	4356-300	3-3/32	13/16	7-1/32	2	2500	39.82
640	4356-400	4-3/8	1-1/4	12-21/32	4	7500	109.76
6015-M	4356-015	1-39/64	1/2	2-61/64	45/64	560	28.52
6015-MSS	4356-013	1-39/64	1/2	2-61/64	45/64	630	45.78

MODEL NO.	ORDER NO.	USE WITH CLAMP	HT. TO (C) OF PLUNGER	PRICE EACH
604106	4356-041	604	1/2	\$8.29
624106-M	4356-244	624	53/64	9.08

## Push-Pull Plunger Clamps

These units have a large holding capacity for their size, and are well suited for use in confined areas. Equipped with red ergonomic grips. Locks in either extended or retracted position.



Model 603

## Large Capacity Clamps

Model has the largest capacity of the straight-line action clamps. Forged alloy steel base and handle. Removeable ring pivot pin construction permits easy removal of plunger after mounting. Locks over center in both extended and retracted position.



Model 650

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HUT. BASE TO (C) OF PLUNGER	OVERALL LENGTH	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
603	4356-030	3-9/32	31/32	4-23/32	1-1/4	600	\$21.23
603-SS	4356-039	3-9/32	31/32	4-23/32	1-1/4	840	48.52
605	4356-050	3-5/32	31/32	5-7/16	1-1/4	300	16.67
608	4356-080	4-3/64	1-1/4	6-1/8	1-5/8	850	37.39
609	4356-090	3-1/4	31/32	5-7/16	1-1/4	300	19.25

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT TO (C) OF PLUNGER	OVERALL LENGTH	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
650	4356-500	4-7/8	2-1/4	11-1/4	3	16000	\$128.66



## Vertical Handle Hold-Down Clamps



Model 2002-S

These clamps deliver two to three times the holding capacity of our legacy models in the same envelope. Now you can save valuable space in all your applications without sacrificing holding capacity or clamp performance. The open "U" bar has a knob on the end to prevent the spindle from slipping off the end of the arm. Unique design delivers greater hand clearance in the open position eliminating pinch points and improving safety and ergonomics. Clamp comes complete with ergonomic handle grip, two flanged washers and spindle assembly ("U" bar models only"). All "S" bar models supplied with bolt retainer. To order without a spindle, include a -LS suffix.

MODEL NO.	ORDER NO.	OVERALL HEIGHT (IN.)	HEIGHT UNDER BAR (IN.)	OVERALL LENGTH (IN.)	HOLDING CAPACITY LBS.	PRICE EACH
2002-S	4352-003	4.73	0.95	3.29	600	\$15.85
2002-U	4352-002	4.73	0.95	3.29	600	15.12
2002-UB	4352-004	5.07	1.27	3.29	600	16.81
2007-S	4352-005	7.21	1.25	4.81	1000	20.07
2007-U	4352-007	7.21	1.25	4.81	1000	19.46
2007-UB	4352-006	7.64	1.68	4.81	1000	20.92
2010-S	4352-008	9.00	1.70	6.09	1400	30.10
2010-U	4352-001	9.00	1.70	6.09	1400	29.06
2010-UB	4352-009	9.612	2.20	6.09	1400	31.01

## Horizontal Handle Hold-Down Clamps



Model 2013-U

- Robust Design
- 60% more holding capacity than legacy product
- Low arm deflection under load (greater stiffness)
- Long Handle, increased operator comfort
- DE-STA-CO locks handle in open and closed positions
- Available standard or as an add-on kit
- Large Hand Clearance eliminates "knuckle busters"
- Adjustable Pre-load eliminates arm play for locating applications
- Low Pivot Point Provides perpendicular clamping force
- Bushings at key pivot points provides long life and smooth operation
- Fixed Handle Pivot eliminates sticking points, provides smooth action

MODEL NO.	ORDER NO.	OVERALL HEIGHT (IN.)	HEIGHT UNDER BAR (IN.)	OVERALL LENGTH (IN.)	HOLDING CAPACITY LBS.	PRICE EACH
2013-U	4351-918	1.27	0.75	5.88	295	\$13.77
2017-U	4351-919	1.95	0.98	8.62	560	17.77
2027-U	4351-920	2.20	1.32	9.88	840	19.68
2037-U	4351-921	2.75	1.62	13.35	1680	33.19

## Horizontal Hold-Down Clamps

Low silhouette series requires minimum overhead clearance. Spindle, jam nuts, and flanged washers or bolt retainer are included. Bar opens 90° to completely clear work area. Perfect as OEM component on pressure vessels and in assembly jigs.



200 Series Straight Handle

300 Series T-Handle

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
205-S	4352-060	43/64	3/8	2-25/32	60	\$8.50
205-SSS	4352-069	43/64	3/8	2-25/32	75	16.47
205-U	4352-050	43/64	5/16	2-21/32	60	8.50
205-USS	4352-059	43/64	5/16	2-21/32	75	16.14
206-HSS	4352-037	1-1/16	3/4	2-3/4	100	24.60
206-SS	4352-067	1-1/16	13/32	2-3/4	100	24.60
213-U	4352-130	1-25/64	23/32	4-1/8	150	11.14
213-USS	4352-139	1-25/64	23/32	4-1/8	150	22.27
215-U	4352-150	1-17/32	1	5-1/2	200	11.45
215-USS	4352-159	1-17/32	1	5-1/2	250	22.83
217-U	4352-170	1-61/64	31/32	6-9/16	200	14.42
217-USS	4352-179	1-61/64	31/32	6-9/16	250	26.93
225-U	4352-250	1-27/32	1-21/64	6-45/64	500	13.08
225-USS	4352-259	1-27/32	1-21/64	6-45/64	600	31.60
227-U	4352-270	2-7/16	1-19/64	7-9/16	500	15.90
227-USS	4352-279	2-7/16	1-19/64	7-9/16	600	36.00
235-U	4352-350	2-35/64	1-3/4	10-7/8	750	22.12
235-USS	4352-359	2-35/64	1-3/4	10-7/8	850	54.57
237-U	4352-370	3-13/64	1-5/8	10-43/64	750	26.79
245-U	4352-450	4-1/4	2-1/4	12-21/64	1000	42.50
305-U	4353-050	1-3/8	1/2	2-7/32	150	10.82
305-USS	4353-059	1-3/8	1/2	2-7/32	200	21.26
307-U	4353-070	2-13/32	7/8	3-39/64	350	16.24
307-USS	4353-079	2-13/32	7/8	3-39/64	350	34.39
309-U*	4353-090	3-35/64	1-19/64	5-3/16	750	26.92

\*Model 309-U = 7

## Hold-Down Action Clamps Vertical Hold-Down Clamps

All models have a red vinyl handle grip. Many options are available in most model sizes including straight or flanged bases, solid or U-bars, extra length bars and stainless steel. Bolt retainer is furnished with solid bar models, flanged washers with U-bar models. Model 2002-U207 is mounting pattern interchangeable with Model 207-U.



Model 207-U

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
201-U	4352-010	3-1/32	5/8	2-1/64	100	\$10.99
201-USS	4352-019	3-1/32	5/8	2-1/64	125	21.71
202	4352-020	4-7/32	15/16	2-5/16	200	11.53
202-SS	4352-029	4-7/32	15/16	2-5/16	250	27.33
202-U	4352-026	4-7/32	15/16	2-47/64	200	11.53
202-UL	4352-120	4-7/32	15/16	3-17/64	200	13.35
202-USS	4352-039	4-7/32	15/16	2-47/64	250	27.33
207-L	4352-084	6-57/64	1-1/4	5-1/64	500	17.10
207-S	4352-080	6-57/64	1-1/4	3-3/4	500	15.05
207-U	4352-070	6-57/64	1-1/4	3-11/16	375	15.05
2002-U207	4352-202	5.01	1-1/4	3.29	600	15.12
207-UL	4352-074	6-57/64	1/4	5-13/32	375	15.31
207-USS	4352-079	5-5/8	1-1/4	4-3/8	450	35.20
210-S	4352-101	8	1-43/64	5-17/32	750	24.54
210-U	4352-100	8	1-43/64	5-17/32	600	21.97
210-USS	4352-109	8	1-43/64	5-17/32	750	48.86
247-S	4352-471	8-11/16	2	6-7/8	1000	37.34
247-U	4352-470	8-11/16	2	6-7/8	1000	32.19
267-U	4352-670	11-7/8	3-5/64	8-59/64	1200	51.47

## Low Silhouette - Drop Handle Clamp

Combined low silhouette and mounting flexibility provide easy operation for part loading and unloading. Available in U-bar and solid bar models.



Model 317S

MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
317-U	4353-170	5-5/8	2-43/64	6-13/16	375	\$23.22
317-S	4353-171	5-5/8	2-43/64	6-13/16	375	22.10



# Pull Action Clamps

## Pull Action Clamps

2 SS=7

Model Identification Code:

S Solid Holding Bar (bolt retainer furnished)

SS Stainless Steel

U Shaped Holding Bar

\*Measured to (Q) of mounting holes on straight base models.

### Latch Type Clamp

Latch-type pull action clamps are convenient to operate. One hand engages or disengages the latch bar while the other moves the handle. Red vinyl grip for comfortable handling.



Model 301

MODEL NO.	ORDER NO.	HEIGHT TO (Q)	OVERALL LENGTH	DRAWING MOVEMENT	HOLDING CAPACITY LBS.	PRICE EACH
301	4353-010	1-5/8	8-13/32	4	375	\$20.04
301-SS	4353-019	1-5/8	8-13/32	4	450	46.73
311	4353-110	2-1/16	9-33/64	3-3/8	1200	27.03

### J-Hook Pull-Action Clamps

Pull actions are excellent for many types of latching operations. When base is welded or bolted in place units can be used for latching pressure vessels, clean out doors, etc. J-hook is threaded for easy adjustment. Ergonomic grip.



Model 330



Model 331-R

MODEL NO.	ORDER NO.	HEIGHT TO (Q)	OVERALL LENGTH	DRAWING MOVEMENT	HOLDING CAPACITY LBS.	PRICE EACH
330	4353-300	9/16	5-41/64	2-5/16	200	\$14.45
330-SS	4353-309	4-7/32	15/16	2-47/64	200	26.48
351	4353-510	3/4	8-9/16	4	375	12.39
351-B	4353-515	55/64	8-9/16	4	375	13.95
351-SS	4353-519	3/4	8-9/16	4	450	26.93
381	4353-810	1-27/64	12	5-3/8	750	34.48

## Pull-Action Latch Clamps

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### Controlled Latch Clamp

Innovative controlled motion allows for single handed operation. Once locked over-center, the included J-hook is completely restrained in all directions. Upon opening the hook travels forward 3/4" and then pivots out of the way.



Model 3051-R

MODEL NO.	ORDER NO.	HEIGHT TO (Q)	OVERALL LENGTH	DRAWING MOVEMENT	HOLDING CAPACITY LBS.	PRICE EACH
3051	4353-052	1-17/64	1/2	2-5/8	150	\$32.39
3051-R	4353-063					46.10

#### FEATURES:

- Safe, single handed operation
- Innovative controlled motion
- Secure toggle-locking action
- Simple set-up and adjustment
- Clamp hook/arm moves and stays safely out of the way

#### APPLICATIONS:

- Molding
- Closures for doors, lids, covers
- Assembly
- Checking fixtures

MODEL NO.	MAX. HOLDING CAPACITY	WEIGHT	EF:AF	DRAWING MOVEMENT	REPLACEMENT HOOK ASSEMBLY
3051 3051-R	1500lbf	1.0lb	12:1	0.75	3051208

### Vertical Latch Type

Ideal for lid closure applications where it is better to mount the latch on the lid or door and the latch plate on the vessel or container. Height is measured from base to top of handle.



Model 324

MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL LENGTH	DRAWING MOVEMENT	HOLDING CAPACITY LBS.	PRICE EACH
324	4353-240	2-63/64	3-23/64	1-17/32	500	\$18.31
324-SS	4353-249	2-63/64	3-23/64	1-17/32	500	34.64
334	4353-340	3-55/64	4-1/4	2	1000	22.73
334-SS	4353-349	3-55/64	4-1/4	2	1000	40.82
344	4353-440	5-19/64	5-23/64	2-1/2	2000	34.41
344-SS	4353-449	5-19/64	5-23/64	2-1/2	2000	69.04

### Horizontal Pull-Action Clamps

These units combine maximum holding capacity with easy operation and simple adjustment. All use threaded U-bolts for adjustment. An optional forged latch plate is available on some models for applications such as holding two piece molds.



Model 323

MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL LENGTH	DRAWING MOVEMENT	HOLDING CAPACITY LBS.	PRICE EACH
323	4353-230	1-1/8	4	1-3/16	360	\$12.19
323-SS	4353-239	1-1/8	4	1-3/16	360	26.64
331	4353-310	1-31/32	4	2	700	16.23
331-SS	4353-319	1-31/32	5-5/8	2	700	31.94
341	4353-410	2-3/4	7-1/2	2-1/2	2000	25.27
341-SS	4353-419	2-3/4	7-1/2	2-1/2	2000	57.63
375†	4353-750	4-3/16	10-3/4	3-1/2	4000	56.87
385†	4353-850	3-3/4	8-5/8	2-3/16	7500	74.18
385-L	4353-851	1-27/32	10-1/4	2-3/16	7500	89.46

† Latch plate not included





# Pneumatic Power Clamps

## Powered Straight-Line Action

Air or hydraulic powered straight-line action clamps provide an economical holding device suited to a wide variety of uses.



Model 816

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MODEL NO.	ORDER NO.	OVERALL LENGTH	OVERALL HEIGHT	PLUNGER TRAVEL	HOLDING CAPACITY LBS.	PRICE EACH
803	4358-030	2-23/32	9-53/64	3/4	600	\$157.53
830	4358-300	3-17/64	14-5/64	1-1/4	2500	261.77
850	4358-500	7-11/64	21-11/64	2	16000	476.61

## Powered Hold-Down Action

DE-STA-CO over center toggle action linkage combined with pneumatic cylinder provides an economical holding device, easily adapted to a wide variety of applications. Units are completely assembled and ready to operate.



Model 807-U

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MODEL NO.	ORDER NO.	OVERALL HEIGHT	HEIGHT UNDER BAR	OVERALL LENGTH	HOLDING CAPACITY LBS.	PRICE EACH
812-U*	4358-120	1-9/16	11/16	5-39/64	150	\$ 99.03
802-U	4358-020	2-11/32	1-1/16	7-25/64	200	107.05
807-S	4358-071	3	1-3/8	9-31/32	500	118.55
807-U	4358-070	3	1-3/8	9-7/32	375	118.55
810-S	4358-101	3-51/64	1-51/64	12-1/8	750	199.87
810-U	4358-100	3-51/64	1-51/64	12-9/32	600	193.08
817-S	4358-171	7-27/64	2-11/16	6-3/4	450	142.47
817-U	4358-170	7-27/64	2-11/16	6-3/16	350	142.47
827-S	4358-271	9-21/32	3-7/8	8-41/64	700	236.90
827-U	4358-270	9-21/32	3-7/8	8-3/4	600	236.90
847-S	4358-471	4-11/32	2-1/4	16	1000	348.59
847-U	4358-470	4-11/32	2-1/4	16	800	348.59
858	4358-580	7-1/8	3-27/32	18-3/32	4000	445.39
868	4358-680	14-21/64	4-3/16	10-7/64	4000	512.07

\*Model 812-U=6



Model 9540L

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## Swing Clamps - 9500 Series

These innovative swing clamps feature no linear travel during rotation, a completely shielded rod, a robust arm connection Sensor ready for round or T-slot style sensors. Clamp shown with optional arm sold.

MODEL NO.	ORDER NO.	CLAMPING STROKE	OVERALL HEIGHT	BASE WIDTH	CLAMPING FORCE AT 87PSI	SWING	PRICE EACH
9522L	4359-343	0.50	5.43	1.42	53lb.	LH	\$288.46
9522R	4359-340	0.50	5.43	1.42	53lb.	RH	288.46
9530L	4359-333	0.79	6.59	1.76	90lb.	LH	322.01
9530R	4359-332	0.79	6.59	1.76	90lb.	RH	322.01
9540L	4359-335	0.79	6.94	2.05	160lb.	LH	345.02
9540R	4359-334	0.79	6.94	2.05	160lb.	RH	345.02

## Heavy-Duty Power Roller

These air operated power clamps use a roller and cam principle to clamp work of inconsistent thickness and still maintain a locked condition.



Model 871-2  
(Clamp shown in closed position)

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MODEL NO.	ORDER NO.	OVERALL HEIGHT	OVERALL WIDTH	ARM POSITION: WHEN CLOSED	HOLDING CAPACITY LBS.	PRICE EACH
870-2	4358-700	11-13/32	2-1/8	180	2000	\$ 445.00
871-2	4358-710	11-3/4	2-1/8	90	2000	445.00

## Swing Clamps

These versatile pneumatic clamps provide a quick swing-and-clamp movement while exerting just the force your operation requires...without deforming delicate parts. All pneumatic swing clamps are equipped with sensing capabilities as a standard feature. Multiple mounting options allow the clamp to be adapted to the fixture for the best use of space and to minimize installation time.



Model 8015



Model 8115

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MODEL NO.	ORDER NO.	BODY STYLE	OVERALL HEIGHT	BASE WIDTH	SWING	CLAMPING FORCE @ 80 PSI	PRICE EACH
8015	4358-015	Threaded Body	4-7/8	1 1/8-16	RH	22	\$270.11
8016	4358-016	Threaded Body	4-7/8	1 1/8-16	LH	22	270.11
8115	4358-115	Block Style	4-7/8	1-1/4	RH	22	257.97
8116	4358-116	Block Style	4-7/8	1-1/4	LH	22	257.97
8215	4358-215	Threaded Body	6-23/64	2 1/4-12	RH	80	357.42
8216	4358-216	Threaded Body	6-23/64	2 1/4-12	LH	80	357.42
8315	4358-315	Block Style	6-23/64	3	RH	80	347.60
8316	4358-316	Block Style	6-23/64	3	LH	80	347.60
8415	4358-415	Threaded Body	6-9/64	1 3/4-12	RH	62	328.33
8416	4358-416	Threaded Body	6-9/64	1 3/4-12	LH	62	328.33

## Miniature

- Compact Design
- Long life cycle
- High holding torques
- Low weight (aluminum body)
- Two mounting areas (front, rear)
- Toggle action mechanism
- Models can be fitted with magnetic end sensors

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MODEL NO.	ORDER NO.	HEIGHT (mm)	WIDTH (mm)	PISTON DIA. (mm)	HLDG. TQ. MAX. [in.-lb.]	PRICE EACH
81L20-10100	4358-134	151	40	20	885	\$440.00
81L25-10100	4358-136	151	40	25	885	440.00



Model 81L20-10100

## Swing Clamps - 89R Series

These robust swing clamps feature field changeable swing direction for easy ordering and flexible configuration. Sensor ready for round or T-slot style sensors. Clamp arm sold separately.



Model 89R32-010-2

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MODEL NO.	ORDER NO.	VERTICAL CLAMPING STROKE	OVERALL HEIGHT	BASE WIDTH	CLAMPING FORCE AT 87PSI	SWING	PRICE EACH
89R20-010-2	4358-947	0.39	4.93	1.26	22lb.	LH	\$234.19
89R32-010-2	4358-948	0.39	5.85	1.77	67lb.	RH	260.21
89R40-010-2	4358-949	0.39	6.49	2.15	103lb.	LH	291.09
89R40-025-2	4358-951	0.98	7.67	2.15	103lb.	RH	303.80
89R50-025-2	4358-950	0.98	8.94	2.56	167lb.	LH	351.92
89R63-025-2	4358-963	0.98	9.63	3.15	263lb.	RH	413.91

# Accessories

## Polyurethane Caps - Flat Tipped



POLYURETHANE CAPS			
MODEL NO.	FOR SPINDLE DIAMETER	ORDER NO.	PRICE EACH
215219	1/4-20	4359-110	\$1.31
225219	5/16-18	4359-111	1.31
235219	3/8-16	4359-112	1.46

## Neoprene Caps For Hex Head Spindles



POLYURETHANE CAPS			
MODEL NO.	FOR SPINDLE DIAMETER	ORDER NO.	PRICE EACH
215119	1/4	4359-102	\$0.52
225119	5/16	4359-103	0.57
235119	3/8	4359-105	0.67

## Flanged Washers

MODEL NO.	SIZE	ORDER NO.	PRICE EACH
102111	For No. 10 Spindle	4359-121	\$0.28
105106	For No. 8 Spindle	4359-122	0.24
215105	For 1/4 Spindle	4359-123	0.30
235106	For 3/8 Spindle	4359-124	0.41
247109	For 1/2 Spindle	4359-126	0.78
267102	For 5/8 Spindle	4359-127	1.11
507107	For 5/16 Spindle	4359-125	0.34



## Hex Head Spindle Assembly w/Locknuts



MODEL NO.	SIZE	ORDER NO.	PRICE EACH
105203	8-32 x 27/32 (Nylon)	4359-301	\$0.94
202203	1/4-20 x 3-1/8	4359-303	1.17
205203	1/4-20 x 1-7/8	4359-302	1.17
207203	5/16-18 x 2-3/4	4359-304	1.14
210203	3/8-16 x 3	4359-305	1.25
220203	1/2-13 x 3-5/16	4359-306	2.15
240203	3/8-16 x 4-1/4	4359-307	2.19
250203	5/8-11 x 4-3/8	4359-308	3.51
305203	10-32 x 1-3/32	4359-313	0.94
325203	1/2-13 x 2-3/4	4359-317	1.93
441203	5/16-18 x 1-15/16	4359-312	1.54
461203	5/16-18 x 1-3/16	4359-314	1.24
491203	3/8-16 x 1-11/16	4359-315	1.24

## Bolt Assembly with Bonded Cap & Locknuts



MODEL NO.	ORDER NO.	SIZE	LENGTH	PRICE EACH
201208	4359-816	10-32	1-3/8	\$ 1.55
201208-M	4359-824	M4 X 0.7	1-17/64	1.60
202208	4359-803	1/4-20	1-5/8	1.86
202208-M	4359-825	M6 X 1.0	1-47/64	1.99
205208-M	4359-836	M4 X 0.7	7/8	1.94
215208	4359-805	1/4-20	2-1/8	2.19
215208-M	4359-827	M6 X 1.0	2-1/8	2.22
225208	4359-807	5/16-18	2-3/16	2.19
225208-M	4359-828	M8 X 1.25	2-3/32	2.22
507208	4359-812	5/16-18	3"	2.22

MODEL NO.	ORDER NO.	SIZE	LENGTH	PRICE EACH
507208-M	4359-831	M8 X 1.25	3-17/64	\$2.35
240208	4359-809	3/8-16	3-1/4	2.91
240208-M	4359-830	M10 X 1.50	3-7/64	3.08
527208	4359-815	3/8-16	3-1/2	3.21
235208	4359-808	3/8-16	5-3/4	3.91
247208	4359-820	1/2-13	4"	4.38
247208-M	4359-835	M12 X 1.75	3-53/64	6.07
267208	4359-821	5/8-11	5"	5.18
307208-M	4359-839	M8 X 1.25	1-9/64	2.13
305208-M	4359-838	M5 X 0.8	1-11/16	1.86

## Swing Clamp Arms



MODEL NO.	ORDER NO.	USE WITH CLAMP	OVERALL LENGTH	SPINDLE SIZE	PRICE EACH
952250	4359-350	9522	2.28	M6	\$23.04
952253	4359-351	9522	3.07	M6	29.43
954050	4359-336	9530/9540	2.76	M8	25.12
954053	4359-337	9530/9540	3.94	M8	32.60
8JG-215-1	4358-870	89R20	2.64	M6	36.56
8JG-217-1	4358-871	89R32	3.15	M8	40.46
8JG-218-1	4358-872	89R40	3.74	M8	43.39
8JG-219-1	4358-873	89R50	4.17	M8	49.83
8JG-220-1	4358-874	89R63	4.72	M10	56.86

## Sensors

These sensors are used along with pneumatic clamps to sense position of the cylinder piston.



MODEL NO.	ORDER NO.	MOUNT STYLE	CONNECTOR	FUNCTION	PRICE EACH
810169	4358-188	Round	M8 Male	Reed	\$51.86
810173	4358-192	Round	M8 Male	PNP	51.86
810174	4358-193	Round	M8 Male	NPN	51.36
8EA-109-1	4358-195	T-Slot	M8 Male	Reed	82.09
810170	4358-189	T-Slot	M8 Male	Reed	68.12
810171	4358-190	T-Slot	M8 Male	Reed	68.12
810151	4358-510	Tie Rod	None, 9ft. cord	Reed	101.19
810153	4358-104	Tie Rod	None, 9ft. cord	Reed	150.64
810155	4358-155	Tie Rod	None, 9ft. cord	Reed	112.22
810157	4358-157	Tie Rod	None, 9ft. cord	Reed	112.22
810156	4358-156	Bnd. Clp.	None, 9ft. cord	Reed	101.19
810158	4358-158	Bnd. Clp.	None, 9ft. cord	Reed	112.22

## Extension Cables

MODEL NO.	ORDER NO.	CONNECTOR	PRICE EACH
CABL-010	4359-202	M8	\$24.72
CABL-013	4359-203	M8	27.54



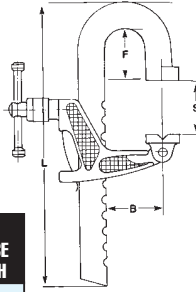
## Carver Clamps 14

### "C" Clamps

**SPEED-** Quick adjustment by sliding jaw and only a short turn of the tightening screw assembly.

**POWER-** Short, fine pitch thread for maximum grip. Only hand tightening is required.

**VERSATILITY-** Squeezes and spreads or locates by reversing jaws. Ideal for welding.



MODEL	ORDER NO.	OVERALL LENGTH	WIDTH OPENING	THROAT DEPTH	HOLDING CAPACITY LBS.	PRICE EACH
T186-6	4351-866	9-5/8	0 - 6"	2-3/8	2500	\$ 80.45
T186-12	4351-812	15-1/2	0 - 12"	2-3/8	2500	97.44
T321-10	4353-210	14-1/4	0 - 10"	4-3/4	1500	113.75
T290-9	4352-909	16-1/2	0 - 9"	3-1/2	4000	243.44
T290-18	4352-918	25-1/2	0 - 18"	3-1/2	4000	276.55

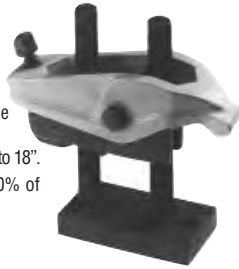
### T-Slot Clamps

**SAFETY-** No loose parts. Clamps and bases are one unit.

**EASE OF OPERATION-** Loosen adjusting screw and release safety catch to adjust height instantly.

**VERSATILITY-** Selection of bases gives clamping height from 0" to 18".

**A QUALITY TOOL BUILT TO LAST-** The design applies 100% of the holding force onto the workpiece.



MODEL NO.	CLAMP RANGE	HOLDING CAPACITY	ORDER NO.	PRICE EACH
T400-4	1-4"	5,000	4354-004	\$231.79
T400-6	1-6"	5,000	4354-006	247.34
T400-8	2-1/2-8"	5,000	4354-008	255.70
T402-6	0-6"	8,000	4354-026	365.17
T402-12	0-12"	8,000	4354-212	384.78
T402-18	6-18"	8,000	4354-218	392.87

### Buttress Clamps

These work-holding clamps are designed for use on thin or low-profile workpieces instead of ordinary strap clamps. They feature a self-aligning pivot so that the bolt is always vertical and induces no slide forces.



MODEL NO.	HOLDING CAPACITY	WORKING HUT. RANGE	BOLT SIZE	ORDER NO.	PRICE EACH
T614-0	2,875	0 - 1-3/4"	1/2 (13) dia.	4356-140	\$ 67.06
T614-1	13,750	0 - 2-1/4"	3/4 (20) dia.	4356-141	142.86
T614-2	17,600	0 - 3"	1 (26) dia.	4356-142	197.23

## Squeeze Action Clamps 2

### Squeeze Action

Most models have De-Sta-Co trigger release for easy one hand operation. These clamps are ideal for a wide range of applications for clamping and fixturing, holding and processing, etc.



Model 325



Model 431



Model 441



Model 424



Model 462



Model 463



Model 482



Model 484



Model 486

MODEL NO.	ORDER NO.	OVERALL LENGTH	WIDTH OPENING	THROAT DEPTH	HOLDING CAPACITY LBS.	PRICE EACH
325	4353-250	8-11/16	1-25/32	1-1/4	800	\$25.48
424	4354-240	4-3/4	1	1-5/64	200	16.87
431*	4354-310	6-7/8	3/4	2-59/64	100	22.62
441	4354-410	6-1/16	1-1/4	1-49/64	350	22.27
462	4354-620	8-1/2	1-3/4	2-23/32	700	32.96
463	4354-630	8-1/2	3	2-23/32	700	37.79
482*	4354-820	9-3/16	1-45/64	2-9/16	1200	45.01
484*	4354-840	9-1/16	3-53/64	2-9/16	1200	46.79
486*	4354-860	9-7/32	6	2-9/16	1000	50.20

\* Code = 14

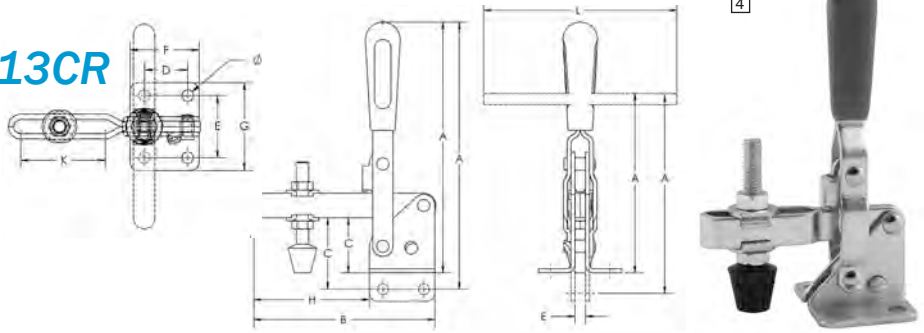
***New Models Added Daily —  
Call for any models not shown***

# Vertical Handle Toggle Clamps

**CLAMP-ORITE**

## Models 11011CR-11013CR

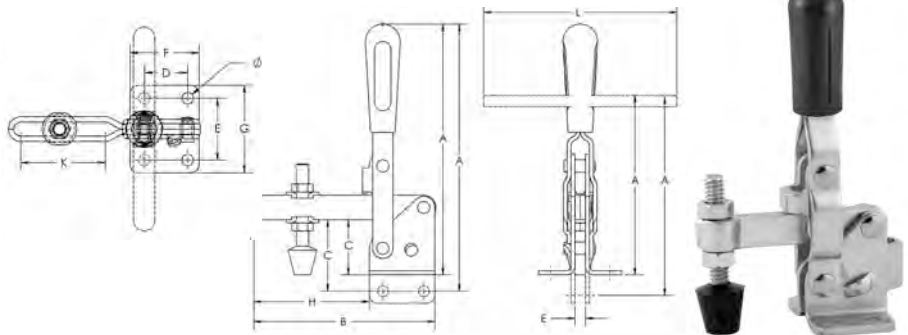
- Bar Opens: 100°
- Handle Opens: 56°
- Spindle Type: Bonded Neoprene
- Spindle Size: #10-24 x 1.38



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11011CR	201-U	4311-011	\$7.36	100	.13	Flanged	U-bar	Std.	3.38	2.07	0.73	0.63	0.95	1.00	1.32	1.06	0.17	0.77	-
11012CR	201-UB	4311-012	8.23	100	.13	Straight	U-bar	Std.	3.65	2.04	1	0.63	0.14	1	-	1.03	0.17	0.82	-
11013CR	201-TU	4311-013	9.15	100	.13	Flanged	U-bar	T-Handle	2.41	2.07	0.68	0.63	0.94	1	1.32	1.06	0.17	0.81	1.77

## Models 11020CR-1102

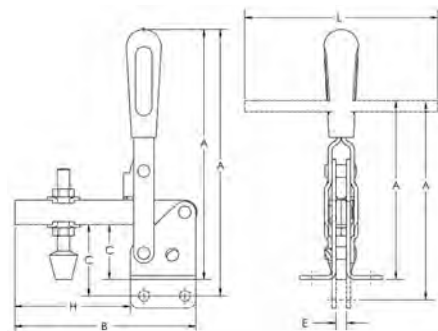
- Bar Opens: 100°
- Handle Opens: 60°
- Spindle Type: Bonded Neoprene
- Spindle Size: 1/4-20 x 1.75



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11020CR	202	4311-020	\$7.95	200	.37	Flanged	Solid	Std.	4.01	2.5	0.98	0.51	1	0.98	1.5	1.28	0.21	-	-
11021CR	202-U	4311-021	7.95	200	.37	Flanged	U-bar	Std.	4.01	2.68	0.95	0.52	1.03	0.98	1.5	1.68	0.2	1.08	-
11022CR	202-UB	4311-022	9.06	200	.37	Straight	U-bar	Std.	4.27	2.68	1.18	0.51	0.26	0.98	-	1.68	0.2	1.08	-
11023CR	202-TU	4311-023	9.90	200	.37	Flanged	U-bar	T-Handle	3.12	2.68	0.98	0.51	1.03	0.98	1.53	1.7	0.2	0.98	-
11025CR	202-B	4311-025	9.06	200	.37	Straight	Solid	Std.	Std.	4.23	2.48	1.15	0.72	0.24	0.98	-	1.24	0.21	-
11026CR	202-T	4311-026	9.90	200	.37	Flanged	Solid	T-Handle	3.03	2.5	0.97	0.56	0.99	0.99	1.48	1.26	0.21	-	2.6

## Models 11018CR, 11019CR 11071CR-11079CR

- Bar Opens: 100°
- Handle Opens: 60°
- Spindle Type: Bonded Neoprene
- Spindle Size: 5/16-18 x 2.50



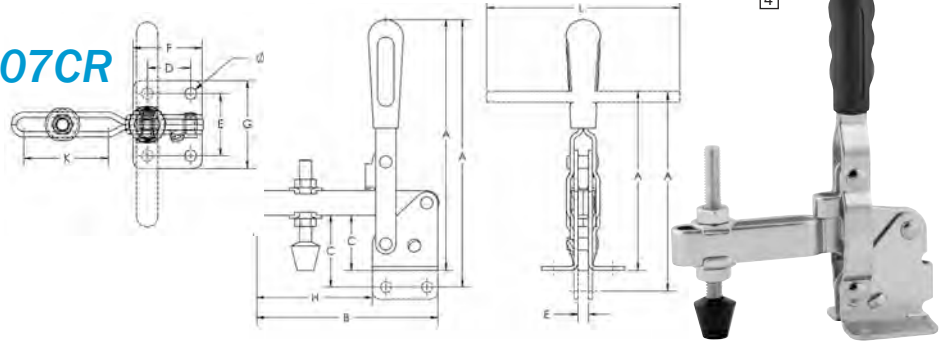
MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11018CR	207-UL	4311-018	\$10.61	500	.82	Flanged	U-bar	Std.	5.6	5.43	1.25	0.78	1.25	1.38	1.77	3.75	0.27	2.79	-
11019CR	207-ULB	4311-019	11.41	375	.82	Flanged	U-bar	Std.	5.9	5.5	1.62	0.75	0.25	1.38	-	3.76	0.27	2.85	-
11071CR	207-U	4311-071	10.42	200	.78	Flanged	U-bar	Std.	5.88	4.59	1.23	0.75	1.25	1.38	1.82	2.85	0.27	2.05	-
11072CR	207-UB	4311-072	11.41	375	.78	Flanged	U-bar	Std.	5.93	4.61	1.57	0.75	0.24	1.38	-	2.86	0.28	2.03	-
11073CR	207-TU	4311-073	12.29	375	.82	Flanged	U-bar	Std.	4.1	4.6	1.23	0.75	1.25	1.38	1.77	2.86	0.27	2.1	3.86
11074CR	207-S	4311-074	10.42	375	.75	Flanged	U-bar	Std.	5.9	3.75	1.26	0.74	1.25	1.37	1.8	2.24	0.27	-	-
11077CR	207-SB	4311-077	11.41	375	.75	Flanged	U-bar	Std.	6.12	3.75	1.57	0.75	0.26	1.38	-	2.24	0.27	-	-
11078CR	207-L	4311-078	11.77	500	.78	Flanged	U-bar	Std.	5.58	4.78	1.26	0.75	1.25	1.38	1.76	3.4	0.27	-	-
11079CR	207-LB	4311-079	11.77	500	.13	Flanged	U-bar	Std.	6.12	4.85	1.57	0.75	0.25	1.38	-	3.47	0.28	-	-



# Vertical Handle Toggle Clamps

## Models 11101CR-11107CR

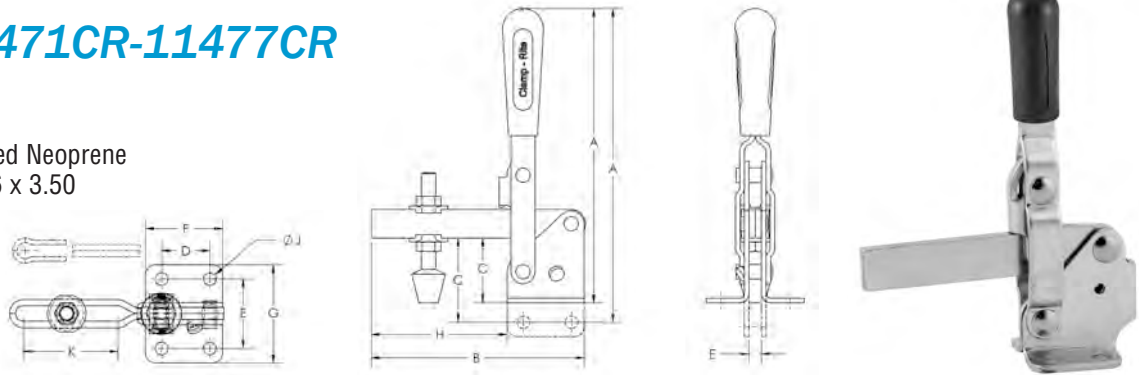
- Bar Opens: 105°
- Handle Opens: 58°
- Spindle Type: Bonded Neoprene
- Spindle Size: 3/8-16 x 3.50



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11101CR	210-U	4311-101	\$15.19	600	1.4	Flanged	U-bar	Std.	7.96	5.65	1.66	1.25	1.8	1.94	2.55	3.56	0.31	2.31	-
11102CR	210-UB	4311-102	17.01	600	1.4	Flanged	U-bar	Std.	8.46	5.64	2.18	1.25	0.31	1.94	-	3.55	0.31	2.23	-
11103CR	210-TU	4311-103	18.24	600	1.6	Flanged	U-bar	T-Handle	5.6	5.5	1.62	1.25	1.77	1.94	2.5	3.56	0.31	2.4	5.13
11104CR	210-S	4311-104	16.10	750	1.5	Flanged	Solid	Std.	7.89	5.59	1.26	1.25	1.81	1.94	2.56	3.53	0.31	-	-
11107CR	210-SB	4311-107	17.45	750	1.5	Flanged	Solid	Std.	8.46	5.59	2.16	1.25	0.35	1.94	-	3.59	0.31	-	-

## Models 11471CR-11477CR

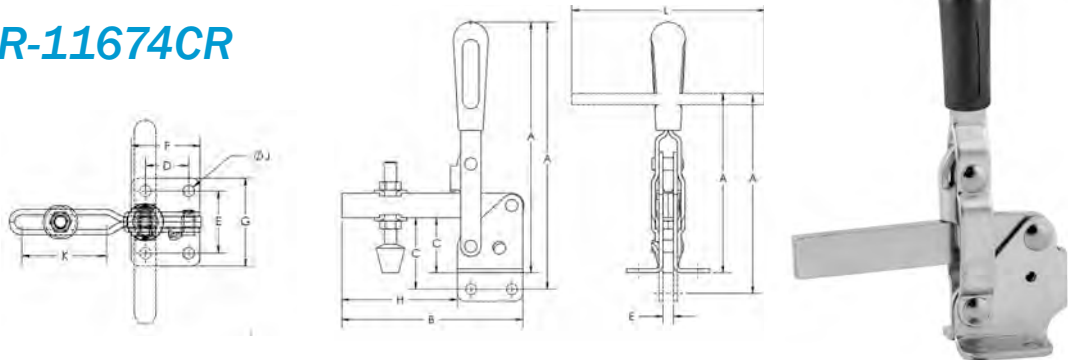
- Bar Opens: 135°
- Handle Opens: 70°
- Spindle Type: Bonded Neoprene
- Spindle Size: 3/8-16 x 3.50



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11471CR	247-U	4311-471	\$22.26	1000	2.76	Flanged	U-bar	Std.	8.81	6.89	1.95	1.25	1.77	2	2.56	4.87	0.35	2.98	-
11472CR	247-UB	4311-472	29.26	1000	2.76	Flanged	U-bar	Std.	9.17	6.9	2.31	1.25	0.31	1.99	-	4.9	0.35	3	-
11474CR	247-S	4311-474	24.13	1000	2.76	Flanged	Solid	Std.	8.81	7.12	2	1.26	1.78	2.01	2.56	4.95	0.35	-	-
11477CR	247-SB	4311-477	32.00	1000	2.76	Flanged	Solid	Std.	9.17	7.12	2.72	1.26	0.39	2	-	4.95	0.35	-	-

## Models 11671CR-11674CR

- Bar Opens: 140°
- Handle Opens: 60°
- Spindle Type: Hex Head
- Spindle Size: 3/8-16 x 3.50

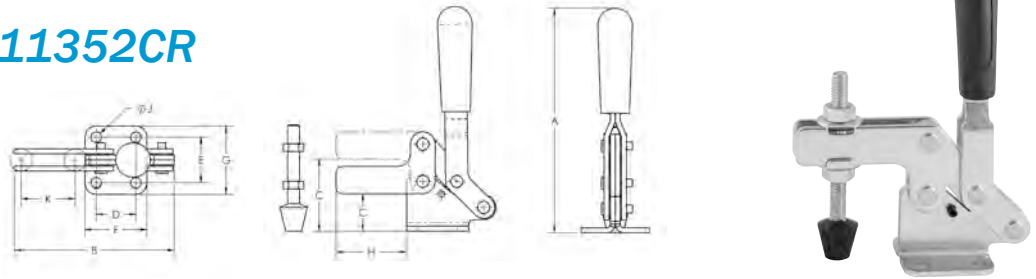


MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11671CR	267-U	4311-671	\$33.47	1200	5.6	Flanged	U-bar	Std.	11.87	9	3.08	2	2.75	2.99	3.75	5.99	0.48	4.33	-
11674CR	267-S	4311-674	33.47	1200	5.6	Flanged	Solid	Std.	11.83	8.97	3.22	2	2.75	2.99	3.75	5.98	0.48	-	-

# Vertical Handle Toggle Clamps

## Models 11351CR, 11352CR

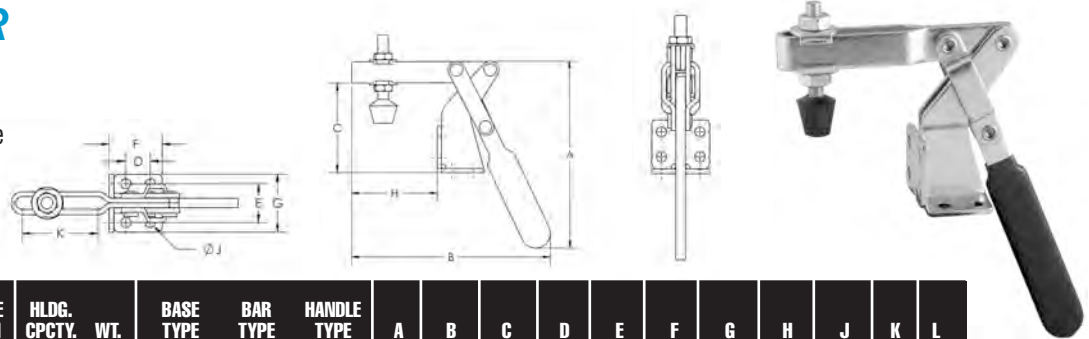
- Bar Opens: 90°
- Handle Opens: 85°
- Spindle Type: Bonded Neoprene
- Spindle Size: 3/8-16 x 3.50



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11351CR	136-D	4311-351	\$13.56	850	1.32	Flanged low U-bar	Std.	Std.	6.85	4.22	1.2	1.26	1.44	1.97	2.2	2.25	0.33	1.53	-
11352CR	136-DI	4311-352	13.56	850	1.32	Flanged high U-bar	Std.	Std.	6.85	4.22	2.26	1.26	1.44	1.97	2.2	2.25	0.33	1.53	-

## Models 11170CR

- Bar Opens: 185°
- Handle Opens: 60°
- Spindle Type: Bonded Neoprene
- Spindle Size: 5/16-18 x 2.50

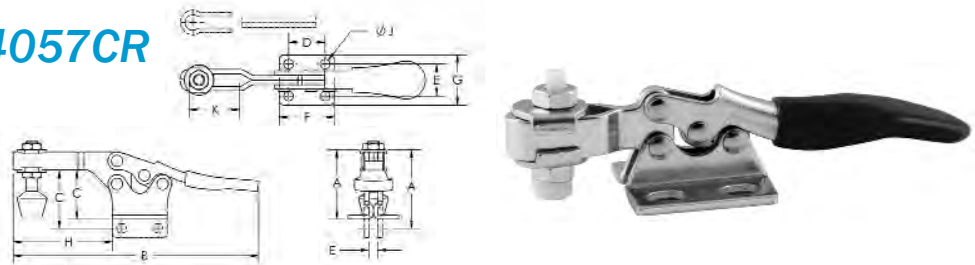


MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
11170CR	317-U	4311-170	\$14.71	375	.88	Flanged	U-bar	Std.	6.37	5.86	2.8	0.64	1.02	1.39	1.54	2.55	0.26	2.11	-

# Horizontal Handle Toggle Clamps

## Models 14051CR-14057CR

- Bar Opens: 90°
- Handle Opens: 80°
- Spindle Type: Nylon Hex Head
- Spindle Size: #8-32 x .75



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K
14051CR	205-U	4314-051	\$5.84	60	.06	Flanged	U-bar	Standard	0.70	3.10	0.34	0.53	0.42	0.95	0.98	0.78	0.17	0.48
14052CR	205-UB	4314-052	6.52	60	.06	Straight	U-bar	Standard	0.83	3.11	0.47	0.91	0.40	0.95	-	0.78	0.17	0.48
14054CR	205-S	4314-054	5.84	60	.06	Flanged	Solid	Standard	0.73	5.24	1.42	1.38	0.41	0.95	0.98	0.87	0.17	-
14057CR	205-SB	4314-057	6.52	60	.06	Straight	Solid	Standard	0.87	5.23	1.54	1.38	0.40	0.95	-	0.87	0.17	-

## Models 14151CR-14157CR

- Bar Opens: 85°
- Handle Opens: 60°
- Spindle Type: Bonded Neoprene
- Spindle Size: 1/4-20 x 2.13



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K
14151CR	215-U	4314-151	\$8.11	200	.29	Flanged	U-bar	Standard	1.52	5.90	0.96	0.98	0.86	1.46	1.36	2.29	0.21	1.51
14152CR	215-UB	4314-152	8.95	200	.29	Straight	U-bar	Standard	1.76	5.90	1.23	0.98	0.16	1.46	-	2.29	0.21	1.53
14154CR	215-S	4314-154	8.83	200	.29	Flanged	Solid	Standard	1.52	5.90	1.00	0.98	0.83	1.46	1.36	2.29	0.21	-
14157CR	215-SB	4314-157	11.29	200	.29	Straight	Solid	Standard	1.76	5.90	1.26	0.98	0.16	1.46	-	2.29	0.21	-

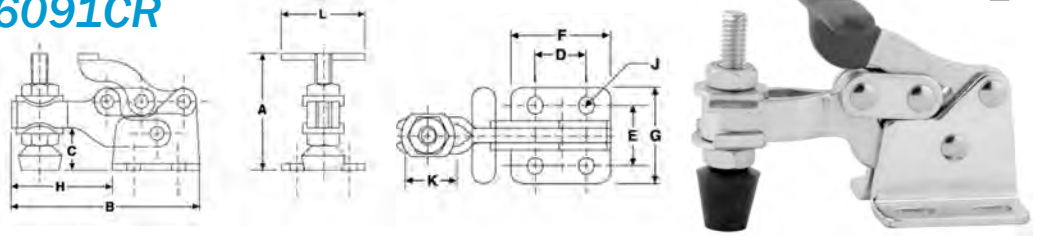
# Horizontal Handle Toggle Clamps

**CLAMP-RITE**

4

## Models 16051CR-16091CR

- Bar Opens: 90°
- Handle Opens: 170°
- Spindle Type: Bonded Neoprene
- Spindle Size: #10-24 x 1.38 (16051)  
5/16-18 x 2.50 (16071)  
3/8-16 x 3.50 (16091)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
16051CR	305-U	4316-051	\$7.40	150	.13	Flanged	U-bar	T-Handle	1.47	2.30	0.65	0.53	0.66	1.03	1.03	1.26	0.17	0.44	1.32
16071CR	307-U	4316-071	10.90	350	.51	Flanged	U-bar	T-Handle	2.49	3.68	0.89	0.91	1.17	1.72	1.82	1.93	0.28	0.77	2.01
16091CR	309-U	4316-091	16.27	750	1.39	Flanged	U-bar	T-Handle	3.73	5.33	1.31	1.38	1.5	2.52	2.52	2.81	0.31	1.32	2.48

## Models 16351CR-16354CR

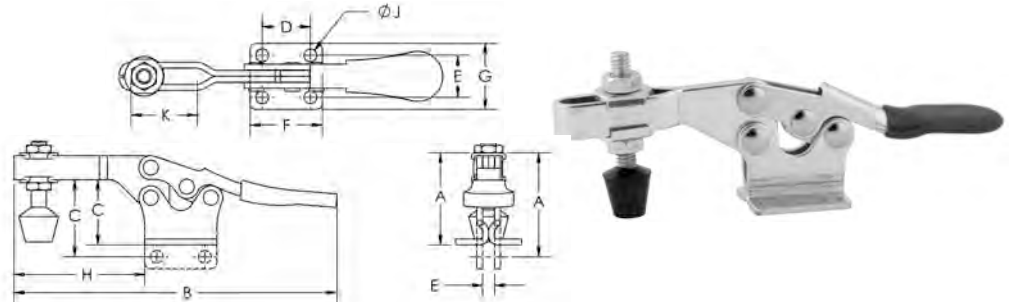
- Bar Opens: 90°
- Handle Opens: 90°
- Spindle Type: Bonded Neoprene
- Spindle Size: 3/8-16 x 3.50



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K
16351CR	135-D	4316-351	\$13.55	850	1.32	Flanged low U-bar	Std.	3.15	9	1.2	1.27	1.47	1.97	2.2	2.25	0.33	1.53	
16352CR	135-DI	4316-352	13.56	850	1.32	Flanged high U-bar	Std.	3.15	9	2.26	1.27	1.47	1.97	2.2	2.25	0.33	1.53	
16353CR	135-R	4316-353	13.78	850	1.32	Straight low U-bar	Std.	4	9	2.03	1.27	-	1.97	-	2.25	0.33	1.53	

## Models 14251CR, 14252CR

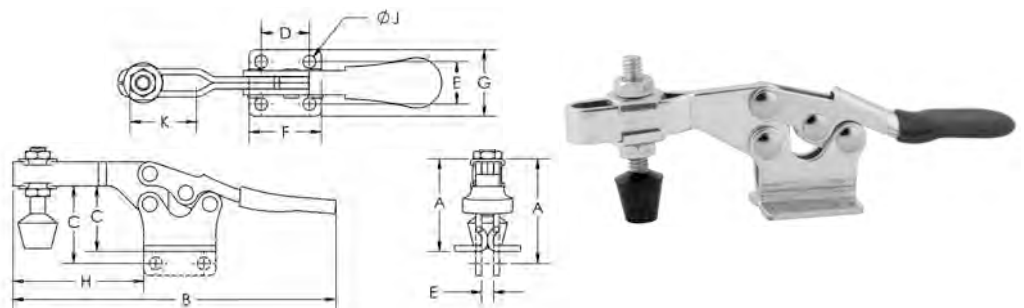
- Bar Opens: 90°
- Handle Opens: 65°
- Spindle Type: Bonded Neoprene
- Spindle Size: 5/16-18 x 3.00



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
14251CR	225-U	4314-251	\$9.34	500	.7	Flanged	U-bar	Std.	1.96	6.88	1.31	0.99	0.89	1.51	1.36	2.91	0.28	1.31	-
14252CR	225-UB	4314-252	10.22	500	.7	Flanged	U-bar	Std.	2.18	6.87	1.66	0.99	0.23	1.51	-	2.91	0.28	1.42	-

## Models 14351CR, 14352CR

- Bar Opens: 85°
- Handle Opens: 50°
- Spindle Type: Bonded Neoprene
- Spindle Size: 3/8-16 x 3.50

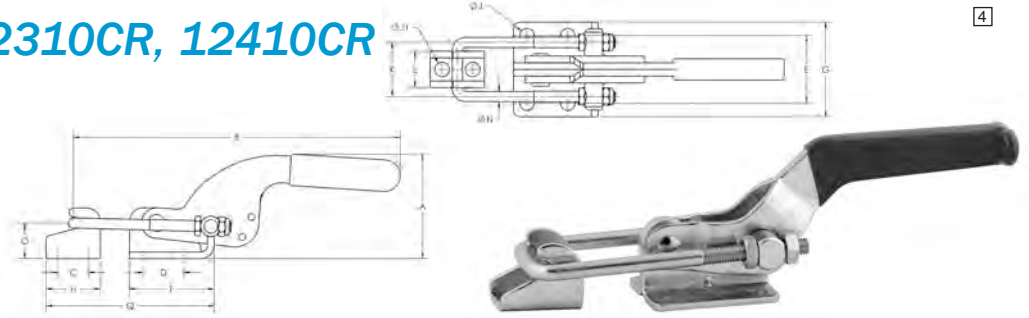


MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	BAR TYPE	HANDLE TYPE	A	B	C	D	E	F	G	H	J	K	L
14351CR	235-U	4314-351	\$15.47	750	1.5	Flanged	U-bar	Std.	2.55	10.4	1.73	1.62	1.6	2.25	2.23	4.29	0.31	2.74	-
14352CR	235-UB	4314-352	17.06	750	1.5	Flanged	U-bar	Std.	2.93	10.4	2.17	1.62	0.27	2.25	-	4.24	0.31	2.75	-

# Pull Action Clamps

## Models 12230CR, 12310CR, 12410CR

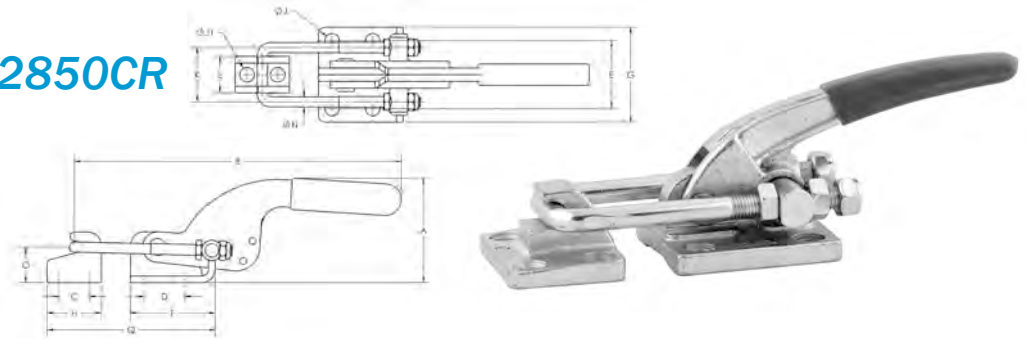
- Drawing Movement: 1.81" (12230)  
1.75" (12310)  
2.50" (12410)
- Spindle Type: U-Hook
- Hook Size: M4 (12230)  
M5 (12310)  
M8 (12410)
- Base Type: Flanged
- Bar Type: Standard



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q MIN	Q MAX
12230CR	323	4312-230	\$8.67	360	.16	1.31	4.18	0.40	0.62	0.76	1.03	1.12	0.78	0.17	0.80	0.55	-	0.13	0.44	-	1.84	2.57
12310CR	331	4312-310	11.56	700	.50	1.91	6.56	0.48	0.78	1.25	1.52	1.75	1.01	0.28	1.00	0.79	-	0.17	0.50	-	2.53	3.69
12410CR	341	4312-410	18.01	2,000	1.5	2.75	8.48	0.76	1.62	1.44	2.39	2.12	1.17	0.34	1.75	1.17	-	0.31	0.83	-	4.39	5.37

## Models 12750CR, 12850CR

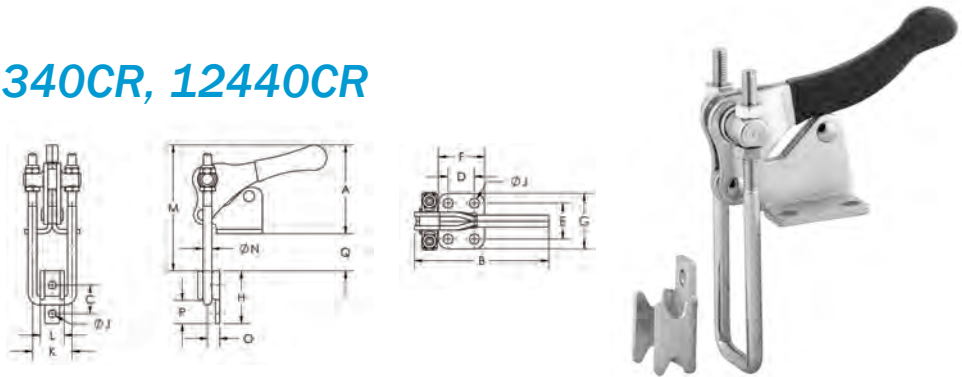
- Drawing Movement: 3.50" (12750)  
2.19" (12850)
- Spindle Type: U-Hook
- Hook Size: M10 (12750)  
M12 (12850)
- Base Type: Flanged
- Bar Type: Standard



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q MIN	Q MAX
12750CR	375	4312-750	\$37.32	4,000	2.78	3.96	11.39	1.37	2.24	2.28	3.42	3.21	2.32	0.41	1.71	3.14	-	0.39	1.17	-	6.22	7.21
12850CR	385	4312-850	48.70	7,500	3.26	3.63	10.18	1.37	2.24	2.26	3.43	3.17	2.32	0.41	2.06	3.14	-	0.46	1.08	-	6.13	7.25

## Models 12240CR, 12340CR, 12440CR

- Drawing Movement: 1.53" (12240)  
2.00" (12340)  
2.50" (12440)
- Spindle Type: U-Hook
- Hook Size: M4 (12240)  
M5 (12340)  
M8 (12440)
- Base Type: Flanged
- Bar Type: Standard



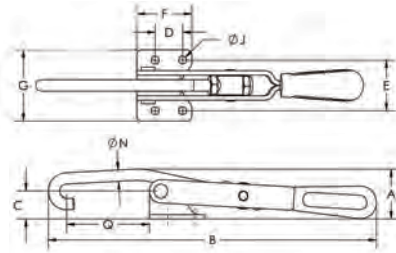
MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q MIN	Q MAX
12240CR	324	4312-240	\$12.01	500	.25	2.22	3.15	0.57	0.51	0.87	1.02	1.39	1.00	0.21	0.86	0.54	3.43	0.12	0.20	0.43	0.54	1.20
12340CR	334	4312-340	14.90	1,000	.55	2.86	4.71	0.81	0.75	1.02	1.30	1.56	1.50	0.28	1.06	0.67	4.36	0.23	0.25	0.64	0.54	1.50
12440CR	344	4312-440	22.26	2,000	1.54	3.60	5.25	1.06	1.25	1.47	1.86	2.11	2.13	0.35	1.74	1.19	5.75	0.31	0.50	0.79	2.14	2.11



## Models 12510CR - 12810CR

- Drawing Movement: 4.00" (12510, 12515)  
5.38" (12710)  
6.13" (12810)

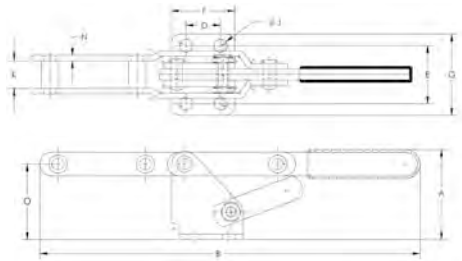
- Spindle Type: U-Hook
- Hook Size: M8 (12510, 12515)  
M10 (12710)  
M12 (12810)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	HANDLE TYPE	A	B	C	D	E	F	G	J	N	Q MIN	Q MAX
12510CR	351	4312-510	\$8.83	375	.60	Flanged	Std.	1.45	8.33	0.74	0.94	1.44	1.50	1.99	0.24	0.30	1.53	3.11
12515CR	351-B	4312-515	8.83	375	.50	Narrow	Std.	1.35	8.40	0.73	1.52	-	2.01	0.55	0.25	0.32	1.61	2.20
12710CR	371	4312-710	18.53	750	1.38	Flanged	Std.	2.17	11.46	0.96	1.25	1.97	1.86	2.61	0.35	0.39	2.70	3.44
12810CR	381	4312-810	17.55	1000	2.49	Flanged	Std.	2.62	13.80	1.82	1.13	2.49	2.13	3.30	0.41	0.47	2.75	3.60

## Model 12010CR

- Drawing Movement: 4.00"
- Bar Type: U-Hook



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	BASE TYPE	HANDLE TYPE	A	B	D	E	F	G	J	K	N	O
12010CR	301	4312-010	\$9.83	375	.68	Flanged	Std.	1.88	8.40	0.75	1.22	1.38	1.72	0.28	0.60	0.12	1.59

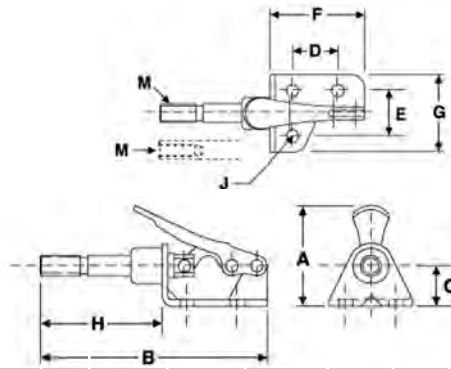
### — Also In Stock —

- **Aerosol Chemicals**
- **Hand Tools**
- **Tool Steel**
- **Shim Stock**
- **Paint**
- **Markers**
- **Jig Fixtures & Components**
- **Drill Jig Bushings**

# Straight-Line Action Clamps

## Models 13010CR, 13011CR

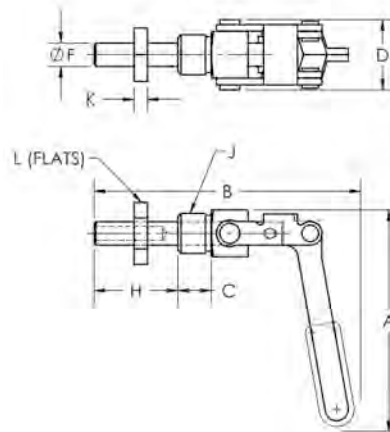
- Spindle Type: Hex Head
- Spindle Size: #8-32 x .50DP (13010)  
1/4-20 x .50LG (13011)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13010CR	610	4313-010	\$7.79	100	.11	0.63	Flanged	Std.	Internal	1.57	2.67	0.52	0.63	0.61	1.31	1.07	1.35	0.17	0.25
13011CR	601-0	4313-011	8.03	100	.11	0.63	Flanged	Std.	External	1.59	2.85	0.57	0.63	0.61	1.32	1.07	1.53	0.17	1/4-20

## Models 13020CR, 13040CR, 13240CR

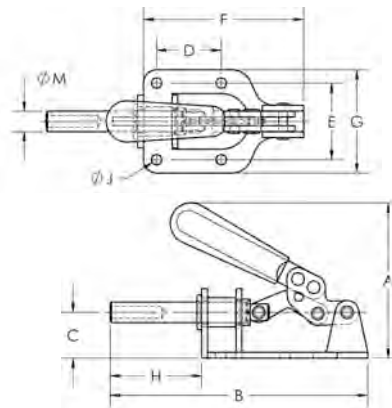
- Spindle Type: Hex Head
- Spindle Size: 1/4-20 x .63 (13020)  
5/16-18 x 1.00 (13040)  
3/8-16 x 1.25 (13240)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	MOUNT TYPE	HANDLE TYPE	A	B	C	D	F	H	J	K	L
13020CR	602	4313-020	10.97	200	.25	0.75	Through-hole	Std.	3.06	2.67	0.48	1.03	0.37	0.81	0.58	0.26	0.94
13040CR	604	4313-040	12.29	300	.60	1.50	Through-hole	Std.	4.16	4.26	0.63	1.28	0.43	1.57	0.73	0.25	1.17
13240CR	624	4313-240	24.60	700	1.54	2.63	Through-hole	Std.	5.43	6.73	0.88	1.86	0.63	2.80	1.05	0.35	1.59

## Models 13050CR

- Spindle Type: Hex Head
- Spindle Size: 5/16-18 x 1.00

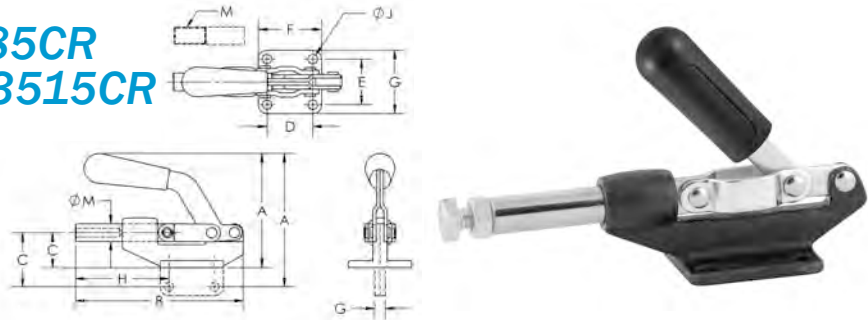


MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13050CR	605	4313-050	\$11.53	300	.66	1.25	Flanged	Std.	Internal	3.14	5.45	0.98	1.38	1.64	3.55	2.22	1.90	0.22	0.47

# Straight-Line Action Clamps

## Models 13030CR, 13485CR 13415CR, 13858CR, 13515CR

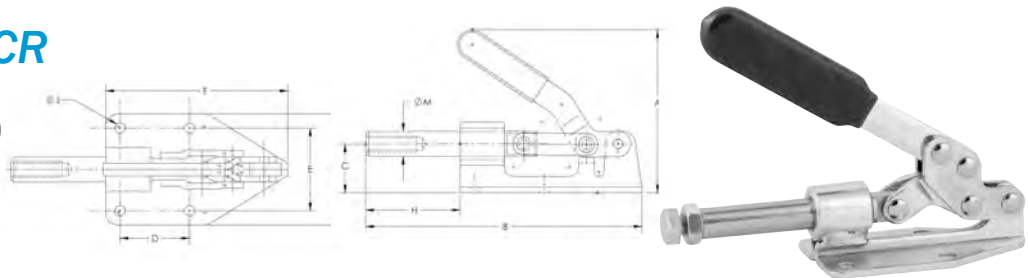
- Spindle Type: Hex Head
- Spindle Size: 5/16-18 x 1.00 (13030)  
3/8-16 x 1.25 (13485, 13585)  
1/2-13 x 2.00 (13485, 13585)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13030CR	603	4313-030	\$15.11	600	.7	1.25	Flanged	45°	Internal	3.34	3.64	0.98	1.44	1.32	2.30	1.85	2.03	0.23	0.43
13485CR	608	4313-485	24.53	850	1.28	1.65	Flanged	45°	Internal	4.19	6.41	1.25	1.62	1.63	2.33	2.25	3.13	0.33	0.63
13415CR	-	4313-415	15.53	1,500	3.26	2.36	Flanged	45°	Internal	4.95	9.39	1.78	1.99	2.00	2.89	2.48	5.00	0.34	0.70
13585CR	-	4313-585	27.72	850	1.28	1.65	Flanged	90°	Internal	4.75	6.41	1.25	1.60	1.62	2.33	2.25	3.14	0.33	0.62
13515CR	-	4313-515	27.72	1,500	3.26	2.36	Flanged	90°	Internal	6.93	9.38	1.83	2.00	2.02	2.85	2.82	5.75	0.35	0.70

## Models 13090CR

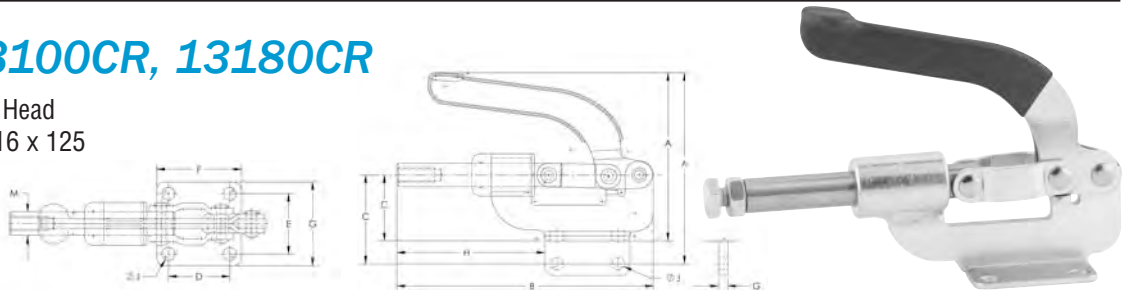
- Spindle Type: Hex Head
- Spindle Size: 5/16-18 x 1.00



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13090CR	609	4313-090	\$12.65	300	.76	1.25	Flanged	Std.	Internal	4.10	5.00	0.85	1.57	1.33	3.27	1.95	1.71	0.26	0.47

## Models 13100CR, 13180CR

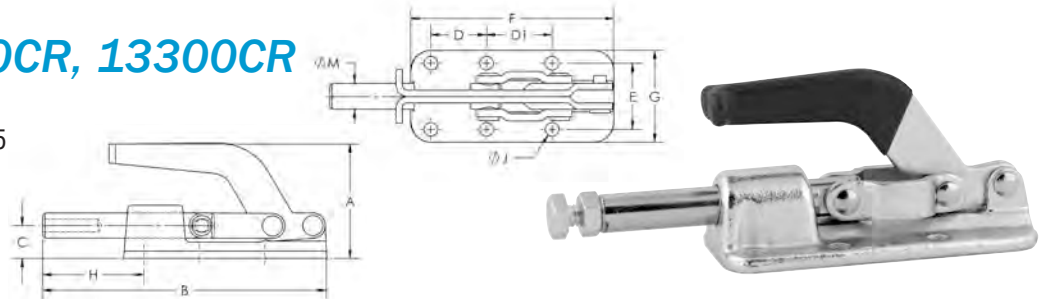
- Spindle Type: Hex Head
- Spindle Size: 3/8-16 x 125



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13100CR	610	4313-100	\$19.60	800	1.76	1.63	Flanged	Std.	Internal	5.04	6.82	1.75	1.63	1.58	2.25	2.20	4.23	0.34	0.62
13180CR	618	4313-180	32.96	800	1.76	1.63	Straight	Std.	Internal	5.80	6.79	2.36	1.64	-	2.25	0.24	4.23	0.33	0.62

## Models 13070CR, 13300CR

- Spindle Type: Hex Head
- Spindle Size: 3/8-16 x 125



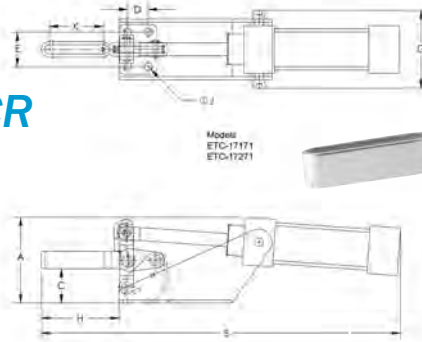
MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PLNGR TRAVEL	BASE TYPE	HANDLE TYPE	THD.	A	B	C	D	E	F	G	H	J	M
13070CR	607	4313-070	\$22.54	800	1.7	1.63	Flanged	Std.	Internal	3.28	6.10	0.68	1.38	1.62	4.30	2.18	1.86	0.28	0.51
13300CR	630	4313-300	28.39	2500	2.06	2.00	Flanged	Std.	Internal	2.93	7.06	0.88	1.39	1.63	5.25	2.24	1.82	0.35	0.63

# Pneumatic Hold-Down Clamps

4

## Models 17024CR, 17018CR, 17101CR, 13858CR, 13515CR

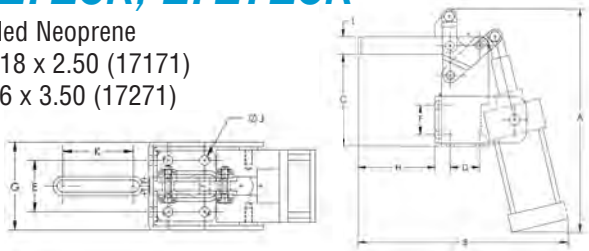
- Spindle Type: Bonded Neoprene
- Spindle Size: 1/4-20 x 1.75 (17024)  
5/16-18 x 2.50 (17018)  
3/8-16 x 3.50 (17101)  
#10-24 x 1.38 (17121)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PORT SIZE	TYPE	BAR TYPE	A	B	C	D	F	G	H	J	K
17024CR	802-U	4317-024	\$77.91	250	1.60	1/8 NPT	Horizontal	Adj. Hold-Down	2.19	7.28	1.06	0.50	1.0	3.00	1.38	0.21	1.08
17018CR	807-U	4317-018	92.22	375	2.30	1/8 NPT	Horizontal	Adj. Hold-Down	3.04	12.75	1.41	0.74	1.21	2.28	2.83	0.28	2.05
17101CR	810-U	4317-101	150.20	600	4.00	1/8 NPT	Horizontal	Adj. Hold-Down	3.69	15.43	1.74	1.25	1.78	4.00	3.74	0.33	2.31
17121CR	812-U	4317-121	72.03	150	.46	10-32 NF	Horizontal	Adj. Hold-Down	1.60	6.63	0.69	0.63	0.94	3.00	0.94	0.13	0.77

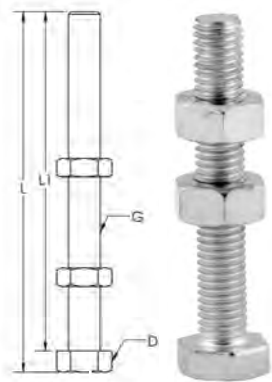
## Models 17171CR, 17271CR

- Spindle Type: Bonded Neoprene
- Spindle Size: 5/16-18 x 2.50 (17171)  
3/8-16 x 3.50 (17271)



MODEL NO.	DE-STA-CO CROSS-REF. NO.	ORDER NO.	PRICE EACH	HLDG. CPCTY.	WT.	PORT SIZE	TYPE	BAR TYPE	A	B	C	D	E	F	G	H	J	K	L
17171CR	817-U	4317-171	104.42	350	3.00	1/8 NPT	Vertical	Adj. Hold-Down	10.28	7.63	2.80	0.63	1.03	0.63	2.28	2.47	0.25	2.13	0.64
17271CR	827-U	4317-271	162.58	600	5.00	1/8 NPT	Vertical	Adj. Hold-Down	9.50	9.21	3.93	1.25	1.75	1.25	4.00	3.41	0.33	2.31	0.75

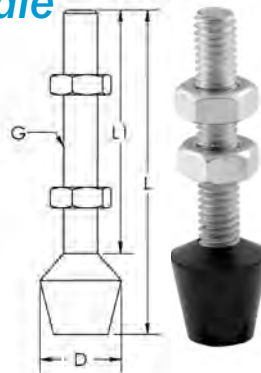
## Hex Head Spindle



3

MODEL NO.	ORDER NO.	PRICE EACH	D	G	L	L1
19338	4319-338	1.02	0.55	3/8-16	3.23	3.00
19310	4319-310	1.73	0.74	1/2-13	3.31	3.00
19112	4319-112	0.82	0.43	1/4-20	1.65	1.50
19212	4319-212	0.89	0.49	5/16-18	2.71	2.50

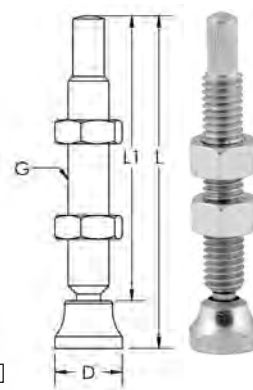
## Bonded Neoprene Spindle



3

MODEL NO.	ORDER NO.	PRICE EACH	D	G	L	L1
19312	4319-312	\$1.91	0.88	3/8-16	3.44	2.60
19218	4319-218	1.28	0.59	1/4-20	2.17	1.59
19316	4319-316	1.41	0.49	5/16-18	3.05	2.31

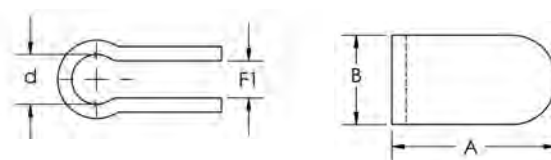
## Swivel Foot Spindle



3

MODEL NO.	ORDER NO.	PRICE EACH	D	G	L	L1
19300	4319-300	\$2.58	0.63	3/8-16	0.25	0.32
19214	4319-214	2.10	0.43	1/4-20	0.33	0.41
19234	4319-234	2.25	0.47	5/16-18	0.38	0.67

## Bolt Retainer



3

MODEL NO.	ORDER NO.	PRICE EACH	A	B	F1	d
19516	4319-516	0.80	1.20	0.64	0.25	0.32
19380	4319-380	0.89	1.47	0.74	0.33	0.41
19120	4319-120	1.27	1.70	1.19	0.38	0.67



# Clamps



**Closeout!**

## Series 800 and 400 - Regular Duty Drop Forged Clamps [5]

### 800 SERIES FORGED C-CLAMPS

#### FEATURES:

- Drop-forged, regular duty with standard throat depth.
- A value alternative for clamping, not requiring as much throat depth or clamping pressure as a 400 series clamp
- Drop forged, equipped with Wilton® Perma-Pads® and a precision cut, single lead acme thread

### WILTON/HARGRAVE 400 SERIES DROP FORGED C-CLAMPS

#### FEATURES:

- Drop-forged, regular duty with extra deep-throat.
- Improved frame design allows for a higher proof test, greater throat depth, and lower overall weight
- Acme rolled spindle threads provide maximum strength and clamping force

### WILTON/HARGRAVE 400-CS SERIES HIGH VISIBILITY FORGED C-CLAMPS

#### FEATURES:

- Spatter resistant copper plated spindle

### 400-P SERIES WELDING FORGED C-CLAMPS

#### FEATURES:

- Copper plated spindles and PERMA-PAD® for resistance to welding spatter and corrosion



Wilton's exclusive Perma-Pad® Design.



WILTON CAT. NO.	CAPACITY	THROAT DEPTH	SPINDLE DIAMETER	ORDER NO.	PRICE EACH
<b>800 SERIES</b>					
804	0 - 4	2-5/16	5/8	9540-517	\$14.00
<b>400 SERIES</b>					
H406	0 - 6-1/16	4-1/8	3/4	9540-467	28.00
H408	0 - 8-1/4	5	3/4	9540-468	35.00
<b>400 SERIES HI-VISIBILITY - COPPER PLATED SPINDLE</b>					
H404CS	0 - 4-1/4	3-1/4	3/4	9540-479	18.00
H408CS	0 - 8-1/4	5	3/4	9540-481	35.00
<b>400 SERIES - COPPER PLATED SPINDLE</b>					
408P	0 - 8-1/4	5	3/4	9540-540	32.00
410P	2 - 10-1/8	6	3/4	9540-541	48.00
412P	2 - 12-1/4	6-5/16	7/8	9540-542	78.00

## "Jorgensen" Carriage Clamps



- Most universally-used general-purpose "C" clamps for regular-duty industrial service.
- Frame**- heat-treated, perlitic and/or ductile iron; ribbed to resist side strain.
- Anvil**- machine-ground; extra-wide.
- Screw**- cold-drawn steel with special, smoothly cut acme threads; steel sliding-pin handle.
- Swivel**- exclusive JORGENSEN design with steel internal tooth washers for positive "stay-on" power.

MFG. NO.	OPENING MAX.	MIN.	DEPTH OF THROAT	SCREW DIA.	NORMAL LOAD LMT.	ORDER NO.	PRICE EACH
103	3"	0	1-7/8"	9/16"	1,800 lbs.	9545-041	\$9.98
104	4"	0	2-1/8"	5/8"	2,400 lbs.	9545-042	12.65
105	5"	0	2-1/2"	5/8"	2,400 lbs.	9545-043	18.24
106	6"	0	2-3/4"	5/8"	2,400 lbs.	9545-044	18.94
108	8"	0	3-1/4"	3/4"	2,400 lbs.	9545-045	27.10
110	10"	1-1/2"	3-5/8"	13/16"	2,400 lbs.	9545-046	38.61
112	12"	3-7/16"	3-5/8"	13/16"	2,400 lbs.	9545-047	48.38

## Adjustable™ "C" Clamps [2]

- Light-duty "C" clamps.
- Frame**- ductile and/or malleable iron; bright plated finish on frames #1410 - #1434.
- Anvil**- machine-ground.
- Screw**- cold-drawn steel with special, smoothly "rolled" threads (U.S.S. on #1410-#1434; Acme on #1440 - #1480); steel sliding-pin handle.
- Swivel**- bright plated steel; securely fastened to screw; revolves freely.



MFG. NO.	OPENING	DEPTH	NORMAL LOAD LIMIT	ORDER NO.	PRICE EACH
1410	1"	1"	400 lbs.	9545-250	\$1.60
1413	1"	3"	400 lbs.	9545-251	3.84
1415	1-1/2"	1-1/2"	400 lbs.	9545-252	2.56
1420	2"	1"	400 lbs.	9545-253	2.17
1422	2-1/2"	1-3/8"	600 lbs.	9545-254	3.84
1423	2"	3-1/2"	400 lbs.	9545-255	5.27
1425	2-1/2"	2-1/2"	600 lbs.	9545-256	3.84
1430	3"	2"	800 lbs.	9545-257	4.50
1434	3"	4-1/2"	500 lbs.	9545-258	9.06
1440	4"	3"	1200 lbs.	9545-259	7.18
1450	5"	3-1/4"	1200 lbs.	9545-260	9.17
1460	6"	3-1/2"	1200 lbs.	9545-261	10.19
1480	8"	4"	1200 lbs.	9545-262	15.50

#1491 3-piece set - Contains one each of the following "C" clamps: #1410, #1420, #1430. Features are identical to the preceding ADJUSTABLE Style No. 1400 "C" clamps.

Order No. 9545-305 Price Each...\$ 8.47

## Pittsburg C-Clamps



- Malleable Cast Reinforced Frame
- Black Oxide Spindle and Handle

DIMENSIONS	ORDER NO.	PRICE EACH
1 x 1"	7738-110	\$1.67
1-1/2 x 1-1/2"	7738-115	2.00
2 x 1"	7738-120	2.19
2 x 3-1/2"	7738-123	3.43
2-1/2 x 1-3/8"	7738-125	3.19
2-1/2 x 2-1/2"	7738-127	4.02
3 x 2"	7738-130	4.42
3 x 4-1/2"	7738-134	5.90
4 x 3"	7738-144	7.88
5 x 3-1/4"	7738-145	10.04
6 x 3-1/2"	7738-146	11.56
8 x 4"	7738-148	15.85

## WILTON Series 100 Clamps



Designed for heavy industrial and construction work. Frames are forged of special quality steel. Standard throat. Forged spindle end permits wrench tightening. Spindles are black oxide coated.

WILTON CAT. NO.	CAPACITY	THROAT DEPTH	SPINDLE DIAMETER	MIN. PROOF TEST (LBS.)	ORDER NO.	PRICE EACH
102	0 - 2"	1-1/2"	9/16"	7500	9540-508	\$46.00
103	0 - 3"	2"	5/8"	8750	9540-509	55.00
104	0 - 4"	2-3/8"	5/8"	10000	9540-510	65.00

## WILTON Series 0 Clamps



#### FEATURES:

- Extra heavy duty model designed to stand up to the demands of heavy duty industrial applications
- Special quality steels are utilized in the forged construction of these frames, while spindles are machined from a single piece of square, cold drawn steel, hardened and tempered and are black oxide coated.

WILTON CAT. NO.	CAPACITY	THROAT DEPTH	SPINDLE DIAMETER	MIN. PROOF TEST (LBS.)	ORDER NO.	PRICE EACH
2FC	0 - 2-3/8"	1-3/4"	3/4	12500	9540-528	\$54.00
4FC	0 - 4-1/2"	2-3/4"	7/8	20000	9540-530	102.00



## Series 540 Carriage Clamps

The 540 Series is rugged constructed with a hardened steel spindle. To permit a truly acceptable stress point, Wilton engineers selected a high tensile ductile alloy casting for the 540's body.

WILTON CAT. NO.	CAPACITY	THROAT DEPTH	SPINDLE DIA.	ORDER NO.	PRICE EACH
540A-4	0 - 4	2-1/8	5/8	9540-645	\$10.00
540A-6	0 - 6	2-3/4	5/8	9540-647	15.00
540A-8	0 - 8	3-11/32	3/4	9540-648	20.00



## Super-Junior Forged C-Clamps

#### FEATURES:

- Super junior clamps are forged steel with heat treated frames to provide much stronger clamp than pressed steel or malleable clamps.
- Steel screws are nickel plated for longer life.

WILTON CAT. NO.	CAPACITY	THROAT DEPTH	ORDER NO.	PRICE EACH
50	0 - 1"	1"	9540-626	\$3.50
51	0 - 1	1-1/2	9540-627	3.75
52	0 - 1-1/4	1-1/4	9540-628	4.00

# Clamps

## "Jorgensen" ISD

### Bar Clamps



- Dual durometer handle design for comfort.
- 10-40% more clamping force.

2

MFG. NO.	BAR LENGTHS	ORDER NO.	PRICE EACH
33006	6"	9545-480	\$19.80
33012	12"	9545-481	23.02
33018	18"	9545-482	24.85
33024	24"	9545-483	28.43
33036	36"	9545-484	32.78

## "Jorgensen" Cabinet Master 90° Parallel Steel Bar Clamps



2

MFG. NO.	MAX. OPENING CAPACITY	NORMAL LOAD LIMIT	ORDER NO.	PRICE EACH
8024	24"	1,000 lbs.	9545-772	\$44.86
8036	36"	1,000 lbs.	9545-774	51.63
8048	48"	1,000 lbs.	9545-775	57.02

## Pittsburg ALLEGHANY

### Bar Clamps



- Sliding Quick Release Precision Steel Jaw,
- Steel Bar, Protective Clamp Pad

3

DIMENSIONS	ORDER NO.	PRICE EACH
6 x 2-1/2"	7738-202	\$6.99
12 x 2-1/2"	7738-204	6.94
18 x 2-1/2"	7738-206	7.80
24 x 2-1/2"	7738-208	10.26
30 x 2-1/2"	7738-210	9.89
36 x 2-1/2"	7738-212	12.51

8 pc. Bar Clamp Pad Set  
Order No. 7738-398 Price Each: \$0.90

## IRWIN QUICK-GRIP One-Handed Bar Clamps/Spreaders



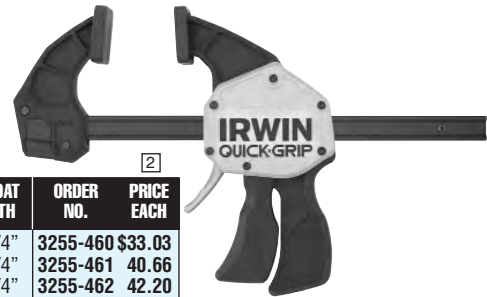
### FEATURES:

- One-handed QUICK-RELEASE trigger allows for fast and easy positioning.
- QUICK-CHANGE Jaw provides multi-positioning flexibility, converts quickly and easily to a spreader.
- High-tech resin construction provides strength and durability.
- Non-marring, stay-on pads protect workpiece finish.

2

MFG. NO.	CLAMPING CAPACITY	SPREADING CAPACITY	THROAT DEPTH	ORDER NO.	PRICE EACH
506QC	6"	7-1/2" - 14-5/8"	3-1/4"	3255-450	\$28.48
512QC	12"	7-1/2" - 20-5/8"	3-1/4"	3255-451	33.44
518QC	18"	7-1/2" - 26-5/8"	3-1/4"	3255-452	35.95
524QC	24"	7-1/2" - 32-5/8"	3-1/4"	3255-453	38.42
536QC	36"	7-1/2" - 44-5/8"	3-1/4"	3255-454	43.68
550QC	50"	7-1/2" - 58-5/8"	3-1/4"	3255-455	45.72

## IRWIN QUICK-GRIP XP Clamps



2

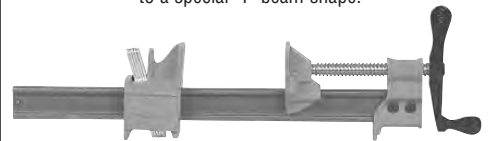
MFG. NO.	CLAMPING CAPACITY	SPREADING CAPACITY	THROAT DEPTH	ORDER NO.	PRICE EACH
2021406	6"	7-1/2" - 14-5/8"	3-1/4"	3255-460	\$33.03
2021412	12"	7-1/2" - 20-5/8"	3-1/4"	3255-461	40.66
2021418	18"	7-1/2" - 26-5/8"	3-1/4"	3255-462	42.20
2021424	24"	7-1/2" - 32-5/8"	3-1/4"	3255-463	42.71
2021436	36"	7-1/2" - 44-5/8"	3-1/4"	3255-464	50.36

## "Jorgensen" Steel "I" Bar Clamps

2

MFG. NO.	MAX. OPENING CAPACITY	NORMAL LOAD LIMIT	ORDER NO.	PRICE EACH
7224	24"	7000 lbs.	9545-750	\$34.47
7236	36"	7000 lbs.	9545-752	38.81
7248	48"	7000 lbs.	9545-753	43.50
7272	72"	7000 lbs.	9545-755	50.53

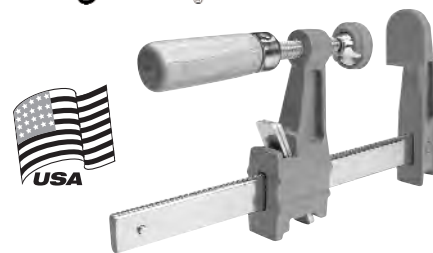
- Clamping faces- approximately 2"x 1-3/4".
- Bar- 1-1/2" x 7/16" high carbon steel; rolled to a special "I" beam shape.



## "Jorgensen" Steel Bar Clamps and Pads



2



### FEATURES FOR LIGHT AND MEDIUM DUTY:

- Clutch discs- hardened, plated steel; two clutch discs and one clutch spring constitute the Multiple-Disc-Clutch.
- Swivel- 3/4" diameter; plated steel; ball-and-socket type.

### FEATURES FOR HEAVY DUTY:

These are made for all wood types of heavy-duty clamping. Used by cabinet-makers, woodworkers, metalworkers or for home-shop and do-it-yourself projects. Protective pads made for thick, durable plastic. Clamps rest parallel on work surface for ease of work placement and adjustment.

### FEATURES FOR BAR CLAMP PADS:

Protective non-mar, non-stick, non-slip pads.

MFG. NO.	MAX. OPENING CAPACITY	NORMAL LOAD LIMIT	ORDER NO.	PRICE EACH
<b>LIGHT DUTY</b>				
3704-LD	4"	300 lbs.	9545-560	\$6.61
3706-LD	6"	300 lbs.	9545-561	6.78
3708-LD	8"	300 lbs.	9545-562	7.02
3712-LD	12"	300 lbs.	9545-563	8.58
<b>MEDIUM DUTY</b>				
3706	6"	600 lbs.	9545-570	\$10.50
3712	12"	600 lbs.	9545-571	11.62
3718	18"	600 lbs.	9545-572	12.82
3724	24"	600 lbs.	9545-573	14.44
3730	30"	600 lbs.	9545-574	16.39
<b>HEAVY DUTY</b>				
3706-HD	6"	1,000 lbs.	9545-580	\$13.42
3712-HD	12"	1,000 lbs.	9545-581	14.95
3718-HD	18"	1,000 lbs.	9545-582	16.87
3724-HD	24"	1,000 lbs.	9545-583	18.14
3730-HD	30"	1,000 lbs.	9545-584	19.89
3736-HD	36"	1,000 lbs.	9545-585	21.42
<b>BAR CLAMP PADS (for light/med. duty only)</b>				
7437	8 piece pack		9545-764	\$3.71

# Clamps

## "Pony" Spring Clamps

### FEATURES:

- **Jaws**- light-weight, nickel-plated steel.
- **Spring**- heavy-duty tempered steel for maximum strength
- **Handles**- designed for optimum comfort with minimized spread.
- Poly-vinyl handles and jaw tips.



MFG. NO.	MAX. OPENING CAPACITY	JAW LENGTH	REACH	ORDER NO.	PRICE EACH
3201-HT	1"	4"	1-1/4"	9545-364	\$1.83
3202-HT	2"	6"	2"	9545-384	2.88
3203-HT	3"	9"	3"	9545-404	7.96

## "Pony" ISD Hand Clamps

- Dual Durometer Handle design for comfort
- Non-marring jaws and riveted head assembly



MFG. NO.	HAND CLAMP SIZE	ORDER NO.	PRICE EACH
32150	1.5"	9545-460	\$3.54
32225	2.25"	9545-461	5.70
32400	4"	9545-463	7.23

## Tool Maker's Parallel Clamps

- Hardened & tempered jaws
- Clamps equipped with spring screw clip.
- Black finish.
- Useful for holding small work together when drilling, welding, assembling.

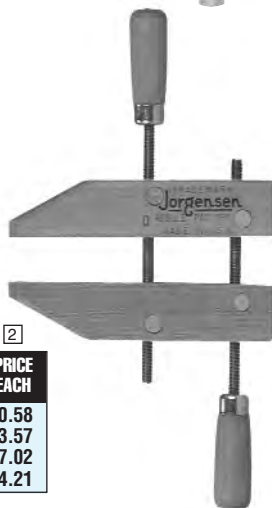


JAW LENGTH	JAW OPENING	ORDER NO.	PRICE EACH
2	1-1/4"	3100-102	\$ 3.85
3	2-1/4"	3100-104	6.35
4	2-3/4"	3100-106	7.95
5	3-1/2"	3100-108	13.50
Complete Set Sizes 2 thru 5		3100-110	20.60

## "Jorgensen" Adjustable Handscrews

### FEATURES:

- The jaws hold odd shapes easily, are capable of overlapping.
- Provide protection against marring of finished surfaces.
- Seasoned hard maple.



MFG. NO.	JAW IN.	MAX OPENING IN.	REACH IN.	ORDER NO.	PRICE EACH
0	8"	4-1/2"	4"	9545-004	\$20.58
1	10"	6"	5"	9545-005	23.57
2	12"	8-1/2"	6"	9545-006	27.02
3	14"	10"	7"	9545-007	34.21



## Spring Clamps

- Heavy Gauge Metal Frame
- Extra Thick/Durable PVC/Rubber Tip and Grip



DIMENSIONS	ORDER NO.	PRICE EACH
1"	7738-301	\$1.22
2"	7738-302	2.17
3"	7738-303	4.88

## "Pony" Pressure-Adjusting Spring Clamps

### FEATURES:

- **Jaws/Handles**- glass filled nylon.
- **Spring**- heavy-duty tempered steel for maximum strength.
- **Jaw Pads**- plastic.



MFG. NO.	OPENING	JAW LENGTH	NOMINAL REACH	ORDER NO.	PRICE EACH
3251	1"	4-1/2"	1-1/4"	9545-440	\$4.00
3252	2"	6-1/2"	2-1/8"	9545-442	5.33

## "Pony" Band Clamps



MFG. NO.	LOAD LIMIT	ORDER NO.	PRICE EACH
1215	1,000 lbs.	9545-240	\$14.60

The small, lightweight Band Clamp features 15 feet of 1-inch width, high-strength nylon webbing which enables the perimeter clamping of round, rectangular and irregular shapes. Positive hold is afforded by the self-locking aluminum cam which is also allows instant release. Four cleverly designed steel "corners" are furnished to assist in clamping mitered joints and to protect the nylon band from sharp corners. A small steel wrench is also furnished to apply final clamping pressure.

## "Jorgensen" Hold-Down Clamps



#1623 Hold-down clamps offer the advantage of bench-top and machine "surface" clamping. Designed to rotate 360 degrees around the holding bolt. Use anywhere on wood or metal surfaces.

MFG. NO.	OPENING CAPACITY	DEPTH OF THROAT	SCREW DIA.	NORMAL LOAD LMT.	ORDER NO.	PRICE EACH
1623	3"	1-3/4"	9/16"	2,000 lbs.	9545-310	\$15.58



# Clamps

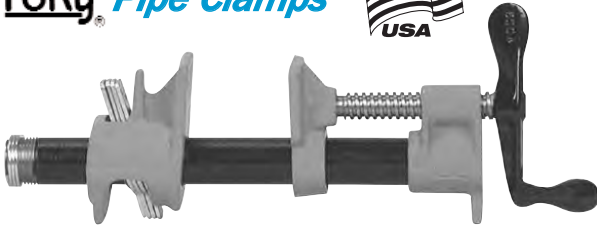
## Pittsburg Pipe Clamps



- Malleable Iron Bodies, Extra Wide Base
- Quick Release Clutch Mechanism
- Pipe not included

DIMENSIONS	ORDER NO.	PRICE EACH
1/2"	7738-332	\$10.37
3/4"	7738-334	15.34
4 pc. Pipe Clamp Pad Set Order No. 7738-399 Price Each 1.73		

## "Pony" Pipe Clamps



Mounts on any length black pipe with both ends threaded.

### FEATURES:

- **Castings**- malleable and/or ductile iron; powder coated orange finish.
- **Screw**- steel diameter (#50-5/8", #52-1/2") with special, smoothly cut Acme threads.
- **Coil-spring "stop"**- one is included with each clamp fixture.

### PAD FEATURES:

- Protective, non-mar, non-slip.
- Pipe not included

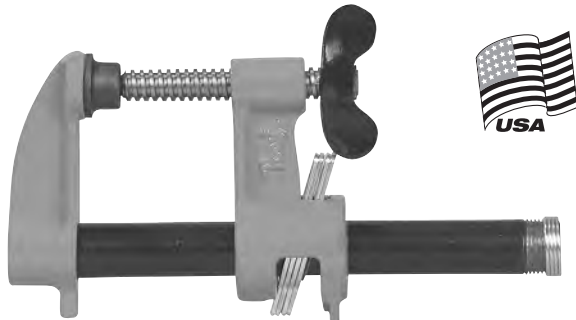


MFG. NO.	PIPE SIZE	CLAMPING FACES	ORDER NO.	PRICE EACH
50	3/4"	1-3/4" sq.	9545-030	\$15.81
52	1/2"	1-1/2" sq.	9545-032	12.10
<b>PADS</b>				
7456	8 piece pack		9545-766	4.63

## "Pony" Clamp Fixture for 3/4" Black Pipe

A 2-1/2" deep-reach design. The heads can also be reversed to "spread" work. Mounts on any length black pipe with both ends threaded (pipe not furnished).

MFG. NO.	SCREW SIZE INL.	CLAMPING FACE	ORDER NO.	PRICE EACH
56	5/8"	1-1/4"	9545-035	\$18.14



## WILTON Copper Plated L-Clamps

U.S.A. Made Spindles and Perma-Pads®  
U.S.A. Made WILTON-GRIP™ Handles

### FEATURES:

- Improved clamping speed by sliding along rail to work.
- All-steel clamp is spring hardened, tempered and zinc plated.
- U.S. made solid steel spindles are copper coated for anti-splatter resistance.
- Perma-Pad® is replaceable in field.



Wilton's exclusive Perma-Pad® Design.

WILTON CAT. NO.	NOMINAL OPENING	NOMINAL THROAT DEPTH	NOMINAL RAIL SIZE	SPINDLE DIA.	ORDER NO.	PRICE EACH
<b>LIGHT DUTY L-CLAMPS WITH WILTON-GRIP™ HANDLES</b>						
6312B	12	5-1/2	1 x 15/32	3/4	9540-695	\$42.00
6316B	16	4-3/4	1 x 15/32	3/4	9540-696	45.00
6320B	20	4-3/4	1 x 15/32	3/4	9540-697	48.00
<b>REGULAR DUTY L-CLAMPS WITH WILTON-GRIP™ HANDLES</b>						
6410B	10	4-3/4	1-3/16 x 9/16	13/16	9540-702	65.00
<b>HEAVY DUTY L-CLAMPS</b>						
6516B	16	7	1-9/16 x 3/4	7/8	9540-711	125.00

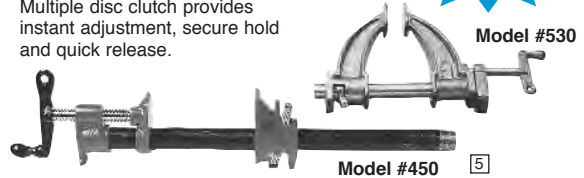
## WILTON Economy Series L-Clamps

These versatile clamps are designed for economical repetitive clamping. They combine generous throat depth, substantial clamping pressure, and many more features into an exceptional value clamping tool.

WILTON CAT. NO.	NOMINAL OPENING	THROAT DEPTH	NOMINAL RAIL SIZE	NOMINAL CLAMPING PRESS./LBS.	NOMINAL SPINDLE DIA.	ORDER NO.	PRICE EACH
608	8	4-3/4	7/8 x 7/16	1500	12	9540-727	\$32.00
610	10	4-3/4	1-3/16 x 9/16	2600	12	9540-728	40.00

## WILTON Pipe Clamps

Multiple disc clutch provides instant adjustment, secure hold and quick release.



WILTON CAT. NO.	PIPE SIZE	CLAMP FACE	SHIP WT. LBS. EA.	ORDER NO.	PRICE EACH
530	3/4"	2" x 1-3/4"	8-1/2	9540-790	\$45.00

## WILTON 90° Steel Angle Clamps

The 90° angle clamp is made of high quality cast iron.

- The copper plated spindle pivots allowing the moveable jaw to securely grip parts at 90°
- Slotted holes are provided in the base for convenient workbench mounting
- Work surfaces (including base) are milled for added precision



WILTON CAT. NO.	CAPACITY MITER	JAW HEIGHT	JAW LENGTH	SHIP WT. LBS. EA.	ORDER NO.	PRICE EACH
AC-325	3-11/32"	1-3/8"	4-1/8"	8-1/2	9540-842	\$78.00
AC-326	4-3/8"	2-3/8"	4-1/8"	18	9540-843	125.00



# Bench Vises



## Mechanics' Bench Vises

- 30,000 PSI Castings, Heavy Duty Construction
- Chrome Plated Spindle/Handle
- Hardened Steel Replaceable Jaw Faces
- 270° Swivel Base, 4 Lug Reinforcement



DIMENSIONS	ORDER NO.	PRICE EACH
4"	7738-614	\$ 80.75
5"	7738-615	117.53
6"	7738-616	169.82
7"	7738-617	201.51



## Super Precision 3-Way Tilting Machine Vise

### FEATURES:

- Perfect vise for 3 axis jobs in milling, drilling, grinding, shaping and jig boring
- Manufactured from close grain high tensile cast iron
- Jaw plates, hardened and ground
- Hardness of jaws - 55 ±3 HRC
- No jaw tilt
- Accuracy indexed for 3 way angular work
- All ground surfaces are made to close accuracies
- 360° swivel base • 45° tilting range on either side • 90° vertical indexing

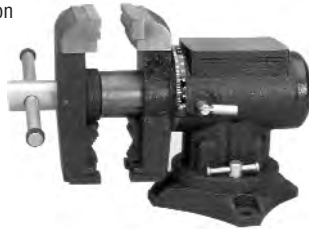


WILTON CAT. NO.	JAW WIDTH	JAW OPENING	JAW DEPTH	SHIP WT. (LBS.)	ORDER NO.	PRICE EACH
TLT/SP-50	2"	2"	5/16"	8	9541-159	\$389.00
TLT/SP-75	3	3	1-15/16	24	9541-160	699.00



## Multi-Purpose Vises

- Professional Quality Heavy Duty Construction
- 360° Swivel Base/Head, Locking Mechanism
- Angle Indicator and Large Anvil
- Heavy Duty Replaceable Pipe Jaws



DIMENSIONS	ORDER NO.	PRICE EACH
5"	7738-648	\$ 290.07



## Super Precision 2-Way Angular Machine Vise

### FEATURES:

- Manufactured from close grained high tensile cast iron
- All ground surfaces made to close tolerances
- Jaw plates, hardened and ground
- Perfect vise for grinding, jig boring, and shaping jobs
- No jaw tilt
- Hardness of jaws - 55 ±3 HRC
- 90° vertical and 180° horizontal indexing
- 360° swivel base
- 90° tilting range
- Perfectly indexed for angular work



WILTON CAT. NO.	JAW WIDTH	JAW OPENING	JAW DEPTH	SHIP WT. (LBS.)	ORDER NO.	PRICE EACH
AMV/SP-75	3	3	1-15/16	21	9541-163	\$479.00
AMV/SP-100	4	4	1-9/16	38	9541-164	589.00



## Workshop Series Bench Vises

- 20,000 PSI Castings, Black Oxide Spindle/Handle
- Hardened Steel Replaceable Jaw Faces
- 270° Swivel Base, 4 Lug Reinforcement



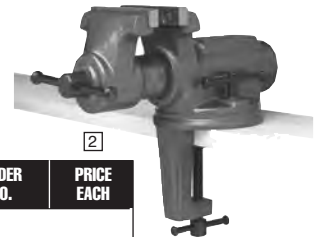
DIMENSIONS	ORDER NO.	PRICE EACH
3"	7738-603	\$ 33.85
4"	7738-604	50.89
5"	7738-605	93.23
6"	7738-606	130.15



## Super Junior Vises

### FEATURES:

- Clamp-on models are portable.
- Top jaws are grooved and replaceable.
- Spindle is fully enclosed.
- Double lockdowns ensure stability.



WILTON CAT. NO.	JAW WIDTH	MAX. OPENING	SHIP WT. (LBS.)	ORDER NO.	PRICE EACH
<b>CLAMP-ON BASE</b>					
CBV-65	2-1/2"	2-1/2"	9	9540-378	\$129.00
CBV-100	4	4	15	9540-377	159.00
<b>SWIVEL BASE</b>					
SBV-65	2-1/2	2-1/2	8	9540-380	109.00
SBV-100	4	4	14	9540-379	129.00



## Arbor Presses

MODEL NO.	PRESS TONS	HT. OF PRESS	BASE DIAM.	MAX HEIGHT	LARGEST ARBOR	ORDER NO.	PRICE EACH
0	1/2 TON	10"	4" x 9-1/2"	4-1/2'	1-1/8"	2904-000	\$ 55.20
1	1 TON	12"	5" x 11"	5-1/4'	1-3/8"	2904-010	61.00
2	2 TON	17"	6-3/4" x 17"	8-1/2'	1-3/4"	2904-020	131.40
3	3 TON	21-1/2"	8" x 18"	12-1/2'	2-1/2"	2904-030	188.60

NOTE: Standard sizes in a given I.D. range are sizes listed in the decimal equivalent chart either as a fraction, number or letter size. Any other decimal or millimeter size within a given range is considered special and will be priced accordingly.

Quantity Discounts:  
 1-5 pcs. ....List  
 6-11 pcs. ....-18%  
 12-23 pcs. ....-29%  
 24-49 pcs. ...-34%  
 50-99 pcs. ...-43%  
 100-199 pcs. -47%  
 200-499 pcs. -51%  
 500 pcs. up .-52%  
 Same Size - No Mix

ANSI Tolerances - Sizes Not Listed Available on Request



TYPE "P"



TYPE "H"



TYPE "SF"

## Headless Press Fit

I.D. RANGE (STD. DRILL SIZE)		O.D.		ANSI SYMBOL	BODY LENGTH - LIST PRICE - UNGROUND BUSHINGS ARE AVAILABLE															
NOM.	DECIMAL	NOM.	ACTUAL		1/4 -4	5/16 -5	3/8 -6	1/2 -8	5/8 -10	3/4 -12	1" -16	1-1/4 -20	1-3/8 -22	1-1/2 -24	1-3/4 -28	2" -32	2-1/8 -34	2-1/2 -40	3" -48	
#55-1/16	.0520-.0625	5/32	.1578-.1575	P-10	\$18.53	\$19.21	\$19.70	\$19.90	-	\$21.58	-	-	-	-	-	-	-	-	-	
#52-#39	.0625-.0995	13/64	.2046-.2043	P-13	8.68	9.69	10.38	10.70	-	11.73	\$12.75	-	\$19.37	-	-	-	-	-	-	
#40-9/64	.0980-.1406	1/4	.2516-.2513	P-16	7.99	8.50	9.17	9.69	\$10.38	10.88	12.05	-	19.05	\$19.94	\$20.90	-	-	-	-	
1/8-#10	.1250-.1935	5/16	.3141-.3138	P-20	6.65	6.97	7.30	7.66	7.99	8.33	8.68	-	12.75	14.79	16.83	-	-	-	-	
#10-#1	.1935-.2280	3/8	.3766-.3763	P-24	5.77	5.94	6.46	6.65	6.97	7.30	8.50	-	-	-	-	-	-	-	-	
3/16-F	.1875-.2570	13/32	.4078-.4075	P-26	5.77	5.94	6.46	6.65	-	7.30	8.50	-	9.69	10.88	12.05	-	-	-	-	
A-L	.2340-.2900	7/16	.4392-.4389	P-28	5.77	5.94	6.46	6.65	6.97	7.30	8.50	-	-	-	-	-	-	-	-	
3/16-O	.1875-.3160	1/2	.5017-.5014	P-32	5.77	5.94	6.46	6.65	-	7.30	8.50	-	9.69	10.88	12.05	-	\$24.31	-	-	
M-11/32	.2950-.3437	9/16	.5642-.5639	P-36	6.65	5.77	6.13	6.13	6.46	6.65	6.97	-	-	-	-	-	-	-	-	
5/16-7/16	.3125-.4375	5/8	.6267-.6264	P-40	6.65	5.77	6.13	6.13	6.46	6.65	6.97	\$ 9.53	9.53	10.02	10.88	-	13.08	-	-	
5/16-17/32	.3125-.5312	3/4	.7518-.7515	P-48	6.97	5.94	6.65	6.65	6.97	6.97	7.66	9.69	9.69	10.38	11.24	-	13.25	\$24.31	-	
1/2-21/32	.5000-.6562	7/8	.8768-.8765	P-56	-	8.68	9.00	7.99	8.33	8.33	8.68	9.53	9.53	10.38	11.39	-	13.08	15.13	-	
1/2-49/64	.5000-.7656	1"	1.0018-1.0015	P-64	-	-	-	8.33	8.33	8.33	8.84	9.53	9.53	10.70	11.73	-	13.08	15.13	\$25.33	
5/8-1-1/32	.6250-1.0312	1-3/8	1.3772-1.3768	P-88	-	-	-	13.08	12.40	10.88	13.08	14.45	14.45	15.81	17.13	\$19.70	19.94	22.26	30.75	

Boxed prices indicate counterbored bushings.

## Head Press Fit

I.D. RANGE (STD. DRILL SIZE)		O.D.		ANSI SYMBOL	BODY LENGTH - LIST PRICE - UNGROUND BUSHINGS ARE AVAILABLE															
NOM.	DECIMAL	NOM.	ACTUAL		1/4 -4	5/16 -5	3/8 -6	1/2 -8	5/8 -10	3/4 -12	1" -16	1-1/4 -20	1-3/8 -22	1-1/2 -24	1-3/4 -28	2" -32	2-1/8 -34	2-1/2 -40	3" -48	
#55-1/16	.0520-.0625	5/32	.1578-.1575	H-10	\$19.37	\$19.70	\$19.94	\$20.22	-	\$22.60	-	-	-	-	-	-	-	-	-	
#52-#39	.0635-.0995	13/64	.2046-.2043	H-13	11.24	11.39	12.05	12.40	-	14.10	\$18.19	-	-	-	-	-	-	-	-	
#40-9/64	.0980-.1406	1/4	.2516-.2513	H-16	9.69	10.38	10.88	11.24	\$12.40	13.76	17.52	-	\$25.33	\$27.02	-	-	-	-	-	
1/8-#10	.1250-.1935	5/16	.3141-.3138	H-20	7.99	8.50	9.00	9.17	9.36	9.53	11.39	-	19.21	21.76	-	-	-	-	-	
#10-#1	.1935-.2280	3/8	.3766-.3763	H-24	7.30	7.99	8.33	8.50	8.84	9.00	10.70	-	-	-	-	-	-	-	-	
3/16-F	.1875-.2570	13/32	.4078-.4075	H-26	7.30	7.66	8.33	8.50	-	9.00	10.70	-	12.05	13.43	\$14.79	-	-	-	-	
A-L	.2340-.2900	7/16	.4392-.4389	H-28	7.30	7.99	8.33	8.50	8.84	9.00	10.70	-	-	-	-	-	-	-	-	
3/16-O	.1875-.3160	1/2	.5017-.5014	H-32	7.30	7.66	8.33	8.50	-	9.00	10.70	-	12.40	13.43	14.79	-	-	-	-	
M-11/32	.2950-.3437	9/16	.5642-.5639	H-36	8.33	7.30	7.99	7.99	8.33	8.33	9.00	-	-	-	-	-	-	-	-	
5/16-7/16	.3125-.4375	5/8	.6767-.6264	H-40	8.33	7.30	7.66	7.66	8.33	8.33	9.00	-	12.05	12.75	13.76	-	-	-	-	
5/16-17/32	.3125-.5312	3/4	.7518-.7515	H-48	9.00	7.99	8.33	8.33	8.68	9.00	9.69	\$12.40	12.40	13.08	13.92	-	\$16.32	-	-	
1/2-21/32	.5000-.6562	7/8	.8768-.8765	H-56	-	-	-	10.02	10.02	10.21	10.70	11.73	11.73	13.08	14.45	-	16.32	\$19.57	-	
1/2-49/64	.5000-.7656	1"	1.0018-1.0015	H-64	-	-	-	10.38	-	10.38	11.24	-	12.05	14.10	15.81	-	18.53	21.24	\$32.80	
5/8-1-1/32	.6250-1.0312	1-3/8	1.3772-1.3768	H-88	-	-	-	16.83	-	15.46	17.01	-	18.86	20.22	21.58	-	24.67	27.68	38.91	

Boxed prices indicate counterbored bushings.

## Slip-Fixed Renewable

I.D. RANGE (STD. DRILL SIZE)		O.D.		ANSI SYMBOL	BODY LENGTH - LIST PRICE - UNGROUND BUSHINGS ARE AVAILABLE															
NOM.	DECIMAL	NOM.	ACTUAL		1/4 -4	5/16 -5	3/8 -6	1/2 -8	5/8 -10	3/4 -12	1" -16	1-1/4 -20	1-3/8 -22	1-1/2 -24	1-3/4 -28	2" -32	2-1/8 -34	2-1/2 -40	3" -48	
#39-9/64	.0995-.1406	1/4	.2500-.2498	SF-16	\$12.05	\$12.05	\$12.40	\$13.08	\$13.92	\$14.79	-	-	-	-	-	-	-	-	-	
#55-1/16	.0520-.0625	5/16	.3125-.3123	SF-20	-	21.92	22.60	22.75	-	25.00	-	-	-	-	-	-	-	-	-	
#52-#43	.0635-.0890	5/16	.3125-.3123	SF-20	-	13.25	13.59	14.10	-	15.98	\$19.57	-	-	-	-	-	-	-	-	
#42-#31	.0935-.1200	5/16	.3125-.3123	SF-20	-	12.05	12.40	13.08	-	14.79	17.52	-	\$22.21	-	-	-	-	-	-	
1/8-#10	.1250-.1935	5/16	.3125-.3123	SF-20	-	11.73	12.05	12.58	-	14.27	17.13	-	21.92	-	-	-	-	-	-	
#10-#1	.1935-.2280	3/8	.3750-.3748	SF-24	8.33	8.84	9.17	9.69	\$10.02	10.38	11.73	-	-	-	-	-	-	-	-	
A-L	.2340-.2900	7/16	.4375-.4373	SF-28	8.33	8.84	9.17	9.69	10.02	10.38	11.73	-	-	-	-	-	-	-	-	
#28-3/16	.1405-.1875	1/2	.5000-.4998	SF-32	-	10.02	10.38	10.70	-	11.73	13.43	-	15.46	16.49	17.85	-	-	-	-	
#12-11/32	.1890-.3437	1/2	.5000-.4998	SF-32	-	8.84	9.17	9.53	-	10.38	11.73	-	14.10	14.79	16.15	-	\$30.09	-	-	
M-11/32	.2950-.3437	9/16	.5625-.5623	SF-36	8.33	8.84	9.17	9.69	10.02	10.38	11.73	-	-	-	-	-	-	-	-	
S-7/16	.3480-.4375	5/8	.6250-.6248	SF-40	-	-	9.36	9.36	9.69	10.02	10.54	\$14.10	-	-	-	-	-	-	-	
9/32-9/16	.2812-.5625	3/4	.7500-.7498	SF-48	-	-	9.17	9.36	-	10.02	10.70	-	\$14.10	15.13	16.32	-	18.53	\$31.61	\$43.84	
35/64-21/32	.5469-.6562	7/8	.8750-.8748	SF-56	-	-	-	11.73	12.05	12.24	13.08	14.27	-	15.81	-	-	-	-	-	
15/32-25/32	.4687-.7812	1"	1.0000-.9998	SF-64	-	-	-	11.73	-	12.05	13.08	-	14.27	15.46	17.13	-	20.54	33.63	44.35	
21/32-1-1/16	.7187-1.0625	1-3/8	1.3750-1.3747	SF-88	-	-	-	-	-	17.85	20.22	-	21.92	23.29	25.16	-	28.21	38.06	49.45	

Boxed prices indicate counterbored bushings.

## Adjustable Clamping Levers

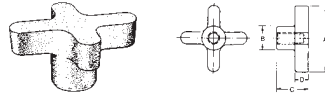
### Plastic Handle and Die-Cast Zinc Handle

- Black thermoplastic handle with metal insert.
- Zinc die-cast handle with black finish
- All steel parts ensure durability
- Internal thread with black oxide finish



X THREAD	B	C	D	E	F	PLASTIC HANDLE			DIE-CAST HANDLE		
						REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
#10-24	.55	.95	1.65	1.30	.39	AH-101	3161-968	\$ 4.15	MH-101	3163-658	\$5.45
#10-32	.55	.95	1.65	1.30	.39	AH-102	3161-969	4.15	MH-102	3163-659	5.45
#1/4"-20	.55	.95	1.65	1.30	.39	AH-103	3161-970	4.15	MH-103	3163-660	5.45
# 1/4"-20	.71	1.22	2.56	1.77	.53	AH-104	3161-971	4.95	MH-104	3163-661	6.15
#5/16"-18	.71	1.22	2.56	1.77	.53	AH-105	3161-972	4.95	MH-105	3163-662	6.15
#5/16"-18	.86	1.41	3.07	2.12	.63	AH-106	3161-973	6.00	MH-106	3163-663	7.10
#3/8"-16	.86	1.41	3.07	2.12	.63	AH-107	3161-974	6.00	MH-107	3163-664	7.10
3/8"-16	.98	1.69	3.62	2.52	.75	AH-108	3161-975	7.50	MH-108	3163-665	8.25
1/2"-13	.98	1.69	3.62	2.52	.75	AH-109	3161-976	7.50	MH-109	3163-666	8.25
1/2"-13	1.18	1.98	4.25	2.95	.91	-	-	-	MH-112	3163-667	10.45
5/8"-11	1.18	1.98	4.25	2.95	.91	-	-	-	MH-113	3163-668	10.45

## Hand Knobs — Zinc Plated



A	B	C	D	R REAM	T TAPPED	CAST IRON			ALUMINUM		
						REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
1-1/2	5/8	7/8	3/8		5/16-18	HK 307	3160-523	3.43	HK 307A	3161-923	\$4.05
1-1/2	5/8	7/8	3/8	.3115		HK 308	3160-524	3.38	HK 308A	3161-924	4.00
1-1/2	5/8	7/8	3/8	BLANK		HK 309	3160-525	2.60	HK 309A	3161-925	3.12
2	3/4	7/8	3/8		3/8-16	HK 410	3160-526	3.65	HK 410A	3161-926	4.40
2	3/4	7/8	3/8	.3115		HK 411	3160-527	3.60	HK 411A	3161-927	4.40
2	3/4	7/8	3/8	.374		HK 412	3160-528	3.60	HK 412A	3161-928	4.40
2	3/4	7/8	3/8	BLANK		HK 413	3160-529	2.70	HK 413A	3161-929	3.22
2-1/2	1	2-1/4	1/2		1/2-13	HK 514	3160-530	6.15	HK 514A	3161-930	6.90
2-1/2	1	2-1/4	1/2	BLANK		HK 515	3160-531	5.35	HK 515A	3161-931	5.50
2-1/2	1-1/8	1-1/2	1/2		1/2-13	HK 616	3160-532	5.15	HK 616A	3161-932	6.50
2-1/2	1-1/8	1-1/2	1/2	.499		HK 617	3160-533	5.15	HK 617A	3161-933	6.40
2-1/2	1-1/8	1-1/2	1/2		5/8-11	HK 618	3160-534	5.15	HK 618A	3161-934	6.40
2-1/2	1-1/8	1-1/2	1/2	.624		HK 619	3160-535	5.60	HK 619A	3161-935	6.75
2-1/2	1-1/8	1-1/2	1/2	.374		HK 620	3160-536	6.05	HK 620A	3161-936	6.85
2-1/2	1-1/8	1-1/2	1/2	BLANK		HK 621	3160-537	4.30	HK 621A	3161-937	5.10
3	1-1/4	1-3/4	1/2		5/8-11	-	-	-	HK 722A	3161-938	7.80
3	1-1/4	1-3/4	1/2	.624		-	-	-	HK 723A	3161-939	7.80
3	1-1/4	1-3/4	1/2	.749		-	-	-	HK 724A	3161-940	7.80
3	1-1/4	1-3/4	1/2	BLANK		HK 725	3160-541†	5.10	HK 725A	3161-941	5.95
3	1-1/2	1-3/4	1/2		3/4-10	HK 826	3160-542†	6.90	HK 826A	3161-942	10.25
3	1-1/2	1-3/4	1/2	.624		-	-	-	HK 827A	3161-943	10.25
3	1-1/2	1-3/4	1/2	.749		-	-	-	HK 828A	3161-944	10.25
3	1-1/2	1-3/4	1/2	BLANK		HK 829	3160-545†	5.55	HK 829A	3161-945	7.85

† Limited Quantities

## Hand Knob Screws



A	B	C	D	CAST IRON			ALUMINUM		
				REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
1/4-20	1	1/2	7/8	HKS-2510	3160-546	\$5.00	HKS-2510A	3161-946	\$5.25
	1-1/2			HKS-2515	3160-547	5.25	HKS-2515A	3161-947	5.45
	1-3/4			HKS-2517	3160-548	5.80	HKS-2517A	3161-948	5.90
	2			HKS-2520	3160-549	6.25	HKS-2520A	3161-949	6.10
	3			HKS-2530	3160-550	6.60	HKS-2530A	3161-950	6.40
5/16-18	1-3/4			HKS-3117	3160-551	6.15	HKS-3117A	3161-951	6.50
	2-1/2			HKS-3125	3160-552	6.50	HKS-3125A	3161-952	7.05
	3			HKS-3130	3160-553	7.00	HKS-3130A	3161-953	7.25
3/8-16	1-1/4	2	7/8	HKS-3712	3160-554	6.50	HKS-3712A	3161-954	6.80
	1-3/4			HKS-3717	3160-555	6.60	HKS-3717A	3161-955	6.95
	2			HKS-3720	3160-556	7.00	HKS-3720A	3161-956	7.10
	2-1/2			HKS-3725	3160-557	7.15	HKS-3725A	3161-957	7.25
	3			HKS-3730	3160-558	7.75	HKS-3730A	3161-958	7.75
1/2-13	1-1/2			HKS-5015	3160-559	8.25	HKS-5015A	3161-959	8.40
	1-3/4			HKS-5017	3160-560	8.80	HKS-5017A	3161-960	8.80
	2			HKS-5020	3160-561	9.25	HKS-5020A	3161-961	8.95
	2-1/2			HKS-5025	3160-562	9.50	HKS-5025A	3161-962	9.55
	3			HKS-5030	3160-563	9.65	HKS-5030A	3161-963	9.75
5/8-11	1-3/4			HKS-6217	3160-564	9.60	HKS-6217A	3161-964	10.10
	2-1/2			HKS-6225	3160-565	10.40	HKS-6225A	3161-965	10.90
	3			HKS-6230	3160-566	10.50	HKS-6230A	3161-966	11.10
	3-1/2			HKS-6235	3160-567	11.10	HKS-6235A	3161-967	11.70

## Precision Stainless Steel Thumb Screw



- Made from 303 stainless steel
- Diamond knurl on head
- Longer head length than standard thumb screw

A	D	B	C	PART #	ORDER NO.	PRICE EACH
4-40	1"	3/16	3/8	4118	3164-825	\$1.80
6-32	1"	3/16	3/8	4122	3164-826	1.85
8-32	1/2	3/16	3/8	4219	3164-828	1.75
8-32	1"	3/16	3/8	4228	3164-829	1.80
10-24	1/2	1/4	1/2	4310	3164-831	2.07
10-24	1"	1/4	1/2	4326	3164-833	2.12
10-32	1/2	1/4	1/2	4359	3164-835	2.07
10-32	1"	1/4	1/2	4374	3164-836	2.17
1/4-20	1/2	5/16	1/2	4410	3164-838	2.17
1/4-20	1"	5/16	1/2	4413	3164-840	2.12



## Adjustable Clamping Levers

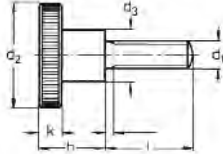
**Plastic Handle w/ Stud and Die-Cast Zinc Handle w/ Stud**

- Black thermoplastic handle with metal insert
- Steel parts give increased stability and rigidity
- External steel stud with black oxide finish
- Additional thread lengths available upon request



X THREAD	L	B	C	D	E	F	PLASTIC HANDLE			DIE-CAST HANDLE		
							REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
#10-24	.63	.55	.95	1.65	1.30	.39	AH-301	3161-986	\$4.70	MH-301	3163-680	\$5.80
#10-32	.63	.55	.95	1.65	1.30	.39	AH-302	3161-987	4.70	MH-302	3163-681	5.80
#10-32	1.25	.55	.95	1.65	1.30	.39	AH-3027	3162-085	4.70	MH-3027	3163-732	5.85
1/4"-20	.78	.55	.95	1.65	1.30	.39	AH-303	3161-988	4.70	MH-303	3163-682	5.80
1/4"-20	1.25	.55	.95	1.65	1.30	.39	AH-3034	3162-087	4.70	MH-3034	3163-734	5.85
1/4"-20	1.57	.55	.95	1.65	1.30	.53	AH-3038	3162-091	5.55	MH-3038	3163-738	6.50
1/4"-20	.98	.71	1.22	2.56	1.77	.53	AH-3035	3162-088	6.30	MH-3035	3163-735	7.05
5/16"-18	.78	.71	1.22	2.56	1.77	.53	AH-3037	3162-090	6.30	MH-3037	3163-737	7.05
5/16"-18	1.26	.71	1.22	2.56	1.77	.53	AH-3039	3162-092	6.30	MH-3039	3163-739	7.05
5/16"-18	1.57	.71	1.22	2.56	1.77	.53	AH-304	3161-989	6.30	MH-304	3163-683	7.05
5/16"-18	2.48	.71	1.22	2.56	1.77	.53	AH-3045	3162-094	6.30	MH-3045	3163-741	7.05
3/8"-16	.78	.71	1.22	2.56	1.77	.53	AH-3047	3162-095	6.30	MH-3047	3163-742	7.05
3/8"-16	1.25	.71	1.22	2.56	1.77	.53	AH-3048	3162-096	6.30	MH-3048	3163-743	7.05
3/8"-16	1.57	.71	1.22	2.56	1.77	.53	AH-305	3161-990	6.30	MH-305	3163-684	7.05
5/16"-18	1.97	.86	1.41	3.07	2.12	.63	AH-3053	3162-097	7.85	MH-3053	3163-744	8.35
3/8"-16	.98	.86	1.41	3.07	2.12	.63	AH-3056	3162-098	7.75	MH-3056	3163-745	8.35
3/8"-16	1.26	.86	1.41	3.07	2.12	.63	AH-3058	3162-099	7.85	MH-3058	3163-746	8.35
3/8"-16	1.57	.86	1.41	3.07	2.12	.63	AH-306	3161-991	7.85	MH-306	3163-685	8.35
3/8"-16	1.97	.86	1.41	3.07	2.12	.63	AH-307	3161-992	7.85	MH-307	3163-686	8.35
3/8"-16	2.48	.86	1.41	3.07	2.12	.63	AH-3079	3162-102	7.85	MH-3079	3163-749	8.35
3/8"-16	1.57	.98	1.69	3.62	2.52	.75	AH-3075	3162-100	8.90	MH-3075	3163-747	10.25
3/8"-16	1.97	.98	1.69	3.62	2.52	.75	AH-3078	3162-101	8.90	MH-3078	3163-748	10.25
1/2"-13	1.25	.98	1.69	3.62	2.52	.75	AH-308	3161-993	8.90	MH-308	3163-687	10.25
1/2"-13	1.57	.98	1.69	3.62	2.52	.75	AH-3085	3162-103	8.90	MH-3085	3163-750	10.25
1/2"-13	1.97	.98	1.69	3.62	2.52	.75	AH-309	3161-994	8.90	MH-309	3163-688	10.25
1/2"-13	2.48	.98	1.69	3.62	2.52	.75	AH-310	3161-995	9.10	MH-310	3163-689	10.25
1/2"-13	1.57	1.18	1.98	4.25	2.95	.91	-	-	-	MH-321	3163-690	12.85
1/2"-13	2.48	1.18	1.98	4.25	2.95	.91	-	-	-	MH-322	3163-691	12.85
5/8"-11	1.57	1.18	1.98	4.25	2.95	.91	-	-	-	MH-324	3163-692	12.85
5/8"-11	2.48	1.18	1.98	4.25	2.95	.91	-	-	-	MH-325	3163-693	12.85

## Knurled Thumb Screws



- Metric and Inch sizes available
- Available in stainless steel and steel
- Solid one-piece construction
- Straight knurl

d <sup>2</sup>	THREAD	THREAD LGTH	d <sup>3</sup>	h	k	STEEL			STAINLESS STEEL		
						PART NO.	ORDER NO.	PRICE EACH	PART NO.	ORDER NO.	PRICE EACH
1	1/4-20	5/16	1/2	5/8	1/4	KK-2531	3163-061	\$3.75	KK-2531SS	3163-106	\$6.55
1	1/4-20	3/8	1/2	5/8	1/4	KK-2537	3163-062	3.85	KK-2537SS	3163-107	6.85
1	1/4-20	1/2	1/2	5/8	1/4	KK-2550	3163-063	4.05	KK-2550SS	3163-108	7.20
1	1/4-20	5/8	1/2	5/8	1/4	KK-2562	3163-064	4.20	KK-2562SS	3163-109	7.70
1	1/4-20	3/4	1/2	5/8	1/4	KK-2575	3163-065	4.40	KK-2575SS	3163-110	8.25
1	1/4-20	1	1/2	5/8	1/4	KK-2510	3163-060	4.70	KK-2510SS	3163-105	8.75
1-1/4	5/16-18	1/2	5/8	3/4	1/4	KK-3150	3163-069	5.55	KK-3150SS	3163-114	10.10
1-1/4	5/16-18	5/8	5/8	3/4	1/4	KK-3162	3163-070	5.65	KK-3162SS	3163-115	10.50
1-1/4	5/16-18	3/4	5/8	3/4	1/4	KK-3175	3163-071	6.00	KK-3175SS	3163-116	11.15
1-1/4	5/16-18	1	5/8	3/4	1/4	KK-3110	3163-066	6.65	KK-3110SS	3163-111	12.45
1-1/4	5/16-18	1-1/4	5/8	3/4	1/4	KK-3112	3163-067	6.90	KK-3112SS	3163-112	13.50
1-1/4	5/16-18	1-1/2	5/8	3/4	1/4	KK-3115	3163-068	7.85	KK-3115SS	3163-113	14.45
1-3/8	3/8-16	5/8	3/4	1	5/16	KK-3762	3163-075	8.05	KK-3762SS	3163-120	16.20
1-3/8	3/8-16	3/4	3/4	1	5/16	KK-3775	3163-076	8.75	KK-3775SS	3163-121	17.10
1-3/8	3/8-16	1	3/4	1	5/16	KK-3710	3163-072	9.65	KK-3710SS	3163-117	17.75
1-3/8	3/8-16	1-1/4	3/4	1	5/16	KK-3712	3163-073	10.55	KK-3712SS	3163-118	18.40
1-3/8	3/8-16	1-1/2	3/4	1	3/4	KK-3715	3163-074	11.70	KK-3715SS	3163-119	18.75

## Metric Thumb Screws

- Carbon steel, black oxide finish
- Straight knurl



X THREAD	THREAD LENGTH D	B	C	PART NO.	ORDER NO.	PRICE EACH
M3	6mm	12mm	2.5mm	521203006	3165-050	\$1.65
M3	10	12	2.5	521203013	3165-051	1.65
M3	16	12	2.5	521203016	3165-052	1.70
M4	8	16	3.5	521604008	3165-053	1.85
M4	10	16	3.5	521604010	3165-054	1.90
M4	12	16	3.5	521604012	3165-055	1.90
M4	16	16	3.5	521604016	3165-056	2.12
M4	20	16	3.5	521604020	3165-057	2.42
M5	10	20	4	522005010	3165-058	2.22
M5	12	20	4	522005012	3165-059	2.28
M5	16	20	4	522005016	3165-060	2.48
M5	20	20	4	522005020	3165-061	2.90
M6	12	24	5	522406012	3165-062	3.05
M6	16	24	5	522406016	3165-063	3.10
M6	20	24	5	522406020	3165-064	3.25
M6	30	24	5	522406030	3165-065	4.20
M6	40	24	5	522406040	3165-066	5.20
M8	16	30	6	523008016	3165-067	4.25
M8	20	30	6	523008020	3165-068	4.60
M8	25	30	6	523008025	3165-069	4.95
M8	30	30	6	523008030	3165-070	5.85
M8	40	30	6	523008040	3165-071	7.50
M10	20	36	8	523610020	3165-072	6.65
M10	25	36	8	523610025	3165-073	7.60
M10	30	36	8	523610030	3165-074	8.55
M10	40	36	8	523610040	3165-075	11.00

## Precision Thumb Screws w/Shoulder

- Precision thumb screw for a wide variety of applications
- 303 stainless steel or carbon steel with black oxide finish
- Diamond knurl on head
- Shoulder provides an excellent bearing surface

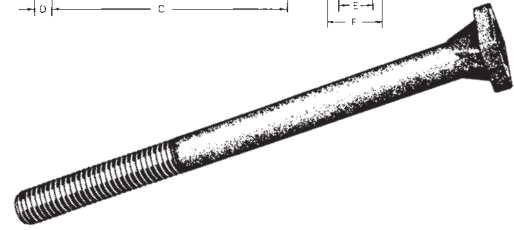
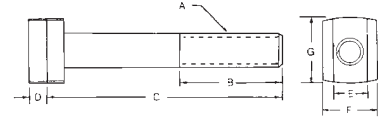


A THREAD	B	C	D	E	F	STEEL			STAINLESS STEEL		
						PART NO.	ORDER NO.	PRICE EACH	PART NO.	ORDER NO.	PRICE EACH
4-40	3/8	1/4	1/4	3/16	3/32	3101	3164-619	\$1.80	-	-	-
4-40	3/8	1/4	1/4	3/16	3/32	3102	3164-620	1.80	-	-	-
6-32	7/16	3/8	7/6	5/16	3/32	3202	3164-621	1.95	4202	3164-853	\$2.38
6-32	7/16	3/8	9/16	5/16	3/32	3204	3164-622	1.95	4204	3164-854	2.38
8-32	7/16	3/8	5/16	5/16	3/32	3205	3164-623	1.95	4205	3164-855	2.38
8-32	7/16	3/8	3/8	5/16	3/32	3206	3164-624	1.95	4206	3164-856	2.38
8-32	7/16	3/8	7/16	5/16	3/32	3207	3164-625	1.95	4207	3164-857	2.38
8-32	7/16	3/8	1/2	5/16	3/32	3208	3164-626	2.10	4208	3164-858	2.53
8-32	7/16	3/8	9/16	5/16	3/32	3209	3164-627	2.10	4209	3164-859	2.53
8-32	1/2	3/8	5/16	5/16	3/32	3301	3164-628	2.20	4301	3164-860	3.05
8-32	1/2	3/8	3/8	5/16	3/32	3302	3164-629	2.20	4302	3164-861	3.05
8-32	1/2	3/8	7/16	5/16	3/32	3303	3164-630	2.25	4303	3164-862	3.10
8-32	1/2	3/8	1/2	5/16	3/32	3304	3164-631	2.25	4304	3164-863	3.20
8-32	1/2	3/8	5/8	5/16	3/32	3305	3164-632	2.35	4305	3164-864	3.20
10-32	1/2	3/8	5/16	5/16	3/32	3401	3164-646	2.15	4401	3164-865	3.00
10-32	1/2	3/8	3/8	5/16	3/32	3402	3164-647	2.15	4402	3164-866	3.00
10-32	1/2	3/8	7/16	5/16	3/32	3403	3164-648	2.20	4403	3164-867	3.10
10-32	1/2	3/8	1/2	5/16	3/32	3403	3164-649	2.35	4404	3164-868	3.20
10-32	1/2	3/8	9/16	5/16	3/32	3405	3164-650	2.35	4405	3164-869	3.20
10-32	1/2	3/8	5/8	5/16	3/32	3406	3164-651	2.40	4406	3164-870	3.20

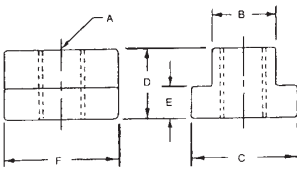
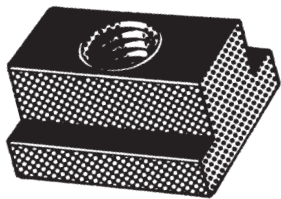


A	B	C	D	E	F	G	REF. NO.	ORDER NO.	PRICE EACH
3/8-16	5/8	1	13/16	3/8	5/8	3/4	TB-3710	3161-640	\$3.65
3/8-16	1	1-1/2	13/16	3/8	5/8	3/4	TB-3715	3161-641	3.90
3/8-16	1-1/4	2	13/16	3/8	5/8	3/4	TB-3720	3161-642	4.05
3/8-16	1-1/2	2-1/2	13/16	3/8	5/8	3/4	TB-3725	3161-643	4.20
3/8-16	1-1/2	3	13/16	3/8	5/8	3/4	TB-3730	3161-644	4.50
3/8-16	1-1/2	3-1/2	13/16	3/8	5/8	3/4	TB-3735	3161-645	4.60
3/8-16	1-1/2	4	13/16	3/8	5/8	3/4	TB-3740	3161-646	4.75
1/2-13	1	1-1/2	1/4	1/2	13/16	15/16	TB-5015	3161-647	5.75
1/2-13	1-1/4	2	1/4	1/2	13/16	15/16	TB-5020	3161-648	6.25
1/2-13	1-1/2	2-1/2	1/4	1/2	13/16	15/16	TB-5025	3161-649	6.40
1/2-13	1-1/2	3	1/4	1/2	13/16	15/16	TB-5030	3161-650	6.45
1/2-13	1-1/2	3-1/2	1/4	1/2	13/16	15/16	TB-5035	3161-651	6.55
1/2-13	1-1/2	4	1/4	1/2	13/16	15/16	TB-5040	3161-652	6.85
1/2-13	1-1/2	5	1/4	1/2	13/16	15/16	TB-5050	3161-653	7.55
1/2-13	2	6	1/4	1/2	13/16	15/16	TB-5060	3161-654	7.95
5/8-11	1	1-1/2	5/16	5/8	1-1/64	1-1/8	TB-6215	3161-655	6.85
5/8-11	1-1/4	2	5/16	5/8	1-1/64	1-1/8	TB-6220	3161-656	7.00
5/8-11	1-1/2	2-1/2	5/16	5/8	1-1/64	1-1/8	TB-6225	3161-657	7.45
5/8-11	1-1/2	3	5/16	5/8	1-1/64	1-1/8	TB-6230	3161-658	7.75
5/8-11	1-1/2	3-1/2	5/16	5/8	1-1/64	1-1/8	TB-6235	3161-659	8.00
5/8-11	1-1/2	4	5/16	5/8	1-1/64	1-1/8	TB-6240	3161-660	8.40
5/8-11	1-1/2	5	5/16	5/8	1-1/64	1-1/8	TB-6250	3161-661	8.95
5/8-11	2	6	5/16	5/8	1-1/64	1-1/8	TB-6260	3161-662	9.60
5/8-11	3	8	5/16	5/8	1-1/64	1-1/8	TB-6280	3161-663	10.20
3/4-10	1-1/2	3	3/8	3/4	1-1/4	1-3/8	TB-7530	3161-664	9.80
3/4-10	1-1/2	3-1/2	3/8	3/4	1-1/4	1-3/8	TB-7535	3161-665	10.20
3/4-10	1-1/2	4	3/8	3/4	1-1/4	1-3/8	TB-7540	3161-666	10.75

## T-Slot Bolts



## T-Slot Nuts

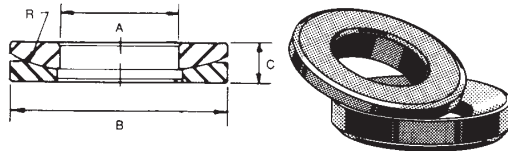


A TAP	B	C	D	E	F	CARBON STEEL			STAINLESS STEEL		
						REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
5/16-18	.343	5/8	13/32	7/32	3/4	TN 0	3161-129	\$2.95	TN 0SS	3170-365	\$5.45
5/16-18	.418	11/16	3/8	1/4	11/16	TN 00	3161-130	2.70	TN 00SS	3170-366	5.30
3/8-16	.430	3/4	1/2	7/32	1	TN 05	3161-131	2.45	TN 05SS	3170-367	5.70
3/8-16	.490	7/8	5/8	1/4	7/8	TN 10	3161-132	2.70	TN 10SS	3170-368	5.90
3/8-16	.543	7/8	5/8	5/16	1-1/4	TN 15	3161-133	2.90	TN 15SS	3170-369	5.90
1/2-13	.555	7/8	3/4	11/32	1-1/4	TN 20	3161-134	3.20	TN 20SS	3170-370	6.85
1/2-13	.562	7/8	3/4	5/16	1-1/4	TN 1	3161-135	3.35	TN 1SS	3170-371	7.00
1/2-13	.562	1-1/8	3/4	25/64	1-1/4	TN 2	3161-136	3.35	TN 2SS	3170-372	7.25
1/2-13	.625	1	3/4	3/8	1-1/4	TN 22	3161-137	3.20	TN 22SS	3170-373	7.05
1/2-13	.625	1-1/8	3/4	7/16	1-1/4	TN 23	3161-138	3.85	TN 23SS	3170-374	7.30
1/2-13	.665	1-1/8	3/4	13/32	1-1/4	TN 21	3161-139	3.20	TN 21SS	3170-375	7.35
5/8-11	.675	1-1/8	1-1/8	15/32	1-1/2	TN 30	3161-140	3.85	TN 30SS	3170-376	8.95
5/8-11	.687	1-1/4	1	15/32	1-1/2	TN 3	3161-141	3.75	TN 3SS	3170-377	8.80
5/8-11	.780	1-1/4	1	17/32	1-1/2	TN 31	3161-142	3.85	TN 31SS	3170-378	8.65
3/4-10	.800	1-3/8	1-3/8	17/32	1-3/4	TN 40	3161-143	5.55	TN 40SS	3170-379	13.10
3/4-10	.812	1-1/2	1	9/16	1-3/4	TN 5	3161-144	6.45	TN 5SS	3170-380	13.40
3/4-10	.968	1-5/8	1	9/16	1-3/4	TN 4	3161-145	6.45	TN 4SS	3170-381	14.20
3/4-10	1.030	1-5/8	1	9/16	1-3/4	TN 41	3161-150	5.55	TN 41SS	3170-382	14.60

Carbon steel is case hardened. Black Oxide finish. Note: An imperfect thread is left in the base to eliminate the danger of damaging the table by screwing the stub through.

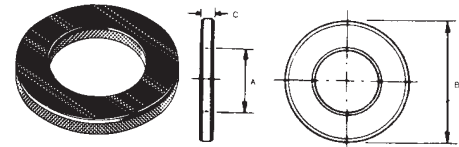
## Spherical Washer Sets

Carbon steel is case



## Precision Flat Washers

Carbon steel is case hardened. Black oxide finish.



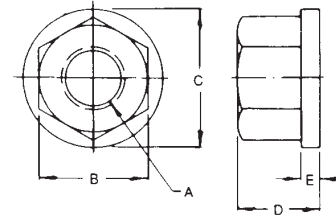
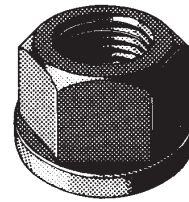
BOLT SIZE	A	B	C	R	CARBON STEEL			STAINLESS STEEL		
					REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
1/4	9/32	5/8	3/16	3/4	SP 0	3161-009	\$2.00	SP 0SS	3170-187	\$4.30
5/16	11/32	3/4	1/4	1	SP 01	3161-010	2.18	SP 01SS	3170-188	4.98
3/8	13/32	7/8	1/4	1-1/4	SP 1	3161-011	2.52	SP 1SS	3170-189	5.70
1/2	17/32	1-1/8	5/16	1-1/2	SP 2	3161-012	3.18	SP 2SS	3170-190	6.94
5/8	21/32	1-3/8	5/16	1-3/4	SP 3	3161-013	4.22	SP 3SS	3170-191	8.76
3/4	25/32	1-5/8	3/8	2-1/4	SP 4	3161-014	4.66	SP 4SS	3170-192	10.36
7/8	15/16	1-3/4	3/8	2-1/2	SP 5	3161-015	5.98	SP 5SS	3170-193	12.94
1	1-1/16	2	1/2	2-3/4	SP 6	3161-016	7.06	SP 6SS	3170-194	15.20
1-1/8	1-3/16	2-1/4	1/2	3	SP 7	3161-017	11.20	SP 7SS	3170-195	22.70
1-1/4	1-5/16	2-5/8	1/2	3	SP 8	3161-018	13.70	SP 8SS	3170-196	26.20
1-1/2	1-9/16	2-7/8	9/16	3-1/2	SP 9	3161-019	16.98	SP 9SS	3170-197	33.30
1-5/8	1-11/16	3-1/4	11/16	3-1/2	SP 10	3161-020	20.96	SP 10SS	3170-198	38.30
1-3/4	1-13/16	3-1/4	11/16	3-1/2	SP 11	3161-021	22.60	SP 11SS	3170-199	42.00
2	2-1/16	3-7/8	3/4	4	SP 12	3161-022	26.70	SP 12SS	3170-200	52.00

BOLT SIZE	A	B	C	CARBON STEEL			STAINLESS STEEL		
				REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
1/4	17/64	5/8	3/32	FW 0	3160-474	\$0.46	FW 0SS	3170-100	\$1.25
5/16	11/32	3/4	1/8	FW 01	3160-475	0.53	FW 01SS	3170-101	1.38
3/8	25/64	7/8	1/8	FW 1	3160-476	0.54	FW 1SS	3170-102	1.59
1/2	17/32	1-1/8	1/8	FW 2	3160-477	0.61	FW 2SS	3170-103	2.10
5/8	21/32	1-1/4	1/8	FW 3	3160-478	0.77	FW 3SS	3170-104	2.40
3/4	25/32	1-1/2	5/32	FW 4	3160-479	0.87	FW 4SS	3170-105	2.65
7/8	29/32	1-3/4	5/32	FW 5	3160-480	1.25	FW 5SS	3170-106	3.40
1	1-1/32	2	3/16	FW 6	3160-481	1.69	FW 6SS	3170-107	4.55

# Jig Fixtures & Components

## Collar Nuts

A	B	C	D	E	LOW CARBON STEEL			STAINLESS STEEL		
					REF. NO.	ORDER NO.	PRICE EACH	REF. NO.	ORDER NO.	PRICE EACH
1/4-20	1/2	5/8	5/16	3/32	CN 0	3160-298	\$ 1.92	CN 0SS	3170-045	\$ 4.05
5/16-18	9/16	3/4	3/8	3/32	CN 00	3160-299	2.09	CN 00SS	3170-046	4.30
3/8-16	11/16	7/8	1/2	1/8	CN 10	3160-300	2.19	CN 10SS	3170-047	4.55
7/16-14	3/4	1	9/16	5/32	CN 15	3160-301	2.42	CN 15SS	3170-048	5.30
1/2-13	7/8	1-1/8	11/16	5/32	CN 20	3160-302	2.47	CN 20SS	3170-049	6.10
5/8-11	1-1/16	1-3/8	13/16	3/16	CN 30	3160-303	3.16	CN 30SS	3170-050	7.25
3/4-10	1-1/4	1-5/8	1	1/4	CN 40	3160-304	4.17	CN 40SS	3170-051	10.30
7/8-9	1-7/16	1-3/4	1-1/8	1/4	CN 50	3160-305	6.03	CN 50SS	3170-052	15.30
1-8	1-5/8	2	1-1/4	1/4	CN 60	3160-306	7.10	CN 60SS	3170-053	18.20
1-1/8-7	1-13/16	2-1/4	1-1/4	1/4	CN 70	3160-307	12.50	CN 70SS	3170-054	34.00
1-1/4-7	1-13/16	2-1/4	1-1/4	1/4	CN 80	3160-308	14.95	CN 80SS	3170-055	45.00
1/4-28	1/2	5/8	5/16	3/32	CN 100	3160-310	1.98	CN 100SS	3170-056	4.20
5/16-24	9/16	3/4	3/8	3/32	CN 105	3160-309	2.09	CN 105SS	3170-057	4.40
3/8-24	11/16	7/8	1/2	1/8	CN 110	3160-311	2.19	CN 110SS	3170-058	4.80
7/16-20	3/4	1	9/16	5/32	CN 115	3160-312	2.47	CN 115SS	3170-059	5.45
1/2-20	7/8	1-1/8	11/16	5/32	CN 120	3160-313	2.62	CN 120SS	3170-060	6.55
5/8-18	1-1/16	1-3/8	13/16	3/16	CN 130	3160-314	3.25	CN 130SS	3170-061	7.45
3/4-16	1-1/4	1-5/8	1	1/4	CN 140	3160-315	4.38	CN 140SS	3170-062	10.70
7/8-14	1-7/16	1-3/4	1-1/8	1/4	CN 150	3160-316	6.13	CN 150SS	3170-063	15.75
1-14	1-5/8	2	1-1/4	1/4	CN 160	3160-317	7.20	CN 160SS	3170-064	18.40
1-1/8-12	1-13/16	2-1/4	1-1/4	1/4	CN 170	3160-318	12.75	CN 170SS	3170-065	34.00
1-1/4-12	1-13/16	2-1/4	1-1/4	1/4	CN 180	3160-319	15.10	CN 180SS	3170-066	45.00



## Acorn Nuts

- Available in case hardened steel or stainless steel
- Excellent for protecting exposed threads



A THREAD	HEX	C	LOW CARBON STEEL		
			PART NO.	ORDER NO.	PRICE EACH
5/16-18	5/8	5/8	AN-0	3160-000	\$ 2.95
3/8-16	3/4	3/4	AN-1	3160-002	3.20
1/2-13	7/8	15/16	AN-2	3160-003	3.75
5/8-11	1-1/16	1-3/16	AN-3	3160-004	4.95
3/4-10	1-1/4	1-3/8	AN-4	3160-005	6.10
7/8-9	1-3/8	1-5/8	AN-5	3160-006	7.15

CARBON STEEL IS CASE HARDENED AND BLACK OXIDE FINISHED.

- Available in case hardened black oxide finish steel or stainless steel.
- Precision machined from bar stock.
- Swing bolts are not to be used for lifting.



## Swing Bolts

A THREAD	B	C	D	E	F	G	STEEL			STAINLESS STEEL		
							PART NO.	ORDER NO.	PRICE EACH	PART NO.	ORDER NO.	PRICE EACH
1/4-20	1/4	3/4	1-3/16	1-1/2	1/2	5/16	SWB-01	3161-119	\$ 5.30	SWB-01SS	3170-350	\$ 9.95
1/4-20	1/4	1-1/4	2-3/16	2-1/2	1/2	5/16	SWB-02	3161-120	5.90	SWB-02SS	3170-351	12.05
5/16-18	5/16	1	1-5/8	2	5/8	3/8	SWB-03	3161-121	5.70	SWB-03SS	3170-352	12.50
5/16-18	5/16	1-3/8	2-5/8	3	5/8	3/8	SWB-04	3161-122	7.10	SWB-04SS	3170-353	14.35
3/8-16	3/8	1-3/8	2-5/8	3	5/8	3/8	SWB-1	3161-123	8.40	SWB-1SS	3170-354	16.95
3/8-16	3/8	2	3	3-1/2	3/4	1/2	SWB-10	3161-126	8.50	SWB-10SS	3170-357	19.80
1/2-13	1/2	1-5/8	2-1/2	3-1/8	1	5/8	SWB-2	3161-124	9.20	SWB-2SS	3170-355	24.00
1/2-13	1/2	2-1/2	3-1/2	4-1/8	1	5/8	SWB-20	3161-127	10.90	SWB-20SS	3170-358	27.90
5/8-11	5/8	1/58	2-3/4	3-1/2	1-1/4	3/4	SWB-3	3161-125	11.10	SWB-3SS	3170-356	34.00
5/8-11	5/8	2-1/2	4	4-3/4	1-1/4	3/4	SWB-30	3161-128	13.80	SWB-30SS	3170-359	37.50

A THREAD	HEX	C	STAINLESS STEEL		
			PART NO.	ORDER NO.	PRICE EACH
5/16-18	5/8	5/8	AN-0SS	3170-000	\$3.50
3/8-16	3/4	3/4	AN-1SS	3170-001	4.65
1/2-13	7/8	15/16	AN-2SS	3170-002	6.05
5/8-11	1-1/16	1-3/16	AN-3SS	3170-003	10.60
3/4-10	1-1/4	1-3/8	AN-4SS	3170-004	12.85
7/8-9	1-3/8	1-5/8	AN-5SS	3170-005	17.40

## Tapped End Clamp Straps

- Case hardened, black oxide finish
- Machined from carbon steel



## Stainless Steel Clamp Straps



- Made from 300 series stainless steel

A	B	C	D	E	F	G	H	PART NO.	ORDER NO.	PRICE EACH
3/8	5/8	2	1/2	1	9/32	1/4-20	7/32	CS-7A	3160-338	\$6.05
3/8	5/8	2-1/2	1/2	1-1/8	9/32	1/4-20	1/32	CS-107	3160-374	6.15
1/2	1	2-3/4	7/16	1-1/2	11/32	5/16-18	9/32	CS-71	3160-365	8.45
1/2	1	3-1/4	13/16	1-1/2	11/32	5/16-18	9/32	CS-72	3160-366	9.15
1/2	1	3-3/4	1-3/16	1-1/2	11/32	5/16-18	9/32	CS-73	3160-367	10.50
5/8	1-1/4	3	3/4	1-11/16	13/32	3/8-16	5/16	CS-74	3160-368	10.75
5/8	1-1/4	4	1	2-3/16	13/32	3/8-16	5/16	CS-75	3160-369	10.80
5/8	1-1/4	5	1-1/2	2-11/16	13/32	3/8-16	5/16	CS-76	3160-370	12.90
5/8	1-1/4	6	2	3-3/16	13/32	3/8-16	5/16	CS-77	3160-371	13.00
5/8	1-1/4	4	1	2-1/4	17/32	1/2-13	7/16	CS-7	3160-340	13.05
5/8	1-1/4	4-1/2	1	2-1/4	17/32	1/2-13	7/16	CS-700	3160-392	13.25
5/8	1-1/4	5	1-1/2	2-1/4	17/32	1/2-13	7/16	CS-8	3162-342	12.90
5/8	1-1/4	6	1-1/2	2-1/4	17/32	1/2-13	7/16	CS-9	3160-341	14.10
3/4	1-1/2	4-1/2	1	2-1/2	21/32	5/8-11	1/2	CS-10	3160-342	14.10
3/4	1-1/2	5	1-1/2	2-1/2	21/32	5/8-11	1/2	CS-1000	3160-393	14.40
3/4	1-1/2	5-1/2	1-1/2	2-1/2	21/32	5/8-11	1/2	CS-11	3160-343	14.40
3/4	1-1/2	6	1-1/2	2-1/2	21/32	5/8-11	1/2	CS-12	3160-344	16.85

A	B	C	D	E	F	G	H	J	PART NO.	ORDER NO.	PRICE EACH
1/4	1/2	1-1/2	5/16	5/8	5/64	10-32	7/32	11/16	1503	3164-503	\$8.50
1/4	1/2	1-3/4	7/16	3/4	5/64	10-32	7/32	13/16	1504	3164-504	8.95
1/4	1/2	2	9/16	7/8	5/64	10-32	7/32	15/16	1505	3164-505	9.40
5/16	5/8	1-3/4	3/8	3/4	3/32	1/4-20	9/32	3/4	1628	3164-518	10.55
5/16	5/8	2	1/2	7/8	3/32	1/4-20	9/32	7/8	1629	3164-519	11.35
5/16	5/8	2-1/2	11/16	1-1/16	3/32	1/4-20	9/32	1-3/16	1630	3161-193	12.35
3/8	3/4	2	1/2	7/8	1/8	5/16-18	11/32	13/16	1753	3164-528	10.85
3/8	3/4	2-1/2	3/4	1-1/8	1/8	5/16-18	11/32	1-1/16	1754	3164-529	11.95
3/8	3/4	3	7/8	1-5/16	1/8	5/16-18	11/32	1-3/8	1755	3164-530	12.95
1/2	7/8	3	3/4	1-5/16	1/8	3/8-16	13/32	1-5/16	1878	3164-536	16.65
1/2	7/8	3-1/2	1	1-1/2	1/8	3/8-16	13/32	1-5/8	1879	3164-537	17.85
1/2	7/8	4	1-1/8	1-5/8	1/8	3/8-16	13/32	2	1879	3164-538	18.50

## Set-Up Studs



Stainless Steel Available Upon Request

SIZE	LENGTH	STEEL	
		ORDER NO.	PRICE EACH
1/4	1-1/2	3161-459	\$2.10
1/4	2	3161-460	2.00
1/4	2-1/2	3161-461	1.45
1/4	3	3161-462	1.50
1/4	3-1/2	3161-463	1.50
1/4	4	3161-464	1.55
5/16	1-1/2	3161-473	1.87
5/16	2	3161-474	1.72
5/16	2-1/2	3161-475	1.72
5/16	3	3161-476	1.72
5/16	3-1/2	3161-477	1.72
5/16	4	3161-478	1.77
5/16	4-1/2	3161-479	1.95
5/16	5	3161-480	1.95
5/16	6	3161-482	2.00
5/16	7	3161-483	2.05
5/16	8	3161-485	2.10
3/8	1-1/2	3161-487	1.80
3/8	2	3161-488	1.65
3/8	2-1/2	3161-489	\$1.65
3/8	3	3161-490	1.67
3/8	3-1/2	3161-491	1.64
3/8	4	3161-492	1.64
3/8	4-1/2	3161-493	1.70
3/8	5	3161-494	1.72
3/8	5-1/2	3161-495	1.72
3/8	6	3161-496	1.72
3/8	6-1/2	3161-497	1.77
3/8	7	3161-498	1.82

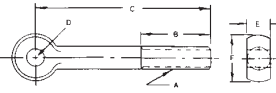
SIZE	LENGTH	STEEL	
		ORDER NO.	PRICE EACH
3/8	7-1/2	3161-499	\$1.82
3/8	8	3161-500	1.87
1/2	1-1/2	3161-501	1.77
1/2	2	3161-502	1.65
1/2	2-1/2	3161-503	1.65
1/2	3	3161-504	1.65
1/2	3-1/2	3161-505	1.77
1/2	4	3161-506	1.77
1/2	4-1/2	3161-507	1.77
1/2	5	3161-508	1.92
1/2	5-1/2	3161-509	1.92
1/2	6	3161-510	1.92
1/2	6-1/2	3161-511	2.02
1/2	7	3161-512	2.02
1/2	7-1/2	3161-513	2.15
1/2	8	3161-514	2.18
1/2	9	3161-515	3.45
1/2	10	3161-516	4.00
1/2	12	3161-517	4.95
1/2	14	3161-518	5.40
5/8	1-1/2	3161-519	2.43
5/8	2	3161-520	1.95
5/8	2-1/2	3161-521	1.75
5/8	3	3161-522	1.95
5/8	3-1/2	3161-523	2.00
5/8	4	3161-524	2.15
5/8	4-1/2	3161-525	2.25
5/8	5	3161-526	2.40
5/8	5-1/2	3161-527	2.50
5/8	6	3161-528	2.55

SIZE	LENGTH	STEEL	
		ORDER NO.	PRICE EACH
5/8	6-1/2	3161-529	\$2.60
5/8	7	3161-530	2.75
5/8	7-1/2	3161-531	2.85
5/8	8	3161-532	2.95
5/8	9	3161-533	4.90
5/8	10	3161-534	5.00
5/8	12	3161-535	5.45
5/8	14	3161-536	6.35
3/4	3	3161-538	2.33
3/4	4	3161-540	5.65
3/4	5	3161-542	2.95
3/4	6	3161-544	3.25
3/4	7	3161-546	3.50
3/4	8	3161-548	3.60
3/4	9	3161-549	7.10
3/4	10	3161-550	7.25
3/4	12	3161-551	7.95
3/4	14	3161-552	8.75
7/8	3	3161-553	6.80
7/8	4	3161-555	6.20
7/8	4-1/2	3161-556	5.75
7/8	5	3161-557	6.10
7/8	5-1/2	3161-558	6.60
7/8	6	3161-559	6.90
7/8	6-1/2	3161-560	7.30
7/8	7	3161-561	7.65
7/8	7-1/2	3161-562	8.10
7/8	8	3161-563	8.45

SIZE	LENGTH	STEEL	
		ORDER NO.	PRICE EACH
7/8	9	3161-564	\$9.90
7/8	10	3161-565	10.95
7/8	12	3161-566	12.50
7/8	14	3161-567	13.50
1	3	3161-568	6.65
1	4	3161-570	7.20
1	5	3161-572	8.00
1	6	3161-574	8.00
1	7	3161-575	8.65
1	8	3161-577	9.30
1	9	3161-578	11.80
1	10	3161-579	13.10
1	12	3161-580	14.50
1	14	3161-581	16.00

† Limited Quantities

## Eye Bolts

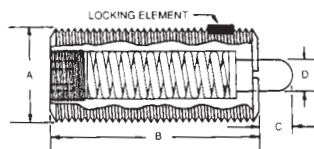


A	B	C	D	E	F	STEEL REF.	STEEL ORDER	STEEL PRICE	STAINLESS REF.	STAINLESS ORDER	STAINLESS PRICE
1/4-20	7/8	2-1/8	3/16	1/4	1/2	EB 0	3160-444	\$ 5.75	EB 0SS	3170-070	\$ 11.95
1/4-20	7/8	2-1/8	1/4	1/4	1/2	EB 05	3160-445	5.70	EB 05SS	3170-071	11.90
1/4-20	1-1/4	3	3/16	1/4	1/2	EB 010	3160-446	6.20	EB 010SS	3170-072	12.80
1/4-20	1-1/4	3	1/4	1/4	1/2	EB 020	3160-447	6.20	EB 020SS	3170-073	12.80
5/16-18	1-1/4	2-1/2	1/4	1/4	5/8	EB 030	3160-448	6.30	EB 030SS	3170-074	13.05
5/16-18	1-1/4	2-1/2	5/16	5/16	5/8	EB 040	3160-449	6.30	EB 040SS	3170-075	13.10
5/16-18	1-1/2	3-1/2	1/4	1/4	5/8	EB 050	3160-450	7.15	EB 050SS	3170-076	14.65
5/16-18	1-1/2	3-1/2	5/16	5/16	5/8	EB 060	3160-451	7.15	EB 060SS	3170-077	14.65
5/16-18	2	4	1/4	1/4	5/8	EB 061	3160-452	8.20	EB 061SS	3170-078	16.40
5/16-18	2	4	5/16	5/16	5/8	EB 062	3160-453	8.20	EB 062SS	3170-079	16.40
3/8-16	1-1/2	3-1/2	5/16	5/16	3/4	EB 070	3160-454	8.30	EB 070SS	3170-080	18.05
3/8-16	1-1/2	3-1/2	3/8	3/8	3/4	EB 080	3160-455	8.30	EB 080SS	3170-081	18.05
3/8-16	2	3-3/4	5/16	5/16	3/4	EB 090	3160-456	8.00	EB 090SS	3170-082	18.95
3/8-16	2	3-3/4	3/8	3/8	3/4	EB 100	3160-469	9.15	EB 100SS	3170-083	18.95
3/8-16	2-1/2	5	5/16	3/8	3/4	EB 101	3160-470	9.65	EB 101SS	3170-084	21.10
3/8-16	2-1/2	5	3/8	1/2	3/4	EB 102	3160-471	9.65	EB 102SS	3170-085	21.10
1/2-13	1-1/2	3-3/4	3/8	3/8	1	EB 1	3160-457	11.70	EB 1SS	3170-086	22.55
1/2-13	1-1/2	3-3/4	1/2	1/2	1	EB 5	3160-459	11.60	EB 5SS	3170-087	22.45
1/2-13	2	5	3/8	3/8	1	EB 10	3160-460	12.85	EB 10SS	3170-088	29.40
1/2-13	2	5	1/2	1/2	1	EB 15	3160-461	12.85	EB 15SS	3170-089	29.40
1/2-13	2-1/2	5-1/2	3/8	1/2	1	EB 16	3160-462	15.10	EB 16SS	3170-090	33.60
1/2-13	2-1/2	5-1/2	1/2	1/2	1	EB 17	3160-463	15.10	EB 17SS	3170-091	33.60
5/8-11	1-3/4	4-1/2	5/8	5/8	1-1/4	EB 20	3160-464	16.25	EB 20SS	3170-092	33.60
5/8-11	2	4-1/2	5/8	5/8	1-1/4	EB 2	3160-458	16.45	EB 2SS	3170-093	31.70
5/8-11	2-1/2	6	5/8	5/8	1-1/4	EB 25	3160-465	22.00	EB 25SS	3170-094	43.15
5/8-11	3	6	5/8	5/8	1-1/4	EB 26	3160-466	22.35	EB 26SS	3170-095	46.15
3/4-10	4-1/2	4-1/2	3/4	3/4	1-1/2	EB 30	3160-467	29.60	EB 30SS	3170-096	44.50
3/4-10	6	6	3/4	3/4	1-1/2	EB 35	3160-468	30.05	EB 35SS	3170-097	49.50



## Steel Ball Plungers

- Steel body, stainless steel ball nose.
- All plungers equipped with nylon pellet for positive holding. If you require plungers without the nylon locking element, please specify when ordering.
- Ideal for locating or positioning applications.



A	B	C	DIAM. D	END PRESSURES LBS.		PART. NO.	ORDER NO.	PRICE EACH
				START	FULL			
#4-48	3/16	.020	.062	.12	.5	MBP-100	3163-508	\$4.10
#5-40	1/4	.020	.062	.12	.5	MBP-101	3163-509	3.95
#6-40	5/16	.023	.078	.5	1.0	MBP-102	3163-510	3.85
#8-36	11/32	.025	.093	.5	1.25	MBP-103	3163-511	3.75
#8-32	11/32	.025	.093	.5	1.25	MBP-104	3163-512	3.75
#10-32	33/64	.025	.093	.5	1.5	MBP-106	3160-751	3.55
#10-32	33/64	.025	.093	1.5	3.0	MBP-105	3160-750	3.55
#10-32	33/64	.025	.093	2.0	5.0	MBP-107	3160-752	3.55
1/4-20	17/32	.035	1.25	2.0	4.0	MBP-111	3160-754	3.60
1/4-20	17/32	.035	.125	3.0	7.0	MBP-110	3160-753	3.60
1/4-20	17/32	.035	.125	4.0	12.0	MBP-112	3160-755	3.60
5/16-18	37/64	.040	.156	2.0	4.5	MBP-116	3160-757	3.65
5/16-18	37/64	.040	.156	4.0	9.0	MBP-115	3160-756	3.65
5/16-18	37/64	.040	.156	6.0	17.0	MBP-117	3160-758	3.65
3/8-16	5/8	.048	.187	2.5	5.0	MBP-121	3160-760	3.70
3/8-16	5/8	.048	.187	5.0	10.0	MBP-120	3160-759	3.70
3/8-16	5/8	.048	.187	6.0	21.0	MBP-122	3160-749	3.70
1/2-13	3/4	.072	.281	3.0	6.0	MBP-126	3160-762	3.85
1/2-13	3/4	.072	.281	6.0	12.0	MBP-125	3160-761	3.85
1/2-13	3/4	.072	.281	6.0	30.0	MBP-127	3160-763	3.85
5/8-11	63/64	.096	.375	4.5	9.0	MBP-131	3160-765	4.70
5/8-11	63/64	.096	.375	9.0	18.0	MBP-130	3160-764	4.70
5/8-11	63/64	.096	.375	7.0	50.0	MBP-132	3160-766	4.70

## Spring Plungers - Light Spring Pressures

A	B	C	D	END PRESSURES			REF. NO.	ORDER NO.	PRICE EACH
				START	1/2 WAY	FULL			
#6-32	17/32	.062	.046	0.5	1.0	1.5	MSP-21	3160-780	\$4.10
#8-32	5/8	.093	.070	0.7	1.5	2.3	MSP-22	3160-781	4.10
#10-32	3/4	.125	.093	1.3	2.0	2.7	MSP-23	3160-782	3.75
1/4-20	1	.187	.119	1.0	2.5	4.0	MSP-24	3160-783	3.75
1/4-28	1	.187	.119	1.0	2.5	4.0	MSP-25	3160-784	3.75
5/16-18	1	.187	.135	1.5	3.0	4.5	MSP-26	3160-785	3.75
3/8-16	1-1/8	.187	.186	2.8	5.0	7.2	MSP-27	3160-786	3.80
1/2-13	1-1/4	.250	.248	2.7	6.0	9.3	MSP-28	3160-787	3.80
5/8-11	1-1/2	.312	.310	3.5	7.0	10.5	MSP-29	3160-788	4.80
3/4-10	1-3/4	.312	.374	4.0	10.0	16.0	MSP-30	3160-789	7.65
1-8	2-13/32	.500	.499	4.0	17.5	31.0	MSP-31	3160-790	10.50

## Spring Plungers - Heavy Pressures

A	B	C	D	END PRESSURES			REF. NO.	ORDER NO.	PRICE EACH
				START	1/2 WAY	FULL			
#6-32	17/32	.062	.046	1.5	3.0	4.5	MSP-1	3160-767	\$4.15
#6-32	3/8	.062	.046	1.0	1.3	1.6	MSP-2	3160-768	4.15
#8-32	5/8	.093	.070	2.7	5.0	7.3	MSP-3	3160-769	4.15
#10-32	3/4	.125	.093	2.9	7.0	11.1	MSP-4	3160-770	4.15
1/4-20	1	.187	.119	3.0	8.0	13.0	MSP-5	3160-771	4.00
1/4-28	1	.187	.119	3.0	8.0	13.0	MSP-6	3160-772	4.00
1/4-20	3/4	.125	.119	2.0	5.5	9.0	MSP-7	3160-773	4.00
5/16-18	1	.187	.135	3.0	9.0	15.0	MSP-8	3160-774	4.00
3/8-16	1-1/8	.187	.186	5.5	10.0	14.5	MSP-9	3160-775	4.10
1/2-13	1-1/4	.250	.248	6.6	12.0	17.4	MSP-10	3160-776	4.10
5/8-11	1-1/2	.312	.310	10.5	18.0	25.5	MSP-11	3160-777	5.05
3/4-10	1-3/4	.312	.374	6.7	22.0	37.3	MSP-12	3160-778	7.65
1-8	2-13/32	.500	.499	16.0	42.0	68.0	MSP-13	3160-779	13.95

## Stainless Steel Ball Plungers

- All parts are made of stainless steel.
- All plungers equipped with nylon pellet for positive holding. If you require plungers without the nylon locking element, please specify when ordering.
- Ideal for locating or positioning applications.



A	B	C	DIAM. D	END PRESSURES LBS.		PART. NO.	ORDER NO.	PRICE EACH
				START	FULL			
#4-48	3/16	.020	.062	.12	.5	MBP-090SS	3163-589	\$4.00
#5-40	1/4	.020	.062	.12	.5	MBP-091SS	3163-590	4.00
#6-40	5/16	.023	.078	.5	1.0	MBP-092SS	3163-591	4.00
#8-36	11/32	.025	.093	.5	1.25	MBP-093SS	3163-592	4.00
#8-32	11/32	.025	.093	.5	1.25	MBP-094SS	3163-593	4.00
#10-32	33/64	.025	.093	.5	1.5	MBP-106SS	3163-595	4.15
#10-32	33/64	.025	.093	1.5	3.0	MBP-105SS	3163-594	4.15
#10-32	33/64	.025	.093	2.0	5.0	MBP-107SS	3163-596	4.15
1/4-20	17/32	.035	1.25	2.0	4.0	MBP-111SS	3163-598	4.35
1/4-20	17/32	.035	.125	3.0	7.0	MBP-110SS	3163-597	4.35
1/4-20	17/32	.035	.125	4.0	12.0	MBP-112SS	3163-599	4.35
5/16-18	37/64	.040	.156	2.0	4.5	MBP-116SS	3163-601	4.70
5/16-18	37/64	.040	.156	4.0	9.0	MBP-115SS	3163-600	4.70
5/16-18	37/64	.040	.156	6.0	17.0	MBP-117SS	3163-602	4.70
3/8-16	5/8	.048	.187	2.5	5.0	MBP-121SS	3163-604	5.35
3/8-16	5/8	.048	.187	5.0	10.0	MBP-120SS	3163-603	5.35
3/8-16	5/8	.048	.187	6.0	21.0	MBP-122SS	3163-605	5.35
1/2-13	3/4	.072	.281	3.0	6.0	MBP-126SS	3163-607	5.85
1/2-13	3/4	.072	.281	6.0	12.0	MBP-125SS	3163-606	5.85
1/2-13	3/4	.072	.281	6.0	30.0	MBP-127SS	3163-608	5.85
5/8-11	63/64	.096	.375	4.5	9.0	MBP-131SS	3163-610	7.55
5/8-11	63/64	.096	.375	9.0	18.0	MBP-130SS	3163-609	7.55
5/8-11	63/64	.096	.375	7.0	50.0	MBP-132SS	3163-611	7.55

## Metric Ball Plungers

- Steel body, stainless steel ball nose, zinc plated finish.
- All plungers equipped with nylon pellet for positive holding. If you require plungers without the nylon locking element, please specify when ordering.
- Ideal for locating or positioning applications.



A	B	C	DIAM. D	END PRESSURES KILOGRAMS		PART. NO.	ORDER NO.	PRICE EACH
				START	FULL			
M 4 x 0.7	9.00	0.60	2.36	.25	.50	MBP-150	3163-513	\$5.15
M 5 x 0.8	13.00	0.60	2.36	.25	.70	MBP-151	3163-514	5.25
M 5 x 0.8	13.00	0.60	2.36	.70	1.35	MBP-152	3163-515	5.25
M 5 x 0.8	13.00	0.60	2.36	.90	2.25	MBP-153	3163-516	5.25
M 6 x 1.0	13.50	0.90	3.20	.90	1.80	MBP-154	3163-517	5.40
M 6 x 1.0	13.50	0.90	3.20	1.35	3.15	MBP-155	3163-518	5.40
M 6 x 1.0	13.50	0.90	3.20	1.80	5.40	MBP-156	3163-519	5.40
M 8 x 1.25	15.00	1.00	3.96	.90	2.00	MBP-157	3163-520	5.50
M 8 x 1.25	15.00	1.00	3.96	1.80	4.00	MBP-158	3163-521	5.50
M 8 x 1.25	15.00	1.00	3.96	2.70	7.65	MBP-159	3163-522	5.50
M 10 x 1.5	16.00	1.20	4.75	1.13	2.25	MBP-160	3163-523	5.55
M 10 x 1.5	16.00	1.20	4.75	2.25	4.50	MBP-161	3163-524	5.55
M 10 x 1.5	16.00	1.20	4.75	2.70	9.50	MBP-162	3163-525	5.55
M 12 x 1.75	19.00	2.00	7.14	1.35	2.70	MBP-163	3163-526	5.60
M 12 x 1.75	19.00	2.00	7.14	2.70	5.40	MBP-164	3163-527	5.60
M 12 x 1.75	19.00	2.00	7.14	2.70	13.50	MBP-165	3163-528	5.60



# Precision Ground Flat Stock — Oil Hardening

2

## AISI/SAE Type O-1

**O-1 GROUND FLAT STOCK** is an electric furnace melt oil-hardening tool steel supplied with a fully spheroidized structure. A non-shrinking general-purpose tool steel, it has excellent abrasion resistance, toughness and machinability characteristics.

**Tolerance:**

Thickness ±.001" Width +.000"/.005"

THICK	WIDTH	18" LENGTH		36" LENGTH		
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
1/64	1/2	3190-010	\$ 76.41	—	—	
	3/4	3190-020	79.45	—	—	
	1	3190-030	83.47	—	—	
	1-1/4	3190-040	87.47	—	—	
	1-1/2	3190-050	96.34	—	—	
	2	3190-060	119.66	—	—	
	2-1/2	3190-070	137.21	—	—	
	3	3190-080	164.38	—	—	
1/32	1/2	3190-100	13.87	—	—	
	3/4	3190-110	18.72	—	—	
	1	3190-120	21.81	—	—	
	1-1/4	3190-130	25.87	—	—	
	1-1/2	3190-140	29.90	—	—	
	2	3190-150	37.80	—	—	
	2-1/2	3190-160	45.80	—	—	
	3	3190-170	53.99	—	—	
3/64	1/4	3190-200†	26.74	—	—	
	5/16	3190-210†	23.38	—	—	
	3/8	3190-220†	14.83	—	—	
	1/2	3190-230	12.16	3200-230	\$21.16	
	3/4	3190-240	15.68	—	—	
	1	3190-250	19.11	3200-250	33.23	
	1-1/4	3190-260	22.44	3200-260	39.00	
	1-1/2	3190-270	25.88	3200-270	45.03	
1/16	1/4	3190-340	28.76	—	—	
	5/16	3190-350†	15.82	—	—	
	3/8	3190-360	14.38	—	—	
	1/2	3190-370	8.57	3200-370	14.92	
	3/4	3190-380	10.83	3200-380	18.83	
	1	3190-390	13.07	3200-390	22.74	
	1-1/4	3190-400	15.24	3200-400	26.51	
	1-1/2	3190-410	17.51	3200-410	30.45	
	1-3/4	3190-420	19.72	3200-420	34.29	
	2	3190-430	21.97	3200-430	38.20	
	2-1/2	3190-440	26.40	3200-440	45.90	
	3	3190-450	30.83	3200-450	53.62	
5/64	3/8	3190-550†	9.69	—	—	
	1/2	3190-560	11.20	—	—	
	3/4	3190-570	13.87	—	—	
	1	3190-580	16.59	—	—	
	1-1/2	3190-590	21.94	—	—	
	2	3190-600	27.32	—	—	
	2-1/2	3190-610	32.48	—	—	
	3	3190-620	37.88	—	—	
	4	3190-630	48.78	—	—	
	6	3190-640	70.60	—	—	
	3/32	1/4	3190-650	36.23	—	—
		5/16	3190-660†	15.16	—	—
3/8		3190-670	19.89	—	—	
1/2		3190-680	11.20	3200-680	19.47	
3/4		3190-690	13.87	3200-690	24.12	
1		3190-700	16.59	3200-700	28.87	
1-1/4		3190-710	19.24	3200-710	33.44	
1-1/2		3190-720	21.94	3200-720	38.13	

THICK	WIDTH	18" LENGTH		36" LENGTH	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/32	1-3/4	3190-730	\$24.62	3200-730	\$42.83
	2	3190-740	27.32	3200-740	47.52
	2-1/2	3190-750	32.75	3200-750	56.94
	3	3190-760	38.17	3200-760	66.40
	3-1/2	3190-770†	19.40	—	—
	4	3190-780	48.94	3200-780	85.12
	5	3190-790	59.75	3200-790	103.91
	6	3190-800	70.54	3200-800	122.69
	8	3190-810	105.49	3200-810	183.47
	10	3190-820	138.92	3200-820	241.60
7/64	1/2	3190-840	13.33	—	—
	3/4	3190-850	16.55	—	—
	1	3190-860	19.68	—	—
	1-1/4	3190-870	22.76	—	—
	1-1/2	3190-880	25.96	—	—
	2	3190-890	32.34	—	—
	2-1/2	3190-900	40.48	—	—
	3	3190-910	45.07	—	—
	4	3190-920	57.78	—	—
	1/8	1/8	3190-930	23.66	—
1/4		3190-940	8.52	—	—
5/16		3190-950	9.28	—	—
3/8		3190-960	9.81	—	—
1/2		3190-970	10.83	3200-970	18.81
5/8		3190-980	12.04	3200-980	20.94
3/4		3190-990	13.30	3200-990	23.11
1		3191-000	15.73	3201-000	27.36
1-1/4		3191-010	18.03	3201-010	31.34
1-1/2		3191-020	20.44	3201-020	35.57
1-3/4		3191-030	22.90	3201-030	39.82
2		3191-040	25.32	3201-040	44.04
2-1/2		3191-050	30.17	3201-050	52.46
3		3191-060	35.04	3201-060	60.96
3-1/2	3191-070	39.91	3201-070	69.41	
9/64	1/2	3191-080	44.77	3201-080	77.87
	4-1/2	3191-090†	30.84	3201-090†	56.82
	5	3191-100	54.47	3201-100	94.76
	6	3191-110	64.20	3201-110	111.63
	7	3191-120	84.78	3201-120	147.47
	8	3191-130	96.09	3201-130	167.11
	10	3191-140	118.45	3201-140	206.03
	12	3191-150	140.94	3201-150	245.14
	14	3191-160	162.79	3201-160	283.11
	9/64	3191-170†	13.28	—	—
	1/2	3191-180	13.44	—	—
	3/4	3191-190	15.32	—	—
	1	3191-200	18.13	—	—
	1-1/4	3191-210	21.81	—	—
1-1/2	3191-220	23.56	—	—	
2	3191-230	29.17	—	—	
3	3191-240	40.30	—	—	
4	3191-250	51.43	—	—	
5/32	5/32	3191-260	21.97	—	—
	1/4	3191-270	32.87	—	—
	5/16	3191-280†	16.98	—	—
	3/8	3191-290	19.08	—	—
	1/2	3191-300	13.32	3201-300	23.16
	3/4	3191-310	16.32	3201-310	28.39
	1	3191-320	19.31	3201-320	33.56
	1-1/4	3191-330	22.10	3201-330	38.44
	1-1/2	3191-340	25.01	3201-340	43.48
	1-3/4	3191-350	27.98	3201-350	48.66
	2	3191-360	30.99	3201-360	53.89
	2-1/2	3191-370	36.84	3201-370	64.07
3/16	3	3191-380	42.79	3201-380	74.42
	3-1/2	3191-390	48.71	3201-390	84.73
	4	3191-400	54.63	3201-400	95.02
	5	3191-410	66.51	3201-410	115.65
	6	3191-420	78.29	3201-420	136.16
	8	3191-430	116.75	3201-430	203.06
	10	—	—	—	—
	12	—	—	—	—
	3/16	3191-460	21.14	—	—
	1/4	3191-470	11.66	—	—
	5/16	3191-480	12.64	—	—
	3/8	3191-490	13.21	—	—
1/2	3191-500	14.54	3201-500	25.28	
3/4	3191-510	17.42	3201-510	30.29	
1	3191-520	20.43	3201-520	35.52	
1-1/4	3191-530	23.20	3201-530	40.37	
1-1/2	3191-540	26.19	3201-540	45.53	
1-3/4	3191-550	29.14	3201-550	50.69	
2	3191-560	32.14	3201-560	55.89	
2-1/2	3191-570	38.06	3201-570	66.19	
3	3191-580	44.04	3201-580	76.57	

THICK	WIDTH	18" LENGTH		36" LENGTH		
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
3/16	3-1/2	3191-590	\$50.01	3201-590	\$86.99	
	4	3191-600	55.89	3201-600	97.21	
	4-1/2	3191-605†	34.13	—	—	
	5	3191-610	67.81	3201-610	117.92	
	6	3191-620	79.70	3201-620	138.60	
	8	3191-630	118.51	3201-630	206.10	
	10	3191-640	145.76	3201-640	253.50	
	12	3191-650	173.23	—	—	
	7/32	7/32	3191-660	20.30	—	—
		5/16	3191-670†	19.02	—	—
		3/8	3191-680†	14.99	—	—
		1/2	3191-690	17.40	3201-690	30.26
3/4		3191-700	20.96	3201-700	36.44	
1		3191-710	24.53	3201-710	42.65	
1-1/4		3191-720	27.86	3201-720	48.46	
1-1/2		3191-730	31.41	3201-730	54.63	
2		3191-740	38.52	3201-740	66.99	
2-1/2		3191-750	45.96	3201-750	79.93	
3		3191-760	52.71	3201-760	91.66	
4		3191-770	66.86	3201-770	116.29	
6	3191-780	95.24	3201-780	165.62		
1/4	1/4	3191-790	18.93	3201-790	32.92	
	5/16	3191-800	28.98	—	—	
	3/8	3191-810	14.81	—	—	
	1/2	3191-820	16.14	3201-820	28.07	
	3/4	3191-830	19.27	3201-830	33.51	
	1	3191-840	22.45	3201-840	39.06	
	1-1/8	3191-845†	14.40	—	—	
	1-1/4	3191-850	25.33	3201-850	44.07	
	1-1/2	3191-860	28.53	3201-860	49.62	
	1-3/4	3191-870	31.45	3201-870	54.70	
	2	3191-880	34.83	3201-880	60.57	
	2-1/2	3191-890	41.10	3201-890	71.49	
	3	3191-900	47.41	3201-900	82.44	
	3-1/2	3191-910	53.71	3201-910	93.41	
4	3191-920	60.04	3201-920	104.39		
4-1/2	3191-930	66.29	3201-930	115.31		
5	3191-940	72.59	3201-940	126.24		
5-1/2	3191-950	78.92	3201-950	137.26		
6	3191-960	88.62	3201-960	154.14		
7	3191-970	112.11	3201-970	194.97		
8	3191-980	126.83	3201-980	220.57		
10	3191-990	155.81	3201-990	270.94		
12	3192-000	184.91	3202-000	321.59		
14	3192-010	213.14	3202-010	370.71		
9/32	9/32	3192-020	19.68	—	—	
	1/2	3192-030	18.65	—	—	

# Precision Ground Flat Stock — Oil Hardening

2

## AISI/SAE Type O-1

Continued from Previous Page

THICK	WIDTH	18" LENGTH		36" LENGTH		
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
3/8	3-1/2	3192-450	\$76.96	3202-450	\$133.83	
	4	3192-460	85.89	3202-460	149.37	
	4-1/2	3192-470	94.81	3202-470	164.89	
	5	3192-480	103.73	3202-480	180.41	
	5-1/2	3192-490†	112.75	3202-490	196.07	
	6	3192-500	121.67	3202-500	211.61	
	7	3192-510	159.54	3202-510	277.46	
	8	3192-520	180.27	3202-520	313.52	
	10	3192-540	221.28	3202-540	384.84	
	12	3192-550	262.53	3202-550	456.56	
	7/16	7/16	3192-560	31.08	3202-560	54.03
		1/2	3192-570	28.09	3202-570	48.84
3/4		3192-580	33.28	3202-580	57.89	
1		3192-590	38.47	3202-590	66.90	
1-1/4		3192-600	43.27	3202-600	75.27	
1-1/2		3192-610	48.48	3202-610	84.30	
2		3192-620	58.86	3202-620	102.38	
2-1/2		3192-630	69.26	3202-630	120.46	
3		3192-640	79.66	3202-640	138.54	
4		3192-650	97.94	3202-650	170.33	
6		3192-660	142.06	3202-660	247.08	
1/2		1/2	3192-670	28.96	3202-670	50.38
	5/8	3192-680	31.68	3202-680	55.09	
	3/4	3192-690	34.36	3202-690	59.77	
	1	3192-700	39.75	3202-700	69.16	
	1-1/4	3192-710	44.98	3202-710	78.22	
	1-1/2	3192-720	50.35	3202-720	87.56	
	1-3/4	3192-730	55.91	3202-730	97.25	
	2	3192-740	61.16	3202-740	106.37	
	2-1/2	3192-750	71.97	3202-750	125.17	
	3	3192-760	82.79	3202-760	143.97	
	3-1/2	3192-770	93.58	3202-770	162.74	
	4	3192-780	104.41	3202-780	181.57	
	4-1/2	3192-790	115.22	3202-790	200.38	
	5	3192-800	126.76	3202-800	220.45	
6	3192-810	155.36	3202-810	270.19		
7	3192-820	196.48	3202-820	341.73		
8	3192-830	221.90	3202-830	385.92		
10	3192-850	267.10	3202-850	464.52		
12	3192-860	311.86	—	—		
14	3192-870†	265.18	—	—		

Oversize Available Upon Request

THICK	WIDTH	18" LENGTH		36" LENGTH		
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	
9/16	9/16	3192-880	\$34.76	3202-880	\$60.45	
	3/4	3192-890	39.20	3202-890	68.20	
	1	3192-900	45.19	3202-900	78.60	
	1-1/4	3192-910	51.08	3202-910	88.82	
	1-1/2	3192-920	57.03	3202-920	99.20	
	2	3192-930	69.07	3202-930	120.11	
	5/8	5/8	3192-940	37.96	3202-940	65.99
		3/4	3192-950	41.08	3202-950	71.43
		1	3192-960	47.25	3202-960	82.19
		1-1/4	3192-970	53.28	3202-970	92.66
1-1/2		3192-980	59.49	3202-980	103.43	
2		3192-990	71.89	3202-990	125.03	
2-1/2		3193-000	84.29	3203-000	146.60	
3		3193-010	96.71	3203-010	168.20	
3-1/2		3193-020	109.14	3203-020	189.82	
4		3193-030	121.55	3203-030	211.42	
3/4	3/4	3193-110	48.84	3203-110	84.94	
	1	3193-120	56.11	3203-120	97.58	
	1-1/4	3193-130	62.95	3203-130	109.49	
	1-1/2	3193-140	70.17	3203-140	122.05	
	1-3/4	3193-150	77.41	3203-150	134.63	
	2	3193-160	84.64	3203-160	147.20	
	2-1/2	3193-170	99.08	3203-170	172.29	
	3	3193-180	113.58	3203-180	197.53	
	3-1/2	3193-190	128.04	3203-190	222.65	
	4	3193-200	142.49	3203-200	247.81	
7/8	7/8	3193-210	156.96	3203-210	272.96	
	1	3193-220	172.23	3203-220	299.52	
	1-1/4	3193-225†	123.73	—	—	
	1-1/2	3193-230	201.16	3203-230	349.82	
	1-3/4	3193-250	294.28	3203-250	511.79	
	2	3193-270	354.92	3203-270	617.23	
	2-1/2	3193-280	415.61	3203-280	722.80	
	3	3193-290	61.19	3203-290	106.42	
	3-1/2	3193-300	65.32	3203-300	113.60	
	4	3193-310	73.07	3203-310	127.06	
1	1	3193-320	81.26	3203-320	141.34	
	1-1/4	3193-330	97.65	3203-330	169.83	
	1-1/2	3193-340†	85.69	3203-340†	151.24	
	1-3/4	3193-350	130.58	3203-350	227.10	
	2	3193-370	163.45	3203-370	284.25	
	2-1/2	3193-390	229.99	3203-390	400.01	
	3	—	—	—	—	
	4	—	—	—	—	
	5	—	—	—	—	
	6	—	—	—	—	

THICK	WIDTH	18" LENGTH		36" LENGTH	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	1	3193-450	\$70.24	3203-450	\$122.15
	1-1/4	3193-460	78.29	3203-460	136.18
	1-1/2	3193-470	86.95	3203-470	151.22
	1-3/4	3193-480	95.56	3203-480	166.19
	2	3193-490	104.20	3203-490	181.21
	2-1/2	3193-500	121.46	3203-500	211.24
	3	3193-510	138.65	3203-510	241.14
	3-1/2	3193-520	155.90	3203-520	271.13
	4	3193-530	173.14	3203-530	301.12
	4-1/2	3193-540†	145.93	3203-540†	252.27
	5	3193-550	208.43	3203-550	362.48
	6	3193-560	242.95	3203-560	422.53
1-1/8	1-1/2	3193-620	104.30	—	—
	2	3193-630	124.05	3203-630	215.74
	2-1/2	3193-635	94.45	—	—
	3	3193-640	163.50	3203-640	284.34
	4	3193-650	202.99	3203-650	353.04
	6	3193-660	282.79	3203-660	491.83
1-1/4	1-1/4	3193-670	98.90	3203-670	172.00
	1-1/2	3193-680	109.55	3203-680	190.53
	2	3193-690	130.93	3203-690	227.74
	2-1/2	3193-700	152.25	3203-700	264.77
	3	3193-710	173.51	3203-710	301.75
	4	3193-730	216.14	3203-730	375.90
	5	3193-740	259.63	3203-740	451.53
	6	3193-750	302.26	3203-750	525.68
	8	3193-770†	324.24	3203-770†	549.57
	10	—	—	3203-790†	663.78
1-1/2	1-1/2	3193-830	127.82	3203-830	222.31
	2	3193-840	152.27	3203-840	264.82
	2-1/2	3193-850	176.73	3203-850	307.36
	3	3193-860	201.23	3203-860	349.96
	3-1/2	3193-870†	170.03	3203-870†	292.52
	4	3193-880	250.14	3203-880	435.01
	5	—	—	3203-890†	388.77
	6	3193-900	353.05	3203-900	614.02
	8	3193-920	488.68	3203-920	849.86
	10	3193-940†	456.97	3203-940†	765.57
2	2	3193-980	195.08	3203-980	339.28
	3	3193-990	256.57	3203-990	446.21
	4	3194-000	318.14	3204-000	553.27
	4	3194-010	423.53	3204-010	736.58
	6	—	—	—	—
	6	—	—	—	—

† Limited Quantities

# Precision Ground Flat Stock — Low Carbon

2

## AISI/SAE Type C-1018

Tolerance: Thickness ±.001" Width +.000"/.005"

† Limited Quantities

LOW CARBON GROUND FLAT STOCK is a fine-grained, vacuum-degassed carbon steel. It is easily machined, has excellent weldability, and responds uniformly to case hardening. The manganese content provides greater strength and hardness compared to many other carbon steels. It is often used in its natural state for such applications as back-up plate, stripper plates, punch pads, and machine parts. As a case-hardened material, it is used for jigs, fixtures, cams and patterns.

Also Available:  
• S-7 • D-2  
• A-6 • Nutec 42

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
1/16	3/4	3210-380	\$13.32
	1	3210-390	15.84
	1-1/4	3210-400	18.36
	1-1/2	3210-410	20.80
	2	3210-430	26.84
	2-1/2	3210-440	32.53
	3	3210-450	37.24
	3-1/2	3210-460	42.42
	4	3210-470	47.47
	5	3210-480	57.35
	6	3210-490	69.03
	8	3210-500	91.88
3/32	10	3210-510	110.93
	12	3210-520	133.35
	1/2	3210-680	13.69
	3/4	3210-690	16.80
	1	3210-700	19.75
	1-1/4	3210-710	22.31
	1-1/2	3210-720	25.33
	2	3210-740	31.34
	2-1/2	3210-750	37.21
	3	3210-760	43.16
	3-1/2	3210-770	49.28
	4	3210-780	54.54

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
3/32	5	3210-790	\$63.91
	6	3210-800	78.86
	10	3210-820	126.49
	12	3210-830	150.72
7/64	4	3210-920†	29.39
	4-1/2	3210-925†	32.37
1/8	1/2	3210-970	13.26
	3/4	3210-990	15.84
	1	3211-000	18.60
	1-1/4	3211-010	20.60
	1-1/2	3211-020	24.57
	2	3211-040	28.46
	2-1/2	3211-050	33.67
	3	3211-060	38.08
	3-1/2	3211-070	43.41
	4	3211-080	47.41
	5	3211-100	57.55
	10	3211-140	109.74
5/32	12	3211-150	130.22
	1/2	3211-300	16.30
	3/4	3211-310	18.70
	1	3211-320	21.83
	1-1/4	3211-330	22.92
	1-1/2	3211-340	26.12

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
5/32	2	3211-360	\$31.61
	2-1/2	3211-370	37.65
	3	3211-380	42.13

# Precision Ground Flat Stock – Low Carbon

2

## AISI/SAE Type C-1018

Continued from Previous Page

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
5/16	4	3212-260	\$84.78
	5	3212-280	100.78
	6	3212-290	118.86
	7	3212-300	138.81
	8	3212-310	154.19
	10	3212-330	185.82
3/8	12	3212-340	213.69
	3/8	3212-350	27.22
	1/2	3212-360	29.83
	3/4	3212-370	32.87
	1	3212-380	38.68
	1-1/4	3212-390	42.47
	1-1/2	3212-400	45.94
	2	3212-420	54.47
	2-1/2	3212-430	65.32
	3	3212-440	70.03
	3-1/2	3212-450	82.05
	1/2	4	3212-460
5		3212-480	109.33
6		3212-500	127.93
7		3212-510	145.74
8		3212-520	162.08
9		3212-530	179.52
10		3212-540	196.82
1/2		3212-670	35.16
3/4		3212-690	39.57
1		3212-700	45.78

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
1/2	3-1/2	3212-770	\$ 94.67
	4	3212-780	103.31
	5	3212-800	124.32
	6	3212-810	144.09
	7	3212-820	157.41
	8	3212-830	182.05
5/8	10	3212-850	218.53
	12	3212-860	250.67
	5/8	3212-940	41.97
	3/4	3212-950	45.05
	1	3212-960	51.61
	1-1/4	3212-970	58.81
	1-1/2	3212-980	64.11
	2	3212-990	75.34
	2-1/2	3213-000	85.07
	3	3213-010	96.52
	3-1/2	3213-020	106.26
	3/4	4	3213-030
5		3213-040	141.03
6		3213-050	161.12
7		3213-060	181.66
8		3213-080	228.87
9		3213-090	245.69
10		3213-100	302.76
3/4		3213-110	49.49
1		3213-120	61.32
1-1/4		3213-130	66.61
1-1/2		3213-140	73.30

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
3/4	4	3213-200	\$133.26
	5	3213-220	157.35
	6	3213-230	182.62
	7	3213-240	206.03
	8	3213-250	232.52
	9	3213-260	252.45
7/8	10	3213-270	273.85
	12	3213-280	316.80
	7/8	3213-290	65.92
	1	3213-300	69.71
	1-1/4	3213-310	76.02
	1-1/2	3213-320	82.03
	2	3213-330	96.87
	2-1/2	3213-340	108.66
	3	3213-350	120.34
	3-1/2	3213-360	133.78
	4	3213-370	147.33
	1	5	3213-380
6		3213-400	232.16
7		3213-410	261.14
8		3213-420	292.04
9		3213-430	315.95
10		3213-450	73.69
1-1/4		3213-460	83.24
1-1/2		3213-470	90.56
2		3213-490	104.85
2-1/2		3213-500	117.99

Oversize Available Upon Request

THICK.	WIDTH	24" LENGTH	
		ORDER NO.	PRICE EACH
1	9	3213-590	\$299.04
	10	3213-600	322.48
	12	3213-610	362.40
1-1/4	1-1/4	3213-670	99.01
	1-1/2	3213-680	110.63
	2	3213-690	126.29
	2-1/2	3213-700	143.66
	3	3213-710	159.01
	3-1/2	3213-720	174.70
	4	3213-730	191.27
	5	3213-740	227.93
	6	3213-750	252.73
	7	3213-760	300.02
	8	3213-770	327.54
	1-1/2	9	3213-780
10		3213-790	388.08
12		3213-800	443.58
1-1/2		3213-830	128.75
2		3213-840	148.91
2-1/2		3213-850	167.74
3-1/2		3213-870	204.75
4		3213-910	349.28
8		3213-920	375.61
9		3213-930	413.14

† Limited Quantities

# Precision Ground Flat Stock – Air Hardening

2

## AISI/SAE Type A-2

**Tolerances:**  
Thickness ±.001"  
Width +.000"/.005"

**A-2 GROUND FLAT STOCK** is made from fine grain, electric furnace air hardening, 5% chrome tool steel. It is a superior quality steel which has excellent wear and abrasion resistance properties. AIR-TRUE is furnished with a fully spheroidized structure and is 100% free of decarb and other imperfections. AIR-TRUE's low sulphur content makes it **non-freemachining**.

THICK.	WIDTH	18" LENGTH		36" LENGTH	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16	1/2	5330-010	\$11.27	5340-010	\$20.50
	3/4	5330-020	15.16	5340-020	27.57
	1	5330-030	17.42	5340-030	31.66
	1-1/4	5330-040	20.34	5340-040	36.98
	1-1/2	5330-050	23.41	5340-050	42.58
	2	5330-060	29.48	5340-060	53.58
3/32	2-1/2	5330-070	35.66	5340-070	64.84
	3	5330-080	37.80	5340-080	68.71
	4	5330-090	54.06	5340-090	98.29
	1/2	5330-100	14.88	5340-100	27.08
	3/4	5330-110	18.68	5340-110	33.96
	1	5330-120	22.49	5340-120	40.89
1/8	1-1/4	5330-130	26.19	5340-130	47.61
	1-1/2	5330-140	30.01	5340-140	54.56
	2	5330-150	37.62	5340-150	68.41
	2-1/2	5330-160	45.28	5340-160	82.33
	3	5330-170	52.91	5340-170	96.20
	4	5330-180	68.21	5340-180	124.02
1/4	1/2	5330-190	12.34	5340-190	22.42
	5/8	5330-200	13.78	5340-200	25.05
	3/4	5330-210	15.15	5340-210	27.54
	1	5330-220	17.96	5340-220	32.64
	1-1/4	5330-230	20.57	5340-230	37.39
	1-1/2	5330-240	23.38	5340-240	42.51
	1-3/4	5330-250	26.19	5340-250	47.63
	2	5330-260	29.01	5340-260	52.75
	2-1/2	5330-270	34.60	5340-270	62.90
	3	5330-280	40.21	5340-280	73.10
	3-1/2	5330-290	46.76	5340-290	85.00
	5/16	4	5330-300	51.47	5340-300
5		5330-310	62.69	5340-310	113.96
6		5330-320	73.92	5340-320	134.40
7		5330-330	100.52	5340-330	182.74
8		5330-340	113.92	5340-340	207.11
10		5330-350	140.54	5340-350	255.51
12		5330-360	167.18	5340-360	303.97
1/2		5330-370	15.86	5340-370	28.82
3/4		5330-380	19.47	5340-380	35.40
1		5330-390	23.16	5340-390	42.10
1-1/4		5330-400	26.58	5340-400	48.34
1-1/2		5330-410	30.19	5340-410	54.88
3/8	1-3/4	5330-420	33.85	5340-420	61.55
	2	5330-430	37.49	5340-430	68.20
	2-1/2	5330-440	44.75	5340-440	81.37
	3	5330-450	52.09	5340-450	94.70
	3-1/2	5330-460	59.36	5340-460	107.93
	4	5330-470	66.67	5340-470	121.19
	5	5330-480	81.26	5340-480	147.74
	6	5330-490	95.79	5340-490	174.17
	8	5330-500	157.92	5340-500	281.27
	3/16	5330-510	29.12	5340-510	52.94
	1/2	5330-520	17.19	5340-520	30.63

THICK.	WIDTH	18" LENGTH		36" LENGTH	
		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
3/16	3/4	5330-530	20.84	5340-530	\$37.88
	1	5330-540	24.59	5340-540	44.71
	1-1/4	5330-550	28.05	5340-550	51.01
	1-1/2	5330-560	31.72	5340-560	57.65
	1-3/4	5330-570	35.45	5340-570	64.46
	2	5330-580	39.20	5340-580	71.29
1/4	2-1/2	5330-590	46.50	5340-590	84.75
	3	5330-600	54.06	5340-600	98.28
	3-1/2	5330-610	62.45	5340-610	113.53
	4	5330-620	68.94	5340-620	125.35
	5	5330-630	83.84	5340-630	152.45
	6	5330-640	98.70	5340-640	179.47
5/16	7	5330-650	127.22	5340-650	231.31
	8	5330-660	152.46	5340-660	277.21
	1/4	5330-670	26.52	5340-670	48.23
	1/2	5330-680	19.50	5340-680	35.43
	3/4	5330-690	23.57	5340-690	42.86
	1	5330-700	27.72	5340-700	50.40
	1-1/4	5330-710	31.41	5340-710	57.12
	1-1/2	5330-720	35.57	5340-720	64.68
	1-3/4	5330-730	39.66	5340-730	72.11
	2	5330-740	43.75	5340-740	79.56
	2-1/2	5330-750	51.93	5340-750	94.40
	3/8	3	5330-760	60.11	5340-760
3-1/2		5330-770	68.30	5340-770	124.20
4		5330-780	76.52	5340-780	139.11
5		5330-790	92.89	5340-790	168.87
6		5330-800	109.30	5340-800	198.72
5/16		5330-810	29.99	5340-810	54.53
1/2		5330-820	22.84	5340-820	41.53
3/4		5330-830	27.50	5340-830	50.03
1		5330-840	32.18	5340-840	58.51
1-1/4		5330-850	36.41	5340-850	66.19
1-1/2		5330-860	41.14	5340-860	74.83
1/2		1-3/4	5330-900	45.81	5340-870
	2	5330-910	50.47	5340-880	91.77
	2-1/2	5330-920	59.84	5340-890	108.80
	3	5330-930	69.14	5340-900	125.71
	3-1/2	5330-940	78.49	5340-910	142.69
	4	5330-950	87.81	5340-920	159.65
	5	5330-960	106.47	5340-930	193.58
	6	5330-970	125.17	5340-940	227.59
	3/8	5330-980	36.14	5340-950	65.69
	1/2	5330-990	27.89	5340-960	50.74
	3/4	5331-000	33.60	5340-970	61.07



# Drill Rod – 36” Length

## Oil Hardening – AISI/SAE Type O-1 & Water Hardening – AISI/SAE Type W-1

### Fractional Sizes

FRAC. SIZES	OIL HARDENING		WATER HARDENING	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/64	3220-001	\$1.25	—	—
1/32	3220-002	1.25	—	—
3/64	3220-003	1.25	—	—
1/16	3220-004	1.60	3223-004	\$0.87
5/64	3220-005	2.68	3223-005	1.49
3/32	3220-006	1.85	3223-006	1.60
7/64	3220-007	2.68	3223-007	2.33
1/8	3220-008	2.45	3223-008	1.78
9/64	3220-009	3.29	3223-009	2.42
5/32	3220-010	3.08	3223-010	2.26
11/64	3220-011	4.00	3223-011	3.00
3/16	3220-012	3.56	3223-012	2.65
13/64	3220-013	4.48	3223-013	3.38
7/32	3220-014	4.23	3223-014	3.29
15/64	3220-015	5.26	3223-015	4.14
1/4	3220-016	4.04	3223-016	3.25
17/64	3220-017	4.89	3223-017	3.72
9/32	3220-018	5.07	3223-018	3.79
19/64	3220-019	6.06	3223-019	4.62
5/16	3220-020	5.07	3223-020	4.23
21/64	3220-021	6.63	3223-021	5.58
11/32	3220-022	6.72	3223-022	5.65
23/64	3220-023	7.95	3223-023	6.72
3/8	3220-024	7.15	3223-024	5.65
25/64	3220-025	9.14	3223-025	7.38
13/32	3220-026	9.28	3223-026	7.36
27/64	3220-027	10.65	3223-027	8.64
7/16	3220-028	9.69	3223-028	7.70
29/64	3220-029	12.30	3223-029	9.97
15/32	3220-030	12.27	3223-030	9.71
31/64	3220-031	14.06	3223-031	11.34
1/2	3220-032	11.91	3223-032	9.26
33/64	3220-033	15.00	3223-033	11.86
17/32	3220-034	15.50	3223-034	12.02
35/64	3220-035	16.87	3223-035	13.26
9/16	3220-036	16.64	3223-036	12.89
37/64	3220-037	18.86	3223-037	14.86
19/32	3220-038	19.41	3223-038	15.00
39/64	3220-039	20.69	3223-039	16.52
5/8	3220-040	18.40	3223-040	13.07
41/64	3220-041	22.86	3223-041	16.55
21/32	3220-042	23.36	3223-042	16.64
43/64	3220-043	25.14	3223-043	18.17
11/16	3220-044	24.53	3223-044	17.42
45/64	3220-045	27.54	3223-045	19.96
23/32	3220-046	28.04	3223-046	19.98
47/64	3220-047	30.01	3223-047	21.74
3/4	3220-048	25.88	3223-048	18.47
49/64	3220-049	31.96	3223-049	23.18
25/32	3220-050	32.43	3223-050	23.16
51/64	3220-051	34.60	3223-051	25.10
13/16	3220-052	33.49	3223-052	23.89
53/64	3220-053	37.40	3223-053	27.15
27/32	3220-054	37.83	3223-054	27.02
55/64	3220-055	40.25	3223-055	29.19

FRAC. SIZES	OIL HARDENING		WATER HARDENING	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
7/8	3220-056	\$38.79	3223-056	\$27.72
57/64	3220-057	43.25	3223-057	31.36
29/32	3220-058	43.64	3223-058	31.16
59/64	3220-059	46.33	3223-059	33.64
15/16	3220-060	46.69	3223-060	33.32
61/64	3220-061	49.51	3223-061	35.93
31/32	3220-062	49.87	3223-062	35.54
63/64	3220-063	52.78	3223-063	38.35
1	3220-064	43.82	3223-064	32.25
1-1/64	3220-065	53.46	3223-065	39.96
1-1/32	3220-066	53.73	3223-066	39.50
1-3/64	3220-067	56.80	3223-067	42.47
1-1/16	3220-068	57.03	3223-068	41.99
1-5/64	3220-069	60.21	3223-069	45.05
1-3/32	3220-070	60.14	3223-070	44.46
1-7/64	3220-071	63.77	3223-071	47.72
1-1/8	3220-072	61.05	3223-072	44.91
1-9/64	3220-073	67.41	3223-073	50.42
1-5/32	3220-074	67.91	3223-074	49.94
1-11/64	3220-075	71.20	3223-075	53.23
1-3/16	3220-076	71.27	3223-076	52.46
1-13/64	3220-077	75.02	3223-077	56.11
1-7/32	3220-078	75.06	3223-078	55.18
1-15/64	3220-079	78.99	3223-079	59.04
1-1/4	3220-080	71.54	3223-080	54.65
1-17/64	3220-081	78.93	3223-081	61.37
1-9/32	3220-082	78.67	3223-082	60.16
1-19/64	3220-083	82.74	3223-083	64.32
1-5/16	3220-084	82.61	3223-084	63.17
1-21/64	3220-085	86.76	3223-085	67.45
1-11/32	3220-086	86.56	3223-086	66.19
1-23/64	3220-087	90.86	3223-087	70.67
1-3/8	3220-088	86.56	3223-088	66.19
1-25/64	3220-089	95.11	3223-089	73.96
1-13/32	3220-090	94.81	3223-090	72.41
1-27/64	3220-091	99.45	3223-091	77.30
1-7/16	3220-092	99.15	3223-092	75.75
1-29/64	3220-093	103.88	3223-093	80.71
1-15/32	3220-094	103.45	3223-094	79.04
1-31/64	3220-095	108.39	3223-095	84.25
1-1/2	3220-096	102.01	3223-096	72.32
1-9/16	3220-100	109.97	3223-100	78.01
1-5/8	3220-104	125.37	3223-104	88.93
1-11/16	3220-108	135.18	3223-108	95.89
1-3/4	3220-112	138.85	3223-112	98.54
1-13/16	3220-116	155.98	3223-116	110.61
1-7/8	3220-120	166.95	3223-120	118.37
1-15/16	3220-124	178.22	3223-124	126.44
2	3220-128	179.88	3223-128	127.82

**Also Available**  
 • Metric Sizes  
 • Special Diameters  
 • Special Lengths

## Fractional Sizes

### Air Hardening – AISI/SAE Type A-2

FRAC. SIZES	DEC. EQUIV.	ORDER NO.	PRICE EACH
1/16	.0625	3225-100	\$ 2.44
5/64	.0781	3225-101	4.20
3/32	.0937	3225-102	3.93
7/64	.1093	3225-104	4.71
1/8	.1250	3225-105	4.32
9/64	.1406	3225-106	6.06
5/32	.1562	3225-107	6.15
11/64	.1718	3225-108	7.41
3/16	.1875	3225-109	6.56
13/64	.2031	3225-110	8.48
7/32	.2187	3225-111	9.14
15/64	.2343	3225-112	10.49
1/4	.2500	3225-113	8.98
17/64	.2656	3225-114	10.01
9/32	.2812	3225-115	11.24
19/64	.2968	3225-116	12.55
5/16	.3125	3225-117	11.59
21/64	.3281	3225-118	14.13
11/32	.3437	3225-119	15.47
23/64	.3593	3225-120	16.92
3/8	.3750	3225-121	16.48
25/64	.3906	3225-122	19.73
13/32	.4062	3225-123	21.37
27/64	.4218	3225-124	23.06
7/16	.4375	3225-125	22.44
29/64	.4531	3225-126	26.56
15/32	.4687	3225-127	28.46
31/64	.4843	3225-128	30.40
1/2	.5000	3225-129	28.11
17/32	.5312	3225-130	35.63
9/16	.5625	3225-131	35.56
19/32	.5937	3225-132	43.73
5/8	.6250	3225-133	43.40
21/32	.6562	3225-134	52.87
11/16	.6875	3225-135	52.52
23/32	.7187	3225-136	63.47
3/4	.7500	3225-137	62.01
13/16	.8125	3225-138	72.77
7/8	.8750	3225-139	84.41
1	1.0000	3225-140	109.58
1-1/16	1.0625	3225-141	123.70
1-1/8	1.1250	3225-142	138.69
1-1/4	1.2500	3225-143	160.29
1-3/8	1.3750	3225-144	193.99
1-1/2	1.5000	3225-145	228.89
1-3/4	1.7500	3225-146	311.51
2	2.0000	3225-147	403.77



# Drill Rod - 36" Length

## Wire Gage Sizes

Oil Hardening — AISI/SAE Type 0-1

Water Hardening — AISI/SAE Type W-1

WIRE GAGE	OIL HARDENING		WATER HARDENING	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1	3221-001	\$ 4.92	3224-001	\$ 3.88
2	3221-002	4.59	3224-002	3.57
3	3221-003	4.89	3224-003	3.66
4	3221-004	4.62	3224-004	3.48
5	3221-005	4.55	3224-005	3.38
6	3221-006	4.37	3224-006	3.34
7	3221-007	4.27	3224-007	3.25
8	3221-008	4.23	3224-008	3.16
9	3221-009	4.12	3224-009	3.09
10	3221-010	3.95	3224-010	2.99
11	3221-011	3.84	3224-011	2.95
12	3221-012	4.66	3224-012	3.48
13	3221-013	4.48	3224-013	3.36
14	3221-014	4.41	3224-014	3.29
15	3221-015	4.30	3224-015	3.22
16	3221-016	4.14	3224-016	3.09
17	3221-017	4.02	3224-017	3.00
18	3221-018	3.84	3224-018	2.74
19	3221-019	3.66	3224-019	2.60
20	3221-020	3.56	3224-020	2.65
21	3221-021	3.34	3224-021	2.51
22	3221-022	3.95	3224-022	2.99
23	3221-023	3.93	3224-023	2.95
24	3221-024	3.79	3224-024	2.84
25	3221-025	3.66	3224-025	2.74
26	3221-026	3.56	3224-026	2.65
27	3221-027	3.41	3224-027	2.51
28	3221-028	3.22	3224-028	2.38
29	3221-029	2.97	3224-029	2.20
30	3221-030	2.68	3224-030	1.97
31	3221-031	3.22	3224-031	2.84
32	3221-032	2.97	3224-032	2.60
33	3221-033	2.77	3224-033	2.44
34	3221-034	2.70	3224-034	2.38
35	3221-035	2.63	3224-035	2.29
36	3221-036	2.54	3224-036	2.20
37	3221-037	2.38	3224-037	2.08
38	3221-038	2.35	3224-038	1.99
39	3221-039	2.20	3224-039	1.94
40	3221-040	2.08	3224-040	1.88
41	3221-041	2.03	3224-041	1.81
42	3221-042	3.73	3224-042	2.08
43	3221-043	3.40	3224-043	1.94
44	3221-044	3.11	3224-044	1.81
45	3221-045	2.88	3224-045	1.60
46	3221-046	2.74	3224-046	1.51
47	3221-047	2.63	3224-047	1.46
48	3221-048	2.45	3224-048	1.39
49	3221-049	2.28	3224-049	1.28
50	3221-050	2.06	3224-050	1.16
51	3221-051	1.92	3224-051	1.08
52	3221-052	1.76	3224-052	1.01

## Letter Sizes

Oil Hardening — AISI/SAE Type 0-1

Water Hardening — AISI/SAE Type W-1

LETTER SIZES	OIL HARDENING		WATER HARDENING	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
A	3222-001	\$ 5.23	3225-001	\$ 4.14
B	3222-002	5.44	3225-002	4.25
C	3222-003	5.58	3225-003	4.32
D	3222-004	5.76	3225-004	4.55
E	3222-005	4.30	3225-005	3.50
F	3222-006	4.55	3225-006	3.47
G	3222-007	4.69	3225-007	3.57
H	3222-008	4.89	3225-008	3.77
I	3222-009	5.12	3225-009	3.91
J	3222-010	5.30	3225-010	4.04
K	3222-011	5.46	3225-011	4.16
L	3222-012	5.80	3225-012	4.43
M	3222-013	6.01	3225-013	4.59
N	3222-014	6.29	3225-014	4.82
O	3222-015	6.19	3225-015	5.26
P	3222-016	6.38	3225-016	5.44
Q	3222-017	6.76	3225-017	5.76
R	3222-018	7.08	3225-018	5.99
S	3222-019	7.41	3225-019	6.33
T	3222-020	7.86	3225-020	6.68
U	3222-021	8.32	3225-021	7.08
V	3222-022	8.53	3225-022	6.88
W	3222-023	8.94	3225-023	7.18
X	3222-024	9.48	3225-024	7.63
Y	3222-025	9.80	3225-025	7.86
Z	3222-026	10.24	3225-026	8.25

## Threaded Rod 36" Length



SIZE	PLAIN OIL FINISH		ZINC PLATED	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
6-36	3215-806	\$ 1.80	3215-906	\$ 2.20
8-32	3215-808	1.80	3215-908	2.20
10-21	3215-810	1.80	3215-910	2.20
10-32	3215-811	1.98	3215-911	2.42
12-24	3215-812	1.97	3215-912	2.40
1/4-20	3215-816	1.97	3215-916	2.40
1/4-28	3215-817	2.17	3215-917	2.64
5/16-18	3215-820	2.52	3215-920	3.02
5/16-24	3215-821	2.78	3215-921	3.32
3/8-16	3215-824	3.00	3215-924	3.52
3/8-24	3215-825	3.30	3215-925	3.87
7/16-14	3215-828	3.52	3215-928	4.18
7/16-20	3215-829	3.87	3215-929	4.60
1/2-13	3215-832	4.18	3215-932	5.05
1/2-20	3215-833	4.60	3215-933	5.55
9/16-12	3215-836	5.80	3215-936	6.92
9/16-18	3215-837	6.38	3215-937	7.61
5/8-11	3215-840	5.80	3215-940	6.92
5/8-18	3215-841	6.38	3215-941	7.61
3/4-10	3215-848	9.67	3215-948	11.15
3/4-16	3215-849	10.64	3215-949	12.26
7/8-9	3215-856	11.96	3215-956	14.06
7/8-14	3215-857	13.16	3215-957	15.47
1-8	3215-864	14.93	3215-964	17.46
1-14	3215-866	16.43	3215-966	19.20
1-1/8-7	3215-872	24.91	3215-972	31.86
1-1/8-12	3215-873	27.40	3215-973	35.04
1-1/4-7	3215-880	29.64	3215-980	37.71
1-1/4-12	3215-881	32.60	3215-981	41.48
1-3/8-6	3215-888	39.50	3215-988	50.24
1-3/8-12	3215-889	43.45	3215-989	55.26
1-1/2-6	3215-896	48.48	3215-996	60.14
1-1/2-12	3215-897	53.33	3215-997	66.16

## Brass Shim Stock

- Cold rolled, half-hard temper, CDA 260 alloy
- Rockwell hardness 30T 56/68.
- Meets CDA-260, SAE-CA260 and ASTM-B19 & B36 specifications.
- Tensile Strength: 57-67,000 p.s.i.
- Elongation: 18-42% in 2"



The unique quality about Precision Brand's Branded Shim® is that everything the user needs to know is clearly marked right on the material:

- Material type,
- Material thickness,
- Lot # for full traceability.

Whether in the field or on the shop floor, this clearly marked information is at your fingertips. It eliminates the need for a micrometer, and aids in keeping tool cribs organized, saving time and money.

THICK.	6" x 100" ROLLS		6" x 180" ROLLS	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.0010	3226-010	\$21.89	3226-401	\$40.56
.0015	3226-015	22.02	3226-400	40.56
.0020	3226-020	22.71	3226-402	40.56
.0030	3226-030	23.43	3226-403	40.56
.0040	3226-040	24.70	3226-404	42.97
.0050	3226-050	25.57	3226-405	49.03
.0060	3226-060	26.33	3226-406	53.28
.0070	3226-070	27.59	3226-407	59.36
.0080	3226-080	29.12	3226-408	59.36
.0090	3226-090	31.28	3226-409	63.34
.0100	3226-100	34.04	3226-410	63.34
.0120	3226-120	36.87	3226-412	78.73
.0150	3226-150	42.57	3226-415	87.51
.0200	3226-200	48.11	3226-420	97.84
.0250	3226-250	57.50	3226-425	118.60
.0310	3226-310	68.04	3226-431	135.28

## Brass Shim Assortments

12 PAK - .001", .0015", .002", .003", .004", .005", .006", .007", .008", .010", .012", .015"

15 PAK - .001", .0015", .002", .003", .004", .005", .006", .007", .008", .010", .012", .015", .020", .025", .031"

DESCRIPTION	ORDER NO.	PRICE EACH
12 pc. 6" x 12"	3226-359	\$44.47
15 pc. 6" x 12"	3226-360	60.52
12 pc. 6" x 18"	3226-361	85.92
15 pc. 6" x 18"	3226-362	127.34

## Steel Shim Stock

- Made from full hard, cold rolled, low carbon C1008/C1010
- Rockwell hardness: <.069 RB 90 MIN., >.070 RB 84 MIN.
- Meets AISI C-1010 and ASTM A-109 specifications.
- Tensile Strength: N/A
- #2 Bright Finish



TYPICAL C .13 max, Mn .30-.60, ANALYSIS: P .04 max, S .05 max

THICK.	6" x 100" ROLLS		6" x 180" ROLLS		12" x 120" ROLLS	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.0010	3227-010	\$14.02	3227-401	\$28.74	3227-501	\$52.64
.0015	3227-015	16.65	3227-400	28.74	-	-
.0020	3227-020	9.59	3227-402	18.52	3227-502	31.84
.0025	3227-025	10.10	3227-435	27.71	-	-
.0030	3227-030	12.22	3227-403	18.52	3227-503	39.24
.0035	3227-035	13.04	3227-440	26.66	-	-
.0040	3227-040	11.74	3227-404	19.37	3227-504	36.39
.0050	3227-050	10.76	3227-405	19.71	3227-505	34.10
.0060	3227-060	10.25	3227-406	21.27	3227-506	33.90
.0070	3227-070	10.71	3227-407	21.27	3227-507	35.32
.0080	3227-080	10.60	3227-408	21.79	3227-508	36.70
.0090	3227-090	11.12	3227-409	21.79	3227-509	37.58
.0100	3227-100	11.30	3227-410	23.02	3227-510	39.78
.0120	3227-112	11.04	3227-412	23.29	3227-512	37.84
.0135	3227-135	11.44	3227-413	23.29	-	-
.0150	3227-150	10.50	3227-415	23.29	3227-515	36.18
.0165	3227-165	11.99	3227-416	25.51	-	-
.0180	3227-180	11.87	3227-418	25.51	3227-518	41.55
.0200	3227-200	11.87	3227-420	27.60	3227-520	41.55
.0220	3227-220	12.39	3227-422	28.26	-	-
.0250	3227-250	12.70	3227-425	28.26	3227-525	44.05
.0310	3227-310	13.35	3227-431	30.23	3227-531	48.87



## Steel Shim Flat Sheet Assortments

12 PAK - .001", .0015", .002", .003", .004", .005", .006", .007", .008", .010", .012", .015"  
15 PAK - one each 6" x 18"  
.001", .0015", .002", .003", .004", .005", .006", .007", .008", .010", .012", .015", .020", .025", .031"

DESCRIPTION	ORDER NO.	PRICE EACH
12 pc. 6" x 12"	3227-364	\$38.74
15 pc. 6" x 12"	3227-365	46.70
12 pc. 6" x 18"	3227-361	57.52
15 pc. 6" x 18"	3227-362	69.34

## Blue Tempered Spring Steel Shim Stock

- High carbon 1095 hardened and tempered spring steel.
  - Meets AMS 5122, SAE 1095, AISI 1095 specifications.
  - Rockwell hardness C48-51. • Tensile Strength: 230,000 p.s.i.
- TYPICAL ANALYSIS: C .90-1.04, Mn .30-.50, P .040 max, S .050 max, Si .10-.30

THICK.	3" x 50" ROLLS		6" x 50" ROLLS		6" x 60" ROLLS	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.0020	3229-502	\$28.23	-	-	-	-
.0030	3229-503	29.64	-	-	-	-
.0040	-	-	3229-504*	\$32.01	-	-
.0050	-	-	3229-505	28.23	3229-605†	\$ 20.38
.0060	-	-	3229-506	28.12	-	-
.0070	-	-	3229-507	28.68	-	-
.0150	-	-	-	-	3229-615†	23.63
.0250	-	-	-	-	3229-625†	31.27
.0300	-	-	-	-	3229-630†	34.35

\* 5" x 50" † Limited Quantities

## Stainless Steel Shim Stock

- Full hard, cold rolled, type 302
  - Rockwell hardness C45 (maximum).
  - Meets SAE 30302, AISI-T302, ASTM A-666
  - Ultimate tensile strength is 185,000 p.s.i. min.
- TYPICAL ANALYSIS: C .15 max, Mn 2.00 max, P .045 max, S .030 max, Si .75 max, Ni 8.00-10.00, Cr 17.00-19.00, N .10 max

## Stainless Steel Assortment

Contains one 6" x 18" of each of the following: .001", .002", .003", .005", .008", .010", .015", .020"

DESCRIPTION	ORDER NO.	PRICE EACH
8 pc. 6" x 12"	3228-361	\$89.08

THICK.	6" x 50" ROLLS		6" x 60" ROLLS	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.0005	3228-005	\$79.08	3228-400	\$113.86
.0010	3228-010	38.14	3228-401	54.91
.0015	3228-015	34.94	3228-435	50.32
.0020	3228-020	24.21	3228-402	34.88
.0030	3228-030	23.21	3228-403	33.39
.0040	3228-040	22.62	3228-404	32.55
.0050	3228-050	26.04	3228-405	37.48
.0060	3228-060	26.00	3228-406	37.41
.0070	3228-070	26.80	3228-407	38.61
.0080	3228-080	27.24	3228-408	39.20
.0090	3228-090	30.66	3228-409	44.17
.0100	3228-100	28.27	3228-410	40.69
.0120	3228-120	29.54	3228-412	42.53
.0150	3228-150	31.96	3228-415	46.01
.0200	3228-200	37.94	3228-420	54.65
.0250	3228-250	44.46	3228-425	64.01
.0310	3228-310	50.66	3228-431	72.97

## Blue Tempered Assortment

Contains one 6" x 12" of each of the following: .005", .010", .015", .020", .025", .032"

DESCRIPTION	ORDER NO.	PRICE EACH
6 pc. 6" x 12"	3229-553	\$54.26

## Flat Packs

(2 pcs./ 6" x 25")

### Brass

THICK.	ORDER NO.	PRICE EACH
.012	3229-012	\$27.70
.015	3229-015	31.87
.020	3229-020	36.15
.025	3229-025	43.10
.031	3229-031	51.02
.032	3229-032†	47.36

† Limited Quantities

### Steel Flat Pak

THICK.	ORDER NO.	PRICE EACH
.012	3229-112	\$12.10
.015	3229-115	11.85
.020	3229-120	13.31
.025	3229-125	14.25
.031	3229-131	14.96
.032	3229-132†	10.75

### Blue Tempered

THICK.	ORDER NO.	PRICE EACH
.008	3229-308	\$33.50
.010	3229-310	36.53
.012	3229-312	37.68
.015	3229-315	40.96
.020	3229-320	47.67
.025	3229-325	54.49
.032	3229-332	60.38

### Stainless Steel

THICK.	ORDER NO.	PRICE EACH
.008	3229-208	\$32.70
.010	3229-210	33.97
.012	3229-212	35.45
.015	3229-215	38.31
.020	3229-220	45.56
.025	3229-225	53.38
.031	3229-231	60.83

## Slotted Shims

- Each shim marked with thickness in decimal and/or metric
- Eliminates misalignment of machinery
- .001"-.010" and .025-.25mm permanently etched; .015"-.125" and .040-2mm permanent stamp
- Shim thickness tolerances meet industry standards; conform to standard bolt/stud sizes

THICK.	PCS./PKG.	"A" 2 x 2 x 5/8		"B" 3 x 3 x 3/4		"C" 4 x 4 x 1-1/4	
		ORDER NO.	PRICE/PKG.	ORDER NO.	PRICE/PKG.	ORDER NO.	PRICE/PKG.
.001	20	3229-900	\$43.87	3229-920	\$52.62	3229-940	\$69.30
.002	20	3229-901	43.87	3229-921	52.62	3229-941	69.30
.003	20	3229-902	43.87	3229-922	52.62	3229-942	69.30
.004	20	3229-903	43.87	3229-923	52.62	3229-943	69.30
.005	20	3229-904	43.87	3229-924	52.62	3229-944	69.30
.010	20	3229-905	43.87	3229-925	52.62	3229-945	69.30
.015	10	3229-906	21.93	3229-926	26.32	3229-946	34.65
.020	10	3229-907	24.53	3229-927	26.32	3229-947	37.26
.025	10	3229-908	24.53	3229-928	26.32	3229-948	37.26
.050	5	3229-909	13.20	3229-929	16.45	3229-949	23.04
.075	5	3229-910	14.92	3229-930	21.93	3229-950	31.76
.100	5	3229-911	17.57	3229-931	24.70	3229-951	41.65
.125	5	3229-912	19.30	3229-932	27.42	3229-952	47.16



## Std. Assortments

20 pcs.: one each of sizes from .001" to .125". 260 pc. assortment includes metal case

STYLE	ORDER NO.	PRICE EACH
A	3229-914	\$664.89
B	3229-934	835.45
C	3229-954	1209.55



## Mini Assortments

10 pcs.: one each of sizes from .001" to .125"  
130 pc. assortment includes metal case

STYLE	ORDER NO.	PRICE EACH
A	3229-915	\$380.62
B	3229-935	465.23
C	3229-955	662.81

## Key Stock- 12" Length- Zinc-Plated & Stainless Steel-

Used to provide driving torque between shafts and pulleys, gears, sprockets, etc.

SQ. SIZE	ZINC-PLATED		STAINLESS STEEL	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/8	3229-800	\$1.11	3229-454	\$3.76
5/32	3229-804	1.39	-	-
3/16*	3229-808	1.16	3229-456	3.78
7/32	3229-812	1.75	-	-
1/4*	3229-816	1.44	3229-458	5.41
9/32	3229-820	2.24	-	-
5/16*	3229-824	1.92	3229-460	11.07
3/8*	3229-828	2.36	3229-462	12.30
7/16*	3229-832	3.04	3229-464	17.16
1/2*	3229-836	3.85	3229-466	22.53
9/16	3229-840	7.28	-	-
5/8	3229-844	6.13	3229-470	36.18
11/16	3229-848	10.68	-	-
3/4	3229-852	8.01	3229-474	44.87
13/16	3229-856	15.62	-	-
7/8	3229-860	10.67	3229-478	64.31
1	3229-864	13.02	3229-482	82.02
1-1/8	3229-868	23.70	-	-
1-3/16	3229-872	38.00	-	-
1-1/4	3229-876	30.63	-	-
1-3/8	3229-880	34.43	-	-
1-1/2	3229-884	41.12	-	-
1-3/4	3229-888	56.63	-	-
2	3229-892	80.89	-	-
asst.*	3229-895	68.57	3229-498	276.44

\*Assortment contains one bundle of each size indicated

## Metric Gold Dichromate plating on most sizes for clear identification

(MM) SIZE	ORDER NO.	PRICE EACH	SQ. SIZE	ORDER NO.	PRICE EACH
3MM*	3229-753	\$4.00	14MM	3229-764	\$14.71
4MM	3229-754	2.27	16MM	3229-766	14.71
5MM	3229-755	2.41	18MM	3229-768	18.17
6MM	3229-756	2.68	20MM	3229-770	22.71
7MM	3229-757	6.68	22MM	3229-772	53.45
8MM	3229-758	3.87	25MM*	3229-775	30.07
10MM	3229-760	5.62			
12MM	3229-762	8.55			

\*Available in plain finish only.

## Tool Wrap

- Type 321 soft annealed stainless steel
- Helps protect from scale and oxide buildup
- Eliminates decarburization buildup
- Resistant to chromium carbide precipitation
- Protects the surface of air hardening tool steels
- Can use in furnaces up to 1850°F
- Approx. 24 inches wide, in 50 and 100 ft. lengths

QTY.	ORDER NO.	PRICE EACH
100 sq. ft.	3229-990	\$488.18
50 sq. ft.	3229-989	256.96

Material is .002" thick and approximately 24" wide.

## Feeler Gage

- Made from 1/2" wide spring steel stock, close grain, C1095 high carbon steel
- Thicknesses clearly etched every 6" in decimal and metric.
- Used in manufacturing and maintenance operations requiring the setting of close spacing, or checking very tight tolerances
- Hardened and tempered to RC 48-62

Strips 1/2" x 12"  
12 Pcs. Per Package

SIZE	1/2" x 12" STRIPS		1/2" x 25" COILS		SIZE	1/2" x 12" STRIPS		1/2" x 25" COILS	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.001	3225-801	\$4.90	3225-851	\$108.71	.017	3225-817	\$1.88	3225-867	\$31.62
.0015	3225-845	2.62	3225-895	53.24	.018	3225-818	1.88	3225-868	31.62
.002	3225-802	2.62	3225-852	53.24	.019	3225-819	1.88	3225-869	31.62
.003	3225-803	2.62	3225-853	53.24	.020	3225-820	1.88	3225-870	31.62
.004	3225-804	2.13	3225-854	38.31	.021	3225-821	1.88	3225-871	31.62
.005	3225-805	2.13	3225-855	38.31	.022	3225-822	1.88	3225-872	31.62
.006	3225-806	2.13	3225-856	38.31	.023	3225-823	1.88	3225-873	31.62
.007	3225-807	1.88	3225-857	31.62	.024	3225-824	1.88	3225-874	31.62
.008	3225-808	1.88	3225-858	31.62	.025	3225-825	1.88	3225-875	31.62
.009	3225-809	1.88	3225-859	31.62	.028	3225-828	1.88	3225-878	31.62
.010	3225-810	1.88	3225-860	31.62	.030	3225-830	1.88	3225-880	31.62
.011	3225-811	1.88	3225-861	31.62	.031	3225-831	1.96	3225-881	35.87
.012	3225-812	1.88	3225-862	31.62	.032	3225-832	1.96	3225-882	35.87
.013	3225-813	1.88	3225-863	31.62	.034	3225-834	1.96	3225-884	35.87
.014	3225-814	1.88	3225-864	31.62	.040	3225-840	1.96	-	-
.015	3225-815	1.88	3225-865	31.62	.050	3225-842	11.57	-	-
.016	3225-816	1.88	3225-866	31.62					

FEELER GAGE ASSORTMENTS				1/2" X 12" STRIPS		1/2" X 5" STRIPS		
SIZES INCLUDED				NO. OF PCS.	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
.001, .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .012, .014, .015, .016, .018, .020, .022, .025, .030				20	3225-849	\$68.74	3225-850	\$29.73
							(NEW Poc-Kit® Asst.)	

## Metric Feeler Gage Kit

- Made of C1095 close grain, high carbon spring steel
- Rockwell Hardness: C Scale 46-62
- Each blade is clearly etched with thickness
- Ends are rounded and edges are smooth for safety

Assortment contains: twenty 12.7mm (1/2") wide x 127mm (5") long blades

Sizes: .05mm, .10mm, .15mm, .20mm, .25mm, .30mm, .35mm, .40mm, .45mm, .50mm, .55mm, .60mm, .65mm, .70mm, .75mm, .80mm, .85mm, .90mm, .95mm, 1.00mm

Order No.: 3225-899...Price Each: \$47.70



## Woodruff Key Sets

ORDER NO. 3229-980...\$43.90

Our Woodruff Keys are made of  
1035 Carbon Steel. Kits contain the following:

QTY.	SIZE
15	1/8" x 1/2"
10	3/32" x 5/8"
30	1/8" x 5/8"
50	5/32" x 5/8"

QTY.	SIZE
10	1/16" x 3/8"
5	3/16" x 3/8"
20	3/32" x 3/8"
20	1/8" x 3/4"

QTY.	SIZE
10	1/8" x 3/8"
10	5/32" x 3/4"
10	1/16" x 1/2"
15	3/32" x 1/2"

# FLUIDS & MARKERS

Hazardous materials shipments are subject to governmental regulation and must comply with the Department of Transportation Hazardous Materials Regulations, Title 49 of the Code of Federal Regulations and United Parcel Service Hazardous Materials Service rules. All shipments of chemicals and fluids are subject to these regulations.

The Shipping Code identifies the shipping methods allowed and if surcharges are applicable. Surcharges are in addition to UPS freight charges and are subject to change. Hazardous materials cannot be shipped in the same container with non-hazardous materials and cartons cannot be bound together. Hazardous materials will not be shipped via air.

All small package shipments of chemicals and fluids with a shipping code will be shipped via UPS prepaid and add, collect, or third party.

## Shipping codes

- 1 UPS Ground - Hazmat Surcharge applies per box  
No Air Shipments
- 2 UPS Ground - No Surcharge  
No Air Shipments
- 3 Commercial Truck Only, Call for Charges
- 4 UPS Ground - Additional Charges Apply  
No Air Shipments

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**DYKEM**

LAYOUT FLUIDS & MARKERS

**Markal**

MARKERS & ANTI-SEIZE

**RELTON**

CUTTING FLUIDS & COOLANTS

**TAP MAGIC**

CUTTING FLUIDS

**KOOL MIST**

COOLANTS

**NEVER-SEEZ**

Anti-Seize & Lubricating Compound

ANTI-SEIZE & LUBRICATING COMPOUNDS

**Etch-O-Matic**

ETCHING KITS

**JET-LUBE**

LUBRICANTS

**RUST-OLEUM INDUSTRIAL BRANDS**

PRODUCTS THAT WORK AS HARD AS YOU DO™

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**GUNK**

DEGREASERS & CLEANERS

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**simple green**

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**CRC**

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COATINGS & REPAIRS

**CROWN**

LUBRICANTS, INKS, PAINTS & CLEANERS

**PRECISION BRAND**

COATINGS



**BUY CASE QTY. - DEDUCT AN EXTRA 10%**

## Brite-Mark® Paint Markers



- Makes permanent marks on metal, rubber, plastic, glass, concrete, stone, vinyl, & more
  - Valve action mechanism prevents paint in barrel from drying when cap is left off
  - Replaceable felt tips assure complete use of paint in each marker
  - Ideal for color coding • Drying time: 25-35 seconds • Case quantity: 24
- Shipping Code: 2

COLOR	MEDIUM TIP ORDER NO.	PRICE EACH	FINE TIP ORDER NO.	PRICE EACH	44 TIP ORDER NO.	PRICE EACH
Black	9520-616	\$3.05	9520-622	\$2.65	9522-003	\$3.54
White	9520-617	3.05	9520-623	2.65	9522-006	3.54
Blue	9520-615	3.05	9520-626	2.65	9522-001	3.54
Light Blue	9520-635	3.05	-	-	-	-
Yellow	9520-618	3.05	9520-624	2.65	9522-005	3.54
Orange	9520-619	3.05	9520-627	2.65	9522-007	3.54
Red	9520-620	3.05	9520-625	2.65	9522-002	3.54
Green	9520-621	3.05	9520-628	2.65	9522-004	3.54
Pink	9520-636	3.05	-	-	-	-
Violet	9520-637	3.05	9520-631	2.65	9522-010	3.54
Silver	9520-638	3.05	9520-630	2.65	9522-009	3.54
Gold	9520-639	3.05	9520-629	2.65	9522-008	3.54

## Rinz-Off® & Sudz-Off® Removable Markers



- Rinz-Off® marks rinse off of untreated metal with water
  - Sudz-Off® marks are removable with a detergent of pH 10 or higher
  - No ghosting or bleed-through of removed mark when painted over
  - Ideal for quality control, part assembly, identification, site inspection, and more
  - Drying time: 45 seconds-1 minute • Will not react with paint systems
- Shipping Code: 2

COLOR	RINZ-OFF ORDER NO.	PRICE EACH	SUDZ-OFF REG. ORDER NO.	PRICE EACH	SUDZ-OFF BROAD ORDER NO.	PRICE EACH
Blue	9522-265	\$3.94	9522-278	\$3.32	9522-249	\$3.94
Red	9522-266	3.94	9522-279	3.32	9522-250	3.94
Green	9522-267	3.94	9522-276	3.32	9522-247	3.94
Black	9522-268	3.94	9522-280	3.32	9522-251	3.94
White	-	-	9522-275	3.32	9522-246	3.94
Yellow	-	-	9522-277	3.32	9522-248	3.94

## Texpen® & Dalo® Markers

- Marker will easily mark through oil and grease
  - Drying Time: 25 to 35 minutes
  - Paint flow is controlled by the bulb at the end of the barrel
- Shipping Code: 2

## Texpen®

COLOR	MEDIUM TIP ORDER NO.	PRICE EACH	FINE TIP ORDER NO.	PRICE EACH	BROAD TIP ORDER NO.	PRICE EACH
Blue	9522-025	\$4.34	9522-015	\$4.34	9522-035	\$4.34
Red	9522-026	4.34	9522-016	4.34	9522-036	4.34
Black	9522-027	4.34	9522-017	4.34	9522-037	4.34
Green	9522-028	4.34	9522-018	4.34	9522-038	4.34
Yellow	9522-029	4.34	9522-019	4.34	9522-039	4.34
White	9522-030	4.34	9522-020	4.34	9522-040	4.34
Orange	9522-031	4.34	9522-021	4.34	9522-041	4.34

## Dalo® - Extra Large Capacity



COLOR	MEDIUM TIP ORDER NO.	PRICE EACH	BROAD TIP ORDER NO.	PRICE EACH
Blue	9522-055	\$5.50	9522-065	\$5.50
Red	9522-056	5.50	9522-066	5.50
Black	9522-057	5.50	9522-067	5.50
Green	9522-058	5.50	9522-068	5.50
Yellow	9522-059	5.50	9522-069	5.50
White	9522-060	5.50	9522-070	5.50
Orange	9522-061	5.50	9522-071	5.50

## Strike-Mark® Markers



### BENEFITS:

- Available in 2 barrel sizes
  - Fast drying
  - Resists fading
  - Industrial strength ink
  - Marks will not smudge or rub off
- Shipping Code: 2

COLOR	MEDIUM TIP ORDER NO.	PRICE EACH	FINE TIP ORDER NO.	PRICE EACH
Black	9522-311	\$2.78	9522-321	\$2.43
Blue	9522-312	2.78	9522-322	2.43
Green	9522-313	2.78	9522-323	2.43
Red	9522-314	2.78	9522-324	2.43

## High Temperature Texpen®



DYKEM® High Temperature TEXPEN® has a stainless steel-ball valve action tip and heavy viscosity, oil-based paint that is specially formulated for non-porous surfaces that reach temperatures up to 2000° F/1093°C. Marks become permanent and fused when heated.

Shipping Code: 2

COLOR	TEMP. RANGE	MEDIUM TIP ORDER NO.	PRICE EACH	FINE TIP ORDER NO.	PRICE EACH
Black	2000°F	9522-137	\$5.87	9522-127	\$5.87
Yellow	800-900°F	9522-139	5.87	9522-129	5.87
White	800-900°F	9522-140	5.87	9522-130	5.87

## High Temperature Action Markers®

High Temp. Action Markers use a pigmented, oil-based fiber tip that are specially formulated for non-porous surfaces that can reach temperatures of up to 2000°F/1093°C. Marks become permanent and fused when heated.

Shipping Code: 2



COLOR	TEMP. RANGE	AM 44 ORDER NO.	PRICE EACH
Blue	2000°F	9522-241	\$5.24
White	1550-1650°F	9522-242	5.24
Black	2000°F	9522-243	5.24
Green	1800°F	9522-244	5.24
Yellow	800-900°F	9522-245	5.24

## High Purity Texpen® & Action Markers

The DYKEM® High Purity TEXPEN® contains trace amounts of halogens, low melting metals and is low in chlorides. Therefore, its stainless steel-ball valve action tip can be used on surfaces where degradation, contamination or adverse effects are not desired.

DYKEM® High Purity Action Markers use dye and pigment-based ink with a valve action fiber tip that will write on smooth surfaces. They are very low in chlorides, and can be used on surfaces where degradation, contamination or adverse effects are not desired.

Shipping Code: 2



COLOR	TXP MED. TIP ORDER NO.	PRICE EACH	TXP FINE TIP ORDER NO.	PRICE EACH	AM 33 ORDER NO.	PRICE EACH	AM 44 ORDER NO.	PRICE EACH
Red	-	-	-	-	9522-206	\$5.46	9522-236	\$5.98
Yellow	9522-097	\$6.59	9522-087	\$6.59	-	-	9522-240	5.98
Blue	-	-	-	-	-	-	9522-238	5.98
White	9522-100	6.59	9522-090	6.59	9522-209	5.46	9522-239	5.98
Black	9522-101	6.59	-	-	9522-207	5.46	9522-237	5.98

## Brite-Mark H<sub>2</sub>O® Markers



- Vibrant colors • Excellent opacity
- Xylene Free • Low odor
- Low VOC • High flash point >12° F

COLOR	BM-H <sub>2</sub> O ORDER NO.	PRICE EACH
Blue	9522-306	\$3.24
White	9522-301	3.24
Black	9522-302	3.24
Green	9522-305	3.24
Yellow	9522-303	3.24

# Markal® Markers

**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**

2

## PRO-MAX® Paint Marker



- Super-sized 1/2" nib for highly visible marks.
- High strength, lightweight barrel for industrial use.
- Ideal for identification, fill-in marking, signage, safety marking on any surface.
- Xylene-free for less odor.

**CASE QUANTITY: 24**

**Shipping Code: 2**

COLOR	ORDER NO.	PRICE EACH
White	6490-900	6.46
Yellow	6490-901	6.46
Red	6490-902	6.46
Black	6490-903	6.46
Orange	6490-904	6.46
Blue	6490-905	6.46

**PACKAGE QUANTITY: 1**

## PRO-EX® Lumber Crayon



- The clay-based "feel" that high-volume lumber crayon users prefer
- Superior performance on wet wood
- Stronger formula for reduced breakage
- Standard 1/2" hex shape fits the #109 Peterson holder, also #106 & #108 holders
- Marking range: -20°F to 130°

COLOR	ORDER NO.	PRICE/PKG.
Yellow	6480-381	\$10.30
Red	6480-382	10.30
Black	6480-383	10.30
Blue	6480-385	10.30

**CASE QUANTITY: 144**

## H Paintstik®

- Highly visible marking for hot surfaces.
- Mark hot coils, slabs, billets, bars, ingots, etc.
- Marks will not run, char, discolor, peel or crack.
- Long-lasting, weather-resistant, fade-resistant.
- Unit packaging: 144 of a single color to a case. Plus 1-#100 holder.
- Marking range: 150°F. to 1200°F.



COLOR	ORDER NO.	PRICE/CASE
White	6481-020	\$ 176.89

**CASE QUANTITY: 144**

## HT Paintstik®

- Ideal for hot coils, slabs, billets, castings or other metals under higher temperature marking conditions.
- The marks will not run, char, discolor, peel or crack.
- Long-lasting, weather-resistant, fade-resistant.
- Unit packaging: 144 of a single color to a case. Plus 1-#100 holder.
- Marking range: 250°F. to 1600°F.



3/8" x 4-1/2"

COLOR	ORDER NO.	PRICE/CASE
White	6481-220	\$174.76

**CASE QUANTITY: 144**

## M Paintstik®

- Marks withstand quenching in water or oil.
- For welds, ingots, castings, forging, annealed parts.
- Unit packaging: 12 of one color to a box.
- Marking at room temperature; withstands 1600°F.



11/16" x 4-3/4"

COLOR	ORDER NO.	PRICE/PKG.	COLOR	ORDER NO.	PRICE/PKG.
White	6481-920	\$22.38	Red	6481-922	\$22.38
Yellow	6481-921	22.38	Black	6481-923	22.38

**PACKAGE QUANTITY: 12**

**CASE QUANTITY: 144**

## DURA-INK® #55 Med. Taper Chisel Tip



**Mark Size: Thin Side 1/16" Broad Side 3/16"**

- Ergonomic design for extended use
- Ink formulated for industrial strength usage
- Versatile tapered chisel tip for 1/16" and 3/16" marks
- Long mileage, economical
- Smear-resistant, water-resistant, fast drying
- Marks on cardboard, ceramics, paper, lumber, cloth, glass, rubber, and steel
- Durable cap w/pocket clip and plastic barrel for industrial use

COLOR	ORDER NO.	PRICE EACH
Red	6496-528	\$1.38
Black	6496-529	1.38
Blue	6496-530	1.38
Green	6496-531	1.38

**PACKAGE QUANTITY: 1 CASE QUANTITY: 48**

## DURA-INK® #200 Broad Chisel Tip



**Mark Size: Thin Side 3/8" Broad Side 5/8"**

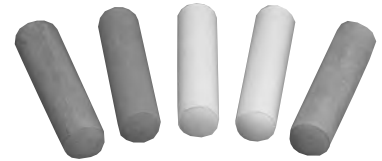
- Extra wide chisel tip for 5/8" and 3/8" marks
- Jumbo ink supply for greater mileage
- Use on cardboard, wood, metal, paper, ceramics, glass, and leather.
- For identification of equipment, signs, and marking shipping cartons
- Durable cap and barrel for heavy-duty use

COLOR	ORDER NO.	PRICE EACH
Green	6496-914	\$3.27
Blue	6496-915	3.27
Red	6496-916	3.27
Black	6496-917	3.27

**PACKAGE QUANTITY: 1 CASE QUANTITY: 24**

## Railroad Chalk

- Ideal for making temporary marks on most surfaces.
- Marks on metal, wood, concrete, cardboard, rubber, plastic, plus much more.
- The easy-to-hold 4" x 1" tapered shape makes broad, easy-to-read marks.



COLOR	ORDER NO.	PRICE/PKG.	COLOR	ORDER NO.	PRICE/PKG.
White	6480-500	\$38.36	Blue	6480-505	\$38.36
Yellow	6480-501	38.36	Green	6480-506	38.36
Red	6480-502	38.36			

**PACKAGE QUANTITY: 144 CASE QUANTITY: 576**

## Soapstone Markers

- For the temporary marking of metal surfaces during fabrication operations.
- Made of all natural soapstone for superior marking.
- Marks will not contaminate welds and are easily removed.
- Available in flat, round and square shapes. Holders available for the flat and round sizes.



SIZE	ORDER NO.	PRICE/PKG.
5 x 1/2 x 3/16 Flat	6480-129	\$33.03
5 x 1/4 Round	6480-130	33.03
5 x 1/4 x 1/4 Square	6480-131	33.03

**PACKAGE QUANTITY: 144 CASE QUANTITY: 432**

### HOLDERS FOR SOAPSTONE MARKERS

SIZE	ORDER NO.	PRICE EACH
5 x 1/2 x 3/16 Flat Holder	6480-140	\$3.40
5 x 1/4 Round Holder	6480-141	5.00

**PACKAGE QUANTITY: 1 CASE QUANTITY: 12**

# Markal® Markers

**BUY CASE QTY. - DEDUCT AN EXTRA 10%**

## B Paintstik®

- All-purpose, cold surface marker.
- Real paint in stick form, dries overnight.
- Marks on any surface or material.
- Marks through oil and water film.
- Weather-resistant and fade-resistant.
- Ideal for layout, inspection or fabrication.
- Lead-free.



11/16" x 4-3/4"

- Marks on metal, wood, plastic, concrete, rubber, glass, cardboard and paper.
- Unit packaging: 12 of one color to a box.
- Marking range: -50°F. to 150° F.

COLOR	ORDER NO.	PRICE/PKG.	COLOR	ORDER NO.	PRICE/PKG.	COLOR	ORDER NO.	PRICE/PKG.
White	6480-220	\$11.81	Blue	6480-225	\$12.88	Gray	6480-230	\$12.88
Black	6480-223	12.88	Green	6480-226	12.88	Gold	6480-231	43.87
Yellow	6480-221	12.43	Pink	6480-227	12.88	Aluminum	6480-232	22.73
Red	6480-222	12.88	Purple	6480-228	12.88	Flur. Yellow	6482-821	19.09
Orange	6480-224	12.88	Brown	6480-229	12.88			

PACKAGE QUANTITY: 12

CASE QUANTITY: 144

## WS 3/8" Paintstik®

- Temporary cold marking-water soluble for easy removal.
- Small diameter for finer marking.
- Mark acrylic plastic plotting boards, plastic parts, glass, painted metal, sheet steel, polished aluminum, car bumpers and exotic metals.
- Unit packaging: 36 of one color to a box.
- Marking range: -50°F. to 150° F.



3/8" x 4-1/4"

COLOR	ORDER NO.	PRICE/PKG.	COLOR	ORDER NO.	PRICE/PKG.
White	6482-420	\$18.83	Red	6482-422	\$18.83
Yellow	6482-421	18.83	Black	6482-423	18.83

PACKAGE QUANTITY: 12

CASE QUANTITY: 144

## Fast Dry Paintstik®

- Real paint in stick form.
- Fast drying formula.
- Marks through oil and water film.
- Ideal for marking in fabricating shops and assembly lines where immediate handling is necessary.
- Marks on metal, wood, plastic, rubber, glass, cardboard, and paper.



11/16" x 4-3/4"

- Unit packaging: 12 of one color to a box.
- Marking range: -50°F. to 150°F.
- Shipping Code: 5

11/16" x 4-3/4"

COLOR	ORDER NO.	PRICE/PKG.
White	6482-720	\$46.95
Yellow	6482-721	46.95
Red	6482-722	46.95

PACKAGE QUANTITY: 12

3/8" x 4-1/4"

COLOR	ORDER NO.	PRICE/PKG.
White	6482-730	\$27.68
Yellow	6482-731	27.68

## Thermomelt Heat Stik®

- Accurate to ±1% rated temperature.
- Meets ANSI/ASME Code B32.1, B31.3, AWS D1.1, ASME Code Sec. I, II, III, & VII, NIST traceable.
- 33% bigger and stronger, same proven reliability. Industry's longest-lasting heat stick by design.
- Gravity advance holder protects stick, and prevents slipping back inside.
- Melts instantly when surface reaches rated temperatures.
- Other temperatures available in package quantities.



TEMPERATURE		ORDER NO.	PRICE EACH
° F	° C		
200	93	6486-517	\$13.11
250	121	6486-562	13.11
300	149	6486-625	13.11
350	177	6486-697	13.11
400	204	6486-733	13.11
500	260	6486-805	13.11

PACKAGE QUANTITY: 1 CASE QUANTITY: 12

## Ball Paint Marker®

- Fine line marks with real paint that dries in minutes.
- Lead free.
- Marks are weather-resistant and water-resistant.
- Packed in unbreakable plastic bottle with durable metal ball tip.
- Marks on metal, wood, plastic, almost any surface.
- Stores in pocket for easy access.
- Plastic cap keeps tip clean between jobs.
- Typical uses: metal pipe, I-beams, sheet metal, lumber and PVC pipe.
- Marking range: -50°F. to 150°F.



COLOR	ORDER NO.	PRICE/PKG.
White	6484-620	\$71.48
Yellow	6484-621	71.48
Red	6484-622	71.48
Black	6484-623	71.48
Orange	6484-624	71.48
Blue	6484-625	71.48
Green	6484-626	71.48

PACKAGE QUANTITY: 12  
CASE QUANTITY: 48  
Shipping Code: 2

## Valve Action® Paint Marker

- Paint formulated for industrial applications.
- Dries in minutes, weather-resistant marks.
- Lead-free.
- Ideal for all surfaces: metal, glass, wood, rubber, plastic, cardboard, and paper.
- Valve action fiber tip is replaceable to assure full use of marker.
- Available in 8 vivid colors for color coding.
- Typical uses: metal and PVC pipe, sheet metal, cartons, lumber, signs, and tires.
- Marking range: -50°F. to 150°F.



COLOR	ORDER NO.	PRICE EACH	COLOR	ORDER NO.	PRICE EACH
White	6496-820	\$3.14	Green	6496-826	\$3.14
Yellow	6496-821	3.14	Aluminum	6496-832	3.14
Red	6496-822	3.14	Lt. Blue	6496-835	3.14
Black	6496-823	3.14	Purple	6496-817	3.14
Orange	6496-824	3.14	Brown	6496-809	3.14
Blue	6496-825	3.14	Gold	6496-827	3.14

PACKAGE QUANTITY: 1 CASE QUANTITY: 48 SHIPPING CODE: 2

## Pro-Line® Paint Marker

- Available in Fine (2mm) and Micro (1mm) tip sizes for ultimate precision.
- High-Strength, lightweight barrel for industrial use.
- Ideal for metal, also suitable for wood, glass, plastic, rubber, and other surfaces.
- Xylene-free for less odor.
- Self-storing cap with integrated pocket clip.
- Ergonomic design for comfortable extended use.



### Fine Line (2mm)

COLOR	ORDER NO.	PRICE EACH
White	6496-871	\$3.18
Yellow	6496-872	3.18
Black	6496-873	3.18
Red	6496-874	3.18
Blue	6496-875	3.18
Green	6496-876	3.18
Orange	6496-877	3.18
Pink	6496-878	3.18
Lt. Green	6496-879	3.18

PACKAGE QUANTITY: 1

### Micro Line (1mm)

COLOR	ORDER NO.	PRICE EACH	COLOR	ORDER NO.	PRICE EACH
White	6496-888	\$3.18	Black	6496-890	\$3.18
Yellow	6496-889	3.18	Red	6496-891	3.18

PACKAGE QUANTITY: 1

SHIPPING CODE: 2

COLOR	ORDER NO.	PRICE EACH
Black	6496-890	\$3.18
Red	6496-891	3.18

CASE QUANTITY: 48

## DURA-INK® #10 Fine Chisel Tip

- Versatile tapered chisel tip for 1/32" and 3/32" marks
- Ink formulated for industrial strength usage
- Smear-resistant, water-resistant, fast drying
- Marks on metal, wood, cardboard, paper, plastic, cloth, glass, etc.
- For identification of parts and labor work
- Durable plastic barrel and cap w/pocket clip

Mark Size:  
Thin Side 1/32"  
Broad Side 3/32"



PACKAGE QTY.: 1 CASE QTY.: 72 COLOR: BLACK  
Order No...6496-076 Price Each \$ 0.89

## DURA-INK® #15 Fine Bullet Tip

- Ideal for fine line marking. • Extra tough tip, won't spread or mush.
- Smear-resistant, water-resistant, fast drying.
- Marks on metal, wood, cardboard, paper, plastic, glass, etc.
- For identification of parts, layout work, and marking cartons and crates.
- Available on blister card for point-of-purchase display.
- Meets U.S. Fed. Spec. TT-1-544.

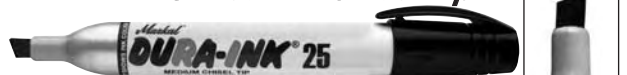
Mark Size:  
3/32"



COLOR	ORDER NO.	PRICE EACH	COLOR	ORDER NO.	PRICE EACH
Red	6496-022	\$0.97	Blue	6496-025	\$0.97
Black	6496-023	0.97	Green	6496-026	0.97

## DURA-INK® #25 Medium Chisel Tip

- Broad tip for bold marks.
- Extra large ink supply for greater mileage.
- Use on cardboard, wood, metal, paper, ceramics, glass, and leather.
- For identification of equipment, marking shipping cartons, and sign making.
- Heavy-duty metal barrel.
- Meets Fed. Spec. TT-1-544.



Mark Size: Thin Side 1/16"

Broad Side 5/16"

COLOR	ORDER NO.	PRICE EACH
Red	6496-222	\$2.25
Black	6496-223	2.25

PACKAGE QTY.: 1 CASE QTY.: 48



# Coatings & Marking Kits

## ABC Blackener® [2]

- A cosmetic blackener for most non-ferrous metals
- ABC Blackener® works on aluminum, brass, and copper
- Once quart of ABC Blackener® covers 30-40 sq. ft., depending on application technique
- May be applied by immersion, or brush-on technique
- No special ventilating system required
- Should be applied at room temperature
- Single cans available
- **ABC Blackener® cannot be shipped via air transportation**



Complete kit contains: one 1-quart bottle of ABC Blackener® one 1-quart bottle of ABC Sealant®

DESCRIPTION	CASE QTY.	ORDER NUMBER	PRICE EACH
One Complete ABC Blackener Kit (1 each: 1 qt. ABC Blackener & ABC Sealant)	1 Kit	3234-005	\$ 147.73
One qt. ABC Blackener	6 bottles	3234-007*	82.06
One qt. ABC Sealant	6 bottles	3234-008*	70.18

\*Buy case qty., deduct 10%

## Tool Black® [2]

- Fast, inexpensive alternative to black oxide
- Imparts a tough, dull black protective finish to ferrous metal parts
- Ideal for prototypes, repair parts, and general machine work
- No special ventilating system required
- One quart of TOOL BLACK® covers 50-75 sq. ft., however coverage varies with application technique
- Should be applied at room temperature
- **Cannot be shipped via air transportation**
- Single cans available
- PREVENT® is ozone safe



Complete kit contains: one 1-quart bottle of TOOL BLACK® one 16 fl. oz. aerosol can of PREVENT® one 1-quart bottle of Cleaner-Degreaser

DESCRIPTION	CASE QTY.	ORDER NUMBER	PRICE EACH
One Complete Tool Black Kit (1 each: Tool Black, Prevent, & Cleaner-Degreaser)	1 Kit	3234-004	\$141.76
One qt. Tool Black	6 bottles	3234-001*	68.29
16 fl. oz. aerosol Prevent	12 cans	3234-002*	22.09
One qt. Cleaner-Degreaser	12 bottles	3234-000*	26.82

\*Buy case qty., deduct 10%

## Hot Melt Coating [2]

- Hot Melt Strippable Protective coating protects tools, gauges, and metal parts from nicks, corrosion, and abrasions during storage and shipping
- Packed in convenient 5 lb. bags
- Five transparent colors: amber, clear, red, green, and blue
- Poly bag packing for easy handling and storage
- Easy to use, coating is pre-sliced into manageable pieces
- Other colors and types available on special order
- Set time is less than 60 seconds
- To remove, coating peels right off



COLOR	5 LB. BAG		30 LB. CASE*	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
Amber	3236-600	\$ 63.18	3236-605	\$ 379.02
Clear	3236-601	63.18	3236-606	379.02
Red	3236-602	63.18	3236-607	379.02
Green	3236-603	63.18	3236-608	379.02
Blue	3236-604	63.18	3236-609	379.02

\*One color

## Etch-O-Matic

### SUPER INDUSTRIAL KIT

**Everything You Need To Etch Any Metal**

**Each Kit Contains:** a Super and a Regular Etch-O-Matic along with: an Adapter Clip for deep etch marking, ground plate, 8 oz. of General Purpose & Stainless Steel electrolyte, 2 - 100 pk stencils, 4 oz. of Aluminum, Black Oxide, and Brass, Copper, Bronze electrolyte, 1g. 2 x 4" grid, pk of 1g. felt pads, pk of 25 lg. Stencils 8 oz. Neutralizer, 2 Neutralizer Pwd pks, 1 reg. grid and instructions.

Order No. 3257-032 Price Each: \$329.95 [1]



## Etch-O-Matic

### STARTER KIT

**Lowest Priced Kit Available Anywhere! YET IT DOES THE JOB...**

**Each Kit Contains:** an ETCH-O-MATIC Marker, (Note - standard marker head size 7/8" x 1-3/4") with electrical cord, ground plate, 2 oz. electrolyte solution in plastic bottle, 10 special stencils, neutralizer and deep etching Adapter Clip. Each kit will mark approximately 1,000 tools.

Order No. 3257-002 Price Each: \$79.95 [1]



10 Volts - 2 Amps

## Etch-O-Matic

### HEAVY DUTY- INDUSTRIAL SUPER ETCH-O-MATIC KIT

**Best Value on the Market Today!**

**Use on Production Lines for Continuous Duty Fast Marking - for Deep Etch Marking down to .003" - for Large Marks up to 2" x 4" - (even Trademarks) for Black Oxide coatings and for all in-plant marking.**

**Each Kit Contains:** 1 - 15 volt - 10 amp Marker unit with transformer, Adapter Clip for deep etch marking, ground plate, 8 oz. General Purpose electrolyte, 8 oz. Neutralizer, pak. felt pads, 100 special stencils and Plastic Carrying Case.

Order No. 3257-000 Price Each: \$229.95 [1]



15 Volts - 10 Amps  
7 TIMES MORE POWER

ETCH-O-MATIC SUPPLIES	ORDER NO.	PRICE EACH
16 oz. Bottle Electrolyte - Aluminum	3257-022	\$12.95
16 oz. Bottle Electrolyte - Brass & Copper	3257-023	10.95
16 oz. Bottle Electrolyte - Black Oxide	3257-024	10.95
16 oz. Bottle Electrolyte - General Purpose	3257-025	10.95
16 oz. Bottle Electrolyte - Stainless Steel	3257-026	10.95
16 oz. Bottle Neutralizer - Cleaner	3257-028	9.95
Powder Pak Neutralizer - Cleaner	3257-029	6.95
Regular Pad Refill Kit	3257-004	9.95
Stencils 3" x 2-1/4" 50 p/pk	3257-005	9.95
Stencils 3" x 2-1/4" 100 p/pk	3257-006	11.95
Stainless Steel Grid Plate w/Screws	3257-008	9.95



# Layout Dyes, Stains, & Removers

## DYKEM® Layout Fluids

DYKEM Steel Blue® is the world's leading and best-known layout fluid. Additional colors provide you with the layout fluid that is most effective for your application.

- Prevents glare with a uniform, deep color.
- Dries in two to four minutes.
- Lets you scribe sharp, clear precise lines.
- Reduces eyestrain.
- Translucent.

Shipping Code: 2



PRODUCT	DESCRIPTION	CONTAINER SIZE	CASE QTY.	ORDER NO.	PRICE EACH
Steel Blue	Aerosol Spray	16 oz.	12	9520-500	\$ 10.96
Steel Blue	Felt Tip Applicator Fluid	2 oz.	12	9520-501	5.45
Steel Blue	Brush-In-Cap Fluid	4 oz.	12	9520-502	6.55
Steel Blue	Brush-In-Cap Fluid	8 oz.	12	9520-503	9.09
Steel Blue	Fluid	930 ml.	12	9520-505	16.24

PRODUCT	DESCRIPTION	CONTAINER SIZE	CASE QTY.	ORDER NO.	PRICE EACH
Steel Red	Aerosol Spray	16 oz.	12	9520-510	\$ 10.96
Steel Red	Felt Tip Applicator Fluid	2 oz.	12	9520-511	5.45
Steel Red	Brush-In-Cap Fluid	4 oz.	12	9520-512	6.55
Steel Red	Brush-In-Cap Fluid	8 oz.	12	9520-513	9.09
Steel Red	Fluid	930 ml.	12	9520-515	16.24

## DYKEM® Remover & Thinner™

Ideal for surface preparation, as well as removing layout fluids and staining colors. May also be used to dilute staining colors.

- Thoroughly cleans and prepares metal surfaces.
- Removes dirt, grease & oil from metals, most plastics and glass.
- Does not contain 1,1,1-trichloroethane.



SHIPPING CODE	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
2	16 oz. Aerosol	12	9520-535	\$ 9.58
2	930 ml (formerly 1 qt.)	12	9520-537	9.74
1	1 gallon	4	9520-538	27.98
3	5 gallon	1	9520-539	137.32
3	55 gallon	1	9520-540	1514.71

## DYKEM® Hi-Spot®

The ideal way to identify high spots on bearings and gear surfaces.

- Non-drying.
- Transfers from one surface to another.

DESCRIPTION	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
Blue (Tube)	.55 oz.	36	9520-551	\$6.40
Blue (Can)	14 oz.	36	9520-552	82.45



## DYKEM® Marking Aerosols

Mark items for quick, visual identification. Ideal for assembly, inspection, etc.

- Wide range of colors.
- Fast drying.
- Ideal for marking bulk products such as lumber or metal.

Shipping Code: 2

DESCRIPTION	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
White (Opaque)	16 oz. Spray Aerosol	12	9520-601†	\$11.47
Yellow (Opaque)	16 oz. Spray Aerosol	12	9520-606†	10.62

\* Lead Free

† Limited Quantities

## CROWN® Toolmaker's Ink

CROWN/AERVOE  
BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%

- Precise Scribing without Chipping
- Produces quick-drying film that won't peel, flake or rub off.
- Contains no acids and resists heat.
- Dries Quickly — Leaves No Residue
- Suggested for dies, templates, tools and machined parts.
- Excellent adhesion to metal, glass and plastic.

Shipping Code: 2

MFG. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
6001	12 av. oz. aerosol can	12	9516-001	\$5.28



## CROWN® Toolmaker's Ink Remover

Dissolves All Layout Fluids

Special solvents remove inks without bothersome residues. Can also be used as a paint stripper. Safe and convenient aerosol application. Also available in non-aerosol bulk.

Shipping Code: 2

MFG. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
6095	14 av. oz. aerosol can	12	9516-095	\$4.85



## AERVOE® Tan Cover Up Ink

Spray covers old box print and dries quickly; cartons look brand new!  
**Cost Effective:** The surface appears to be just like new and can then be re-stenciled or labeled. Great cover capacity; no rub-off. Saves money on miscellaneous packing jobs.

Shipping Code: 2

MFG. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2811	13 av. oz. aerosol can	12	9512-811	\$4.65



## DYKEM® Opaque Stains

- Performs well on light and dark tinted materials
- Provides excellent hiding/coverage properties and opacity
- Thickness can be adjusted by adding DYKEM® Thinner & Remover
- Resists most work related materials such as oils, moisture, grease, cutting fluids and more
- Easy application: spray, brush, dipping, stamping, or tumbling



Shipping Code: 2

Shipping Code: 1

Shipping Code: 3

COLOR	BRUSH-IN-CAP 8 OZ.	PRICE EACH	1 GALLON BOTTLE	PRICE EACH	5-GALLON PAIL	PRICE EACH
Black	9520-561	\$11.89	9520-562	\$59.48	9520-563	\$237.90
Dark Blue	9520-565	13.63	9520-566	68.07	9520-567	272.28
Light Blue	9520-570	13.63	9520-571	68.07	9520-572	272.28
Lead-Free Brown	9520-476	15.47	9520-477	77.34	9520-478	309.41
Lead-Free Dark Green	9520-479	15.47	9520-480	77.34	9520-481	309.41
Lead-Free Light Green	9520-482	15.47	9520-483	77.34	9520-484	309.41
Lead-free Orange	9520-485	15.47	9520-486	77.34	9520-487	309.41
Pink	9520-586	13.63	9520-588	68.07	9520-589	272.28
Purple	9520-469	13.63	9520-590	68.07	9520-591	272.28
Red	9520-594	15.47	9520-595	77.33	9520-596	309.41
Violet	9520-475†	11.69	—	—	—	—
White	9520-602	11.89	9520-604	59.48	9520-605	237.90
Lead-Free Yellow	9520-488	15.47	9520-489	77.34	9520-490	309.41

† Limited Quantities

**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**

## simple green<sup>®</sup> Concentrated Cleaner/ Degreaser/Deodorizer

- Non-Toxic and Biodegradable
- Non-Abrasive/Non-Flammable
- A4, A8, B2 USDA Ratings
- Mild 9.3-9.5 pH
- Sassafras Scent
- Building/Grounds Maintenance
- Janitorial Cleaning: Floors, Walls, Counters, Doors, Concrete, Tile, Stainless Steel, Etc.
- Clean and Deodorize Grease Filters/Trap
- Surface Prep Before Painting



• Sassafras Scent

SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
13012	24 oz. Trigger Spray Bottle	12	3135-006	\$6.00
13012E	Empty 24 oz. Trigger Spray Bottle	12	3135-004	3.04
13005	1 gal. Bottle	6	3135-008	12.92
13006	5 gal. Pail	1	3135-012	56.86
13016	15 gal. Drum	1	3135-016	187.13
13008	55 gal. Drum †	1	3135-020	458.25

† Truck shipment only

## Crystal simple green<sup>®</sup> Industrial Strength Cleaner/Degreaser

- Industrial Formulation
- No Color and No Added Scent
- Non-Toxic and Biodegradable
- Non-Abrasive/Non-Flammable
- A4, A8 USDA Ratings
- Mild 9.3-9.5 pH
- Equipment/Machinery Degreasing
- Parts Washers and Dip Tanks
- Mechanized Applicators: Floor Scrubbers, Pressure Washers, Steam Cleaners, Etc.



(excluding 5 & 55 gallons)

• No Color and No Added Scent

SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
19024	24 oz. Trigger Spray Bottle	12	3135-036	\$7.88
19024E	Empty 24 oz. Trigger Spray Bottle	12	3135-034	2.78
19128	1 gal. Bottle	6	3135-038	17.31
19005	5 gal. Pail	1	3135-042	68.14
19055	55 gal. Drum †	1	3135-050	549.28

† Truck shipment only

## Extreme simple green<sup>®</sup> Aircraft & Precision Cleaner

- Non-Toxic and Biodegradable • Residue-free rinsing
- Non-Abrasive/Non-Flammable, non-corrosive
- Meets Boeing spec D6-17487 rev. P and Pratt & Whitney PWA 36604 rev. C & D
- Applications: • Engines, aircraft, vehicles
- Metals, plastics, high-tech alloys, part washing
- Janitorial cleaning: floors, walls, counters, doors, concrete, tile, stainless steel, etc.
- Heavy-duty cleaner and degreaser



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
13406	1 gal. bottle	6	3135-074	\$18.80
13405	5 gal. pail	1	3135-076	73.59
13455	55 gal. drum †	1	3135-078	582.45

† Truck shipment only

## Foaming Crystal simple green<sup>®</sup> Industrial Strength Cleaner/Degreaser

- Specialized foaming formula
- Clinging and penetrating foam cleans hard-to-reach areas
- Non-Toxic and Biodegradable
- Non-Flammable and Non-Abrasive
- Non-corrosive formula— Safe on metals, finishes, plastic & rubber
- Residue-free rinsing
- Quick, easy and convenient

• No Color and No Added Scent



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
19010	Foaming Crystal Aerosol	12	3135-056	\$4.27

## Hand Cleaner Gel Waterless Formulation, Heavy Duty

- Contains Pumice For Added Cleaning Power
- Added Lanolin for Moisturizing Skin
- Use With or Without Water
- Removes: Grease, Oil, Carbon, Wet Paint, Soot, Tar, Fish or Food Smells, and More
- Great for MRO, Service Bays and Maintenance Shops
- Non-Toxic, Non-Hazardous, Non-Flammable, and Biodegradable



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
42150	5 oz. Tube	12	3135-062	\$1.37
42128	1 gal. Pump Bottle	4	3135-068	17.08

## simple green<sup>®</sup> D Pro 3 1-Step Germicidal Cleaner/Deodorizer

- 3-in-1: Disinfects, Cleans, Deodorizes
- Disinfectant: Virucidal & Fungicidal • Kills HIV-1 Virus
- Hospital disinfectant level
- Green color and fresh herbal pine scent
- Safer use solution, less harmful than phenol disinfectants
- High dilution ratios of 1:21 & 1:64
- Bilingual label



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
30332	32 oz. Bottle	12	3135-112	\$9.52
30301	1 gal. Bottle	6	3135-113	16.67
30305	5 gal. container	1	3135-114	70.23
30355	55 gal. container †	1	3135-116	606.84

† Truck shipment only

## Lime Scale Remover Industrial/Institutional Descaler

- Dissolves Soap Scum, Hard Water Stains, and Mineral Deposits
- Non-Abrasive/Non-Flammable • Non-Fuming, Buffered Acid
- No Bleach, Ammonia, or Phosphorous
- Descalers: HVAC Components, Pipes, Sprinklers, Humidifiers, Spray Rack Systems, Etc.



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
50032	32 oz. Spray Bottle	12	3135-126	\$5.99
50128	1 gal. Bottle	6	3135-128	11.77

## simple green<sup>®</sup> D Pro 5 1-Step Cleaner/Disinfectant

- Cleaner, Deodorizer, Sanitizer, Virucidal, Fungicidal, Mildewstat
- Hospital disinfectant level • Bilingual label
- High level of active ingredients, kills Avian Influenza, Hepatitis B & C, MRSA, and more
- High dilution ratios of 1:16, 1:64, as high as 1:256



SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
30532	32 oz. Spray Bottle	12	3135-118	\$11.70
30501	1 gal. Bottle	6	3135-119	19.41
30505	5 gal. container	1	3135-120	81.50
30555	55 gal. container †	1	3135-122	662.97

† Truck shipment only

• No Color and No Added Scent

**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**

1

## Dymon® Stainless Steel Cleaner & Polish

- NSF® Certified
- Leaves an invisible protective finish on stainless steel surfaces

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
#209	16 oz.	12	3133-945	\$6.97



## HydroForce® Foaming Citrus All Purpose Cleaner

- Eliminates dirt, dust, ink, & grime deposits
- Rich foam clings to vertical/inverted surfaces
- Biodegradable, non-corrosive & non-abrasive
- Non-flammable, safe on most plastics

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14400	20 oz aero	12	6720-920	\$7.00



## Dymon® Do-it ALL™ Germicidal Cleaner

- Cleans, disinfects, and deodorizes in one step
- Foam clings to vertical surfaces permitting longer contact time
- Leaves surface clean and free from odors
- EPA registered

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
#080	16 oz.	12	3133-940	\$4.54



## HydroForce® Zero VOC

- Zero VOC formula
- Non-flammable
- Residual cleaning action
- Biodegradable & concentrated
- Non-corrosive, non-abrasive

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14446	32 oz trigger	12	6721-368	\$10.57



## Dymon® Clear Reflections® Glass Cleaner

- Residue-free glass cleaner leaves no spots, film, or streaks even at hot and cold temperatures
- Overspray will dry crystal clear

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
#385	16 oz.	12	3133-950	\$3.76



## HydroForce® Glass Cleaner Professional Strength

- Cuts through dirt, dust, fingerprints & haze
- Streak-free glass cleaning
- Biodegradable, ready to use
- Ammonia-fortified formula

Shipping Code: 2 (aerosol)

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14412	20 oz aero	12	6721-020	\$3.98
14411	30 oz trg btl	12	6721-030	6.57



## Dymon® Graffiti & Spray Paint Remover

- Jellied formula will not run off vertical surfaces
- Removes paint, lipstick, grease, ink, crayon from a variety of surfaces

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
#078	16 oz.	12	3133-938	\$6.67



## Anti-Vandal Spray

A clear spray blend of solvents that removes lipstick, pencil, ink, crayon, and spray paint from a variety of hard surfaces. Safe for use on most hard, unpainted surfaces, including concrete, brick, wood, fiberglass, ceramic tile, Formica, and some plastics, etc.

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
5062	16 oz aero	12	9515-062	\$5.19





**BUY CASE QTY.**  
**DEDUCT AN EXTRA 10%**  
*\*Except*  
**Scrubs-In-A-Bucket**

## simple green® Safety Towels

### Multi-Purpose Cleaning Power

- Safer, Non-Citrus Formula
- Uses Crystal Simple Green®
- Non-Toxic and Biodegradable
- Pre-Moistened, Quick, Versatile
- No Color and No Added Scent
- Non-Abrasive/Non-Flammable
- "No-Scratch" Cleaning of any Water-Safe, Hard Surface: Skin, Metals, Finished Wood, Laminates, Fiberglass, Porcelain, Tile Ceramics, Concrete, Terrazzo, Carpets, and More



1

### • No Color and No Added Scent

SIMPLE GREEN #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
13351	75 count Safety Towels	6	3135-058	\$11.42

## Scrubs-In-A-Bucket®

PATENTED Heavy-duty, Waterless Hand Cleaner Towels, Disposable, pumice-like performance waterless hand cleaner towels that effectively and quickly clean hands of a wide variety of industrial soils and greases. Each self-dispensing, portable canister contains 72-each or perforated 10-1/2" x 12-1/4" disposable heavy-duty Rough Touch® towels. Super-effective, yet gentle-to-skin, heavy-duty cleaning formulation. USDA:E-4.



2

PRODUCT NO.	DESCRIPTION	PRICE PER CASE
3133-910	Individual Bucket	\$15.75
3133-911	*Special case of 6	74.15



## Gasket Remover Paint & Decal Remover

- Removes baked on fiber gaskets, gasket adhesives & sealants
- Excellent paint, varnish & graffiti remover
- Contains no methylene chloride
- This product is labeled as extremely flammable



1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03017	16 oz aero	12	6702-716	\$10.38



## All Purpose Cleaner

- Water & ammonia based cleaner provides a low foaming action cleaner for breaking up grime.
  - Cuts through grease • Cleans & polishes
  - Excellent on granite surfaces • USDA C-1
- Uses: For hard to clean spots on wood, metal, tile, porcelain, plastic, chrome, etc. **Shipping Code: 2**



1

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
5055	16 oz.	12	9515-055	\$3.23



## Non-Chlorinated Formula Brakleen® Brake Parts Cleaner

- Use where compliance calls for a chlorine-free product
- Cleans fast, dries fast & leaves no residue
- Degreases instantly
- Restricted from sale in CA **Shipping Code: 2**
- This product is labeled as extremely flammable



1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
05084	20 oz aero.	12	6709-820	\$ 5.49



## Brakleen® Brake Parts Cleaner

- Removes brake fluid, grease & oil from linings & brake pads
- Cleans fast, dries fast & leaves no residue
- Degreases instantly • Non-flammable
- Restricted from sale in CA & NJ **Shipping Code: 2**



1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
05089	20 oz aero	12	6709-920	\$ 6.71



## Battery Terminal Protector

- Protective coating that keeps moisture, salts & road grime from corroding metal contacts
- Enhances battery life & power by preventing corrosion-related leakage
- Red color provides easy visual inspection of application
- This product is labeled as extremely flammable



Shipping Code: 2

1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03175	12 oz aero	12	6705-312	\$10.46



## Battery Cleaner

- Water soluble formula
- Removes corrosion while neutralizing acid spills
- Assures maximum battery current flow
- Promotes longer battery life **Shipping Code: 2**



1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03176	12 oz aero	12	6705-412	\$ 6.54



# Contact Cleaners

BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%

1



## Industrial Contact Cleaner

- Removes light oils, dirt & fingerprints
- Evaporates quickly, leaves no residue
- Contains no known ozone depleting chemicals or VOCs
- Safe on all plastics

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03070	16 oz aero	12	6703-616	\$ 45.17



## QD™ Contact Cleaner

- Removes contaminants from electrical & electronic components
- Quick drying, leaves no residue, safe on all plastics
- Ideal for applications where lower flashpoint solvents can be used • Non-compliant in CA
- This product is labeled as extremely flammable

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03130	16 oz aero	12	6704-816	\$ 13.30
4	03131	5 gal pail	1	6704-840	308.04



## Contact Cleaner 2000® Precision Cleaner

- Removes dirt, light oils & other contaminants
- No flash or fire point • Non-conductive & non-corrosive
- Not recommended for sensitive plastics

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03150	16 oz aero	12	6705-016	\$22.68
4	03152	5 gal pail	1	6705-040	1383.03



## HF™ Contact Cleaner

- Provides the safety of a high flashpoint
- Leaves no residue
- Contains no Class I or Class II ozone depleting chemicals

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03125	16 oz aero	12	6704-716	\$13.60
4	03126	5 gal pail	1	6704-740	310.38



## PF™ Precision Cleaner

- Strong cleaning action
- Evaporates quickly, leaves no residue
- No flash or fire point
- Safe on all plastics

Sold as case quantity only. Shipping Code: 1

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03190	16 oz aero	12	6705-716	\$35.19



## Contact Cleaner

- Quick drying • Low conductivity, high dielectric
- Plastic safe • No residue • NSF-A1

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
PL11CC	11 oz.	12	9525-009	\$ 9.20



## Contact Cleaner & Lubricant

- Removes grease, oil, dirt & other contaminants
- Protects with a non-hardening film
- Non-corrosive & non-staining
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03140	16 oz aero	12	6704-916	\$14.11



## Lectra Motive® Electric Parts Cleaner

- Provides fast, thorough cleaning for non-sensitive electrical equipment
- Dissolves grease, oil, dirt, and wax
- Leaves no residue; Non-flammable
- Not to be used for motorized vehicle maintenance or their parts
- Energized equipment use only in: CA, CT, DE, MA, MD, ME, MI, NJ, NY, RI, OH, PA

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
05018	20 oz. aero	12	6709-120	\$8.45



BUY CASE QTY-  
DEDUCT AN  
EXTRA 10%

1



## Heavy Duty Degreaser

- Removes grease, oil, tar, adhesives, etc.
- No flash or fire point
- Non-corrosive & non-staining
- Contains no Class I or Class II Ozone Depleting Chemicals
- Sold for manufacturing use only, exceeds VOC limits as a consumer product. Not for retail sale.

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03095	20 oz aero	12	6704-420	\$12.37
1	03096	1 gal btl	4	6704-436	85.68



## Heavy Duty Degreaser II

- Dissolves grease, oil & sludge
- Evaporates quickly & leaves no residue
- Non-conductive, non-corrosive & non-staining
- Contains no Class I or Class II Ozone Depleting Chemicals
- Cannot be sold in CA. **Shipping Code: 2**

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03120	20 oz aero.	12	6704-620	\$16.04



## Super Degreaser™ Cleaner/Degreaser

- Dissolves grease, oil & sludge
- Contains no chlorinated solvents
- Not subject to the reporting requirements of RCRA or CA Prop 65
- High di-electric strength of 26,800 volts

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03110	20 oz aero	12	6704-520	\$22.39



## Gel Degreaser

- No chlorinated solvents
- Clings to hard-to-reach areas
- No scrubbing, spray-on, water rinse
- NSF-C **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
PD15GEL	16 oz.aero.	12	9525-011	\$ 6.50



## Clean-Up® Industrial Cleaner/Safety Solvent

Heavy-duty, low-foaming, chlorinated solvent rapidly dissolves oil, grease, paint, tar, and grime on contact, leaving a clean, residue free surface. Non-acid, alkali-free product will not damage or corrode metal. Apply full strength in a well-ventilated area. Safe, nonconductive 29kV dielectric strength.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
37341	12 oz. aero.	12	3174-237	\$7.80

Shipping Code: 2



## Quick Clean™ Safety Solvent & Degreaser

- Non-flammable, VOC exempt
- Fast evaporation, leaves no residue
- Non-corrosive, non-conductive & non-staining
- Contains no Class I or Class II Ozone Depleting Chemicals
- Cannot be sold in CA, CT, DE, MA, ME, MD, MI, NJ, NY, RI

**Shipping Code: 2**

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03180	20 oz aero	12	6705-520	\$8.37



## Citrus Degreaser/Cleaner

- Removes grease, oil, lubricants & adhesives
- Fast evaporation, leaves no residue
- Non-corrosive, non-abrasive & non-staining
- Pleasant citrus scent **Shipping Code: 2**

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14170	20 oz aero	12	6720-120	\$10.03



## Citrus Degreaser

- No chlorinated solvents
- Dissolves grease, oil, wax, resin, & sap
- Pleasant citrus scent
- NSF-C1 **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
PD15CT	16 oz.	12	9525-010	\$7.30



## Non-Chlorinated Heavy Duty Degreaser

- Removes grease, oil, & wax
- High flash point
- Low odor
- NSF-C1 **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
PD15NC	16 oz.	12	9525-013	\$9.10



## CROWN™ Safety Solvent

- Dissolves grease fast, leaves surfaces clean and dry
- Contains no CFC's, no Class I or II O.D.C.'s
- Eliminates lubricant build-up, fast evaporation
- Surfaces are clean & dry, no powdery residues
- Low toxicity
- Non flammable
- Consistent cleaning power
- User/Workplace friendly

Always test on plastic and other surfaces before using.

**Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
8060	20 oz. aero.	12	9518-060	\$10.74



# Corrosion Preventatives

BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%

1



## SP-350™ Corrosion Inhibitor

- Protects equipment & parts in storage, shipment & in process for up to 2 years indoors
- Displaces moisture & protects all metals with a thin, non-drying film
- Promotes easy equipment start-up

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03262	16 oz aero	12	6706-416	\$ 11.22
1	03266	5 gal pail	1	6706-440	216.20



## SP-400™ Corrosion Inhibitor

- Long-term protection (up to 2 years outdoors) for all metals during shipment or extended storage
- Highly resistant to humidity & salt spray
- Firm, waxy film never becomes brittle
- This product is labeled as extremely flammable

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03282	16 oz aero	12	6706-516	\$ 12.06
03286	5 gal pail	1	6706-540	286.31

Shipping Code: 2



## Zinc-It® Instant Cold Galvanize

- Actively fights rust & corrosion with a film of 95% pure zinc
- Protects base metal even when scratched or abraded
- Fast-drying, dries to the touch in 15 minutes
- Excellent weldability **Shipping Code: 2**
- This product is labeled as extremely flammable

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
18412	16 oz aero	12	6726-016	\$ 9.53



## Bright Zinc-It® Instant Cold Galvanize

- Inhibits corrosion & provides the beauty of a high shine aluminum finish
- Protects base metal even when scratched or abraded
- Recommended for touch-up & repair of bright finish, hot-dip galvanized surfaces
- This product is labeled as extremely flammable

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
18414	16 oz aero	12	6726-116	\$10.97

Shipping Code: 2



## Galva Bright Premium

- Glistening zinc coating that will restore galvanized steel to the bright look of Hot Dip.
- Galva Bright will stop rust and corrosion on any iron or steel surface.
- It's zinc rich formula provides long lasting protection.

### Applications

Cosmetic repair of welds, hand rails, rims, highway guard rails, metal chain fences, pipes, TV towers, refinery piping, corrugated metal buildings, heavy equipment, and anywhere the bright look of hot dipped surfaces is preferred. **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
7008	13 av. oz. aero.	12	9517-008	\$7.96



## Cold Galvanizing Compound

- The best long-term rust protection you can buy
  - Equal to hot dip galvanizing
  - Aerosol will not clog or sputter
- Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
7007	13 av. oz. aero.	12	9517-007	\$7.13



## Rust Inhibitor

### Contains Fortified Lanolin for Moisture Absorption

Protects and lubricates indoor equipment such as tools, parts, and machinery. Penetrates deep, absorbs moisture, and neutralizes corrosive acids. Waxy, elastic film removes easily with any paint solvent. Lubricants can be applied over the surface without reducing its effectiveness. **Applications:** Twist drills, nuts and bolts, plow blades, pumps and machinery. **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
6007	14 av. oz. aero.	12	9516-007	\$5.19



## Tool & Die Saver

### Protection in Storage

Protects stored tools and dies from moisture during storage. Formulated with solvents and lanolin for moisture-absorption and lubrication. Heavy, non-oily film is easy to remove when equipment is returned to service. Ideal for long-term storage or long-distance shipments. **Applications:** Precision measuring tools (calipers and gage blocks) chucks, setup jigs and tools, stored metal molds and seldom used parts. **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
3090	13 av. oz. aero.	12	9513-090	\$4.62



## Multi-Purpose Lubricant & Corrosion Inhibitor with Cerflon®

- Inhibits corrosion • Displaces moisture
  - Lubricates • NSF-H2
- Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
L212	11 oz.	12	9525-002	\$3.60



## Rust-Guard® Rust/Corrosion Inhibitor

Forms a flexible, dry waxy film that seals out moisture to provide long term protection from rust and corrosion on all metal and alloy surfaces, even under harsh conditions such as water and salt spray. **Shipping Code: 2**

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
13241	11 oz. aerosol	12	3174-223	\$7.70





# Penetrants

**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**



## 3-36® Multi-Purpose Lubricant & Corrosion Inhibitor

- Cleans, lubricates, penetrates & loosens corrosion
- Prevents corrosion by displacing moisture
- Loosens frozen parts
- Lubricates w/out leaving a sticky residue
- Cleans light soils & contaminants

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	03005	16 oz aero	12	6702-616	\$ 6.25
-	03006	1 gal btl	4	6702-636	37.79
4	03009	5 gal pail	1	6702-640	158.18



## Ultra-Lite 3-36®

- Ultra-thin, non-staining lubricant
- Displaces moisture -- excellent for drying out electrical/ electronic components
- Resists oil, dust & dirt build-up

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03160	16 oz aero.	12	6705-116	\$ 8.42



## Technical Grade 3-36® Multi-Purpose Precision Lubricant

- Prevents corrosion by displacing moisture
- Restores resistance values & helps stop current leakage
- Helps restore water damaged electrical equipment

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03003	16 oz aero	12	6702-516	\$7.47

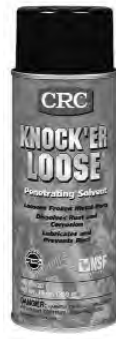


## Knock'er Loose® Penetrating Solvent

- Industrial strength, low viscosity lubricant/penetrant designed to loosen/free seized, bound, or frozen fasteners
- Breaks through rust, scale, gum, grease, & corrosion
- Low surface tension formula that creeps into cracks, seams, threads, & joints
- Extreme penetrating action
- Lubricating residue prevents corrosion
- Outperforms the competition

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03020	16 oz aero.	12	6702-766	\$ 8.48



## Heavy Duty Penetrating Solvent

- Penetrates corrosion
- Loosens rusted bolts & parts
- Fast acting • NSF-H12

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
L112	11 oz. aero.	12	9525-000	\$4.20
L116	16 oz. btl.	12	9525-001	5.90



## Screwloose® Super Penetrant

- Provides fast & easy disassembly
- Busts through rust, scale & corrosion
- NSF H2 registered for use in meat & poultry plants
- Clear formula contains no dyes & leaves no mess

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03060	16 oz aero.	12	6703-416	\$ 6.25



## 769 Lubricant® Nonflammable Penetrant/Lubricant

Tenaciously adheres to all metal surfaces to lubricate, penetrate, remove moisture, and prevent corrosion. Nonflammable and environmentally safe. Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
37341	12 oz. aero.	12	3174-218	\$6.70



## Foaming Penetrant, Lubricant, Corrosion Inhibitor

- Controlled, accurate application
- Highest penetration
- Maximum lubrication
- Ultimate protection • NSF-H2

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
PL411	11 oz. aero.	12	9525-004	\$6.90



## Magic Wrench

Attacks rust and corrosion quickly and safely. Synthetic formula penetrates, lubricates, displaces moisture, and protects moving parts. Biodegradable, silicone free, ozone safe, nonevaporative, and safe for metal & plastic. Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
39541	13 oz. aero.	12	3174-272	\$8.40





# Penetrants (Continued)

BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%

1



## Penetrating Oil

Penetrates Metal Pores; Releases Rust Fast

- Reduces tugging and pounding
  - Only a few drops needed
  - Effective against salt water corrosion
  - Contains no acid
  - Pinpoint extension tube included with each aerosol
- Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
6030	16 av. oz. aero	12	9516-030	\$4.58



## ALL-4

Moisture Displacing Lubricant  
Multi-purpose Problem Solver

- Displaces Moisture • Lubricates
- Cleans and Penetrates
- Silicone Free
- Prevents Rust
- Especially Effective in High Humidity

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
7340	16 av. oz. aero	12	9517-340	\$4.87



# Chain & Wire Rope Lubricant



## Chain & Wire Rope Lubricant

- Penetrates deep & leaves a tough film that lubricates & protects
- Resists water wash-off & high-temp sling off
- Absorbs pin/bushing shock & cushions rollers, pins & bushings
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03050	16 oz aero	12	6703-216	\$12.20



## Chain & Wire Rope Lubricant with Moly

- Clings to cables, chains, & sprockets
- Safe for O-Ring chains
- Penetrates deep, heat resistant • NSF-H2

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
L711	11 oz.	12	9525-007	\$ 4.60



## Belt Dressing

- Extends belt life by reducing slippage, hardening, glazing dirt build-up & friction
- Relieves stress on motors, shafts & wheels
- Colorless -- will not stain finished goods
- Meets FDA Regulation CFR 21-178.3570 for incidental food contact
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03065	16 oz aero.	12	6703-516	\$10.44



## Moly Open Chain Lube Oil

Penetrates Deep Between Roller Chain Drive Bushings

Reduces the stress of start-ups and high temperature breakdowns.

Provides Critical Lubrication

Solvents drive deep into tight, inaccessible areas. Provides superior lubrication where high pressure or temperatures cause breakdowns of protective films. Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
7043	14 oz. aero.	12	9517-043	\$5.75



## WRL® Wire Rope/Chain Lubricant

Penetrates to the rope core, ensuring lubrication throughout while providing a non-drying, non-tacky film to protect outer strands from rust & corrosion, as well as lubricating the drum and sheaves. Increases rope life and production, reduces down time, and sprays at low temps. Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
34041	12 oz aero.	12	3174-118	\$8.00



## Heavy Duty Open Gear & Wire Rope Lube

Tough and Pliable with Extra Adhesion  
Lubricates As It Waterproofs

Superior mastic and wicking properties. Tough and pliable with superior adhesion. Foaming action insures total coverage.

Weather-Resistant

Withstands extreme temperature and pressure. Will not become brittle or break down under prolonged use. Dark color helps determine proper and uniform application. Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
7045	14 oz. aero.	12	9517-045	\$6.42



**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**

1



## Extreme Duty Silicone

- Superior lubrication & temperature viscosity characteristics
- Reduces friction & galling even on metal-to-metal contact areas
- Clear, non-staining, odorless film resists moisture
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03030	16 oz aero	12	6702-816	\$11.64



## Food Grade Silicone

- Multi-purpose silicone spray for food processing & handling applications
- Meets FDA Regulation CFR 21-178.3570 for incidental food contact
- Meets 1998 USDA guidelines for use in meat & poultry plants
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03040	16 oz aero.	12	6702-916	\$7.00



## Food Grade Silicone Lubricant

- USDA H-1 • 4% silicone
- Odorless, colorless, non-staining, dry residual film
- Prevents sticking and won't transfer to end parts
- Will not interfere with carton sealing, bottle capping, or other food preparation applications
- Will not harm paint, metal, wood surfaces, and most plastics
- Reduces noise and wear where friction may occur
- Separates from water even under acid/alkali conditions
- Waterproofs ignition systems • Dielectric strength of 35kV/mm

**Applications:** Metal hinges, plastic rollers, guide rails, slides, or anything that sticks. May be used on air tables and food preparation equipment. **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
8036	16 oz. aero.	12	9518-036	\$4.75



## Food Grade Silicone - Aerosol Lubricant

For processing equipment where incidental food contact may occur. Leaves a clear, moisture-resistant, long-wearing, odorless, colorless, non-toxic, and non-staining film. Won't melt, freeze, or become rancid. Safe on plastics.

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
50641	12 oz. aero.	12	3174-267	\$5.90



## Heavy Duty Silicone Spray

- Lubricates, waterproofs, & protects
- Thin, clear, non-drying film
- Use on metal, rubber and plastic
- NSF-H2 **Shipping Code: 2**

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
M914	11 oz. aero.	12	9525-008	\$ 3.30



## Bostik® Bearing Lubricant®— Aerosol

Regular maintenance with Bearing Lubricant can extend the bearing life up to 3 times longer reducing operating friction by 25%—more than oil or other treatments. Protects valuable tools under heavy operating loads and extremely high temperatures up to 550°F (288°C) and contains no silicone.

DESC.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
Bearing Lube	5.5 oz. aero.	12	3159-872	\$9.76

Shipping Code: 2



## BOSTIK® TopCote®— Aerosol Tool & Surface Lubricant

Features a unique fluoropolymer technology that forms a durable, water-repelling film that dramatically reduces sliding, friction, and surface “hang ups” on table saws while it repels dust, dirt, moisture and prevents corrosion. Compared to paste wax, TopCote lasts 3 times longer and is 30% slicker and prevents rust 5 times longer. Contains no silicone or petroleum and it will never stain wood or interfere with glue or finishes. **Shipping Code: 2**

DESC.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
TopCote®	5.5 oz. aero.	12	3159-870	\$8.78
TopCote®	10.75 oz. aero.	12	3159-871	11.94



## BOSTIK® DriCote®— Aerosol

Use DriCote on saw blades, drills and router bits to achieve cleaner, straighter and truer cuts. Forms a clear tough, micro-thin coating that greatly reduces friction and extends overall blade life to twice as long between sharpening. DriCote prevents resin pitch buildup saving time and money on blade cleaning and resharping, while increasing overall yield. **Shipping Code: 2**

DESC.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
DriCote®	5.5 oz. aero.	12	3159-868	\$5.25
DriCote®	10.75 oz. aero.	12	3159-869	12.06



BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%

1

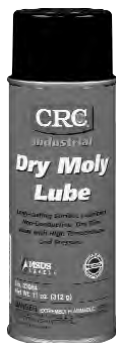


## Dry Moly Lube

- Lowers friction, prevents galling & helps reduce torque & energy consumption
- High anti-friction & anti-seizure properties
- Resists high temps, high pressure & water & chemical attack
- Fast drying film resist dirt & dust build-up
- This product is labeled as extremely flammable

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03084	16 oz. aero.	12	6704-316	\$ 10.19



## Power Lube® High Performance Lubricant w/ Teflon®

- Displaces moisture & seals out corrosion
- Contains TEFLON for long-lasting lubrication
- Withstands extreme load carrying situations
- Perfect to hard to maintain equipment
- This product is labeled as extremely flammable
- Teflon® is a registered trademark of DuPont

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
03045	16 oz. aero.	12	6703-116	\$ 9.01



## Dry Film

Lubricant & Mold Release Agent (TFE)

Clear, Clean, dry Teflon® Formula

Clear, slippery, dry and invisible when applied. Lubricates without grease. Resistant to dirt and dust. Durable beyond normal lubricant breakdown... works up to 500° F.

Use where silicone, oil or wet lubricants cannot be tolerated.

### Applications

Electrical equipment, precision machines, survey instruments, industrial sewing machines, conveyors and chutes.\* Dupont Tmkr

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
6075	14 av. oz. aero.	12	9516-075	\$ 7.42



## Dry Moly Lubricant

Performs at pressures up to 100,000 PSI and temperatures up to 700° F. This dry, molybdenum disulfide product contains no oils or moisture-based diluents. Forms a dry, thin black film imparting anti-friction and anti-seizure properties. Bonds to metal surfaces. Provides long-lasting, noise-reducing protection. Use where a dirt and grime-resistant lubricant is needed.

### Applications

Grinding mills, crushers, mechanical presses, cams & slides.

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
6080	16 av. oz. aero.	12	9516-080	\$ 6.11



## Dry Graphite Lubricant & Parting Compound

Temperature Range from -100° F to +1000° F

Used throughout the world for extreme temperature lubrication requirements. Coats surfaces with a super-slippery, long-lasting protective film. Stops squeaking and sticking. Use where petroleum products must be avoided. Contains no oils or moisture-based diluents.

**Lubricant:** bearings, locks, oven parts, pre-assembly of moving parts, sliding windows and doors.

**Parting Compound:** dies, sand cores, match plates, drawing extrusions, die casting, pewter molding.

**Coating Compound:** Conductive materials, sealants. Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
8078	14 av. oz. aero.	12	9518-078	\$ 5.27



## Dry Lubricant with Cerflon®

- Dry powder lubricant
- Lubricates without oil
- No dirt pick up
- NSF-H2

Shipping Code: 2

PART. NO.	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
L512	11 oz.	12	9525-005	\$ 5.70



## Moly-Mist® MoS<sub>2</sub> Dry Film Lubricant

Instantly bonds to a thin, dry molybdenum disulfide (MoS<sub>2</sub>) film to ferrous and nonferrous metals, plastics, glass, rubber, wood, etc., without heating or baking. Lowers friction, prevents galling, corrosion, and metal-to-metal contact. Reduces torque and power consumption. May be applied while equipment is in use. Extensively used as a "running-in" lubricant on new equipment. Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
16041	12 oz. aero.	12	3174-229	\$10.00



## Marine Moly® Heavy-Duty Moly Paste Lubricant

Provides a low friction shield by "plating" to metal surfaces to reduce bearing temperatures and protect working parts.

Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
65041	12 oz. aero.	12	3174-318	\$13.50





**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**

1



## Cutting Oil

- Superior thread cutting lubricant for use on all types of ferrous & non-ferrous metals
  - Reduces heat & friction to ease cutting
  - Sulfur-free, low odor formula
  - Foaming aerosol formulation clings to vertical surfaces
  - This product is labeled as extremely flammable
- Shipping Code: 2



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14050	16 oz aero	12	6716-816	\$ 8.19



## Air Tool Oil

- Lubricates & protects pneumatic equipment
- Increases torque, assures long tool life
- Reduces rust, varnish, sludge & acids



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
SL2531	15 oz btl	12	6727-915	\$ 6.16
SL2533	1 gal btl	4	6727-936	25.71



## Food Grade Machine Oil

- Penetrates & loosens rust, scale & corrosion
  - Contains no silicone & is virtually odorless & colorless
  - Will not harm metal, wood, plastic or painted surfaces
  - Meets FDA Regulation CFR 21-178.3570 for incidental food contact
  - This product is labeled as extremely flammable
- Shipping Code: 2



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03081	16 oz aero	12	6704-016	\$ 7.83

## MILTON Tool Oil

Extends life and performance of air tools, lubricators, valves and cylinders. Prevents seizure of air tools and pneumatic equipment. Recommended for tools requiring a 10 weight non-detergent lubricant. Working temperature: 5° F to +350° F.  
**WARNING: HARMFUL OR FATAL IF SWALLOWED.**

2

MILTON PART. NO.	CONTAINER SIZE	CTL. QTY.	ORDER NO.	PRICE EACH
1001-4	4 oz. Flip-Top container	12	3350-546	\$4.70
1001-16	6 oz. Flip-Top container	12	3350-547	8.44
1001-32	32 oz. Flip-Top container	12	3350-548	12.13
1001	1-gal. container	6	3350-549	28.16



1001

## MILTON Compressor Oil

Protects against oxidation, corrosion, foaming and wear of metal parts. Protects against sludge and maintains its viscosity in the temperature range of 20° F to 440° F. For centrifugal compressors where the manufacturer specifies a non-detergent 30 weight oil.  
**WARNING: HARMFUL OR FATAL IF SWALLOWED.**

2

MILTON PART. NO.	CONTAINER SIZE	CTL. QTY.	ORDER NO.	PRICE EACH
1002-32	32 oz. Flip-Top container	12	3350-550	\$11.08
1002	1-gal. container	6	3350-551	25.71



1002-32

# RELTON

## Rel-Air™ Compressor Oil

- Base stock selected to minimize carbon deposits
- Remains stable over long periods of time
- Minimizes rust/corrosion
- Viscosity selected to meet many manufacturers' req's.
- Reduces sludge
- Eliminates chatter

SIZE	CASE QTY.	PART NO.	PRICE EACH
quart	12	3159-544*	\$7.50
1 gallon	4	3159-545*	22.50



## Air-Flo™ Air Tool Oil

- Protects against rust, gums, sludges, etc.
- Provides positive lubrication of piston-driven and rotary air tools.
- Prolongs tool life
- Increases RPM's and torque
- Effective in a wide variety of tools, applications and temperature ranges

SIZE	CASE QTY.	PART NUMBER	PRICE EACH
Pint	12	3159-530*	\$ 6.25
1 gal.	4	3159-535*	18.75
55 gal. drum	—	3159-540	790.00
WINTER GRADE FORMULA			
quart bottles	12	3159-541	22.00



## TCO-14 & TCO-16 Cutting Oils

Dark & Light Thread Cutting Oils

- Leaves clean, smooth threads
- Ready to use on all pipe materials

SIZE	CASE QTY.	(DARK)	(LIGHT)	PRICE EACH
		TCO-14 ORDER NUMBER	TCO-16 ORDER NUMBER	
16 oz.	12	3159-490†	—	\$ 6.25
1 gal.	4	3159-495*	3159-515*	20.50
5 gal.	1	3159-500	3159-520	90.00
55 gal.	1	3159-505	3159-525	630.00



## Rel-Saw™ Band-Saw Fluid

- Improves blade life
- Remains stable over a wide variety of water conditions
- Promotes cleaner-running machines compared to soluble oils
- Semi-synthetic formula

DESCRIPTION	CASE QTY.	PART NO.	PRICE EACH
1 gallon bottle	4	3159-582*	\$ 29.00
5 gallon pail	1	3159-583	120.00
55 gallon drum	—	3159-584	1090.00



† Limited Quantities



BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%

1



## EP Bearing Grease

Water-resistant, highly tenacious, and has excellent resistance to salt spray, heat, oxidation, high loads, and other adverse conditions. Useful in many applications: industrial, automotive, mining, construction, or anywhere a high-quality multipurpose lubricant is needed.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
30350	14 oz. crtrdge.	30	3174-128	\$4.30



## Kiln Grease HT® Extreme-Service w/PTFE

Ideal for use in kiln bearings; steel, pulp, and paper mills; or any severe-service applications where, temperature, water washout, and contamination, extreme loads, or any combination of these factors.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
75150	14 oz. crtrdge.	30	3174-172	\$6.20



## AP-1W® Non-Melt Hi-Temp Grease

Mechanically stable, highly adhesive to metal, and has superior shelf life. Contains metal deactivators, and oxidation/corrosion inhibitors.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
31650	14 oz. crtrdge.	30	3174-188	\$4.90



## Marine-MP Grease

A mixed soap (calcium-lithium) grease for a multitude of "on-board" applications where economy and performance are important.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
63050	14 oz. crtrdge.	30	3174-319	\$4.30



## White Lithium Grease

- Durable high-viscosity film
- Won't melt, run, freeze
- Inhibits corrosion
- NSF-H2 Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
L616	11 oz.	12	9525-006	\$ 4.40



## White Lithium Grease

- Provides superior lubrication & durability in any weather or temperature
- Excellent break-in lubricant for bearings
- Provides general purpose lubrication & corrosion protection of machinery, tools, etc.
- White color allows for easy visual inspection of film coverage
- This product is labeled as extremely flammable Shipping Code: 2

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
03080*	16 oz aero	12	6703-916	\$ 9.45



## Red Bearing Lubricant

- Special formulation of polyurea thickened grease and rust inhibitors that work to provide maximum bearing life.
- Superior in performance to soap thickened grease, it has 70% longer life than commercial lubricants and temperature resistance to 350°F continuous service and 400°F intermittent.
- Shows excellent structural stability and maintains its consistency better than competitive greases under severe operating conditions such as encountered in an over packed bearing. Does not thin out in the presence of water and resists water washout, mild acid and alkaline solutions.

MFG. PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NSR-140	14 oz. Flat Top	12	3159-851	\$9.79



## CB-2® Super-Lith Multipurpose Grease

Exceptional resistance to heat, water, oxidation, and heavy loadings. Highly adhesive to metal and offers protection wherever dirt, dust, high humidity, rain, and adverse temps are critical problems. Useful as a chassis grease for mobile machinery and on springs, U-joints, and water pumps.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
31050	14 oz. crtrdge.	30	3174-133	\$4.60



## #202 Moly-Lith Multipurpose Grease w/Moly

Exceptional resistance to heat, water, oxidation, and heavy loadings. Highly adhesive to metal and offers protection wherever dirt, dust, high humidity, rain, and adverse temps are critical problems.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
33050	14 oz. crtrdge.	30	3174-139	\$5.40



## White Lithium Grease w/PFTE

Provides superior adhesion, performance, and protection for metal and moving parts under any use. Resistant to heat, oxidation, and water. Prevents rust and corrosion.

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	50341	13 oz. aero.	12	3174-148	\$6.70
-	50350	14 oz. cart.	30	3174-145	4.90



## ALCO-EP-73 + Premium Multipurpose Grease

Extremely resistant to water, rust, and corrosion. Ideally suited for high-moisture areas, including subsea applications, and boat trailer wheel bearing.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
37750	14 oz. crtrdge.	30	3174-162	\$4.50



# Thread Lockers

BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%

1



## TL-42® Removable Nutlock

- Medium strength, general purpose threadlocker, removable with hand tools after curing.
- Typical uses include coupling drive bolts, motor mounting bolts, construction equipment nuts, and conveyor roller nuts.



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
55165	10 ml bottle	10	3174-083	\$4.60
55166	50 ml bottle	10	3174-084	14.10



## TL-72® Hi-Temp Studlock

Permanent threadlocker/sealant resistant to temperatures up to 450°F/230°C. Gap filling formulation for larger diameter, coarse threaded parts. For use on furnace mounting bolts, steel mill conveyor bolts, and kiln/oven bolts.



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
55566	50 ml bottle	10	3174-089	\$14.10

# Pipe Compound



## TFW® PTFE Thread Sealant

- Multipurpose, nonhardening, nontoxic thread sealant.
- For use with a wide range of liquids and gases.
- Ideal for sprinkler, hydrant, hi-pressure water, air, and natural gas lines.
- Lead and metal free.



PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
24002	8 oz. brush	12	3174-059	\$9.50
24004	1qt. brush	12	3174-060	13.80

1



## Slic-Tite® Paste with "PTFE"

Heavy-duty thread sealing compound

- Contains more PTFE than other national brands
- Use on metal, PVC, CPVC, and ABS plastic pipe threads
- For sealing water, air, steam, natural gas, LP gas, refrigerant, ammonia, gasoline and oil. See Application chart for other service uses
- Sealing temperature: -50°F to 500°F (-46°C to 260°C)
- Pressures: 3,000 PSI (204 BAR) for gas, 10,000 PSI (680 BAR) for liquid
- USDA approved for use in federally inspected meat and poultry plants
- FGG/BM® System Compatible
- Non-toxic, non-drying, washes off easily



SIZE	PACK QTY.	CASE QTY.	ORDER NO.	PRICE EACH
1/2 pint	1	24	6442-019	\$13.46

2



## Pipe Compound with Teflon®

Premium pipe and fitting lubricant and anti-seize compound formulated to provide maximum thread lubrication in a wide range of pipe threads and fittings. The use of Teflon, and other sealant enhancing additives in Never-Seez Pipe Compound, allows greater thread engagement and more positive sealing. This product prevents corrosion and galling of threads for easy disassembly at temperatures up to 525°F. Recommended for use on black iron, galvanized stainless steel, and high pressure steam pipes in contact with malleable cast iron, brass, stainless steel and galvanized fittings. \* ©Teflon is a registered trademark of DuPont.



MFG. PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NPBT-4	4 oz. Brush	24	3159-864	\$6.33
NPBT-8	8 oz. Brush	12	3159-865	17.66
NPBT-16	16 oz. Brush	12	3159-866	23.31

4



## White Food Grade with PTFE

Meets FDA and USDA requirements for incidental food contact. Fortified with high load carrying solid lubricants, it lubricates and protects bearings, gears and other moving parts exposed to high temperatures up to 475°F and wash downs. The unique dispersion of FDA authorized PTFE provides additional lubricity especially where a thin film of lubricant is desirable. Never-Seez White Food Grade with PTFE is virtually odorless, colorless, and tasteless. It is a "multi-purpose" lubricant for varied services within a food handling plant.



MFG. PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NSWT-14	4 oz. Flat Top	12	3159-855	\$34.01
NSWT-1C	14.1 oz. Cart.	12	3159-857	34.04
NSWT-7	7 lb. Flat Top	4	3159-856	228.49

4



## RTV Silicone Adhesives/Sealants

- Seal, bond, waterproof & protect • Cure at room temperature
- Clear, White & Blue formulations are for general purpose applications.
- Red is formulated as a low odor, non-corrosive & high pressure sealant

MFG. PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
14055	Clr 8oz tube	12	6716-908	\$20.14
14056	Wht 8oz tube	12	6717-008	20.36
14057	Blue 8oz tube	12	6717-108	20.36
14059	Red 8oz tube	12	6717-208	20.79



# Threadlockers & Retaining Compounds

BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%



## Screw Lock

• Compare to Loctite® 222

- Low strength threadlocker designed for precision screws and bolts, 1/4" dia. or less
- Easy disassembly with hand tools
- Use on set screws, adjustment screws, calibration and thermostat screws
- Shear strength 600 psi
- Color: Purple
- Break/Prevail: 60/40
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 300°F
- Viscosity: 1200cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6737-904**  
**Price Each: \$ 24.59**



## Nut Lock

• Compare to Loctite® 242

- Medium strength general purpose threadlocker for nuts, screws and bolts, 1/4" to 3/4" dia.
- Disassembly is possible with hand tools
- Eliminates the need for lock washers and lock nuts
- Prevents parts from loosening from vibration
- Shear strength 1200 psi
- Color: Blue
- Break/Prevail: 100/75
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 300°F
- Viscosity: 1000cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6737-924**  
**Price Each: \$ 26.31**

**Net 8.45 fl. oz. (250 mL)**  
**Order No.: 6737-936**  
**Price Each: \$ 96.64**



## Bolt Lock

• Compare to Loctite® 262

- Excellent for heavy duty applications
- High viscosity allows for easy application control
- Excellent for large diameter fasteners, studs, and bolts
- Shear strength 3000 psi
- Color: Red
- Fasteners: 3/8 to 1"
- Break/Prevail: 150/200
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 300°F
- Viscosity: 2500cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6737-944**  
**Price Each: \$ 26.31**

**Net 8.45 fl. oz. (250 mL)**  
**Order No.: 6737-956**  
**Price Each: \$ 96.64**



## Stud Lock

• Compare to Loctite® 271

- Excellent for heavy duty applications
- Permanently locks studs and press fits
- Use to replace snap rings and set screws
- Requires special tools for disassembly
- Shear strength 3000 psi
- Color: Red
- Fasteners: up to 1"
- Break/Prevail: 220/200
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 300°F
- Viscosity: 550cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6737-964**  
**Price Each: \$ 26.31**

**Net 8.45 fl. oz. (250 mL)**  
**Order No.: 6737-976**  
**Price Each: \$ 96.64**



## Large Diameter

• Compare to Loctite® 277

- Ideal for sealing and locking threaded assemblies 1" dia. or larger
- Resists temps. up to 475°F
- High viscosity allows for easy application control
- Shear strength 3000 psi
- Color: Red
- Fasteners: 1" and larger
- Break/Prevail: 250/250
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 475°F
- Viscosity: 7000cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6737-984**  
**Price Each: \$ 26.31**



## Penetrating

• Compare to Loctite® 290

- A high strength, low viscosity threadlocker that penetrates preassembled parts through capillary action
- Designed for use with instrumentation set screws or calibration equipment where the fasteners need to be locked in place after calibration is completed
- Shear strength 2000 psi
- Color: Green
- Fasteners: #2 to 1/2"
- Break/Prevail: 150/250
- Cure Time 20% (full): 10-20 min. (24 hrs.)
- Viscosity: 15cP
- Temp. Range: -75°F to 300°F

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6738-004**  
**Price Each: \$ 24.59**



## General Purpose Retaining Compound

• Compare to Loctite® 609

- A high strength, low viscosity, rapid setting retaining compound used to augment close fit press fits & slip fit assemblies
- Used for locking gears, pulleys, bearings, bushings, and splines
- Shear strength 3000 psi
- Color: Green • Viscosity: 160cP
- Gap Fill: 0.005
- Break/Prevail: 300/300
- Cure Time 20% (full): 10-20 min. (24 hrs.)
- Temp. Range: -75°F to 400°F

**Net 8.45 fl. oz. (250 mL)**  
**Order No.: 6738-036**  
**Price Each: \$ 90.32**



## Sleeve Retaining Compound

• Compare to Loctite® 640

- High strength for press fit & slip fit assemblies
- Restores worn out, ill-fitting assemblies
- Retains rotors to shafts
- The medium viscosity allows for greater gap filling
- Shear strength 4500 psi
- Color: Green
- Gap Fill: 0.010
- Break/Prevail: 150/200
- Cure Time 20% (full): 10-30 min. (24 hrs.)
- Temp. Range: -75°F to 450°F
- Viscosity: 500cP

**Net 1.69 fl. oz. (50 mL)**  
**Order No.: 6738-044**  
**Price Each: \$ 24.59**





# Anti-Seize

## Copper Anti-Seize

- Prevents seizing & galling caused by high temps, heavy loads, vibrations & corrosion
- Excellent choice for closely fitted parts needing extreme lubrication
- Copper-based, safe for use on both ferrous & non-ferrous metals

\*This product is labeled extremely flammable.

SHIPPING CODE	PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
2	14095*	16 oz. aero.	12	6718-116	\$23.84
-	SL35901	8 oz brush	12	6729-908	12.22
-	SL35903	16 oz brush	12	6729-916	19.09



## Nickel Anti-Seize

- Prevents seizing & galling caused by high temps, heavy loads, vibration, chemicals & corrosion
- Safe for use with most chemicals that are unstable with copper
- Safe for use on both ferrous & non-ferrous metals

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
SL35911	8 oz brush	12	6730-008	\$20.81
SL35913	16 oz brush	12	6730-016	34.24

**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%**



# Markal

## E-Z BREAK® Nickel Grade

Anti-seize & lubricating compound

- Contains fine particles of nickel and other additives.
- Contains no copper.
- Resists rust and corrosion.
- Makes disassembly easy, even after years of service.
- Temperature: to 2600°F.

SIZE	ORDER NO.	PRICE EACH
9 oz.	6408-971	\$18.24

PACKAGE QUANTITY: 1  
CASE QUANTITY: 24



## E-Z BREAK® Copper Grade

Anti-seize & lubricating compound

- Copper-based anti-seize and lubricating compound.
- Resists rust and corrosion.
- Recommended for coating nuts, bolts, valves, flanges, splines, for easy breakout after years of service.
- Meets Mil. Spec. Mil-A-907D.
- Temperature to 1800°F.

SIZE	ORDER NO.	PRICE EACH
10 oz.	6408-910	\$14.82

PACKAGE QUANTITY: 1  
CASE QUANTITY: 24



## Kop'r-Kote® Copper Anti-Seize

- Premium metallic copper flake, graphite, and other extreme pressure, anti-corrosion, and anti-wear additives.
- Ideal for the majority of applications involving hi-temp, stress and loads.
- Compatible with most metals and alloys, not recommended for aluminum fittings or fasteners.



## Nikal® Pure Nickel Extreme-Temp Anti-Seize

- Graphite-free, pure-nickel NIKAL is nearly inert and should be used whenever ammonia, acetylene, or vinyl monomers are present.
- Will not contaminate catalyst beds.
- Compatible with most metals and alloys operating at 800° and above.
- For stainless steel and other nickel alloy fasteners/fittings operating above 500° where graphite may pose problems.



## Marine-Kopr® Copper Anti-Seize Paste

- Contains micro-sized copper flake and graphite in a highly water-resistant aluminum-complex base grease.
- Antioxidants and corrosion inhibitors ensure extra protection in extreme and adverse marine conditions.
- For use on all threaded & flanged connections to reduce torque requirements and prevent galling, seizure, and heat welding.



# JET-LUBE

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
10002	8 oz. brush	12	3174-001	\$11.00

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
13602	8 oz brush	12	3174-035	\$19.30

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
09702	1/2 lb. brush	12	3174-315	\$8.00

## Pure Nickel Special

- Formulated to protect up to 2400°F against seizure and galling, galvanic and severe environmental corrosion.
- It contains flake particles of pure nickel, graphite and other additives
- Recommended for use when applications prohibit the presence of copper, especially when resistance to corrosive acidic and caustic solutions is required.
- Meets Boeing BAC 5008, Ford ESE-M12A4-A, Garrett Engine Div. PCS5721, GE Aircraft A50TF198 Class A, General Motors 14001899, Pratt & Whitney PWA 36053-1 and is tested to MIL-PRF-907E.

PART NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NSN-165	1 lb. Flat Top	12	3159-819	\$37.98
NSBT-8N	8 oz. Brush Top	12	3159-821	23.36
NSBT-16N	1 lb. Brush Top	12	3159-822	37.89



## Mariner's Choice

Never-Seez Mariner's Choice is a copper-free, heavy duty anti-seize and extreme pressure lubricant formulated to assure absolute parts protection against seizure, galling, and corrosion in fresh and salt water environments. Mariner's Choice offers superior resistance to water washout, and the best protection in continuous high moisture environments both above and below water lines. Tested to MIL-A-907E.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NMCBT-8	8 oz. Brush Top	12	3159-838	\$15.88



## High Temperature Stainless

A stainless steel, graphite, aluminum based anti-seize compound formulated to protect up to 2200°F against seizure and galling, galvanic and severe environmental corrosion. It was specifically designed for applications that cannot use nickel based products. Tested to MIL-PRF-907E

PART NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NSSBT-8	8 oz Brush Top.	12	3159-827	\$20.25

## Regular Grade

The "original" anti-seize compound and extreme pressure lubricant formulated with copper, graphite, aluminum and other ingredients to protect metal parts against rust, corrosion and seizure up to 1800°F. Fine metallic and graphite particles in special grease protect parts even in high heat, high pressure and corrosive environments. Ford ESE-M12A4-A, Garrett Engine Div. PCS5724, Pratt & Whitney PWA 360523-2 and tested to MIL-PRF-907E.

PART. NO.	DESC.	CASE QTY.	ORDER NO.	PRICE EACH
NS-40	1/4 lb. Flat Top	24	3159-800	\$8.02
NS-160	1 lb. Flat Top	12	3159-801	22.79
NSA-16	16 fl. oz. Aero	12	3159-803	19.31
NSBT-4	1/4 lb. Brush Top	24	3159-804	11.64
NSBT-8	8 oz. Brush Top	12	3159-805	14.31
NSBT-16	1 lb. Brush Top	12	3159-806	22.26
NS-10	1 oz. Tubes	150	3159-809	4.80
NSB-4	1/4 lb. Tubes	24	3159-810	10.90





**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 10%  
\*on selected items**

## Rapid Tap<sup>®</sup> All-Metal Cutting Fluid

- The most effective cutting fluid available
- Excels in tough materials
- Contains no 1,1,1-trichloroethane or other ozone-depleting chemicals
- Effective on all metals (including aluminum)



SIZE	CASE QTY.	PART NUMBER	PRICE EACH
4 oz.	24	3159-400*	\$ 2.75
16 oz.	12	3159-405*	8.75
1 gal.	4	3159-410*	48.75
5 gal.	1	3159-415	230.00
55 gal.†	—	3159-425	1690.00

† FOB Factory

## Option 1<sup>®</sup> Metal Cutting Fluid

Option 1<sup>®</sup> is effective in all machining operations on all metals except those that are water-reactive, such as magnesium.

- Ozone-friendly
- Water-based — Biodegradable — No oil
- Disposable down-the-drain
- No 1, 1, 1-trichloroethane (methyl chloroform)
- No sulphur — No toxic chemicals.
- Not reportable under any hazard laws.



SIZE	CASE QTY.	PART NUMBER	PRICE EACH
4 oz.	24	3159-430*	\$ 2.75
16 oz.	12	3159-435*	8.75
1 gal.	4	3159-440*	48.75
5 gal.	1	3159-445	230.00
55 gal.†	—	3159-455	1690.00

† FOB Factory

## A-9 Aluminum Cutting Fluid

Ozone-friendly • Saves Time — Tools — Money

Use for all operations on aluminum: milling, broaching, drilling, threading, tapping, reaming, sawing, etc. Contains a scientific blend of chemicals that attach themselves to aluminum surfaces, forming an effective extreme-pressure boundary lubricant between tool and work surface.

SIZE	CASE QTY.	PART NUMBER	PRICE EACH
4 oz.	24	3159-460*	\$ 2.75
16 oz.	12	3159-465*	8.75
1 gal.	4	3159-470*	48.75
5 gal.	1	3159-475	230.00
55 gal.†	—	3159-485	1690.00

† FOB Factory



## Rapid Tap<sup>®</sup> Paste

- Greatly extended tool life
- Super-fine machined finish in operation after operation
- Anti-mist protection for a healthier work environment
- Excels in tough materials
- Contains no 1,1,1-trichloroethane or other ozone-depleting chemicals



SIZE	CASE QTY.	PART NO.	PRICE EACH
8 oz. jar	12	3159-426*	\$ 10.00

## Stick-Kut<sup>™</sup> Wax Lubricant

- Safe and effective lubricant for grinding wheels, sanding belts, and saw blades
- Eliminates heat build-up and belt loading
- Extends wheel life
- Provides smooth, cool cutting
- Reduces loading, stops binding, and prevents burring

SIZE	CASE QTY.	PART NO.	PRICE EACH
15 oz. stick	12	3159-427*	\$ 10.00



## Xtra-Thick<sup>™</sup>

The extreme performance heavyweight cutting fluid for the hardest metals up to 45 RC. Great for lathe, millwork, and deep hole cuts. Contains EP-X<sup>3</sup>®.



## Aluminum

When the majority of your work is on aluminum, this is the most effective cutting fluid you can use, providing excellent performance for any and all cutting operations.

Shipping Code: 2



## EP-Extra<sup>™</sup>

An ozone-friendly formula that gives you outstanding performance for any cutting operation on any metal. Absolutely without equal on all hard metals and for cuts of extreme pressure or long duration. Shipping Code: 2 (aerosol)



## Formula 1 Aqueous

A totally biodegradable and non-corrosive water-based fluid that is highly effective for all cuts on metal, excluding magnesium. Contains EP-X<sup>3</sup>® for a synergistic boost in performance. Shipping Code: 2 (aerosol) 3 (55 gal.) Formula 2: Shipping Code: 2 (aerosol) 3 (55 gal.)



## Pro Tap

Made especially for projects that require a cutting fluid that's free of all regulated chemicals. TAP MAGIC PRO TAP is completely biodegradable! Highly effective for all cutting operations on all metals. Shipping Code: 2 (aerosol)



## Xtra-Foamy<sup>®</sup>

A high-visibility foaming action cutting fluid containing EP-X<sup>3</sup>® for extreme performance on even the hardest-to-machine metals.

- Ideal for all cuts on all metals—especially high nickel alloys, inconel, stainless, titanium, and other hard metals up to 45 RC!

Shipping Code: 2

17 oz. can  
Order No. 2591-282  
Price Each: \$16.00



SIZE	CASE QTY.	XTRA-THICK ORDER NUMBER	PRICE EACH	FORMULA 1 ORDER NUMBER	FORMULA 2 ORDER NUMBER	PRICE EACH
12 oz. aerosol	12	—	—	2591-297	2591-305	\$ 11.50
16 oz.	12	2591-285	\$ 13.20	2591-292	2591-300	11.50
1 gal.	2	2591-286	79.20	2591-293	2591-301	69.00
5 gal.	1	2591-287	330.00	2591-294	2591-302	289.00
30 gal.	1†	2591-288	1565.00	2591-295	2591-303	1370.00
55 gal.	1†	2591-289	2550.00	2591-296	2591-304	2450.00

† FOB Factory

SIZE	CASE QTY.	EP-XTRA ORDER NUMBER	ALUMINUM ORDER NUMBER	PRO-TAP ORDER NUMBER	PRICE EACH
4 oz.	24	2591-275	2591-261	2591-262	\$ 3.30
12 oz. aerosol	12	2591-281	2591-260	2591-268	11.50
16 oz.	12	2591-276	2591-255	2591-263	10.50
1 gal.	2	2591-277	2591-256	2591-264	63.00
5 gal.	1	2591-278	2591-257	2591-265	265.00
30 gal.	1†	2591-279	2591-258	2591-266	1235.00
55 gal.	1†	2591-280	2591-259	2591-267	2185.00

† FOB Factory



# Kool Mist Misting Systems

1

## Kool Kit - Starter Special - Model 500

### Model 500 includes:

- One Model 100N Mist Coolant System with one gallon stainless steel tank.
- One Adjustable Magnetic Nozzle Positioner
- One Gallon Formula 78 Concentrated Coolant
- One Sample Formula 77 Concentrated Coolant

Formula 77 and 78 Meet Requirements of OSHA • NASA • AEC • EPA

Order No. 9520-205 Price Each...\$202.00



## Port-a-Mist Kit - Model 560

### Model 560 includes:

- One PORT-a-MIST Model 60M Unit including air and coolant hoses, heavy duty magnetic base, simple single knob control, and 12" flexible LOC-LINE® positioner.
- One Gallon Kool Mist Formula 78 Concentrated Coolant
- One Sample Formula 77 Concentrated Coolant (4 oz.)

Order No. 9520-206 Price Each...\$141.00



## General Purpose Models with Stainless Steel Tanks



MODEL	TANK CAPACITY	NO. OF OUTLETS	ORDER NUMBER	PRICE EACH	MODEL	TANK CAPACITY	NO. OF OUTLETS	ORDER NUMBER	PRICE EACH
100N	1 Gallon	1	9520-100	\$138.00	350N	3 Gallon	1	9520-103	\$166.00
102N	1 Gallon	2	9520-116	198.00	352N	3 Gallon	2	9520-119	229.00

All Models have 4' long Braided Nylon Reinforced Coolant Lines with 6" long Brass Nozzle

## Automatic Mist Coolant Systems Without Tanks

Equipped with 4' long braided nylon reinforced coolant line with 6" long brass nozzle. Units have 4' long siphoning line and ball check strainer for use with customer's own tank.

Model 100AP...Single Line Unit Order No. 9520-200 Price Each...\$120.00

Model 102AP...Double Line Unit Order No. 9520-201 Price Each...\$192.00



## Mist or Flood Coolants

Safe for people, materials, environment and machines

**Formula 77:** For tougher service. Is highly recommended for Mist Cooling any metal or alloy where tougher machining condition requires greater lubricity.

**Formula 78:** For light duty. Is a chemical base Mist Coolant that dissolves in water to a clear solution. Can be used on any metal or alloy.

MODEL	TANK CAPACITY	ORDER NO.	PRICE
77-1	1 Gallon	9520-209	\$36.00
77-5	5 Gallon	9520-211	168.00

MODEL	TANK CAPACITY	ORDER NO.	PRICE
78-1	1 Gallon	9520-213	\$35.00
78-5	5 Gallon	9520-215	162.00

## Replacement Coolant Lines

MODEL NO.	DESCRIPTION	ORDER NUMBER	PRICE EACH
SCL-2	2 ft. Coolant Line	9520-250	\$30.00
SCL-4	4 ft. Coolant Line	9520-251	33.00
MCL-3	3 ft. Nylon Braid Coolant Line	9520-270	43.00
MCL-4	4 ft. Nylon Braid Coolant Line	9520-272	46.00

## Mist Coolant Generator

Just one Model K-75 can handle most cooling jobs in your shop. Hangs on bracket (furnished) or stands anywhere. Volume and spray cone width are adjustable for each line.

- Turret takes up to four coolant lines: one furnished - add others as needed
- All lines ball-checked. No flowback
- See-through drawer shows coolant level
- Can be moved from machine to machine
- Made of hi-strength structural plastics

Model K-75.....Order No. 9520-160 Price Each....\$155.00

Kit K-75K.....Order No. 9520-161 Price Each.....\$68.00

Extra Outlet Kit - Contains everything required to add additional outlets to K-75 unit.



## Port-a-Mist Unit Without Tanks

Model 60M12: Unit with 12" Flexible LOC-LINE®

Order No. 9520-184 Price Each...\$106.00

Model 60M18: Unit with 18" Flexible LOC-LINE®

Order No. 9520-185 Price Each...\$126.00

### FEATURES:

- Single Air/Coolant Control Valve
- Adjustable Spray Nozzle
- Heavy Duty Magnetic Base
- 12" or 18" Flexible LOC-LINE® Nozzle Positioner
- 4 ft. Coolant Hose with Anti Syphon Check Valve
- 4 ft. Air Hose with Male Pipe Thread Fitting
- 1 yr. Warranty and Available Parts



## Kool-Kit Lite

### Model 580 Includes:

- One Model 80S Mist Coolant System
- One Model 200 Adjustable Magnetic Nozzle Positioner
- One Gallon Formula 78 Concentrated Coolant
- One Sample Formula 77 Concentrated Coolant

### Light Duty Models Without Tanks

2' Long Nylon Reinforced Coolant Line with 4' Long Siphon Line  
4' Long Brass Nozzle

Order No. 9520-208 Price Each \$130.00



## Nozzle Positioners

Model 205 Order No. 9520-173 Price Each...\$29.00  
Magnetic Nozzle, for Portable Use #205

Model 305 Order No. 9520-172 Price Each...\$22.00  
Non-Magnetic Nozzle, for Permanent Mounting #305



## Models For Use with Your Own Tank or Sump

**Simplest of the Systems:** The controls of these units are mounted permanently to the machine, close to the operator and the cut.

**No Coolant Tank Furnished:** Coolant mix may be placed in the machine sump, or in any clean container that will not contaminate the coolant. If the sump is used, the conventional flood coolant pump must be made inoperative.

**Coaxial Coolant Line:** Coolant and compressed air are not mixed until they reach the nozzle. To overcome the need for dual line, Kool Mist has developed a coaxial line, or a hose within a hose. Coolant line exteriors may be nylon braided for normal duty, or metal braided for protection from hot chips and abrasion.

**Easy-to-use Control:** Output from each nozzle is regulated by a single knob on the control. Mist spray may be turned on or off instantly to coordinate with the cutting cycle, and the spray mix made lean or rich as needed.

MODEL NO.	NOZZLE LENGTH*	COOLANT LINE TYPE & LENGTH	CONTROL MOUNTING	NOZZLE POSITIONER	ORDER NUMBER	PRICE EACH
80S	4" Brass	Nylon Braided 2'	Fixed	Not Incl.	9520-180	\$67.00
80SM	4" Brass	Nylon Braided 2'	Fixed	Magnet	9520-181	98.00

\* Straight nozzle is standard. 45° and 90° nozzles are available

1 Gal. Tank Holder.....Order No. 9520-217.....Price Each.....\$23.00



**BUY CASE QTY.-  
DEDUCT AN  
EXTRA 13%  
(except 5 gallon)**

## Plasti Dip

Multi-purpose rubber coating that exhibits excellent moisture, acid, alkaline, and abrasion resistance. Protects against skidding/slipping and corrosion.

Shipping Code: 2 ; 1 (5 gal.)



## Plasti Dip Create Your Color Kit

- Clear Plasti-Dip® (22 oz.) with 5 tints
- Enhances your inventory, allows custom color matching
- Single 22 oz. cans of clear Plasti-Dip® are available, to be used for left-over tints
- **Brand new 22 oz. package:** improved paint-style lid with large opening provides improved long term storage, ease of mixing tints, ability to dip larger items, and use up to 2" paint brush



Shipping Code: 2

MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
11201-6	11 oz. aero. Red	6	9520-800	\$7.17
11203-6	11 oz. aero. Black	6	9520-802	7.17
11207-6	11 oz. aero. White	6	9520-804	7.17
11290-6	11 oz. aero. Clear	6	9520-805	7.17
11601-6	14.5 oz. Red	6	9520-810	8.29
11602-6	14.5 oz. Yellow	6	9520-811	8.29
11603-6	14.5 oz. Black	6	9520-812	8.29
11604-6	14.5 oz. Blue	6	9520-813	8.29
12213	22 oz. Clear	6	9520-818	12.35
12219	22 oz. Black	6	9520-817	12.35
10101	1 gal. Red	4	9520-820	65.33
10102	1 gal. Yellow	4	9520-821	65.33
10103	1 gal. Black	4	9520-822	65.33
10104	1 gal. Blue	4	9520-823	65.33
10106	1 gal. H. Green	4	9520-824	65.33
10107	1 gal. White	4	9520-825	65.33
10109	1 gal. Clear	4	9520-826	65.33
105C1	5 gal. Red	-	9520-830	253.20
105C161	5 gal. Yellow	-	9520-831	253.20
105C3	5 gal. Black	-	9520-832	253.20
105C4	5 gal. Blue	-	9520-833	253.20
105C444	5 gal. H. Green	-	9520-834	253.20
105C7	5 gal. White	-	9520-835	253.20
10509	5 gal. Clear	-	9520-836	253.20

MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
12209KIT	6-pc. Kit	4	9520-816	\$16.57

## VLP

A clear, high strength, flexible adhesive designed to mend rips, tears and small holes on most types of flexible vinyl and leather surfaces. Typical applications include: furniture, awnings, tarps, vinyl sheeting, luggage, rain wear, boots, hunting gear, auto seats and dashes.



MFG #	SIZE	SHIPPING CODE	CASE QTY.	ORDER NO.	PRICE EACH
61209	1 oz.	2	6	9520-920	\$3.98
61209*	12 oz.	2	24	9520-921	12.54
60109*	1 gal.	2	4	9520-922	82.07
60509*	5 gal.	1	-	9520-923	345.58

\*Cannot be sold in CA

## Super Grip

An air dry, non-yellowing, synthetic rubber coating that bonds to most types of fabrics to prevent skidding and slipping on slick surfaces. Typical applications include: fabric cushions, trow rups, clothes hangers, athletic grips, table cloths, and placemats.

Shipping Code: 2



MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
91209-6*	12 oz.	6	9520-959	\$7.69

\*Cannot be sold in CA

## Anything Foam

### Covered/Coated Foam Repair & Filler

- Provides a soft, smooth vinyl surface that will not become brittle and remains flexible
- Durable water base formula resists weather, chemicals, impact, and abrasion
- Flexible, durable, easy to use

Shipping Code: 2



MFG #	SIZE	CASE QTY.	ORDER NO.	PRICE EACH
310166	1 oz. tube	6	9520-961	\$6.51
360166	6 oz. cartridge	6	9520-966	7.37

## Plastiseam



A tough, clear, flexible resin system that is excellent for sealing out moisture in pin holes in sewn seams. Typical applications include: nylon, canvas, backpacks, tents, awnings, tarps, outdoor and hunting gear.

MFG #	SIZE	SHIPPING CODE	CASE QTY.	ORDER NO.	PRICE EACH
81209	12 oz.	2	24	9520-941	\$19.58
80109	1 gal.	2	4	9520-942	86.67
80509	5 gal.	1	-	9520-943	437.44

## Vyna Bond

A strong, flexible vinyl contact adhesive that provides excellent resistance to softening from plasticizer migration. Typical applications include: repair pool liners under water, waterbeds, pool liners and covers, tarps, tops, awnings, two-behind inflatables, waders, and outdoor gear.



MFG #	SIZE	SHIPPING CODE	CASE QTY.	ORDER NO.	PRICE EACH
71209	1 oz.	2	6	9520-930	\$4.57
71209*	12 oz.	2	24	9520-931	9.30
70109*	1 gal.	2	4	9520-932	49.17
70509*	5 gal.	1	-	9520-933	208.47

\*Cannot be sold in CA

## Liquid Tape

An air dry, synthetic rubber coating that can be brushed on and exhibits excellent moisture, acid, alkaline, abrasion, and dielectric resistance. Remains flexible under extreme weather conditions; will not be brittle. Typical applications include: boats, RV's, automotive, timers, outdoor wiring, instruments, computers, circuit boards, and switches.

Shipping Code: 2



MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
LET14Z01	4 oz. Red	6	9520-950	\$6.31
LET14Z03	4 oz. Black	6	9520-951	6.31
16003-6	6 oz. Spray Bottle	6	9520-954	6.42

## Primer and Thinner

**Primer:**  
An air dry, acrylic formula specifically developed to increase adhesion of Plasti Dip.



**Thinner:**  
Formulated specifically for use with Plasti Dip where a thinner application is desired.

Shipping Code: 2 ; (except 5 gal. = 1)

MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
4QT08	1 qt. Gray	4	9520-901	\$18.03
F9384QT09	1 qt. Clear	4	9520-905	18.03
40108	1 gal. Gray	4	9520-902	60.40
F93840109	1 gal. Clear	4	9520-906	60.40
F93840509	5 gal. Clear	-	9520-907	257.85
THINNER				
5QT09	1 qt.	4	9520-910	\$11.92
50109	1 gal.	4	9520-911	30.81

## HCF-Hard Coat Finish

Multi-purpose acrylic coating that is non-flammable and has high solids content making this coating an emission control coating system. Exhibits excellent petroleum, chemical, UV, corrosion, and abrasion resistance. Typical applications include: transformers, coils, tools, fixtures, brackets, oil handling equipment, heavy machinery, and chain link fence components.



MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
30101	1 gal. Red	4	9520-850	\$66.88
30102	1 gal. Yellow	4	9520-851	66.88
30103	1 gal. Black	4	9520-852	66.88
30104	1 gal. Blue	4	9520-853	66.88
30105	1 gal. Orange	4	9520-854	66.88
30106	1 gal. Green	4	9520-855	66.88
30107	1 gal. White	4	9520-856	66.88
30108	1 gal. Grey	4	9520-857	66.88
305C15	5 gal. Red	-	9520-860	259.28
305C226	5 gal. Yellow	-	9520-861	259.28
305C16	5 gal. Black	-	9520-862	259.28
305C19	5 gal. Blue	-	9520-863	259.28
305C165	5 gal. Orange	-	9520-864	259.28
305C164	5 gal. Green	-	9520-865	259.28
305C468	5 gal. White	-	9520-866	259.28
305C117	5 gal. Gray	-	9520-867	259.28

## ReRack

### Vinyl/Dishwasher Rack Repair

- Won't crack, chip, or become brittle
- Resists heat, high water pressure
- Protects against rust
- Easy to use, durable, versatile

Shipping Code: 2



MFG #	DESCRIPTION	CASE QTY.	ORDER NO.	PRICE EACH
630076	1 oz. White	6	9520-976	\$5.49
630086	1 oz. Gray	6	9520-986	5.49



BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%

## Good

### Zynolyte®

Zynolyte Spray Paint enamels are quick drying and economical. Provides a tough, durable finish on most interior and exterior surfaces.

**Applications:** wood, metal, aluminum, wrought iron, hard plastic, and drywall.

**Container size:** 16 oz., **Net wt.:** 10 oz., **Case pack:** 12, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Lemon Yellow	9508-300	\$2.43
Gloss White	9508-299	2.43
Gloss Black	9508-298	2.43
Flat Black	9508-296	2.43
Fire Red	9508-294	2.43

### Zynolyte® Multipurpose Primer

Zynolyte High quality, non-lifting primer ensures good adhesion with the top coat finish.

- Fast drying - to touch in 10 minutes
- Tough, sealing primer
- Bonds extremely well to bare metal surfaces
- Fills in grain and surface imperfections on wood surfaces
- Prevents rust and corrosion
- Enhances the quality of any finish

**Applications:** metal, wood, rigid plastic, machinery, motors, shelving, bicycles, appliances, furniture, and automotive body parts.

**Container size:** 16 oz., **Net wt.:** 11 oz., **Case pack:** 6, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Dark Gray	9519-272	\$3.42
Red Oxide	9519-274	3.42

### Zynolyte® Fluorescent Coating

Made from high-quality fluorescent particles that deliver color four times brighter than other spray paints.

- Available in an assortment of bright Day-Glo colors
- Increase visibility by up to four times
- Apply over a white base coat for optimum brightness
- Glow-in-the-dark effect under black lights
- Interior/exterior application
- Dries to touch in minutes

**Applications:** metal, wood, concrete, steel, safety aisle marking, signs, emergency equipment, OSHA hazards, hobbies, and survey marking.

**Container size:** 16 oz., **Net wt.:** 11 oz., **Case pack:** 6, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Green	9519-297	\$4.35
Lemon Yellow	9519-298	4.35
Red	9519-299	4.35
Orange	9519-303	4.35

## Better

### Rust-Proof Any-Way®

A high-quality, rust proofing, industrial maintenance enamel coating formulated for light to moderate interior/exterior exposures. Sprays in any direction and adheres to any surface. (Formerly Rust Proofing Solvent-Based Paint).

- 360° application
- Adheres to any surface
- Lasting protection against corrosion, light abrasion, weathering, and mild chemical fumes
- VOC and MIR compliant
- High gloss, high-hide coverage
- Can be applied over sound rusted areas
- Lead-free
- Primer not required but recommended over bare steel

**Applications:** non-galvanized metal, steel, masonry, wood, machinery, motors, tools, cabinets, toolboxes, steel bars, pipelines, drums, conduit, ducts, furniture, and ideal for marking hazard areas.

**Container size:** 16 oz., **Net wt.:** 12 oz., **Case pack:** 6, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Safety Purple	9510-300	\$4.61
Safety Blue	9510-303	4.61
Safety Green	9510-304	4.61
Meter Gray	9510-349	4.61
Safety Red	9510-301	4.61
Safety Yellow	9510-302	4.61
Safety Orange	9510-305	4.61
Safety Black	9510-306	4.61
Safety White	9510-307	4.61
Aluminum	9510-309	4.61
Flat Black	9510-312	4.61

### Striping Paint (Solvent-Based)

Solvent-based striping paint adheres to a variety of surfaces, including asphalt and concrete. Not recommended for turf surfaces.

- Fast drying - 5 minutes to touch
- Durable, long-lasting stripe
- High-visibility colors
- VOC compliant and lead-free
- Non-clogging spray tip
- Excellent resistance to traffic, oil and gasoline
- One case of aerosol paint will yield a 4-inch stripe approximately 700 linear feet
- Asphalt black available to correct mistakes or cover existing lines

Apply aerosols with the Striping Stick, or Vers-A-Striper for hard surfaces.

**Applications:** parking lots, warehouse aisles, school yards, tennis courts, and factory safety aisles.

**Container size:** 20 oz., **Net wt.:** 18 oz., **Case pack:** 12, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Traffic White	9510-710	\$4.99
Traffic Yellow	9510-720	4.99

## Best

### Supreme Color Shield

Supreme Color Shield Paint is designed to provide superior appearance and color retention under mild or moderate conditions.

- Fast drying - to touch in 15 minutes
- High gloss, full hide coverage in one coat, with or without primer
- Durable - will not crack, chip or peel
- Performs up to 300°F (149°C)
- Indoor/outdoor
- Ideal for metal parts fabrication, finish coat, and maintenance
- Not recommended for immersion services

**Applications:** steel, metal, aluminum, wood, structural steel, drums, storage tanks, bar joists, steel pipes and railings, racks, conveyors, machinery, equipment, metal doors, ladders, fencing, cabinets, and furniture.

**Container size:** 20 oz., **Net wt.:** 15 oz., **Case pack:** 6, **Shipping Code:** 2



COLOR	ORDER NO.	PRICE EACH
Black	9515-017	\$5.77
Safety Blue	9515-004	5.77
Aluminum	9515-001	5.77
White	9515-019	5.77
Meter Gray	9515-049	5.77
Safety Green	9515-006	5.77
Flat Black	9515-016	5.77
Safety Red	9515-012	5.77
Safety Orange	9515-010	5.77
Equip. Yellow	9515-011	5.77
Safety Yellow	9515-008	5.77

### Striping Stick

For stenciling and touch-up striped lines. Approximately 36" long. Use with AerVOE Striping Paints only. Weight: 2.00 lbs

**Order No. 9510-799**  
**Price Each...\$ 31.54** 2



### Vers-A-Striper® Pavement

For stenciling and touch-up striped lines. Approximately 36" long. Use with AerVOE Striping Paints only. Weight: 2.00 lbs

A lightweight, yet heavy-duty aerosol striping paint applicator.

- For use on hard surfaces such as asphalt and concrete
- Stripe widths up to 4"
- Includes a striping alignment guide and radius wheel for making smooth arcs

**Order No. 9510-800**  
**Price Each...\$ 65.76** 2





**BUY CASE QTY.  
DEDUCT AN  
EXTRA 10%**

2

Shipping Code: 2 Restricted in certain states.

COLOR/TYPE	HIGH PERFORMANCE 15 OZ.			INDUSTRIAL CHOICE 12 OZ.			OVERALL-ECONOMY 10 OZ.		
	MFG. NO.	ORDER NO.	PRICE EACH	MFG. NO.	ORDER NO.	PRICE EACH	MFG. NO.	ORDER PAIL	PRICE EACH
<b>Primers</b>	(15 oz.)						Primers (10 oz.)		
Red	V2169838	6760-038	\$ 7.39	1667830	6760-530	\$ 4.98	—	—	—
Gray	V2182838	6760-039	7.39	1680830	6760-531	4.98	V2401830	6760-782	\$ 2.67
White	—	—	—	1681830	6760-532	4.98	—	—	—
Green (Rust Inhibitor)	—	—	—	202213	6760-533	4.98	—	—	—
<b>Finishes</b>	(15 oz.)						Finishes (10 oz.)		
Crystal Clear	V2102838	6760-001	7.39	1610830	6760-492	4.98	—	—	—
Silver Aluminum(14 oz.)	V2115838	6760-002	7.39	—	—	—	—	—	—
Dull Aluminum	—	—	—	1614830	6760-493	4.98	—	—	—
Light Blue	V2123838	6760-004	7.39	—	—	—	—	—	—
Regal Blue	—	—	—	1622830	6760-494	4.98	—	—	—
Safety Blue	V2124838	6760-005	7.39	1624830	6760-495	4.98	—	—	—
True Blue	—	—	—	1626830	6760-496	4.98	—	—	—
Deep Blue	V2125838	6760-006	7.39	—	—	—	—	—	—
Safety Green	V2133838	6760-007	7.39	1633830	6760-497	4.98	—	—	—
Bright Green	V2134838	6760-008	7.39	—	—	—	—	—	—
Dark Green	V2137838	6760-009	7.39	—	—	—	—	—	—
Hunter Green	V2137838	6760-010	7.39	1638830	6760-498	4.98	—	—	—
Machine Green	—	—	—	202211	6760-519	4.98	—	—	—
Gloss Yellow	—	—	—	—	—	—	V2409830	6760-789	2.67
School Bus Yellow	—	—	—	1643830	6760-499	4.98	—	—	—
Sun Yellow	—	—	—	202212	6760-520	4.98	—	—	—
Safety Yellow	V2143838	6760-011	7.39	1644830	6760-500	4.98	—	—	—
Industrial Yellow	V2147838	6760-012	7.39	—	—	—	—	—	—
Equipment Yellow	V2148838	6760-013	7.39	—	—	—	—	—	—
Cat Yellow (Old)	V209715	6760-842	6.36	—	—	—	—	—	—
Safety Orange	V2155838	6760-014	7.39	1653830	6760-501	4.98	—	—	—
Equipment Orange	V2156838	6760-015	7.39	—	—	—	—	—	—
Safety Red	V2163838	6760-016	7.39	1660830	6760-502	4.98	—	—	—
Gloss Red	—	—	—	—	—	—	V2407830	6760-787	2.67
Bright Red	V2164838	6760-017	7.39	—	—	—	—	—	—
Cherry Red	—	—	—	1664830	6760-503	4.98	—	—	—
Banner Red	—	—	—	1666830	6760-504	4.98	—	—	—
Dusty Pink	—	—	—	202216	6760-523	4.98	—	—	—
Safety Purple	V2167838	6760-018	7.39	1670830	6760-505	4.98	—	—	—
Beige	—	—	—	1671830	6760-506	4.98	—	—	—
Almond	V2170838	6760-019	7.39	1672830	6760-507	4.98	—	—	—
Tan	V2171838	6760-020	7.39	—	—	—	—	—	—
Leather Brown	—	—	—	1674830	6760-508	4.98	—	—	—
Chestnut Brown	V2175838	6760-022	7.39	—	—	—	—	—	—
Semi-Gloss Black	V2177838	6760-023	7.39	—	—	—	—	—	—
Ultra-Flat Black	—	—	—	1676830	6760-509	4.98	—	—	—
Semi-Flat Black	—	—	—	1678830	6760-510	4.98	—	—	—
Glossy Black	—	—	—	1679830	6760-511	4.98	V2402830	6760-783	2.67
Flat Black	V2178838	6760-024	7.39	—	—	—	V2404830	6760-785	2.67
Black	V2179838	6760-025	7.39	—	—	—	—	—	—
Light Machine Gray	V2183838	6760-026	7.39	—	—	—	—	—	—
Dove Gray	V2184838	6760-027	7.39	1684830	6760-512	4.98	—	—	—
Machinery Gray	—	—	—	202214	6760-521	4.98	—	—	—
Dark Machine Gray	V2187838	6760-028	7.39	—	—	—	—	—	—
Universal Gray	—	—	—	1686830	6760-513	4.98	—	—	—
Smoke Gray	V2188838	6760-029	7.39	1688830	6760-514	4.98	—	—	—
Flat White	V2190838	6760-030	7.39	1690830	6760-515	4.98	V2405830	6760-786	2.67
Gloss White	V2192838	6760-031	7.39	1692830	6760-516	4.98	V2403830	6760-784	2.67
Antique White	—	—	—	1696830	6760-517	4.98	—	—	—
Fleet White	V2196838	6760-032	7.39	—	—	—	—	—	—
Stainless Steel	V2119838	6760-033	10.30	—	—	—	—	—	—
<b>Zinc Rich Coatings</b>	(20-oz.)								
Bright Galv. Compound	V2117838	6760-040	15.16	—	—	—	—	—	—
Cold Galv. Compound	V2185838	6760-041	10.30	1685830	6760-529	5.41	—	—	—
<b>High Heat Coatings</b>	(15-oz.)								
Black	V2176838	6760-043	7.39	—	—	—	—	—	—
Aluminum	V2116838	6760-042	7.39	—	—	—	—	—	—
<b>Fluorescents</b>	(14-oz.)								
Yellow	2242838	6760-035	8.71	1642830	6760-525	5.41	—	—	—
Orange	2255838	6760-036	8.71	1654830	6760-526	5.41	—	—	—
Red	2264838	6760-037	8.71	—	—	—	—	—	—
Red-Orange	—	—	—	1655830	6760-527	5.41	—	—	—
Green	2233838	6760-034	8.71	1632830	6760-524	5.41	—	—	—
Pink	—	—	—	1695830	6760-528	5.41	—	—	—

## High Performance Enamel Aerosols



- Case Quantity: 6 cans**
- The ultimate spray paint for metal
  - Better gloss retention, coverage and dry time than other industrial rust-preventative spray paints
  - Maximum corrosion protection
  - Superior resistance to chipping, cracking, and peeling
  - Higher paint solids
  - Superior hide and color retention
  - Smooth, durable, long-lasting finish
  - Indoor/outdoor
  - Most colors match Rust-Oleum Industrial Enamel gallon products for convenient touch-up
  - USDA acceptable and Agriculture Canada approved

## Industrial Choice® Enamel Aerosols



- Case Quantity: 6 cans**
- A multi-purpose spray paint for everyday industrial applications
  - Dries fast in 12 minutes or less
  - High-solids content provides faster, further coverage
  - Protects against chipping, fading, and peeling
  - Higher gloss than laquer based aerosols
  - Superior solvent-resistance not found in laquer-based aerosols

## Overall Enamel Aerosols



- Case Quantity: 6 cans**
- General purpose spray paint for use in mild environments with limited exposure to solvents, chemicals, and fumes
  - Good color and gloss retention



## Spray Can Handle



**Order No.:  
6760-044  
Price Each:  
POA**

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CALIPERS, PROTRACTORS



GLOBALLY SOURCED TOOLS PROVIDING A BALANCE OF QUALITY & PRICE



PRECISION



DELIVERING PRACTICAL SOLUTIONS FOR YOUR PRECISION MEASUREMENT CHALLENGES



GAGES



QUALITY MEASURING INSTRUMENTS & PRECISION TOOLS

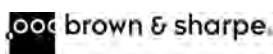


MEASURING INSTRUMENTS



SWITZERLAND

TEST INDICATORS



SHAPING THE FUTURE OF MEASUREMENT

# Thread Plug Gages – UNC, UNF, UN & UNEF



USA  
and  
Vermont  
Gage

## Right Hand – Class X Tolerance



Set includes one each:  
Go & No Go member with handle



SHORT FORM CERTIFICATION - N/C — LONG FORM - CERTIFIED TO ACTUAL DIMENSIONS - ADDITIONAL CHARGE

SIZE	MEMBERS					HANDLES			SETS		
	UNC UNF UNEF	GO CLASS 1-2-3 1B-2B-3B	NO GO CLASS 2B	NO GO CLASS 3B	PRICE EACH	TAPER LOCK HANDLE SIZE	HANDLE ORDER NO.	PRICE EACH	CLASS 2B SET W/ HANDLE	CLASS 3B SET W/ HANDLE	PRICE EACH SET
0-80	UNF	4000-519	4000-542	4000-536	\$40.45	000	2591-698	\$9.00	4060-005	4060-006	\$ 92.60
1-64	UNC	4000-629	4000-655	4000-648	40.45	000	2591-698	9.00	4060-010	4060-011	92.60
1-72	UNF	4000-640	4000-665	4000-659	40.45	000	2591-698	9.00	4060-015	4060-016	92.60
2-56	UNC	4000-744	4000-772	4000-765	40.45	000	2591-698	9.00	4060-020	4060-021	92.60
2-64	UNF	4000-759	4000-786	4000-779	40.45	000	2591-698	9.00	4060-025	4060-026	92.60
3-48	UNC	4000-855	4000-885	4000-877	35.15	000	2591-698	9.00	4060-030	4060-031	81.95
3-56	UNF	4000-874	4000-902	4000-895	35.15	000	2591-698	9.00	4060-035	4060-036	81.95
4-40	UNC	4000-958	4000-991	4000-982	35.15	00	2591-699	8.00	4060-040	4060-041	80.90
4-48	UNF	4000-985	4001-016	4001-008	35.15	00	2591-699	8.00	4060-045	4060-046	80.90
5-40	UNC	4001-088	4001-121	4001-113	29.80	00	2591-699	8.00	4060-050	4060-051	70.25
5-44	UNF	4001-102	4001-134	4001-126	29.80	00	2591-699	8.00	4060-055	4060-056	70.25
6-32	UNC	4001-177	4001-214	4001-204	29.80	00	2591-699	8.00	4060-060	4060-061	70.25
6-40	UNF	4001-218	4001-252	4001-243	29.80	00	2591-699	8.00	4060-065	4060-066	70.25
8-32	UNC	4001-437	4001-475	4001-465	29.80	0	2591-700	8.00	4060-070	4060-071	70.25
8-36	UNF	4001-460	4001-496	4001-487	29.80	0	2591-700	8.00	4060-075	4060-076	70.25
10-24	UNC	4001-629	4001-672	4001-661	29.80	0	2591-700	8.00	4060-080	4060-081	70.25
10-32	UNF	4001-697	4001-736	4001-726	29.80	0	2591-700	8.00	4060-085	4060-086	70.25
12-24	UNC	4001-889	4001-933	4001-922	29.80	0	2591-700	8.00	4060-090	4060-091	70.25
12-28	UNF	4001-928	4001-970	4001-959	29.80	0	2591-700	8.00	4060-095	4060-096	70.25
12-32	UNEF	4001-957	4001-998	4001-988	38.30	0	2591-700	8.00	4060-100	4060-101	87.30
1/4-20	UNC	4002-175	4002-224	4002-211	26.60	1	2591-701	8.00	4060-105	4060-106	63.85
1/4-28	UNF	4002-268	4002-311	4002-300	26.60	1	2591-701	8.00	4060-110	4060-111	63.85
1/4-32	UNEF	4002-297	4002-339	4002-328	46.85	1	2591-701	8.00	4060-115	4060-116	104.30
5/16-18	UNC	4002-764	4002-817	4002-803	26.60	1	2591-701	8.00	4060-120	4060-121	63.85
5/16-24	UNF	4002-854	4002-902	4002-890	26.60	1	2591-701	8.00	4060-125	4060-126	63.85
5/16-32	UNEF	4002-922	4002-964	4002-953	46.85	1	2591-701	8.00	4060-130	4060-131	104.30
3/8-16	UNC	4003-344	4003-401	4003-387	27.70	2	2591-702	8.00	4060-135	4060-136	66.00
3/8-24	UNF	4003-479	4003-528	4003-516	27.70	2	2591-702	8.00	4060-140	4060-141	66.00
3/8-32	UNEF	4003-547	4003-591	4003-580	52.15	2	2591-702	8.00	4060-145	4060-146	114.95
7/16-14	UNC	4003-911	4003-972	4003-957	27.70	2	2591-702	8.00	4060-150	4060-151	66.00
7/16-20	UNF	4004-050	4004-104	4004-091	27.70	2	2591-702	8.00	4060-155	4060-156	66.00
7/16-28	UNEF	4004-143	4004-189	4004-178	52.15	2	2591-702	8.00	4060-160	4060-161	114.95
1/2-13	UNC	4004-500	4004-565	4004-548	28.75	2	2591-702	8.00	4060-165	4060-166	68.15
1/2-20	UNF	4004-675	4004-731	4004-717	28.75	2	2591-702	8.00	4060-170	4060-171	68.15
1/2-28	UNEF	4004-768	4004-816	4004-804	55.35	2	2591-702	8.00	4060-175	4060-176	121.35
9/16-12	UNC	4005-084	4005-152	4005-135	37.25	3	2591-703	8.00	4060-180	4060-181	85.15
9/16-18	UNF	4005-264	4005-323	4005-308	37.25	3	2591-703	8.00	4060-185	4060-186	85.15
9/16-24	UNEF	4005-354	4005-405	4005-392	59.60	3	2591-703	8.00	4060-190	4060-191	129.85
5/8-11	UNC	4005-660	4005-732	4005-714	38.30	3	2591-703	8.00	4060-195	4060-196	87.30
5/8-18	UNF	4005-889	4005-949	4005-934	38.30	3	2591-703	8.00	4060-200	4060-201	87.30
5/8-24	UNEF	4005-979	4006-031	4006-018	60.70	3	2591-703	8.00	4060-205	4060-206	132.00
11/16-24	UNEF	4006-604	4006-656	4006-643	61.75	3	2591-703	8.00	4060-210	4060-211	134.15
3/4-10	UNC	4006-850	4006-927	4006-907	40.45	3	2591-703	8.00	4060-215	4060-216	91.55
3/4-16	UNF	4007-094	4007-159	4007-143	40.45	3	2591-703	8.00	4060-220	4060-221	91.55
3/4-20	UNEF	4007-175	4007-232	4007-218	60.70	3	2591-703	8.00	4060-225	4060-226	132.00
13/16-20	UNEF	4007-800	4007-857	4007-843	64.95	3	2591-703	8.00	4060-230	4060-231	140.50
7/8-9	UNC	4008-028	4008-110	4008-089	44.70	4	2591-704	9.00	4060-235	4060-236	101.15
7/8-14	UNF	4008-286	4008-356	4008-339	44.70	4	2591-704	9.00	4060-240	4060-241	101.15
7/8-20	UNEF	4008-425	4008-482	4008-468	67.05	4	2591-704	9.00	4060-245	4060-246	145.85
15/16-20	UNEF	4009-050	4009-109	4009-094	69.20	4	2591-704	9.00	4060-250	4060-251	150.10

“W” TOLERANCE, CHROME PLATED. MULTIPLE LEADS & OTHER CLASSES – P.O.A.

(Continued)

# Thread Plug Gages— UNC, UNF, UN & UNEF



Right Hand - Class X Tolerance



Set includes one each:  
Go & No Go member with handle

SHORT FORM CERTIFICATION - N/C — LONG FORM - CERTIFIED TO ACTUAL DIMENSIONS - ADDITIONAL CHARGE

SIZE	NC NF NEF	GO CLASS 1-2-3 1B-2B-3B	MEMBERS			PRICE EACH	TAPER LOCK HANDLE SIZE	HANDLES		SETS		PRICE EACH SET
			NO GO CLASS 2B	NO GO CLASS 3B	HANDLE ORDER NO.			PRICE EACH	CLASS 2B SET W/ HANDLE	CLASS 3B SET W/ HANDLE		
1-8	UNC	4009-188	4009-276	4009-254	\$52.15	4	2591-704	\$9.00	4060-255	4060-256	\$116.05	
1-12	UNC	4009-459	4009-535	4009-516	52.15	4	2591-704	9.00	4060-260	4060-261	116.05	
1-14	UNS	4009-536	4009-609	4009-590	52.15	4	2591-704	9.00	4060-265	4060-266	116.05	
1-20	UNEF	4009-675	4009-734	4009-719	75.60	4	2591-704	9.00	4060-270	4060-271	162.85	
1 1/16-12	UN	4010-084	4010-158	4010-139	89.40	4	2591-704	9.00	4060-275	4060-276	190.55	
1 1/16-18	UNEF	4010-264	4010-326	4010-310	76.65	4	2591-704	9.00	4060-280	4060-281	165.00	
1 1/8-7	UNC	4010-322	4010-416	4010-393	63.85	4	2591-704	9.00	4060-285	4060-286	139.45	
1 1/8-12	UNF	4010-709	4010-787	4010-768	63.85	4	2591-704	9.00	4060-290	4060-291	139.45	
1 1/8-18	UNEF	4010-889	4010-951	4010-935	77.70	4	2591-704	9.00	4060-295	4060-296	167.15	
1 3/16-12	UN	4011-334	4011-409	4011-390	89.40	4	2591-704	9.00	4060-300	4060-301	191.60	
1 3/16-18	UNEF	4011-514	4011-577	4011-561	77.70	4	2591-704	9.00	4060-305	4060-306	168.20	
1 1/4-7	UNC	4011-572	4011-668	4011-644	67.05	5	2591-705	10.00	4060-310	4060-311	146.90	
1 1/4-12	UNF	4011-959	4012-039	4012-019	67.05	5	2591-705	10.00	4060-315	4060-316	146.90	
1 1/4-18	UNEF	4012-139	4012-202	4012-186	81.95	5	2591-705	10.00	4060-320	4060-321	176.70	
1 5/16-12	UN	4012-584	4012-659	4012-640	93.70	5	2591-705	10.00	4060-325	4060-326	200.15	
1 5/16-18	UNEF	4012-764	4012-827	4012-811	92.60	5	2591-705	10.00	4060-330	4060-331	198.00	
1 3/8-6	UNC	4012-667	4012-771	4012-745	73.45	5	2591-705	10.00	4060-335	4060-336	159.70	
1 3/8-12	UNF	4013-209	4013-291	4013-270	73.45	5	2591-705	10.00	4060-340	4060-341	159.70	
1 3/8-18	UNEF	4013-389	4013-452	4013-436	95.80	5	2591-705	10.00	4060-345	4060-346	204.40	
1 7/16-12	UN	4013-834	4013-910	4013-891	106.45	5	2591-705	10.00	4060-350	4060-351	225.70	
1 7/16-18	UNEF	4014-014	4014-079	4014-062	100.05	5	2591-705	10.00	4060-355	4060-356	212.90	
1 1/2-6	UNC	4013-917	4014-022	4013-996	85.15	5	2591-705	10.00	4060-360	4060-361	183.10	
1 1/2-12	UNF	4014-459	4014-542	4014-522	85.15	5	2591-705	10.00	4060-365	4060-366	183.10	
1 1/2-18	UNEF	4014-639	4014-704	4014-687	103.25	5	2591-705	10.00	4060-370	4060-371	219.30	

"W" TOLERANCE, CHROME PLATED. MULTIPLE LEADS & OTHER CLASSES - P.O.A.

**Call For Immediate Delivery From Stock On:**



- High Performance
- Standards
- Special Thread
- Acme Thread
- British Thread
- Pipe Thread
- Left Hand



# Thread Ring Gages— UNC, UNF, UN & UNEF

Right Hand - Class X Tolerance



SHORT FORM CERTIFICATION - N/C — LONG FORM - CERTIFIED TO ACTUAL DIMENSIONS - ADDITIONAL CHARGE

SIZE	UNC UNF UNF	GO CLASS 2A	GO CLASS 3A	MEMBERS		PRICE EACH	HOLDERS			SETS		PRICE EACH SET
				NO GO CLASS 2A	NO GO CLASS 3A		SIZE	ORDER NO.	PRICE EACH	2A SET	3A SET	
0-80	UNF	4100-514	4100-519	4100-496	4100-506	\$150.30	1TH	2591-781	\$12.50	4070-005	4070-006	\$300.65
1-64	UNC	4100-623	4100-629	4100-603	4100-614	138.75	1TH	2591-781	12.50	4070-010	4070-011	277.50
1-72	UNF	4100-634	4100-640	4100-615	4100-626	138.75	1TH	2591-781	12.50	4070-015	4070-016	277.50
2-56	UNC	4100-738	4100-744A	4100-717	4100-728	111.00	1TH	2591-781	12.50	4070-020	4070-021	222.00
2-64	UNF	4100-753	4100-759	4100-733	4100-744	111.00	1TH	2591-781	12.50	4070-025	4070-026	222.00
3-48	UNC	4100-848	4100-855	4100-825	4100-838	111.00	1TH	2591-781	12.50	4070-030	4070-031	222.00
3-56	UNF	4100-867	4100-874	4100-845	4100-858	111.00	1TH	2591-781	12.50	4070-035	4070-036	222.00
4-40	UNC	4100-950	4100-958	4100-925	4100-939	98.30	1TH	2591-781	12.50	4070-040	4070-041	196.55
4-48	UNF	4100-978	4100-985	4100-954	4100-967	98.30	1TH	2591-781	12.50	4070-045	4070-046	196.55
5-40	UNC	4101-080	4101-088	4101-054	4101-069	89.05	1TH	2591-781	12.50	4070-050	4070-051	178.05
5-44	UNF	4101-095	4101-102	4101-070	4101-083	89.05	1TH	2591-781	12.50	4070-055	4070-056	178.05
6-32	UNC	4101-169	4101-177	4101-141	4101-156	89.05	1TH	2591-781	12.50	4070-060	4070-061	178.05
6-40	UNF	4101-210	4101-218	4101-184	4101-198	89.05	1TH	2591-781	12.50	4070-065	4070-066	178.05
8-32	UNC	4101-428	4101-437	4101-399	4101-415	89.05	1TH	2591-781	12.50	4070-070	4070-071	178.05
8-36	UNF	4101-452	4101-460	4101-424	4101-439	89.05	1TH	2591-781	12.50	4070-075	4070-076	178.05
10-24	UNC	4101-619	4101-629	4101-586	4101-604	89.05	1TH	2591-781	12.50	4070-080	4070-081	178.05
10-32	UNF	4101-688	4101-697	4101-658	4101-674	89.05	1TH	2591-781	12.50	4070-085	4070-086	178.05
12-24	UNC	4101-879	4101-889	4101-845	4101-863	89.05	1TH	2591-781	12.50	4070-090	4070-091	178.05
12-28	UNF	4101-918	4101-928	4101-866	4101-904	89.05	1TH	2591-781	12.50	4070-095	4070-096	178.05
12-32	UNEF	4101-948	4101-957	4101-917	4101-933	115.65	1TH	2591-781	12.50	4070-100	4070-101	231.25
1/4-20	UNC	4102-164	4102-175	4102-127	4102-147	83.25	2TH	2591-782	14.75	4070-105	4070-106	166.50
1/4-28	UNF	4102-258	4102-268	4102-225	4102-243	83.25	2TH	2591-782	14.75	4070-110	4070-111	166.50
1/4-32	UNEF	4102-287	4102-297	4102-255	4102-273	113.30	2TH	2591-782	14.75	4070-115	4070-116	226.60
5/16-18	UNC	4102-752	4102-764	4102-712	4102-734	83.25	2TH	2591-782	14.75	4070-120	4070-121	166.50
5/16-24	UNF	4102-843	4102-854	4102-806	4102-827	83.25	2TH	2591-782	14.75	4070-125	4070-126	166.50
5/16-32	UNEF	4102-912	4102-922	4102-880	4102-898	113.30	2TH	2591-782	14.75	4070-130	4070-131	226.60
3/8-16	UNC	4103-331	4103-344	4103-287	4103-311	89.05	3TH	2591-783	16.75	4070-135	4070-136	178.05
3/8-24	UNF	4103-468	4103-479	4103-430	4103-450	89.05	3TH	2591-783	16.75	4070-140	4070-141	178.05
3/8-32	UNEF	4103-537	4103-547	4103-503	4103-522	115.65	3TH	2591-783	16.75	4070-145	4070-146	231.25
7/16-14	UNC	4103-897	4103-911	4103-850	4103-876	89.05	3TH	2591-783	16.75	4070-150	4070-151	178.05
7/16-20	UNF	4104-037	4104-050	4103-995	4104-019	89.05	3TH	2591-783	16.75	4070-155	4070-156	178.05
7/16-28	UNEF	4104-132	4104-143	4104-096	4104-116	115.65	3TH	2591-783	16.75	4070-160	4070-161	231.25
1/2-13	UNC	4104-485	4104-500	4104-435	4104-463	97.10	3TH	2591-783	16.75	4070-165	4070-166	194.25
1/2-20	UNF	4104-662	4104-675	4104-619	4104-643	97.10	3TH	2591-783	16.75	4070-170	4070-171	194.25
1/2-28	UNEF	4104-757	4104-768	4104-720	4104-740	122.55	3TH	2591-783	16.75	4070-175	4070-176	245.10
9/16-12	UNC	4105-068	4105-084	4105-016	4105-045	107.55	4TH	2591-784	20.00	4070-180	4070-181	215.05
9/16-18	UNF	4105-250	4105-264	4105-205	4105-230	107.55	4TH	2591-784	20.00	4070-185	4070-186	215.05
9/16-24	UNEF	4105-342	4105-354	4105-303	4105-325	128.35	4TH	2591-784	20.00	4070-190	4070-191	256.70
5/8-11	UNC	4105-644	4105-660	4105-589	4105-619	108.70	4TH	2591-784	20.00	4070-195	4070-196	217.40
5/8-18	UNF	4105-875	4105-889	4105-828	4105-854	108.70	4TH	2591-784	20.00	4070-200	4070-201	217.40
5/8-24	UNEF	4105-967	4105-979	4105-927	4105-949	132.95	4TH	2591-784	20.00	4070-205	4070-206	265.95
11/16-24	UNEF	4106-592	4106-604	4106-552	4106-574	144.55	4TH	2591-784	20.00	4070-210	4070-211	289.05
3/4-10	UNC	4106-832	4106-850	4106-773	4106-806	138.75	4TH	2591-784	20.00	4070-215	4070-216	277.50
3/4-16	UNF	4107-079	4107-094	4107-029	4107-056	138.75	4TH	2591-784	20.00	4070-220	4070-221	277.50
3/4-20	UNEF	4107-162	4107-175	4107-118	4107-142	165.35	4TH	2591-784	20.00	4070-225	4070-226	330.70
13/16-20	UNEF	4107-787	4107-800	4107-743	4107-767	173.45	5TH	2591-785	26.00	4070-230	4070-231	346.90
7/8-9	UNC	4108-009	4108-028	4107-946	4107-981	148.00	5TH	2591-785	26.00	4070-235	4070-236	296.00
7/8-14	UNF	4108-270	4108-286	4108-216	4108-245	148.00	5TH	2591-785	26.00	4070-240	4070-241	296.00
7/8-20	UNEF	4108-412	4108-425	4108-368	4108-392	175.75	5TH	2591-785	26.00	4070-245	4070-246	351.50
15/16-20	UNEF	4109-036	4109-050	4108-991	4109-016	181.55	5TH	2591-785	26.00	4070-250	4070-251	363.05
1/8	UNC	4109-168	4109-188	4109-100	4109-137	181.55	5TH	2591-785	26.00	4070-255	4070-256	363.05
1-12	UNF	4109-441	4109-459	4109-382	4109-415	181.55	5TH	2591-785	26.00	4070-260	4070-261	363.05
1-14	UNF	4109-519	4109-536	4109-463	4109-494	181.55	5TH	2591-785	26.00	4070-265	4070-266	363.05
1-20	UNEF	4109-661	4109-675	4109-616	4109-641	202.35	5TH	2591-785	26.00	4070-270	4070-271	404.70
1 1/16-12	UN	4110-067	4110-084	4110-010	4110-042	237.05	5TH	2591-785	26.00	4070-275	4070-276	474.05

"W" TOLERANCE, CHROME PLATED MULTIPLE LEADS & OTHER CLASSES - P.O.A.

(Continued)

# Thread Ring Gages— UNC, UNF, UN & UNEF



Right Hand – Class X Tolerance

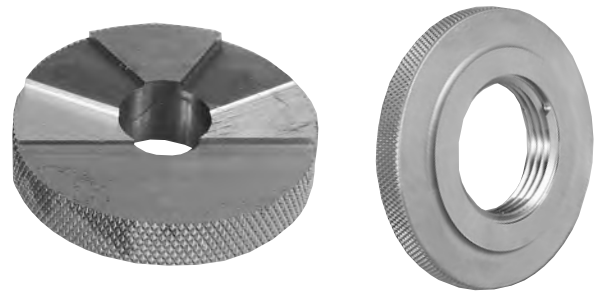


SIZE	UNC UNF NEF	MEMBERS					PRICE EACH	HOLDERS			SETS		PRICE EACH SET
		GO CLASS 2A	GO CLASS 3A	NO GO CLASS 2A	NO GO CLASS 3A	PRICE EACH		SIZE	ORDER NO.	PRICE EACH	2A SET	3A SET	
1 1/16-18	UNEF	4110-250	4110-264	4110-203	4110-228A	\$212.75	5TH	2591-785	\$26.00	4070-280	4070-281	\$425.50	
1 1/8-7	UNC	4110-300	4110-322	4110-228	4110-268	211.60	5TH	2591-785	26.00	4070-285	4070-286	423.20	
1 1/8-12	UNF	4110-691	4110-709	4110-631	4110-664	211.60	5TH	2591-785	26.00	4070-290	4070-291	423.20	
1 1/8-18	UNEF	4110-875	4110-889	4110-828	4110-853	224.30	5TH	2591-785	26.00	4070-295	4070-296	448.60	
1 3/16-12		4111-317	4111-334	4111-259	4111-291	253.20	5TH	2591-785	26.00	4070-300	4070-301	506.45	
1 3/16-18	UNEF	4111-499	4111-514	4111-450	4111-478	224.30	5TH	2591-785	26.00	4070-305	4070-306	448.60	
1 1/4-7	UNC	4111-550A	4111-572	4111-476	4111-517	232.40	6TH	2591-786	34.50	4070-310	4070-311	464.80	
1 1/4-12	UNF	4111-941	4111-959	4111-879	4111-913	232.40	6TH	2591-786	34.50	4070-315	4070-316	464.80	
1 1/4-18	UNEF	4112-124	4112-139	4112-075	4112-103	237.05	6TH	2591-786	34.50	4070-320	4070-321	474.05	
1 5/16-12	UN	4112-567	4112-584	4112-509	4112-541	255.55	6TH	2591-786	34.50	4070-325	4070-326	511.05	
1 5/16-18	UNEF	4112-749	4112-764	4112-700	4112-728	241.65	6TH	2591-786	34.50	4070-330	4070-331	483.30	
1 3/8-6	UNC	4112-643	4112-667	4112-563	4112-607	241.65	6TH	2591-786	34.50	4070-335	4070-336	483.30	
1 3/8-12	UNF	4113-190	4113-209	4113-127	4113-162	241.65	6TH	2591-786	34.50	4070-340	4070-341	483.30	
1 3/8-18	UNEF	4113-374	4113-389	4113-325	4113-353	260.15	6TH	2591-786	34.50	4070-345	4070-346	520.30	
1 7/16-12	UN	4113-816	4113-834	4113-757	4113-790	275.20	6TH	2591-786	34.50	4070-350	4070-351	550.40	
1 7/16-18	UNEF	4113-999	4114-014	4113-949	4113-977	264.80	6TH	2591-786	34.50	4070-355	4070-356	529.55	
1 1/2-6	UNC	4113-893	4113-917	4113-812	4113-856	264.80	6TH	2591-786	34.50	4070-360	4070-361	529.55	
1 1/2-12	UNF	4114-440	4114-459	4114-376	4114-411	264.80	6TH	2591-786	34.50	4070-365	4070-366	529.55	
1 1/2-18	UNEF	4114-624	4114-639	4114-574	4114-602	278.65	6TH	2591-786	34.50	4070-370	4070-371	557.30	

SIZE	NPT L1		NPTF L1		NPTF L2		NPTF 6 STEP	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH
1/16-27	4130-101	\$144.55	4130-201	\$150.30	4130-202	\$213.90	4130-203	\$248.60
1/8-27	4130-106	99.45	4130-206	104.05	4130-207	205.80	4130-208	248.60
1/4-18	4130-111	112.15	4130-211	126.05	4130-212	213.90	4130-213	248.60
3/8-18	4130-116	126.05	4130-216	132.95	4130-217	225.45	4130-218	248.60
1/2-14	4130-121	138.75	4130-221	144.55	4130-222	231.25	4130-223	248.60
3/4-14	4130-126	156.10	4130-226	165.35	4130-227	260.15	4130-228	277.50
1-11 1/2	4130-131	179.20	4130-231	190.80	4130-232	277.50	4130-233	289.05
1 1/4-11 1/2	4130-136	190.80	4130-236	202.35	4130-237	300.65	4130-238	312.20
1 1/2-11 1/2	4130-141	231.25	4130-241	242.80	4130-242	335.30	4130-243	346.90
2-11 1/2	4130-146	277.50	4130-246	294.85	4130-247	387.35	4130-248	398.90
2 1/2-8	4130-151	329.55	4130-251	346.90	4130-252	468.30	4130-253	474.05
3-8	4130-156	398.90	4130-256	427.80	4130-257	549.20	4130-258	578.15
3 1/2	4130-161	560.80						
4-8	4130-166	647.50						
5-8	4130-171	763.10						
6-8	4130-176	913.45						

**ANPT ALSO AVAILABLE**

## Taper Pipe Ring Gages



SIZE	NPT L1		NPTF L1		NPTF L3		NPTF 6 STEP		HANDLE SIZE	HANDLE	
	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH	ORDER NO.	PRICE EACH		ORDER NO.	PRICE EACH
1/16-27	4120-101	\$ 76.30	4120-201	\$ 101.75	4120-202	\$ 101.75	4120-203	\$156.10	1	2591-701	\$8.00
1/8-27	4120-106	56.65	4120-206	76.30	4120-207	76.30	4120-208	156.10	2	2591-702	8.00
1/4-18	4120-111	63.60	4120-211	83.25	4120-212	83.25	4120-213	156.10	3	2591-703	8.00
3/8-18	4120-116	69.35	4120-216	101.75	4120-217	101.75	4120-218	156.10	3	2591-703	8.00
1/2-14	4120-121	76.30	4120-221	115.65	4120-222	115.65	4120-223	156.10	4	2591-704	9.00
3/4-14	4120-126	89.05	4120-226	127.20	4120-227	127.20	4120-228	167.65	4	2591-704	9.00
1-11 1/2	4120-131	101.75	4120-231	146.85	4120-232	146.85	4120-233	179.20	5	2591-705	10.00
1 1/4-11 1/2	4120-136	115.65	4120-236	161.85	4120-237	161.85	4120-238	198.85	5	2591-705	10.00
1 1/2-11 1/2	4120-141	127.20	4120-241	179.20	4120-242	179.20	4120-243	219.70	5	2591-705	10.00
2-11 1/2	4120-146	153.80	4120-246	219.70	4120-247	219.70	4120-248	307.55	5	2591-705	10.00
2 1/2-8	4120-151	185.00	4120-251	323.75	4120-252	323.75	4120-253	462.50	6	2591-760	14.00
3-8	4120-156	231.25	4120-256	358.45	4120-257	358.45	4120-258	502.95	6	2591-760	14.00
3 1/2-8	4120-161	346.90							7	2591-770	16.00
4-8	4120-166	381.55							7	2591-770	16.00
5-8	4120-171	514.55							7	2591-770	16.00
6-8	4120-176	641.70							7	2591-770	16.00

**ANPT ALSO AVAILABLE**

## Taper Pipe Plug Gages



# Metric Plug & Ring Gages— Right Hand



Plugs - 6H Tolerance  
Rings - 6G Tolerance



SIZE	PLUG MEMBER			HANDLE - TAPER LOCK			RING MEMBER			HOLDERS		
	BU ORDER NO.	NU BU ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH	BU ORDER NO.	NU BU ORDER NO.	PRICE EACH	SIZE	ORDER NO.	PRICE EACH
M 1.6 x 0.35	4700-541	4700-574	\$44.70	000	2591-698	\$ 9.00	4600-533	4600-509	\$163.05	1 TH	2591-781	\$12.50
M 1.8 x 0.35	4700-620	4700-622	44.70	000	2591-698	9.00	4600-611	4600-588	163.05	1 TH	2591-781	12.50
M 2.0 x 0.40	4700-686	4700-720	44.70	000	2591-698	9.00	4600-677	4600-652	134.15	1 TH	2591-781	12.50
M 2.2 x 0.45	4700-752	4700-788	44.70	000	2591-698	9.00	4600-743	4600-716	134.15	1 TH	2591-781	12.50
M 2.5 x 0.45	4700-870	4700-906	40.45	000	2591-698	9.00	4600-861	4600-834	134.15	1 TH	2591-781	12.50
M 3.0 x 0.50	4701-054	4701-092	40.45	00	2591-699	8.00	4601-045	4601-016	115.65	1 TH	2591-781	12.50
M 3.5 x 0.60	4701-225	4701-268	36.20	00	2591-699	8.00	4601-216	4601-183	114.45	1 TH	2591-781	12.50
M 4.0 x 0.70	4701-396	4701-442	36.20	00	2591-699	8.00	4601-387	4601-352	114.45	1 TH	2591-781	12.50
M 4.5 x 0.75	4701-580	4701-626	36.20	00	2591-699	8.00	4601-571	4601-536	114.45	1 TH	2591-781	12.50
M 5.0 x 0.80	4701-764	4701-812	36.20	0	2591-700	8.00	4601-754	4601-717	114.45	1 TH	2591-781	12.50
M 6.0 x 1.00	4702-107	4702-165	28.75	1	2591-701	8.00	4602-096	4602-052	99.45	1 TH	2591-781	12.50
M 7.0 x 1.00	4702-500	4702-559	28.75	1	2591-701	8.00	4602-489	4602-446	99.45	1 TH	2591-781	12.50
M 8.0 x 1.25	4702-830	4702-892	28.75	1	2591-701	8.00	4602-818	4602-773	99.45	2 TH	2591-782	14.75
M 8.0 x 1.00	4702-894	4702-952	28.75	1	2591-701	8.00	4602-883	4602-840	99.45	2 TH	2591-782	14.75
M 10.0 x 1.25	4703-618	4703-680	31.95	2	2591-702	8.00	4603-506	4603-560	108.70	3 TH	2591-783	16.75
M 10.0 x 1.50	4703-554	4703-624	31.95	2	2591-702	8.00	4603-540	4603-489	108.70	3 TH	2591-783	16.75
M 12.0 x 1.75	4704-277	4704-355	34.05	2	2591-702	8.00	4604-263	4604-205	116.80	3 TH	2591-783	16.75
M 12.0 x 1.25	4704-405	4704-475	34.05	2	2591-702	8.00	4604-393	4604-342	116.80	3 TH	2591-783	16.75
M 14.0 x 2.00	4705-001	4705-083	37.25	3	2591-703	8.00	4604-985	4604-923	121.40	3 TH	2591-783	16.75
M 14.0 x 1.50	4705-129	4705-203	37.25	3	2591-703	8.00	4605-115	4605-061	121.40	3 TH	2591-783	16.75
M 16.0 x 2.00	4705-788	4705-871	38.30	3	2591-703	8.00	4605-772	4605-710	121.40	4 TH	2591-784	20.00
M 16.0 x 1.50	4705-916	4705-990	38.30	3	2591-703	8.00	4605-903	4605-849	121.40	4 TH	2591-784	20.00
M 18.0 x 2.50	4706-448	4706-535	42.60	3	2591-703	8.00	4606-430	4605-364	168.80	4 TH	2591-784	20.00
M 18.0 x 1.50	4706-704	4706-777	42.60	3	2591-703	8.00	4606-690	4606-636	168.80	4 TH	2591-784	20.00
M 20.0 x 2.50	4707-235	4707-322	48.95	3	2591-703	8.00	4607-218	4607-152	208.10	4 TH	2591-784	20.00
M 20.0 x 1.50	4707-491	4707-565	48.95	3	2591-703	8.00	4607-477	4607-423	208.10	4 TH	2591-784	20.00
M 22.0 x 2.50	4708-023	4708-110	50.05	4	2591-704	9.00	4608-005	4607-939	213.90	4 TH	2591-784	20.00
M 22.0 x 1.50	4708-278	4708-352	50.05	4	2591-704	9.00	4608-265	4608-211	213.90	4 TH	2591-784	20.00
M 24.0 x 3.00	4708-682	4708-785	53.25	4	2591-704	9.00	4608-662	4608-584	242.80	5 TH	2591-785	26.00
M 24.0 x 2.00	4708-938	4709-025	53.25	4	2591-704	9.00	4608-922	4608-856	242.80	5 TH	2591-785	26.00
M 27.0 x 3.00	4709-863	4709-966	73.45	4	2591-704	9.00	4609-843	4609-765	237.05	5 TH	2591-785	26.00
M 27.0 x 2.00	4710-119	4710-206	73.45	4	2591-704	9.00	4610-103	4610-037	237.05	5 TH	2591-785	26.00
M 30.0 x 3.50	4710-917	4711-026	111.75	5	2591-705	10.00	4610-895	4610-812	304.10	5 TH	2591-785	26.00
M 30.0 x 2.00	4711-300	4711-387	89.40	5	2591-705	10.00	4611-284	4613-218	253.20	5 TH	2591-785	26.00
M 33.0 x 3.50	4712-098	4712-207	93.70	5	2591-705	10.00	4612-076	4611-993	289.05	6 TH	2591-786	34.50
M 33.0 x 2.00	4712-481	4712-508	93.70	5	2591-705	10.00	4612-465	4612-399	265.95	6 TH	2591-786	34.50
M 36.0 x 4.00	4713-151	4713-268	121.35	5	2591-705	10.00	4613-126	4613-039	320.30	6 TH	2591-786	34.50
M 36.0 x 3.00	4713-406	4713-510	106.45	5	2591-705	10.00	4613-386	4613-309	289.05	6 TH	2591-786	34.50
M 39.0 x 4.00	4714-332	4714-449	152.25	5-1/2	2591-755	13.00	4614-307	4614-220	327.20	6 TH	2591-786	34.50
M 39.0 x 3.00	4714-587	4714-691	133.05	5-1/2	2591-755	13.00	4614-568	4614-490	312.20	6 TH	2591-786	34.50

"W" TOLERANCE, CHROME PLATED MULTIPLE LEADS & OTHER CLASSES - P.O.A.

**IN STOCK!**

- Special Threads • NC & NF Left Hand •
- Setting Plugs • All Made In The U.S.A. •

# Pin Gages

**NEW ITEM**

## Class ZZ Pin Sets

Make quick and accurate measurements with Vermont Gage pin gages. Measure hole sizes. Calculate distances between holes. Gage slot widths. Check locations. Use for Go/No-Go gaging. Size in micrometers and snap gages. These economical gages are a must for anyone making frequent and varied measurements.



RANGE	NO. OF GAGES	ORDER NO. (PLUS)	ORDER NO. (MINUS)	PRICE EACH
<b>INCH SETS (.001 INCREMENTS)</b>				
.0060" to .0600"	55	3862-030	3862-031	\$ 85.00
.0065" to .0605"	55	3862-032	3862-033	85.00
.0110" to .0600"	50	3862-000	3862-001	65.00
.0115" to .0605"	50	3862-002	3862-003	65.00
.0110" to .2500"	240	3862-034	3862-035	200.00
.0115" to .2505"	240	3862-036	3862-037	200.00
.0610" to .2500"	190	3862-006	3862-007	145.00
.0615" to .2505"	190	3862-008	3862-009	145.00
.2510" to .5000"	250	3862-012	3862-013	215.00
.2515" to .5005"	250	3862-014	3862-015	215.00
.5010" to .6250"	125	3862-018	3862-019	250.00
.5015" to .6255"	125	3862-038	3862-039	250.00
.6260" to .7500"	125	3862-022	3862-023	275.00
.6265" to .7505"	125	3862-040	3862-041	275.00
.7510" to .8320"	82	3862-024	3862-025	475.00
.7515" to .8325"	82	3862-042	3862-043	475.00
.8330" to .9160"	84	3862-026	3862-027	550.00
.8335" to .9165"	84	3862-044	3862-045	550.00
.9170" to 1.0000"	84	3862-028	3862-029	575.00
.9175" to 1.0005"	84	3862-046	3862-047	575.00

RANGE	NO. OF GAGES	ORDER NO. (PLUS)	ORDER NO. (MINUS)	PRICE EACH
<b>METRIC SETS (.05MM INCREMENTS)</b>				
0.20mm to 1.28mm	55	3862-048	3862-049	\$ 80.00
0.21mm to 1.29mm	55	3862-050	3862-051	80.00
1.30mm to 4.98mm	185	3862-052	3862-053	170.00
1.31mm to 4.99mm	185	3862-054	3862-055	170.00
5.00mm to 9.98mm	250	3862-056	3862-057	265.00
5.01mm to 9.99mm	250	3862-058	3862-059	265.00
10.00mm to 13.98mm	200	3862-060	3862-061	230.00
10.01mm to 13.99mm	200	3862-062	3862-063	230.00
14.00mm to 16.48mm	125	3862-064	3862-065	290.00
14.01mm to 16.49mm	125	3862-066	3862-067	290.00
16.50mm to 18.98mm	125	3862-068	3862-069	375.00
16.51mm to 18.99mm	125	3862-070	3862-071	375.00
19.00mm to 20.98mm	100	3862-072	3862-073	650.00
19.01mm to 20.99mm	100	3862-074	3862-075	650.00
21.00mm to 22.48mm	75	3862-076	3862-077	550.00
21.01mm to 22.49mm	75	3862-078	3862-079	550.00
22.50mm to 23.98mm	75	3862-080	3862-081	575.00
22.51mm to 23.99mm	75	3862-082	3862-083	575.00
24.00mm to 25.48mm	75	3862-084	3862-085	600.00
24.01mm to 25.49mm	75	3862-086	3862-087	600.00



- FEATURES:**
- Class ZZ
  - Go (Plus) or NoGo (Minus) (.0002" or .005mm tolerance)
  - NIST traceable
  - .0005", or .02mm sizes
  - .001" or .02mm set increments
  - 52100 tool steel; 60/62 Rc
  - 2" long
  - 10 microinch finish or better
  - within .0001" round
  - marked with size and direction of tolerance on gages over .060"
  - Certificate of Accuracy included

## Black Guard™ Pin Sets

BLACK GUARD™ black oxide treatment typically penetrates .00004" to .00006" deep, which will visually reveal wear patterns allowing the inspector to calibrate or replace gage pins more effectively. BLACK GUARD™ treatment will help prevent rust & corrosion, which will extend the useful life of the gage.

- PREVENTS RUST & CORROSION
- BRIGHT CLEAR MARKING
- VISIBLE WEAR INDICATION
- LONGER GAGE LIFE



## Class ZZ Replacement Pins

**Keep old sets in compliance!**  
Replace missing, damaged, or worn-out Class ZZ gages from your existing sets and libraries. These replacement pins are perfect for updating your old sets, and bringing them back into compliance. Each pin is individually marked with size and direction of tolerance. Packaged with a rust preventative, these pins maintain an indefinite shelf life; so keep several of your most used sizes on hand! Each pin is NIST traceable, and includes a Certificate of Accuracy.

RANGE	NO. OF GAGES	ORDER NO. (PLUS)	ORDER NO. (MINUS)	PRICE EACH
<b>BLACK GUARD SETS</b>				
.0060" to .0600"	55	3865-027	3865-028	\$ 85.00
.0065" to .0605"	55	3865-029	3865-030	85.00
.0110" to .0600"	50	3865-005	3865-006	65.00
.0115" to .0605"	50	3865-007	3865-008	65.00
.0110" to .2500"	240	3865-031	3865-032	200.00
.0115" to .2505"	240	3865-033	3865-034	200.00
.0610" to .2500"	190	3865-009	3865-010	145.00
.0615" to .2505"	190	3865-011	3865-012	145.00
.2510" to .5000"	250	3865-013	3865-014	215.00
.5010" to .6250"	125	3865-017	3865-018	250.00

- FEATURES:**
- Class ZZ (.0002" or .005mm tolerance)
  - Go (Plus) or NoGo (Minus)
  - NIST traceable
  - .0005", or .02mm sizes
  - .001" or .02mm set increments
  - 52100 tool steel; 60/62 Rc
  - 2" long
  - 10 microinch finish or better
  - within .0001" round
  - marked with size and direction of tolerance on gages over .060"
  - Certificate of Accuracy included
  - Registered ISO 9002

- FEATURES:**
- Class ZZ (.0002" or .005mm tolerance)
  - Go (Plus) or NoGo (Minus)
  - NIST traceable
  - .0005", or .02mm sizes
  - .001" or .02mm set increments
  - 52100 tool steel; 60/62 Rc
  - 2" long
  - 10 microinch finish or better
  - Within .0001" round
  - Marked with size and direction of tolerance on gages over .060"
  - Certificate of Accuracy included
  - Registered ISO 9002

## Pittsburg Economy Steel Gage Pin Sets

- FEATURES:**
- .0002 Accuracy – Specify Plus or Minus tolerances
  - Centerless lapped with a 10 Micro finish or better
  - Size etched on each member
  - Comes standard with attractive hardwood case

SIZE	RANGE	MEMBERS IN SET	PLUS .0002 IN	MINUS .0002 IN	PRICE EACH SET
H1	.061 to .250	190	3100-596	3100-595	\$ 72.50
H2	.251 to .500	250	3100-598	3100-597	110.00
H3	.501 to .625	125	3100-600	3100-599	130.00
H4	.626 to .750	125	3100-602	3100-601	145.00
H5	.751 to .832	82	3100-604	3100-603	250.00
H6	.833 to .916	84	3100-606	3100-605	300.00
H7	.917 to 1.000	84	3100-608	3100-607	315.00



<b>PLUS ORDER RANGE</b>				
RANGE (INCH)	ORDER NO.	TO	ORDER NO.	
.0040 to .0105"	3860-004	\$ 5.50	3860-0105	\$ 5.50
.0110 to .0605"	3860-011	2.50	3860-0605	2.50
.0610 to .5005"	3860-061	2.25	3860-5005	2.25
.5010 to .6255"	3860-501	3.00	3860-6255	3.00
.6260 to .7505"	3860-626	4.50	3860-7505	4.50
.7510 to .8325"	3860-751	6.50	3860-8325	6.50
.8330 to .9165"	3860-833	7.75	3860-9165	7.75
.9170 to 1.0005"	3860-917	8.00	3860-9999	8.00
<b>MINUS ORDER RANGE</b>				
.0040 to .0105"	3861-004	\$ 5.50	3861-0105	\$ 5.50
.0110 to .0605"	3861-011	2.50	3861-0605	2.50
.0610 to .5005"	3861-061	2.25	3861-5005	2.25
.5010 to .6255"	3861-501	3.00	3861-6255	3.00
.6260 to .7505"	3861-626	4.50	3861-7505	4.50
.7510 to .8325"	3861-751	6.50	3861-8325	6.50
.8330 to .9165"	3861-833	7.75	3861-9165	7.75
.9170 to 1.0005"	3861-917	8.00	3861-9999	8.00

BLACK GUARD™ PINS — ALSO AVAILABLE



# Plug & Ring Gages

## Reversible Gage Handles & Bushings

\*Inch Handles - Light Blue / Metric Handles - Yellow

SINGLE-END HANDLE			DOUBLE-END HANDLE			
RANGE	HANDLE NO.	ORDER NO.	PRICE EACH	HANDLE NO.	ORDER NO.	PRICE EACH
<b>INCH</b>						
.0040" to .0750"	1WSE	3865-101	\$ 4.38	1WDE	3865-111	\$ 4.92
.0751" to .1800"	2WSE	3865-102	4.92	2WDE	3865-112	5.47
.1801" to .2810"	3WSE	3865-103	5.47	3WDE	3865-113	6.02
.2811" to .4060"	4WSE	3865-104	6.02	4WDE	3865-114	6.56
.4061" to .5100"	5WSE	3865-105	8.20	5WDE	3865-115	8.75
.5101" to .6350"	6WSE	3865-106	10.94	6WDE	3865-116	12.03
.6351" to .7600"	7WSE	3865-107	12.03	7WDE	3865-117	13.13
.7601" to 1.0100"	8WSE	3865-108	19.41	8WDE	3865-118	20.23
<b>METRIC (mm)</b>						
10mm to 1.90mm	1WSE	3865-121	\$ 4.38	1WDE	3865-131	\$ 4.92
1.91 to 4.56	2WSE	3865-122	4.92	2WDE	3865-132	5.47
4.57 to 7.14	3WSE	3865-123	5.47	3WDE	3865-133	6.02
7.15 to 10.30	4WSE	3865-124	6.02	4WDE	3865-134	6.56
10.31 to 12.94	5WSE	3865-125	8.20	5WDE	3865-135	8.75
12.95 to 16.12	6WSE	3865-126	10.94	6WDE	3865-136	12.03
16.13 to 19.30	7WSE	3865-127	12.03	7WDE	3865-137	13.13
19.31 to 25.64	8WSE	3865-128	19.41	8WDE	3865-138	20.23

### Custom Taperlocks



Change gage members quickly. When you need to gage larger diameters, and need to change or replace gage members often, Taperlock plug gages are the perfect choice. To change gage members, simply pop-out existing members and press fit new members in your Taperlock handle. Each Taperlock handle size covers a wide range of gage sizes. Custom plug gage assemblies can be marked with your tool number. Go/NoGo assemblies include one line (up to 15 characters) of custom marking. These Taperlock plug gages are available up to 1.5" in all class tolerances and materials to meet unique requirements.

**P.O.A.**

#### FEATURES:

- Class XX, X, Y, Z, or ZZ
- Go, NoGo tolerances
- NIST traceable
- Tool Steel; 60/62 Rc (Cold Stabilized)
- Chrome Plated Tool Steel; 70.72 Rc
- 2 microinch finish or better on Class XX, X
- Handles custom marked (1 line, up to 15 characters)
- Inch Handles: Light Blue, Metric: Yellow
- Certificate of Accuracy included

### Custom Trilocks



For large dimensions. When you need to inspect large diameters, Trilock plug gages are the best solution. Much like Reversible plug gages, when one end wears out, simply turn the member around and continue gaging. This significantly increases the gaging life of your gage. Members are securely attached to your Trilock handle with mounting bolts. Custom plug gage assemblies can be marked with your tool number. Go/NoGo assemblies include one line (up to 15 characters) of custom marking. These Trilock plug gages are available up to 4" in all class tolerances and materials to meet unique requirements.

**P.O.A.**

#### FEATURES:

- Class XX, X, Y, Z, or ZZ
- Go, NoGo tolerances
- NIST traceable
- Tool Steel; 60/62 Rc (Cold Stabilized)
- Chrome Plated Tool Steel; 70.72 Rc
- 2 microinch finish or better on Class XX, X
- Handles custom marked (1 line, up to 15 characters)
- Inch Handles: Light Blue, Metric: Yellow
- Certificate of Accuracy included

SIZE RANGE
.7600 to 9470" (19.30 to 24.05mm)
.9471 to 1.1350" (24.06 to 28.83mm)
1.1351 to 1.5100" (28.84 to 38.35mm)
1.5101 to 2.0100" (38.36 to 51.05mm)
2.0101 to 2.5100" (51.06 to 63.75mm)
2.5101 to 3.0100" (63.76 to 76.45mm)
3.0101 to 3.5100" (76.46 to 89.15mm)
3.5101 to 4.0100" (89.16 to 101.85mm)
4.0101 to 4.5100" (101.86 to 114.55mm)
4.5101 to 5.0100" (114.56 to 127.25mm)
5.0101 to 5.5100" (127.26 to 139.95mm)
5.5101 to 6.0100" (139.96 to 152.65mm)

**NEW ITEM**

**Vermont Gage**

#### BUSHING PRICES

Up to .5100" — \$ 2.00  
.5101" and Up — \$ 2.75

### Bushings for Reversible Handles

RANGE	ORDER NO.	RANGE	ORDER NO.	RANGE	ORDER NO.
.0040" to .0060"	3865-201	.1661" to .1730"	3865-230	.4501" to .4650"	3865-259
.0061" to .0065"	3865-202	.1731" to .1800"	3865-231	.4651" to .4800"	3865-260
.0101" to .0130"	3865-203	.1801" to .1880"	3865-232	.4801" to .4950"	3865-261
.0131" to .0150"	3865-204	.1881" to .1960"	3865-233	.4951" to .5100"	3865-262
.0151" to .0200"	3865-205	.1961" to .2040"	3865-234	.5101" to .5320"	3865-263
.0201" to .0250"	3865-206	.2041" to .2120"	3865-235	.5321" to .5470"	3865-264
.0251" to .0300"	3865-207	.2121" to .2200"	3865-236	.5471" to .5630"	3865-265
.0301" to .0350"	3865-208	.2201" to .2280"	3865-237	.5631" to .5790"	3865-266
.0351" to .0400"	3865-209	.2281" to .2360"	3865-238	.5791" to .5940"	3865-267
.0401" to .0450"	3865-210	.2361" to .2440"	3865-239	.5941" to .6100"	3865-268
.0451" to .0500"	3865-211	.2441" to .2520"	3865-240	.6101" to .6250"	3865-269
.0501" to .0550"	3865-212	.2521" to .2610"	3865-241	.6251" to .6350"	3865-270
.0551" to .0600"	3865-213	.2611" to .2710"	3865-242	.6351" to .6560"	3865-271
.0601" to .0650"	3865-214	.2711" to .2810"	3865-243	.6561" to .6720"	3865-272
.0651" to .0700"	3865-215	.2811" to .2910"	3865-244	.6721" to .6880"	3865-273
.0700" to .0750"	3865-216	.2911" to .3010"	3865-245	.6881" to .7040"	3865-274
.0751" to .0820"	3865-217	.3011" to .3110"	3865-246	.7041" to .7190"	3865-275
.0821" to .0890"	3865-218	.3111" to .3210"	3865-247	.7191" to .7350"	3865-276
.0891" to .0960"	3865-219	.3211" to .3310"	3865-248	.7351" to .7500"	3865-277
.0961" to .1030"	3865-220	.3311" to .3410"	3865-249	.7501" to .7600"	3865-278
.1031" to .1100"	3865-221	.3411" to .3510"	3865-250	.7601" to .7810"	3865-279
.1101" to .1170"	3865-222	.3511" to .3610"	3865-251	.7811" to .8120"	3865-280
.1171" to .1240"	3865-223	.3611" to .3710"	3865-252	.8121" to .8430"	3865-281
.1241" to .1310"	3865-224	.3711" to .3820"	3865-253	.8431" to .8750"	3865-282
.1311" to .1380"	3865-225	.3821" to .3940"	3865-254	.8751" to .9060"	3865-283
.1380" to .1450"	3865-226	.3941" to .4060"	3865-255	.9061" to .9370"	3865-284
.1451" to .1520"	3865-227	.4061" to .4200"	3865-256	.9371" to .9680"	3865-285
.1521" to .1590"	3865-228	.4201" to .4350"	3865-257	.9681" to 1.0000"	3865-286
.1591" to .1660"	3865-229	.4351" to .4500"	3865-258		

## Standard Class X-Plus Plug Gages

RANGE (INCH)	PRICE EACH
.0040 to .0150"	\$ 18.85
.0151 to .0250"	18.85
.0251 to .1100"	15.85
.1101 to .3900"	11.75
.3901 to .6350"	13.65
.6351 to .8350"	18.05
.8351 to 1.0000"	19.70

Sizes up to 1". Use as masters to calibrate measuring equipment or to gage parts directly. Either way, these Class X (+.00004", -.0000") plug gages are accurate, cost effective measurement standards, perfect for both the shop floor and Metrology laboratory. Included with Certificate of Accuracy. Available with Certificate of Calibration traceable to NIST.

#### FEATURES:

- Class X • 2" long • NIST traceable
- Single (GO) tolerance (+.00004, -.00000)
- .0005", or .02mm sizes
- Sizes available every.0001", to 1.0000"
- Tool Steel; 60/62 Rc (Cold Stabilized)
- 2 microinch finish or better
- within .00002" round • Certificate of Accuracy included



## Ring Gages

SIZE RANGE
.0150 to .0250" (0.38 to 0.64mm)
.0251 to .0400" (0.65 to 1.02mm)
.0401 to .0700" (1.03 to 1.78mm)
.0701 to .1500" (1.79 to 3.81mm)
.1501 to .2300" (3.82 to 5.84mm)
.2301 to .3650" (5.85 to 9.27mm)
.3651 to .5100" (9.28 to 12.95mm)
.5101 to .8250" (12.96 to 20.95mm)
.8251 to 1.1350" (20.96 to 28.83mm)
1.1351 to 1.5100" (28.84 to 38.35mm)
1.5101 to 2.0100" (38.36 to 51.05mm)
2.0101 to 2.5100" (51.06 to 63.75mm)
2.5101 to 3.0100" (63.76 to 76.45mm)
3.0101 to 3.5100" (76.46 to 89.15mm)
3.5101 to 4.0100" (89.16 to 101.85mm)
4.0101 to 4.7600" (101.86 to 120.90mm)
4.7601 to 5.5100" (120.91 to 139.85mm)
5.5101 to 6.2600" (139.86 to 159.00mm)
6.2601 to 7.0100" (159.01 to 178.05mm)
7.0101 to 7.7600" (178.06 to 197.10mm)
7.7601 to 8.5100" (197.11 to 216.15mm)
8.5101 to 9.2600" (216.16 to 235.20mm)
9.2601 to 10.0100" (235.21 to 254.25mm)
10.0101 to 10.7600" (254.26 to 273.30mm)
10.7601 to 11.5100" (273.31 to 292.35mm)

For Masters and Go/NoGo gaging. Use Vermont Gage ring gages to efficiently inspect external dimensions of manufactured parts. With a Go and NoGo ring, an inspector can quickly pass/fail without taking time-consuming readings from an indicator. These ring gages are also perfect for use as masters for bore gages and internal micrometers.

By using the same size master ring gage, you eliminate lead error when making measurements. A Certificate of Accuracy accompanies every gage, assuring size.



#### FEATURES:

- Steel or Chrome
- Class XX, X, Y, Z, or ZZ
- Go, NoGo tolerances
- NIST traceable
- Tool Steel; 60/62 Rc (Cold Stabilized)
- Chrome Plated Tool Steel; 70.72 Rc
- 2 microinch finish or better on Class XX, X
- Handles custom marked (1 line, up to 15 characters)
- Inch Handles: Light Blue, Metric: Yellow
- Certificate of Accuracy included

**P.O.A.**

# Measuring Instruments



## Outside Micrometers

Made In China

- Light, smooth operation for convenient single hand operation
- Flatness: .00003" Parallelism: 0.00005" for 1" model
- Carbide tipped with ratchet stop and locking lever
- Spindle and anvil fully hardened and precision ground
- Clear graduations on hard chrome satin finish sleeve and thimble
- Standards included for 1-2" and above, and in sets
- Supplied in specially fitted case, with spanner wrench
- Heat insulated grip up to 4", lightweight tubular frame 5" and above



### Inch Sizes

2

RANGE	GRAD.	ORDER NO.	PRICE
0-1"	.0001"	3100-330	\$16.00
1-2"	.0001"	3100-331	18.50
2-3"	.0001"	3100-332	21.25
3-4"	.0001"	3100-333	24.00
4-5"	.0001"	3100-334	27.50
5-6"	.0001"	3100-335	30.00
6-7"	.0001"	3100-336	45.00
7-8"	.0001"	3100-337	49.00
8-9"	.0001"	3100-338	52.00
9-10"	.0001"	3100-339	55.50
10-11"	.0001"	3100-340	57.50
11-12"	.0001"	3100-341	60.25



### Inch Sets

RANGE	GRAD.	ORDER NO.	PRICE
0-3"	.0001"	3100-342	\$ 55.00
0-4"	.0001"	3100-343	69.00
0-6"	.0001"	3100-344	139.00
6-12"	.0001"	3100-345	325.00
0-12"	.0001"	3100-346	450.00



## Outside Micrometers

w/ Insulated Frames

### FEATURES:

- Complete in "Shop Hardened" molded case
- Sizes over 1" supplied with standards
- Reading: .0001"
- Carbide tipped measuring faces.
- Ratchet thimble and locking nut.
- Microfine graduations.
- Meets or exceeds federal specs.

MODEL NUMBER	DESCRIPTION	PRICE
52-229-201	0-1" Outside Micrometer	\$25.75
52-229-202	1-2" Outside Micrometer	32.20
52-229-203	2-3" Outside Micrometer	37.90
52-229-213	0-3" Outside Micrometer Set	94.70

2



## Valueline Micrometers

7

### Features:

- Satin-chrome, fixed/friction thimble
- .0001" reading
- Straight-line graduations
- Spindle lock, Black enamel frame
- Tungsten carbide tipped anvils
- Meets Federal specs

ORDERING NUMBER	RANGE	B&S NUMBER	PRICE EACH
7125-943	0-1"	599-1-44	\$ 121.00
7125-944	1-2"	599-2-44	124.00
7125-945	2-3"	599-3-44	131.00
7125-946	3-4"	599-4-44	133.00
7125-947	4-5"	599-5-44	148.00
7125-948	5-6"	599-6-44	152.00
7125-976	6-7"	599-7-44	280.00
7125-977	7-8"	599-8-44	283.00

ORDERING NUMBER	RANGE	B&S NUMBER	PRICE EACH
7125-978	8-9"	599-9-44	\$294.00
7125-979	9-10"	599-10-44	295.00
7125-980	10-11"	599-11-44	300.00
7125-981	11-12"	599-12-44	308.00



## Etalon 260 Series Micrometers

w/ Thimble Friction Clutch

### FEATURES:

- .0001" reading
- Measuring face diameter .256" for capacities up to 4"
- Measuring face diameter .315" for capacities over 4"
- Insulation pads on instruments up to 4"
- Supplied in a case with two adjusting wrenches

ORDERING NUMBER	RANGE	ETALON NUMBER	PRICE
7141-565	0"-1"	71.115899	\$233.00
7141-566	1"-2"	71.115900	336.00
7141-567	2"-3"	71.115901	369.00
7141-568	3"-4"	71.115902	401.00

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# Measuring Instruments

## 0 to 3 Inch Chrome Frame Micrometer Sets

.001" Grad.	.0001" Grad.	Slant-line	Straight-line	Chrome Frame	Enamel Frame	With Case	With Standards	Spindle Lock
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓

Each micrometer in the 0-3" Micrometer sets described here includes Brown & Sharpe's convertible "fixed/friction" thimble with satin-chrome finish, chrome frame, .0001" graduations, spindle lock and standards. Additional features are specified in the table below.

ORDERING NUMBER	B&S TOOL SET NUMBER	MICROMETERS IN EACH TOOL SET	PRICE EACH
7143-783	599-181-901	599-1-31; 599-2-31;	\$667.00
7143-791	599-181-911	599-3-31	632.00
7143-784	599-181-901-1	599-1-32; 599-2-32;	673.00
7143-792	599-181-911-1	599-3-32	640.00

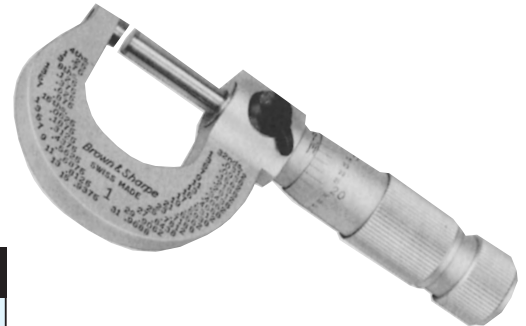


## Top-Of-The-Line: Satin-Chrome Micrometers

Silky-smooth, precise operation and functional design combine to continue the tradition of the Brown & Sharpe micrometer as the basic tool of choice for quality-minded individuals. Carbide measuring faces, convertible "friction" to "feel" thimble sleeves, easy-reading satin-chrome finish and spindle locks are standard on all micrometers listed below.

1" - 2" and 2" - 3" micrometers have insulated frames. Where not provided, wooden cases and standards are available separately.

ORDERING NUMBER	RANGE	INCH (.0001" GRADUATIONS) DESCRIPTION	B&S NUMBER	PRICE EACH
7151-089	0-1"	Slant/line graduations	599-1-31	\$178.00
7151-090	0-1"	Straight/line graduations	599-1-32	180.00
7151-595	0-1"	Slant/line graduations with wooden case	599-1-31-9	188.00
7151-596	0-1"	Straight/line graduations with wooden case	599-1-32-9	190.00
7151-097	1-2"	Slant/line graduations with 1" Standard	599-2-31	225.00
7151-098	1-2"	Straight/line graduations with 1" Standard	599-2-32	227.00
7151-105	2-3"	Slant/line graduations with 2" Standard	599-3-31	238.00
7151-106	2-3"	Straight/line graduations with 2" Standard	599-3-32	242.00
METRIC (0.002 MM GRADUATIONS)				
7151-095	0-25mm	Slant/line graduations	599-1-37	183.00
7151-103	25-50mm	Slant/line graduations with 25mm Standard	599-2-37	216.00



## Valuline Micrometer Sets

### Valuline Micrometer Sets

Each micrometer set includes a custom fitted wooden case. Each individual micrometer in these sets has the same quality features listed above.

ORDERING NUMBER	SET DESCRIPTION	B&S NUMBER	PRICE EACH
7125-983	0-3" Without Standards	599-181-923	\$ 445.00
7125-984	0-3" With Standards	599-181-923-1	490.00
7125-985	0-4" Without Standards	599-181-924	615.00
7125-986	0-4" With Standards	599-181-924-1	662.00
7125-987	0-6" Without Standards	599-182-926	1004.00
7125-988	0-6" With Standards	599-182-926-1	1152.00
7126-081	6-12" Without Standards	599-183-908	1910.00
7126-084	0-12" Without Standards	599-184-907	2883.00



## Mitutoyo Outside Micrometers - Series 101

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
101-113	0-1"	.0001"	±.0001"	Ratchet Stop	\$153.00
101-114	1-2"	.0001"	±.0001"	Ratchet Stop with Standard	153.00
101-119	2-3"	.0001"	±.0001"	Ratchet Stop with Standard	168.00
101-120	3-4"	.0001"	±.00015"	Ratchet Stop with Standard	184.00
101-117	0-1"	.0001"	±.0001"	Friction Thimble	126.00
101-118	1-2"	.0001"	±.0001"	Friction Thimble w/ Standard	153.00

### ACCURACY

- Flatness: .000024"/0.6µm.
- Parallelism: .00005" for up to .59"/1.3µm for up to 15mm, .00008" for up to 3"/2µm for up to 75mm, .00012" for up to 4"/3µm for up to 100mm.
- Designed to be operated efficiently with one hand.

### FEATURES

- Satin-finished chrome frame, tapered (on the anvil side) for hard-to-reach places.
- Carbide-tipped measuring faces.





# Measuring Instruments

## Outside Micrometers – Series 103

### FEATURES

- Carbide faces.
- Positive locking clamp.
- Ratchet stop or Friction Thimble for exact readings.
- Baked-enamel-finished frame.
- Clear graduations on satin-chrome finish.
- Complete with fitted carrying case.



103-135



103-260

### Inch

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
103-131	0-1"	.0001"	±.0001"	Ratchet Stop with Standard	\$112.00
103-132	1-2"	.0001"	±.0001"	Ratchet Stop with Standard	116.00
103-135	0-1"	.0001"	±.0001"	Friction Thimble type	113.00
103-136	1-2"	.0001"	±.0001"	Friction Thimble type with Standard	133.00
103-259	0-1"	.001"	±.0001"	Friction Thimble type	103.00
103-177	0-1"	.001"	±.0001"	Ratchet Stop type	103.00
103-178	1-2"	.001"	±.0001"	Ratchet Stop type with Standard	119.00
103-179	2-3"	.001"	±.0001"	Ratchet Stop type with Standard	138.00
103-180	3-4"	.001"	±.00015"	Ratchet Stop type with Standard	161.00
103-181	4-5"	.001"	±.00015"	Ratchet Stop type with Standard	177.00
103-182	5-6"	.001"	±.00015"	Ratchet Stop type with Standard	193.00
103-183	6-7"	.001"	±.0002"	Ratchet Stop type with Standard	218.00
103-184	7-8"	.001"	±.0002"	Ratchet Stop type with Standard	235.00
103-185	8-9"	.001"	±.0002"	Ratchet Stop type with Standard	252.00
103-186	9-10"	.001"	±.00025"	Ratchet Stop type with Standard	267.00
103-187	10-11"	.001"	±.00025"	Ratchet Stop type with Standard	277.00
103-188	11-12"	.001"	±.00025"	Ratchet Stop type with Standard	290.00
103-189	12-13"	.001"	±.0003"	Ratchet Stop type with Standard	348.00
103-190	13-14"	.001"	±.0003"	Ratchet Stop type with Standard	385.00
103-191	14-15"	.001"	±.0003"	Ratchet Stop type with Standard	425.00
103-192	15-16"	.001"	±.00035"	Ratchet Stop type with Standard	461.00
103-193	16-17"	.001"	±.00035"	Ratchet Stop type with Standard	489.00
103-194	17-18"	.001"	±.00035"	Ratchet Stop type with Standard	526.00
103-195	18-19"	.001"	±.0004"	Ratchet Stop type with Standard	561.00
103-196	19-20"	.001"	±.0004"	Ratchet Stop type with Standard	588.00
103-197	20-21"	.001"	±.0004"	Ratchet Stop type with Standard	626.00
103-198	21-22"	.001"	±.00045"	Ratchet Stop type with Standard	661.00
103-199	22-23"	.001"	±.00045"	Ratchet Stop type with Standard	697.00
103-200	23-24"	.001"	±.00045"	Ratchet Stop type with Standard	737.00
103-201	24-25"	.001"	±.0005"	Ratchet Stop type with Standard	777.00
103-202	25-26"	.001"	±.0005"	Ratchet Stop type with Standard	810.00
103-203	26-27"	.001"	±.0005"	Ratchet Stop type with Standard	985.00
103-204	27-28"	.001"	±.00055"	Ratchet Stop type with Standard	931.00
103-205	28-29"	.001"	±.00055"	Ratchet Stop type with Standard	966.00
103-206	29-30"	.001"	±.00055"	Ratchet Stop type with Standard	1110.00
103-207	30-31"	.001"	±.0006"	Ratchet Stop type with Standard	1070.00
103-208	31-32"	.001"	±.0006"	Ratchet Stop type with Standard	1250.00
103-209	32-33"	.001"	±.0006"	Ratchet Stop type with Standard	1290.00
103-210	33-34"	.001"	±.00065"	Ratchet Stop type with Standard	1340.00
103-211	34-35"	.001"	±.00065"	Ratchet Stop type with Standard	1360.00
103-212	35-36"	.001"	±.00065"	Ratchet Stop type with Standard	1430.00
103-213	36-37"	.001"	±.0007"	Ratchet Stop type with Standard	1520.00
103-214	37-38"	.001"	±.0007"	Ratchet Stop type with Standard	1570.00
103-215	38-39"	.001"	±.0007"	Ratchet Stop type with Standard	1620.00
103-216	39-40"	.001"	±.00075"	Ratchet Stop type with Standard	1710.00
103-260	0-1"	.0001"	±.0001"	Ratchet Stop type	112.00
103-262	1-2"	.0001"	±.0001"	Ratchet Stop type with Standard	131.00
103-217	2-3"	.0001"	±.0001"	Ratchet Stop type with Standard	146.00
103-218	3-4"	.0001"	±.00015"	Ratchet Stop type with Standard	168.00
103-219	4-5"	.0001"	±.00015"	Ratchet Stop type with Standard	182.00
103-220	5-6"	.0001"	±.00015"	Ratchet Stop type with Standard	202.00

### Inch

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
103-221	6-7"	.0001"	±.0002"	Ratchet Stop type with Standard	\$228.00
103-222	7-8"	.0001"	±.0002"	Ratchet Stop type with Standard	241.00
103-223	8-9"	.0001"	±.0002"	Ratchet Stop type with Standard	267.00
103-224	9-10"	.0001"	±.00025"	Ratchet Stop type with Standard	277.00
103-225	10-11"	.0001"	±.00025"	Ratchet Stop type with Standard	290.00
103-226	11-12"	.0001"	±.00025"	Ratchet Stop type with Standard	302.00
<b>Metric</b>					
103-137	0-25mm	0.01mm	±0.002mm	Ratchet Stop type	\$103.00
103-138	25-50mm	0.01mm	±0.002mm	Ratchet Stop type with Standard	119.00
103-139-10	50-75mm	0.01mm	±0.003mm	Ratchet Stop type with Standard	138.00
103-140-10	75-100mm	0.01mm	±0.003mm	Ratchet Stop type with Standard	161.00
103-141-10	100-125mm	0.01mm	±0.003mm	Ratchet Stop type with Standard	177.00
103-142-10	125-150mm	0.01mm	±0.003mm	Ratchet Stop type with Standard	193.00

**ORDER No. 103-904-10 (0-6" Set) List Price .....\$946.00**

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
101-711	0-1"	.001"	Ratchet Stop type with 5 Standards	\$116.00
101-114	1-2"	.001"		153.00
103-179	2-3"	.001"		138.00
103-180	3-4"	.001"		161.00
103-181	4-5"	.001"		177.00
103-182	5-6"	.001"		193.00

**ORDER No. 103-907-01 (0-6" Set) List Price .....\$968.00**

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
102-717	0-1"	.0001"	Friction Thimble type	\$146.00
103-136	1-2"	.0001"		133.00
103-217	2-3"	.0001"		146.00
103-218	3-4"	.0001"	Ratchet Stop type with Standards	168.00
103-219	4-5"	.0001"		182.00
103-220	5-6"	.0001"		202.00
103-221	6-7"	.0001"		228.00
103-222	7-8"	.0001"	Ratchet Stop type with Standards	241.00
103-223	8-9"	.0001"		267.00
103-224	9-10"	.0001"		277.00
103-225	10-11"	.0001"		290.00
103-226	11-12"	.0001"		302.00

**ORDER No. 103-908-01 (0-12" Set) List Price .....\$2630.00**

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
102-717	0-1"	.0001"	Friction Thimble type	\$146.00
103-136	1-2"	.0001"		133.00
103-217	2-3"	.0001"		146.00
103-218	3-4"	.0001"	Ratchet Stop type with Standards	168.00
103-219	4-5"	.0001"		182.00
103-220	5-6"	.0001"		202.00
103-221	6-7"	.0001"		228.00
103-222	7-8"	.0001"		241.00
103-223	8-9"	.0001"		267.00
103-224	9-10"	.0001"		277.00
103-225	10-11"	.0001"		290.00
103-226	11-12"	.0001"		302.00

**ORDER No. 103-929 (0-3" Set) List Price .....\$370.00**

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
103-177	0-1"	.001"	Ratchet Stop type with Standards	\$103.00
103-178	1-2"	.001"		119.00
103-179	2-3"	.001"		138.00

**ORDER No. 103-927-10 (0-75mm Set) List Price .....\$370.00**

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
103-137	0-25mm	0.01mm	Ratchet Stop type with Standards	\$103.00
103-138	25-50mm	0.01mm		119.00
103-139-10	50-75mm	0.01mm		138.00

Outside Micrometers - Series 103 Continued...



# Measuring Instruments

## Mitutoyo

### Outside Micrometers – Series 103 (Cont'd) 12

ORDER No. 103-909 (6"–12" Set) List Price .....\$1660.00

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
103-221	6–7"	.0001"	Ratchet Stop type with Standards	\$228.00
103-222	7–8"	.0001"		241.00
103-223	8–9"	.0001"		267.00
103-224	9–10"	.0001"		277.00
103-225	10–11"	.0001"		290.00
103-226	11–12"	.0001"		302.00

ORDER No. 103-922 (0–3" Set)

List Price .....\$408.00

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
103-135	0–1"	.0001"	Friction Thimble type	\$113.00
103-136	1–2"	.0001"		133.00
103-217	2–3"	.0001"		Ratchet Stop type with Standards

ORDER No. 103-913-31 (0–150mm Set) List Price .....\$ 946.00

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
102-701	0–25mm	0.01mm	Ratchet Stop type with Standards	\$ 103.00
103-138	25–50mm	0.01mm		119.00
103-139-10	50–75mm	0.01mm		138.00
103-140-10	75–100mm	0.01mm		161.00
103-141-10	100–125mm	0.01mm		177.00
103-142-10	125–150mm	0.01mm		193.00

## Mitutoyo

### Digimatic Micrometers – Series 293 – IP65

#### FEATURES:

- Extra large LCD readout.
- Waterproof
- Two measuring modes – ABS (absolute) and INC (incremental) – for efficient measurement (with SPC output Model).

#### FUNCTIONS AVAILABLE:

- Origin setting, Inch/mm selection
- Zero-setting
- Error alarm
- Data Hold only with SPC Models
- Auto-sleep
- Data output
- Can be linked to the SPC system
- Carbide-tipped measuring faces.



293-348 Standard Friction Thimble

#### Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
293-330	0–1" 0–25.4mm	.00005" 0.001mm	±.00005"	with SPC output Ratchet Stop	\$226.00
293-331	1–2" 25.4–50.8mm	.00005" 0.001mm	±.00005"	w/ SPC output and Std. Ratchet Stop	267.00
293-332	2–3" 50.8–76.2mm	.00005" 0.001mm	±.00005"	w/ SPC output and Std. Ratchet Stop	329.00
293-333	3–4" 76.2–101.6mm	.00005" 0.001mm	±.0001"	w/ SPC output and Std. Ratchet Stop	354.00
293-350-10	4–5" 101.6–127.0mm	0.0001" 0.001mm	±.0001"	w/ SPC output and Std. Ratchet Stop	438.00
293-351-10	5–6" 127.0–152.4mm	0.0001" 0.001mm	±.0001"	w/ SPC output and Std. Ratchet Stop	456.00
293-352-10	6–7" 152.4–177.8mm	0.0001" 0.001mm	±.00015"	w/ SPC output and Std. Ratchet Stop	465.00
293-353-10	7–8" 177.8–203.2mm	0.0001" 0.001mm	±.00015"	w/ SPC output and Std. Ratchet Stop	499.00

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
293-354-10	8–9" 203.2–228.6mm	0.0001" 0.001mm	±.00015"	w/ SPC output and Std. Ratchet Stop	\$518.00
293-355-10	9–10" mm	0.0001" mm	±.0002"	w/ SPC output and Std.	541.00
293-356-10	10–11" mm	0.0001" 0.001mm	±.0002"	w/ SPC output and Std.	545.00
293-357-10	11–12" mm	0.0001" 0.001mm	±.0002"	w/ SPC output and Std.	561.00
293-340	0–1" 0–25.4mm	.00005" 0.001mm	±.00005"	without SPC output Ratchet Stop	168.00
293-344	0–1" 0–25.4mm	.00005" 0.001mm	±.00005"	without SPC output Ratchet-Friction Thimble	168.00
293-348	0–1" 0–25.4mm	.00005" 0.001mm	±.00005"	without SPC output Friction Thimble	168.00
293-349	0–1" 0–25.4mm	.0001" 0.001mm	±.00005"	without SPC output Ratchet-Friction Thimble	168.00

Replacement Battery: 541980 (1 pc). 40" Cable 05CZA662 80" Cable 05CZA663

## Electronic Micrometer

#### FEATURES:

- Automatic switch off.
- Resolution: .00005"/.001mm
- Direct inch/metric conversion.
- Sizes over 1" supplied with standards.
- Complete in "shop hardened" case.
- Large Easy-To-Read LCD Display



6

MODEL NUMBER	DESCRIPTION	PRICE
54-850-001	0–1" Electronic Micrometer	\$75.40
54-850-002	1–2" Electronic Micrometer	99.05
54-850-003	2–3" Electronic Micrometer	114.55
54-850-103	0–3" Electronic Micrometer Set	297.00



## Wood brown & sharpe Micromaster – MM2000 Digital Micrometer

#### FEATURES:

- Range: 0 – 1.2"/0 – 30mm
- Resolution: .00005"/1µm
- Large, easy-to-read 1/4" digital display
- Tungsten carbide faces, convertible friction/feel thimble, spindle lock
- Preset absolute and differential modes
- Battery life of 1 to 2 years of normal usage
- Automatic shut-off after 10 minutes
- Meets or exceeds applicable Federal and DIN standards
- Available in water resistant and RS-232 models
- Complete with shop-hardened, fitted case

DESCRIP.	ACCURACY	WATER RESISTANT	RS232 OUTPUT	B&S NO.	ORDERING NO.	PRICE EACH
0–1.2"	.00016"	N	N	599-100	7127-266	\$301.00
0–1.2"	.00016"	Y	N	599-125	7127-271	316.00
0–1.2"	.00016"	Y	Y	599-125RS	7127-267	333.00
1–2"	.0002"	Y	N	599-126	7127-272	391.00
1–2"	.0002"	Y	Y	599-126RS	7127-268	406.00
2–3"	.0002"	Y	N	599-127	7127-273	431.00
2–3"	.0002"	Y	Y	599-127RS	7127-269	436.00
3–4"	.0002"	Y	N	599-128	7127-274	461.00
3–4"	.0002"	Y	Y	599-128RS	7127-270	467.00

7



# Measuring Instruments

## Digital Electronic Outside Micrometer

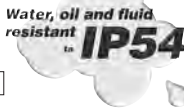


- Large, easy to read LCD display
- Set zero at any point along spindle
- Automatic power off
- Carbide tipped with ratchet stop and locking lever
- Hardened and precision ground anvil and spindle
- Hard chrome satin finish sleeve and thimble
- Supplied in specially fitted case



RANGE	GRAD.	ORDER NO.	PRICE
0-1 7/8-25mm	.0001"/.001mm	3100-590	\$89.00

## IP54 Electronic Micrometers



- Protecte to IP54 specification.
- Large LCD display.
- Automatic switch off.
- Resolution: .00005"/.001mm.
- Direct RS232 output.
- Complete with case
- Sizes over 1" supplied with standards.



MODEL NUMBER	DESCRIPTION	PRICE
54-860-001	0—1" Electronic Micrometer	\$94.65
54-860-002	1—2" Electronic Micrometer	111.35
54-860-003	2—3" Electronic Micrometer	126.20
54-860-103	0—3" Electronic Micrometer Set	328.00

## Wide Range Outside Micrometers – Series 104 & 340 – IP65



### FEATURES

- Wide measuring range with interchangeable anvils.
- Carbide-tipped spindle.
- The 340 series can be linked to the SPC system.
- Provided with Ratchet Stop for constant force.

### DIGIMATIC FUNCTIONS

Models 340-351 & 340-352

- Inch/mm
- Preset
- Zero/ABS
- Data Send/Hold

### ACCURACY

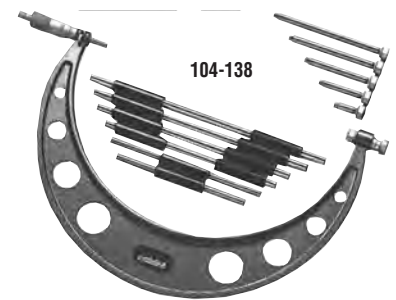
- Flatness: within .000024"/0.6µm for up to 12"/300mm within .00004"/1µm for up to 40"/1000mm.
- Parallelism: .00008" + .00004" x (L\*/4") / (2 + L/100)µm (\*truncated after decimal pt.)
- Measuring Accuracy: ± (.0002" + .00005" x L\*/3") / ± (4 + L/75)µm (\*truncated after decimal pt.), L = maximum measuring length.



304-352-10

## Digimatic Wide Range Outside Micrometers

ORDER NO.	RANGE	LCD RESOLUTION	REMARKS	LIST PRICE
340-351-10	0—6" 0—152.4mm	.00005" 0.001mm	with 6 Anvils & 5 Standards with SPC output	\$693.00
340-352-10	6—12" 152.4—304.8mm	.00005" 0.001mm	with 6 Anvils & 6 Standards with SPC output	852.00
<b>INCH</b>				
104-137	0—6"	.001"	with 6 Anvils & 5 Standards	\$ 366.00
104-138	6—12"	.001"	with 6 Anvils & 6 Standards	661.00
104-203	24—30"	.001"	with 6 Anvils & 6 Standards	1270.00
104-204	30—36"	.001"	with 6 Anvils & 6 Standards	1390.00
104-205	36—42"	.001"	with 6 Anvils & 6 Standards	1520.00
104-152	12—16"	.001"	with 4 Anvils & 4 Standards	670.00
104-153	16—20"	.001"	with 4 Anvils & 4 Standards	829.00
104-154	20—24"	.001"	with 4 Anvils & 4 Standards	983.00



104-138

## EZ-Read Interchangeable Anvil Micrometer Sets



- Accuracy: .00024"
- Graduation: .0001"
- Spindle & thread hardened & ground.
- Supplied with 6 anvils.
- Complete in case.

MODEL NUMBER	DESCRIPTION	PRICE
52-401-206	0-6"	\$160.25
52-401-207	6-12"	200.20



## Deep Throat Micrometers – Series 118



### FEATURES

- Measures thickness of sheet metal, paper, plastic, and rubber parts.
- Carbide-tipped measuring faces.
- Provided with Ratchet Stop for constant force.

Inch

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
118-129	0—1"	.0001"	±.0002"	Depth of Throat: 6"	\$227.00
118-107	0—1"	.001"	±.00025"	Depth of Throat: 12"	377.00



# Measuring Instruments

## Digital Outside Micrometer

2

RANGE	GRAD.	ORDER NO.	PRICE
0-1"	.0001"	3100-575	\$ 36.50
1-2"	.0001"	3100-576	45.75
2-3"	.0001"	3100-577	55.00
0-3" Set	.0001"	3100-582	129.00

- Rapid and simple reading. Fast zero adjustment
- .0001" graduations on vernier scale, .001" on digital counter
- Flatness: .00003" Parallelism: 0.00005" for 1" model
- Carbide tipped with ratchet stop and locking nut
- Hardened and precision ground anvil and spindle
- Crisp, clear graduations on hard chrome satin finish sleeve and thimble
- Standards included for 1-2" and above, and in sets
- Supplied in specially fitted case, with spanner wrench
- Heat insulated grip plates



**Pittsburg**  
ALLEGHANY

## Digital Outside Micrometers – Series 193

### Mechanical Digit Counter Readout

#### FEATURES

- Mechanical counter for quick and error-free reading.
- Direct readout on the counter to .001"/0.01mm.
- Carbide-tipped measuring faces.

Note: 0-1" and 1-2" models have Friction Thimbles. All others have Ratchet Stop. Metric available on request.

#### Inch

12

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
193-211	0-1"	.0001"	±.0001"	Friction Thimble	\$176.00
193-212	1-2"	.0001"	±.0001"	with standard, Friction Thimble	208.00
193-213	2-3"	.0001"	±.0001"	with standard, Ratchet Stop	232.00
193-214	3-4"	.0001"	±.00015"	with standard, Ratchet Stop	256.00

#### ACCURACY

- Flatness:  
Inch models .000024" for models up to 12".  
Metric models 0.6µm for models up to 300mm.
- Parallelism: Inch models .00008" + .00004" x (L"/4")  
(\*\*truncated after decimal pt.)  
Metric models (2 + L/100)µm.



193-211

**Mitutoyo**

## Digital Micrometer Set

12

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
193-923	0-3"	.0001"	—	with standard	\$616.00

## Digit Counter Micrometers

2

MODEL NUMBER	DESCRIPTION	PRICE
52-224-001	0-1" Outside Micrometer	\$49.45
52-224-002	1-2" Outside Micrometer	54.65
52-224-003	2-3" Outside Micrometer	58.95
52-224-103	0-3" Outside Micrometer Set	141.60

- Digital counter
- Resolution: .0001",
- Microfine graduations on satin chrome finish
- Carbide tipped measuring faces
- Positive locking nut on spindle
- Sizes over 1" supplied with standards



**Fowler**

## Uni-Mike – Series 317 & 117

### Interchangeable Anvil Type

#### Inch/Metric

7

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
317-351	0-1" 0-25.4mm	.00005"- 0.001mm	±.0002"	Friction Thimble w/Flat & Rod Anvils	\$501.00
317-352	1-2" 25.4-50.8mm	.00005"- 0.001mm	±.0002"	Friction Thimble w/Flat & Rod Anvils plus Standard	510.00

\* For SPC output order connecting cable 05CZA662 (1m) or 05CZA663 (2m).  
Replacement Battery: 541980.

#### Inch

12

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
117-107*	0-1"	.0001"	±.0002"	w/Flat & Rod Anvils	\$197.00
117-108*	1-2"	.0001"	±.0002"	w/Flat & Rod Anvils plus Standard	231.00

\* 117-107 and 117-108 with Friction Thimble. Replacement Anvils: Rod Anvil 201217; Flat Anvil 201216;  
Optional V-Anvil 201218; Optional 1" Disc Anvil 950758.



317-351

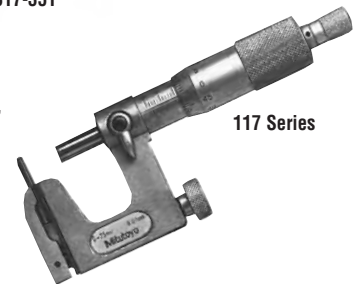
**Mitutoyo**

#### FEATURES

- Measures tube thickness, shoulder-edge distance, rivet head height, etc. with interchangeable anvils (flat anvil, rod anvil, V-anvil).
- The 317 series provides digital readout to .00005"/0.001mm and can be linked to the SPC system.

#### ACCURACY

- Flatness: Measuring face of spindle: .000024"/0.6µm.  
Bottom of base: .000087/2µm.
- Parallelism: .00012"/3µm.



117 Series

## Screw Thread Micrometer

- Every thousandth is numbered for easy reading
- Deluxe heat-insulator on satin chrome finished forged steel frame, tapered for hard to get at places
- Ratchet stop with positive locking clamp

2

RANGE	GRAD.	ANVILS	ORDER NO.	PRICE
0-1"	.001"	1-5	3100-180	\$106.01
1-2"	.001"	2-6	3100-181	115.86

## Anvils – UST 60 Deg .0001"

ANVIL NO.	RANGE	ORDER NO.	PRICE
1	64-48	3100-184†	\$19.05
5	8-5	3100-188†	19.05
6	4.5-3	3100-189†	19.05
Anvil Set		3100-179	141.05

† Limited Quantities

- Micro-fine graduations on satin chrome finish
- V-Anvil and a conical spindle made of high grade steel, hardened and precision ground
- Includes fitted case, with standard supplied for 1-2"



**Pittsburg**  
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# Measuring Instruments

## Mitutoyo Screw Thread Micrometers—Series 326 & 126

### Digimatic Screw Thread Micrometers

Inch/Metric (No Anvils)

7

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
326-351-10	0-1"-0-25.4mm	.00005"-0.001mm	±.0002"	—	\$631.00
326-352-10	1-2"-25.4-50.8mm	.00005"-0.001mm	±.0002"	with Standard	668.00

For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m).  
Replacement Battery: **541980**.



326-351-10

### Screw Thread Micrometers

Inch (No Anvils)

12

ORDER NO.	RANGE	LCD RESOLUTION	*ACCURACY	REMARKS	LIST PRICE
126-137	0-1"	.001"	±.0002"	—	\$425.00
126-138	1-2"	.001"	±.0002"	with Standard	509.00



126-137

#### FEATURES

- Interchangeable tips for measuring various screw threads.
- The 326 series provides digital readout to .00005"/0.001mm and can be linked to the SPC system.
- Provided with a Ratchet Stop for constant force.
- Provided with a standard bar for zero point adjustment.
- Interchangeable tips are optional.

#### ACCURACY

- Spindle feed error: .00012"/3µm.

#### Interchangeable V-Anvil Type for Measuring Pitch Diameter

Each anvil can be used for both metric and unified external threads. The correct pair of anvils must be selected and inserted in the hollow micrometer spindle and anvil. The micrometer anvil is fully adjustable by the knurled knob located on the anvil side of the frame. Zero set the micrometer with this knob whenever the anvil is interchanged.

- 60 degree V-Anvil and Conical Spindle are made of high-grade special steel, hardened and precision ground.
- Furnished complete with fitted carrying case.

Inch (With Anvil Set)

126-901	0-1"	.001"	±.0002"	with Anvil Set (126-800)	\$871.00
126-902	1-2"	.001"	±.0002"	with Anvil Set (126-800) with Standard	954.00

\* Read Screw only.

### Anvils (Accessories – Must select at least one pair)

5

ORDER NO.	THREADS (PER INCH)	PITCH (INCH/MM)	REMARKS	LIST PRICE
126-801	64-48 (M1)	.016-.019"/0.4-0.5mm	1 Pair	\$74.10
126-802	44-28 (M2)	.024-.035"/0.6-0.9mm	1 Pair	74.10
126-803	24-14 (M3)	.04-.068"/1.0-1.75mm	1 Pair	74.10
126-804	13-9 (M4)	.079-.118"/2.0-3.0mm	1 Pair	74.10
126-805	8-5 (M5)	.138-.196"/3.5-5.0mm	1 Pair	74.10
126-806	4.5-3.5 (M6)	.217-.275"/5.5-7.0mm	1 Pair	74.10
126-800	64-3.5	.016-.275"/0.4-7.0mm	Set	445.00

## Indicating Micrometers

- Every thousandth is numbered for easy setting
- Quick and easy zero adjustment
- Retracting button convenient to operator's thumb
- Tolerance hands can be set as desired
- Microlapped finish carbide measuring faces
- Jeweled bearings
- Hardened and precision ground anvil and spindle
- Hard chrome satin finish sleeve and thimble
- Supplied in specially fitted case



2

RANGE	GRAD.	ORDER NO. CHINA	PRICE
0-1"	.0001"	3100-234	\$154.50
1-2"	.0001"	3100-236	176.00



## Indicating Micrometer – Series 510



12

#### FEATURES

- User-friendly, improved durability, accuracy
- Waterproof structure conforms to IP-54
- Scratch-resistant hard coated crystal
- Easy-to-read large dial graduations
- Zero-adjustment screw on backside

Inch

ORDER NO.	RANGE	RESOLUTION OF HEAD	RESOLUTION OF INDICATOR	RANGE OF INDICATOR	TOTAL ACCURACY	LIST PRICE
510-131	0-1"	.00005"	.00005"	± .0023"	± .0001"	\$803.00
510-132	1-2"	.00005"	.00005"	± .0023"	± .0001"	865.00
510-133	2-3"	.00005"	.00005"	± .0023"	± .0001"	964.00
510-134	3-4"	.00005"	.00005"	± .0023"	± .0001"	1050.00

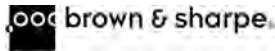


510-131

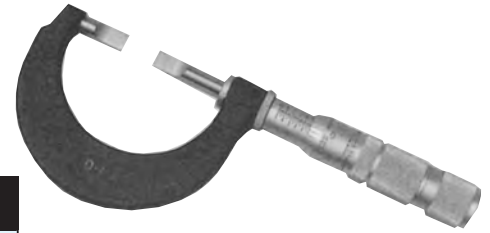


# Measuring Instruments

## Blade Micrometers



- Ideal for measuring keyways, grooves, form tool diameters and parts with shallow depths.
- Blades are .017" thick and measure to a depth of 7/32" (5.5mm).
- Blades are hardened and lapped for accuracy and durability.
- Non-rotating spindle.
- Graduated to .001".



ORDER NO.	BLADE MIKES			WOOD CASES FOR BLADE MIKES		
	RANGE	NUMBER	PRICE	ORDERING NO.	B&S CASE NO.	PRICE
7125-352	0-1"	599-219-2	\$269.00	7143-683	599-20-9996	\$39.00
7125-357	1-2"	599-220-2	281.00	7143-698	599-30-9998	54.00
7125-616	2-3"	599-221-2	286.00	7143-706	599-40-9998	65.00
7125-617	3-4"	599-222-2	291.00	7143-712	599-50-9998	71.00

## Blade Micrometers Series 422 & 122



Non-Rotating Spindle

### Digimatic Blade Micrometer - Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	BLADE DIMENSION	LIST PRICE
422-330	0-1" 0-25.4mm	.00005" 0.001mm	±.00015"	.030"	\$739.00
422-331	1-2" 25.4-50.8mm	.00005" 0.001mm	±.00015"	.030"	791.00

\* For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m).

#### FEATURES

- The anvil and the spindle have a blade for measuring the groove diameter of shafts, keyways, and other hard-to-reach portions.
- Non-rotating spindle.
- The 422 series provides digital readout to .00005"/0.001mm and can be linked to the SPC system.
- All Digimatic models provide SPC output

#### ACCURACY

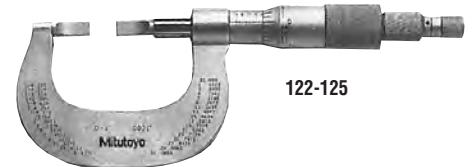
- Parallelism: .00012" for models up to 2", .00012" + .00004" x (L"/4") for over 2", 3µm models for up to 50mm, (3 + L/100)µm for models over 50mm. (L = maximum measuring length).



422-330

### Blade Micrometer Inch

ORDER NO.	RANGE	RESOLUTION	ACCURACY	BLADE DIMENSION	LIST PRICE
122-125	0-1"	.0001"	±.00015"	.030"	\$285.00
122-126	1-2"	.0001"	±.00015"	.030"	298.00
122-127	2-3"	.0001"	±.00015"	.030"	314.00
122-128	3-4"	.0001"	±.0002"	.030"	334.00



122-125

## Spherical Face Micrometers Series 395-IP65 & 115



### Digimatic Spherical Face Micrometers Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
395-351	0-1" 0-25.4mm	.00005" 0.001mm	±.0001"	Spherical anvil type	\$376.00
395-352	1-2" 25.4-50.8mm	.00005" 0.001mm	±.0001"	Spherical anvil type w/Standard	403.00
395-371	0-1" 0-25.4mm	.00005" 0.001mm	±.0001"	Spherical anvil & spindle type	388.00
395-372	1-2" 25.4-50.8mm	.00005" 0.001mm	±.0001"	Spherical anvil & spindle type with Standard	412.00

For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m).  
Replacement Battery: **541980**.

#### FEATURES

- Spherical Anvil Micrometers are especially useful in measuring the wall thickness of small parts such as sleeves, collars, tubings and various cylindrical workpieces. They are also used to measure dimensions from the inside of holes to outside edges. The spherical anvil contacts the inside curved surface providing a single point contact and permitting accurate gaging of the wall thickness to .0001".
- Ratchet thimble for constant force.
- Carbide-tipped measuring faces.
- The 395 series can be linked to the SPC system.
- Provided with a constant-force device.
- Digimatic functions same as the Digimatic Outside Micrometers series 293 at the first pages of this section.



395-371

### Spherical Face Micrometers

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
115-153	0-1"	.0001"	±.00015"	Spherical anvil type	\$ 127.00
115-253	0-1"	.0001"	±.00015"	Spherical anvil & spindle type	138.00



115-153

# Measuring Instruments

## Mitutoyo Point Micrometers— Series 342-IP65 & 112

### FEATURES

- Pointed spindle and anvil for measuring the web thickness of drills, small grooves, and other hard-to-reach dimensions.
- Radius of curvature of measuring points: .012" (0.3mm).
- The 342 series provides digital readout to .0005"/0.001mm and can be linked to the SPC system.
- Provided with Ratchet Stop for constant force.

Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
342-351	0-1" 0-25.4mm	.00005" 0.001mm	±.0001"	w/SPC output & Carbide points. A=15°, L=.394"	\$438.00
342-352	1-2" 25.4-50.8mm	.00005" 0.001mm	±.0001"	w/SPC output & Standard with Carbide points. A=15°, L=.394"	487.00
342-361	0-1" 0-25.4mm	.00005" 0.001mm	±.0001"	w/SPC output & Carbide points. A=30°, L=.430"	427.00
342-362	1-2" 25.4-50.8mm	.00005" 0.001mm	±.0001"	w/SPC output & Standard with Carbide points. A=30°, L=.430"	478.00
112-177	0-1"	.001"	±.00015"	without Carbide points A=15°, L=.394"	213.00
112-225	0-1"	.001"	±.00015"	without Carbide points A=30°, L=.430"	161.00

All above micrometers come with Ratchet Stop, all 342 series have SPC output, not 112 series. For SPC output, order Connecting Cable **05CZA662** (1m) or **05CZA663** (2m). Replacement Battery: #541980.



342-361



112 Series

## Tubing Micrometers - Series 395-IP65 & 115

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
395-363	0-1" 0-25.4mm	.00005" 0.001mm	±.00015"	Anvil type: B	\$427.00
395-364	0-1" 0-25.4mm	.00005" 0.001mm	±.00015"	Anvil type: A	427.00

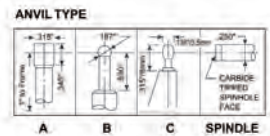
For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m). Replacement Battery: **541980** (1 pc).

ORDER NO.	RANGE	RESOLUTION	ACCURACY	ANVIL DIA.	LIST PRICE
115-313	0-1"	.0001"	±.00015"	.187"	\$139.00

## Mitutoyo

### FEATURES

- The 395 series can be linked to the SPC system.
- Provided with a constant-force device.



115-313



395-363

## Micrometer for Tubing and Curved Surfaces

Spherical anvil and measuring spindle makes this micrometer ideal for measuring convex curves directly without having to subtract the diameter of a ball. Measure wall thickness of tubing with inside diameters as small as 3/8". Straight/line barrel graduations and glare-free satin-chrome finished thimble. Convertible "friction" to "feel" thimble for a choice in measuring action.

ORDERING NO.	RANGE	GRADUATIONS	B&S NUMBER	PRICE
7125-623	0-1"	.0001"	599-228-2-1	\$140.00

Good brown & sharpe.



## Disc Micrometers— Series 323, 223, 123 Rotating Spindle Type

## Mitutoyo

### Digital Disc Micrometers – (Mechanical)

ORDER NO.	RANGE	RES.	ACCURACY	REMARKS	LIST PRICE
223-125	0-1"	.001"	±.0002"	Disc Diam.: .79"	\$297.00

### Disc Micrometers

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
123-125	0-1"	.001"	±.0002"	Disc Diameter: .79"	\$231.00
123-126	1-2"	.001"	±.0002"	Disc Diameter: .79" w/Standard	254.00
123-127	2-3"	.001"	±.0003"	Disc Diameter: .79" w/Standard	270.00
123-128	3-4"	.001"	±.0003"	Disc Diameter: .79" w/Standard	294.00

### FEATURES

- Measures root tangent length of spur gears and helical gears.
- The 323 series can be linked to the SPC system.
- .03" edge thickness to enter narrow recesses.
- With heat-insulating grip cover on frame.
- Supplied with fitted carrying case.

IP65



323-350



123-125

Inch/Metric

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
323-350	0-1" 0-25.4mm	.00005" 0.001mm	±.0002"	Disc diam. .79"	\$473.00
323-351	1-2" 25.4-50.8mm	.00005" 0.001mm	±.0002"	Disc diam. .79" with Standard	530.00

For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m). Replacement Battery: 541980.

## Disc Micrometers

For measuring narrow grooves and other recessed features from .015" thick. Discs are 1/2" in diameter, 1/16" thick in the center and .015" thick at the edge. With ring lock and satin chrome finish for easy reading.

ORDER NO.	RANGE	GRADS.	B&S NO.	PRICE
7125-618	0-1"	.001"	599-215-4	\$238.00

Good brown & sharpe.



# Measuring Instruments

## brown & sharpe Flange Micrometers

One inch (25mm) diameter flanges make it easy to measure gear pitches, over shoulders, into grooves, from slots to a reference edge, and a wide variety of other measurements not possible with standard micrometers. Comes with ring lock.

### • Inch (.001" Graduations)

ORDER NO.	RANGE	GRADS.	B&S NO.	PRICE
7125-619	0-1"	.001"	599-224-1	\$317.00
7125-620	1-2"	.001"	599-224-2	322.00
7125-621	2-3"	.001"	599-224-3	509.00
7125-622	3-4"	.001"	599-224-4	540.00



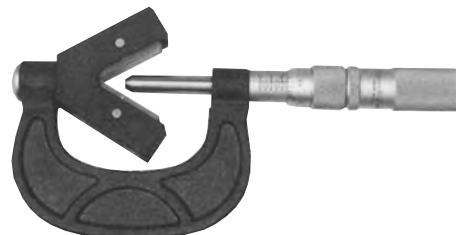
## brown & sharpe

### 3-Flute (60° Angle) Micrometers

Check Out-of-Roundness: These micrometers are designed for measuring the outside diameters of workpieces with uneven grooved or otherwise interrupted surfaces. They are also useful for measuring shafts for lobe-error.

- .0001" Reading-Inch
- Carbide anvils for longer life

ORDERING NUMBER	RANGE	B&S NUMBER	PRICE
7125-350	.094-1"	599-175-2-1	\$478.00
7125-351	1-2"	599-175-3-1	526.00
7125-659	2-3"	599-175-4-1	1088.00



### V-Anvil Micrometers - Series 314, 114

3 Flutes and 5 Flutes

### Digimatic V-Anvil Micrometers

Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
314-351-10	.05"-6" 1.27-15.24mm	.00005" 0.001mm	±.0002"	Anvil has no Groove	\$642.00
314-352-10	.4"-1.0" 10.16-25.4mm	.00005" 0.001mm	±.0002"	Anvil has no Groove	691.00

For SPC output order connecting cable **05CZA662** (1m) or **05CZA663** (2m). Replacement Battery: 541980.

## Mitutoyo

### FEATURES

- Measures the outside diameter of cutting heads (such as taps, reamers, end mills) with an odd number of flutes.
- Carbide-tipped spindle.
- The 314 series provides digital readout to .00005"/0.001mm and can be linked to the SPC system.
- Provided with a constant-force device.

- Supplied with Standard. ACCURACY
- Flatness: .000024"/0.6µm.



### V-Anvil Micrometers

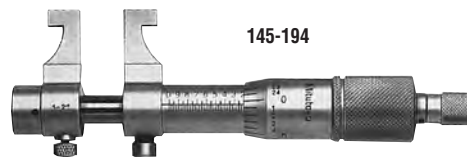
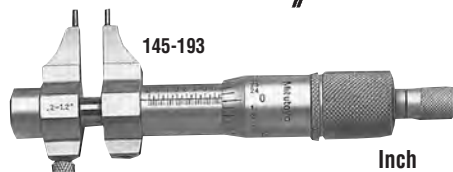
ORDER NO.	RANGE	RESOLUTION	NO. OF FLUTES	ACCURACY	REMARKS	LIST PRICE
114-135	.093-1.0"	.0001"	5	±.0002"	Carbide Tipped Anvil	\$487.00
114-202	.093-1.0"	.0001"	3	±.0002"	Carbide Tipped Anvil	487.00

### Inside Micrometers - Series 145

### FEATURES

- Accuracy to .0002" with graduations of .001".
- Easy zero adjustment.
- Clear graduations on satin-chrome finish.
- Caliper type jaws are made of high-grade, tool steel. They are satin-chrome finished.
- Locking clamp for positive locking of spindle.
- With ratchet thimble for constant force.
- Every thousandth is numbered for easy reading.
- Easily adjusted for slide movement of jaw (Exclusive).
- Supplier wrench is supplied with every micrometer.
- Complete with fitted carrying case.

## Mitutoyo



### Inch

ORDER NO.	RANGE	RESOLUTION	ACCURACY	REMARKS	LIST PRICE
145-193	.2"-1.18"	.001"	±.0002"	—	\$231.00
145-194	1.0"-2.0"	.001"	±.00025"	—	248.00

### Inch

ORDER NO.	RANGE	SPACING COLLAR	DIAMETER OF RODS	REMARKS	LIST PRICE
141-102	1-2"	.250"	.248"	Include 141-002 and 2 pcs. rods	\$184.00
141-208	2-8"	.500"	.248"	Include 141-006 and 3 pcs. rods*	184.00
141-233	2-12"	.500"	.248"	Include 141-026 and 5 pcs. rods*	222.00
141-121	8-20"	1", 2"	.355"	Include 141-010 and 3 pcs. rods	354.00
141-122	8-40"	1", 2"	.355"	Include 141-010 and 8 pcs. rods	527.00

\*1" Extended Thimble

### Inside Micrometers - Series 141

### Interchangeable Type

### FEATURES

- Each interchangeable rod is marked with its measuring range.
- Both micrometer head and furnished rods are satin-chrome finished throughout.
- Positive locking clamp attached on 141-102. No lock on the larger sizes.
- Supplied with fitted carrying case.

### Tubular Inside Micrometers - Series 337

### Extension Type

### FEATURES

- Wide range of ID measurements by combining extension rods with the micrometer head. The rod is accurately finished and incorporated in a pipe for shop-floor use.
- The 337 series provides digital readout to .0001"/0.001mm and can be linked to the SPC System.



## Mitutoyo

### Digimatic Inside Micrometers - Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	HEAD TRAVEL	HEAD ACCURACY	DIAM. OF RODS	REMARKS	LIST PRICE
337-303	8-40"	.0001" 0.001mm	1.0"	±.0001"	.50"	Includes Micrometer Head and 6 pcs Rods. w/SPC output	\$1090.00
337-304	8-60"	.0001" 0.001mm	1.0"	±.0001"	.50"	Includes Micrometer Head and 7 pcs Rods. w/SPC output	1220.00

For SPC output order connecting cable **937387** (1m) or **965013** (2m).

# Measuring Instruments

## Electronic Inside Micrometer

- Water Resistant to IP54 specifications.
- True inch/metric conversion. • Resolution: .00005"/.001mm.
- Measuring jaws & faces fully hardened and microlapped for accuracy.
- Each gage includes appropriate setting ring.
- Direct RS232 output. • Supplied in fitted case.



## Inside Micrometer

- For small internal measurements
- Satin chrome no-glare finish
- Measuring faces fully hardened and ground
- Ratchet stop, locking clamp
- Complete with fitted case



MODEL NUMBER	DESCRIPTION	PRICE
54-860-275	0.2—1"/25mm	\$177.75
54-860-276	1—2"/50mm	192.40

RANGE	GRAD.	ORDER NO.	PRICE
.2-1.2"	.001"	3100-920	\$40.00
1-2"	.001"	3100-922	51.00

## Depth Gage

- Spring loaded and hold measurement button for ease-of-use • Super large display
- Travel: 0-1"/25mm • Resolution: .0005"/.01mm (fractions in 1/64" increments)
- Supplied in shop-hardened case



MODEL NUMBER	DESCRIPTION	PRICE
54-225-555	0—22"/550mm	\$40.60



## Electronic Depth Micrometer



MODEL NUMBER	DESCRIPTION	PRICE
54-225-456	0—6"/150mm	\$177.00

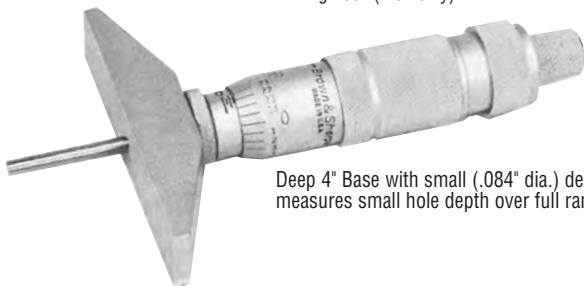
- Range: 0-6"/150mm
- 4" Base: Hardened tool steel, precision ground & microlapped
- Protected to IP54 Standards
- Resolution: .00005"/.001mm
- Direct RS232 output
- Automatic switch off
- Large LCD display



## Wood brown & sharpe. Micrometer Depth Gages

### FEATURES:

- 1/8 Measuring Rods • Friction Thimble (Inch only)
- Ring Lock (Inch only)



Deep 4" Base with small (.084" dia.) depth rod measures small hole depth over full range

ORDERING NUMBER	NO. RANGE	BASE RODS	LENGTH	B&S NO.	PRICE
<b>INCH READING (0.001" GRADUATIONS)</b>					
7125-624	0-3"	3	2.5"	599-603-123-3	\$239.00
7125-627	0-3"	3	4"	599-603-143-3	244.00
7125-625	0-6"	6	2.5"	599-603-126-3	277.00
7125-628	0-6"	6	4"	599-603-146-3	281.00
7125-626	0-12"	12	2.5"	599-603-128-3	380.00
7125-629	0-12"	12	4"	599-603-148-3	387.00
<b>METRIC READING (0.01 MM GRADUATIONS)</b>					
7125-630	0-75 mm	3	63.5 mm	599-603-223-1	233.00
7125-632	0-75 mm	3	100 mm	599-603-243-1	247.00
7125-631	0-150 mm	6	63.5 mm	599-603-226-1	272.00
7125-633	0-150 mm	6	100 mm	599-603-246-1	286.00

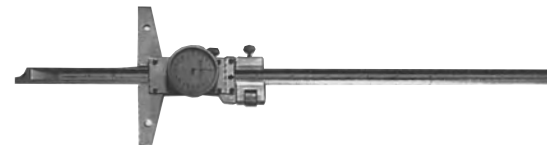
## Dial Depth Gages Series 527



ORDER NO.	RANGE	DIAL RESOLUTION	REMARKS	LIST PRICE
527-311-50	0-6"	.001"	with Fine Adjustment Feature	\$233.00
527-313-50	0-12"	.001"	with Fine Adjustment Feature	320.00

### FEATURES

- Made of hardened stainless steel.
- Base and measuring surfaces are hardened and micro-lapped.
- 4" standard base size.
- Wider extension bases are available as optional item.
- With fine-adjustment feature.
- Complete with fitted carrying case.





# Measuring Instruments

## Mitutoyo

### Depth Micrometers – Series 129

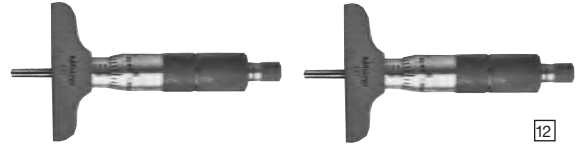
#### Interchangeable Rod Type

##### FEATURES

- Ratchet stop for consistent and repetitive measurements.
- .157" DIA. interchangeable rods, with lapped measuring end, are calibrated and tested at the factory. The rod length can be adjusted, to compensate wear on the measuring tip, with two supplied wrenches.
- Satin-chromed finished throughout.
- Crisp clear graduations on the thimble.
- Complete with fitted carrying case.

##### Metric

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
129-111	0–100mm	0.01mm	with Interchangeable Rods: 4 pcs. Base Length: 63.5mm	\$177.00
129-112	0–150mm	0.01mm	with Interchangeable Rods: 6 pcs. Base Length: 63.5mm	214.00
129-115	0–100mm	0.01mm	with Interchangeable Rods: 4 pcs. Base Length: 101.6mm	196.00
129-116	0–150mm	0.01mm	with Interchangeable Rods: 6 pcs. Base Length: 101.6mm	229.00



##### Inch

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
129-127	0–4"	.001"	with Interchangeable Rods: 4 pcs. Base Length: 2.5"	\$177.00
129-128	0–6"	.001"	with Interchangeable Rods: 6 pcs. Base Length: 2.5"	214.00
129-149	0–12"	.001"	with Interchangeable Rods: 12 pcs. Base Length: 2.5"	377.00
129-131	0–4"	.001"	with Interchangeable Rods: 4 pcs. Base Length: 4.0"	196.00
129-132	0–6"	.001"	with Interchangeable Rods: 6 pcs. Base Length: 4.0"	229.00
129-150	0–12"	.001"	with Interchangeable Rods: 12 pcs. Base Length: 4.0"	394.00

### Digit Depth Micrometers – Series 329,

#### Interchangeable Rod Type

##### FEATURES

- ø4mm interchangeable rods, with lapped measuring end, provide a wide measuring range
- The rod length can be adjusted in 1" or 25mm increments
- With ratchet stop for constant force, measuring rod clamp, SPC output
- Supplied in fitted plastic case.



##### Inch/Metric

ORDER NO.	RANGE	RESOLUTION	REMARKS	LIST PRICE
329-350-10	0–6" 0–152.4mm	.00005" 0.001mm	with SPC output with Interchangeable Rods: 6 pcs.	\$559.00
329-351-10	0–12" 0–304.8mm	.00005" 0.001mm	with SPC output with Interchangeable Rods: 12 pcs.	687.00

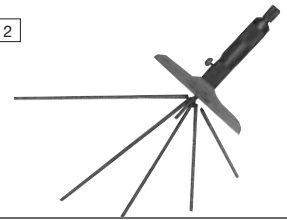
Metric available upon request. For SPC output order Connecting Cable **05CZA662** (1m) or **05CZA663** (2m). Replacement Battery: **541980**.

### Depth Micrometer

- Precision ground hardened base
- Satin chrome no-glare finish
- Ratchet stop for consistent and repetitive measurements
- Complete with fitted case



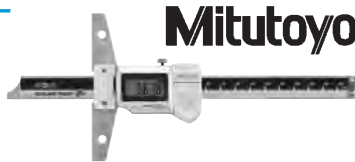
RANGE	GRAD.	BASE	NO. RODS	ORDER NO.	PRICE
0–4"	.001"	2-1/2"	4	3100-900	\$56.00
0–6"	.001"	2-1/2"	6	3100-902	70.00
0–4"	.001"	4"	4	3100-904	56.00
0–6"	.001"	4"	6	3100-906	72.00



### Digimatic Depth Gages – Series 571 with SPC Output

##### FEATURES

- No rack, no pinion, no glass scale. Linear Scale is safely embedded in the hardened stainless steel blade.
- Sliding LCD unit offers push button control for in/mm selection, absolute zero setting and turning the display on and off. Battery life is approximately two years with normal use.
- LCD unit displays "E-o5" for movement error and "B" for battery replacement. Note: sliding unit can be moved as fast as 40" per second.
- 6" and 8" models IP67 rated



##### Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
571-261-10	0–6"/ 0–150mm	.0005"/ 0.01mm	±.001"	Absolute Function Type	\$468.00
571-262-10	0–8"/ 0–200mm	.0005"/ 0.01mm	±.001"	Absolute Function Type	519.00
571-213-10	0–12"/ 0–300mm	.0005"/ 0.01mm	±.0015"	Absolute Function Type	466.00
571-214-10	0–18"/ 0–450mm	.0005"/ 0.01mm	±.002"	Absolute Function Type	765.00
571-215-10	0–24"/ 0–600mm	.0005"/ 0.01mm	±.002"	Absolute Function Type	830.00

For SPC output order connecting cable (for 6" & 8" only) **05CZA624** (1m) or **05CZA625** (2m).

### Dial Depth Gages

#### For Rapid, Direct Reading

#### Measurements of Hole Depth

##### FEATURES

- The Dial Indicator has a precision-ground, hard-chrome-plated stem with standard AGD 3/8" diameter. Contact point is hardened, ground and chrome-plated steel. Spindle rack, pinions and pivots are hardened stainless steel to insure long wear and continuing accuracy. Bezel is cleanly knurled and smoothly adjustable with a clamping screw for positive settings. Accuracy of the Dial Indicator exceeds Federal Specifications.
- Spindle lifting lever for raising and lowering and spindle is maintained under spring pressure.

## Mitutoyo

- Rods are available in 1", 2" and 4" lengths and may be connected for depths up to 8". (1" on Dial Indicator + 1" rod + 2" rod + 4" rod = 8".) 10, 20, 30 and 100mm rods for Metric model.
- Bottom surface of the base is hardened, ground and lapped for highest degree of flatness.
- Complete with fitted carrying case.
- Dial Indicator is attached to the base by a clamping screw & interchangeable with any other standard AGD dial indicator.



##### Inch

ORDER NO.	RANGE	DIAL RESOLUTION	SPINDLE STROKE	REMARKS	LIST PRICE
7217S	0–8"	.001"	1.0"	Measuring Force: 2.0N or less. Base Length: 2.5"	\$322.00
7218S	0–8"	.001"	1.0"	Measuring Force: 2.0N or less. Base Length: 4.0"	348.00

#### STANDARD ACCESSORIES

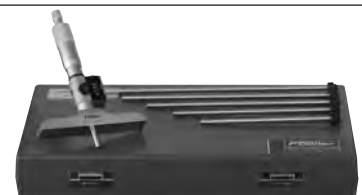
ORDER NO.	DESCRIPTION	LIST PRICE	ORDER NO.	DESCRIPTION	LIST PRICE
301655	1" Rod	\$7.60	301659	4" Rod	\$23.30
301657	2" Rod	11.80	21JZA242	Contact Point	9.50



### Digit Reading Depth Micrometer

MODEL NUMBER	DESCRIPTION	PRICE
52-225-226	0–6"	\$130.25

- Range: 0–6"
- Easy-to-read digit counter
- .001" graduation
- 4" base, hardened and ground
- Satin chrome finish
- Locking Clamp
- Furnished with shop hardened case



# Measuring Instruments

## Mitutoyo Tool Kits 12



Order No. 950-939-9  
(Digimatic Tool Kit)  
List Price \$376.00

INCLUDES:	DESCRIPTION
293-340	Digimatic micrometer (Ratchet Stop Type) (Range: 0-1", LCD Resolution: .00005")
500-196-20	Digimatic Caliper (Range: 0-6", LCD Resolution: .00005")
64PPP932	Mahogany Case



Order No. 64PKA077  
(Digimatic Tool Kit)  
List Price \$387.00

INCLUDES:	DESCRIPTION
293-348	Digimatic micrometer (Friction Thimble Type) (Range: 0-1", LCD Resolution: .00005")
500-196-20	Digimatic Caliper (Range: 0-6", LCD Resolution: .0005")
64PPP932	Mahogany Case

## Pittsburg ALLEGHANY Multi-Mike Micrometer Anvil Attachment Kit

Turns your Micrometer into 7 different Tools!  
Micrometer not included.

- Each Anvil Attachment is held on with its own reinforced Neoprene Boot.
- Made in the U.S.A. to exacting standards, this kit will fit any 1-12" Micrometer, English or Metric, and all brands too!
- All 7 anvils come packaged in protective hinged case.
- Can be used singly or in pairs.
- Ball Attachments are 0.200" Diameter, manufactured from Chrome Alloy Steel.
- All parts are Hardened: Finest Quality Steel, Finest Quality Surface Finish.
- All Anvils are 1/2" long.



ORDER NO.	PRICE EACH
3100-437	\$55.50

## Fowler XTRA-VALUE

### Depth Gage & Euro-Cal IV Kit

- Euro-Cal IV:**
- Range: 6"/150mm
  - Resolution .0005"/.01mm, frac. by 1/64 increments.
  - Water resistant to IP54 standards.
  - Absolute/incremental measurement.

**Xtra-Value Depth Gage:**

- Spring loaded w/hold measurement button for ease-of-use.
- Super large display • Range: 0-6"/150mm • Resolution: .0005"/.01mm, frac. by 1/64 increments. • Supplied in shop hardened case.



ORDER NO.	PRICE
54-004-330	\$129.20

## Fowler XTRA-VALUE

### Depth Gage & Poly-Cal® Kit

- Poly-Cal:**
- Range: 6"/150mm
  - Resolution .0005"/.01mm, frac. by 1/64 increments.
  - Polycarbonate frame • Absolute/incremental measurement.

**Xtra-Value Depth Gage:**

- Spring loaded w/hold measurement button for ease-of-use.
- Super large display • Range: 0-6"/150mm
- Resolution .0005"/.01mm, frac. by 1/64 increments. • Supplied in shop hardened case.



ORDER NO.	PRICE
54-004-255	\$65.95

## Pittsburg ALLEGHANY

### Ball Attachment

The most commonly used Micrometer accessory.

- Allows measurement of cylindrical wall thickness and single point contact on round parts
- Fits .235, .250 & .270 diameter Spindles.
- Chrome Alloy Ball, 0.200" diameter.
- Comes with attachment boot & (2) balls.
- Made in U.S.A..

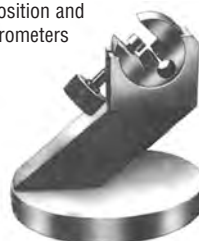


ORDER NO.	PRICE EACH
3100-438	\$3.25

## Pittsburg ALLEGHANY

### Micrometer Stand

- A heavy, finely finished stand, made of cast iron that can be adjusted to any position
- Provides desirable measuring position and angle for Inside and Outside Micrometers and many other instruments



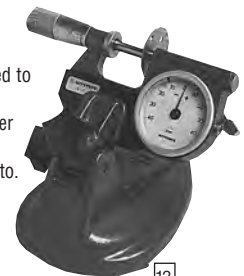
ORDER NO.	PRICE
3100-150	\$24.30

## Mitutoyo

### Micrometer Stand - Series 156

**FEATURES**

- These stands are designed to allow bench-top use with hand micrometers or other gages which have frame area sufficient to grab onto. Stand only - tool not included.



ORDER NO.	DESCRIPTION	LIST PRICE
156-101-10	For .5" thru 4" micrometers	\$104.00

# Measuring Instruments

## Dial Calipers – Series 505

Mitutoyo 



505-675

### FEATURES

- Improved durability, the sliding surfaces of the main blade are coated with TiN.
- QUADRI (4 way) measurement • Extra-rigid main beam. Hardened stainless steel.
- Slider displacements are amplified by a rack-and-pinion mechanism and indicated on the dial. • Supplied in fitted carrying case.
- **New Black-Face/Ratchet Type Model 505-675-66** features an alternative dial face in black with white markings and a bright orange indicating needle for easy reading. This model is also equipped with Mitutoyo's new ratchet thumb roller providing a positive-clicking action just like a micrometer ratchet thimble.

### Metric

ORDER NO.	RANGE	DIAL READING			LIST PRICE
		RESOLUTION	RANGE/REV.	ACCURACY	
505-680	0–100mm	0.01mm	1.0mm	±0.015mm	\$146.00
505-681	0–150mm	0.01mm	1.0mm	±0.02mm	153.00
505-682	0–150mm	0.01mm	1.0mm	±0.03mm	194.00
505-671	0–150mm	0.02mm	2.0mm	±0.03mm	131.00
505-707	0–150mm	0.02mm	2.0mm	±0.03mm	175.00
505-711	0–150mm	0.02mm	2.0mm	±0.03mm	196.00
505-672	0–200mm	0.02mm	2.0mm	±0.03mm	177.00
505-673	0–300mm	0.02mm	2.0mm	±0.04mm	271.00

## Dial Calipers – Series 505

### with Extra Smooth Movement

Specially designed internal mechanism which provides exceptionally smooth and easy movement along the beam. The Extra Smooth models take OD, ID, Depth & Step measurements.

### Metric

ORDER NO.	RANGE	DIAL READING			LIST PRICE
		RESOLUTION	RANGE/REV.	ACCURACY	
505-683	0–150mm	0.02mm	2.0mm	±0.03mm	\$145.00
505-684	0–200mm	0.02mm	2.0mm	±0.03mm	191.00

## Economy Dial Calipers

**Fowler** 

- 4-way measuring function
- Covered depth rod.
- .100" range per revolution.
- Dial Graduation: .001"
- Accuracy: .001"
- Hardened stainless steel rack.
- Supplied in molded case.

MODEL NUMBER	DESCRIPTION	PRICE
52-008-007	0–6" White	\$39.90
52-008-005	0–6" Black	39.90
52-008-008	0–8" White	82.05
52-008-012	0–12" White	99.80

**GENERAL**®

## Plastic Direct Reading Inch Dial Caliper



MODEL	ORDER NO.	PRICE
142	6944-145	\$39.42

- State of art reinforced plastic gives precision capabilities at an economical price.
- Measuring capacity 0 to 6".
- Contrasting color coded dial is graduated in .01 and 64ths with inch and mm on bar scale.
- Measures 4 ways: inside, outside, depth and step readings.
- No-glare easy to read dial with adjustable bezel.
- Free wheeling friction roller for repetitive and accurate readings.
- Fractional conversion table on back.
- Packed in reusable plastic hang-up case.



505-717

### Inch

ORDER NO.	RANGE	DIAL READING			LIST PRICE
		RESOLUTION	RANGE/REV.	ACCURACY	
505-717	0–6"	.001"	.20"	±.001"	\$ 108.00
505-675	0–6"	.001"	.10"	±.001"	118.00
505-675-53	0–6"	.001"	.10"	±.001"	118.00
505-675-54	0–6"	.001"	.10"	±.001"	118.00
505-675-66	0–6"	.001"	.10"	±.001"	127.00
505-718	0–6"	.001"	.20"	±.001"	147.00
505-712	0–6"	.001"	.10"	±.001"	196.00
505-716	0–4"	.001"	.20"	±.001"	92.90
505-719	0–8"	.001"	.20"	±.002"	161.00
505-676	0–8"	.001"	.10"	±.002"	173.00
505-720	0–12"	.001"	.20"	±.002"	248.00
505-677	0–12"	.001"	.10"	±.002"	266.00

### FEATURES

- Rolling thumb wheel.
- Rigid (3.4mm thick) main beam.
- Extra smooth movement.
- Hardened stainless steel throughout.
- Locking Clamp.

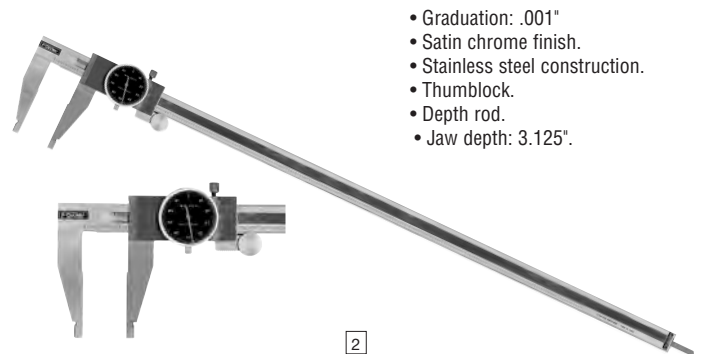
### Inch

ORDER NO.	RANGE	DIAL READING			LIST PRICE
		RESOLUTION	RANGE/REV.	ACCURACY	
505-689	0–6"	.001"	.10"	±.001"	\$145.00
505-690	0–8"	.001"	.10"	±.001"	191.00



**Fowler** 

## Long Range Dial Calipers



- Graduation: .001"
- Satin chrome finish.
- Stainless steel construction.
- Thumblock.
- Depth rod.
- Jaw depth: 3.125".

MODEL NUMBER	DESCRIPTION	PRICE
52-008-018	0–18"	\$182.85
52-008-024	0–24"	223.75

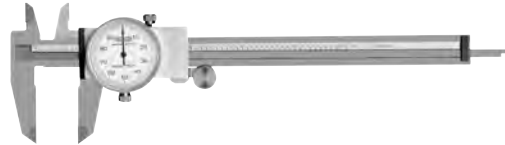
# Measuring Instruments



## Premium Brand Shockproof Dial Calipers with Thumbroll

MODEL NUMBER	DESCRIPTION	PRICE
52-008-706	0—6" White	\$54.75
52-008-707	0—6" Black	54.75
52-008-708	0—8" White	76.25
52-008-712	0—12" White	93.15

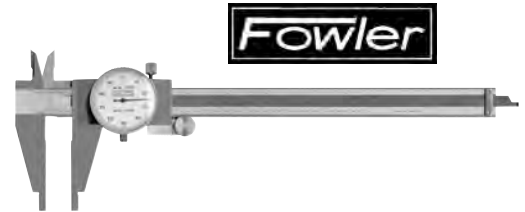
- 4-way jaws.
- Stainless steel construction.
- Silky smooth movement throughout.
- .100" range per revolution.
- .001" reading dial face.
- Shockproof design.
- Supplied in molded case.



## Heavy Duty Dial Caliper w/ Cross-Jaws for direct Internal Measurement

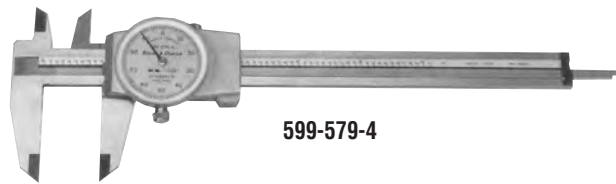
MODEL NUMBER	DESCRIPTION	PRICE
52-025-108	0—8" White	\$118.10
52-025-112	0—12" White	161.95

- Large 1-Rev dial.
- .001" Dial Graduations.
- .200" Range/revolution.
- 4 way measurement "Outside knife jaws".
- Thumbroll for precise control.
- Stainless steel construction with satin chrome finish.
- Includes wooden case.



## Dial-Cal® Dial Calipers

- Tough - Anti-backlash, shock-proof design
- Durable - Covered stainless steel rack
- Versatile - Measures inside, outside, depth & step
- Precise - .100"/2mm per revolution
- Reliable - Adjustable zero set and slide lock
- Easy-To-Read - 1.25" diameter rotating dial w/lock



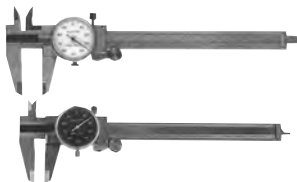
Select Traditional White Dial Face or New High Visibility "Jet-Console" Black Dial Face

ORDER NO.	RANGE	GRAD.	RANGE PER REV.	DESCRIPTION	JAW LENGTH EXTERNAL	B&S NO.	PRICE
7151-774	6"	.001	.100	w/ Silver Face	1.5"	599-579-4	\$158.00
7151-879	6"	.001	.100	w/ Jet Console, Blk. Face, Orange Hand	1.5"	599-579-5	158.00
7127-594	8"	.001	.100	w/ Silver Face	1.9"	599-579-8-1	261.00
7127-593	8"	.001	.100	w/ Jet Console, Blk. Face, Orange Hand	1.9"	599-579-8-5-1	261.00
7127-592	12"	.001	.100	w/ Silver Face	2.5"	599-579-12-1	312.00
7127-591	12"	.001	.100	w/ Jet Console, Blk. Face, Orange Hand	2.5"	599-579-12-5-1	312.00
7151-775	150mm	.02mm	2mm	Yellow	40mm	599-579-14	197.00
7144-297				Wood Case		599-578-9999	32.00



## Dial Calipers

- Outside, inside, depth and step measurement
- Made of hardened stainless steel, with satin chrome finish
- Measuring faces ground and micro-lapped for accuracy
- Covered rack keeps out dust and dirt, for longer caliper life
- Supplied with fitted case



RANGE	RES.	RANGE/REV.	FACE	ORDER NO.	PRICE
0-4"	.001"	.100"	White	3100-550	\$27.50
0-4"	.001"	.100"	Black	3100-551	27.50
0-6"	.001"	.100"	White	3100-555	23.30
0-6"	.001"	.100"	Black	3100-556	23.30
0-8"	.001"	.100"	White	3100-557	47.00
0-8"	.001"	.100"	Black	3100-558	47.00
0-12"	.001"	.100"	White	3100-560	65.00
0-12"	.001"	.100"	Black	3100-561	65.00
0-150mm	.02mm	2.0mm	White	3100-553	37.00



## T-Bar Base Attachment (Fits All B&S Dial-Cals)

Makes depth measurement of large (up to 3" diameter) holes easy and accurate.

ORDER NO.	B&S NO.	PRICE
7142-534	05.60013	\$39.00



## 4 Inch Slide Caliper

- Stainless steel caliper
- Inside and outside readings in 16ths and 32nds
- Decimal equivalents table on back
- 4" capacity.

MODEL	GRADS	ORDER NO.	PRICE
729	16ths and 32nds	6942-581	\$13.61





# Measuring Instruments

## Poly-Cal™ Electronic Caliper



- English/Metric/Fraction
- Range 6"/150mm
- Polycarbonate Frame.
- Large easy-to-read display.
- Resolution .001"/.01mm, fractions by 1/64 increments.
- Absolute/Incremental Measurement.
- Direct inch/metric conversion.
- 4 way measuring.
- Accuracy +/- .008"
- Supplied with vinyl pouch.



MODEL NUMBER	DESCRIPTION	PRICE
54-101-175	0-6"/150mm Poly-Cal	\$18.10

## Euro-Cal™ Electronic Caliper



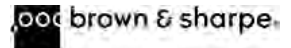
- Range 6"/150mm
- Reads in inch, metric, & fractions
- Direct inch/metric conversion.
- Absolute/Incremental Measurement.
- Water resistant to IP54 standards.
- Resolution: .0005"/.01mm, (fractions in 1/64 increments).



ORDER NO.	PRICE EACH
54-100-330-1	\$79.10

## IP67 Digital Electronic Calipers

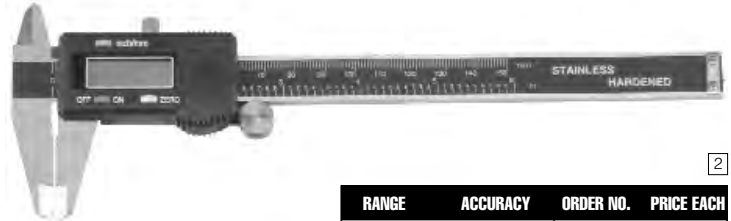
- IP67 Compliant - Unrivaled protection against penetration of liquid or solid contaminants.
- Full protection from oil and coolant splashes, as well as solid particles
- Encapsulation of the main components prevents dust, particles of metal, spraying liquids from entering the caliper
- New electronic measuring system protected from liquids and immuno to magnetic fields
- Specifications consistent with DIN 862 • Large, 1/4" LC display for easy reading
- Auto shut-off after two hours • Instant inch/metric conversion
- Power supply: one 3V lithium battery, type CR 2032
- Battery life: approx. 1.5 years



PART NO.	EDP NO.	DESCRIPTION	THUMB WHEEL	RANGE	PRICE EACH
7127-679	27679	Dura-Cal IP67	Y	6"/150mm	\$195.00
7129-726	29726	TESA-Cal IP67	N	6"/150mm	211.00
7120-117	20117	TESA-Cal IP67	Y	8"/200mm	327.00
7120-118	20118	TESA-Cal IP67	Y	12"/300mm	479.00
7128-466	28466	" w/ RS-232	Y	6"/150mm	264.00
7128-467	28467	" w/ RS-232	Y	8"/200mm	342.00
7128-468	28468	" w/ RS-232	Y	12"/300mm	554.00

## Electronic Caliper

- Resolution to .0005"/.01mm for error-free reading.
- Three-key type: On/Off, Inch/mm & Zero.
- Made of stainless steel and hardened.
- 4-way measurement for outside, inside, depth and step.
- Thumb roller for moving the slider in small and smooth increments.
- Battery life: 18 months under normal use.
- Power supply: One button battery SR 44, 1.55v.



RANGE	ACCURACY	ORDER NO.	PRICE EACH
6"/150mm	+/- .001"/.02mm	3100-546	\$29.95

## Coolant Proof Digimatic Caliper with Absolute Encoder



Introducing Mitutoyo's coolant-proof caliper, the world's first digital caliper sealed against fluids and contaminants! The toughest digital caliper in the world—the first that's IP-67 rated: coolant-proof, dust-proof, chip-proof. Use it anywhere in the shop. It also includes Mitutoyo's patented absolute encoder technology, the "Set-n-Forget" origin set-up feature. Now you can take digital measurements in places you never could before! Models available with SPC output.

### Technical Data:

Measuring Ranges	0-6"/0-150mm, 0-8"/0-200mm, 0-12"/0-300mm
Resolution	.0005" / 0.01mm
Accuracy	±.001" / ±0.02mm, (12" is ±.0015")
Repeatability	.0005" / 0.01mm
Dust/Water protection level	IP-67 (IEC 60529)
Display	LCD, Character height: .3" (7.5mm)
Functions	Origin setting, inch/mm conversion, automatic power On/Off
Battery	SR44 (1 piece) up to 8" (2 piece) for 12"
Battery life	(0-6") Approx. 3-yr. (0-12") Approx. 1-yr. under normal use
Measuring system	Electromagnetic induction type absolute linear encoder
Response speed	Unlimited



### Protection against water

Level:5: Protection against water spray.  
Definition: Protect the equipment against water spray\* from any direction.

### IP-67 Protection Class

Operator-safe and protection against foreign matter  
Level:6: Protection against dust.  
Definition: Protect the equipment against dust not to penetrate.

\* Condition: Using a nozzle with a 6.3mm ID and splash water with 30Kpa water pressure (approx. 12.5 l/min) on the equipment from a distance of three meters for three minutes or over (1 minute per 1m<sup>2</sup> superficial area).

ORDER NO.	RANGE	LCU RESOLUTION	ACCURACY	REMARKS	LIST PRICE
500-752-10	0-6", 0-150mm	.0005", 0.01mm	±.001"	IP-67, no SPC	\$198.00
500-753-10	0-8"/0-200mm	.0005", 0.01mm	±.001"	IP-67, no SPC	265.00
500-754-10	0-12"/0-300mm	.0005", 0.01mm	±.0015"	IP-66, no SPC	458.00
500-762-10	0-6", 0-150mm	.0005", 0.01mm	±.001"	IP-67, w/SPC	235.00
500-763-10	0-10"/0-200mm	.0005", 0.01mm	±.001"	IP-67, w/SPC	295.00
500-764-10	0-12", 0-300mm	.0005", 0.01mm	±.0015"	IP-66, w/SPC	509.00

## Centerline Gages

Quickly measures hole to hole centers

### FEATURES

- Fits 4", 6", and 8" Calipers 0.375" Diameter x 2.20" Long.
- Read centerline distances directly without conversions.
- 60 Degree Conical Points.
- Hardened Steel with Black Oxide finish.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3100-465	\$19.95

## Universal Caliper Accessory Kit

- Outfits any 4-6-8" Caliper.
- Measures slots, grooves, webs, shoulders, holes, pockets.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3100-402	\$35.75

# Measuring Instruments

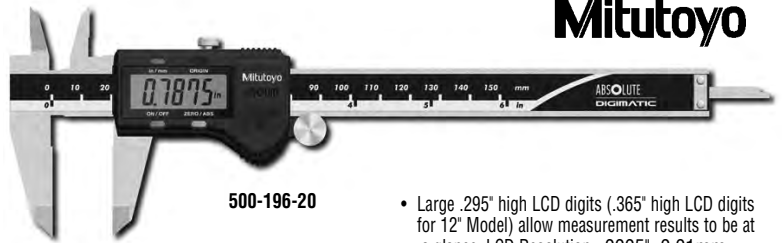
## Digimatic Calipers with Absolute Encoder – Series 500 – without SPC output

Introducing the new Digimatic MyCal E-Z Caliper featuring ABSOLUTE LINEAR ENCODER technology. It has achieved superior cost performance and ease of use by featuring only essential functions.

### Inch/Metric (Non-SPC Output Models)

ORDER NO.	MEASURING RANGE	ACCURACY (20°C)	REMARKS	LIST PRICE
500-195-20	0-4", 0-100mm	±.001"		\$140.00
500-196-20	0-6", 0-150mm	±.001"		151.00
500-197-20	0-8", 0-200mm	±.001"		217.00
500-193	0-12", 0-300mm	±.0015"		426.00
CARBIDE JAW MODELS				
500-159-20	0-6", 0-150mm	±.001"	with OD Carbide Jaw	235.00
500-160-20	0-6", 0-150mm	±.001"	with OD, ID Carbide Jaw	303.00
500-163-20	0-8", 0-200mm	±.001"	with OD Carbide Jaw	286.00
500-164-20	0-8", 0-200mm	±.001"	with OD, ID Carbide Jaw	378.00
500-165	0-12", 0-300mm	±.0015"	with OD Carbide Jaw	570.00
500-166	0-12", 0-300mm	±.0015"	with OD, ID Carbide Jaw	706.00

Replacement Battery: 541980 (1 pc.)



500-196-20

### FEATURES

- The Absolute MyCal E-Z allows direct measurements from power on. You can forget the time consuming origin setup which otherwise is required each time the power is turned on.
- Zero-setting of the display is also possible at any slider position for easy comparison measurements (incremental mode).

### SPECIFICATIONS

Quantizing Error: ±1 count      Function: ORIGIN Setting, ZERO/ABS, ON/OFF, Inch/Metric  
 Response Speed: Unlimited      Battery: Silver oxide cell SR-44 (1 pc.) Part No. 541980  
 Battery Life: Approx. 20,000 hrs. (continuous operation)

Mitutoyo

- Large .295" high LCD digits (.365" high LCD digits for 12" Model) allow measurement results to be at a glance. LCD Resolution: .0005", 0.01mm
- A scale contamination detection function is implemented to detect contamination of surface and display the error message (ErrC) on the LCD. The correct value is only displayed if the contamination is removed.
- The battery life has been greatly extended with the power-conserving design permitting 3.5 years (20,000 hours) continuous operation with a single battery.

Shop-Cal® Digital Calipers

## Shop-Cal® Digital Calipers



The Brown & Sharpe Shop-Cal provides easy-to-read, accurate measurements of day-to-day operations. Stainless steel for durable, reliable and accurate measurements.

- Absolute and differential measuring system
- A large, 1/4" LC display for easy readings
- Auto shut-off
- Instant inch/metric conversion
- Battery life: approx. 1.5 years
- Power supply: 3V lithium-battery, type CR 2032

ORDER NO.	MEASURING RANGE	ACCURACY (20°C)	LIST PRICE
7147-080	0 - 6" / 0 - 150 mm	.0005" / 0.01 mm	\$146.00
7147-167	0 - 8" / 0 - 200 mm	.0005" / 0.01 mm	217.00
7147-168	0 - 12" / 0 - 300 mm	.0005" / 0.01 mm	297.00

Fowler

## Electronic Calipers

- Direct inch/metric conversion.
- Resolution: .0005"/.01mm
- Accuracy: 4" & 6" models: .001"/.02mm
- 8" & 12" models: .0015"/.03mm
- Large easy-to-read LCD display.
- Includes shop hardened case.



54-100-777-1

54-100-000-1

MODEL NUMBER	DESCRIPTION	PRICE
54-100-004-1	0-4"	\$79.45
54-100-000-1	0-6"	79.35
54-100-008-1	0-8"	112.85
54-100-112-1	0-12"	132.35
54-100-777-1	0-6" IP54 Water Resistant	97.45
54-100-712	0-12" IP54 Water Resistant	141.75

Mitutoyo

## Digimatic Calipers with Absolute Encoders – Series 500 – with SPC output

Mitutoyo's new Absolute Encoder Digimatic Caliper offers special functions which allow it to always remember its measuring position even after the gage has been switched off.

- Origin: Allows setting of an origin starting point to be used as reference in subsequent measurements (generally set to closed jaw position). Once set, the Absolute Encoder caliper will switch on showing its true position from the origin point rather than 0.0000 as with standard models.
- Zero/ABS: Allows the display to be Zero-Set at any point along the slider for incremental comparison measurements. This switch will also allow return to the absolute mode and display of the true position from the origin point.



500-171-20

Also provided in inch/mm conversion and SPC data output. Another outstanding feature of the Absolute Encoder Digimatic Caliper is 3.5 years of use under normal working conditions from just a single SR44 battery cell. (541980)

### Inch/Metric (SPC Output Models)

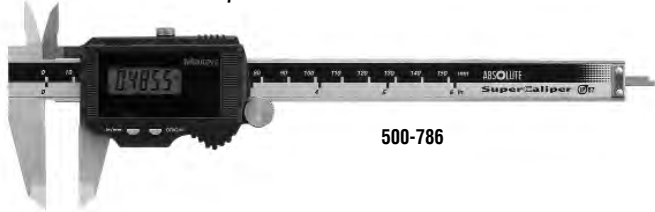
ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
500-170-20	0-4", 0-100mm	.0005", 0.01mm	±.001"	.075" Round Depth Bar	\$167.00
500-171-20	0-6", 0-150mm	.0005", 0.01mm	±.001"		178.00
500-174-20	0-6" 0-150mm	.0005" 0.01mm	±.001"	with OD Carbide Jaw, Absolute Function Type	340.00
500-175-20	0-6" 0-150mm	.0005" 0.01mm	±.001"	with OD, ID Carbide Jaw, Absolute Function Type	363.00
500-172-20	0-8", 0-200mm	.0005", 0.01mm	±.001"		234.00
500-176-20	0-8" 0-200mm	.0005" 0.01mm	±.001"	with OD Carbide Jaw, Absolute Function Type	378.00
500-177-20	0-8" 0-200mm	.0005" 0.01mm	±.001"	with OD, ID Carbide Jaw, Absolute Function Type	399.00
500-167	0-12" 0-300mm	.0005" 0.01mm	±.0015"	with OD Carbide Jaw	616.00
500-168	0-12", 0-300mm	.0005", 0.01mm	±.0015"	with OD, ID Carbide Jaw	720.00
500-173	0-12", 0-300mm	.0005", 0.01mm	±.0015"		497.00
500-505-10	0-18" 0-450mm	.0005" 0.01mm	±.002"	without Depth Bar, Absolute Function Type	776.00
500-506-10	0-24" 0-600mm	.0005" 0.01mm	±.002"	without Depth Bar, Absolute Function Type	852.00
500-507-10	0-40" 0-1,000mm	.0005" 0.01mm	±.003"	without Depth Bar, Absolute Function Type	1650.00

For SPC output order Connecting Cable 959149 (1m) or 959150 (2m).  
 Replacement Battery: 541980 (1pc), Add On Hold Switch: 959143

# Measuring Instruments

## Digimatic IP67 Super Solar Powered Calipers Series 500 (Solar CD)

With or Without SPC Output



The Solar Absolute (ABS) MyCAL is Mitutoyo's latest advancement in caliper technology. This unique caliper incorporates an absolute scale which always reads its true position from the origin point. Power is supplied by built-in solar cells which operate even in low light conditions down to 60 Lux.

The ABS feature eliminates the need for zero setting each time the caliper is turned on. The Solar Absolute MyCAL will always turn on showing its true position (not 0.0000 as standard calipers do). Memory of the origin point will not be lost when power is cut off even if the caliper is left in complete darkness for extended periods. Additionally, the ABS scale provides unlimited response speed which means no more over-speed errors. For comparison measurements an incremental measurement function is also provided.

### Inch/Metric

ORDER NO.	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
500-786	0-6" 0-150mm	.0005" 0.01mm	±.001"	with SPC output	\$252.00
500-787	0-8" 0-200mm	.0005" 0.01mm	±.001"	with SPC output	313.00
500-784	0-6" 0-150mm	.0005" 0.01mm	±.001"	without SPC output	222.00
500-785	0-8" 0-200mm	.0005" 0.01mm	±.001"	without SPC output	290.00

For SPC output order Connecting Cable **05CZA624** (1m) or **05CZA625** (2m).  
Note: Solar Cells should be maintained over 60 lux.

## Digimatic Carbon Fiber Calipers Series 552



These large Digimatic Calipers have a beam constructed of a strong carbon fiber which makes them both durable and easy to handle.

### FEATURES

- Lightweight Digimatic caliper that employs CFRP (Carbon Fiber Reinforced Plastics) in the beam and jaws.
- Display: 6-digit LCD with a minus sign (-).
- Functions include: Preset of desired starting point inch/mm conversion, Zero-setting, Data hold, Error alarm, Low battery alarm, Data output.
- Power supply: One SR44 (**541980**).
- Battery life: Approx. two years under normal use (Approx. one year in continuous operation).
- Provided with a data output port for connection with the SPC system.

### Inch/Metric

ORDER NO.	RANGE OUTSIDE	RANGE INSIDE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE
552-312-10	0-18" 0-450mm	.5-18.5" 12.7-462.0mm	.0005" 0.01mm	±.002"	with SPC output	\$897.00
552-313-10	0-24" 0-600mm	.5-24.5" 12.7-612mm	.0005" 0.01mm	±.002"	with SPC output	997.00

For SPC output order Connecting Cable **905338** (1m) or **905409** (2m).



## XTRA-VALUE CAL

### Electronic Calipers

- Resolution: .0005"/.01mm
- Stainless steel frame.
- Large easy-to-read display.
- Absolute/incremental measurement.
- Direct inch/metric conversion.
- 4 way measuring.
- Complete in case.



MODEL NUMBER	DESCRIPTION	PRICE
54-101-150-2	0-6"/150mm	\$33.10
54-101-300-1	0-12"/300mm	88.40

### Electronic Calipers



MODEL NUMBER	DESCRIPTION	PRICE
54-100-312	0-12"	\$164.45
54-100-024-1	0-24"	243.10
54-100-042-1	0-40"	661.50
54-115-778	RS-232C Output Cable	51.00

- RS232C Direct output
- Hold feature
- Preset mode now includes offset for inside jaws.
- Full size .0005" digital display
- Longer jaws permit greater accessibility.
- Fine adjustment screw
- Resolution: .0005"/.01mm
- Direct inch/metric conversion.
- Includes wooden case.

## Mitutoyo Long Jaw Vernier Calipers with Fine Adjustment

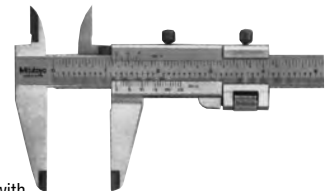


### Inch

ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	LIST PRICE
	LOWER SCALE	UPPER SCALE	LOWER SCALE	UPPER SCALE		
160-124	0-12"	.3-12"	.001"	.001"	±.0015"	\$ 457.00
160-116	0-18"	.5-18"	.001"	.001"	±.002"	698.00
160-102	0-24"	.5-24"	.001"	.001"	±.002"	843.00
160-105	0-40"	1.0-40"	.001"	.001"	±.003"	1560.00
160-111	0-60"	1.0-60"	.001"	.001"	±.004"	3030.00
160-114	0-80"	1.0-80"	.001"	.001"	±.005"	3890.00

## Mitutoyo Precision Vernier Calipers - Series 532

### Precision Vernier Calipers - Series 532



### FEATURES

- The finest of vernier calipers for accurate work, with Mitutoyo's exclusive "Quardi" 4-way measuring feature.
- Can measure OD, ID, depth and steps.

### Vernier Caliper (with Fine Adjustment)

### Inch/Metric

ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	LIST PRICE
	LOWER SCALE	UPPER SCALE	LOWER SCALE	UPPER SCALE		
532-119	0-130mm	0-5"	0.02mm	.001"	±0.03mm	\$ 111.00
532-120	0-180mm	0-7"	0.02mm	.001"	±0.03mm	127.00
532-121	0-280mm	0-11"	0.02mm	.001"	±0.04mm	277.00



# Measuring Instruments

## Mitutoyo

### Vernier Caliper (with Thumb Clamp)



Inch 12

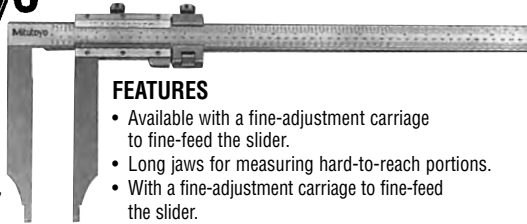
ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	LIST PRICE
	LOWER SCALE	UPPER SCALE	LOWER SCALE	UPPER SCALE		
531-113	0-6"	0-6"	.001"	1/128"	±.0015"	\$ 102.00

Metric

531-128	0-150mm	0-6"	0.02mm	.001"	±0.03mm	\$102.00
531-108	0-200mm	0-8"	0.05mm	1/128"	±0.05mm	127.00
531-129	0-200mm	0-8"	0.02mm	.001"	±0.03mm	127.00

## Mitutoyo

### Vernier Calipers Series 534



#### FEATURES

- Available with a fine-adjustment carriage to fine-feed the slider.
- Long jaws for measuring hard-to-reach portions.
- With a fine-adjustment carriage to fine-feed the slider.

534-107

### Long Jaw Vernier Calipers

Inch 12

ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	LIST PRICE
	OUTSIDE	INSIDE	OUTSIDE	INSIDE		
534-117	0-12"	3-12"	.001"	.001"	1.002"	\$ 480.00
534-118	0-20"	8-20"	.001"	.001"	1.003"	825.00
534-119	0-30"	8-30"	.001"	.001"	1.004"	1090.00
534-120	0-40"	8-40"	.001"	.001"	±.004"	1510.00

Inch/Metric

ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	LIST PRICE
	LOWER SCALE	UPPER SCALE	LOWER SCALE	UPPER SCALE		
534-105	0-300mm	0-12"	0.02mm	.001"	±0.04mm	\$ 480.00
534-106	0-500mm	0-20"	0.02mm	.001"	±0.06mm	825.00
534-107	0-750mm	0-30"	0.02mm	.001"	±0.08mm	1090.00
534-108	0-1000mm	0-40"	0.02mm	.001"	±0.10mm	1510.00

### Precision Vernier Caliper

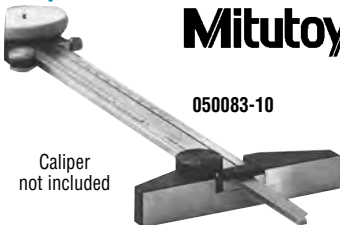
- For outside, inside and depth measurement
- Made of fully hardened stainless steel
- Satin chrome finish
- Supplied with fitted case



RANGE	GRAD.	ORDER NO.	PRICE
0-6"/150mm	.001"/.02mm	3100-305	\$15.00
0-8"/200mm	.001"/.02mm	3100-306	23.00
0-12"/300mm	.001"/.02mm	3100-307	42.00

### Depth Base Attachment

## Mitutoyo



050083-10

Caliper not included

#### FEATURES

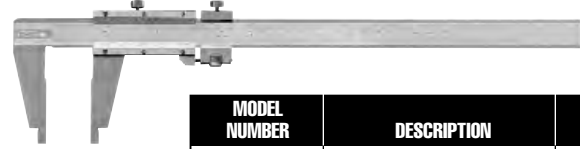
- For 4", 6", 8", and 12" Mitutoyo Vernier and Dial Calipers.
- Choice of 3" or 4" base length for 6" and 8" models.
- Finely ground base surface and secure locking clamp.

ORDER NO.	LENGTH	DESCRIPTION	LIST PRICE
050083-10	3"	For 4", 6" & 8" models	\$47.05
050084-10	4"	For 4", 6" & 8" models	56.45
050085-10	5"	For 12" models only	66.15

### Master Vernier Calipers



- Machine engraved from master.
- Slide type fine adjust thumbwheel.
- Nib design measures both inside & outside dimensions.
- Satin chrome finish.
- Graduation: .001"/.02mm
- Price includes fitted case



MODEL NUMBER	DESCRIPTION	PRICE
52-085-012	0-12"/300mm	\$117.80
52-085-024	0-24"/600mm	235.60
52-085-040	0-40"/1200mm	578.55
52-085-060	0-60"/1500mm	2291.65

## Mitutoyo

### Vernier Calipers

- Available with a fine-adjustment carriage to fine-feed the slider.
- Long jaws for measuring hard-to-reach portions.
- With a fine-adjustment carriage to fine-feed the slider.

Inch 12

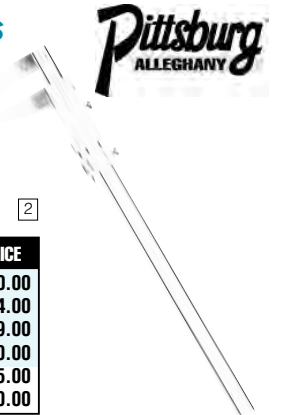
ORDER NO.	RANGE		VERNIER RESOLUTION		ACCURACY	REMARKS	LIST PRICE
	LOWER SCALE	UPPER SCALE	LOWER SCALE	UPPER SCALE			
530-105	0-6"	0-6"	.001"	1/128"	±.0015"		\$ 98.60
530-116	0-8"	0-8"	.001"	1/128"	±.0015"		117.00

Metric

530-104	0-150mm	0-6"	0.05mm	1/128"	±0.05mm	—	\$71.80
530-312	0-150mm	0-6"	0.02mm	.001"	±0.03mm	—	98.60
530-118	0-200mm	0-8"	0.02mm	.001"	±0.03mm	—	117.00
530-101	0-150mm	—	0.05mm	—	±0.05mm	—	98.60

### Heavy Duty Vernier Calipers

- Longer jaws for greater accessibility and simpler measurement of large work pieces
- Easy to read Vernier scales with clear, crisp black engraved graduations
- Fine quality stainless steel construction
- Satin chrome finish
- Supplied with fitted case



RANGE	GRAD.	ORDER NO.	PRICE
0-12"/300mm	.001"/.02mm	3100-312	\$ 50.00
0-18"/450mm	.001"/.02mm	3100-318	94.00
0-24"/600mm	.001"/.02mm	3100-320	149.00
0-40"/1000mm	.001"/.02mm	3100-322	280.00
0-60"/1500mm	.001"/.02mm	3100-324	535.00
0-80"/2000mm	.001"/.02mm	3100-326	850.00

### Depth Base Attachment For Calipers

#### For 12" Calipers - 5/8" Wide x 5" Long.

- Fits all brands of 4", 6", 8" Calipers.
- Precision Ground Base.
- Screw Locking Clamp.
- Each unit hand inspected.

ORDER NO.	DESCRIPTION	PRICE EACH
3100-395	3" Base - Fits 6" Calipers	\$33.25
3100-396	4" Base - Fits 8" Calipers	34.25
3100-397	5" Base - Fits 12" Calipers	41.75





# Measuring Instruments



## Vernier Height Gage

- Stainless steel beam and measuring slide 2
- Supplied with scribers, holder and fitted case
- Adjusting slide scale for fine adjustment
- Dial test indicator (ordered separately) can replace scriber
- Satin chrome finish with micro-fine engraved graduations

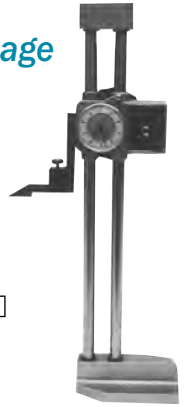


RANGE	GRAD.	ORDER NO.	PRICE
10"/200mm	.001"/.02mm	<b>3100-210</b>	<b>\$100.00</b>
12"/300mm	.001"/.02mm	<b>3100-212</b>	<b>92.00</b>
18"/450mm	.001"/.02mm	<b>3100-218</b>	<b>139.00</b>
24"/600mm	.001"/.02mm	<b>3100-224</b>	<b>172.50</b>



## Double-Beam Dial Height Gage

- Carbide tipped scriber
- Chrome plated double beams by depressing zero-reset button
- Large feed wheel for coarse and fine vertical adjustments
- Bottom of base is hardened, ground and lapped for maximum flatness
- Dual directional counter can be zero set at any height within range
- Easy to read Dial Indicator and Digital Counter



RANGE	GRAD.	ORDER NO.	PRICE
12"	.001"	<b>3100-952</b>	<b>\$185.00</b>
18"	.001"	<b>3100-954</b>	<b>230.00</b>
24"	.001"	<b>3100-956</b>	<b>300.00</b>

## Mitutoyo

### Digital Counter Type Height Gages - Series 192

#### FEATURES

- Easy and error-free reading with both up and down digital counters as well as a dial.
- The counters and dial can be zero-set at any scriber position.
- Provided with a feed wheel for easy coarse feeding.
- Standard carbide-tipped scriber.



#### Inch

ORDER NO.	RANGE	DIAL GRADUATION	DIGITAL COUNTER GRADUATION	MASS (lbs.)	LIST PRICE
<b>192-150</b>	0-12"	.001"	.1" (Dual Reading)	±.0015" 9.26	<b>\$ 961.00</b>
<b>192-151</b>	0-18"	.001"	.1" (Dual Reading)	±.002" 20.28	<b>1330.00</b>
<b>192-152</b>	0-24"	.001"	.1" (Dual Reading)	±.002" 21.60	<b>1730.00</b>
<b>192-153</b>	0-40"	.001"	.1" (Dual Reading)	±.003" 37.5	<b>3780.00</b>

Standard Accessories: Scriber (900258) & Scriber Clamp (901385)

## Mitutoyo HDS Digimatic Height Gages - Series 570 with output for SPC

#### FEATURES

- Can easily measure the height of small parts.
- Absolute encoder for direct measurement from power on.
- Unlimited response speed • Economical energy-saving design
- Display: LCD, 6 digits and a minus sign (-).
- Functions include: Zero-setting (ABS and INC modes), Presetting (ABS and INC modes), Data hold, Counting direction changeover, Inch/mm conversion, Data output, Error alarm, Low battery alarm.
- Provided with a data output port for connection with the SPC system.



#### Inch/Metric

ORDER NO.	570-312	570-313	570-314
Measuring Range	0-12" 0-300mm	0-18" 0-450mm	0-24" 0-600mm
Resolution	.0005"/0.01mm		
Accuracy	±.0015"	±.0015"	±.0015"
Repeatability	.0005" (0.01mm)		
Power Supply	Silver oxide cell (SR-44) 1 pc <b>541980</b>		
Data Output	Digimatic code output (SPC output)		
Mass	10.12 lbs.	12.98 lbs.	14.08 lbs.
Standard Accessories:			
Scriber	(900258)	(900258)	(900258)
Scriber Clamp	(901385)	(901385)	(901385)
<b>LIST PRICE</b>	<b>\$594.00</b>	<b>\$834.00</b>	<b>\$1070.00</b>

For SPC output order connecting cable **905338** (1m) Or **905409** (2m).

## Mitutoyo Digimatic Height Gages - Series 192

Self-contained Electronic Inch/Metric Display

#### FEATURES

- Easy-to-use standard type. • Carbide-tipped scriber is provided.
- Double-column structure ensures high measuring accuracy.
- Functions include: Coarse/Fine Feed switching, switchable resolution, Two preset reference height, zero setting, ABS/INC switching, two presets, probe tip dia. compensation, +/- switching, Power ON/OFF, Data Hold, no output, inch/mm conversion, alarm: low voltage, counting value composition error



ORDER NO.	192-630-10	192-631-10	192-632-10	192-966-10
Measuring Range	0-12" 0-300mm	0-18" 0-450mm	0-24" 0-600mm	0-40" 0-1000mm
Resolution	.0005" (0.01mm), (.0002" (0.005mm) Switchable)			
Accuracy (20° C)	±.001"	±.002"	±.003"	
Display	LCD, 7 digit, character height 11mm			
Response Speed	500mm/s			
Battery	SR44 (938882)			
Mass (kg)	4.7	7.5	8.3	15.7
Standard Accessories:	Carbide Tipped Scriber <b>905258</b> Scriber Clamp <b>901385</b>			
<b>LIST PRICE</b>	<b>\$1460.00</b>	<b>\$2000.00</b>	<b>\$2540.00</b>	<b>\$4820.00</b>



## Twin Beam Electronic Height Gage

- Large LCD display
- Direct inch/metric conversion
- Resolution: .001"/.01mm
- Accuracy:  
12" model: .0015"  
24" model: .002"
- Hold Function
- ABS/INC function allows measurements of the true size or comparison measurements of parts to master.
- Dual chrome plated beams
- Carbide tipped scriber
- Base is hardened, ground & lapped for maximum flatness.
- Includes molded case



MODEL NUMBER	DESCRIPTION	PRICE
<b>54-174-212-1</b>	12"/300mm	<b>\$312.20</b>
<b>54-174-224-1</b>	24"/600mm	<b>607.55</b>

# Measuring Instruments

## Digimatic Height Gages – Mitutoyo Series 192 Heavy Duty Type

### FEATURES

- Highly versatile multi-function type. • Carbide tipped long scriber is provided.
- Rigid construction ensures repeatable measurement. • Switchable resolution.
- Bi-directional touch signal probe is an optional accessory. It can quickly and accurately measure steps, inside width, and outside width.
- Coarse/Fine Feed switching. • With SPC data output. • Two preset reference height.

- **Functions include:** Zero-setting, ABS/INC switching, two presets, probe tip diameter compensation, +/- switching, power ON/OFF, data hold, data output, inch/mm conversion Alarm: low voltage, counting value composition error



**SPC**  
192-670-10  
Probe Optional

### Inch/Metric

ORDER NO.	192-670-10	192-671-10	192-672-10	192-673-10
<b>Measuring Range</b>	0-12" 0-300mm	0-18" 0-450mm	0-24" 0-600mm	0-40" 0-1000mm
<b>Resolution</b>	.0005" (0.01mm), (.0002" (0.005mm) Switchable)			
<b>Accuracy</b>	±.001"		±.0015"	
<b>Display</b>	LCD, 7 digit, character height 11mm			
<b>Response Speed</b>	500mm/s			
<b>Battery</b>	SR44 (938882)			
<b>Mass (kg)</b>	5.7	7.5	8.3	15.7
<b>Standard Accessories:</b>	Carbide Tipped Scriber <b>905201</b> Scriber Clamp <b>901385</b>			
<b>Data output</b>	SPC output			
<b>Optional Accessories</b>	Two-directional Touch Probe (192-008) Measuring force 0.4N			
<b>LIST PRICE</b>	\$1680.00	\$2160.00	\$2770.00	\$5190.00

For SPC output order Connecting Cable No. **905338** (1m) or **905409** (2m).

## Pittsburgh ALLEGHANY Double-Beam Electronic Height Gage

- On/Off switch, Plus/Minus preset button, Metric/Inch conversion button, Zero Preset and Function button
- Switchable rapid/fine adjustment with large feed wheel
- Stainless steel frame
- Carbide tipped scriber



RANGE	GRAD.	ORDER NO.	PRICE
12"/300mm	.001"/.02mm	<b>3100-960</b>	<b>\$295.00</b>
18"/450mm	.001"/.02mm	<b>3100-962</b>	<b>379.00</b>
24"/600mm	.001"/.02mm	<b>3100-964</b>	<b>499.00</b>

## Pittsburgh ALLEGHANY Electronic Digital Height Gage

- Switchable Inch/Metric high contrast LCD with fine adjustment device
- Non-contact measuring system keeps out chips, oil, dust and dirt
- Ground and hardened stainless steel frame
- Base precision ground and micro-lapped for maximum flatness
- Carbide tipped scriber



RANGE	GRAD.	ORDER NO.	PRICE
12"/300mm	.0005"/.01mm	<b>3100-970</b>	<b>\$200.00</b>
18"/450mm	.0005"/.01mm	<b>3100-972</b>	<b>300.00</b>
24"/600mm	.0005"/.01mm	<b>3100-974</b>	<b>400.00</b>

## Heightmatic – Series 574 Mitutoyo

### HIGH PRECISION DIGITAL HEIGHT GAGE

The Mitutoyo Heightmatic is a new high precision digital height gage designed for applications needing extremely accurate measurements. The Heightmatic can easily use a contact sensor, test indicator or Mu-Checker.

### FEATURES

- Resolution of .0001"/0.001mm
- Excellent functionality and easy operation. Fine feed wheel for the slider is provided on the base for convenient operation.
- Bi-directional touch signal probe for improved efficiency and reliability of measurement.
- Functions include: Zero-setting, Presetting, Probe tip diameter compensation, +/- switching, Inch/mm conversion, Data hold, Data output,
- Alarm: Counting value composition error
- Provided with a data output port for connection with the SPC system.
- Carbide-tipped scriber.
- Measuring force 0.4N.

Touch Probe (574-007)



574-210-1A  
Shown with optional Touch Probe

### Inch/Metric

ORDER NO.	574-210-1A	574-211-1A
<b>Measuring Range</b>	0-24"/0-600mm	0-18"/0-450mm
<b>Resolution</b>	.0001"/0.001mm	
<b>Accuracy</b>	±.0002"	
<b>Squareness (Frontal)</b>	±.0004"	±.0003"
<b>Straightness</b>	.0002"	
<b>Length Standard</b>	Linear Encoder	
<b>Response Speed (MAX)</b>	20"/s (500mm/s)	
<b>Display</b>	Fluorescent tube (6-digit, -sign)	
<b>Power Supply</b>	AC Adapter (9V 500mA)	
<b>Mass</b>	36 lbs.	33 lbs.
<b>Standard Accessories:</b>	AC Adapter (526688A) Touch Probe (574-007)	Scriber Clamp (901385)
<b>PRICE EACH</b>	<b>\$5920.00</b>	<b>\$5310.00</b>

## Fowler Z-HEIGHT

### Electronic Digital Height Gage

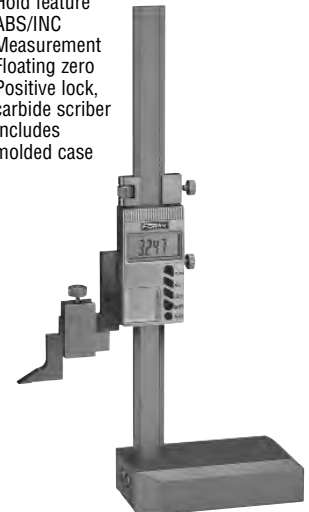
- Direct Inch/Metric Conversion
- Accuracy: 0-12" model: ±.0015" 0-24" model: ±.002"
- Resolution .0005" (.01mm)
- Large, high contrast LCD display
- Hold feature
- ABS/INC Measurement
- Direct RS232 output
- Floating zero
- Positive lock, carbide scriber
- Includes molded case



MODEL NUMBER	DESCRIPTION	PRICE
54-175-012	0-12"/300mm	\$324.55
54-175-024	0-24"/600mm	464.10

## Fowler Z-HEIGHT - Jr.

- Direct Inch/Metric Conversion
- Accuracy: .001"
- Range: 6"/150mm
- Resolution .0005" (.01mm)
- Large, high contrast LCD display
- Hold feature
- ABS/INC Measurement
- Floating zero
- Positive lock, carbide scriber
- Includes molded case



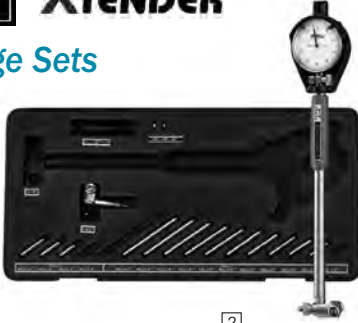
ORDER NO.	PRICE EACH
54-175-006	\$137.05

# Measuring Instruments

## Fowler XTENDER

### Dial Bore Gage Sets

- Carbide anvils
- Graduation: .0005" or .01mm
- Easily adjustable
- Self-centering
- Insulated grip
- Chrome plated handle.
- Includes extension holder and fitted case.



2

MODEL NUMBER	DESCRIPTION	PRICE
52-646-400	1.4-6" Xtender Set	\$138.25
52-646-220	35-60mm Metric Xtender Set	143.55

## Fowler XTENDER-E

### 1.4" to 6" Electronic Bore Gage Set

#### Bore Gage Features:

- Range: 1.4"-6"/35mm-150mm • Easily adjustable.
- Self-centering. • Includes extension holder.
- Shop hardened case. • Carbide anvils.

All the same benefits included in the X-Tender Dial Bore Gage are now available with an electronic indicator providing inch/metric reading capability, preset size of master for absolute reading and minimum hold feature to lock on the bore size as the gage is rocked through the bore.

Includes FREE Instructional CD!



6

MODEL NUMBER	DESCRIPTION	PRICE
54-646-401	Xtender-E Bore Gage Set	\$260.50

#### Indicator Features:

- Dual reading inch/metric electronic indicator.
- Bar graph and numeric digital display.
- Resolution: .00005"/.001mm
- Preset with recall. • Min/Max/Tir
- ABS/INC measurement.

## Fowler Bore Gage Setting Master Kit

#### Each Set Includes:

- Base anvil 2.750" x .80" • Adjustable anvil: 2.375" x .375"
- Internal capacity: 6" • Depth capacity: 1" • Centralizer capacity width: 2.625"
- Quick release holder for fast adjustment.

#### Economy Gage Block Set:

- 36 piece • Tolerances to .00005" • Certified calibration to N.I.S.T.
- High quality aluminum case!



Includes:  
Bore Gage Setting Master  
& 36 Gage Block Set  
All in a high quality  
aluminum case!

6

MODEL NUMBER	DESCRIPTION	PRICE
53-646-000	Bore Gage Setting Master Set	\$224.25

## Mitutoyo Center Master

#### FEATURES

- Allows quick measurement of center-to-center distance between holes.
- Measurable hole diameters: .04"-1.49".

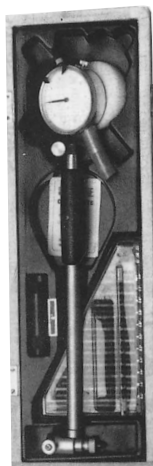


1

ORDER NO.	DESCRIPTION	REMARKS	LIST PRICE
900581	For Inch Model Height Gages	.25" x .50" Shank	\$160.00

## Dial Bore Gages

- Sets supplied complete with anvils and necessary accessories to perform close tolerance I.D. measurements
- Top quality AGD Series 2 Dial Indicator included
- Self-centering
- Fitted case



2

RANGE	GRAD.	BORE DEPTH	NO. ANVILS	ORDER NO.	PRICE
0.24-0.4"	.0005"	1.56"	4	3100-980	\$84.50
0.4-0.7"	.0005"	2.4"	9	3100-981	84.50
0.7-1.5"	.0005"	4"	8	3100-982	64.00
1.4-2.4"	.0005"	6"	6	3100-983	64.00
2.0-6.0"	.0005"	6"	11	3100-985	84.50
6.4-10.0"	.0005"	16"	6	3100-987	94.50

## Mitutoyo Dial Bore Gages

### Series 511, 526

MITUTOYO offers a complete selection of Dial Bore Gages, all of them with interchangeable anvils and necessary accessories to perform close tolerance I.D. measurements. The smallest range measurement is .24", the largest one is 16". Some of the larger 511 Series Bore Gages are equipped with a unique guiding device which facilitates accurate measurement of the bore because it is self-centering. The supplied AGD Series 2 dial Indicator is fully protected by a rugged cover. The smallest graduation on the dial face is either .0001"/0.001mm or .0005"/0.005mm.

### Series 526

#### FEATURES

- Measures diameters of small holes.
- Radius displacement of split-ball contact is converted to axial displacement of measuring pin, which is shown on the dial indicator.
- Digimatic Indicator can be installed in place of the dial indicator.
- .0005" or .0001" reading types.
- Accuracy: .00016" (Range: .3-.4"); .00024" (Range: .4-.7")



511-751

#### Inch

12

RANGE	PROBE DEPTH	NUMBER OF ANVILS	NUMBER OF SPACERS	PROBE TYPE	ORDER NO. (WITH INDICATOR)			
					.0005"	LIST PRICE	.0001"	LIST PRICE
.24-.4"	2"	9	—	A	511-213	\$574.00	511-212	\$596.00
.7-1.4"	4"	8	3	D	511-741	337.00	511-751	389.00
1.4-2.5"	6"	6	4	D	511-742	337.00	511-752	380.00
2.0-6.0"	6"	11+1*	4	D	511-743	373.00	511-753	415.00
4.0-6.5"	6"	13	4	D	511-744	494.00	511-754	549.00
6.5-10.0"	10"	6	6	D	511-745	560.00	511-755	617.00
.4-.7"	2.4"	8	—	C	526-120	397.00	526-123	453.00



# Measuring Instruments

## Fowler Dial Bore Gage Sets



- Easy-to-read.
- Economical
- Graduation: .0005"
- Insulated grip.
- Chrome plated handle.
- Includes extension holder and fitted case.
- Complete in shop hardened case.

MODEL NUMBER	DESCRIPTION	PRICE
52-646-100	.7"-1.5" Dial Bore Gage Set	\$106.30
52-646-300	2-6" Dial Bore Gage Set	102.80

## Mitutoyo

### Borematic - Series 568

#### FEATURES

- LCD Readout .00005"/0.001/mm.
- Carbide tipped contact points ensure long life.
- Efficient measurement using two measurement modes – ABS (absolute) and INC (incremental) modes.
- Can be linked to the M-SPC (Mitutoyo Statistical Process Control) system.
- Rotatable display unit for easy reading at any angle.
- Functions include: Origin setting, Origin restoration, Zero-setting, Presetting, Data hold, Error alarm, Low-battery alarm, Data output.
- Power supply: SR44 (button-type silver oxide cell), 2 pcs.

#### MEASURING FORCE (per Anvil)

Range	.275-.5"	4-10N
Range	.5-4.4"	10-30N

#### ACCURACY

Range	.275-.8"	.0002"
Range	.8-4.4"	.00024"

\* Quantizing error ± 1 count.

### Borematic Interchangeable-Head Sets

Each set includes one display unit with contact heads of the sizes specified.

#### Inch/Metric

SET ORDER NO.	SET RANGE	INDIVIDUAL RANGE	LIST PRICE
568-928	.275-.5" 6.985-12.7mm	.275-.35"/6.985-8.89mm .35-.425"/8.89-10.795mm .425-.5"/10.795-12.7mm	\$2120.00
568-977-10	.5"-1.0" 12.7-25.4mm	.5-.65"/12.7-16.51mm .65-.8"/16.51-20.32mm .8"-1.0"/20.32-25.4mm	2400.00
568-978-10	1.0"-2.0" 25.4-50.8mm	1.0"-1.2"/25.4-30.48mm 1.2"-1.6"/30.48-40.64mm 1.6"-2.0"/40.64-50.8mm	2910.00
568-936	2.0"-4.0" 50.8-101.6mm	2.0"-2.5"/50.8-63.5mm 2.5"-3.0"/63.5-76.2mm 3.0"-3.5"/76.2-88.9mm 3.5"-4.0"/88.9-101.6mm	4200.00

\*Extra anvils supplied to allow added range.  
For SPC output order connecting cable 937387 (40"/1m) or 965013 (80"/2m).



## Mitutoyo

### Digimatic Holtests Interchangeable-Head Sets Inch/Metric

Thimble Graduation	.0002"
LCD Readout	
Up to 4"	.0005"/0.001mm
Over 4"	.0001"/0.001mm

Range 8-2"/20.32-50.8mm	Set No. 468-978	\$3900.00
Includes:		
04AZB113 Display & Thimble Unit		
04AZA730 Interchangeable Head 8-1"/20.32-25.4mm		
04AZA731 Interchangeable Head 1-1.2"/25.4-30.48mm		
04AZA739 Interchangeable Head 1.2-1.6"/30.48-40.64mm		
04AZA740 Interchangeable Head 1.6-2.0"/40.64-50.8mm		
177-184 Setting Ring 1.000" DIA.		
177-291 Setting Ring 1.600" DIA.		
952622 Extension Rod 5.9" (150mm)		
04GAA858 Spanners (one pair)		
202863 Hex Wrench		
541980 SR44 Battery		

Range .275-.5"/6.985-12.7mm	Set No. 468-976	\$1920.00
Includes:		
04AZB111 Display & Thimble Unit		
04AZB139 Interchangeable Head .275-.35"/6.985-8.89mm		
04AZB140 Interchangeable Head .35-.425"/8.89-10.795mm		
04AZB141 Interchangeable Head .425-.5"/10.795-12.7mm		
177-179 Setting Ring .350" DIA.		
177-283 Setting Ring .425" DIA.		
952322 Extension Rod 3.94" (100mm)		
04GAA857 Spanners (one pair)		
202863 Hex Wrench		
541980 SR44 Battery		

Range 2-4"/50.8-101.6mm	Set No. 468-979	\$4470.00
Includes:		
04AZB114 Display & Thimble Unit		
04AZA754 Interchangeable Head 2-2.5"/50.8-63.5mm		
04AZA755 Interchangeable Head 2.5-3.0"/63.5-76.2mm		
04AZA756 Interchangeable Head 3.0-3.5"/76.2-88.9mm		
04AZA757 Interchangeable Head 3.5-4.0"/88.9-101.6mm		
177-315 Setting Ring 2.5" DIA.		
177-319 Setting Ring 3.5" DIA.		
952623 Extension Rod 5.9" (150mm)		
04GAA858 Spanners (one pair)		
202863 Hex Wrench		
541980 SR44 Battery		

Range .5-.8"/12.7-20.32mm	Set No. 468-977	\$1560.00
Includes:		
04AZB112 Display & Thimble Unit		
04AZA721 Interchangeable Head .5-.65"/12.7-16.51mm		
04AZA722 Interchangeable Head .65-.8"/16.51-20.32mm		
177-182 Setting Ring .650" DIA.		
952621 Extension Rod 5.9" (150mm)		
04GAA857 Spanners (one pair)		
202863 Hex Wrench		
541980 SR44 Battery		

Range 4-8"/101.6-203.2mm	Set No. 468-980	\$5240.00
Includes:		
04AZB115 Display & Thimble Unit		
04AZA783 Interchangeable Head 4-5"/101.6-127mm		
04AZA784 Interchangeable Head 5-6"/127-152.4mm		
04AZA785 Interchangeable Head 6-7"/152.4-177.8mm		
04AZA786 Interchangeable Head 7-8"/177.8-203.2mm		
177-299 Setting Ring 5" DIA.		
177-303 Setting Ring 7" DIA.		
952623 Extension Rod 5.9" (150mm)		
04GAA858 Spanners (one pair)		
202863 Hex Wrench		
541980 SR44 Battery		

## Mitutoyo Digimatic Holtests - Series 468

The Digimatic Holtest is a three-point internal micrometer with digital display(LCD). Functions include: Zero-setting, Preset, Data Hold, Inch/mm conversion, Error alarm, Data output.

#### FEATURES

- Efficient measurement using two measurement modes – ABS (absolute) and INC (incremental) modes.
- The 468 series provides digital readout to .0001"/0.001mm and can be linked to the M-SPC (Mitutoyo Statistical Process Control) system.
- Battery: SR44 x 1 (541980).
- Measurement can be taken nearly up to the bottom of the bore.
- The display automatically turns off idle for 20 minutes.
- Can measure deep holes by attaching an extension rod (optional).
- Carbide tipped contact points.
- All TiN coated



#### ACCURACY

RANGE	ACCURACY
.275-.8"/6-20mm	.00008"/0.002mm
.8-4"/20-100mm	.00012"/0.003mm
4-12"/100-300mm	.0002"/0.005mm

#### MEASURING FORCE (per Anvil)

RANGE	MEASURING FORCE
.275-.5"/6-20mm	4-20N
.5-4"/12-100mm	15-45N
4-12"/100-300mm	30-75N

\*Quantizing error ± 1 count.

For SPC output order connecting cable 05CZA662 (40"/1m) or 05CZA663 (80"/2m).



# Measuring Instruments



## Dial Indicators

- AGD 2
- Accurate, rugged and production tested
- Hard chrome satin finish
- Interchangeable hardened chrome point (4-48 thread)
- Revolution counter
- Lug back
- Easy to read crisp graduations



RANGE	GRAD.	READING	ORDER NO.	PRICE
1/4"	.001"	0-50-100	3100-563	\$13.50
1/2"	.001"	0-50-100	3100-564	14.50
1"	.001"	0-50-100	3100-565	16.50
1"	.001"	0-50-100 BLK	3100-566	16.50
2"	.001"	0-50-100	3100-568	34.50



## Dial Centering Indicator

- Designed for centering a workpiece or fixture
- Operates at any angle
- Use vertical or horizontal
- Use internal or external
- While spindle rotates, the centering indicator always faces the operator
- Supplied complete with restraining rod and feelers, in fitted case

### SPECIFICATIONS:

Length: 6-7/8"  
 Shank: 3/8" diam. x 7/8" long  
 Weight: 9-1/2 oz. Net  
 Feeler Ball: 1/8" Diameter  
 Meas. Range: 250 axis offset  
 Capacity: Internal-5/32 to 4-1/4" dia.  
 External- 0 to 4-1/4" dia.  
 Speed: Not to exceed 800 RPM  
 Locating accuracy: To within 0.0002" of true center  
 Graduation: 0.0005

ORDER NO.	PRICE
3101-010	\$95.00



## Mitutoyo

### Dial Indicators

#### FEATURES

1. Revolution Counter
2. Shockproof
3. Jeweled Bearings
4. Waterproof
5. Flat Back
6. Lug-On-Center Back
7. Reverse Reading



Lug-On-Center Back Models  
(All Except 2804SB-10)

ORDER NO.	TOTAL RANGE	DIAL FACE	GRAD.	RANGE/ REVOLUTION	DIAL DIA.	AGD	*FEATURES	LIST PRICE
1803S-10	.025"	0-5-0	.0001"	.01"	1-5/8"	1	3,6	\$158.00
3803S-10	.025	0-5-0	.0001	.01	3	3	3,6	202.00
2804S-10	.050	0-10	.0001	.01	2-1/4"	2	3,6	156.00
2804SB-10	.050	0-10	.0001	.01	2-1/4"	2	3,5	156.00
1506S	.125	0-50	.0005	.05	1-5/8"	1	6	94.50
1410S	.250	0-100	.001	.100	1-5/8"	1	6	102.00
1411S	.250	0-50-0	.001	.100	1-5/8"	1	6	102.00
2414S	.500	0-100	.001	.100	2-1/4"	2	6	104.00
2776S	1.000	0-50	.0005	.05	2-1/4"	2	6	135.00
2416S	1.000	0-100	.001	.100	2-1/4"	2	6	113.00
2416S-10	1.000	0-100	.001	.100	2-1/4"	2	3,6	134.00
2417S	1.000	0-50-0	.001	.100	2-1/4"	2	6	113.00
2904S	1.000	100-0	.001	.100	2-1/4"	2	7	117.00
3416S	1.000	0-100	.001	.100	3	3	6	147.00
2424S-19	2.000	0-100	.001	.100	2-1/4"	2	1,3,6	209.00
4887S-19	3.000	0-100	.001	.100	3-9/16"	4	6	322.00

## AGD Indicators

- 1" Travel.
- Continuous reading: 0-100
- AGD group 2 dial diameter.
- Revolution counter.
- Tolerance markers.
- Lug back mount

MODEL NUMBER	READING	FACE COLOR	PRICE
52-520-110	.001	White	\$32.10
52-520-109	.001"	Black	32.65
52-520-129	.0005"	White	99.15



52-520-110



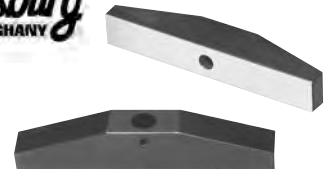
52-520-109



52-520-129

## Dial Indicator Depth Base

- Precision ground and hardened.
- Made in U.S.A.



DESCRIPTION	ORDER NO.	PRICE EACH
2-1/2" Long Base	3100-392	\$21.25
4" Long Base	3100-394	26.75

## Fowler Electronic Indicator

### INDI-X blue

- Direct Inch/Metric Conversion
- 1 1/25mm travel
- Auto Off feature
- 2 1/4" dial face
- Lugback and 3/8" stem diameter
- Resolution .0005"/.01mm
- Tolerance indicators
- Absolute/incremental reading
- Floating zero
- Carbide tipped point



A Low Cost, High Quality, Multi-Function Indicator

MODEL NUMBER	DESCRIPTION	PRICE
54-520-250	Indi-X Blue Electronic Indicator	\$61.40

## Mitutoyo IDU Digimatic Indicator with Absolute Encoder Series 575

#### FUNCTIONS

- ON/OFF
- Origin Setting
- Data output
- Inch/mm conversion (for Inch/Metric models)
- +/- Direct Changeover
- Error alarm
- Low battery alarm



575-123

#### FEATURES

- Compact and economical design.
- Provided with a data output port for connection with the SPC system.
- Power supply: One SR-44 battery (541980).
- Operating temperature: 0°C-40°C.
- Membrane sealed face helps keep out contaminants.

#### Optional Accessories

ORDER NO.	DESCRIPTION	PRICE
905338	Digimatic Cable (1m)	\$37.90
905409	Digimatic Cable (2m)	45.15

ORDER NO.	DESCRIPTION	PRICE
540774	Spindle Lifting cable	\$31.15

ORDER NO.	575-123 (INCH/METRIC MODEL)	575-121 (METRIC MODEL)
Measuring Range	0-1 1/0-25.4mm	0-25.4mm
LCD Resolution	.0005"/0.01mm	0.01mm
Accuracy	.0008"	0.02mm
Measuring Force (Downward)	1.8N or less	
Stem Diameter	.375 +0/- .0012"	8.0mm +0/- .009mm
Data output	Digimatic output	
Standard Accessories	Lifting Lever 1 pc. (137693) Silver-oxide cell SR-44 (1 pc.) (541980)	
Protection Level	IP-42	
Battery Life	20,000 hrs.	
PRICE EACH	\$184.00	\$184.00

# Measuring Instruments



## IP54 Shockproof Indicator

### Protection Includes:

- Rubber bellows on stem
- O-ring seal on safety cap
- O-ring protection for bezel and rotating dial
- Sealed back plate

### Specifications:

- Robust, shockproof design
- Travel: 1" • Reading: .001"
- Continuous reading: 0-100 • Tolerance markers
- AGD Group 2, 2-1/4" dia. • Lugback and carbide point



2

MODEL NUMBER	DESCRIPTION	PRICE
52-520-450	IP54 Shockproof Indicator	\$34.05



## Electronic Indicator

Now available in inch, metric, and fraction!

- Direct Inch/Metric/Fraction Conversion
- Auto Off feature
- 2 1/4" dial face
- Lugback and 3/8" stem diameter
- Resolution .0005"/.01mm/64ths
- Tolerance indicators
- Absolute/incremental reading
- Floating zero
- Carbide tipped point

**A Low Cost,  
High Quality,  
Multi-Function  
Indicator**



6

MODEL NUMBER	DESCRIPTION	PRICE
54-520-260	Indi-X Blue Electronic Indicator	\$64.85



## Fine Adjust Mag Base Set

With **INDI-X blue** Electronic Indicator

### Indi-X Blue Indicator features:

- Direct Inch/Metric Conversion
- 1"/25mm travel • Auto Off feature
- 2 1/4" dial face
- Lugback and 3/8" stem diameter
- Resolution .0005"/.01mm
- Tolerance indicators
- Absolute/incremental reading
- Floating zero • Carbide tipped point

### Magnetic Base features:

- 85 lb. pull • Fine adjustment.
- V-bottom base.

### Magnetic Indicator Back features:

- Use for positioning the indicator on most metal surfaces.
- Protective coating



All in a shop-hardened case.

6

MODEL NUMBER	DESCRIPTION	PRICE
54-585-075	Fine Adjust Mag Base Set	\$114.45



## Portable Durometers

Fowler's Portable Durometers are just right for testing the hardness of flexible materials such as rubber and plastics. These gages conform to shore scales.

- Manufactured in accordance with DIN, ASTM, ISO and JIS specifications.
- Includes reference test block, operating instructions and fitted case.
- Optional bench stand available.

### Applications:

35° blunt taper Durometers are suitable for testing soft and natural rubber products, neoprene, polyesters, soft PVC, leather, thiokol, nitril rubbers, wax, felt and more.

Sharp 30° point Durometers are ideal for testing hard rubber, hard synthetic materials, e.g. acrylics, glass, polystyrol, thermoplastics, printing rolls, vinyl sheets, cellulose acetates, densified wood, etc.



6

MODEL NUMBER	PENETRATOR	SHORE SCALE	GRADUATIONS	PRICE
53-762-101	Blunt taper 35°	A	1 Shore	\$240.40
53-762-102	Sharp 30°	D	1 Shore	233.25

# Measuring Instruments

## Absolute Digimatic Indicator ID-C **Mitutoyo** Series 543 - Standard Type

### FEATURES:

- As compact as standard Series 2 dial indicators.
  - Large, easy-to-read LCD.
  - GO/±NG judgment is performed by setting upper and lower tolerance limits. The judgement result (GO/±NG) can be displayed in full size characters.
  - The positive/negative count resulting from the spindle's up/down movement can be toggled.
  - Internal calculations using the simple formula of [F(x) = Ax] are available.
  - Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.
  - The ID-C indicator face can be rotated 330° to an appropriate angle for easy reading.
  - With SPC data output.
- Battery: SR44 (1 pc.), **938882**

### Function:

Origin-set/Pre-set, Zerose, GO/±NG judgment, Max/Min/Runout value holding, Counting direction switching, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error



Inch/Metric

7

Stem dia. 3/8", 4-48 Thread

RESOLUTION	RANGE	ORDER NO. (W/LUG, FLAT-BACK)	PRICE EACH	MODEL	ACCURACY	MEASURING FORCE
.00005"/0.001mm*	.5" / 12.7mm	543-392 543-392B	\$402.00	ID-C112EXB	.0001"	1.5N or less
.00005"/0.001mm*	.5" / 12.7mm	543-396 543-396B	628.00	ID-C112CEX	.0001"	0.4N - 0.7N (Low force)
.00005"/0.001mm*	1" / 25.4mm	— 543-472B	538.00	ID-C125EXB	.0001"	1.8N or less
.00005"/0.001mm*	2" / 50.8mm	— 543-492B	676.00	ID-C150EXB	.0002"	2.3N or less
.0005"/0.01mm	.5" / 12.7mm	543-402 543-402B	293.00	ID-C1012EX	.001"	0.9N or less
.0005"/0.01mm	.5" / 12.7mm	543-406 543-406B	471.00	ID-C1012CEX	.001"	0.2N - 0.5N (Low force)
.0005"/0.01mm	1" / 25.4mm	— 543-476B	430.00	ID-C1025EXB	.001"	1.8N or less
.0005"/0.01mm	2" / 50.8mm	— 543-496B	565.00	ID-C112CEXB	.0016"	2.3N or less

### Optional Accessories:

- 905338: SPC cable (40" / 1m), 905409: SPC cable (80" / 2m)  
 21EZA198: Spindle lifting lever (ISO/JIS type)\*, 21EZA199: Spindle lifting lever (ANSI/AGD type)\*  
 21EZA105: Spindle lifting knob (12.7mm/.5"ISO/JIS type)\*\*  
 21EZA150: Spindle lifting knob (12.7mm/.5"ANSI/AGD type)\*\*  
 21EZA197: Spindle lifting knob (25.4mm/1", 50.8mm/2" models)  
 21EZA200: Spindle lifting knob (50.8mm/2"), 540774: Spindle lifting cable (stroke: (1" / 25.4mm)  
 02ACA571: Auxiliary spindle spring for 25mm/1" models\*\*\*  
 02ACA773: Auxiliary spindle spring for 50mm/2" models\*\*\*  
 \*Can be used on 12mm/.5" models only. \*\*Not available for low measuring force models.  
 \*\*\*Required when orienting gage upside down.

## Mark IV Electronic Indicator w/ .00005"/.001mm Resolution



- Range: 0—1"/25mm
- Resolution: .00005"/.001mm
- Direct inch/metric conversion.
- High contrast LCD display.
- Low drain, high efficiency lithium wafer battery. 5 thousand hours of continuous use.
- The latest in mechanical & electronic technology for measuring instruments.



MODEL NUMBER	DESCRIPTION	PRICE
54-520-777	Mark IV Electronic Indicator	\$488.70

6

## Mitutoyo

### IDS Digimatic Indicators with Absolute Encoder

#### Series 543 - Simple and Economical Design with Absolute Encoder

These IDS Type Digimatic Indicators incorporate Mitutoyo's Absolute Encoder Technology so all settings are maintained for the life of the battery. The IDS provides clear digital readings in a convenient and compact package which conforms generally to Series 2 dial indicator dimensions.



543-683B

7

### Inch/Metric

ORDER NO.	543-683 (LUG-BACK)	543-683 (LUG-BACK)
	543-683B (FLAT-BACK)	543-683B (FLAT-BACK)
Measuring Range	0-.5"/0-12.7mm	0-.5"/0-12.7mm
LCD Resolution	.0005"/0.01mm	.0001"/0.001mm
Accuracy (20°C)	.0008"/0.02mm	.00012"
Measuring Force	1.4N (140gf) or less	2.0N (200gf) or less
Battery	Silver oxide cell SR-44 (1 pc.)No. 541980	Silver oxide cell SR-44 (1 pc.)
Battery Life	Approx: 20,000 hours	Approx: 20,000 hours
Protection Level	Conforming to IP-42	Conforming to IP-42
Functions	ORIGIN, ON/OFF, in/mm, +/-	ORIGIN, ON/OFF, in/mm, +/-
Data output*	SPC Digimatic output	SPC Digimatic output
Stem Diameter	.375" +0/- .0012"	.375" +0/- .0012"
Contact Point	.16" (DIA) steel ball (4-48UNF)	.16" (DIA) steel ball (4-48UNF)
Mass	0.27 lbs.	0.27 lbs.
PRICE EACH	543-683 \$168.00 543-683B \$168.00	543-683 \$258.00 543-683B \$258.00

\* For SPC output order Connecting Cable 905338 (1m) or 905409 (2m)

### OPTIONAL ACCESSORIES

5

ORDER NO.	DESCRIPTION	PRICE	ORDER NO.	DESCRIPTION	PRICE
902794	Spindle Lifting Lever (ANSI/AGD Type)	\$14.10	02ACB620	Adjustable Back (ANSI/AGD Type)	\$20.90
540774	Spindle Lifting Cable	31.15	02ACB640	Back with Offset Lug	20.90
02ACB430	Lug-on-Center Back (ANSI/AGD Type)	14.00	02ACB650	Magnetic Back	34.75
02ACB440	Flat Back	9.30	02ACB660	Back with Mount (ANSI/AGD Type)	20.90
02ACB610	Back with Post	20.90	02ACB680	Back with Adjustable Bracket	65.45



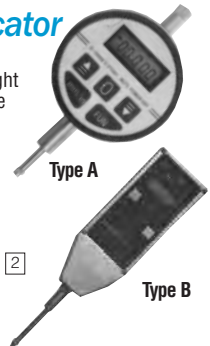
## Electronic Digital Indicator

### Type A

- Error-free digital readings in basic & economical package
- Easy to read LCD
- Battery Powered
- Zero set, Inch/Metric, Auto On/Off
- Reverse readings indicator (-sign)

### Type B

- Trim design gets into tight spaces. Only 1-1/2" wide and less than 1" thick
- Easy to read LCD
- Flat back
- Battery powered
- Zero set, Inch/Metric
- Includes lifting lever



RANGE	GRAD.	TYPE	ORDER NO.	PRICE
0-5"/13mm	.0005"/.01mm	A	3100-992	\$125.00
1.0"/25mm	.0005"/.01mm	B	3101-000	150.00

2



# Measuring Instruments

## Mitutoyo

### Absolute Digimatic Indicator ID-H

#### Series 543 – High Accuracy and Functional Type

##### FEATURES

- This new-generation digital indicator offers the excellent accuracy and functionality expected from this class of indicator. Take advantage of its high accuracy backed up by 0.51m / .00002" resolution, remote control functionality via a handheld controller (or an RS-232C interface) and easy runout measurements with the well-established analog bar display.
- The maximum, minimum, or runout value can be displayed during measurement.
- GO/±NG judgement is performed by setting the upper and lower tolerances. If a judgment result is out of tolerance, the display backlighting changes from green to red, so tolerance judgment can be made at a glance.
- With SPC data output • With RS-232C input/output

##### Standard Accessories

09EAA119A: AC Adapter 120v 137693: Lifting Lever

##### Optional Accessories:

936937: SPC cable (40" / 1m), 965014: SPC cable (80" / 2m), 21EAA131: RS-232C cable (80" / 2m),

21EZA099: Remote controller, 540774: Spindle lifting cable (stroke: 4" / 10mm)

21EZA101: Spindle lifting knob, 264-504-5A: Digimatic Min-processor DP-1VR

543-004A: Digimatic presetter, 21EZA152A: FREE PARAMETER SETTING SOFTWARE

\*Required when orienting the indicator upside down.

##### Technical Data

Accuracy: Refer to the list of specifications

Resolution: 0.0005mm/0.001mm or

.00002"/.00005"/.0001"/0.0005mm/0.001mm

Display: LCD Length standard: Linear encoder

Max. response speed: 1000mm/s

Measuring force: 2.0N/2.5N\* or less (\*60mm range models)

Power supply: 6V DC (via AC adaptor)

##### Function

Origin-set/Preset, Zerose, GO/±NG judgement, Max/Min value hold, Runout measurement, Resolution switching, Counting direction switching, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only) Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error



##### Inch/Metric

MODEL NO.	RESOLUTION	RANGE	MODEL	ACCURACY	PRICE
543-562A	.00002", .00005"	1.2" / 30.4mm	ID-H530E	0.0015mm	\$836.00
543-564A (INCH)	.0001", 0.0005mm, 0.001mm	2.4" / 60.9mm	ID-H560E	0.0025mm	992.00
543-561A	0.0005mm,	30.4mm	ID-H530	0.0015mm	836.00
543-563A (METRIC)	0.001mm	60.9mm	ID-H560	0.0025mm	992.00

## Fowler XTEST

### Test Indicators

Twice the Test for Less!

MODEL NUMBER	GRADUATION	DIAL DIAM.	PRICE
52-562-001	.0005"	1.5"	\$103.30
52-562-002	.0005"	1"	103.30
52-562-003	.001"	1"	103.30
Kit			
52-562-100	.0005"	1.5"	164.00
52-562-110	.0005"	1"	164.00

##### X-Test Indicator:

- Range: .060" Graduation: .0005"
- Dial reading: 0—15—0
- Dial diameter: 1-1/2"
- Jewelled movement
- Revolution counter
- Auto-reverse
- 210° Swivel arc
- Tungsten carbide .080" point

##### Kit includes:

- Dial test indicator
- Axial support
- Height gage bar w/ clamp
- Adaptor sleeve
- Contact point case
- Contact point wrench
- Shop-hardened case.



## "Quick-Set" Test Indicators Series 513 w/ Jeweled Bearings

##### FEATURES

- "O" ring incorporated in new bezel design seals instrument from dust and oil mist.
- Enlarged pitch of teeth on crown gear improves ability of indicator to withstand shock.
- Rubber bumpers limit travel of sector gear and prevent damage due to excessive travel.
- Special alloy of sector gear provides greater resistance to wear, and longer distance between pivot points for better protection against shock.
- Carbide point, .078" DIA., is standard.
- Dovetails, integral with housing, give broad flexibility for mounting of instruments.

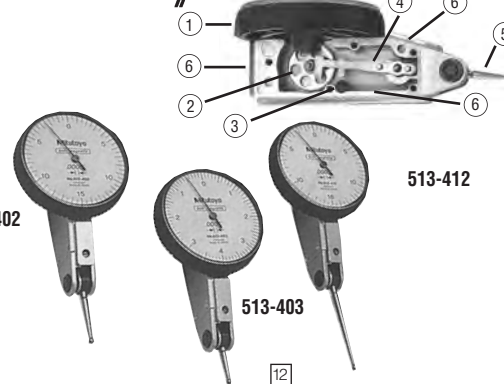
##### Inch/Metric

ORDER NO. BASIC	LIST PRICE	GRADUATION	RANGE	DIAL READING	ACCURACY	TYPE	REMARKS	ORDER NO. COMPLETE	LIST PRICE
513-406	\$144.00	.0005"	.03"	0-15-0	±.0005"	Horizontal	Combitecst Anti-Magnetic	513-406T	\$160.00
		0.7mm	0.01mm	0-35-0					

##### Inch

ORDER NO. BASIC	LIST PRICE	GRADUATION	RANGE	DIAL READING	ACCURACY	TYPE	REMARKS	ORDER NO. COMPLETE	LIST PRICE
513-403	\$160.00	.0001"	.008"	0-4-0	±.0001"	Horizontal	Anti-Magnetic	513-403T	\$187.00
513-402	123.00	.0005"	.03"	0-15-0	±.0005"	Horizontal	Anti-Magnetic	513-402T	146.00
513-452	160.00	.0005"	.03"	0-15-0	±.0005"	Vertical	—	513-452T	176.00
513-282G	171.00	.0005"	.03"	0-15-0	±.0005"	Parallel	—	513-282GT	176.00
513-412	176.00	.0005"	.03"	0-15-0	±.0005"	Horizontal	Long Point Anti-Magnetic	513-412T	204.00

## Mitutoyo



The most direct gear train design ever applied to Test Indicators means – higher level of sensitivity, reliability, repeatability and accuracy throughout tool life.

## White Face Indicator Sets

Large diameter dials make reading fast and easy. Comes with three carbide contact points: .040", .080" and .120" diameter; two extensions with .0001" to .0005" or (0.01 or 0.002mm on -14 models) dovetails; one point wrench; certificate of accuracy and traceability; all in a durable molded case.

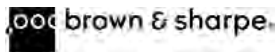
ORDERING NUMBER	RANGE	MARKING	SMALLEST DIVISION	DIAL DIA.	POINT LENGTH	TIP DIA.	B&S NUMBER	PRICE EACH
<b>INCH READING</b>								
7125-925	.030"	0-15-0	.0005"	1"	1/2"	Three	599-7030-6	\$213.00
7125-926	.030"	0-15-0	.0005"	1-1/2"	1/2"	Tips	599-7031-6	241.00
7125-929	.008"	0-4-0	.0001"	1"	1/2"	With	599-7032-6	242.00
7125-923	.008"	0-4-0	.0001"	1-1/2"	1/2"	Each	599-7023-6	267.00
<b>METRIC READING</b>								
7125-927	0.8mm	0-0.4-0	0.01mm	.28mm	12.5mm	Three	599-7030-14	\$216.00
7125-928	0.8mm	0-0.4-0	0.01mm	.38mm	12.5mm	Tips	599-7031-14	242.00
7125-930	0.2mm	0-100-0	0.002mm	.28mm	12.5mm	Each	599-7032-14	267.00

## brown & sharpe





# Measuring Instruments



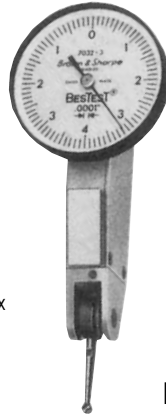
## Bestest Indicators

Bestest® Indicators meet or exceed federal or DIN specifications. All Bestest Indicators are furnished with a certificate of accuracy and traceability. And Bestest Indicators provide all of the following high quality features to ensure fast, accurate and continuously reliable measurement.

- Constant Clockwise Rotation
- Universal Mounting • Automatic Reversal
- Monoblock (Precision Watch) Body Design
- Swivelling Point • Carbide Tip Point
- Anti-Magnetic & Corrosion Resistant
- Price Includes Fitted Case

### White Face Indicators

Each Bestest® Indicator set comes complete accessories. End mounted Indicator set comes with one carbide tip contact point: .080" dia., with one 3/8" dia. x 2 1/2" long universal One rectangular bar; One swivel clamp; One mounting attachment in place of rectangular contact point wrench; One fitted wooden case that accommodates additional accessories. End mounted Indicator set comes with one 3/8" dia. x 2 1/2" long universal mounting attachment in place of rectangular bar and swivel clamp.



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ORDERING NUMBER	RANGE	MARKING	SMALLEST DIVISION	DIAL DIA.	POINT LENGTH	TIP DIA.	B&S NUMBER	PRICE EACH
<b>INCH READING</b>								
7145-977	.030"	0-15-0	.001"	1"	1/2"	.080"	599-7029-3	\$217.00
7145-978	.030"	0-15-0	.0005"	1"	1/2"	.080"	599-7030-3	227.00
7145-979	.030"	0-15-0	.0005"	1-1/2"	1/2"	.080"	599-7031-3	234.00
7145-980	.008"	0-4-0	.0001"	1"	1/2"	.080"	599-7032-3	255.00
7146-400	.008"	0-4-0	.0001"	1-1/2"	1/2"	.080"	599-7023-3	294.00
7145-981	.008"	0-4-0	.00005"	1-1/2"	1/2"	.080"	599-7033-3	295.00
7145-982	.020"	0-10-0	.0005"	1"	1-7/16"	.080"	599-7034-3	300.00
7145-983	.020"	0-10-0	.0005"	1-1/2"	1-7/16"	.080"	599-7035-3	309.00
<b>END MOUNTED</b>								
7150-437	.030"	0-15-0	.0005"	1"	1/2"	.080"	599-7037-3	300.00
7146-406	.008"	0-4-0	.0001"	1-1/2"	1/2"	.080"	599-7024-3	336.00
7150-436	.008"	0-4-0	.00005"	1-1/2"	1/2"	.080"	599-7038-3	336.00
<b>METRIC READING</b>								
7145-984	0.8mm	0-0.4-0	0.01mm	.28mm	12.5mm	2mm	599-7030-13	227.00
7145-985	0.8mm	0-0.4-0	0.01mm	.38mm	12.5mm	2mm	599-7031-13	234.00
7145-986	0.2mm	0-100-0	0.002mm	.28mm	12.5mm	2mm	599-7032-13	255.00
7145-987	0.2mm	0-100-0	0.002mm	.38mm	12.5mm	2mm	599-7033-13	295.00



## Vertical X-Test Indicators

Twice the range of most indicators!

### X-Test Indicator:

- Range: .060" • Dial reading: 0—15—0
- Jeweled movement • Revolution counter
- Easy-to-read tilted dial • Automatic Reversal
- 210° Swivel arc • Tungsten carbide .080" point



2

MODEL NUMBER	GRADUATION	DIAL DIAM.	PRICE
52-562-004	.0005"	1.5"	\$119.10
52-562-005	.0005"	1"	119.10
52-562-006	.001"	1"	119.10

## Dial Test Indicator

### FEATURES:

- Adjustable bezel and dial
- Fully jeweled movement
- Wide face for easy reading
- 3 way Dovetail mounting
- Trigger response to lightest pressure
- Contact point adjustable through 230 Deg.
- Includes 5/32" and 3/8" mounting shanks



RANGE	GRAD.	DIAL DIAM.	READING	ORDER NO.	PRICE
0-.030"	.0005"	1.25"	0-15-0	3100-570	\$49.25

2

## Pocket Test Indicator - Series 513

### FEATURES

- Jeweled bearings assure higher sensitivity and accuracy.
- Reversible Measuring Direction.
- Two Holding Bars are supplied. One (1/2 x 1/4") is used with lathe tool posts and height gages, the other (.315" DIA.) with drill chucks.(Complete sets only.)
- Fully adjustable bezel/dial face. • Contact point is adjustable within 220°.
- Complete with accessories and compact carrying case.



513-504

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ORDER NO. BASIC	LIST PRICE	GRADUATION	RANGE	DIAL READING	ACCURACY	REMARKS	ORDER NO. COMPLETE	LIST PRICE
513-504	\$143.00	.0001"	.01"	0-5-0	±.0002"	—	513-504T	\$167.00
513-512	165.00	.0005"	.02"	0-10-0	±.0005"	Long point	513-512T	173.00
513-518	122.00	.001"	.04"	0-20-0	±.001"	—	513-518T	131.00

## Truetest™ Test Indicators Series 513

Mitutoyo introduces three new Series 513 dial indicators, each available in white or black dial face colors. Each indicator features:

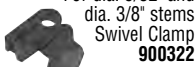
- Smooth spindle movement for increased measuring accuracy.
- Water and dust resistant one-piece black bezel and hard coated crystal for improved durability.
- 20° tilted dial face for easy reading.
- Anti-magnetic characteristics.

### ACCESSORIES

5



Square arm 900306



For dia. 5/32" and dia. 3/8" stems Swivel Clamp 900322



Dia. 5/32" and dia. 3/8" stems and a nut 190318 (dia. 5/32") 190321 (dia. 3/8") 190322 (Nut)

### Inch

12

ORDER NO. BASIC	LIST PRICE	GRAD.	RANGE PER REV.	RANGE	DIAL READING	WIDE RANGE ACCURACY	DIMENSION L	REMARKS	ORDER NO. COMPLETE	LIST PRICE
513-442	\$167.00	.0005"	.03"	.06"	0-15-0	±.0005"	.78"	White Dial Face	513-442T	\$188.00
513-442-06	167.00	.0005"	.03"	.06"	0-15-0	±.0005"	.78"	Black Dial Face	513-442T-06	188.00
513-446	222.00	.0005"	.03"	.06"	0-15-0	±.0005"	1.33"	White Face Longpoint	513-446T	251.00
513-446-06	222.00	.0005"	.03"	.06"	0-15-0	±.0005"	1.33"	Black Face Longpoint	513-446T-06	251.00
513-443	210.00	.0001"	.008"	.016"	0-4-0	±.0002"	.59"	White Dial Face	513-443T	238.00
513-443-06	210.00	.0001"	.008"	.016"	0-4-0	±.0002"	.59"	Black Dial Face	513-443T-06	238.00

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# Measuring Instruments



**Double The Range  
Of Other Test Indicators**

**FEATURES:**

- Magnetic resistant
- Extremely low measuring pressure
- Two-way action - no reversing lever
- Dovetail & adjustable stem adaptation
- Precise repetitive readings
- Ball bearing and jewelled movement
- Carbide contact point swivels 210°
- Easy to read tilted dial

**Vertical Models**



MODEL NO. 312B-1V INTERAPID NO. 74.111377		MODEL NO. 312B-2V INTERAPID NO. 74.111378		MODEL NO. 312B-3V INTERAPID NO. 74.111957		MODEL NO. 312B-15V INTERAPID NO. 74.111958		MODEL NO. 312B-20V INTERAPID NO. 74.111379	
Ordering No.	7141-685	Ordering No.	7141-684	Ordering No.	7141-714	Ordering No.	7141-715	Ordering No.	7141-687
Range	.060"	Range	.060"	Range	.016"	Range	.060"	Range	.060"
Graduations	.0005"	Graduations	.0005"	Graduations	.0001"	Graduations	.0005"	Graduations	.001"
Dial Diameter	1.5"	Dial Diameter	1.0"	Dial Diameter	1.5"	Dial Diameter	1.5"	Dial Diameter	1.0"
Dial Reads	0-15-0	Dial Reads	0-15-0	Dial Reads	0-4-0	Dial Reads	0-15-0	Dial Reads	0-15-0
Price	\$282.00	Price	\$281.00	Price	\$351.00	Price	\$370.00	Price	\$266.00

**Horizontal Models**



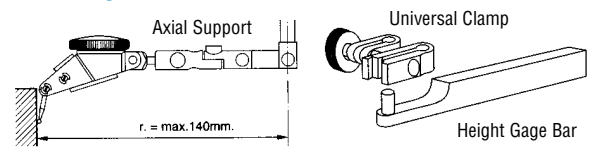
MODEL NO. 312B-1 INTERAPID NO. 74.111370		MODEL NO. 312B-2 INTERAPID NO. 74.111371		MODEL NO. 312B-3 INTERAPID NO. 74.111372		MODEL NO. 312B-4V INTERAPID NO. 74.111373		MODEL NO. 312B-15 INTERAPID NO. 74.111965		MODEL NO. 312B-20 INTERAPID NO. 74.111374	
Ordering No.	7142-775	Ordering No.	7186-150	Ordering No.	7141-680	Ordering No.	7141-681	Ordering No.	7141-716	Ordering No.	7141-682
Range	.060"	Range	.060"	Range	.016"	Range	.016"	Range	.060"	Range	.060"
Graduations	.0005"	Graduations	.0005"	Graduations	.0001"	Graduations	.0001"	Graduations	.0005"	Graduations	.001"
Dial Diameter	1.5"	Dial Diameter	1.0"	Dial Diameter	1.5"	Dial Diameter	1.5"	Dial Diameter	1.5"	Dial Diameter	1.0"
Dial Reads	0-15-0	Dial Reads	0-15-0	Dial Reads	0-4-0	Dial Reads	0-4-0	Dial Reads	0-15-0	Dial Reads	0-15-0
Price	\$265.00	Price	\$263.00	Price	\$326.00	Price	\$330.00	Price	\$369.00	Price	\$266.00

**Carbide Contact Points  
for Interapid Indicators**



TIP DIAMETER	LENGTH	INTERAPID NUMBER	ORDERING NUMBER	PRICE EACH
.031"	11/16	74.105998	7141-649	\$23.00
.060"	11/16	74.105997	7141-648	23.00
.080"	11/16	74.105996	7141-647	23.00
.080"	1-3/4	74.111492	7141-698	36.00
.031"	1-3/4	74.111493	7141-699	36.00
.080"	2-3/4	74.111913	7141-713	29.00
.100"	2-3/4	74.111912	7141-712	29.00

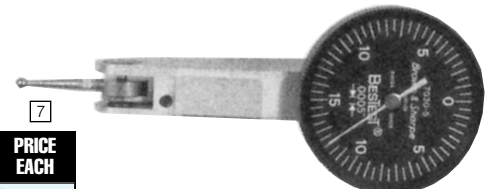
**Interapid Accessories**



DESCRIPTION	INTERAPID NUMBER	ORDERING NUMBER	PRICE EACH
Height Gage Bar w/Clamp	74.106331	7141-651	\$63.00
Universal Clamp	74.108603	7141-663	39.00
Axial Support (Inch)	74.106931	7141-656	68.00

**Good brown & sharpe. Black Face Indicators**

ORDERING NUMBER	RANGE	MARKING	SMALLEST DIVISION	DIAL DIA.	POINT LENGTH	TIP DIA.	B&S NUMBER	PRICE EACH
7151-732	.030"	0-15-0	.001"	1"	1/2"	.080"	599-7029-5	\$171.00
7151-733	.030"	0-15-0	.0005"	1"	1/2"	.080"	599-7030-5	174.00
7151-734	.030"	0-15-0	.0005"	1-1/2"	1/2"	.080"	599-7031-5	194.00
7151-737	.008"	0-4-0	.0001"	1"	1/2"	.080"	599-7032-5	233.00
7151-738	.008"	0-4-0	.00005"	1-1/2"	1/2"	.080"	599-7033-5	244.00
7151-735	.020"	0-10-0	.0005"	1"	1-7/16"	.080"	599-7034-5	214.00
7151-736	.020"	0-10-0	.0005"	1-1/2"	1-7/16"	.080"	599-7035-5	236.00



Easy to read, satin black, "jet-console" face BesTest® Indicators with high visibility orange hand. Each BesTest® Indicator set comes complete with one carbide tip contact point, .080" diameter; One 1/2" long x .250" diameter extension with dovetail; One contact point wrench; One durable molded case; certificate of accuracy and traceability.

# Measuring Instruments

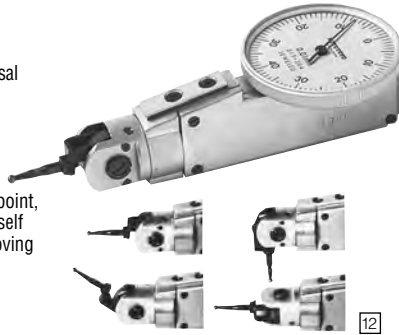
## Mitutoyo

### Dial Test Indicator Universal Type – Series 513

#### FEATURES

- Universal application to all directions.
- No clutch structure for automatic reversal of measuring direction.
- Interchangeable contact point.
- Three dovetails for easier clamping.

Not only the direction of the measuring point, but also the direction of measurement itself can be adjusted 360 degrees without moving the indicator.



ORDER NO. BASIC	LIST PRICE	GRADUATION	RANGE	DIAL READING	ACCURACY	ORDER NO. COMPLETE	LIST PRICE
513-302G	\$389.00	.0005"	.03"	0-15-0	±.0005"	513-302GT	\$425.00

## Fowler

### Dial Test Indicators

- Jeweled movement.
- Bi-directional constant clockwise rotation.
- Automatic reversal.
- 3 dovetail mountings.
- 2 dovetail extensions.
- Includes molded case.



Extra Points

.040" .120"

MODEL NUMBER	FACE COLOR	DIAL READING	GRADUATION	DIAL DIA.	POINT LENGTH	PRICE EACH
52-562-778	black	0-15-0	.0005"	1"	1/2"	\$68.50
52-562-780	black	0-15-0	.0005"	1-1/2"	1/2"	68.50
52-563-771	black	0-4-0	.0001"	1"	1/2"	104.15
52-563-772	black	0-4-0	.0001"	1-1/2"	1/2"	104.15
52-562-782	black	0-10-0	.0005"	1"	1-7/16"	71.45
52-562-784	black	0-10-0	.0005"	1-1/2"	1-7/16"	103.30

## Fowler FLEX MAG SET Chrome

Included Magnetic Indicator Back for mounting to most metal surfaces!  
All packed in a Shop-Hardened case!

#### AGD Indicator features:

- AGD Group 2
- Dial diameter: 2-1/4"
- Travel: 1"
- Reading: .001"
- Continuous reading: .100"
- Carbide tipped point

#### Flex Arm Mag Base features:

- Corrosion resistant chrome plated flex arm.
- 85 lb. pull magnet
- Holds rigidly in almost any position.
- V-base for mounting on rounded surfaces.

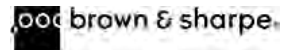
#### Magnetic Indicator Back features:

- Use for positioning the indicator on most metal surfaces.
- Protective coating



MODEL NO.	DESCRIPTION	PRICE
52-585-500	Chrome Flex Mag Set	\$83.80

## Miti-Mite Magnet Base and Bestest® Indicator



This BesTest® Indicator set comes complete with one carbide tip contact point: .080" dia.; One contact point wrench; One 3/8" dia. x 2-1/2" long universal mounting attachment. The Miti-Mite has a ball and socket action and joined post to simplify positioning. Compact base has Vee for holding on round or flat iron or steel surfaces. Base dimensions approx. 1-1/4" sq. 1-1/4" high. Height to top of post is approx. 5". Supplied with one each: 7/32" diameter x 1-1/2" long post; 7/32" diameter x 4-3/8" long post; 5/16" diameter x 1-1/2" long post. The kit includes a fitted wooden case that accommodates additional accessories.



- Includes:
- 599-7030-3 Indicator
  - 599-7761 MITI-MITE Base
  - Universal Mount • Wood Case
  - Three Separate Posts

ORDERING NUMBER	DESCRIPTION	B&S NUMBER	PRICE EACH
7151-083	MITI-MITE Indicator Set	599-849	\$358.00

## Fowler XTRA MAG™ Combos

#### .030" Range Test Indicator Features:

- Reading: 0-15-0
- Graduation: .0005"
- Auto-reversing
- .080" diameter point

#### .060" Range X-Test Indicator:

- Range: .060"
- Graduation: .0005"
- Dial reading: 0—15—0
- Dial Diameter: 1-1/2"
- Jewelled movement
- Revolution counter
- Automatic reversal
- 210° Swivel arc
- Tungsten carbide points: .040", .080" and .120"

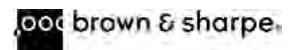


- Xtra Mag Base:
- 2 universal ball sockets
  - Microfine adjustment screw
  - 3-9/16" extension arm
  - Dovetail mounting

Virtually unlimited positioning as a Universal Base!

MODEL NO.	DESCRIPTION	PRICE
52-585-105	Xtra Mag Only	\$39.55
52-585-100	.030" Range Test Indicator	105.20
52-562-105	.060" Range X-Test & Xtra Mag Combo	134.55

## Bestest® Universal Test Indicator Kit Back Plunger Indicator - 1-1/2" Dia.



Extremely valuable in the workshop, where many awkward machining situations arise, the back plunger indicator has been designed to ensure that the face of the dial can be seen by the operator. The 1/4" holding rod can be unscrewed if required. Supplied with a ball contact tip.

ORDERING NUMBER	DESCRIPTION	B&S NUMBER	PRICE EACH
7144-892	Universal Indicator Set	599-7739	\$331.00

#### Inch Indicator Set Includes:

- Universal Test Indicator 599-7039
- Swivel 599-7739-1
- Clamp 599-7739-2
- Hole Attachment
- w/Indicator Mounting Hole 599-7739-3
- Bar 599-7739-4
- Rod 599-7739-5
- Fitted Case for Indicator and Accessories 599-7739-9999





# Measuring Instruments

## Accessories For Bestest Indicators 7



**Swivel Clamp**  
3/8" and 7/32" dia. mounting holes. Dovetail opposite 3/8" hole.

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7151-853	599-7045-1	\$30.00



**Universal Clamp**  
For mounting on dovetail or stud. 7/32" hole on swivel. Dovetail end has 7/32" hole and 5/32" hole adjacent to the dovetail.

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7141-663	74-108603	\$39.00



**Universal Dovetail Attachment**  
Chrome plated. 1/4" dia. x 2-1/2" long.

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7144-869	599-7054	\$32.00



**Lug-Back Bracket**  
Slot to 1/4".

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7144-740	599-980-10	\$55.00



**Combination Bestest Indicator Axial Support**  
For mounting indicator on dovetail or rod. Hinges allow indicator to be positioned for best to work. Stem is 3/8" (8mm) dia. Tool length is 5-1/4" (133mm).

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7141-656	74-106931	\$68.00



**Universal Swivel Clamp**  
Dovetail opposite 3/8" hole and V-side hole. Clamp screw range: 1/8" to 1/4".

ORDERING NUMBER	B&S NUMBER	PRICE EACH
7144-870	599-7055	\$100.00

**Swivel Support (Long)**  
3/8" dia. x 3-5/8"



ORDERING NUMBER	B&S NUMBER	PRICE EACH
7144-859	599-7044	\$54.00

**Rectangular Bar**

Comes with all front-mounted indicators. 1/4" thick x 1/2" high x 3" long with .220"



ORDERING NUMBER	B&S NUMBER	PRICE EACH
7144-862	599-7047	\$23.00

## Universal Dovetail Indicator Holder 2

- 1/4" body diameter with 3" reach.
- Spring loaded holder locks in any of (4) 90 degree quadrants, and allows many variable angles of holding.
- Brass contact will not scar Indicator.



ORDER NO.	PRICE EACH
3100-430	\$9.00



## Universal Dovetail Clamp

Mounts indicators equipped with either dovetails or rods

- 1/4" and 1/8" mounting holes, adjustable hole up to 1/4", plus dovetail.

ORDER NO.	PRICE EACH
3100-400	\$9.75



## Axial Support Bracket

Used for mounting indicators with dovetails or rods.

- 3/8" diameter body for secure clamping, with 5-1/4" overall reach.
- Made in U.S.A.

ORDER NO.	PRICE EACH
3100-405	\$20.25



## For Bestest Indicators

Available Individually or as a Complete Set

599-7046

599-7030-40



ORDERING NUMBER	DESCRIPTION	B&S NUMBER	PRICE EACH
7144-861	Rectangular Bar 3/16" thick x 5/16" high x 3" long with .220" dia. stud	599-7046	\$24.00
7144-863	Round Bar 7/32" dia. with .163 stepped end; .220" dia. stud; 2-7/8" long	599-7048	21.00
7144-857	Swivel Support (Short) 3/8" dia. x 1" long	599-7042	50.00
7144-858	Angle Att. 3/8" hole with 3/8" dia. x 1" long	599-7043	50.00
7144-867	Extension with Dovetail .220" dia. x 1/2" long	599-7052	18.50
7144-868	Extension with Dovetail .250" dia. x 1/2" long	599-7053	18.50
7144-827	Carbide Ball Point .040" dia. x 1/2" long	599-7030-40	53.00
7144-829	Carbide Ball Point .120" dia. x 1/2" long	599-7030-120	53.00
<b>COMPLETE SET</b>			
7144-856	Complete Set of All Items Listed Above	599-7041	153.00

## ACCESSORIES 2

### Universal Clamp

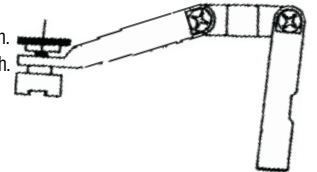
An all purpose Clamp designed for use with all dovetail equipped indicators. • Fits 5/32" and 7/32" shanks. • Made in U.S.A.



ORDER NO.	PRICE EACH
3100-401	\$21.25

**Single Jointed:** 1/4" Diameter Body w/ 2-3/4" overall reach.  
**Double Jointed:** 3/8" Diameter Body w/ 4-1/2" overall reach.

ORDER NO.	DESCRIPTION	PRICE EACH
3100-403	Single Jointed	\$30.25
3100-404	Double Jointed	28.50



## Indicator Swivel Joints

- Available with clamping ranges from 5/32" to 1/2".
- Overall length for all sizes is 1-3/4".



ORDER NO.	CLAMP HOLE	END HOLE	PRICE EACH
3100-414	5/16"	5/32"	\$7.00
3100-410	5/16"	1/4"	7.00
3100-416	3/8"	1/4"	7.00
3100-412	1/4"	1/4"	7.00
3100-418	5/16"	5/16"	7.00
3100-420	3/8"	5/16"	7.00
3100-422	3/8"	3/8"	10.00
3100-424	1/2"	3/8"	11.50

## Button Contacts

- AGD 4-48 Threads.
- Made in U.S.A.



ORDER NO.	DIA.	PRICE EACH
3100-750	3/8"	\$2.70
3100-751	1/2"	3.10
3100-752	3/4"	3.50

## Flat Contacts

- AGD 4-48 Threads.
- Made in U.S.A.



ORDER NO.	DIA.	PRICE EA.
3100-760	1/4"	\$4.80
3100-761	3/8"	4.80
3100-762	1/2"	5.20
3100-763	5/8"	5.50
3100-764	3/4"	6.70
3100-765	1"	8.90
3100-766	1-1/2"	14.30

## Tapered Contacts

- Button style contact fits all AGD Group 1, 2, 3, 4 Dial Indicators
- AGD 4-48 Threads. • Made in U.S.A.



ORDER NO.	DIA.	PRICE EA.
3100-745	13/32"	\$1.90
3100-746	1"	1.90
3100-747	1-1/2"	2.30
3100-748	2"	2.90



## Individual Extension Points

- Made in U.S.A.



ORDER NO.	LENGTH	PRICE EACH
3100-352	0.500"	\$3.20
3100-353	0.750"	3.20
3100-354	1.000"	3.20
3100-355	1.250"	3.90
3100-356	1.500"	3.50
3100-357	1.750"	4.50
3100-358	2.000"	3.70
3100-360	2.500"	4.00
3100-362	3.000"	4.00
3100-366	4.000"	4.70
3100-374	6.000"	6.80

## Extension Point Kit

### 3 Piece Set

- Includes 1", 2", and 3" indicator.
- Extension Points.
- Has 4-48 Internal and External threads.
- Made in U.S.A.

ORDER NO.	PRICE EACH
3100-385	\$8.20



## Zeroset Indicator Set Up Attachment

Checks the alignment of round materials in relation to the cutting head.

- Equipped with a spindle post with 1/4", 3/8", and 1/2" diameters, and has an effective measuring range of 3/8" thru 9".
- Quick adjustments and fine adjustments.
- Made in U.S.A.



ORDER NO.	PRICE EACH
3100-406	\$83.25

## Select-A-Point Kit

The most useful accessory for all dial indicators — a complete set of 22 different points.

- Fits all AGD 1, 2, 3, 4 drop style indicators.
- Made in U.S.A.

ORDER NO.	DESCRIPTION	PRICE EACH
3100-440	22 pc. Point Kit	\$8.25



## Drop Dial Indicator Contact Tips

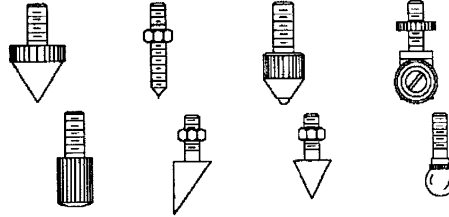
Available with Grade 25 Tungsten Carbide or Grade 25 Ruby Ball tips. Made in U.S.A.



TIP LENGTH	BELL SIZE	MATERIAL	THREADS	ORDER NO.	PRICE EACH
1/4"	3MM	Carbide	4-48	3100-780	\$10.70
1/4"	3MM	Carbide	M2.5	3100-781	10.70
1/2"	3MM	Carbide	4-48	3100-782	11.10
3/4"	3MM	Carbide	4-48	3100-783	11.60
1/4"	4MM	Carbide	4-48	3100-784	11.10
1/4"	4MM	Carbide	M2.5	3100-785	11.10
1/2"	4MM	Carbide	4-48	3100-786	11.60
3/4"	4MM	Carbide	4-48	3100-787	12.00
1/4"	3MM	Ruby	4-48	3100-790	12.00
1/4"	3MM	Ruby	M2.5	3100-791	12.00
1/2"	3MM	Ruby	4-48	3100-792	12.90
3/4"	3MM	Ruby	4-48	3100-793	13.30
1/4"	4MM	Ruby	4-48	3100-794	13.30
1/4"	4MM	Ruby	M2.5	3100-795	13.30
1/2"	4MM	Ruby	4-48	3100-796	13.80
3/4"	4MM	Ruby	4-48	3100-797	14.20

## Special Contacts

Popular specialized Contacts for Dial Indicators. Has 4-48 threads to fit all AGD Groups 1, 2, 3, 4 Indicators. Made in U.S.A.



DESCRIPTION	ORDER NO.	PRICE EACH	DESCRIPTION	ORDER NO.	PRICE EACH
Radius Contact	3100-770	\$ 4.90	1/4" Steel Ball	3100-775	\$12.20
Chisel Contact	3100-771	19.00	5/16" Cone Point	3100-776	12.20
Offset Chisel Contact	3100-772	19.00	1/16" Needle Stud	3100-777	16.50
1/8" Steel Ball	3100-773	14.10	Roller Anvil	3100-778	35.60
1/8" Carbide Ball	3100-774	19.20			

## Replacement Points For Test Indicators



### Mitutoyo (M1.7 x 0.35)

BALL	MATERIAL	TIP LENGTH	CATALOG NO.	PRICE
.040	Carbide	1/2"	3100-857	\$14.90
<b>Fits Mitutoyo Indicator Models: 513-528, 513-504.</b>				
.040	Steel	.700"	3100-847	\$7.10
.080	Steel	.700"	3100-846	7.10
.080	Carbide	.700"	3100-848	14.90
.120	Steel	.700"	3100-849	7.10
<b>Fits Mitutoyo Indicator Models: 513-518.</b>				
.040	Steel	1"	3100-850	\$ 7.10
.080	Steel	1"	3100-851	7.10
.080	Carbide	1"	3100-852	14.90
.120	Steel	1"	3100-853	7.10
<b>Fits Mitutoyo Indicator Models: 513-512.</b>				
.040	Steel	1-1/2"	3100-854	\$7.10
.080	Steel	1-1/2"	3100-855	7.10
.120	Steel	1-1/2"	3100-856	7.10

### Fred V. Fowler (M1.6 x 0.35)

BALL	MATERIAL	TIP LENGTH	CATALOG NO.	PRICE
<b>Fits Fowler Indicator Models: 52-560-005, 52-562-252, 52-562-452, 54-568-000</b>				
.080	Steel	.780"	3100-817	\$ 8.25
.040	Carbide	.780"	3100-818	14.20
.080	Carbide	.780"	3100-819	14.20
.120	Carbide	.780"	3100-820	14.20
<b>Fits Fowler Indicator Models: 52-562-253, 52-562-272, 52-562-273, 52-562-453 52-562-473, 52-563-252, 52-563-253, 52-563-272 52-563-273, 52-563-452, 52-563-453, 52-563-573</b>				
.040	Carbide	1/2"	3100-821	\$14.20
.080	Carbide	1/2"	3100-822	14.20
.120	Carbide	1/2"	3100-823	14.20
<b>Fits Fowler Indicator Models: 52-562-474, 52-563-474</b>				
.040	Carbide	1-1/2"	3100-824	\$14.20
.080	Carbide	1-1/2"	3100-825	14.20
.120	Carbide	1-1/2"	3100-826	14.20
<b>Fits Fowler Indicator Model: 52-555-022</b>				
.080	Steel	3.077"	3100-827	\$18.70
<b>Fits Fowler Indicator Models: 52-560-010, 52-560-015</b>				
.080	Steel	.416"	3100-829	\$7.50

(Continued)

# Measuring Instruments

## Replacement Points For Test Indicators (Continued) 2



### Brown & Sharpe (M1.4 x 0.30)

BALL	MATERIAL	TIP LENGTH	CATALOG NO.	PRICE
<b>Fits BesTest Indicator Model:</b> 599-7021-3; 599-7022-3; 599-7023-6; 599-7024-3; 599-7029-3 and -5; 599-7030-3 and -5 and -6 and -13 and -14; 599-7031-3 and -5 and -6 and -13 and -14; 599-7032-3 and -5 and -6 and -13 and -14; 599-7033-3 and -5 and -13; 599-7037-3; 599-7038-3.				
.040	Carbide	1/2"	<b>3100-800</b>	<b>\$13.80</b>
.080	Carbide	1/2"	<b>3100-801</b>	<b>13.80</b>
.080	Steel	1/2"	<b>3100-802</b>	<b>7.90</b>
.120	Carbide	1/2"	<b>3100-803</b>	<b>13.80</b>
.120	Steel	1/2"	<b>3100-804</b>	<b>7.90</b>
<b>Fits BesTest Indicator Model:</b> 599-7034-3 and -5; 599-7035-3 and -5				
.040	Carbide	1-7/16"	<b>3100-805</b>	<b>\$19.50</b>
.080	Carbide	1-7/16"	<b>3100-806</b>	<b>19.50</b>
.080	Steel	1-7/16"	<b>3100-807</b>	<b>17.30</b>
.120	Carbide	1-7/16"	<b>3100-808</b>	<b>19.50</b>

### Interapid (M1.7 x 0.35)

BALL	MATERIAL	TIP LENGTH	CATALOG NO.	PRICE
<b>Fits Interapid Indicator Models:</b> 599-7025-4, 599-7026-4, 599-7027-4, 599-7028-4, 312B-1 and -1V; 312B-2 and -2V; 312B-3 and -3V; 312B-4; 312B-20 and -20V 74.111373, 74.111377, 74.111378, 74.111379, 74.111957				
.031	Carbide	11/16"	<b>3100-841</b>	<b>\$13.80</b>
.060	Carbide	11/16"	<b>3100-842</b>	<b>13.80</b>
.080	Carbide	11/16"	<b>3100-843</b>	<b>13.80</b>
<b>Fits Interapid Indicator Models:</b> 74-111958, 74-111965; 312B-15 and -15V				
.080	Carbide	2-3/4"	<b>3100-844</b>	<b>\$20.00</b>
.100	Carbide	2-3/4"	<b>3100-845</b>	<b>20.00</b>

## Mitutoyo

### Dial Thickness Gages - Series 7

The Dial Thickness Gages offer a quick and efficient means of inspection with their convenient grip handle, thumb trigger and spring-loaded spindle. The various models cover a wide range of applications.



7304

Inch 12

ORDER NO.	RANGE	RESOLUTION	DIAL INDICATOR ACCURACY	MEASURING FORCE	LIST PRICE
<b>7304S</b>	0-1.0"	.001"	±.002"	Measuring Force: Less than 2.0N	<b>\$151.00</b>
<b>7322S</b>	0-1.0"	.001"	±.002"	Measuring Force: Less than 2.0N	<b>178.00</b>
<b>7326S</b>	0-.05"	.0001"	±.0002"	Measuring Force: Less than 1.5N	<b>209.00</b>
<b>7300S</b>	0-5"	.0001"	±.001"	Less than 1.4N	<b>126.00</b>



### Thickness Gages

- Ideal for measuring thickness of thin gauge material, such as sheet metal
- Spindle of hardened stainless steel
- Measuring faces are hardened, ground and lapped for accuracy
- Easily held in natural grip
- Can be easily adjusted to zero by adjustment screw on frame
- Lightweight



#### Dial Thickness Gage 2

RANGE	GRAD.	READING	THROAT	ORDER NO.	PRICE
.4"	.0001"	0-10	1.22"	<b>3101-034</b>	<b>\$65.00</b>
.5"	.001"	0-100	1.02"	<b>3101-036</b>	<b>65.00</b>

## Mitutoyo

### Digimatic Thickness Gages with Absolute Encoder - Series 547

The Digimatic Thickness Gages incorporate Mitutoyo's new Absolute IDC or IDS Digimatic Indicators to provide error-free LCD readings as well as data output for SPC analysis.

#### FEATURES: IDC Types

- Zero/ABS • Inch/mm Conversion • +/- Direction Changeover
- Preset • SPC Output • Provide GO/±NG judgment function and the indication of the judgment result • Face Rotates 330°
- Battery life: 5000 Hrs. • Power supply: silver oxide cell (SR-44 1 pc.).



**547-300S**  
IDC TYPE

#### FEATURES: IDS Types

- Origin ± Direction Changeover • Inch/mm Conversion
- ON/OFF • SPC Output • Battery Life: Approx. 20,000 Hrs.
- Power Supply: Silver oxide cell (SR-44 1 pc.).

For SPC output: order Connecting Cable **905338** (1m) or **905409** (2m). Replacement Battery: **541980** (1 pc.).

#### Inch/Metric

ORDER NO.	TYPE	RANGE	LCD RESOLUTION	ACCURACY	REMARKS	LIST PRICE <span style="border: 1px solid black; padding: 0 2px;">7</span>
<b>Absolute IDS-Type</b>						
<b>547-500</b>	Flat	0-.47" 0-11.93mm	.0005" 0.01mm	.001"	Measuring Force: Less than 1.5N with SPC output	<b>\$267.00</b>
<b>547-512</b>	Flat/Spherical Anvil (reversible)	0-.47" 0-11.93mm	.0005" 0.01mm	.001"	Measuring Force: Less than 1.5N with SPC output	<b>275.00</b>
<b>Absolute IDC-Type</b>						
<b>547-300S</b>	Flat	0-.4" 0-10.16mm	.0005" 0.01mm	.001"	Measuring Force: Less than 1.5N with SPC output	<b>425.00</b>
<b>547-312S</b>	Flat/Spherical Anvil (reversible)	0-.4" 0-10.16mm	.0005" 0.01mm	.001"	Measuring Force: Less than 1.5N with SPC output	<b>427.00</b>

# Measuring Instruments

## Mitutoyo Digital Hand Tachometers - Series 982



### Contact Tachometer Order No. 982-551

Detection: Optical Coupler 20 pulses/rev.

- Four 1.5V AA Batteries.
- Two Cone Adapters.
- One Funnel Adapter.
- One FPM Measuring Wheel (6").

### Non-Contact Tachometer Order No. 982-552

Detection Distance: 2-12".

- Accessories Furnished:
- Four 1.5V AA Batteries.
- Thirty-five Reflective Tabs.

ORDER NO.	RANGE	ACCURACY	MASS	DETECTION	LIST PRICE
982-551	*1-25,000 rpm	±1, Range 1-599.9 rpm ±2, Range 600.0-25,000 rpm: ±0.006% and ±0.5 digit	.37 lb.	Optical coupler, 20 pulses per revolution	\$276.00
982-552	-	6-599.9 rpm: ±1rpm, 600.0-99,999 rpm ±0.006% and ±0.5 digit	.35 lb. adapter (.11 lb.)	Laser diode	343.00

\* Equivalent surface speeds (FPM, YPM, MPM) obtained with proper adapters.  
+ Overscale is indicated by all LCD digits showing decimal points.

6

## Fowler

## Internal & External Electronic Caliper Gages



### Features:

- Robust housing
- Large LCD display
- Reading: .01"/.1mm/1/64ths
- Accuracy: .01"/.3mm/1/64ths
- Battery: CR2032
- Spring loaded with locking nut

6

ORDER NUMBER	DESCRIPTION	RANGE	PRICE EACH
54-554-630	Outside Caliper Gage	0-6"/150mm	\$35.70
54-554-730	Inside Caliper Gage	.5-6"/150mm	35.70

## Mitutoyo

## Dial Snap Gages - Series 201 (Without Dial Indicator)

### FEATURES

- Designed for quick inspection of diameters of cylinders and shafts in machining processes.
- Available without Dial Indicator.
- Wide (.53" x .47"), flat carbide anvils.
- Both front edges of the anvil are chamfered for easy insertion.
- Accepts all Dial Indicators and Electronic Gages with 375° diameter mounting stem.



Inch

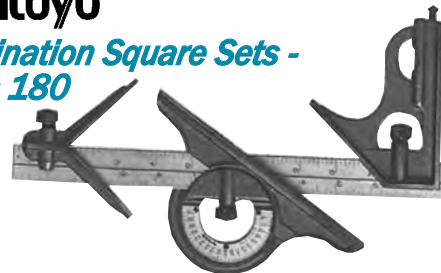
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ORDER NO.	RANGE	LIST PRICE	ORDER NO.	RANGE	LIST PRICE
201-151	0-1"	\$409.00	201-157	6-7"	\$589.00
201-152	1-2"	428.00	201-158	7-8"	611.00
201-153	2-3"	465.00	201-159	8-9"	648.00
201-154	3-4"	474.00	201-160	9-10"	681.00
201-155	4-5"	518.00	201-161	10-11"	717.00
201-156	5-6"	558.00	201-162	11-12"	745.00

12

## Mitutoyo

## Combination Square Sets - Series 180



Inch

12

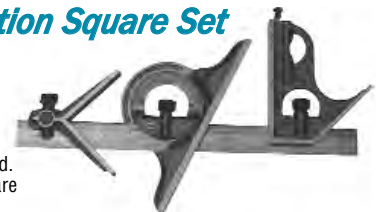
SET NO.	BLADE	SQUARE HEAD	CENTER HEAD	PROTRACTOR HEAD	LIST PRICE
180-903U	12" (4R)	180-501U	180-102U*	180-202U*	\$143.00
180-905U	12" (4R)	180-501U	180-102U*	180-202U* 180-301U†	225.00

\* Hardened Cast Iron Heads. † Non-Hardened Heads.

## Pittsburgh ALLEGHANY

## Combination Square Set

- Blades are fully hardened & tempered
- 4 piece Combination Set includes Square Head, Center Head, and Protractor Head.
- 3-piece Combination Set includes Square Head and Center Head
- Easy-to-read satin chrome finish blade, with micro-fine gradations
- Double-indexed Protractor is graduated 180° in both directions
- Square Head has level & scriber point

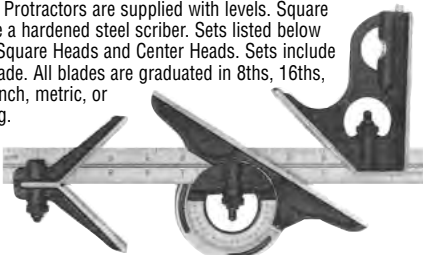


2

NO. PIECES	SIZE	GRAD.	ORDER NO.	PRICE
3	6"	4R	3101-260	\$42.50
4	12"	4R	3101-270	48.00

## Good brown & sharpe. Combination Squares with Hardened Heads

Square Heads and Protractors are supplied with levels. Square Heads also include a hardened steel scriber. Sets listed below include hardened Square Heads and Center Heads. Sets include a Satin Chrome Blade. All blades are graduated in 8ths, 16ths, 32ths and 64ths, inch, metric, or inch/metric reading. Combination Squares are also available in complete sets or components.



LENGTH OF BLADE	PIECES IN SET	B&S NUMBER	ORDERING NUMBER	PRICE EACH
12	Sq. Head	599-401-1204-1	7144-169	\$ 111.00
12	Sq. Head, Ctr. Head	599-400-1204-1	7144-159	158.00
12	Sq. Head, Ctr. Head, Proj. Head	599-425-1204-1	7144-183	238.00
12	Sq. Head, Ctr. Head, Rev. Proj. Head	599-438-1204-1	7144-193	250.00
24	Sq. Head	599-401-2404-1	7144-173	164.00
24	Sq. Head, Ctr. Head	599-400-2404-1	7144-163	214.00
24	Sq. Head, Ctr. Head, Proj. Head	599-425-2404-1	7144-187	227.00
24	Sq. Head, Ctr. Head, Rev. Proj. Head	599-438-2404-1	7144-197	305.00

7

# Measuring Instruments

## Fowler 9" Electronic Level

Fowler's 9" Laser Level provides instant 4 x 90° digital inclination display. With embedded magnets on its measuring surface, a beamsplitter projects a 90° laser cross hair for leveling at-a distance. It also includes a 1/4-20 mount for tripod use.

- Measuring range: 4 x 90°
- Resolution: .05°
- Accuracy: ±.2°
- Repeatability: ±.05
- Standard 9 volt battery (250 hours life)
- Dimensions: 9"L x 1"W x 2-1/4"H
- Includes two-way level and plumb vials.
- Reversible reading for inverted use



6

MODEL NUMBER	DESCRIPTION	PRICE
54-440-600	9" Electronic Level	\$57.10

## Fowler Electronic Protractor

The Digi-Pro 12"/300mm electronic protractor includes embedded magnets for unique measurement areas.

- Magnetic blade edges.
- Measuring range: ± 180°.
- Accuracy: ± 0.1°
- Repeatability: ± 0.1°
- Resolution: .01°
- On/Off, Zero, and Hold features
- Voltage: Standard 3V lithium battery



6

MODEL NUMBER	DESCRIPTION	PRICE
54-440-775-1	Digi-Pro Electronic Protractor	\$71.20

## Fowler X-Tread Tire Gage

For tire tread thickness measurement!  
Reads in inch, metric and fractions!

- Spring-loaded and hold measurement button for ease-of-use.
- Super-large display
- Range: 1"/25mm
- Resolution: .0005"/.01mm, fractions in 1/64" increments.
- Supplied in vinyl holster.
- 2.1" base
- .95" diameter rod



6

MODEL NUMBER	DESCRIPTION	PRICE
54-225-500	X-tread Tire Gage	\$17.40

## Fowler Deluxe Stereo Microscope

- 20—40x magnification
- Includes 2x and 4x objectives, 10x eyepieces, eyecups and dust cover.
- Sharp image definition
- Rack and pinion focusing.
- Two 3.5" (95mm) stage plates provided: Clear and reversible white/black.
- Top and bottom illumination.
- 15x and 20x eyepieces available



6

MODEL NUMBER	DESCRIPTION	PRICE
53-640-902	Deluxe Stereo Microscope	\$410.40

## Fowler Portable Roughness Tester

- Small, compact size
- 2 selectable parameters: Ra and Rz
- Large LCD display
- Meets ISO and DIN standards.
- N.I.S.T. traceable specimen included.
- Uses 9 volt battery (approx. 3000 measurements).
- Includes fitted case.
- \*Specialty probes and RS232 output available.



5

MODEL NUMBER	DESCRIPTION	PRICE
54-410-500	.0004" Probe	\$1470.60
54-410-600	.0002" Probe	1470.60

## Fowler Mini-Mag Protractor

The NEW mini-MAG Protractor provides instant 360° digital inclination display of any angle with the additional unique feature of embedded magnets on both sides and the bottom which make it ideal for a variety of measurements.

- Embedded magnets with 35lb. pull.
- Uses standard 9V battery (250 hrs.)
- Measuring range: 360° (4 x 90°)
- Display inverts.
- Resolution: .05°
- Accuracy: ±.2°
- Repeatability: .05°
- Hold feature.



6

MODEL NUMBER	DESCRIPTION	PRICE
54-422-450-1	Mini-Mag Protractor	\$71.40



# Measuring Instruments

## Fowler Bevel Protractor

- Magnifier for vernier.
- Includes 6" & 12" blades and an angle attachment.
- Satin chrome finish for easy readings.
- Graduation: 360°
- Reading to 5 minutes.
- Includes fitted case.



MODEL NUMBER	DESCRIPTION	PRICE
52-440-612	Bevel Protractor	\$110.95

## Planer and Shaper Gage

- Makes setting of planer and shaper tools easy
- Set gage with Micrometer, Surface Gage, or caliper and bring cutting tool in contact with it. Also, use in conjunction with Dial Indicator to level large plates for planing, etc.
- Max range 1/4" to 6-1/4" with extension rod



RANGE	ORDER NO.	PRICE
1/4-6-1/4"	3101-315	\$84.00



## Economy Universal Bevel Protractor w/Fine Adjustment

- 12" and 6" blades
- Protractor graduated 0-90 full 360°
- Optical magnifier
- Blade and protractor have independent locking provisions to allow maximum control

SIZE	ORDER NO.	PRICE
6", 12" Blade	3101-310	\$75.00



## 360° Universal Bevel Protractor



- Base available for setting up jobs on surface plates, milling machines, etc.
- Dial face and Vernier are finished in satin chrome for easy reading
- Vernier reading in 5 Minutes of arc
- Blade is fastened by a knurled thumb lock which can be set at any desired point
- An angle attachment for acute angle measuring is also available
- Blade slides full length. 6" and 12" blades are available as extras, along with a full selection of accessories
- Fine adjustment knob for measuring or setting of minute angles
- Protractor dial is graduated over 360° (in 0° to 90° sectors) and rotates around the full circle. Readings to 5' of arc with vernier
- Hardened stainless steel, rust and wear resistant for long life
- With magnifier glass for easy and faster reading
- Protractor Head accepts both 6" and 12" blade
- Positive rigid locking clamps
- Includes fitted case

DESCRIPTION	ORDER NO.	PRICE
Protractor Head w/Mag Lens, 6" & 12" Blades	3101-280	\$83.75
6" Blade	3101-292	6.95
12" Blade	3101-294	12.26
Magnifier	3101-300	8.37

## Dial Reading Universal Bevel Protractor

- Advanced design displays digital read-out of ten degrees in dial window
- Indicator pointer shows each degree and five minutes of angle
- Tempered stainless steel
- Accurate ± 5 arc minutes, or 1/12 of a degree

ORDER NO.	PRICE
3101-312	\$99.00



## GENERAL Steel Rules

### Steel Rules

General industrial quality rules are precision made, with etched fine black graduations, on stainless steel or satin chrome finish.



MODEL	SIZE	GRAD TYPE	GRADUATION SIDE 1	SIDE 2	† WIDTH	ORDER NO.	PRICE
<b>INDUSTRIAL - 6" PRECISION STAINLESS STEEL RULES</b>							
616	6" Flex	5R	10, 100	32, 64	15/32"	6932-096	\$5.99
676	6" Rigid	4R	8, 16	32, 64	3/4"	6932-111	7.17
678med	6" Rigid	-	mm, .5mm	10, 20, 50, 100, 16, 32, 64	3/4"	6932-114	7.10
<b>INDUSTRIAL - 12" PRECISION STAINLESS STEEL RULES</b>							
1201me	12" Flex	-	16, 32, 64	8, 16	7/8"	6932-162	\$8.31
1216	12" Flex	5R	10, 100	32, 64	15/32"	6932-174	10.21
1276	12" Rigid	4R	8, 16	32, 64	1"	6931-286	14.48
<b>ECONOMY - 6" PRECISION STAINLESS STEEL RULES</b>							
300/1"	6" Flex	-	32, 64	Dec. Equiv.	15/32"	6932-036	\$2.77
300me*	6" Flex	-	mm, 64	Metric Equiv.	15/32"	6932-042	2.96
301/1"	6" Flex	-	32, 64	-	1/4"	6932-046	2.12
305me	6" Flex	-	mm, 16	-	15/32"	6932-060	2.59

\* Furnished with pocket clip. † Dimensions are approximate.

## Steel Protractors



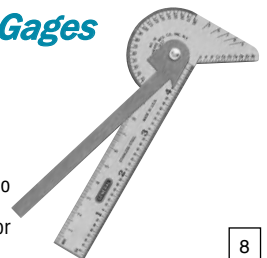
- Preferred by machinists, draftspeople, and mechanics for setting bevels, measuring, and transferring angles.
- Made of ground stainless steel for optimum accuracy.
- Permanently etched graduations from 0 to 180° in opposite directions.
- 3-3/8" x 2" head.
- 6" adjustable protractor arm locks into desired position with knurled thumb nut.
- Also available with satin chrome finish No. CF17.



MODEL	STYLE	ORDER NO.	PRICE
17	Square head	6922-018	\$15.66

## GENERAL Multi Use Rule and Gages

- One of our most popular pocket tools performs five separate and distinct functions.
- Drill point gage is used for checking 59° angle drill points.
- Bevel protractor is used for measuring and laying out angles.
- Center finder locates centers of shafts or circles.
- Circle divider (up to nine equal parts) is used for dividing circles into sectors, regular polygons, and polygrams.
- Tap and drill table shows popular tap sizes with correct drill sizes for National form of thread.
- Made of long-wearing stainless steel.
- 4" rule has etched graduations in 64ths and millimeters.



MODEL	ORDER NO.	PRICE
16me	6922-015	\$12.80

## 6" Pocket Ruler w/ Clip



- Made from stainless steel
- Etched fine black graduations in inches and millimeters



ORDER NO.	PRICE
3100-280	\$1.35

# Measuring Instruments

## Mitutoyo

### Steel Rules - Series 182



#### FEATURES

- Satin Chrome Finish.
- Tempered Stainless.

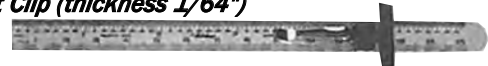
### Full-Flexible Rules (Thickness 1/64")

12

ORDER NO.	SIZE	GRADUATIONS					WIDTH	ACCURACY (LENGTH)	LIST PRICE
182-201	6" (4R)	1/8	1/16	1/32	1/64th	1/2"	+0.004"/-.002" (+0.1mm/-0.05mm)	\$13.05	
182-202	6" (16R)	1/32	1/64	1/50	1/100th	1/2"		13.05	
182-203	6" (5R)	1/32	1/64	1/10	1/100th	1/2"		13.05	
182-204	6" (3R)	1/32	1/64	1/10	1/50th	1/2"		13.05	
182-205	6" x 150mm	1/32	1/64	1mm	1/2mm	1/2"		13.05	
182-206	6" x 150mm	1/50	1/100	1mm	1/2mm	1/2"		13.05	
182-207	6" x 150mm	1/10	1/100	1mm	1/2mm	1/2"		13.05	
182-211	150mm	1mm	1/2mm	1mm	1/2mm	12mm	20.30		
182-221	12" (4R)	1/8	1/16	1/32	1/64th	1/2"	+0.005"/-.002" (+0.13mm/-0.05mm)	25.80	
182-222	12" (16R)	1/32	1/64	1/50	1/100th	1/2"		25.80	
182-223	12" (5R)	1/32	1/64	1/10	1/100th	1/2"		25.80	
182-224	12" (3R)	1/32	1/64	1/10	1/50th	1/2"		25.80	
182-225	12" x 300mm	1/32	1/64	1mm	1/2mm	1/2"		25.80	
182-231	300mm	1mm	1/2mm	1mm	1/2mm	12mm		25.80	
182-141	18" (4R)	1/8	1/16	1/32	1/64	3/4"		42.15	
182-242	18" (16R)	1/32	1/64	1/50	1/100th	3/4"	42.15		
182-243	18" (5R)	1/32	1/64	1/10	1/100th	3/4"	63.00		
182-245	18" x 450mm	1/32	1/64	1mm	1/2mm	3/4"	63.00		
182-251	450mm	1mm	1/2mm	1mm	1/2mm	18mm	66.00		
182-261	24" (4R)	1/8	1/16	1/32	1/64	3/4"	+0.006"/-.003" (+0.15mm/-0.075mm)	88.70	
182-262	24" (16R)	1/32	1/64	1/50	1/100th	3/4"		88.70	
182-263	24" (5R)	1/32	1/64	1/10	1/100th	3/4"		88.70	
182-264	24" (3R)	1/32	1/64	1/10	1/50th	3/4"		88.70	
182-265	24" x 600mm	1/32	1/64	1mm	1/2mm	3/4"		88.70	
182-271	600mm	1mm	1/2mm	1mm	1/2mm	18mm		90.95	

## Pocket Steel Rule - Series 950

With Pocket Clip (thickness 1/64")



#### FEATURES

- Engraved on frontside only.
- Backside: Inch/Metric equivalents.

12

ORDER NO.	SIZE	GRADUATION	WIDTH	ACCURACY (LENGTH)	LIST PRICE
950-300	6" x 150mm	1mm 1/64ths	1/2"	+0.004"/-.002" (+0.1mm/-0.05mm)	\$8.50

## Wide Rigid Rules (Thickness 3/64")

12

ORDER NO.	SIZE	GRADUATIONS					WIDTH	ACCURACY (LENGTH)	LIST PRICE
182-101	6" (4R)	1/8	1/16	1/32	1/64th	3/4"	+0.004"/-.002" (+0.1mm/-0.05mm)	\$13.70	
182-102	6" (16R)	1/32	1/64	1/50	1/100th	3/4"		13.70	
182-103	6" (5R)	1/32	1/64	1/10	1/100th	3/4"		13.70	
182-104	6" (3R)	1/32	1/64	1/10	1/50th	3/4"		13.70	
182-105	6" x 150mm	1/32	1/64	1mm	1/2mm	3/4"		13.70	
182-107	6" x 150mm	1/10	1/100	1mm	1/2mm	3/4"		13.70	
182-111	150mm	1mm	1/2mm	1mm	1/2mm	19mm		13.70	
182-121	12" (4R)	1/8	1/16	1/32	1/64th	1"	+0.005"/-.002" (+0.13mm/-0.05mm)	29.35	
182-122	12" (16R)	1/32	1/64	1/50	1/100th	1"		29.35	
182-123	12" (5R)	1/32	1/64	1/10	1/100th	1"		29.35	
182-124	12" (3R)	1/32	1/64	1/10	1/50th	1"		29.35	
182-125	12" x 300mm	1/32	1/64	1mm	1/2mm	1"		29.35	
182-131	300mm	1mm	1/2mm	1mm	1/2mm	25mm		29.35	
182-241	18" (4R)	1/8	1/16	1/32	1/64	1-3/16"		36.15	
182-142	18" (16R)	1/32	1/64	1/50	1/100th	1-3/16"	36.15		
182-143	18" (5R)	1/32	1/64	1/10	1/100th	1-3/16"	36.15		
182-145	8" x 450mm	1/32	1/64	1mm	1/2mm	1-3/16"	36.15		
182-151	450mm	1mm	1/2mm	1mm	1/2mm	30mm	36.15		
182-161	24" (4R)	1/8	1/16	1/32	1/64	1-3/16"	+0.006"/-.003"	58.60	
182-162	24" (16R)	1/32	1/64	1/50	1/100th	1-3/16"		58.60	
182-163	24" (5R)	1/32	1/64	1/10	1/100th	1-3/16"		58.60	
182-165	24" x 600mm	1/32	1/64	1mm	1/2mm	1-3/16"		58.60	
182-171	600mm	1mm	1/2mm	1mm	1/2mm	30mm		58.60	

## Inch Chrome Finish Tempered Flexible Steel Rules

7

DIMENSIONS			GRADUATIONS/EDGE				B&S NUMBER	ORDERING NUMBER	PRICE EACH
L	W*	T*	1ST	2ND	3RD	4TH			
6"	1/2"	1/64"	1/10††	1/50††	1/32†	1/64†	599-323-603	7144-139	\$8.60
6"	1/2"	1/64"	1/8††	1/16	1/32†	1/64†	599-323-604	7144-140	8.60
6"	1/2"	1/64"	1/10††	1/100††	1/32†	1/64†	599-323-605	7144-141	8.60
6"	1/2"	1/64"	1/50	1/100	1/32	1/64	599-323-616	7150-133	8.60
12"	1/2"	1/64"	1/8	1/16	1/32	1/64	599-323-1204	7145-990	16.50
12"	1/2"	1/64"	1/10††	1/100††	1/32	1/64	599-323-1205	7145-380	16.50
18"	3/4"	1/64"	1/8	1/16	1/32	1/64	599-323-1804	7151-068	30.00
18"	3/4"	1/64"	1/10††	1/100††	1/32	1/64	599-323-1805	7146-483	30.00
24"	3/4"	1/64"	1/8	1/16	1/32	1/64	599-323-2404	7145-992	39.00
24"	3/4"	1/64"	1/10††	1/100††	1/32	1/64	599-323-2405	7145-991	39.00

Values for W (width) and T (thickness) are approximate. = Indicates Bull's Eye and numbered graduations.

brown & sharpe



No. 599-323-603



No. 599-323-604



No. 599-323-605

## Inch Chrome Finish Tempered Hook Rules

7

DIMENSIONS			GRADUATIONS/EDGE				B&S NUMBER	ORDERING NUMBER	PRICE EACH
L	W*	T*	1ST	2ND	3RD	4TH			
6"	3/4"	3/64"	1/8	1/16	1/32†	1/64†	599-314-604-1	7150-134	\$19.50
6"	3/4"	3/64"	1/10	1/100	1/32†	1/64†	599-314-605-1	7146-485	20.00
12"	1"	3/64"	1/8	1/16	1/32†	1/64†	599-314-1204-1	7145-378	29.00
18"	1"	3/64"	1/8	1/16	1/32†	1/64†	599-314-1804-1	7151-072	38.00
24"	1"	3/64"	1/8	1/16	1/32†	1/64†	599-314-2404-1	7151-071	47.00

Values for W (width) and T (thickness) are approximate. = Indicates Bull's Eye and numbered graduations.

brown & sharpe



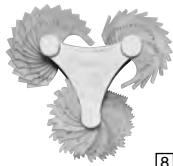
No. 599-314-604-1

# Measuring Instruments

## Screw Pitch Gages

**GENERAL®**

- These finely crafted measuring devices are used for gaging V, American National, or U.S. standard 60° threads.
- Gages are notched for measuring insidethreads of small holes and nuts as well as external threads.
- Set of 51 screw pitches combines all sizes from 4 to 84, including 11-1/2 and 27 pipe thread sizes.
- Knurled thumb nuts lock the case in an open or closed position.
- Also available in 22 pitch set No. 252 and metric No. 255mm.



8

MODEL	NO. OF PITCHES	SIZES	ORDER NO.	PRICE
251	51	4 to 84	6931-321	\$55.16
252	22	9 to 40	6931-323	28.48

## Screw Pitch Gages

**Pittsburg ALLEGHANY**



- Use for internal and external screw threads
- Locking device at each end to secure blades for storage or to position individual blades when in use
- Determine correct pitch by matching blade teeth with threads
- Each blade clearly marked with correct thread size

2

THREADS	NO. LEAVES	ORDER NO.	PRICE
4-42	30	3100-191	\$ 3.70
4-84	51	3100-190	7.00
4-42/0.25-6mm	55	3100-195	7.80

## Mitutoyo Pitch Gages Series 188, 950

### FEATURES

- Pitch size is stamped on each gage.



ORDER NO.	RANGE	DESCRIPTION	LIST PRICE
950-253	4-84 TPI	Unified 60° (51 leaves)	\$52.25
188-121	0.4, 0.5, 0.75, 1.0, 1.25, 2.0, 2.5, 3.0, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0mm	Metric 60° (18 leaves)	24.15
188-151	4-42 TPI inch 0.4-7mm	Unified 60° (30 leaves) Metric 60° (21 leaves)	51.45

12

## Pittsburg Radius Gage Set

- Rust and wear resistant satin chrome finish
- Each gage has five measuring surfaces with both convex and concave radii
- Each gage clearly marked
- A must for machinists, tool & die makers, inspectors, etc.
- Complete with fitted case

NO. PIECES	SIZES	ORDER NO.	PRICE
25	1/64, 1/32, 3/64, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 11/64, 3/16, 7/32, 15/64, 1/4, 17/64, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 13/16	3101-325	\$26.00

2



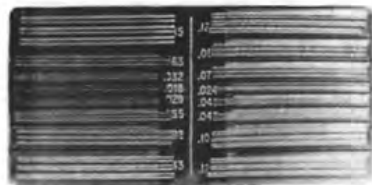
**Pittsburg ALLEGHANY**

## Thread Measuring Wire Set

- Kit contains 48 wires, 16 different sizes
- Measures all 60° threads from 3 to 48 threads per inch
- Metric threads from 0.5mm to 6.0mm
- Thread chart included

ORDER NO.	PRICE
3100-435	\$11.65

2



**GENERAL®**

## Wire Gage



- American Standard wire gage 0 to 36 used for gaging non ferrous wire and metals such as copper, brass, and aluminum.
- Chrome finished, heavy gage hardened and tempered tool steel.
- Decimal equivalents of each size are stamped on reverse side.
- 3-1/4" diameter, 3/32" thick.

8

MODEL	ORDER NO.	PRICE
20	6922-036	\$26.22

**GENERAL®**

## Sheet Metal Gage



- For gaging uncoated sheet metal, plate iron, and steel.
- Gage numbers are U.S. Standard 0 to 36, based on weights in ounces per square inch.
- Decimal equivalents of each size are stamped on reverse side.
- Chrome finished, heavy gage tool steel is hardened and tempered.
- 3-1/4" diameter, 3/32" thick.
- Conforms to government specifications GG-G-86b.

8

MODEL	ORDER NO.	PRICE
21	6922-041	\$25.22

## Economy Feeler (Thickness) Gages

**GENERAL®**

- All of our economy feeler gages have fine quality tempered steel leaves made to exacting tolerances.
- Each leaf is etched with both decimals of an inch and corresponding millimeter sizes.
- Nickel plated case has knurled locking nut for precise positioning.

## 26 Leaf Economy Gage

- General's best selling feeler gage provides precision accuracy at a reasonable price.
- 26 leaves include the following sizes: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, and .025".
- Metric range from .037 to .635mm.
- 3" x 1/2" leaves.



8

MODEL	ORDER NO.	PRICE
230	6931-311	\$8.88

## Pittsburg Thickness Gages

- 26 leaves from .0015" to .025". Each leaf size clearly marked. Overall size: 1/2 x 3"
- Made to close tolerances with high grade tempered steel.
- Edge of each leaf is rounded.



2

Order No. 3101-320 Price Each...\$6.25

**GENERAL®**

## Feeler (Thickness) Gages



- Made of the finest high grade precision gage steel.
- Each leaf is etched w/ size numbers in thousandths for quick identification.
- Knurled lock nut holds the leaves in desired position.
- Gages conform to government specifications GGG-G-17b.

**Straight Leaf** • 3" leaves are 1/2" wide.

MODEL	LEAVES	SIZES	ORDER NO.	PRICE
226	26	.0015" to .025"	6931-306	\$24.13

8



# Measuring Instruments

## Huot Drill Gages 2

- Economical gauge made from prime steel and finished.
- For measuring 1/16" to 1/2" by 64ths drill bits.  
Dimensions: 6" W x 3" D. **ORDER NO. 1919-000...\$3.00**
- For measuring #1 to 60 wire gauge drill bits.  
Dimensions: 5-1/4" W x 2" D. **ORDER NO. 1919-001...\$7.20**
- For measuring tools 1/2" to 1" by 64ths.  
Dimensions: 13" W x 5" D. **ORDER NO. 1919-002...\$14.70**



## GENERAL<sup>®</sup> Hobby Drill Gage



- Heavy gage stainless steel gage conveniently identifies drill bit sizes.
- Etched graduations are filled in black to give high contrast and will not wear off.
- Gage measures 2-3/8" x 6-3/4" overall.
- Stainless steel will not rust.

MODEL	SPECIFICATIONS	ORDER NO.	PRICE
24	Fractional size drills 1/16" to 1/2" x 64ths	6922-011	\$6.92

## GENERAL<sup>®</sup> Drill Gages



- General's drill gages are used to quickly and conveniently identify drill bit sizes.
- Made of heavy gage steel, machined and ground to close tolerances.
- Hole sizes and decimal equivalents are permanently etched on the face.
- No. 13 is 3" x 1-1/8" wide; Nos. 14, 15, and 35mm are 5" x 2" wide.

MODEL	SPECIFICATIONS	ORDER NO.	PRICE
13	3" x 1". Number size drills 61 to 80	6922-006	\$17.91
15	Number size drills 1 to 60	6922-012	14.87



- No. 14 conforms to government specifications GG-G-86b.

MODEL	SPECIFICATIONS	ORDER NO.	PRICE
14	Fractional size drills 1/16 to 1/2 x 64ths	6922-009	\$14.49

## GENERAL<sup>®</sup> Reference Table



- Essential tap drill and decimal equivalents reference table for toolmakers, machinists, and mechanics.
- Front has machine screw size tap drill chart for recommended 75% depth thread.
- Back has decimal equivalents table in 64ths from 1/64" to 63/64".
- For National Fine and National Special series of machine screws.
- Convenient 6" rule is graduated in 64ths.

MODEL	ORDER NO.	PRICE
715	6935-015	\$8.16

## Small Hole Gages Mitutoyo Series 154

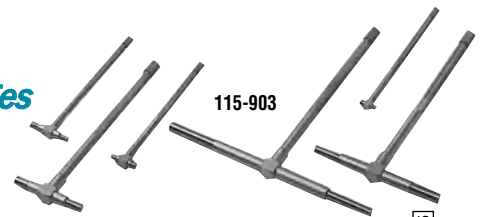
### FEATURES

- Extra long for gaging deep and shallow holes, slots and similar work.
- Gaging surface is full-round with a flat bottom.
- Gaging surface is fully hardened to ensure long tool life.
- Supplied set of 4 gages in a fitted case.



ORDER NO.	RANGE	DIMENSIONS			REMARKS	LIST PRICE
		B	C	D		
154-105	.118-.197"	.88"	3.54"	.21"	—	\$24.00
154-106	.197-.295"	1.18"	3.84"	.21"	—	24.60
154-107	.295-.393"	1.37"	4.04"	.33"	—	26.30
154-108	.393-.511"	1.57"	4.25"	.33"	—	31.00
154-901	.118-5.11"	Set of 4 Gages			—	106.00

## Mitutoyo Telescoping Gages Series 155 (5/16"~6")



ORDER NO.	RANGE	DIMENSIONS				REMARKS	LIST PRICE
		A	B	C	D		
155-121	.315-.50"	.12"	.16"	4.33"	.20"	—	\$26.30
155-122	.50-.748"	.14"	.20"	4.33"	.22"	—	29.30
155-123	.748-1.26"	.14"	.20"	4.33"	.22"	—	31.00
155-124	1.26-2.126"	.23"	.29"	5.90"	.31"	—	32.75
155-125	2.126-3.54"	.23"	.29"	5.90"	.31"	—	38.00
155-126	3.54-5.90"	.23"	.29"	5.90"	.31"	—	42.65
155-903	.315-5.90"	Set of 6 Gages				—	194.00
155-904	.50-5.90"	Set of 5 Gages				—	171.00
155-907	.315-2.126"	Set of 4 Gages				—	115.00

## Telescoping Gages 6 Piece Set



RANGE	ORDER NO.	PRICE
5/16"-6"	3100-936	\$21.00

- Plunger or gage expands in hole to be measured, locks in place and gage is removed from hole. Final hole size is obtained by measuring over contacts with a micrometer.
- Rigid handle with self-centering feature
- Constant spring tension for uniform feel
- Uniform contact pressures
- Contact points are of hardened tool steel and precision ground on the end
- Satin chrome finished
- Supplied in fitted carrying case



## Telescoping Hole Gages



- Satin-chrome finish. Completely assembled with handle. Knurled lock maintains the setting of the measuring arms to permit sizing with a micrometer or caliper.
- The 4 Piece Set covers the range 5/16" diameter to 2-1/8" diameter.
- The 6 Piece Set covers the range 5/16" diameter to 6" diameter

DESCRIPTION	B&S NUMBER	ORDERING NUMBER	PRICE EACH
4 Piece Set	599-591-10	7145-368	\$ 116.00
6 Piece Set	599-591-20	7145-369	152.00



## Small Hole Gages - 4 Piece Set

- Knurled knob at end of handle adjusts gage to hole size. Reading is obtained by measuring over contact points with a micrometer.
- Full Ball style constructed with a flat bottom, permitting use in smallest of holes, slots, groves, etc.
- Half Ball construction allows use in shallower applications, not accessible with Full Ball gage
- Gaging surface fully hardened for long life
- Supplied in fitted carrying case



RANGE	DECSC.	ORDER NO.	PRICE
.125"-.500"	Half Ball	3100-940	\$22.00
.125"-.500"	Full Ball	3100-941	22.00



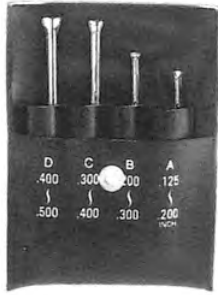


# Measuring Instruments

**brown & sharpe**

## Small Hole Gage Set

Use like a telescoping gage for measuring small diameter holes, slots and grooves. The flat bottom of half-ball gaging surface permits using the gage in even the shallowest recesses. Sensitive knurled knob setting. The entire tool is finished in satin chrome to prevent corrosion. Range .125" to .500" (3.18 to 12.7mm).



DESCRIPTION	B&S NUMBER	ORDERING NUMBER	PRICE EACH
Small Hole Gage Set	599-596	7151-885	\$120.00

**brown & sharpe** *Wiggler Set*

Four interchangeable attachments accurately indicate tool-spindle positions relative to ground surfaces, gage blocks, buttons, holes, slots or crossed layout lines. A great convenience in making precise setups. Chrome plated.

DESCRIPTION	B&S NUMBER	ORDERING NUMBER	PRICE EACH
Wiggler Set With Case	599-795	7144-597	\$62.00
COMPONENT PARTS DESCRIPTION	B&S NUMBER	ORDERING NUMBER	PRICE EACH
Ball Contact Attachment (.250" dia.)	599-795-11	7144-598	\$ 11.00
Disc Contact Attachment (.100" dia.)	599-795-12	7144-599	9.40
Off-Set Indicator Holder	599-795-13	7144-600	9.60
Needle Point Attachment Shank	599-795-14	7144-601	13.50
	599-795-15	7144-602	17.50



**brown & sharpe**

## Edge Finders

Locate round or flat work easily within .0005". To use, just place in a standard 1/2" diameter collet or chuck. As the collet or chuck rotates and approaches the edge of the work, the head moves sideways about 1/32", and the center of the finder is exactly one half of the head diameter away from the edge of the work.

DESCRIPTION	DIAMETER	B&S NUMBER	ORDERING NUMBER	PRICE EACH
Single End	.500" dia.	599-792	7144-595	\$15.00
Double End	.200/.500" dia.	599-792-1	7144-596	19.50
Double End	5/10mm dia.	599-792-10	7145-701	42.00



**Pittsburg ALLEGHANY**

## Edge Finders



- Used to locate work surfaces and edges quickly, easily and accurately shoulders, grooves, center points and scribed lines
- Time-saving positioning tool for Jig Borers, Milling and other machines
- All parts are hardened and centerless ground to precise tolerances

END	TIP	BODY DIAM.	ORDER NO.	PRICE
Single	.500	1/2	3131-755	\$3.75
Double	.200 & .500	1/2	3131-760	4.05
Single	.200	3/8	3131-765	4.85
Double	.200 & .500 w/Center Pt.	1/2	3131-770	5.65
Double	.200 & .375 w/Center Pt.	3/8	3131-775	4.65
Single	.200	1/2	3131-780	4.05
Single	.375 w/Center Pt.	3/8	3131-785	3.85
Single	.500 w/Center Pt.	1/2	3131-790	4.65

## Electronic Edge Finder

**Fowler**



- Six equally spaced light ports provide visibility at any angle.
- Made in the USA
- Read off any electrically conductive metal.
- Edge finder lights instantly when stylus touches work edge.
- Repeatability: .0002", .200" point dia.
- Furnished complete with bulb and AAA alkaline battery.

MODEL NUMBER	DESCRIPTION	PRICE
54-575-600	Electronic Edge Finder	\$22.00

## GENERAL® Edge Finders

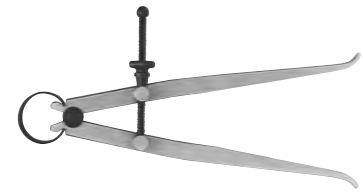
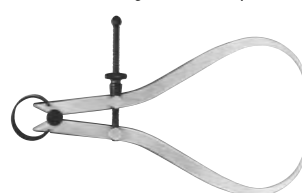
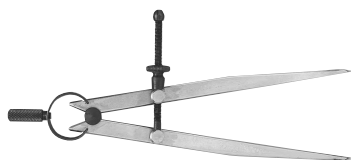
- General's edge finders accurately locate working edges, shoulders, grooves, center points, and scribed lines.
- Time-saving positioning tools for jig borers, milling, and other machines.
- Hardened and centerless ground to precision tolerance.
- All sizes 3" long.



MODEL	END	SIZE	SHANK	ORDER NO.	PRICE
260	Single	.500"	1/2"	6931-329	\$17.25
262	Double	.200" and .500"	1/2"	6931-331	21.62
263	Single	.200"	3/8"	6931-334	18.12
264	Double	.200" and point	1/2"	6931-337	26.17

## GENERAL® Flat Leg Pattern Dividers and Calipers

- Flat leg dividers and caliper legs are forged of special caliper steel.
- Hardened and tempered bow springs and fulcrum spools assure uniform tension without side play.
- Adjusting screw has a self seating washer and nut to permit quick and positive adjustment.
- Dividers have hardened points.
- Calipers have hardened measurement faces.
- Meet government specifications GGG-C-95.



### DIVIDERS

MODEL	SIZE	ORDER NO.	PRICE
450-6	6"	6931-601	\$18.41

### OUTSIDE CALIPERS

MODEL	SIZE	ORDER NO.	PRICE
452-6	6"	6931-618	\$17.72

### INSIDE CALIPERS

MODEL	SIZE	ORDER NO.	PRICE
454-6	6"	6931-639	\$18.41

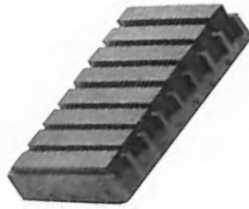
# Measuring Instruments



## Parallel Sets



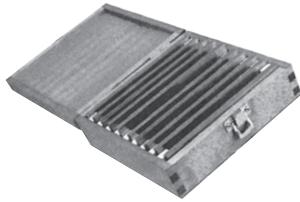
- Made from high quality alloy steel, hardened and ground
- All pairs are precision machined
- Dimensions: 6" Length by 7/8" to 1-3/4" by 8ths
- Accuracy: +/- 0.0003" parallelism +/- 0.0003" to size in height



- Made from high quality alloy steel, hardened and ground
- All pairs are precision machined
- Dimensions: 6" Length by 3/4" to 1-3/4" by 8ths
- Accuracy: +/- 0.0003" parallelism +/- 0.0003" to size in height

# PAIRS	WIDTH	LENGTH	ORDER NO.	PRICE
8	1/2"	6"	3100-207	\$130.00

# PAIRS	WIDTH	LENGTH	ORDER NO.	PRICE
9	1/4"	6"	3100-206	\$95.00



- Made from high quality alloy steel, hardened and ground from 1/8" stock
- 10 pairs with the following heights: 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8"
- Accuracy: +/- 0.0002" parallelism in height +/- 0.001" to size in height

# PAIRS	WIDTH	LENGTH	ORDER NO.	PRICE
10	1/8"	6"	3100-203	\$80.00

- Ideal for layout work, standards and set-ups, these matched pair parallels make machine shop work easier and quicker. The holes are designed for easier handling and set-ups.
- The sides with the holes are ground and matched in pairs
- Accuracy: +/- 0.0003" parallelism on two sides, top and bottom +/- 0.0007" on dimensions
- Hardness: 55 to 62 RC on two sides, top and bottom only



# PAIRS	WIDTH(S)	LENGTH	ORDER NO.	PRICE
4	3/16 & 1/2"	6"	3100-200	\$75.00
4	3/16"	6"	3100-201	65.00
4	1/2"	6"	3100-202	85.00

## USA 1/4" Parallel Set <sup>2</sup> Made in USA 1/4" thick Parallel Set - in custom fitted plastic box.



- 9 Pairs in Set.
- Hardened Steel. 6" Length x 1/8" Thick.
- Heights: 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8", 1-3/4".
- Parallel within +/- 0.0005" each pair.
- Heights matched within +/- 0.001 each pair.



ORDER NO.	PRICE EACH
3100-205	\$225.75

## Adjustable Parallels Set



- Precision steel machined to very close tolerances
- Each parallel consists of two ground pieces which slide smoothly on each other and can be locked in position for micrometer measurement
- Ideal for layout work, for gauging and in various set-ups for milling machines and grinders



PCS PER SET	RANGE	ORDER NO.	PRICE <sup>2</sup>
4	3/8" to 1-5/16"	3101-210	\$29.50
6	3/8" to 2-1/4"	3101-212	48.00



## Adjustable Parallels and Sets <sup>7</sup>

Quickly adjusted to size using just a micrometer. Clamp screws lock parallels to size. Each parallel has a generous range, eliminating the need for stocking many solid parallels.



INDIVIDUAL TOOL RANGE		B&S NUMBER	ORDERING NUMBER	PRICE EACH	
INCH	METRIC				
3/8" to 3/4"	(10 - 13mm)	599-673-1	7144-509	\$ 39.00	
1/2" to 11/16"	(13 - 17mm)	599-673-2	7144-510	41.00	
11/16" to 15/16"	(17 - 24mm)	599-673-3	7144-511	44.00	
15/16" to 1-5/16"	(24 - 33mm)	599-673-4	7144-512	52.00	
1-5/16" to 1-3/4"	(33 - 44mm)	599-673-5	7144-513	56.00	
1-3/4" to 2-1/4"	(44 - 57mm)	599-673-6	7144-514	57.00	
SET TOOL RANGE		TOOLS IN SET	B&S NUMBER	ORDERING NUMBER	PRICE EACH
INCH	METRIC				
3/8" to 1-5/16"	(10 - 33mm)	4	599-673-10	7144-515	\$ 116.00
3/8" to 2-1/4"	(13 - 57mm)	6	599-673-20	7144-516	171.00

## USA Thin Parallel Set Our brand new Made in USA 1/8" thick Parallel Set - in custom fitted plastic box.



- 10 Pairs in Set.
- Hardened Steel. 6" Length x 1/8" Thick.
- Heights: 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8".
- Parallel within +/- 0.0008" each pair.
- Heights matched within +/- 0.001 each pair.

ORDER NO.	PRICE EACH <sup>2</sup>
3100-204	\$158.25



## Thin Parallel Set <sup>2</sup>



- Precision ground and hardened
- Gun-blued on non-working surfaces
- Set work pieces to needed height in vise jaws in seconds. Two 1/4" holes are provided for mounting.
- Complete set of 4 pairs of parallels 5/32" thick by 3" long in 1/2", 5/8", 3/4", and 7/8" widths allows drilling through work near edges with out hitting parallels
- Packaged in plastic container



# PAIRS	WIDTH	LENGTH	ORDER NO.	PRICE
4	5/32"	3"	3101-200	\$12.80



## Premium Brand 1/32" Parallel Set <sup>2</sup>

MODEL NUMBER	DESCRIPTION	PRICE
52-437-031	Parallel Set	\$118.10

- Made from high-grade alloy steel, hardened and ground from 1/32" stock with 2 holes in each parallel.
- 10 pairs, 6" length, 1/32" width.
- 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2" & 1-5/8"
- Height specifications relate to consistency within each pair. Absolute heights are nominal.
- Parallelism: +/- .0001"



# Measuring Instruments

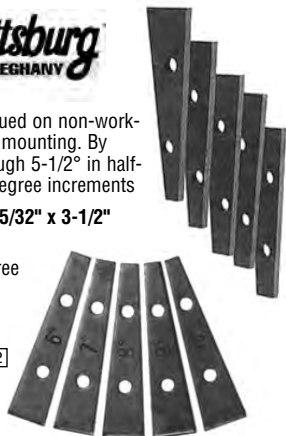
## Thin Angle Sets

1/2 Degree through 5 Degrees Set  
– Bar Size 5/32" x 3-1/2"

Precision ground on working surface. Gun-blued on non-working surfaces. Two 1/4" holes are provided for mounting. By using two angles, this set will span 1/2° through 5-1/2° in half-degree increments, and up to 9 degree in 1 degree increments

6 Degree through 10 Degree Set – Bar Size 5/32" x 3-1/2"

Combine this set with the above set to obtain 1/2 degree through 10-1/2 degree in 1/2 degree increments, or 1 degree through 19 degree can be obtained



DESCRIPTION	ORDER NO.	PRICE
1/2 Deg – 5 Deg	3101-201	\$12.20
6 Deg – 10 Deg	3101-202	10.50

## Universal Angle Block 8-Piece Sets



- No sine vise, sine plate, angle vise, angle vise, angle chart or block gage needed
- The combination of 10, 15 and 30 degree V-Blocks and 5 Angle Plates, 1 to 5 degree, provide fast and easy set-ups at various angles in 1 degree increments
- Hardness: 45-50 RC
- Tolerance: +/- 10 Seconds
- V-Block Dimensions: 3" L x 1-3/16" W x 1-3/16" H
- Angle Plate Dimensions:  
2-3/4" L x 1-3/16" W x 5/64" H at narrow end



LENGTH	WIDTH	HEIGHT	ORDER NO.	PRICE
3"	1-3/16	1-3/16	3101-225	\$77.50

## Angle Block Sets

- Simple, quick angle set-ups
- Eliminate calculations, avoid errors
- Oil hardened steel, precision ground
- Lightly magnetized for better hold
- 3" long x 1/4" thick; Accuracy: +/- .0001" per inch

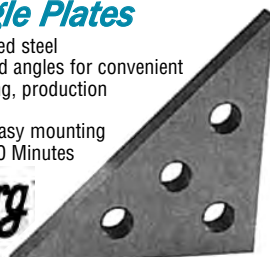
Furnished in 1 degree increments to 5°, and in 5 degree increments to 30 degrees. With the addition of the optional 1/4 degree and 1/2 degree blocks, virtually any conceivable angle to these increments can be obtained.



DESCRIPTION	ORDER NO.	PRICE
10 Piece Set	3101-220	\$67.50
1/4 Deg Block	3101-221	6.95
1/2 Deg Block	3101-222	6.95

## Solid Angle Plates

- Made of hardened steel
- Precision ground angles for convenient set-ups in tooling, production and inspection
- Four holes for easy mounting
- Tolerance: +/- 10 Minutes



SIZE	ANGLE	ORDER NO.	PRICE
3 x 3 x 5/16	45/45/90	3101-230	\$15.00
3 x 3 x 5/16	30/60/90	3101-232	15.00
2 Piece Set		3101-235	28.00

## 0-60° Precision Angle Block



- 0-60 degree Adjustable angle by locking the hex screw on the bottom
- Squareness: 0.0002"
- Angle accuracy: +/- 10 Minutes
- HRC: 50-55



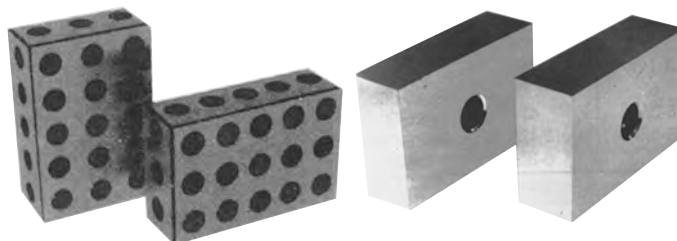
DIMENSIONS	V-WIDTH	ORDER NO.	PRICE
1 x 1-1/4 x 3	7/8"	3101-240	\$67.50
1-3/16 x 1-13/16 x 4	1-1/8"	3101-242	72.50
1-13/16 x 1-13/16 x 4	1-13/16"	3101-244	77.50

## 1-2-3 and 2-4-6 Blocks



SIZE	DESCRIPTION	ORDER NO.	PRICE
1-2-3	One Hole	3101-250	\$ 45.00
1-2-3	23 Hole	3101-251	21.00
2-4-6	23 Hole	3101-252	175.00

- Ideal for mounting work for precision grinding, lay-out work, etc.
- Precision ground and hardened to 56-60 RC on all six sides
- 23 Hole blocks have 5 tapped holes for clamping operations and 18 untapped holes
- The cross-drilling design gives minimum weight and maximum strength
- Supplied in matching pairs

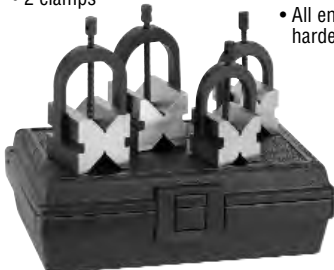


## V-Block Set

- 2 each @:
- Dimensions: 1-1/2" L x 1-1/4" W x 1-1/4" H.
  - Work capacity: Approx. 1"
  - 2 clamps
- 2 each @:
- Dimensions: 2" L x 1-1/2" W x 1-1/2" H.
  - Work capacity: 1-1/2"
  - 2 clamps



- All feature:
- Surfaces are square and parallel within .0005".
  - V-grooves are square and parallel with all surfaces within .0005".
  - Corresponding dimensions for each pair are alike within .0005".
  - All enclosed in shop-hardened case.



MODEL NUMBER	DESCRIPTION	PRICE
52-475-500	X-Blox V-Block Set	\$93.10

## Precision V-Block Sets w/ swing away clamp

- Quick accurate and positive means of holding workpieces for layout, machining, grinding or inspection
- One reversible swing-away clamp provided with each V-Block. Combined with unique offset hole pattern in the top of the V-Block, a variety of clamping possibilities are allowed
- All V-Blocks are parallel, square and centered within 0.0002"

CAPACITY	HEIGHT	WIDTH	LENGTH	ORDER NO.	PRICE/PR
19/32"	1-3/16"	1-3/8"	1-3/8"	3100-157	\$42.00
1-3/16"	2"	2-3/8"	2-3/8"	3100-158	69.50
2-9/16"	3-1/16"	4-1/8"	4-1/8"	3100-159	98.00



## Magnetic Chuck V-Blocks & Parallels



- Holds work in any direction on magnetic chucks
- Selected steel is integrally aluminum cast for highest magnetic transfer
- Precision ground on all surfaces
- Serial numbered in pairs
- V-Blocks have two 90° Vs



SIZE	DESCRIPTION	LARGE V	SMALL V	ORDER NO.	PRICE
1-7/8 x 2-3/8 x 2	V-Blk Pair	2" Cap	1/2" Cap	3131-725	\$49.75
1-7/8 x 2-3/8 x 4-3/8	One V-Blk	2" Cap	1/2" Cap	3131-730	49.75
1 x 2 x 4	Paral Pair	—	—	3131-720	39.75
Comb Set - Small V-Block Pair & Parallel Pair					3131-732 79.75



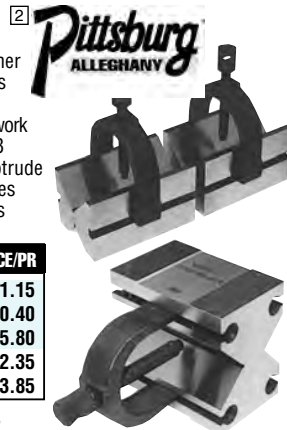
# Measuring Instruments

## V-Blocks & Clamps

- All sides are ground square and parallel to each other
- Sturdy enough to be used in Machining Operations
- Matched accuracy 0.0002"
- Accurate enough to be used in layouts and surface plate work
- The 1-3/4 x 2-1/2 x 2-3/4 and 2-3/4 x 3-1/2 x 4-7/8 models are designed so that the clamps do not protrude over the sides; thus the tool can be used on its sides
- 90° Vs are ground central, parallel, and square to the ends
- Precision ground; matched and numbered in pairs

CAPACITY	HEIGHT	WIDTH	LENGTH	ORDER NO.	PRICE/PR
1"	1-1/4"	1-1/4"	1-5/8"	3100-175	\$21.15
1"	1-3/8"	1-5/8"	1-3/4"	3100-170	30.40
1-1/2"	1-5/8"	1-3/4"	2-3/4"	3100-160	45.80
1-1/2"	1-3/4"	2-1/2"	2-3/4"	*3100-165	62.35
2-1/8"	2-3/4"	3-1/2"	4-7/8"	*3100-176	113.85

\*Designed so clamps do not protrude over the sides



## Master Precision Level

- This is a Master Precision level for accurately checking the work of machinists and toolmakers, the setting up of machinery and other work that requires extreme leveling accuracy
- The main level vial is graduated to 10 Second accuracy (1 division equals .0005° per foot)
- An auxiliary level enables the user to check side declinations
- The body of the level is of cast iron and the base is hand scraped for extreme accuracy
- There are plastic knobs on the frame to insulate the instrument from the heat of the hand
- Includes fitted case

SIZE	ORDER NO.	PRICE
8"	3100-008	\$106.50
12"	3100-012	144.41



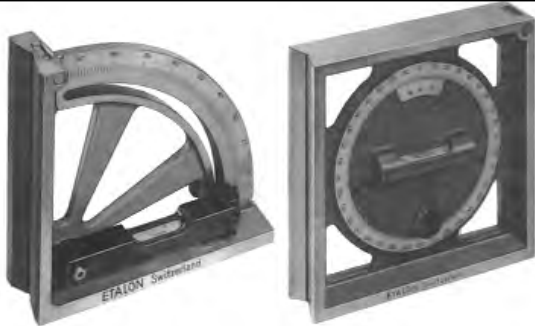
## Etalon Precision Spirit Levels

**Protractor Spirit Level** (at near right) has fine adjustment and two prismatic sides. Used for measuring and checking all angles of inclined surfaces and shafts in degrees and minutes. Vernier reads to 10 minutes. The instrument is 6" long and includes a fitted wooden case.

**Frame Angle Spirit Level** (at far right) has fine adjustment, two 6 inch prismatic sides and two 6 inch flat sides. It is graduated 2 x 180° and the vernier reads to 3 minutes.

Sensitivity of both instruments is .003" per 10 inches.

DESCRIPTION	ETALON NUMBER	ORDERING NUMBER	PRICE EACH
Protractor Spirit Level	53.31150	7188-138	\$2820.00
Frame Angle Spirit Level	53.31700	7186-729	2796.00



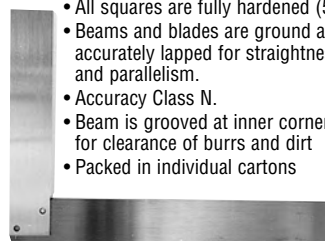
## Hardened Steel Wide Beam Straight Edge Square

- Length of blade is measured from inner edge of beam to end of tables

- All squares are fully hardened (55RC)
- Beams and blades are ground and accurately lapped for straightness and parallelism.
- Accuracy Class N.
- Beam is grooved at inner corner for clearance of burrs and dirt
- Packed in individual cartons

BLADE	BEAM	ORDER NO.	PRICE
1-3/8"	1"	3100-060†	\$14.05
2-3/8"	1-3/8"	3100-062	15.59
3-1/8"	2"	3100-064	17.97
5"	3"	3100-066	22.89
6-3/4"	4"	3100-068	26.17
8-1/2"	5-1/8"	3100-070	33.64
10-1/2"	6-3/8"	3100-072	46.85

† Limited Quantity



## Magnetic Chucks

- High powered Permanent Magnetic Chucks hold work pieces for machining, grinding, etc.
- Solid top and bottom plates assure retained accuracy
- Full loading power over entire plates
- Can be switched off to remove work piece
- Pole divisions are arranged for holding small, thin or large pieces

DESCRIPTION	DIMENSIONS	ORDER NO.	PRICE
Rect	6" x 12"	3131-700	\$280.80
Rect	6 x 18"	3131-705	381.40
Round	10"	3131-710	184.85
Round	10"	3131-715	358.15



## Magnetic V-Block

- Ideal for holding cylindrical workpieces for scribing, grinding, measuring and machining
- Powerful holding force with fixed On/Off switch
- Precision ground finish for use as an inspection device

SIZE	LARGE V	SMALL V	ORDER NO.	PRICE
2-3/4 x 3-3/4 x 4	2" Cap	3/4" Cap	3100-155	\$94.80



## Hardened Steel Bevel Edge Square

BLADE	BEAM	ORDER NO.	PRICE
1-3/8"	1"	3100-040†	\$14.05
2-3/8"	1-3/8"	3100-042†	14.61
3-1/8"	2"	3100-044	19.61
5"	3"	3100-046	28.72
6-3/4"	4"	3100-048	31.10
8-1/2"	5-1/8"	3100-050	39.30
10-1/2"	6-3/8"	3100-052	68.84

† Limited Quantity



- Squares have accurate right angles both inside and outside
- Made from a single piece of fully seasoned tool steel
- Beams and blades are ground and accurately lapped for straightness and parallelism. Accuracy Class N.
- Beam is grooved at inner corner for clearance of burrs and dirt
- Packed in individual cartons

## Cylinder Squares

- Used on surface plates as a 90° reference angle. Used for checking squares, height gauges and many other instruments
- The squares are hardened and the ends are lapped to 90° angular accuracy with the cylinders as follows:  
6" square to ± .00010, 12" square to ± .00015
- Includes fitted case

DIAM. SQUARE	HEIGHT	WEIGHT	ORDER NO.	PRICE
3"	6"	15 lbs	3100-130	\$143.59
4"	12"	44 lbs	3100-132	225.64



## Precision Sine Bars

- Both Sine Bar and Rolls are hardened and ground for extreme accuracy
- Top surface is accurate to .0003" per inch of length
- Parallelism 0.004"
- Center to center distance between center of rolls is accurate within .0002"
- There is a flange on the end for resting work
- Tapped holes allowing hold down

DISTANCE BTWN. CENTER OF ROLLS	DESCRIPTION	WIDTH	ORDER NO.	PRICE
5"	Sine Bar	15/16"	3100-135	\$54.15
10"	Sine Bar	1-1/4"	3100-136	129.64
5"	Sine Plate	2"	3100-137	91.90



## Jack Stand Set

- Up to 1000 lbs.
- Range: 2.25" to 3.375"
- Jack base diameter: 1.25"
- 1" and 2" extension bases
- Extension may be combined



MODEL NO.	DESCRIPTION	PRICE
52-104-000	Jack Stand Set	\$24.95





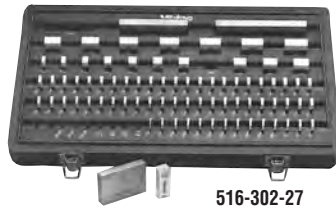
# Measuring Instruments

**Mitutoyo** 

## Rectangular Gage Block Sets – Series 516



516-902



516-302-27

Inch

ORDER NO. STEEL	BLOCKS PER SET	BLOCKS INCLUDED IN SET	GRADE	LIST PRICE
516-901-26	81	9 pcs. .1001–.1009" Step of .0001"	ASME 00	\$3750.00
516-902-26		49 pcs. .101–.149" Step of .001"	ASME 0	1860.00
516-903-26		19 pcs. .05–.95" Step of .05"	AS-1	1620.00
516-904-26		4 pcs. 1–4" Step of 1"	AS-2	1470.00
516-913-26	35	1 pcs. .10005"	ASME 00	1650.00
516-914-26		9 pcs. .1001–.1009" Step of .0001"	ASME 0	979.00
516-915-26		9 pcs. .101–.109" Step of .001"	AS-1	868.00
516-916-26		10 pcs. .10–.19" Step of .01"	AS-2	735.00
		6 pcs. .20, .30, .50, 1.0, 2.0 & 4.0"		

## Thin Block Set: Steel

BLOCKS PER SET	BLOCKS INCLUDED IN SET	GRADE	ORDER NO.	LIST PRICE
10	.005–.050" Step of .005"	ASME 0	516-926-26	\$512.00

## Set for Micrometer Inspection: Steel

9	.0625, .100, .125, 200, .250, .300, .500, 1, 2"	ASME 0	516-930-26	\$341.00
	1 pc. Optical parallel	AS-1	516-931-26	297.00

## Square Gage Block Sets – Series 516

Inch

BLOCKS PER SET	BLOCKS INCLUDED IN SET	GRADE	ORDER NO.	LIST PRICE
81	1 pc. .050"	ASME 00	516-401-26	\$4810.00
	10 pcs. .1000–.1009" Step of .0001"	ASME 0	516-402-26	2670.00
	49 pcs. .101–.149" Step of .001"	AS-1	516-403-26	2390.00
	17 pcs. .15–.95" Step of .05"	AS-2	516-404-26	1560.00
36	1 pc. .050"	ASME 0	516-422-26	1260.00
	10 pcs. .1000–.1009" Step of .0001"	AS-1	516-423-26	1130.00
	9 pcs. .101–.109" Step of .001"	AS-2	516-424-26	655.00
	9 pcs. .11–.19" Step of .01"			
	4 pcs. .2–.5" Step of .1"			
	3 pcs. 1, 2 and 4"			

## Pittsburg ALLEGHANY Gage Block Sets Steel Sets

Steel sets are produced from a special steel of high carbon and chrome content with a hardness of 65RC which insures hard wear resistance and stability



### Premium Series Sets

- These blocks are manufactured in a temperature controlled environment to ensure precise and reliable accuracy. They are made to special standards to resist corrosion and defacement.
- Mirror-polished surface finish provides exceptional wringing characteristics
- All inch blocks meet or exceed Federal Specifications for flatness, parallelism, and size, and conform to MIL-STD-45662A and US Government spec. ASME B89.1.9.2002.
- All blocks are certified in the U.S. by an ISO 17025 Certified Lab.
- Each block is serialized for easy identification
- A complete certificate of calibration traceable to the National Institute of Standards and Technology (NIST), showing the deviation in millionths of each block. (This is provided with all grades – including Grade B.)
- Deluxe fitted wood case.
- A full one year guarantee against any defects in workmanship.

### BLOCKS INCLUDED IN SETS:

#### 81 pc. Sets come with:

- 9 Blocks .1001–.1009 in .0001 steps
- 49 Blocks .101–.149 in .001 steps
- 19 Blocks .050–.950 in .050 steps
- 4 Blocks 1"–4" in 1" steps

#### 36 pc. Sets come with:

- 9 Blocks .1001–.1009 in .0001 steps
- 9 Blocks .101–.109 in .001 steps
- 9 Blocks .110–.190 in .010 steps
- 4 Blocks .200, .300, .400, .500
- 5 Blocks .050, .100, 1", 2", 4"

### TOLERANCES:

#### ASME B89.1.9-2002

Inch (U.S. Federal Standards), Millionths

NOM. SIZE	Grade 0	Grade AS-1	Grade B
Thru .050"	±6	±12	±50
>.050"-.450"	±5	±8	±50
>.450"–1.00"	±6	±12	±50
>1.00"–2.00"	±8	±16	±50
>2.00"–3.00"	±10	±20	±50
>3.00"–4.00"	±12	±24	±50

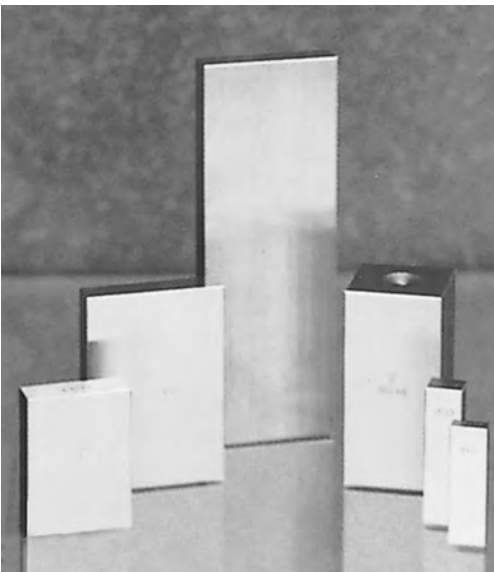
## Steel Sets

NO. PGS.	GRADE	TYPE	ORDER NO.	PRICE
81	0	Rect.	3100-112	\$502.40
81	AS-1	Rect.	3100-113	340.30
81	B	Rect.	3100-114	233.60
36	0	Rect.	3100-115	281.60
36	AS-1	Rect.	3100-116	186.70
36	B	Rect.	3100-117	128.00
81	0	Square	3100-118	1280.00
81	B	Square	3100-122	564.50
<b>TUNGSTEN CARBIDE</b>				
81	B	Rect.	3100-124	\$1259.50

Metric Sets available on request.

## Individual Gage Blocks

- All individual blocks are rectangular grade 2 (+.000004/-.000002)
- Each block is supplied with a certificate showing the deviation in millionths



SIZE	ORDER NO.	PRICE	SIZE	ORDER NO.	PRICE	SIZE	ORDER NO.	PRICE	SIZE	ORDER NO.	PRICE
.050	3101-089	\$18.15	.112	3101-112	\$15.05	.134	3101-134	\$15.05	.450	3101-160	\$19.70
.100	3101-090	15.05	.113	3101-113	15.05	.135	3101-135	15.05	.500	3101-161	19.70
.1001	3101-091	15.05	.114	3101-114	15.05	.136	3101-136	15.05	.550	3101-162	19.70
.1002	3101-092	15.05	.115	3101-115	15.05	.137	3101-137	15.05	.600	3101-163	19.70
.1003	3101-093	15.05	.116	3101-116	15.05	.138	3101-138	15.05	.650	3101-164	19.70
.1004	3101-094	15.05	.117	3101-117	15.05	.139	3101-139	15.05	.700	3101-165	19.70
.1005	3101-095	15.05	.118	3101-118	15.05	.140	3101-140	15.05	.750	3101-166	21.80
.1006	3101-096	15.05	.119	3101-119	15.05	.141	3101-141	15.05	.800	3101-167	21.80
.1007	3101-097	15.05	.120	3101-120	15.05	.142	3101-142	15.05	.850	3101-168	21.80
.1008	3101-098	15.05	.121	3101-121	15.05	.143	3101-143	15.05	.900	3101-169	21.80
.1009	3101-099	15.05	.122	3101-122	15.05	.144	3101-144	15.05	.950	3101-170	21.80
.101	3101-101	15.05	.123	3101-123	15.05	.145	3101-145	15.05	1.000	3101-171	28.00
.102	3101-102	15.05	.124	3101-124	15.05	.146	3101-146	15.05	2.000	3101-172	31.65
.103	3101-103	15.05	.125	3101-125	15.05	.147	3101-147	15.05	3.000	3101-173	37.35
.104	3101-104	15.05	.126	3101-126	15.05	.148	3101-148	15.05	4.000	3101-174	52.90
.105	3101-105	15.05	.127	3101-127	15.05	.149	3101-149	15.05			
.106	3101-106	15.05	.128	3101-128	15.05	.150	3101-150	15.05			
.107	3101-107	15.05	.129	3101-129	15.05	.200	3101-155	18.15			
.108	3101-108	15.05	.130	3101-130	15.05	.250	3101-156	18.15			
.109	3101-109	15.05	.131	3101-131	15.05	.300	3101-157	18.15			
.110	3101-110	15.05	.132	3101-132	15.05	.350	3101-158	18.15			
.111	3101-111	15.05	.133	3101-133	15.05	.400	3101-159	18.15			

# Measuring Instruments

## Pittsburg ALLEGHANY Economy Sets

- Competitively priced B grade set
- Each set is supplied with a certificate guaranteeing that each block is manufactured to meet or exceed Federal Specification GGG-G-15C, and is within the grade B tolerance of  $\pm 0.00050$ . This certificate does not show the individual deviation of each block.
- Each set is provided in a fitted wood case



81 pc.



36 pc.

NO. PCS.	GRADE	TYPE	ORDER NO.	PRICE
81	B	Rect.	3100-125	\$133.35
36	B	Rect.	3100-120	95.85

## Fowler

### Economy Rectangular Steel Gage Block Sets

- Economy Grade.
- Each block certified to N.I.S.T.
- Tolerances to .00005"
- Complete with fitted wooden case.

MODEL NO.	DESCRIPTION	PRICE
53-672-036	36 piece	\$283.50
53-672-081	81 piece	403.15



53-672-081



53-672-036

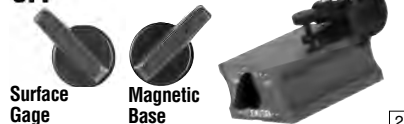
### Surface Gage with Built-In Switchable Magnetic Base

## Fowler

- Set Includes 3-1/8" x 2-1/16" permanent magnetic base with on/off switch, fine adjustment on base and a 5/16" x 9" upright.
- .0005" test indicator (FOW# 52-562-778) with .040", .080" & .120" contact points.
- Swivel Clamp to mount indicator.
- Two dovetail stems: 5/32" & 3/8"
- 4" hardened scriber.
- Form fitted shop-hardened case for easy accessibility and storage.

OFF

ON



Surface Gage

Magnetic Base

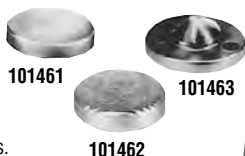
MODEL NUMBER	DESCRIPTION	PRICE
52-155-747	Surface Gage w/ Base	\$139.20

### Dial Gage Stands – 7003 (with Serrated Anvil) 7004 (with Flat Anvil)

The compact and versatile Dial Gage Stands are commonly use general-purpose stands for comparison measurements, 5" maximum-height capacity. Featuring a wide fine-adjusting range for zero-setting gage heads. The stands are designed for AGD type probes with 3/8" DIA. stems, and accommodate all AGD type Dial Indicators.

## Mitutoyo

Accessories and Parts



101461

101463

101462



7001-10

#### Dial Gage Stands

ORDER NO.	MAX. HEIGHT CAPACITY	FINE ADJUSTMENT	REMARKS	LIST PRICE
7001-10	4.0"	.04"	with Serrated Anvil (No. 101462) and Swivel Clamp Assembly (No. 58ZAA016), Stem Clamp: .375"	524.00
7002-10	4.0"	.04"	with Flat Anvil (No. 101461) and Swivel Clamp Assembly (No. 58ZAA016), Stem Clamp: .375"	524.00

## Pittsburg ALLEGHANY

### Dial Gage Stand w/ Flat Anvil



- Heavy enameled cast iron base
- Ground working surface 5-1/2" x 4-1/4"
- Accepts all AGD indicators
- Fine adjustment knob

ORDER NO.	PRICE
3100-148	\$57.50

## Pittsburg ALLEGHANY

### Toolmaker's Surface Gages

- Hardened and ground base with V-groove for scribing cylindrical work
- Adjustable spindle arm and scribers can be rigidly locked into any position at any angle
- Recessed front allows for depressing spindle below base level



SPINDLES	ORDER NO.	PRICE
4" & 7"	3100-140	\$15.80
9" & 12"	3100-145	23.90

## Mitutoyo Transfer Stands - Series 519 Heavy Duty Types

#### FEATURES

- Designed for comparison measurements of height using a dial indicator or dial test indicator.
- Highly rigid construction without anvil ensures high repeatability.
- Rotation range of indicator holder:  $\pm 120^\circ$ .

#### Accessories

ORDER NO.	DESCRIPTION	LIST PRICE
101461	Flat Anvil	\$37.50
101462	Serrated Anvil	38.60
101463	Domed Anvil	43.15
390070	Dovetail Att.	36.95

#### Transfer Stand

ORDER NO.	DESCRIPTION	LIST PRICE
519-109-10	Transfer Stand w/ Serrated Anvil (No. 101462) Mass: 11.9 lbs.	\$613.00

#### Parts

ORDER NO.	DESCRIPTION	LIST PRICE
302380	Anvil Screws (3pcs.)	\$2.15

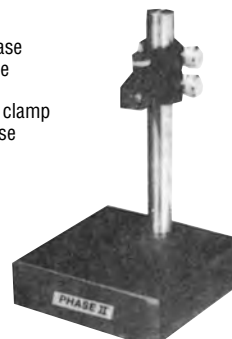


519-109-10

## Pittsburg ALLEGHANY

### Granite Check Stand

- Top quality ebony granite base
- Extremely stable and durable
- Accepts all AGD indicators
- Fine adjustment knuckle on clamp
- Full 6" Square x 2" Thick Base
- 8" x .990" diam. column
- .00005" flatness



ORDER NO.	PRICE
3100-149	\$32.00

# Measuring Instruments

## Magnetic Stands – Mitutoyo No. 7010S & No. 7011BN

Accepts all AGD-type Dial Indicators, Test Indicators and Probes having 3/8" DIA. shank and/or Lug Back within 1/4" DIA. mounting hole. The On-Off Switch offers instant mounting and dismounting without any adverse effect to the indicators or work surface.



7011BN  
[2]

ORDER NO.	DESCRIPTION	PULL	LIST PRICE
7010S	with 6" Rod & Universal Clamp	132 lbs.	\$128.00
7011BN	with 6" Adjustable Rod & Universal Clamp	132 lbs.	145.00

## Magnetic Stand With Indicator Set

ORDER NO.	DESCRIPTION	DIAL INDICATOR	RANGE	GRADUATION	LIST PRICE
64PKA079	Magnetic Stand No. 7010S	2416S	0-1"	.001"	\$215.00

## Magnetic Bases

- Powerful 110 lb. vibration free magnetic pull on Standard and Fine Adjustment models. Holding power for Heavy Duty model is 175 lbs!
- Centered "V" magnet for a strong hold on round or flat surfaces
- On and Off lever control for easy surface removal. Prevents marring or scratching.
- Accepts all AGD Dial Indicators with lug backs
- Quick adjustment clamping [2]



Standard

Fine Adjustment

DESCRIPTION	ORDER NO.	PRICE
Standard	3100-020	\$18.15
W/ Fine Adj	3100-022	19.50
Heavy Duty	3100-024	39.95

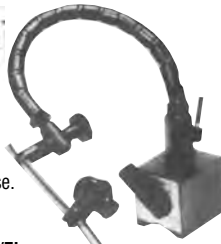
## Flexible Arm Magnetic Base



- Stem flexes nearly 360 degrees
- Locks into exact position with a cam lever-operated cable and tension adjustment. Stable rigidity will not diminish with constant use.
- On-Off lever control for magnetic base

DESCRIPTION	ORDER NO.	PRICE
Standard	3100-026	\$39.95
W/ Fine Adj	3100-028	42.95

w/Fine Adjustment [2]



## Universal Dial Test Indicator Holder



- For Bridgeport type machines, milling machines and jig borers
- Clamping diameter 1-7/8"
- Length from clamping bracket to indicator 4-1/2"
- Suitable for all popular indicators with 5/32" shank or dovetail
- Does not disturb the working tool
- Mounts with single pressure screw directly on the machine quill, bypassing the working tool
- A quicker way of indicating; guaranteed accurate readings

ORDER NO.	PRICE
3100-520	\$18.45



## Mini Magnetic Stand

- Compact and small universal Permanent Magnetic Stand. Ideal for tight work areas.
- Clamps indicators with stems as well as dovetails
- Includes a disc on bottom for neutralizing magnet when not in use
- Base dimensions: 1" Diameter x 1" High
- Overall Height: 5" with fine adjustment, 3" without fine adjustment [2]

DESCRIPTION	ORDER NO.	PRICE
Standard	3100-030	\$12.70
w/ Fine Adj	3100-032	13.50

## Flexible Indicator Holder



- Ideal for use in tight areas
- Solderless cable is self-adjustable
- Swivels and rotates – locks in any position
- Has fine adjustment 25 lb. pull
- Height with column 9-3/4"
- Base: 1-3/8" x 1-1/8" high pot magnet
- Stem: 13/64" x 3-1/8"

ORDER NO.	PRICE
3100-524	\$26.00



## Universal Magnetic Indicator Holder



- Two universal ball sockets permit adjustment to any angle or position, with full 360 degree movement.
- Fine adjustment clamp.
- Dovetail clamp for test indicator.
- 1/4" hole for 1/4" stem indicator.
- All knurled knobs and lock screws.

ORDER NO.	PRICE
3100-522	\$23.65



Indicator not included

## Magnetic Base Indicator Holder



### Standard Holder:

- Full magnetic base
- 6" long x 1/4" diameter non-magnetic stainless steel holding rod, set in hardened universal ball socket, allowing universal positioning of the indicator
- Base dimensions: 3-1/2" x 1-1/8" x 1"

### Universal Type Magnetic Base Indicator Holder:

- With attachments, this base can accommodate practically all types of dial and test indicators
- Unit has fine precision adjustment controlled by thumb screw allowing minor adjustments without touching work or indicator
- 6" long x 1/4" diameter non-magnetic stainless steel holding rod, set in hardened universal ball socket, allowing universal positioning of the indicator
- Base dimensions: 3-1/2" x 1-1/8" x 1"



[2]

	ORDER NO.	PRICE
Magnetic Base Indicator Holder	3100-036	\$23.15
Universal Type	3100-038	28.00

## Magnetic Base



- Five locations for mounting accessories
- 45 lbs holding power
- Zinc die cast housing
- Approximate size: 4-1/2" x 1-1/4"

ORDER NO.	PRICE
3100-034	\$7.20



## Anyform Magnetic Base



### STANDARD ANYFORM FEATURES:

- Powerful, permanent magnet always stays on
- Cam Lock Mechanism easily loosens the segments for contour adjustment
- Available with standard, fine adjust, or flexible arms and clamps
- Made in USA under strict quality control
- One year warranty

### ON/OFF ANYFORM FEATURES:

- Rotary knob turns power on or off
- Permanent, powerful magnet
- Cam Lock Mechanism easily loosens the segments for contour adjustment
- Available with standard, fine adjust, or flexible arms and clamps
- Made in USA under strict quality control
- One year warranty



CLOSEOUT ITEM!

[1]

STANDARD ANYFORM	ORDER NO.	PRICE
ANYFORM magnetic base with standard arms and clamps	3100-535	\$45.95
ANYFORM magnetic base with fine adjust arms and clamps	3100-536	47.50
ANYFORM magnetic base with flexible arm	3100-537	74.40

ON-OFF ANYFORM	ORDER NO.	PRICE
ON/OFF ANYFORM magnetic base with flexible arm	3100-540	\$87.50



# Measuring Instruments

## Bench Centers – Series 967 Precision Concentricity Verification



Mitutoyo

ORDER NO.	CENTER-TO-CENTER	WORKPIECE CAPACITY DIAMETER	MAX. WEIGHT	PARALLELISM OF CENTERS	FLATNESS OF SURFACE	ATTACHMENT DIAMETER	LIST PRICE
967-203-10	5.9"	3.8"	17.5 lbs.	.0002"	.0004"	Ø3/8"	\$709.00
967-201-10	11.8"	5.8"	35 lbs.	.0002"	.0006"	Ø3/8"	1280.00
967-204-10	17.7"	7.8"	44 lbs.	.0002"	.0007"	Ø3/8"	1960.00
967-202-10	23.6"	9.8"	66 lbs.	.00024"	.0008"	Ø3/8"	2950.00

## Surftest SJ-210

### Surface Roughness Testers

- Portable, detachable, detector/drive unit evaluate 39 surface parameters in hard-to-reach areas.
- The large backlit color LCD display direction is change-able and also displays the evaluation curve.
- A micro-SD card will hold up to 10,000 results. USB, RS-232 and SPC output is supported.
- Rechargeable battery provides up to 1000 measurements before recharging.
- Includes a precision roughness specimen.



Display with detachable drive unit

ORDER NO.	DESCRIPTION	LIST PRICE
178-561-02A	SJ-210 Surftest	\$2270.00

## Quill Kit Easy Installation – Fits Most Vertical Knee Mills

- Easy to read LCD with resolution of .0005"/0.01mm.
- Push button controls for inch/mm, Zero-Set and On/Off.
- Powered by a single SR-44 Battery which lasts about 1 year with normal use.
- SPC output for data transmission to Data Processors or LED Remote Display Box.



The new Mitutoyo Quill Kit mounted on a vertical mill.

DESCRIPTION	ORDER NO.	LIST PRICE
Digimatic Quill Kit complete with brackets & scale for Bridgeport Type machines.	053906B	\$306.00

## Thread Measuring Triangles

Checks for Class of Thread on all 60° threads.



• Made in U.S.A.

ORDER NO.	PRICE EACH
3100-436	\$27.50



## Magnetic ABS-AOS DRO System

### FEATURES

- Bolt hole circle calculation
- Diameter display and tool off sets
- Memory compensation value
- Selecting coordinates 0-10
- Preset • mm/inch
- Detection and hold reference (when connecting AT100 series)
- Touch signal probe set and hold (when connecting AT100 series)
- Zero/Pitch approach machining
- 1/2 calculation
- Scale (only) is IP67 rated



	Y Axis Travel			
	AT715-300 (12") For Bridgeport #1	AT715-350 (14") For Taiwan	AT715-400 (16") For Lagun	AT715-450 (18") For Lagun
AT715-750 (30") X Axis travel	64PKA058 \$1450.00	64PKA060 \$1450.00		
AT715-900 (36") X Axis travel	64PKA059 \$1450.00		64PKA062 \$1450.00	
AT715-1000 (40") X Axis travel		64PKA061 \$1450.00	64PKA063 \$1450.00	64PKA064 \$1450.00

### SPECIFICATIONS

#### Display Unit

Standard Resolution	.001"/.0005"/.0002"/.0001"/.00005" (0.010mm/0.005mm/0.002mm/0.001mm)
High Resolution	.0001"/.00005"/.00002"/.00001"/.000005" (0.0010mm/0.0005mm/0.0002mm/0.0001mm)
Display Range	X, Y, Z Axis +/-999.9999" (-/+9999.9999mm) -99.999.99 – +99.999.99mm
Display Unit	Seven Segment Green LED
Unit	Inch/Metric
Power Supply	AC 100V TO 240
Output	RS-2323C code out unit (optional)
Dimensions	10.24" (W) x 6.61" (H) x 3.2" (D) 260mm (W) x 168mm(H) x 80mm(D)

#### Scale

Detection Method	Electromagnetic Induction System
Interface	Mitutoyo Original Serial Interface (Connects only to KA Counter)
Effective Length	4" (100mm) to 72" (1800mm)
Accuracy (20°C)	7 + 13 x L0/1000 um (L0: Effective Length)
Resolution	See KA Counter resolution
Response Speed	50 m/min
Dust/Water Proof	IP-55

## Demagnetizer

- Use to remove residual magnetism from dies, punches, cutters or any other tools that have become magnetized
- Operates on 115V AC with on-off switch



ORDER NO.	PRICE
3101-060	\$56.00



## Ratchet Counter

- The counter is incremented by one when spring fitted ratchet type lever passes 45 degree threshold
- Reset knob



ORDER NO.	PRICE
3101-065	\$4.75





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