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Proudly Manufactured in the U.S.A.

# WHY CHOOSE ULTRA BOR ?

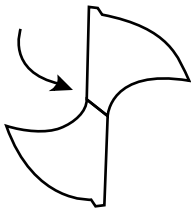
- ✓ **SUBSTANTIALLY LONGER CUTTING LIFE**  
The nitro-carburized flute has an increased Rockwell hardness.
- ✓ **CUTS HARDER MATERIALS**  
The flatter point takes a smaller chip. More torque is directed to a smaller area. This allows drilling into materials with hardness of over 30 on the Rockwell "C" scale.
- ✓ **STOPS DRILL WALKING**  
The split point design gives accurate starting without the use of a center punch.
- ✓ **HOLDS TIGHTER HOLE SIZE**  
The split point design is self centering. This limits the normal oversize drilling characteristics.
- ✓ **OUTSTANDING QUALITY APPEARANCE**  
The rich amber gold color sets it apart from commodity cutting tools.
- ✓ **RUNS COOLER, USES LESS TORQUE**  
135° point takes a smaller chip resulting in less heat. Friction is reduced by amber gold surface treatment.
- ✓ **STOPS CHUCK SLIPPAGE**  
Flats on drill shanks allow easy positive chuck grip.

## ULTRA BOR VS. COBALT

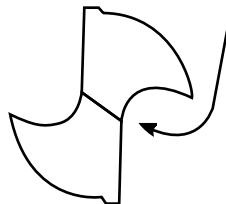
A ULTRA BOR drill with its thin web will penetrate the work hardening stainless fast enough to continually cut beneath the chip which is hardening from deformation.

This means the drill is cutting softer steel. The cobalt drill, with its thick web, cannot be fed at a fast enough rate to cut beneath the area which is hardening. As a result the cobalt drill is continually drilling into hardened steel.

ULTRA BOR



WEB COBALT



### ■ ULTRA BOR VS. COBALT

The Ultra Bor drills will substantially outperform cobalt drills in work hardening stainless steel applications. This performance advantage is the result of construction differences between the two types of drills. Cobalt drills, manufactured to Type J NAS 907 specs, have a very thick web. This web is necessary to limit breakage of the brittle cobalt steel. Ultra Bor drills are made of special hi-moly tool steel, which is much tougher than cobalt steel. The web on an Ultra Bor drill can be thinned considerably due to the toughness of the steel.

A Ultra Bor drill with its thin web will penetrate the work hardening stainless fast enough to continually cut beneath the chip which is hardening from deformation. This means the drill is cutting softer steel. The cobalt drill, with its thick web, cannot be fed at a fast enough rate to cut beneath the area which is hardening. As a result the cobalt drill is continually drilling into hardened steel.

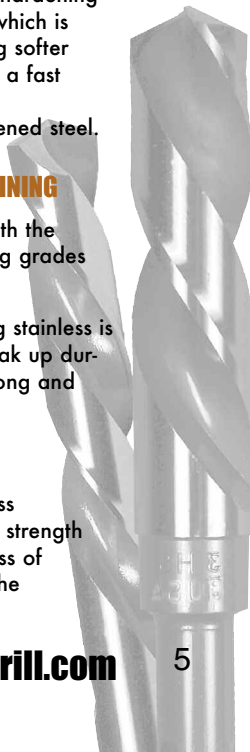
### ■ STAINLESS STEEL WORK HARDENING VS. FREE MACHINING

Work hardening grades of stainless are the 300 series with the exception of 303, which is free machining. Free machining grades include the 400 series in addition to type 303.

A quick way to identify work hardening vs free machining stainless is to observe the chip formation. Work hardening chips break up during the drilling process, while free machining chips are long and stringy.

### ■ COBALT APPLICATIONS

Cobalt drills are recommended for free machining stainless (400 series & 303), titanium alloys and other high tensile strength materials. These applications require the high red hardness of cobalt steel to counter the substantial heat generated in the drilling process.





# Jobber Length Drills



## JOBBER LENGTH DRILLS - ULTRA BOR

### Type 240-UB

#### Ultra Bor Super Premium - 135° Split Point

Special Hi-Molybdenum tool steel. 135° split point for fast penetration and accurate starting without a center punch. Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance. Body and clearance are gold surface treated for maximum lubricity. Drills are heat treated at 2185° F and then nitro-carburize



finished at 950° F to be measurably harder than high-speed steel. Space age nitro-carburized steel withstands substantially higher drilling temperatures while maintaining sharpness. Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications. Sizes smaller than #52 have non-split points.

### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
05580	1/16	1-7/8	7/8	12
05590	5/64	2	1	12
05600	3/32	2-1/4	1-1/4	12
05610	7/64	2-5/8	1-1/2	12
05620	1/8	2-3/4	1-5/8	12
05630	9/64	2-7/8	1-3/4	12
05640	5/32	3-1/8	2	12
05650	11/64	3-1/4	2-1/8	12
05660	3/16	3-1/2	2-5/16	12
05670	13/64	3-5/8	2-7/16	12
05680	7/32	3-3/4	2-1/2	12
05690	15/64	3-7/8	2-5/8	12
05700	1/4	4	2-3/4	12
05710	17/64	4-1/8	2-7/8	12
05720	9/32	4-1/4	2-15/16	12
05730	19/64	4-3/8	3-1/16	6
05740	5/16	4-1/2	3-3/16	6
05750	21/64	4-5/8	3-5/16	6
05760	11/32	4-3/4	3-7/16	6
05770	23/64	4-7/8	3-1/2	6
05780	3/8	5	3-5/8	6
05790	25/64	5-1/8	3-3/4	6
05800	13/32	5-1/4	3-7/8	6
05810	27/64	5-3/8	3-15/16	6
05820	7/16	5-1/2	4-1/16	6
05830	29/64	5-5/8	4-3/16	6
05840	15/32	5-3/4	4-5/16	6
05850	31/64	5-7/8	4-3/8	6
05860	1/2	6	4-1/2	6
22210	33/64	6-5/8	4-13/16	1
22220	17/32	6-5/8	4-13/16	1
22230	35/64	6-5/8	4-13/16	1
22240	9/16	6-5/8	4-13/16	1
22250	37/64	6-5/8	4-13/16	1
22260	19/32	7-1/8	5-3/16	1
22270	39/64	7-1/8	5-3/16	1
22280	5/8	7-1/8	5-3/16	1
22290	41/64	7-1/8	5-3/16	1
22300	21/32	7-1/8	5-3/16	1
22310	43/64	7-5/8	5-5/8	1
22320	11/16	7-5/8	5-5/8	1
22330	45/64	7-5/8	5-5/8	1
22340	23/32	7-5/8	5-5/8	1
22350	47/64	7-5/8	5-5/8	1
22360	3/4	7-3/8	5-5/8	1

### LETTER

Part No.	Letter Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
39460	A	3-7/8	2-5/8	12
39470	B	4	2-3/4	12
39480	C	4	2-3/4	12
39490	D	4	2-3/4	12
39500	E	4	2-3/4	12
39510	F	4-1/8	2-7/8	12
39520	G	4-1/8	2-7/8	12
39530	H	4-1/8	2-7/8	12
39540	I	4-1/8	2-7/8	12
39550	J	4-1/8	2-7/8	12
39560	K	4-1/4	2-15/16	12
39570	L	4-1/4	2-15/16	12
39580	M	4-3/8	3-1/16	6
39590	N	4-3/8	3-1/16	6
39600	O	4-1/2	3-3/16	6
39610	P	4-5/8	3-5/16	6
39620	Q	4-3/4	3-7/16	6
39630	R	4-3/4	3-7/16	6
39640	S	4-7/8	3-1/2	6
39650	T	4-7/8	3-1/2	6
39660	U	5	3-5/8	6
39670	V	5	3-5/8	6
39680	W	5-1/8	3-3/4	6
39690	X	5-1/8	3-3/4	6
39700	Y	5-1/4	3-7/8	6
39710	Z	5-1/4	3-7/8	6

### WIRE

Part No.	Wire Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
38940	1	3-7/8	2-5/8	12
38950	2	3-7/8	2-5/8	12
38960	3	3-3/4	2-1/2	12
38970	4	3-3/4	2-1/2	12
38980	5	3-3/4	2-1/2	12
38990	6	3-3/4	2-1/2	12
39000	7	3-5/8	2-7/16	12
39010	8	3-5/8	2-7/16	12
39020	9	3-5/8	2-7/16	12
39030	10	3-5/8	2-7/16	12
39040	11	3-1/2	2-5/16	12
39050	12	3-1/2	2-5/16	12
39060	13	3-1/2	2-5/16	12
39070	14	3-3/8	2-3/16	12
39080	15	3-3/8	2-3/16	12
39090	16	3-3/8	2-3/16	12
39100	17	3-3/8	2-3/16	12
39110	18	3-1/4	2-1/8	12
39120	19	3-1/4	2-1/8	12
39130	20	3-1/4	2-1/8	12

Wire sizes continued on page 7.

# Jobber Length Drills



DRILLS

## JOBBER LENGTH DRILLS - ULTRA BOR

### Type 240-UB

Ultra Bor Super Premium  
- 135° Split Point



#### WIRE (CONTINUED)

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
39140	21	3-1/4	2-1/8	12
39150	22	3-1/8	2	12
39160	23	3-1/8	2	12
39170	24	3-1/8	2	12
39180	25	3	1-7/8	12
39190	26	3	1-7/8	12
39200	27	3	1-7/8	12
39210	28	2-7/8	1-3/4	12
39220	29	2-7/8	1-3/4	12
39230	30	2-3/4	1-5/8	12
92310	31	2-3/4	1-5/8	12
92300	32	2-3/4	1-5/8	12
92290	33	2-5/8	1-1/2	12
92280	34	2-5/8	1-1/2	12
92270	35	2-5/8	1-1/2	12
92260	36	2-1/2	1-7/16	12
92250	37	2-1/2	1-7/16	12
92240	38	2-1/2	1-7/16	12
92230	39	2-3/8	1-3/8	12
92220	40	2-3/8	1-3/8	12
88420	41	2-3/8	1-3/8	12
88410	42	2-1/4	1-1/4	12
88400	43	2-1/4	1-1/4	12
88390	44	2-1/8	1-1/8	12
88380	45	2-1/8	1-1/8	12
88370	46	2-1/8	1-1/8	12
88360	47	2	1	12
88350	48	2	1	12
88340	49	2	1	12
88330	50	2	1	12
88320	51	2	1	12
88310	52	1-7/8	7/8	12
88300	53	1-7/8	7/8	12
88290	54	1-7/8	7/8	12
88280	55	1-7/8	7/8	12
88270	56	1-3/4	3/4	12
88260	57	1-3/4	3/4	12
88250	58	1-5/8	11/16	12
88240	59	1-5/8	11/16	12
88230	60	1-5/8	11/16	12

These items are also available carded.  
See Price List Catalog for details.

### Type 278-UB



3/8" Reduced Shank Ultra Bor Super Premium

This drill is a Type 240-UB with a 3/8" reduced shank.

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Heat treated at 2185° F and then nitro-carburize finished at 950° F to be measurably harder than high-speed steel.
- Space age nitro-carburized steel withstands substantially higher drilling temperatures while maintaining sharpness.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



#### 3/8" REDUCED SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
59200	25/64	5-1/8	3-3/4	6
59210	13/32	5-1/4	3-7/8	6
59220	27/64	5-3/8	3-15/16	6
59230	7/16	5-1/2	4-1/16	6
59240	29/64	5-5/8	4-3/16	6
59250	15/32	5-3/4	4-5/16	6
59260	31/64	5-7/8	4-3/8	6
59270	1/2	6	4-1/2	6
59280	17/32	6	4-1/4	1
59290	9/16	6	4-1/4	1
59300	19/32	6	4-1/4	1
59310	5/8	6	4-1/4	1

These items are also available carded.  
See Price List Catalog for details.

## JOBBER LENGTH DRILLS - HEAVY DUTY

### Type 240-A

Heavy-Duty, Surface Treated - 135° Split Point



This 135° split point drill is self centering and requires less thrust in drilling harder metal than a general purpose drill. It is recommended for medium hardness metal drilling applications.

#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
04490	1/16	1-7/8	7/8	12
04500	5/64	2	1	12
04510	3/32	2-1/4	1-1/4	12
04520	7/64	2-5/8	1-1/2	12
04530	1/8	2-3/4	1-5/8	12
04540	9/64	2-7/8	1-3/4	12
04550	5/32	3-1/8	2	12
04560	11/64	3-1/4	2-1/8	12
04570	3/16	3-1/2	2-5/16	12
16600	13/64	3-5/8	2-7/16	12
16610	7/32	3-3/4	2-1/2	12
16620	15/64	3-7/8	2-5/8	12
16630	1/4	4	2-3/4	12
16640	17/64	4-1/8	2-7/8	12
16650	9/32	4-1/4	2-15/16	12
16670	19/64	4-3/8	3-1/16	6
16680	5/16	4-1/2	3-3/16	6
16690	21/64	4-5/8	3-5/16	6
16700	11/32	4-3/4	3-7/16	6
16710	23/64	4-7/8	3-1/2	6
16720	3/8	5	3-5/8	6
16730	25/64	5-1/8	3-3/4	6
16740	13/32	5-1/4	3-7/8	6
16750	27/64	5-3/8	3-15/16	6
16760	7/16	5-1/2	4-1/16	6
16770	29/64	5-5/8	4-3/16	6
16780	15/32	5-3/4	4-5/16	6
16790	31/64	5-7/8	4-3/8	6
16800	1/2	6	4-1/2	6

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
05300	A	3-7/8	2-5/8	12
05310	B	4	2-3/4	12
05320	C	4	2-3/4	12
05330	D	4	2-3/4	12
05340	E	4	2-3/4	12
05350	F	4-1/8	2-7/8	12
05360	G	4-1/8	2-7/8	12
05370	H	4-1/8	2-7/8	12
05380	I	4-1/8	2-7/8	12
05390	J	4-1/8	2-7/8	12
05400	K	4-1/4	2-15/16	12
05410	L	4-1/4	2-15/16	12
05420	M	4-3/8	3-1/16	6
05430	N	4-3/8	3-1/16	6
05440	O	4-1/2	3-3/16	6
05450	P	4-5/8	3-5/16	6
05460	Q	4-3/4	3-7/16	6
05470	R	4-3/4	3-7/16	6
05480	S	4-7/8	3-1/2	6
05490	T	4-7/8	3-1/2	6
05500	U	5	3-5/8	6
05510	V	5	3-5/8	6
05520	W	5-1/8	3-3/4	6
05530	X	5-1/8	3-3/4	6
05540	Y	5-1/4	3-7/8	6
05550	Z	5-1/4	3-7/8	6

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack	Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
04780	1	3-7/8	2-5/8	12	05040	27	3	1-7/8	12
04790	2	3-7/8	2-5/8	12	05050	28	2-7/8	1-3/4	12
04800	3	3-3/4	2-1/2	12	05060	29	2-7/8	1-3/4	12
04810	4	3-3/4	2-1/2	12	05070	30	2-3/4	1-5/8	12
04820	5	3-3/4	2-1/2	12	05080	31	2-3/4	1-5/8	12
04830	6	3-3/4	2-1/2	12	05090	32	2-3/4	1-5/8	12
04840	7	3-5/8	2-7/16	12	05100	33	2-5/8	1-1/2	12
04850	8	3-5/8	2-7/16	12	05110	34	2-5/8	1-1/2	12
04860	9	3-5/8	2-7/16	12	05120	35	2-5/8	1-1/2	12
04870	10	3-5/8	2-7/16	12	05130	36	2-1/2	1-7/16	12
04880	11	3-1/2	2-5/16	12	05140	37	2-1/2	1-7/16	12
04890	12	3-1/2	2-5/16	12	05150	38	2-1/2	1-7/16	12
04900	13	3-1/2	2-5/16	12	05160	39	2-3/8	1-3/8	12
04910	14	3-3/8	2-3/16	12	05170	40	2-3/8	1-3/8	12
04920	15	3-3/8	2-3/16	12	05180	41	2-3/8	1-3/8	12
04930	16	3-3/8	2-3/16	12	05190	42	2-1/4	1-1/4	12
04940	17	3-3/8	2-3/16	12	05200	43	2-1/4	1-1/4	12
04950	18	3-1/4	2-1/8	12	05210	44	2-1/8	1-1/8	12
04960	19	3-1/4	2-1/8	12	05220	45	2-1/8	1-1/8	12
04970	20	3-1/4	2-1/8	12	05230	46	2-1/8	1-1/8	12
04980	21	3-1/4	2-1/8	12	05240	47	2	1	12
04990	22	3-1/8	2	12	05250	48	2	1	12
05000	23	3-1/8	2	12	05260	49	2	1	12
05010	24	3-1/8	2	12	05270	50	2	1	12
05020	25	3	1-7/8	12	05280	51	2	1	12
05030	26	3	1-7/8	12	05290	52	1-7/8	7/8	12

These items are also available carded. See Price List Catalog for details.



## JOBBER LENGTH DRILLS - CONTRACTOR GRADE

### Type 240-GF

#### Contractor Grade

**GOLDSTRIKE™ Premium - 135° Split Point  
3-Flats on Shank, 3/16 and Larger  
Gold Surface Treated**

These heavy-duty 135° split point drills perform well in very demanding applications. The flats on the shank give positive chuck grip. The drills are ideal for use with hand held drills with keyless chucks. The heavy-duty construction makes it ideal for hard metals, work hardening grades of stainless steel and other difficult to drill materials.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
40490	1/16	1-7/8	7/8	12
40500	5/64	2	1	12
40510	3/32	2-1/4	1-1/4	12
40520	7/64	2-5/8	1-1/2	12
40530	1/8	2-3/4	1-5/8	12
40540	9/64	2-7/8	1-3/4	12
40550	5/32	3-1/8	2	12
40560	11/64	3-1/4	2-1/8	12
40561	3/16	3-1/2	2-5/16	12
40562	13/64	3-5/8	2-7/16	12
40563	7/32	3-3/4	2-1/2	12
40564	15/64	3-7/8	2-5/8	12
40569	1/4	4	2-3/4	12
40571	17/64	4-1/8	2-7/8	12
40572	9/32	4-1/4	2-15/16	12
40573	19/64	4-3/8	3-1/16	6
40574	5/16	4-1/2	3-3/16	6
40579	21/64	4-5/8	3-5/16	6
40581	11/32	4-3/4	3-7/16	6
40582	23/64	4-7/8	3-1/2	6
40583	3/8	5	3-5/8	6
40584	25/64	5-1/8	3-3/4	6
40589	13/32	5-1/4	3-7/8	6
40591	27/64	5-3/8	3-15/16	6
40592	7/16	5-1/2	4-1/16	6
40593	29/64	5-5/8	4-3/16	6
40594	15/32	5-3/4	4-5/16	6
40601	31/64	5-7/8	4-3/8	6
40602	1/2	6	4-1/2	6

### Type 240-GFR Reduced Shank

**135° Split Point - 3/8" 3- Flats On Shank  
Reduced Shank Gold Surface Treated**



#### 3/8" WITH FLATS ON SHANK

Part No.	Description of Sizes	Per Pack
40633	25/64	6
40634	13/32	6
40639	27/64	6
40621	7/16	6
40622	29/64	6
40623	15/32	6
40624	31/64	6
40629	1/2	6

### Type 248-A

#### Contractor Grade

**Heavy-Duty - Surface Treated 135° Split Point**

These 135° split point drills are self centering and perform well in harder metals. The heavy-duty construction makes this series of drills ideal for the medium to light tensile strength metal drilling applications. This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard Type 240-A.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02782	1/16	1-7/8	7/8	12
02792	5/64	2	1	12
02802	3/32	2-1/4	1-1/4	12
02812	7/64	2-5/8	1-1/2	12
02822	1/8	2-3/4	1-5/8	12
02832	9/64	2-7/8	1-3/4	12
02842	5/32	3-1/8	2	12
02852	11/64	3-1/4	2-1/8	12
02862	3/16	3-1/2	2-5/16	12
02872	13/64	3-5/8	2-7/16	12
02882	7/32	3-3/4	2-1/2	12
02892	15/64	3-7/8	2-5/8	12
02902	1/4	4	2-3/4	12
02912	17/64	4-1/8	2-7/8	12
02922	9/32	4-1/4	2-15/16	12
02932	19/64	4-3/8	3-1/16	6
02942	5/16	4-1/2	3-3/16	6
02952	21/64	4-5/8	3-5/16	6
02962	11/32	4-3/4	3-7/16	6
02972	23/64	4-7/8	3-1/2	6
02982	3/8	5	3-5/8	6
02992	25/64	5-1/8	3-3/4	6
03002	13/32	5-1/4	3-7/8	6
03012	27/64	5-3/8	3-15/16	6
03022	7/16	5-1/2	4-1/16	6
03032	29/64	5-5/8	4-3/16	6
03042	15/32	5-3/4	4-5/16	6
03052	31/64	5-7/8	4-3/8	6
03062	1/2	6	4-1/2	6

**JOBBER LENGTH DRILLS - GENERAL PURPOSE**

**Type 240-B**

**General Purpose - Bright Finish**

This 118° point, high-speed steel drill performs well in a wide variety of drilling applications. It is recommended for non-ferrous metals, wood and plastics.



**FRACTIONAL**

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02750	1/64	3/4	3/16	12
02760	1/32	1-3/8	1/2	12
02770	3/64	1-3/4	3/4	12
02780	1/16	1-7/8	7/8	12
02790	5/64	2	1	12
02800	3/32	2-1/4	1-1/4	12
02810	7/64	2-5/8	1-1/2	12
02820	1/8	2-3/4	1-5/8	12
02830	9/64	2-7/8	1-3/4	12
02840	5/32	3-1/8	2	12
02850	11/64	3-1/4	2-1/8	12
02860	3/16	3-1/2	2-5/16	12
16870	13/64	3-5/8	2-7/16	12
16880	7/32	3-3/4	2-1/2	12
16890	15/64	3-7/8	2-5/8	12
16900	1/4	4	2-3/4	12
16910	17/64	4-1/8	2-7/8	12
16920	9/32	4-1/4	2-15/16	12
16930	19/64	4-3/8	3-1/16	6
16940	5/16	4-1/2	3-3/16	6
16950	21/64	4-5/8	3-5/16	6
16960	11/32	4-3/4	3-7/16	6
16970	23/64	4-7/8	3/12	6
16980	3/8	5	3-5/8	6
16990	25/64	5-1/8	3-3/4	6
17000	13/32	5-1/4	3-7/8	6
17010	27/64	5-3/8	3-15/16	6
17020	7/16	5-1/2	4-1/16	6
17030	29/64	5-5/8	4-3/16	6
17040	15/32	5-3/4	4-5/16	6
17050	31/64	5-7/8	4-3/8	6
17060	1/2	6	4-1/2	6

**LETTER**

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
04160	A	3-7/8	2-5/8	12
04170	B	4	2-3/4	12
04180	C	4	2-3/4	12
04190	D	4	2-3/4	12
04200	E	4	2-3/4	12
04210	F	4-1/8	2-7/8	12
04220	G	4-1/8	2-7/8	12
04230	H	4-1/8	2-7/8	12
04240	I	4-1/8	2-7/8	12
04250	J	4-1/8	2-7/8	12
04260	K	4-1/4	2-15/16	12
04270	L	4-1/4	2-15/16	12
04280	M	4-3/8	3-3/16	6
04290	N	4-3/8	3-1/16	6
04300	O	4-1/2	3-3/16	6
04310	P	4-5/8	3-5/16	6
04320	Q	4-3/4	3-7/16	6
04330	R	4-3/4	3-7/16	6

**LETTER (CONTINUED)**

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
04340	S	4-7/8	3-1/2	6
04350	T	4-7/8	3-1/2	6
04360	U	5	3-5/8	6
04370	V	5	3-5/8	6
04380	W	5-1/8	3-3/4	6
04390	X	5-1/8	3-3/4	6
04400	Y	5-1/4	3-7/8	6
04410	Z	5-1/4	3-7/8	6

**WIRE**

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
03190	1	3-7/8	2-5/8	12
03200	2	3-7/8	2-5/5	12
03210	3	3-3/4	2-1/2	12
03220	4	3-3/4	2-1/2	12
03230	5	3-3/4	2-1/2	12
03240	6	3-3/4	2-1/2	12
03250	7	3-5/8	2-7/16	12
03260	8	3-5/8	2-7/16	12
03270	9	3-5/8	2-7/16	12
03280	10	3-5/8	2-7/16	12
03290	11	3-1/2	2-5/16	12
03300	12	3-1/2	2-5/16	12
03310	13	3-1/2	2-5/16	12
03320	14	3-3/8	2-3/16	12
03330	15	3-3/8	2-3/16	12
03340	16	3-3/8	2-3/16	12
03350	17	3-3/8	2-3/16	12
03360	18	3-1/4	2-1/8	12
03370	19	3-1/4	2-1/8	12
03380	20	3-1/4	2-1/8	12
03390	21	3-1/4	2-1/8	12
03400	22	3-1/8	2	12
03410	23	3-1/8	2	12
03420	24	3-1/8	2	12
03430	25	3	1-7/8	12
03440	26	3	1-7/8	12
03450	27	3	1-7/8	12
03460	28	2-7/8	1-3/4	12
03470	29	2-7/8	1-3/4	12
03480	30	2-3/4	1-5/8	12
03490	31	2-3/4	1-5/8	12
03500	32	2-3/4	1-5/8	12
03510	33	2-5/8	1-1/2	12
03520	34	2-5/8	1-1/2	12
03530	35	2-5/8	1-1/2	12
03540	36	2-1/2	1-7/16	12
03550	37	2-1/2	1-7/16	12
03560	38	2-1/2	1-7/16	12
03570	39	2-3/8	1-3/8	12
03580	40	2-3/8	1-3/8	12
03590	41	2-3/8	1-3/8	12
03600	42	2-1/4	1-1/4	12
03610	43	2-1/4	1-1/4	12
03620	44	2-1/8	1-1/8	12
03630	45	2-1/8	1-1/8	12
03640	46	2-1/8	1-1/8	12
03650	47	2	1	12
03660	48	2	1	12
03670	49	2	1	12
03680	50	2	1	12
03690	51	2	1	12
03700	52	1-7/8	7/8	12
03710	53	1-7/8	7/8	12

Wire sizes continued on page 11.

# Jobber Length Drills



## JOBBER LENGTH DRILLS - GENERAL PURPOSE

### Type 240-B (continued)

General Purpose - Bright Finish

#### WIRE (CONTINUED)

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
03720	54	1-7/8	7/8	12
03730	55	1-7/8	7/8	12
03740	56	1-3/4	3/4	12
03750	57	1-3/4	3/4	12
03760	58	1-5/8	11/16	12
03770	59	1-5/8	11/16	12
03780	60	1-5/8	11/16	12
03790	61	1-5/8	11/16	12
03800	62	1-1/2	5/8	12
03810	63	1-1/2	5/8	12
03820	64	1-1/2	5/8	12
03830	65	1-1/2	5/8	12
03840	66	1-3/8	1/2	12
03850	67	1-3/8	1/2	12
03860	68	1-3/8	1/2	12
03870	69	1-3/8	1/2	12
03880	70	1-1/4	3/8	12
03890	71	1-1/4	3/8	12
03900	72	1-1/8	5/16	12
03910	73	1-1/8	5/16	12
03920	74	1	1/4	12
03930	75	1	1/4	12
03940	76	7/8	3/16	12
03950	77	7/8	3/16	12
03960	78	7/8	3/16	12
03970	79	3/4	1/8	12
03980	80	3/4	1/8	12
03990	81	3/4	1/8	12
04000	82	3/4	1/8	12
04010	83	3/4	1/8	12
04020	84	3/4	3/32	12
04030	85	3/4	3/32	12
04040	86	3/4	3/32	12
04050	87	3/4	3/32	12
04060	88	3/4	5/64	12
04070	89	3/4	5/64	12
04080	90	3/4	5/64	12
04090	91	3/4	5/64	12
04100	92	3/4	1/16	12
04110	93	3/4	1/16	12
04120	94	3/4	1/16	12
04130	95	3/4	1/16	12
04140	96	3/4	1/16	12
04150	97	3/4	1/16	12

These items are also available carded.  
See Price List Catalog for details.

### Type 275

1/4" Reduced Shank - General Purpose  
Bright Finish - Shorter than Jobber Length

This 118° point high-speed-steel drill is designed for use in portable air and electric drilling equipment with 1/4" chucks. The shorter than jobber length greatly increases rigidity and improves drilling performance.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
28800	17/64	3-1/2	1-7/8	12
28810	9/32	3-19/32	1-31/32	12
28820	19/64	3-23/32	2-1/16	6
28830	5/16	3-27/32	2-3/16	6
28840	21/64	4	2-9/32	6
28850	11/32	4-1/32	2-11/32	6
28860	23/64	4-5/32	2-15/32	6
28870	3/8	4-1/4	2-9/16	6
28880	25/64	4-11/32	2-5/8	6
28890	13/32	4-15/32	2-3/4	6
28900	27/64	4-9/16	2-27/32	6
28910	7/16	4-11/16	2-15/16	6
28920	29/64	4-25/32	3-1/32	6
28930	15/32	4-7/8	3-1/8	6
28940	31/64	5	3-7/32	6
28950	1/2	5	3-7/32	6

These items are also available carded.  
See Price List Catalog for details.

### Type 278

3/8" Reduced Shank  
General Purpose - Bright Finish

This general purpose 118° point high-speed steel drill is designed for use in portable air or electric drilling equipment with 3/8" chucks. Note: Surface treated flutes on sizes larger than 1/2".



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
59570	25/64	5-1/8	3-3/4	6
59580	13/32	5-1/4	3-7/8	6
59590	27/64	5-3/8	3-15/16	6
59500	7/16	5-1/2	4-1/16	6
59600	29/64	5-5/8	4-3/16	6
59510	15/32	5-3/4	4-5/16	6
59610	31/64	5-7/8	4-3/8	6
59520	1/2	6	4-1/2	6
59530	17/32	6	4-1/4	1
59540	9/16	6	4-1/4	1
59550	19/32	6	4-1/4	1
59560	5/8	6	4-1/4	1

These items are also available carded.  
See Price List Catalog for details.

**JOBBER LENGTH DRILLS - GENERAL PURPOSE**

**Type 240**

**General Purpose - Surface Treated, 118° point**

This 118° point, high-speed steel drill performs well in a wide variety of ferrous metal drilling applications. The black surface treatment prevents chip welding and increases abrasion resistance.



**FRACTIONAL**

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
01000	1/64	3/4	3/16	12
01010	1/32	1-3/8	1/2	12
01020	3/64	1-3/4	3/4	12
01030	1/16	1-7/8	7/8	12
01040	5/64	2	1	12
01050	3/32	2-1/4	1-1/4	12
01060	7/64	2-5/8	1-1/2	12
01070	1/8	2-3/4	1-5/8	12
01080	9/64	2-7/8	1-3/4	12
01090	5/32	3-1/8	2	12
01100	11/64	3-1/4	2-1/8	12
01110	3/16	3-1/2	2-5/16	12
01120	13/64	3-5/8	2-7/16	12
01130	7/32	3-3/4	2-1/2	12
01140	15/64	3-7/8	2-5/8	12
01150	1/4	4	2-3/4	12
01160	17/64	4-1/8	2-7/8	12
01170	9/32	4-1/4	2-15/16	12
01180	19/64	4-3/8	3-1/16	6
01190	5/16	4-1/2	3-3/16	6
01200	21/64	4-5/8	3-5/16	6
01210	11/32	4-3/4	3-7/16	6
01220	23/64	4-7/8	3-1/2	6
01230	3/8	5	3-5/8	6
01240	25/64	5-1/8	3-3/4	6
01250	13/32	5-1/4	3-7/8	6
01260	27/64	5-3/8	3-15/16	6
01270	7/16	5-1/2	4-1/16	6
01280	29/64	5-5/8	4-3/16	6
01290	15/32	5-3/4	4-5/16	6
01300	31/64	5-7/8	4-3/8	6
01310	1/2	6	4-1/2	6
01320	33/64	6-5/8	4-13/16	1
01330	17/32	6-5/8	4-13/16	1
01340	35/64	6-5/8	4-13/16	1
01350	9/16	6-5/8	4-13/16	1
01360	37/64	6-5/8	4-13/16	1
01370	19/32	7-1/8	5-3/16	1
01380	39/64	7-1/8	5-3/16	1
01390	5/8	7-1/8	5-3/16	1
01400	41/64	7-1/8	5-3/16	1
01410	21/32	7-1/8	5-3/16	1
01420	43/64	7-5/8	5-5/8	1
01430	11/16	7-5/8	5-5/8	1

These items are also available carded.  
See Price List Catalog for details.

**LETTER**

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
02410	A	3-7/8	2-5/8	12
02420	B	4	2-3/4	12
02430	C	4	2-3/4	12
02440	D	4	2-3/4	12
02450	E	4	2-3/4	12
02460	F	4-1/8	2-7/8	12
02470	G	4-1/8	2-7/8	12
02480	H	4-1/8	2-7/8	12
02490	I	4-1/8	2-7/8	12
02500	J	4-1/8	2-7/8	12
02510	K	4-1/4	2-15/16	12
02520	L	4-1/4	2-15/16	12
02530	M	4-3/8	3-1/16	6
02540	N	4-3/8	3-1/16	6
02550	O	4-1/2	3-3/16	6
02560	P	4-5/8	3-5/16	6
02570	Q	4-3/4	3-7/16	6
02580	R	4-3/4	3-7/16	6
02590	S	4-7/8	3-1/2	6
02600	T	4-7/8	3-1/2	6
02610	U	5	3-5/8	6
02620	V	5	3-5/8	6
02630	W	5-1/8	3-3/4	6
02640	X	5-1/8	3-3/4	6
02650	Y	5-1/4	3-7/8	6
02660	Z	5-1/4	3-7/8	6

**WIRE**

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
01440	1	3-7/8	2-5/8	12
01450	2	3-7/8	2-5/8	12
01460	3	3-3/4	2-1/2	12
01470	4	3-3/4	2-1/2	12
01480	5	3-3/4	2-1/2	12
01490	6	3-3/4	2-1/2	12
01500	7	3-5/8	2-7/16	12
01510	8	3-5/8	2-7/16	12
01520	9	3-5/8	2-7/16	12
01530	10	3-5/8	2-7/16	12
01540	11	3-1/2	2-5/16	12
01550	12	3-1/2	2-5/16	12
01560	13	3-1/2	2-5/16	12
01570	14	3-3/8	2-3/16	12
01580	15	3-3/8	2-3/16	12
01590	16	3-3/8	2-3/16	12
01600	17	3-3/8	2-3/16	12
01610	18	3-1/4	2-1/8	12
01620	19	3-1/4	2-1/8	12
01630	20	3-1/4	2-1/8	12
01640	21	3-1/4	2-1/8	12
01650	22	3-1/8	2	12
01660	23	3-1/8	2	12
01670	24	3-1/8	2	12
01680	25	3	1-7/8	12
01690	26	3	1-7/8	12
01700	27	3	1-7/8	12
01710	28	2-7/8	1-3/4	12
01720	29	2-7/8	1-3/4	12
01730	30	2-3/4	1-5/8	12
01740	31	2-3/4	1-5/8	12
01750	32	2-3/4	1-5/8	12

Wire sizes continued on page 13.

# Jobber Length Drills (CONTINUED)



## JOBBER LENGTH DRILLS - GENERAL PURPOSE

### Type 240

General Purpose - Surface Treated

#### WIRE (CONTINUED)

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
01760	33	2-5/8	1-1/2	12
01770	34	2-5/8	1-1/2	12
01780	35	2-5/8	1-1/2	12
01790	36	2-1/2	1-7/16	12
01800	37	2-1/2	1-7/16	12
01810	38	2-1/2	1-7/16	12
01820	39	2-3/8	1-3/8	12
01830	40	2-3/8	1-3/8	12
01840	41	2-3/8	1-3/8	12
01850	42	2-1/4	1-1/4	12
01860	43	2-1/4	1-1/4	12
01870	44	2-1/8	1-1/8	12
01880	45	2-1/8	1-1/8	12
01890	46	2-1/8	1-1/8	12
01900	47	2	1	12
01910	48	2	1	12
01920	49	2	1	12
01930	50	2	1	12
01940	51	2	1	12
01950	52	1-7/8	7/8	12
01960	53	1-7/8	7/8	12
01970	54	1-7/8	7/8	12
01980	55	1-7/8	7/8	12
01990	56	1-3/4	3/4	12
02000	57	1-3/4	3/4	12
02010	58	1-5/8	11/16	12
02020	59	1-5/8	11/16	12
02030	60	1-5/8	11/16	12
02040	61	1-5/8	11/16	12
02050	62	1-1/2	5/8	12
02060	63	1-1/2	5/8	12
02070	64	1-1/2	5/8	12
02080	65	1-1/2	5/8	12
02090	66	1-3/8	1/2	12
02100	67	1-3/8	1/2	12
02110	68	1-3/8	1/2	12
02120	69	1-3/8	1/2	12
02130	70	1-1/4	3/8	12
02140	71	1-1/4	3/8	12
02150	72	1-1/8	5/16	12
02160	73	1-1/8	5/16	12
02170	74	1	1/4	12
02180	75	1	1/4	12
02190	76	7/8	3/16	12
02200	77	7/8	3/16	12
02210	78	7/8	3/16	12
02220	79	3/4	1/8	12
02230	80	3/4	1/8	12

These items are also available carded.  
See Price List Catalog for details.

### Type 248

Contractor Grade

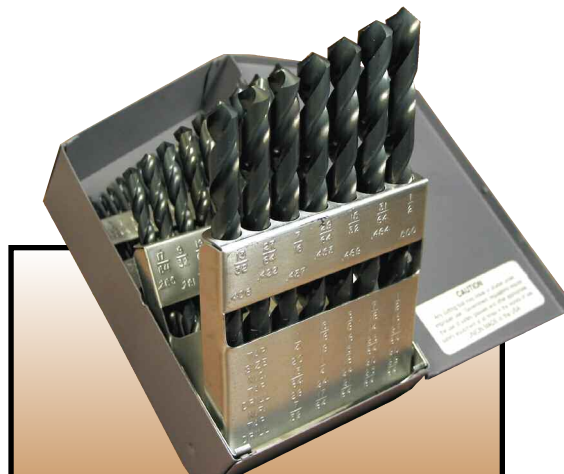
General Purpose - Surface Treated, 118° Pt.

These general purpose drills are ideal for a wide variety of light tensile strength metal drilling applications. This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard Type 240.



#### FRACTIONAL

Part No. I	Diameter nches	Overall Length Inches	Flute Length Inches	Qty. per/pack
02783	1/16	1-7/8	7/8	12
02793	5/64	2	1	12
02803	3/32	2-1/4	1-1/4	12
02813	7/64	2-5/8	1-1/2	12
02823	1/8	2-3/4	1-5/8	12
02833	9/64	2-7/8	1-3/4	12
02843	5/32	3-1/8	2	12
02853	11/64	3-1/4	2-1/8	12
02863	3/16	3-1/2	2-5/16	12
02873	13/64	3-5/8	2-7/16	12
02883	7/32	3-3/4	2-1/2	12
02893	15/64	3-7/8	2-5/8	12
02903	1/4	4	2-3/4	12
02913	17/64	4-1/8	2-7/8	12
02923	9/32	4-1/4	2-15/16	12
02933	19/64	4-3/8	3-1/16	6
02943	5/16	4-1/2	3-3/16	6
02953	21/64	4-5/8	3-5/16	6
02963	11/32	4-3/4	3-7/16	6
02973	23/64	4-7/8	3-1/2	6
02983	3/8	5	3-5/8	6
02993	25/64	5-1/8	3-3/4	6
03003	13/32	5-1/4	3-7/8	6
03013	27/64	5-3/8	3-15/16	6
03023	7/16	5-1/2	4-1/16	6
03033	29/64	5-5/8	4-3/16	6
03043	15/32	5-3/4	4-5/16	6
03053	31/64	5-7/8	4-3/8	6
03063	1/2	6	4-1/2	6



**General Purpose  
Surface Treated, 118° Point**  
found on page 121

**JOBBER LENGTH DRILLS - TANGED**

**Type 230**

**Automotive Series Tang Drive**

**118° Pt., General Purpose -Surface Treated**

Jobber length drill with a tang for use with A.S.A. split sleeve drill drivers.



**FRACTIONAL**

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
13300	1/8	2-3/4	1-5/8	12
13360	9/64	2-7/8	1-3/4	12
13400	5/32	3-1/8	2	12
13440	11/64	3-1/4	2-1/8	12
13490	3/16	3-1/2	2-5/16	12
13540	13/64	3-5/8	2-7/16	12
13570	7/32	3-3/4	2-1/2	12
13600	15/64	3-7/8	2-5/8	12
13630	1/4	4	2-3/4	12
13670	17/64	4-1/8	2-7/8	12
13700	9/32	4-1/4	2-15/16	12
13730	19/64	4-3/8	3-1/16	6
13760	5/16	4-1/2	3-3/16	6
13790	21/64	4-5/8	3-5/16	6
13820	11/32	4-3/4	3-7/16	6
13850	23/64	4-7/8	3-1/2	6
13870	3/8	5	3-5/8	6
13890	25/64	5-1/8	3-3/4	6
13910	13/32	5-1/4	3-7/8	6
13920	27/64	5-3/8	3-15/16	6
13930	7/16	5-1/2	4-1/16	6
13940	29/64	5-5/8	4-3/16	6
13950	15/32	5-3/4	4-5/16	6
13960	31/64	5-7/8	4-3/8	6
13970	1/2	6	4-1/2	6
13980	33/64	6-5/8	4-13/16	1
13990	17/32	6-5/8	4-13/16	1
14000	35/64	6-5/8	4-13/16	1
14010	9/16	6-5/8	4-13/16	1
14020	37/64	6-5/8	4-13/16	1
14030	19/32	7-1/8	5-3/16	1
14040	39/64	7-1/8	5-3/16	1
14050	5/8	7-1/8	5-3/16	1
14060	41/64	7-1/8	5-3/16	1
14070	21/32	7-1/8	5-3/16	1
14080	43/64	7-5/8	5-5/8	1
14090	11/16	7-5/8	5-5/8	1

# Jobber Length Drills



DRILLS

## JOBBER LENGTH DRILLS - HIGH HELIX

### Type 240-F Fast Spiral



### High Helix Bright Finish - 118° Point

Jobber Length 118° point, high-speed steel drill performs well in deep hole drilling of low tensile strength material such as aluminum, zinc, copper, wood, refrigeration die castings, auto hardware, slate & epoxy based plastics. Also use to drill free machining steels, brasses & bronzes.

#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
06550	1/32	1-3/8	1/2	12
06560	3/64	1-3/4	3/4	12
06570	1/16	1-7/8	7/8	12
06580	5/64	2	1	12
06590	3/32	2-1/4	1-1/4	12
06600	7/64	2-5/8	1-1/2	12
06610	1/8	2-3/4	1-5/8	12
06620	9/64	2-7/8	1-3/4	12
06630	5/32	3-1/8	2	12
06640	11/64	3-1/4	2-1/8	12
06650	3/16	3-1/2	2-5/16	12
06660	13/64	3-5/8	2-7/16	12
06670	7/32	3-3/4	2-1/2	12
06680	15/64	3-7/8	2-5/8	12
06690	1/4	4	2-3/4	12
06700	17/64	4-1/8	2-7/8	12
06710	9/32	4-1/4	2-15/16	12
06720	19/64	4-3/8	3-1/16	6
06730	5/16	4-1/2	3-3/16	6
06740	21/64	4-5/8	3-5/16	6
06750	11/32	4-3/4	3-7/16	6
06760	23/64	4-7/8	3-1/2	6
06770	3/8	5	3-5/8	6
06780	25/64	5-1/8	3-3/4	6
06790	13/32	5-1/4	3-7/8	6
06800	27/64	5-3/8	3-15/16	6
06810	7/16	5-1/2	4-1/16	6
06820	29/64	5-5/8	4-3/16	6
06830	15/32	5-3/4	4-5/16	6
06840	31/64	5-7/8	4-3/8	6
06850	1/2	6	4-1/2	6

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
07660	A	3-7/8	2-5/8	12
07670	B	4	2-3/4	12
07680	C	4	2-3/4	12
07690	D	4	2-3/4	12
07700	E	4	2-3/4	12
07710	F	4-1/8	2-7/8	12
07720	G	4-1/8	2-7/8	12
07730	H	4-1/8	2-7/8	12
07740	I	4-1/8	2-7/8	12
07750	J	4-1/8	2-7/8	12
07760	K	4-1/4	2-15/16	12
07770	L	4-1/4	2-15/16	12
07780	M	4-3/8	3-1/16	6
07790	N	4-3/8	3-1/16	6
07800	O	4-1/2	3-3/16	6
07810	P	4-5/8	3-5/16	6
07820	Q	4-3/4	3-7/16	6
07830	R	4-3/4	3-7/16	6
07840	S	4-7/8	3-1/2	6
07850	T	4-7/8	3-1/2	6
07860	U	5	3-5/8	6
07870	V	5	3-5/8	6
07880	W	5-1/8	3-3/4	6
07890	X	5-1/8	3-3/4	6
07900	Y	5-1/4	3-7/8	6
07910	Z	5-1/4	3-7/8	6

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
06860	1	3-7/8	2-5/8	12
06870	2	3-7/8	2-5/8	12
06880	3	3-3/4	2-1/2	12
06890	4	3-3/4	2-1/2	12
06900	5	3-3/4	2-1/2	12
06910	6	3-3/4	2-1/2	12
06920	7	3-5/8	2-7/16	12
06930	8	3-5/8	2-7/16	12
06940	9	3-5/8	2-7/16	12
06950	10	3-5/8	2-7/16	12
06960	11	3-1/2	2-5/16	12
06970	12	3-1/2	2-5/16	12
06980	13	3-1/2	2-5/16	12
06990	14	3-3/8	2-3/16	12
07000	15	3-3/8	2-3/16	12
07010	16	3-3/8	2-3/16	12
07020	17	3-3/8	2-3/16	12
07030	18	3-1/4	2-1/8	12
07040	19	3-1/4	2-1/8	12
07050	20	3-1/4	2-1/8	12
07060	21	3-1/4	2-1/8	12
07070	22	3-1/8	2	12
07080	23	3-1/8	2	12
07090	24	3-1/8	2	12
07100	25	3	1-7/8	12
07110	26	3	1-7/8	12
07120	27	3	1-7/8	12
07130	28	2-7/8	1-3/4	12
07140	29	2-7/8	1-3/4	12
07150	30	2-3/4	1-5/8	12
07160	31	2-3/4	1-5/8	12
07170	32	2-3/4	1-5/8	12
07180	33	2-5/8	1-1/2	12
07190	34	2-5/8	1-1/2	12
07200	35	2-5/8	1-1/2	12
07210	36	2-1/2	1-7/16	12
07220	37	2-1/2	1-7/16	12
07230	38	2-1/2	1-7/16	12
07240	39	2-3/8	1-3/8	12
07250	40	2-3/8	1-3/8	12
07260	41	2-3/8	1-3/8	12
07270	42	2-1/4	1-1/4	12
07280	43	2-1/4	1-1/4	12
07290	44	2-1/8	1-1/8	12
07300	45	2-1/8	1-1/8	12
07310	46	2-1/8	1-1/8	12
07320	47	2	1	12
07330	48	2	1	12
07340	49	2	1	12
07350	50	2	1	12
07360	51	2	1	12
07370	52	1-7/8	1-7/8	12
07380	53	1-7/8	1-7/8	12
07390	54	1-7/8	1-7/8	12
07400	55	1-7/8	1-7/8	12
07410	56	1-3/4	1-3/4	12
07420	57	1-3/4	1-3/4	12
07430	58	1-5/8	1-5/8	12
07440	59	1-5/8	1-5/8	12
07450	60	1-5/8	1-5/8	12

Jobber Length - Fast Spiral High Helix

**JOBBER LENGTH DRILLS - PARABOLIC**

**Type 240-P**

**Heavy-Duty - Parabolic Flute**  
**135° Split Point - Surface Treated**

Parabolic flute drills are designed to allow deep hole drilling without frequent drill removal to clear chips. These drills perform best in low to medium tensile strength materials. The split point and heavy-duty design provide superior performance by permitting higher feed rates and continuous drilling of deep holes.



**Type 240-PT**

**Heavy-Duty - Parabolic Flute**  
**135° Split Point - TiN Coated**

This exceptional high performance drill with the super hard TiN coating may extend tool life 500% or more in very abrasive drilling applications. The parabolic flutes eliminate the need for frequent drill removal in deep hole drilling.



**FRACTIONAL**

Type 240-P Surface Treated Part Number	Type 240-PT Tin Coated Part Number	Diameter Inches	Overall Length Inches	Flute Length Inches	Type 240-P Surface Treated Qty. per/Pack	Type 240-PT Tin Coated Qty. per/Pack
36800	37870	1/16	1-7/8	7/8	12	6
36810	37880	5/64	2	1	12	6
36820	37890	3/32	2-1/4	1-1/4	12	6
36830	37900	7/64	2-5/8	1-1/2	12	6
36840	37910	1/8	2-3/4	1-5/8	12	6
36850	37920	9/64	2-7/8	1-3/4	12	6
36860	37930	5/32	3-1/8	2	12	6
36870	37940	11/64	3-1/4	2-1/8	12	6
36880	37950	3/16	3-1/2	2-5/16	12	6
36890	37960	13/64	3-5/8	2-7/16	12	6
36900	37970	7/32	3-3/4	2-1/2	12	6
36910	37980	15/64	3-7/8	2-5/8	12	6
36920	37990	1/4	4	2-3/4	12	6
36930	38000	17/64	4-1/8	2-7/8	12	6
36940	38010	9/32	4-1/4	2-15/16	12	6
36950	38020	19/64	4-3/8	3-1/16	6	3
36960	38030	5/16	4-1/2	3-3/16	6	3
36970	38040	21/64	4-5/8	3-5/16	6	3
36980	38050	11/32	4-3/4	3-7/16	6	3
36990	38060	23/64	4-7/8	3-1/2	6	3
37000	38070	3/8	5	3-5/8	6	3
37010	38080	25/64	5-1/8	3-3/4	6	3
37020	38090	13/32	5-1/4	3-7/8	6	3
37030	38100	27/64	5-3/8	3-15/16	6	3
37040	38110	7/16	5-1/2	4-1/16	6	3
37050	38120	29/64	5-5/8	4-3/16	6	3
37060	38130	15/32	5-3/4	4-5/16	6	3
37070	38140	31/64	5-7/8	4-3/8	6	3
37080	38150	1/2	6	4-1/2	6	3

**WIRE**

Type 240-P Surface Treated Part Number	Type 240-PT Tin Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 240-PT Surface Treated Qty. per/Pack	Type 240-P Tin Coated Qty. per/Pack
68161	68162	1	3-7/8	2-5/8	12	6
68171	68172	2	3-7/8	2-5/8	12	6
38171	38172	3	3-3/4	2-1/2	12	6
68181	68182	4	3-3/4	2-1/2	12	6
68191	68192	5	3-3/4	2-1/2	12	6
68201	68202	6	3-3/4	2-1/2	12	6
58421	58422	7	3-5/8	2-7/16	12	6
68211	68211	8	3-5/8	2-7/16	12	6
68221	68222	9	3-5/8	2-7/16	12	6
68231	68232	10	3-5/8	2-7/16	12	6
68241	68242	11	3-1/2	2-5/16	12	6
68251	68252	12	3-1/2	2-5/16	12	6
68261	68262	13	3-1/2	2-5/16	12	6
68271	68272	14	3-3/8	2-3/16	12	6
68281	68282	15	3-3/8	2-3/16	12	6
68291	68292	16	3-3/8	2-3/16	12	6

Wire & Letter sizes continued on page 17.



# Jobber Length Drills



DRILLS

## JOBBER LENGTH DRILLS - PARABOLIC

### Type 240-P

Heavy-Duty - Parabolic Flute  
135° Split Point - Surface Treated



### Type 240-PT

Heavy-Duty - Parabolic Flute  
135° Split Point - TiN Coated



WIRE							
Type 240-P Surface Treated Part Number	Type 240-PT Tin Coated Part Number	Wire Sizes	Overall Length Inches	Flute Length Inches	Type 240-PT Surface Treated Qty. per/Pack	Type 240-P Tin Coated Qty. per/Pack	
68301	68302	17	3-3/8	2-3/16	12	6	
58591	58592	18	3-1/4	2-1/8	12	6	
68311	68312	19	3-1/4	2-1/8	12	6	
58381	58382	20	3-1/4	2-1/8	12	6	
58721	58722	21	3-1/4	2-1/8	12	6	
68321	68322	22	3-1/8	2	12	6	
68331	68332	23	3-1/8	2	12	6	
68341	68342	24	3-1/8	2	12	6	
58901	58902	25	3	1-7/8	12	6	
68351	68352	26	3	1-7/8	12	6	
68361	68362	27	3	1-7/8	12	6	
68371	68372	28	2-7/8	1-3/4	12	6	
37321	37322	29	2-7/8	1-3/4	12	6	
68381	68382	30	2-3/4	1-5/8	12	6	
68391	68392	31	2-3/4	1-5/8	12	6	
68401	68402	32	2-3/4	1-5/8	12	6	
58441	58442	33	2-5/8	1-1/2	12	6	
68411	68412	34	2-5/8	1-1/2	12	6	
68421	68422	35	2-5/8	1-1/2	12	6	
58581	58582	36	2-1/2	1-7/16	12	6	
37721	37722	37	2-1/2	1-7/16	12	6	
68431	68432	38	2-1/2	1-7/16	12	6	
58451	58452	39	2-3/8	1-3/8	12	6	
38321	38322	40	2-3/8	1-3/8	12	6	

LETTER							
Type 240-P Surface Treated Letter Number	Type 240-PT Tin Coated Letter Number	Letter Sizes	Overall Length Inches	Flute Length Inches	Type 240-P Surface Treated Qty. per/Pack	Type 240-PT Tin Coated Qty. per/Pack	
70880	58372	A	3-7/8	2-5/8	12	6	
70890	58402	B	4	2-3/4	12	6	
70900	58412	C	4	2-3/4	12	6	
70910	58462	D	4	2-3/4	12	6	
71950	58472	E	4	2-3/4	12	6	
58481	58482	F	4-1/8	2-7/8	12	6	
70920	58492	G	4-1/8	2-7/8	12	6	
70930	58512	H	4-1/8	2-7/8	12	6	
70940	58532	I	4-1/8	2-7/8	12	6	
70950	58542	J	4-1/8	2-7/8	12	6	
71960	58552	K	4-1/4	2-15/16	12	6	
70960	58562	L	4-1/4	2-15/16	12	6	
70970	58572	M	4-3/8	3-1/16	12	6	
70980	58602	N	4-3/8	3-1/16	12	6	
70990	58612	O	4-1/2	3-3/16	12	6	
71000	58622	P	4-5/8	3-5/16	12	6	
71010	58632	Q	4-3/4	3-7/16	12	6	
71020	58642	R	4-3/4	3-7/16	12	6	
71030	58652	S	4-7/8	3-1/2	12	6	
71040	58662	T	4-7/8	3-1/2	12	6	
71050	58672	U	5	3-5/8	12	6	
71060		V	5	3-5/8	12	6	
71070	58682	W	5-1/8	3-3/4	12	6	
72000	58692	X	5-1/8	3-3/4	12	6	
71080	58702	Y	5-1/4	3-7/8	12	6	
71090	58712	Z	5-1/4	3-7/8	12	6	

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Jobber Length - Heavy-Duty, Parabolic Flute

# Jobber Length Drills



## JOBBER LENGTH DRILLS - COBALT

### Type 240-D

#### M42 Cobalt - NAS 907-J

Heavy-duty 135° split point with gold finish for drilling hard tough metals, free machining stainless steel, high temperature alloys, titanium and certain plastics. High red hardness of cobalt steel permits speeds 30% higher than regular high-speed steel drills. Cobalt drills require rigidly held positive feed drilling equipment.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
08000	3/64	1-3/4	3/4	12
08010	1/16	1-7/8	7/8	12
08020	5/64	2	1	12
08030	3/32	2-1/4	1-1/4	12
08040	7/64	2-5/8	1-1/2	12
08050	1/8	2-3/4	1-5/8	12
08060	9/64	2-7/8	1-3/4	12
08070	5/32	3-1/8	2	12
08080	11/64	3-1/4	2-1/8	12
08090	3/16	3-1/2	2-5/16	12
08100	13/64	3-5/8	2-7/16	12
08110	7/32	3-3/4	2-1/2	12
08120	15/64	3-7/8	2-5/8	12
08130	1/4	4	2-3/4	12
08140	17/64	4-1/8	2-7/8	12
08150	9/32	4-1/4	2-15/16	12
08160	19/64	4-3/8	3-1/16	6
08170	5/16	4-1/2	3-3/16	6
08180	21/64	4-5/8	3-5/16	6
08190	11/32	4-3/4	3-7/16	6
08200	23/64	4-7/8	3-1/2	6
08210	3/8	5	3-5/8	6
08220	25/64	5-1/8	3-3/4	6
08230	13/32	5-1/4	3-7/8	6
08240	27/64	5-3/8	3-15/16	6
08250	7/16	5-1/2	4-1/16	6
08260	29/64	5-5/8	4-3/16	6
08270	15/32	5-3/4	4-5/16	6
08280	31/64	5-7/8	4-3/8	6
08290	1/2	6	4-1/2	6

### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
08940	A	3-7/8	2-5/8	12
08950	B	4	2-3/4	12
08960	C	4	2-3/4	12
08970	D	4	2-3/4	12
08980	E	4	2-3/4	12
08990	F	4-1/8	2-7/8	12
09000	G	4-1/8	2-7/8	12
09010	H	4-1/8	2-7/8	12
09020	I	4-1/8	2-7/8	12
09030	J	4-1/8	2-7/8	12
09040	K	4-1/4	2-15/16	12
09050	L	4-1/4	2-15/16	12
09060	M	4-3/8	3-3/16	6
09070	N	4-3/8	3-1/16	6
09080	O	4-1/2	3-3/16	6
09090	P	4-5/8	3-5/16	6
09100	Q	4-3/4	3-7/16	6
09110	R	4-3/4	3-7/16	6
09120	S	4-7/8	3-1/2	6
09130	T	4-7/8	3-1/2	6
09140	U	5	3-5/8	6

### LETTER (CONTINUED)

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
09150	V	5	3-5/8	6
09160	W	5-1/8	3-3/4	6
09170	X	5-1/8	3-3/4	6
09180	Y	5-1/4	3-7/8	6
09190	Z	5-1/4	3-7/8	6

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
08300	1	3-7/8	2-5/8	12
08310	2	3-7/8	2-5/5	12
08320	3	3-3/4	2-1/2	12
08330	4	3-3/4	2-1/2	12
08340	5	3-3/4	2-1/2	12
08350	6	3-3/4	2-1/2	12
08360	7	3-5/8	2-7/16	12
08370	8	3-5/8	2-7/16	12
08380	9	3-5/8	2-7/16	12
08390	10	3-5/8	2-7/16	12
08400	11	3-1/2	2-5/16	12
08410	12	3-1/2	2-5/16	12
08420	13	3-1/2	2-5/16	12
08430	14	3-3/8	2-3/16	12
08440	15	3-3/8	2-3/16	12
08450	16	3-3/8	2-3/16	12
08460	17	3-3/8	2-3/16	12
08470	18	3-1/4	2-1/8	12
08480	19	3-1/4	2-1/8	12
08490	20	3-1/4	2-1/8	12
08500	21	3-1/4	2-1/8	12
08510	22	3-1/8	2	12
08520	23	3-1/8	2	12
08530	24	3-1/8	2	12
08540	25	3	1-7/8	12
08550	26	3	1-7/8	12
08560	27	3	1-7/8	12
08570	28	2-7/8	1-3/4	12
08580	29	2-7/8	1-3/4	12
08590	30	2-3/4	1-5/8	12
08600	31	2-3/4	1-5/8	12
08610	32	2-3/4	1-5/8	12
08620	33	2-5/8	1-1/2	12
08630	34	2-5/8	1-1/2	12
08640	35	2-5/8	1-1/2	12
08650	36	2-1/2	1-7/16	12
08660	37	2-1/2	1-7/16	12
08670	38	2-1/2	1-7/16	12
08680	39	2-3/8	1-3/8	12
08690	40	2-3/8	1-3/8	12
08700	41	2-3/8	1-3/8	12
08710	42	2-1/4	1-1/4	12
08720	43	2-1/4	1-1/4	12
08730	44	2-1/8	1-1/8	12
08740	45	2-1/8	1-1/8	12
08750	46	2-1/8	1-1/8	12
08760	47	2	1	12
08770	48	2	1	12
08780	49	2	1	12
08790	50	2	1	12
08800	51	2	1	12
08810	52	1-7/8	7/8	12
08820	53	1-7/8	7/8	12
08830	54	1-7/8	7/8	12
08840	55	1-7/8	7/8	12
08850	56	1-3/4	3/4	12
08860	57	1-3/4	3/4	12
08870	58	1-5/8	11/16	12
08880	59	1-5/8	11/16	12
08890	60	1-5/8	11/16	12

## JOBBER LENGTH DRILLS - TIN COATED

### Type 240-AN

#### TiN Coated - Heavy-Duty - 135° Split Point Super High Performance

Titanium nitride coated, heavy-duty, 135° split point drills perform well in very demanding applications. The TiN coating provides a super hard surface with high lubricity. The tool life may be extended 500% or more in high wear or very abrasive drilling applications. The heavy-duty construction makes it ideal for hard metals, work hardening grades of stainless steel and other difficult to drill materials.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
97890	1/16	1-7/8	7/8	6
97880	5/64	2	1	6
97870	3/32	2-1/4	1-1/4	6
97860	7/64	2-5/8	1-1/2	6
97850	1/8	2-3/4	1-5/8	6
97840	9/64	2-7/8	1-3/4	6
97830	5/32	3-1/8	2	6
97820	11/64	3-1/4	2-1/8	6
97810	3/16	3-1/2	2-5/16	6
97800	13/64	3-5/8	2-7/16	6
97790	7/32	3-3/4	2-1/2	6
97780	15/64	3-7/8	2-5/8	6
97770	1/4	4	2-3/4	6
97760	17/64	4-1/8	2-7/8	6
97750	9/32	4-1/4	2-15/16	6
97740	19/64	4-3/8	3-1/16	3
97730	5/16	4-1/2	3-3/16	3
97720	21/64	4-5/8	3-5/16	3
97710	11/32	4-3/4	3-7/16	3
97700	23/64	4-7/8	3-1/2	3
97690	3/8	5	3-5/8	3
97680	25/64	5-1/8	3-3/4	3
97670	13/32	5-1/4	3-7/8	3
97660	27/64	5-3/8	3-15/16	3
97650	7/16	5-1/2	4-1/16	3
97640	29/64	5-5/8	4-3/16	3
97630	15/32	5-3/4	4-5/16	3
97620	31/64	5-7/8	4-3/8	3
97610	1/2	6	4-1/2	3

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
95710	A	3-7/8	2-5/8	6
95700	B	4	2-3/4	6
95690	C	4	2-3/4	6
95680	D	4	2-3/4	6
95670	E	4	2-3/4	6
95660	F	4-1/8	2-7/8	6
95650	G	4-1/8	2-7/8	6
95640	H	4-1/8	2-7/8	6
95630	I	4-1/8	2-7/8	6
95620	J	4-1/8	2-7/8	6
95610	K	4-1/4	2-15/16	6
95600	L	4-1/4	2-15/16	6
95590	M	4-3/8	3-1/16	3
95580	N	4-3/8	3-1/16	3
95570	O	4-1/2	3-3/16	3
95560	P	4-5/8	3-5/16	3
95550	Q	4-3/4	3-7/16	3
95540	R	4-3/4	3-7/16	3

#### LETTER (CONTINUED)

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
95530	S	4-7/8	3-1/2	3
95520	T	4-7/8	3-1/2	3
95510	U	5	3-5/8	3
95500	V	5	3-5/8	3
95490	W	5-1/8	3-3/4	3
95480	X	5-1/8	3-3/4	3
95470	Y	5-1/4	3-7/8	3
95460	Z	5-1/4	3-7/8	3

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
98520	1	3-7/8	2-5/8	6
98510	2	3-7/8	2-5/8	6
98500	3	3-3/4	2-1/2	6
98490	4	3-3/4	2-1/2	6
98480	5	3-3/4	2-1/2	6
98470	6	3-3/4	2-1/2	6
98460	7	3-5/8	2-7/16	6
98450	8	3-5/8	2-7/16	6
98440	9	3-5/8	2-7/16	6
98430	10	3-5/8	2-7/16	6
98420	11	3-1/2	2-5/16	6
98410	12	3-1/2	2-5/16	6
98400	13	3-1/2	2-5/16	6
98390	14	3-3/8	2-3/16	6
98380	15	3-3/8	2-3/16	6
98370	16	3-3/8	2-3/16	6
98360	17	3-3/8	2-3/16	6
98350	18	3-1/4	2-1/8	6
98340	19	3-1/4	2-1/8	6
98330	20	3-1/4	2-1/8	6
98320	21	3-1/4	2-1/8	6
98310	22	3-1/8	2	6
98300	23	3-1/8	2	6
98290	24	3-1/8	2	6
98280	25	3	1-7/8	6
98270	26	3	1-7/8	6
98260	27	3	1-7/8	6
98250	28	2-7/8	1-3/4	6
98240	29	2-7/8	1-3/4	6
98230	30	2-3/4	1-5/8	6
98220	31	2-3/4	1-5/8	6
98210	32	2-3/4	1-5/8	6
98200	33	2-5/8	1-1/2	6
98190	34	2-5/8	1-1/2	6
98180	35	2-5/8	1-1/2	6
98170	36	2-1/2	1-7/16	6
98160	37	2-1/2	1-7/16	6
98150	38	2-1/2	1-7/16	6
98140	39	2-3/8	1-3/8	6
98130	40	2-3/8	1-3/8	6
98120	41	2-3/8	1-3/8	6
98110	42	2-1/4	1-1/4	6
98100	43	2-1/4	1-1/4	6
98090	44	2-1/8	1-1/8	6
98080	45	2-1/8	1-1/8	6
98070	46	2-1/8	1-1/8	6
98060	47	2	1	6
98050	48	2	1	6
98040	49	2	1	6
98030	50	2	1	6
98020	51	2	1	6
98010	52	1-7/8	7/8	6

# Jobber Length Drills



## JOBBER LENGTH - GENERAL PURPOSE

### Type 240-BN

#### TiN Coated - General Purpose

#### Super High Performance - 118° Point

Titanium nitride coated, general purpose construction, 118° point performs well in mild drilling applications with strong abrasive wear characteristics. The tool life may be extended 500% or more in these high wear applications.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
97920	1/64	3/4	3/16	6
97910	1/32	1-3/8	1/2	6
97900	3/64	1-3/4	3/4	6
22570	1/16	1-7/8	7/8	6
22580	5/64	2	1	6
22590	3/32	2-1/4	1-1/4	6
22600	7/64	2-5/8	1-1/2	6
22610	1/8	2-3/4	1-5/8	6
22620	9/64	2-7/8	1-3/4	6
22630	5/32	3-1/8	2	6
22640	11/64	3-1/4	2-1/8	6
22650	3/16	3-1/2	2-5/16	6
22660	13/64	3-5/8	2-7/16	6
22670	7/32	3-3/4	2-1/2	6
22680	15/64	3-7/8	2-5/8	6
22690	1/4	4	2-3/4	6
22700	17/64	4-1/8	2-7/8	6
22710	9/32	4-1/4	2-15/16	6
22720	19/64	4-3/8	3-1/16	3
22730	5/16	4-1/2	3-3/16	3
22740	21/64	4-5/8	3-5/16	3
22750	11/32	4-3/4	3-7/16	3
22760	23/64	4-7/8	3-1/2	3
22770	3/8	5	3-5/8	3
22780	25/64	5-1/8	3-3/4	3
22790	13/32	5-1/4	3-7/8	3
22800	27/64	5-3/8	3-15/16	3
22810	7/16	5-1/2	4-1/16	3
22820	29/64	5-5/8	4-3/16	3
22830	15/32	5-3/4	4-5/16	3
22840	31/64	5-7/8	4-3/8	3
22850	1/2	6	4-1/2	3

### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
22890	A	3-7/8	2-5/8	6
22900	B	4	2-3/4	6
22910	C	4	2-3/4	6
22920	D	4	2-3/4	6
22930	E	4	2-3/4	6
22940	F	4-1/8	2-7/8	6
22950	G	4-1/8	2-7/8	6
22960	H	4-1/8	2-7/8	6
22970	I	4-1/8	2-7/8	6
22980	J	4-1/8	2-7/8	6
22990	K	4-1/4	2-15/16	6
23000	L	4-1/4	2-15/16	6
23010	M	4-3/8	3-1/16	3
23020	N	4-3/8	3-1/16	3
23030	O	4-1/2	3-3/16	3
23040	P	4-5/8	3-5/16	3
23050	Q	4-3/4	3-7/16	3
23060	R	4-3/4	3-7/16	3
23070	S	4-7/8	3-1/2	3

### LETTER (CONTINUED)

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
23080	T	4-7/8	3-1/2	3
23090	U	5	3-5/8	3
23100	V	5	3-5/8	3
23110	W	5-1/8	3-3/4	3
23120	X	5-1/8	3-3/4	3
23130	Y	5-1/4	3-7/8	3
23140	Z	5-1/4	3-7/8	3

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
47790	1	3-7/8	2-5/8	6
47800	2	3-7/8	2-5/8	6
47810	3	3-3/4	2-1/2	6
47820	4	3-3/4	2-1/2	6
47830	5	3-3/4	2-1/2	6
47840	6	3-3/4	2-1/2	6
47850	7	3-5/8	2-7/16	6
47860	8	3-5/8	2-7/16	6
47870	9	3-5/8	2-7/16	6
47880	10	3-5/8	2-7/16	6
47890	11	3-1/2	2-5/16	6
47900	12	3-1/2	2-5/16	6
47910	13	3-1/2	2-5/16	6
47920	14	3-3/8	2-3/16	6
47930	15	3-3/8	2-3/16	6
47940	16	3-3/8	2-3/16	6
47950	17	3-3/8	2-3/16	6
47960	18	3-1/4	2-1/8	6
47970	19	3-1/4	2-1/8	6
47980	20	3-1/4	2-1/8	6
47990	21	3-1/4	2-1/8	6
48000	22	3-1/8	2	6
48010	23	3-1/8	2	6
48020	24	3-1/8	2	6
48030	25	3	1-7/8	6
48040	26	3	1-7/8	6
48050	27	3	1-7/8	6
48060	28	2-7/8	1-3/4	6
48070	29	2-7/8	1-3/4	6
48080	30	2-3/4	1-5/8	6
48090	31	2-3/4	1-5/8	6
48100	32	2-3/4	1-5/8	6
48110	33	2-5/8	1-1/2	6
48120	34	2-5/8	1-1/2	6
48130	35	2-5/8	1-1/2	6
48140	36	2-1/2	1-7/16	6
48150	37	2-1/2	1-7/16	6
48160	38	2-1/2	1-7/16	6
48170	39	2-3/8	1-3/8	6
48180	40	2-3/8	1-3/8	6
48190	41	2-3/8	1-3/8	6
48200	42	2-1/4	1-1/4	6
48210	43	2-1/4	1-1/4	6
48220	44	2-1/8	1-1/8	6
48230	45	2-1/8	1-1/8	6
48240	46	2-1/8	1-1/8	6
48250	47	2	1	6
48260	48	2	1	6
48270	49	2	1	6
48280	50	2	1	6
48290	51	2	1	6
48300	52	1-7/8	7/8	6
98000	53	1-7/8	7/8	6
97990	54	1-7/8	7/8	6
97980	55	1-7/8	7/8	6
97970	56	1-3/4	3/4	6
97960	57	1-3/4	3/4	6
97950	58	1-5/8	11/16	6
97940	59	1-5/8	11/16	6
97930	60	1-5/8	11/16	6

## MECHANIC LENGTH DRILLS - ULTRA BOR

### Type 250-UB

#### Ultra Bor Super Premium

#### 3-Flats on Shank - 135° Split Point

**BLACK & GOLD**

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Heat treated at 2185° F and then nitro-carburize finished at 950° F to be measurably harder than high speed steel.
- Space age nitro-carburized steel withstands substantially higher drilling temperatures while maintaining sharpness.
- Especially designed for hand held drills.
- Flats on shank give positive chuck-grip (3/16 and larger).
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



#### 3-FLATS ON SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
22860	1/16	1-7/8	7/8	12
22870	5/64	2	1	12
22880	3/32	2-1/4	1-1/4	12
86950	7/64	2-3/8	1-5/16	12
86960	1/8	2-1/2	1-7/16	12
86970	9/64	2-5/8	1-9/16	12
86980	5/32	2-3/4	1-11/16	12
86990	11/64	2-7/8	1-13/16	12
87000	3/16	3	1-7/8	12
87010	13/64	3-1/8	1-15/16	12
87020	7/32	3-1/4	2	12
87030	15/64	3-3/8	2-1/16	12
87040	1/4	3-1/2	2	12
87050	17/64	3-5/8	2-1/8	12
87060	9/32	3-3/4	2-1/4	12
87070	19/64	3-7/8	2-3/8	6
87080	5/16	4	2-1/2	6
87090	21/64	4-1/16	2-9/16	6
87100	11/32	4-1/8	2-5/8	6
87110	23/64	4-3/16	2-11/16	6
87120	3/8	4-1/4	2-11/16	6
87130	25/64	4-5/16	2-3/4	6
87140	13/32	4-3/8	2-13/16	6
87150	27/64	4-7/16	2-7/8	6
87160	7/16	4-1/2	2-15/16	6
87170	29/64	4-5/8	3	6
87180	15/32	4-3/4	3-1/8	6
87190	31/64	4-7/8	3-1/4	6
87200	1/2	5	3-3/8	6

These items are also available carded.  
See Price List Catalog for details.

### Type 258-UB

#### Ultra Bor Super Premium

#### 135° Split Point 3-Flats on Shank - 3/8" Reduced Shank

**BLACK & GOLD**

- 25/64 250-UB drills with flats will fit a 3/8" chuck without reducing the shank diameter.



#### 3-FLATS ON SHANK - 3/8" SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
81560	13/32	4-3/8	2-13/16	6
81570	27/64	4-7/16	2-7/8	6
81580	7/16	4-1/2	2-15/16	6
81590	29/64	4-5/8	3	6
81600	15/32	4-3/4	3-1/8	6
81610	31/64	4-7/8	3-1/4	6
81620	1/2	5	3-3/8	6

These items are also available carded.  
See Price List Catalog for details.

### Type 241-A

#### CAD-HD Series - Surface Treated 135° Split Point Mechanic Length



New advances in drill making technology have allowed us to make an excellent drill for the very price sensitive portions of the business. The mechanic length yields a sturdier drill with less flexing. This resistance to flexing may provide longer life than other drills in many applications. The black surface treatment prevents chip welding and increases abrasion resistance. The split point reduces the tendency of the drill to walk and allows for reduced thrust when drilling in harder materials.

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
04492	1/16	1-7/8	7/8	12
04502	5/64	2	1	12
04512	3/32	2-1/4	1-1/4	12
04522	7/64	2-3/8	1-5/16	12
04532	1/8	2-1/2	1-7/16	12
04542	9/64	2-5/8	1-9/16	12
04552	5/32	2-3/4	1-11/16	12
04562	11/64	2-7/8	1-13/16	12
04572	3/16	2	1-1/2	12
04582	13/64	3-1/8	1-5/8	12
04592	7/32	3-1/4	1-3/4	12
04602	15/64	3-3/8	1-7/8	12
04612	1/4	3-1/2	2	12
04622	17/64	3-5/8	2-1/8	12
04632	9/32	3-3/4	2-1/4	12
04642	19/64	3-7/8	2-3/8	6
04652	5/16	4	2-1/2	6
04662	21/64	4-1/16	2-9/16	6
04672	11/32	4-1/8	2-5/8	6
04682	23/64	4-3/16	2-11/16	6
04692	3/8	4-1/4	2-11/16	6
04702	25/64	4-5/16	2-3/4	6
04712	13/32	4-3/8	2-13/16	6
04722	27/64	4-7/16	2-7/8	6
04732	7/16	4-1/2	2-15/16	6
04742	29/64	4-5/8	3	6
04752	15/32	4-3/4	3-1/8	6
04762	31/64	4-7/8	3-1/4	6
04772	1/2	5	3-3/8	6

# Mechanic Length Drills



## MECHANIC LENGTH HEX SHANK - 1/4" QUICK RELEASE

### Type QR-UB 1/4" Hex Shank

Quick Release Drills - 135° Split Point  
Ultra Bor Super Premium



- Drill is a mechanic length with a quick release shank
- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Body and clearance are treated for maximum lubricity.
- Especially designed for hand held drills.
- Recommended use in work hardening grades of stainless steel and other hard metal drill applications.
- Quick release eases changing of cutting tools.

### QR-UB 1/4" HEX SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34501	1/16	2-5/8	7/8	6
34521	3/32	3-1/4	1-1/4	6
34541	1/8	3-1/2	1-7/16	6
34561	5/32	3-1/2	1-11/16	6
34581	3/16	3-3/4	1-7/8	6
34611	7/32	4"	2"	6
34631	1/4	4-1/4	2"	6
34651	9/32	3-13/16	2-1/4	6
34671	5/16	4	2-1/2	3
34691	11/32	4-7/32	2-5/8	3
34711	3/8	4-1/4	2-11/16	3
34731	13/32	4-1/2	2-13/16	3
34751	7/16	4-1/2	2-15/16	3
34771	15/32	4-7/8	3-1/8	3
34791	1/2	5	3-3/8	3

34801 Quick Release Adaptor

### QR-UB 1/4" HEX SHANK CARDED

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34507	1/16	2-5/8	7/8	6
34527	3/32	3-1/4	1-1/4	6
34547	1/8	3-1/2	1-7/16	6
34567	5/32	3-1/2	1-11/16	6
34587	3/16	3-3/4	1-7/8	6
34617	7/32	4"	2"	6
34637	1/4	4-1/4	2"	6
34657	9/32	3-13/16	2-1/4	6
34677	5/16	4	2-1/2	3
34697	11/32	4-7/32"	2-5/8"	3
34717	3/8	4-1/4	2-11/16	3
34737	13/32	4-1/2"	2-13/16"	3
34757	7/16	4-1/2	2-15/16	3
34777	15/32	4-7/8"	3-1/8"	3
34797	1/2	5	3-3/8	3

34807 Quick Release Adaptor

## MECHANIC LENGTH HEX SHANK - 1/4" QUICK RELEASE SETS



### QR12-UB SET HARD CASE - INDEX

Part No.	Description of Sizes	Qty of each
34811	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 7/16, 1/2 & Quick Release Adaptor	1

### QR16-UB SET SOFT POUCH - INDEX

Part No.	Description of Sizes	Qty of each
34812	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2 & Quick Release Adaptor	1

### QR 7A-UB SET SOFT POUCH - INDEX

Part No.	Description of Sizes	Qty of each
34803	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4	1

### QR 7B-UB SET SOFT POUCH - INDEX

Part No.	Description of Sizes	Qty of each
34804	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	1

Sets QR-7A and QR-7B do not include Quick Release Adaptors.

## SCREW MACHINE LENGTH DRILLS - ULTRA BOR

### Type 260-UB

#### Ultra Bor Super Premium, 135° Split Point

Special Hi-Moybdenum tool steel. Gold surface treated body and clearance for maximum lubricity. Heavy-duty construction, 135° split point, no center punch needed - will not walk. Recommended for work hardening grades of stainless steel and other hard metal drilling applications.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
87710	1/16	1-5/8	5/8	12
87720	5/64	1-11/16	11/16	12
87730	3/32	1-3/4	3/4	12
87740	7/64	1-13/16	13/16	12
87750	1/8	1-7/8	7/8	12
87760	9/64	1-15/16	15/16	12
87770	5/32	2-1/16	1	12
87780	11/64	2-1/8	1-1/16	12
87790	3/16	2-3/16	1-1/8	12
87800	13/64	2-1/4	1-3/16	12
87810	7/32	2-3/8	1-1/4	12
87820	15/64	2-7/16	1-5/16	12
87830	1/4	2-1/2	1-3/8	12
87840	17/64	2-5/8	1-7/16	12
87850	9/32	2-11/16	1-1/2	12
87860	19/64	2-3/4	1-9/16	6
87870	5/16	2-13/16	1-5/8	6
87880	21/64	2-15/16	1-11/16	6
87890	11/32	3	1-11/16	6
87900	23/64	3-1/16	1-3/4	6
87910	3/8	3-1/8	1-13/16	6
87920	25/64	3-1/4	1-7/8	6
87930	13/32	3-5/16	1-15/16	6
87940	27/64	3-3/8	2	6
87950	7/16	3-7/16	2-1/16	6
87960	29/64	3-9/16	2-1/8	6
87970	15/32	3-5/8	2-1/8	6
87980	31/64	3-11/16	2-3/16	6
87990	1/2	3-3/4	2-1/4	6
88000	33/64	3-7/8	2-3/8	1
88010	17/32	3-7/8	2-3/8	1
88020	35/64	4	2-1/2	1
88030	9/16	4	2-1/2	1
88040	37/64	4-1/8	2-5/8	1
88050	19/32	4-1/8	2-5/8	1
88060	39/64	4-1/4	2-3/4	1
88070	5/8	4-1/4	2-3/4	1
88080	41/64	4-1/2	2-7/8	1
88090	21/32	4-1/2	2-7/8	1
89210	43/64	4-1/2	2-7/8	1
89220	11/16	4-1/2	2-7/8	1
89230	45/64	4-3/4	3	1
89240	23/32	4-3/4	3	1
89250	47/64	5	3-1/8	1
89260	3/4	5	3-1/8	1

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
87600	1	2-7/16	1-5/16	12
87590	2	2-7/16	1-5/16	12
87580	3	2-3/8	1-1/4	12
87570	4	2-3/8	1-1/4	12
87560	5	2-3/8	1-1/4	12
87550	6	2-3/8	1-1/4	12
87540	7	2-1/4	1-3/16	12
87530	8	2-1/4	1-3/16	12
87520	9	2-1/4	1-3/16	12
87510	10	2-1/4	1-3/16	12
87500	11	2-1/4	1-3/16	12
87490	12	2-1/4	1-3/16	12
87480	13	2-3/16	1-1/8	12
87470	14	2-3/16	1-1/8	12
87460	15	2-3/16	1-1/8	12
87450	16	2-3/16	1-1/8	12
87440	17	2-3/16	1-1/8	12
87430	18	2-1/8	1-1/16	12
87420	19	2-1/8	1-1/16	12
87410	20	2-1/8	1-1/16	12
87400	21	2-1/8	1-1/16	12
87390	22	2-1/8	1-1/16	12
87380	23	2-1/16	1	12
87370	24	2-1/16	1	12
87360	25	2-1/16	1	12
87350	26	2-1/16	1	12
87340	27	2-1/16	1	12
87330	28	1-15/16	15/16	12
87320	29	1-15/16	15/16	12
87310	30	1-15/16	15/16	12
87300	31	1-7/8	7-8	12
87290	32	1-7/8	7-8	12
87280	33	1-7/8	7-8	12
87270	34	1-7/8	7-8	12
87260	35	1-7/8	7-8	12
87250	36	1-13/16	13/16	12
87240	37	1-13/16	13/16	12
87230	38	1-13/16	13/16	12
87220	39	1-13/16	13/16	12
87210	40	1-13/16	13/16	12
23360	41	1-13/16	13/16	12
23370	42	1-3/4	3/4	12
23380	43	1-3/4	3/4	12
23390	44	1-3/4	3/4	12
23400	45	1-3/4	3/4	12
23410	46	1-3/4	3/4	12
23420	47	1-3/4	3/4	12
23430	48	1-11/16	11/16	12
23440	49	1-11/16	11/16	12
23450	50	1-11/16	11/16	12
23460	51	1-11/16	11/16	12
23470	52	1-11/16	11/16	12
23480	53	1-5/8	5/8	12
23490	54	1-5/8	5/8	12
23500	55	1-5/8	5/8	12
23510	56	1-3/8	1/2	12
23520	57	1-3/8	1/2	12
23530	58	1-3/8	1/2	12
23540	59	1-3/8	1/2	12
23550	60	1-3/8	1/2	12

Letter sizes on page 24

# Screw Machine Length Drills (CONTINUED)



## SCREW MACHINE LENGTH DRILLS - ULTRA BOR

### Type 260-UB (CONTINUED)

Ultra Bor Super Premium - 135° Split Pt.

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
23601	A	2-7/16	1-5/16	12
23611	B	2-1/2	1-3/8	12
23621	C	2-1/2	1-3/8	12
23631	D	2-1/2	1-3/8	12
23641	E	2-1/2	1-3/8	12
23651	F	2-5/8	1-7/16	12
23661	G	2-5/8	1-7/16	12
23671	H	2-11/16	1-1/2	12
23681	I	2-11/16	1-1/2	12
23691	J	2-11/16	1-1/2	12
23701	K	2-11/16	1-1/2	12
23711	L	2-3/4	1-9/16	12
23721	M	2-3/4	1-9/16	6
23731	N	2-13/16	1-5/8	6
23741	O	2-15/16	1-11/16	6
23751	P	2-15/16	1-11/16	6
23761	Q	3	1-11/16	6
23771	R	3	1-11/16	6
23781	S	3-1/16	1-3/4	6
23791	T	3-1/16	1-3/4	6
23801	U	3-1/8	1-13/16	6
23811	V	3-1/4	1-7/8	6
23821	W	3-1/4	1-7/8	6
23831	X	3-5/16	1-15/16	6
23841	Y	3-5/16	1-15/16	6
23851	Z	3-3/8	2	6

### Type 260-QT

1/4" Reduced Shank - Heavy-Duty Surfaced Treated, 135° Split Point

This high-speed steel drill is recommended for "punch" drilling in hard, tough sheet metal applications where quick and accurately located holes are required. An exclusive design of web and point permits fast cutting at the moment of contact without walking or skidding.



#### 1/4" REDUCED SHANK

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
22410	17/64	2-5/8	1-7/16	12
22420	9/32	2-11/16	1-1/2	12
22430	19/64	2-3/4	1-9/16	6
22440	5/16	2-13/16	1-5/8	6
22450	21/64	2-15/16	1-11/16	6
22460	11/32	3	1-11/16	6
22470	23/64	3-1/16	1-3/4	6
22480	3/8	3-1/8	1-13/16	6
22490	25/64	3-1/4	1-7/8	6
22500	13/32	3-5/16	1-15/16	6
22510	27/64	3-3/8	2	6
22520	7/16	3-7/16	2-1/16	6
22530	29/64	3-9/16	2-1/8	6
22540	15/32	3-5/8	2-1/8	6
22550	31/64	3-11/16	2-3/16	6
22560	1/2	3-3/4	2-1/4	6

These items are also available carded. See Price List Catalog for details.

## ULTRA LUBE High Performance High Viscosity Super Concentrated No-Run Formula

Turn to Specialty Tool Section on page 96





## SCREW MACHINE LENGTH DRILLS - HEAVY DUTY

### Type 260-T

#### Heavy-Duty

#### 135° Split Point - Surface Treated

A sturdy drill for use in portable power drilling. Accurate centering, fast penetration. Ideal for sheet metal work.

**NOTE:** Sizes smaller than #52 are not Split Pointed.  
For Bright Finish see Type 260-TW on page 26.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
25560	1/16	1-5/8	5/8	12
25570	5/64	1-11/16	11/16	12
25580	3/32	1-3/4	3/4	12
25590	7/64	1-13/16	13/16	12
25600	1/8	1-7/8	7/8	12
25610	9/64	1-15/16	15/16	12
25620	5/32	2-1/16	1	12
25630	11/64	2-1/8	1-1/16	12
25640	3/16	2-3/16	1-1/8	12
06190	13/64	2-1/4	1-3/16	12
06200	7/32	2-3/8	1-1/4	12
06210	15/64	2-7/16	1-5/16	12
06220	1/4	2-1/2	1-3/8	12
06230	17/64	2-5/8	1-7/16	12
06240	9/32	2-11/16	1-1/2	12
06250	19/64	2-3/4	1-9/16	6
06260	5/16	2-13/16	1-5/8	6
06270	21/64	2-15/16	1-11/16	6
06280	11/32	3	1-11/16	6
06290	23/64	3-1/16	1-3/4	6
06300	3/8	3-1/8	1-13/16	6
06310	25/64	3-1/4	1-7/8	6
06320	13/32	3-5/16	1-15/16	6
06330	27/64	3-3/8	2	6
06340	7/16	3-7/16	2-1/16	6
06350	29/64	3-9/16	2-1/8	6
06360	15/32	3-5/8	2-1/8	6
06370	31/64	3-11/16	2-3/16	6
06380	1/2	3-3/4	2-1/4	6

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
25850	1	2-7/16	1-5/16	12
25860	2	2-7/16	1-5/16	12
25870	3	2-3/8	1-1/4	12
25880	4	2-3/8	1-1/4	12
25890	5	2-3/8	1-1/4	12
25900	6	2-3/8	1-1/4	12
25910	7	2-1/4	1-3/16	12
25920	8	2-1/4	1-3/16	12
25930	9	2-1/4	1-3/16	12
25940	10	2-1/4	1-3/16	12
25960	11	2-1/4	1-3/16	12
25970	12	2-1/4	1-3/16	12
25980	13	2-3/16	1-1/8	12
25990	14	2-3/16	1-1/8	12
26000	15	2-3/16	1-1/8	12
26010	16	2-3/16	1-1/8	12
26020	17	2-3/16	1-1/8	12
26030	18	2-1/8	1-1/16	12
26040	19	2-1/8	1-1/16	12
26050	20	2-1/8	1-1/16	12
26060	21	2-1/8	1-1/16	12
26070	22	2-1/8	1-1/16	12
26080	23	2-1/16	1	12
26090	24	2-1/16	1	12
26100	25	2-1/16	1	12
26110	26	2-1/16	1	12
26120	27	2-1/16	1	12
26130	28	1-15/16	15/16	12
26140	29	1-15/16	15/16	12
26150	30	1-15/16	15/16	12
26160	31	1-7/8	7/8	12
26170	32	1-7/8	7/8	12
26180	33	1-7/8	7/8	12
26190	34	1-7/8	7/8	12
26200	35	1-7/8	7/8	12
26210	36	1-13/16	13/16	12
26220	37	1-13/16	13/16	12
26230	38	1-13/16	13/16	12
26240	39	1-13/16	13/16	12
26250	40	1-13/16	13/16	12
26260	41	1-13/16	13/16	12
26270	42	1-3/4	3/4	12
26280	43	1-3/4	3/4	12
26290	44	1-3/4	3/4	12
26300	45	1-3/4	3/4	12
26310	46	1-3/4	3/4	12
26320	47	1-3/4	3/4	12
26330	48	1-11/16	11/16	12
26340	49	1-11/16	11/16	12
26350	50	1-11/16	11/16	12
26360	51	1-11/16	11/16	12
26370	52	1-11/16	11/16	12
26380	53	1-5/8	5/8	12
26390	54	1-5/8	5/8	12
26400	55	1-5/8	5/8	12
26410	56	1-3/8	1/2	12
26420	57	1-3/8	1/2	12
26430	58	1-3/8	1/2	12
26440	59	1-3/8	1/2	12
26450	60	1-3/8	1/2	12

# Screw Machine Length Drills



## SCREW MACHINE LENGTH DRILLS - HEAVY DUTY

### Type 260-TW

#### Heavy-Duty - 135° Split Point, Bright Finish

A sturdy drill for use in portable power drilling. Accurate centering, fast penetration. Ideal for sheet metal work. Polished Finish

**NOTE:** Sizes smaller than #52 are not split pointed.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
52240	1/16	1-5/8	5/8	12
52250	5/64	1-11/16	11/16	12
52260	3/32	1-3/4	3/4	12
52270	7/64	1-13/16	13/16	12
52280	1/8	1-7/8	7/8	12
52290	9/64	1-15/16	15/16	12
52300	5/32	2-1/16	1	12
52310	11/64	2-1/8	1-1/16	12
52320	3/16	2-3/16	1-1/8	12
52330	13/64	2-1/4	1-3/16	12
52340	7/32	2-3/8	1-1/4	12
52350	15/64	2-7/16	1-5/16	12
52360	1/4	2-1/2	1-3/8	12
52370	17/64	2-5/8	1-7/16	12
52380	9/32	2-11/16	1-1/2	12
52390	19/64	2-3/4	1-9/16	6
52400	5/16	2-13/16	1-5/8	6
52410	21/64	2-15/16	1-11/16	6
52420	11/32	3	1-11/16	6
52430	23/64	3-1/16	1-3/4	6
52440	3/8	3-1/8	1-13/16	6
52450	25/64	3-1/4	1-7/8	6
52460	13/32	3-5/16	1-15/16	6
52470	27/64	3-3/8	2	6
52480	7/16	3-7/16	2-1/16	6
52490	29/64	3-9/16	2-1/8	6
52500	15/32	3-5/8	2-1/8	6
52510	31/64	3-11/16	2-3/16	6
52520	1/2	3-3/4	2-1/4	6

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
52530	1	2-7/16	1-5/16	12
52540	2	2-7/16	1-5/16	12
52550	3	2-3/8	1-1/4	12
52560	4	2-3/8	1-1/4	12
52570	5	2-3/8	1-1/4	12
52580	6	2-3/8	1-1/4	12
52590	7	2-1/4	1-3/16	12
52600	8	2-1/4	1-3/16	12
52610	9	2-1/4	1-3/16	12
52620	10	2-1/4	1-3/16	12
52630	11	2-1/4	1-3/16	12
52640	12	2-1/4	1-3/16	12
52650	13	2-3/16	1-1/8	12
52660	14	2-3/16	1-1/8	12
52670	15	2-3/16	1-1/8	12
52680	16	2-3/16	1-1/8	12
52690	17	2-3/16	1-1/8	12
52700	18	2-1/8	1-1/16	12
52710	19	2-1/8	1-1/16	12
52720	20	2-1/8	1-1/16	12
52730	21	2-1/8	1-1/16	12
52740	22	2-1/8	1-1/16	12
52750	23	2-1/16	1	12
52760	24	2-1/16	1	12
52770	25	2-1/16	1	12
52780	26	2-1/16	1	12
52790	27	2-1/16	1	12
52800	28	1-15/16	15/16	12
52810	29	1-15/16	15/16	12
52820	30	1-15/16	15/16	12
52830	31	1-7/8	7/8	12
52840	32	1-7/8	7/8	12
52850	33	1-7/8	7/8	12
52860	34	1-7/8	7/8	12
52870	35	1-7/8	7/8	12
52880	36	1-13/16	13/16	12
52890	37	1-13/16	13/16	12
52900	38	1-13/16	13/16	12
52910	39	1-13/16	13/16	12
52920	40	1-13/16	13/16	12
52930	41	1-13/16	13/16	12
52940	42	1-3/4	3/4	12
52950	43	1-3/4	3/4	12
52960	44	1-3/4	3/4	12
52970	45	1-3/4	3/4	12
52980	46	1-3/4	3/4	12
52990	47	1-3/4	3/4	12
53000	48	1-11/16	11/16	12
53010	49	1-11/16	11/16	12
53020	50	1-11/16	11/16	12
53030	51	1-11/16	11/16	12
53040	52	1-11/16	11/16	12
53050	53	1-5/8	5/8	12
53060	54	1-5/8	5/8	12
53070	55	1-5/8	5/8	12
53080	56	1-3/8	1/2	12
53090	57	1-3/8	1/2	12
53100	58	1-3/8	1/2	12
53110	59	1-3/8	1/2	12
53120	60	1-3/8	1/2	12

## SCREW MACHINE LENGTH DRILLS - HIGH SPEED

### Type 260

High-Speed Steel - General Purpose, 118° Pt.

Bright-Flute® thru 3/4" diameter.  
Surface treated flutes over 3/4" diameter.



The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy. Can be used for all screw machine operation. This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials. May also be used in portable drilling equipment. Drill sizes over 1-1/16 have a reduced shank.

### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
23860	3/64	1-3/8	1/2	12
23870	1/16	1-5/8	5/8	12
23880	5/64	1-11/16	11/16	12
23890	3/32	1-3/4	3/4	12
23900	7/64	1-13/16	13/16	12
23910	1/8	1-7/8	7/8	12
23920	9/64	1-15/16	15/16	12
23930	5/32	2-1/16	1	12
23940	11/64	2-1/8	1-1/16	12
23950	3/16	2-3/16	1-1/8	12
23960	13/64	2-1/4	1-3/16	12
23970	7/32	2-3/8	1-1/4	12
23980	15/64	2-7/16	1-5/16	12
23990	1/4	2-1/2	1-3/8	12
24000	17/64	2-5/8	1-7/16	12
24010	9/32	2-11/16	1-1/2	12
24020	19/64	2-3/4	1-9/16	6
24030	5/16	2-13/16	1-5/8	6
24040	21/64	2-15/16	1-11/16	6
24050	11/32	3	1-11/16	6
24060	23/64	3-1/16	1-3/4	6
24070	3/8	3-1/8	1-13/16	6
24080	25/64	3-1/4	1-7/8	6
24090	13/32	3-5/16	1-15/16	6
24100	27/64	3-3/8	2	6
24110	7/16	3-7/16	2-1/16	6
24120	29/64	3-9/16	2-1/8	6
24130	15/32	3-5/8	2-1/8	6
24140	31/64	3-11/16	2-3/16	6
24150	1/2	3-3/4	2-1/4	6
24160	33/64	3-7/8	2-3/8	1
24170	17/32	3-7/8	2-3/8	1
24180	35/64	4	2-1/2	1
24190	9/16	4	2-1/2	1
24200	37/64	4-1/8	2-5/8	1
24210	19/32	4-1/8	2-5/8	1
24220	39/64	4-1/4	2-3/4	1
24230	5/8	4-1/4	2-3/4	1
24240	41/64	4-1/2	2-7/8	1
24250	21/32	4-1/2	2-7/8	1
24260	43/64	4-1/2	2-7/8	1
24270	11/16	4-1/2	2-7/8	1
24280	45/64	4-3/4	3	1
24290	23/32	4-3/4	3	1
24300	47/64	5	3-1/8	1
24310	3/4	5	3-1/8	1
24320	49/64	5-1/8	3-1/4	1
24330	25/32	5-1/8	3-1/4	1

### FRACTIONAL (CONTINUED)

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
24340	51/64	5-1/4	3-3/8	1
24350	13/16	5-1/4	3-3/8	1
24360	53/64	5-3/8	3-1/2	1
24370	27/32	5-3/8	3-1/2	1
24380	55/64	5-3/8	3-1/2	1
24390	7/8	5-3/8	3-1/2	1
24400	57/64	5-5/8	3-5/8	1
24410	29/32	5-5/8	3-5/8	1
24420	59/64	5-3/4	3-3/4	1
24430	15/16	5-3/4	3-3/4	1
24440	61/64	5-7/8	3-7/8	1
24450	31/32	5-7/8	3-7/8	1
24460	63/64	6	4	1
24470	1"	6	4	1
24480	1-1/16	6-1/4	4	1
24490	1-1/8	6-3/8	4	1
24500	1-3/16	6-5/8	4-1/4	1
24510	1-1/4	6-3/4	4-3/8	1
24520	1-5/16	7	4-3/8	1
24530	1-3/8	7-1/8	4-1/2	1
24540	1-7/16	7-3/8	4-3/4	1
24550	1-1/2	7-1/2	4-7/8	1
24560	1-9/16	7-3/4	4-7/8	1
24570	1-5/8	7-3/4	4-7/8	1
24580	1-11/16	8	5-1/8	1
24590	1-3/4	8	5-1/8	1
24600	1-13/16	8-1/4	5-3/8	1
24610	1-7/8	8-1/4	5-3/8	1
24620	1-15/16	8-1/2	5-5/8	1
24630	2"	8-1/2	5-5/8	1

Wire, Letter sizes continued on page 28

Drill Size	Shank Diameter
1-1/16" to 1-1/4"	1"
1- 5/16" to 1-1/2"	1-1/4"
1-9/16" to 2"	1-1/2"

# Screw Machine Length Drills (CONTINUED)



## SCREW MACHINE LENGTH DRILLS - HIGH SPEED

### Type 260

High-Speed Steel - General Purpose - 118° Pt.

Bright Flute thru 3/4" diameter. Surface treated flutes over 3/4" diameter.

The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy. Can be used for all screw machine operation. This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials. May also be used in portable drilling equipment. Drill sizes over 1-1/16 have a reduced shank.

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
24640	1	2-7/16	1-5/16	12
24650	2	2-7/16	1-5/16	12
24660	3	2-3/8	1-1/4	12
24670	4	2-3/8	1-1/4	12
24680	5	2-3/8	1-1/4	12
24690	6	2-3/8	1-1/4	12
24700	7	2-1/4	1-3/16	12
24710	8	2-1/4	1-3/16	12
24720	9	2-1/4	1-3/16	12
24730	10	2-1/4	1-3/16	12
24740	11	2-1/4	1-3/16	12
24750	12	2-1/4	1-3/16	12
24760	13	2-3/16	1-1/8	12
24770	14	2-3/16	1-1/8	12
24780	15	2-3/16	1-1/8	12
24790	16	2-3/16	1-1/8	12
24800	17	2-3/16	1-1/8	12
24810	18	2-1/8	1-1/16	12
24820	19	2-1/8	1-1/16	12
24830	20	2-1/8	1-1/16	12
24840	21	2-1/8	1-1/16	12
24850	22	2-1/8	1-1/16	12
24860	23	2-1/16	1	12
24870	24	2-1/16	1	12
24880	25	2-1/16	1	12
24890	26	2-1/16	1	12
24900	27	2-1/16	1	12
24910	28	1-15/16	15/16	12
24920	29	1-15/16	15/16	12
24930	30	1-15/16	15/16	12
24940	31	1-7/8	7/8	12
24950	32	1-7/8	7/8	12
24960	33	1-7/8	7/8	12
24970	34	1-7/8	7/8	12
24980	35	1-7/8	7/8	12
24990	36	1-13/16	13/16	12
25000	37	1-13/16	13/16	12
25010	38	1-13/16	13/16	12
25020	39	1-13/16	13/16	12
25030	40	1-13/16	13/16	12
25040	41	1-13/16	13/16	12
25050	42	1-3/4	3/4	12
25060	43	1-3/4	3/4	12
25070	44	1-3/4	3/4	12
25080	45	1-3/4	3/4	12
25090	46	1-3/4	3/4	12
25100	47	1-3/4	3/4	12
25110	48	1-11/16	11/16	12
25120	49	1-11/16	11/16	12
25130	50	1-11/16	11/16	12
25140	51	1-11/16	11/16	12
25150	52	1-11/16	11/16	12
25160	53	1-5/8	5/8	12
25170	54	1-5/8	5/8	12
25180	55	1-5/8	5/8	12
25190	56	1-3/8	1/2	12
25200	57	1-3/8	1/2	12
25210	58	1-3/8	1/2	12
25220	59	1-3/8	1/2	12
25230	60	1-3/8	1/2	12

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
23600	A	2-7/16	1-5/16	12
23610	B	2-1/2	1-3/8	12
23620	C	2-1/2	1-3/8	12
23630	D	2-1/2	1-3/8	12
23640	E	2-1/2	1-3/8	12
23650	F	2-5/8	1-7/16	12
23660	G	2-5/8	1-7/16	12
23670	H	2-11/16	1-1/2	12
23680	I	2-11/16	1-1/2	12
23690	J	2-11/16	1-1/2	12
23700	K	2-11/16	1-1/2	12
23710	L	2-3/4	1-9/16	12
23720	M	2-3/4	1-9/16	6
23730	N	2-13/16	1-5/8	6
23740	O	2-15/16	1-11/16	6
23750	P	2-15/16	1-11/16	6
23760	Q	3	1-11/16	6
23770	R	3	1-11/16	6
23780	S	3-1/16	1-3/4	6
23790	T	3-1/16	1-3/4	6
23800	U	3-1/8	1-13/16	6
23810	V	3-1/4	1-7/8	6
23820	W	3-1/4	1-7/8	6
23830	X	3-5/16	1-15/16	6
23840	Y	3-5/16	1-15/16	6
23850	Z	3-3/8	2	6

## SCREW MACHINE LENGTH DRILLS - COBALT

### Type 260-D

#### M42 Cobalt - High-Speed Steel

#### 135° Split Point - Gold Finish

Heavy-duty 135° M-42 Cobalt split point with gold finish made to aircraft specifications. Use to drill hard, tough metals, free machining stainless steel, titanium alloys and certain abrasive plastics. High red hardness of cobalt permits speeds 30% over regular high-speed steel drills. Cobalt drills require rigidly held, positive feed drilling equipment.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
39800	1/16	1-5/8	5/8	12
39810	5/64	1-11/16	11/16	12
39820	3/32	1-3/4	3/4	12
39830	7/64	1-13/16	13/16	12
39840	1/8	1-7/8	7/8	12
39850	9/64	1-15/16	15/16	12
39860	5/32	2-1/16	1	12
39870	11/64	2-1/8	1-1/16	12
39880	3/16	2-3/16	1-1/8	12
39890	13/64	2-1/4	1-3/16	12
39900	7/32	2-3/8	1-1/4	12
39910	15/64	2-7/16	1-5/16	12
39920	1/4	2-1/2	1-3/8	12
39930	17/64	2-5/8	1-7/16	12
39940	9/32	2-11/16	1-1/2	12
39950	19/64	2-3/4	1-9/16	6
39960	5/16	2-13/16	1-5/8	6
39970	21/64	2-15/16	1-11/16	6
39980	11/32	3	1-11/16	6
39990	23/64	3-1/16	1-3/4	6
40000	3/8	3-1/8	1-13/16	6
40010	25/64	3-1/4	1-7/8	6
40020	13/32	3-5/16	1-15/16	6
40030	27/64	3-3/8	2	6
40040	7/16	3-7/16	2-1/16	6
40050	29/64	3-9/16	2-1/8	6
40060	15/32	3-5/8	2-1/8	6
40070	31/64	3-11/16	2-3/16	6
40080	1/2	3-3/4	2-1/4	6

### WIRE

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
40090	1	2-7/16	1-5/16	12
40100	2	2-7/16	1-5/16	12
40110	3	2-3/8	1-1/4	12
40120	4	2-3/8	1-1/4	12
40130	5	2-3/8	1-1/4	12
40140	6	2-3/8	1-1/4	12
40150	7	2-1/4	1-3/16	12
40160	8	2-1/4	1-3/16	12
40170	9	2-1/4	1-3/16	12
40180	10	2-1/4	1-3/16	12
40190	11	2-1/4	1-3/16	12
40200	12	2-1/4	1-3/16	12
40210	13	2-3/16	1-1/8	12
40220	14	2-3/16	1-1/8	12
40230	15	2-3/16	1-1/8	12
40240	16	2-3/16	1-1/8	12
40250	17	2-3/16	1-1/8	12
40260	18	2-1/8	1-1/16	12
40270	19	2-1/8	1-1/16	12
40280	20	2-1/8	1-1/16	12
40290	21	2-1/8	1-1/16	12
40300	22	2-1/8	1-1/16	12
40310	23	2-1/16	1	12
40320	24	2-1/16	1	12
40330	25	2-1/16	1	12
40340	26	2-1/16	1	12
40350	27	2-1/16	1	12
40360	28	1-15/16	15/16	12
40370	29	1-15/16	15/16	12
40380	30	1-15/16	15/16	12
40390	31	1-7/8	7/8	12
40400	32	1-7/8	7/8	12
40410	33	1-7/8	7/8	12
40420	34	1-7/8	7/8	12
40430	35	1-7/8	7/8	12
40440	36	1-13/16	13/16	12
40450	37	1-13/16	13/16	12
40460	38	1-13/16	13/16	12
40470	39	1-13/16	13/16	12
40480	40	1-13/16	13/16	12
42410	41	1-13/16	13/16	12
42420	42	1-3/4	3/4	12
42430	43	1-3/4	3/4	12
42440	44	1-3/4	3/4	12
42450	45	1-3/4	3/4	12
42460	46	1-3/4	3/4	12
42470	47	1-3/4	3/4	12
42480	48	1-11/16	11/16	12
42490	49	1-11/16	11/16	12
42500	50	1-11/16	11/16	12
42510	51	1-11/16	11/16	12
42520	52	1-11/16	11/16	12
42530	53	1-5/8	5/8	12
42540	54	1-5/8	5/8	12
42550	55	1-5/8	5/8	12
42560	56	1-3/8	1/2	12
42570	57	1-3/8	1/2	12
42580	58	1-3/8	1/2	12
42590	59	1-3/8	1/2	12
42600	60	1-3/8	1/2	12

# Screw Machine Length Drills



## SCREW MACHINE LENGTH DRILLS - TIN COATED

### Type 260-TN

#### TiN Coated - Super High Performance 135° Split Point

This heavy-duty drill performs well in very demanding applications. The TiN coating provides a super hard surface with high lubricity. The tool life may be extended 500% or more in high wear or very abrasive applications.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
97600	1/16	1-5/8	5/8	6
97590	5/64	1-11/16	11/16	6
97580	3/32	1-3/4	3/4	6
97570	7/64	1-13/16	13/16	6
97560	1/8	1-7/8	7/8	6
97550	9/64	1-15/16	15/16	6
97540	5/32	2-1/16	1	6
97530	11/64	2-1/8	1-1/16	6
97520	3/16	2-3/16	1-1/8	6
97510	13/64	2-1/4	1-3/16	6
97500	7/32	2-3/8	1-1/4	6
97490	15/64	2-7/16	1-5/16	6
97480	1/4	2-1/2	1-3/8	6
97470	17/64	2-5/8	1-7/16	6
97460	9/32	2-11/16	1-1/2	6
97450	19/64	2-3/4	1-9/16	3
97440	5/16	2-13/16	1-5/8	3
97430	21/64	2-15/16	1-11/16	3
97420	11/32	3	1-11/16	3
97410	23/64	3-1/16	1-3/4	3
97400	3/8	3-1/8	1-13/16	3
97390	25/64	3-1/4	1-7/8	3
97380	13/32	3-5/16	1-15/16	3
97370	27/64	3-3/8	2	3
97360	7/16	3-7/16	2-1/16	3
97350	29/64	3-9/16	2-1/8	3
97340	15/32	3-5/8	2-1/8	3
97330	31/64	3-11/16	2-3/16	3
97320	1/2	3-3/4	2-1/4	3

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
96670	1	2-7/16	1-5/16	6
96660	2	2-7/16	1-5/16	6
96650	3	2-3/8	1-1/4	6
96640	4	2-3/8	1-1/4	6
96630	5	2-3/8	1-1/4	6
96620	6	2-3/8	1-1/4	6
96610	7	2-1/4	1-3/16	6
96600	8	2-1/4	1-3/16	6
96590	9	2-1/4	1-3/16	6
96580	10	2-1/4	1-3/16	6
96570	11	2-1/4	1-3/16	6
96560	12	2-1/4	1-3/16	6
96550	13	2-3/16	1-1/8	6
96540	14	2-3/16	1-1/8	6
96530	15	2-3/16	1-1/8	6
96520	16	2-3/16	1-1/8	6
96510	17	2-3/16	1-1/8	6
96500	18	2-1/8	1-1/16	6
96490	19	2-1/8	1-1/16	6
96480	20	2-1/8	1-1/16	6
96470	21	2-1/8	1-1/16	6
96460	22	2-1/8	1-1/16	6
96450	23	2-1/16	1	6
96440	24	2-1/16	1	6
96430	25	2-1/16	1	6
96420	26	2-1/16	1	6
96410	27	2-1/16	1	6
96400	28	1-15/16	15/16	6
96390	29	1-15/16	15/16	6
96380	30	1-15/16	15/16	6
96370	31	1-7/8	7/8	6
96360	32	1-7/8	7/8	6
96350	33	1-7/8	7/8	6
96340	34	1-7/8	7/8	6
96330	35	1-7/8	7/8	6
96320	36	1-13/16	13/16	6
96310	37	1-13/16	13/16	6
96300	38	1-13/16	13/16	6
96290	39	1-13/16	13/16	6
96280	40	1-13/16	13/16	6
96270	41	1-13/16	13/16	6
96260	42	1-3/4	3/4	6
96250	43	1-3/4	3/4	6
96240	44	1-3/4	3/4	6
96230	45	1-3/4	3/4	6
96220	46	1-3/4	3/4	6
96210	47	1-3/4	3/4	6
96200	48	1-11/16	11/16	6
96190	49	1-11/16	11/16	6
96180	50	1-11/16	11/16	6
96170	51	1-11/16	11/16	6
96160	52	1-11/16	11/16	6
96150	53	1-5/8	5/8	6
96140	54	1-5/8	5/8	6
96130	55	1-5/8	5/8	6
96120	56	1-3/8	1/2	6
96110	57	1-3/8	1/2	6
96100	58	1-3/8	1/2	6
96090	59	1-3/8	1/2	6
96080	60	1-3/8	1/2	6

Screw Machine Length - TiN Coated

## TAPER LENGTH DRILLS - HIGH SPEED

### Type 210

#### High-Speed Steel - 118° Point

Bright finish thru 3/4" diameter. Surface treated flutes over 3/4" diameter. General purpose 118° point, recommended for mild drilling applications where extra long drills are required.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
10490	3/64	2-1/4	1-1/8	12
10500	1/16	3	1-3/4	12
10510	5/64	3-3/4	2	12
10520	3/32	4-1/4	2-1/4	12
10530	7/64	4-5/8	2-1/2	12
10540	1/8	5-1/8	2-3/4	12
10550	9/64	5-3/8	3	12
10560	5/32	5-3/8	3	12
10570	11/64	5-3/4	3-3/8	12
10580	3/16	5-3/4	3-3/8	12
10590	13/64	6	3-5/8	12
10600	7/32	6	3-5/8	12
10610	15/64	6-1/8	3-3/4	12
10620	1/4	6-1/8	3-3/4	12
10630	17/64	6-1/4	3-7/8	12
10640	9/32	6-1/4	3-7/8	12
10650	19/64	6-3/8	4	6
10660	5/16	6-3/8	4	6
10670	21/64	6-1/2	4-1/8	6
10680	11/32	6-1/2	4-1/8	6
10690	23/64	6-3/4	4-1/4	6
10700	3/8	6-3/4	4-1/4	6
10710	25/64	7	4-3/8	1
10720	13/32	7	4-3/8	1
10730	27/64	7-1/4	4-5/8	1
10740	7/16	7-1/4	4-5/8	1
10750	29/64	7-1/2	4-3/4	1
10760	15/32	7-1/2	4-3/4	1
10770	31/64	7-3/4	4-3/4	1
10780	1/2	7-3/4	4-3/4	1
10790	33/64	8	4-3/4	1
10800	17/32	8	4-3/4	1
10810	35/64	8-1/4	4-7/8	1
10820	9/16	8-1/4	4-7/8	1
10830	37/64	8-3/4	4-7/8	1
10840	19/32	8-3/4	4-7/8	1
10850	39/64	8-3/4	4-7/8	1
10860	5/8	8-3/4	4-7/8	1
10870	41/64	9	5-1/8	1
10880	21/32	9	5-1/8	1
10890	43/64	9-1/4	5-3/8	1
10900	11/16	9-1/4	5-3/8	1
10910	45/64	9-1/2	5-5/8	1
10920	23/32	9-1/2	5-5/8	1
10930	47/64	9-3/4	5-7/8	1
10940	3/4	9-3/4	5-7/8	1
10950	49/64	9-7/8	6	1
10960	25/32	9-7/8	6	1
10970	51/64	10	6-1/8	1
10980	13/16	10	6-1/8	1
10990	53/64	10	6-1/8	1
11000	27/32	10	6-1/8	1
11010	55/64	10	6-1/8	1
11020	7/8	10	6-1/8	1
11030	57/64	10	6-1/8	1
11040	29/32	10	6-1/8	1
11050	59/64	10-3/4	6-1/8	1

#### FRACTIONAL (CONTINUED)

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
11060	15/16	10-3/4	6-1/8	1
11070	61/64	11	6-3/8	1
11080	31/32	11	6-3/8	1
11090	63/64	11	6-3/8	1
11100	1"	11	6-3/8	1
11110	1-1/64	11-1/8	6-1/2	1
11120	1-1/32	11-1/8	6-1/2	1
11130	1-3/64	11-1/4	6-5/8	1
11140	1-1/16	11-1/4	6-5/8	1
11150	1-5/64	11-1/2	6-7/8	1
11160	1-3/32	11-1/2	6-7/8	1
11170	1-7/64	11-3/4	7-1/8	1
11180	1-1/8	11-3/4	7-1/8	1
11190	1-9/64	11-7/8	7-1/4	1
11200	1-5/32	11-7/8	7-1/4	1
11210	1-11/64	12	7-3/8	1
11220	1-3/16	12	7-3/8	1
11230	1-13/64	12-1/8	7-1/2	1
11240	1-7/32	12-1/8	7-1/2	1
11250	1-15/64	12-1/2	7-7/8	1
11260	1-1/4	12-1/2	7-7/8	1
11270	1-9/32	14-1/8	8-1/2	1
11280	1-5/16	14-1/4	8-5/8	1
11290	1-11/32	14-3/8	8-3/4	1
11300	1-3/8	14-1/2	8-7/8	1
11310	1-13/32	14-5/8	9	1
11320	1-7/16	14-3/4	9-1/8	1
11330	1-15/32	14-7/8	9-1/4	1
11340	1-1/2	15	9-3/8	1
11350	1-9/16	15-1/4	9-5/8	1
11360	1-5/8	15-5/8	9-7/8	1
11370	1-3/4	16-1/4	10-1/2	1

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11640	1	6-1/8	3-3/4	12
11650	2	6-1/8	3-3/4	12
11660	3	6	3-5/8	12
11670	4	6	3-5/8	12
11680	5	6	3-5/8	12
11690	6	6	3-5/8	12
11700	7	6	3-5/8	12
11710	8	6	3-5/8	12
11720	9	6	3-5/8	12
11730	10	6	3-5/8	12
11740	11	6	3-5/8	12
11750	12	6	3-5/8	12
11760	13	5-3/4	3-3/8	12
11770	14	5-3/4	3-3/8	12
11780	15	5-3/4	3-3/8	12
11790	16	5-3/4	3-3/8	12
11800	17	5-3/4	3-3/8	12
11810	18	5-3/4	3-3/8	12
11820	19	5-3/4	3-3/8	12
11830	20	5-3/4	3-3/8	12
11840	21	5-3/4	3-3/8	12
11850	22	5-3/4	3-3/8	12
11860	23	5-3/8	3	12
11870	24	5-3/8	3	12
11880	25	5-3/8	3	12
11890	26	5-3/8	3	12
11900	27	5-3/8	3	12
11910	28	5-3/8	3	12

Wire & Letter sizes continued on page 32

# Taper Length Drills (CONTINUED)



## TAPER LENGTH DRILLS- HIGH SPEED

### Type 210 High-Speed Steel

#### WIRE (CONTINUED)

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11920	29	5-3/8	3	12
11930	30	5-3/8	3	12
11940	31	5-1/8	2-3/4	12
11950	32	5-1/8	2-3/4	12
11960	33	5-1/8	2-3/4	12
11970	34	5-1/8	2-3/4	12
11980	35	5-1/8	2-3/4	12
11990	36	4-5/8	2-1/2	12
12000	37	4-5/8	2-1/2	12
12010	38	4-5/8	2-1/2	12
12020	39	4-5/8	2-1/2	12
12030	40	4-5/8	2-1/2	12
12040	41	4-5/8	2-1/2	12
12050	42	4-1/4	2-1/4	12
12060	43	4-1/4	2-1/4	12
12070	44	4-1/4	2-1/4	12
12080	45	4-1/4	2-1/4	12
12090	46	4-1/4	2-1/4	12
12100	47	4-1/4	2-1/4	12
12110	48	3-3/4	2	12
12120	49	3-3/4	2	12
12130	50	3-3/4	2	12
12140	51	3-3/4	2	12
12150	52	3-3/4	2	12
12160	53	3	1-3/4	12
12170	54	3	1-3/4	12
12180	55	3	1-3/4	12
12190	56	2-1/4	1-1/8	12
12200	57	2-1/4	1-1/8	12
12210	58	2-1/4	1-1/8	12
12220	59	2-1/4	1-1/8	12
12230	60	2-1/4	1-1/8	12

#### LETTER

Part No.	Letter Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
11380	A	6-1/8	3-3/4	12
11390	B	6-1/8	3-3/4	12
11400	C	6-1/8	3-3/4	12
11410	D	6-1/8	3-3/4	12
11420	E	6-1/8	3-3/4	12
11430	F	6-1/4	3-7/8	12
11440	G	6-1/4	3-7/8	12
11450	H	6-1/4	3-7/8	12
11460	I	6-1/4	3-7/8	12
11470	J	6-1/4	3-7/8	12
11480	K	6-1/4	3-7/8	12
11490	L	6-3/8	4	12
11500	M	6-3/8	4	6
11510	N	6-3/8	4	6
11520	O	6-1/2	4-1/8	6
11530	P	6-1/2	4-1/8	6
11540	Q	6-1/2	4-1/8	6
11550	R	6-1/2	4-1/8	6
11560	S	6-3/4	4-1/4	6
11570	T	6-3/4	4-1/4	6
11580	U	6-3/4	4-1/4	6
11590	V	7	4-3/8	1
11600	W	7	4-3/8	1
11610	X	7	4-3/8	1
11620	Y	7	4-3/8	1
11630	Z	7-1/4	4-5/8	1

### Type 220

#### Automotive Series - Tang Drive High-Speed Steel - General Purpose, 118° Point.

Tanged and surface treated. When used with A.S.A. split sleeve drill drivers, these drills serve as economical substitutes for taper shank drills.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
12870	1/8	5-1/8	2-3/4	12
12880	9/64	5-3/8	3	12
12890	5/32	5-3/8	3	12
12900	11/64	5-3/4	3-3/8	12
12910	3/16	5-3/4	3-3/8	12
12920	13/64	6	3-5/8	12
12930	7/32	6	3-5/8	12
12940	15/64	6-1/8	3-3/4	12
12950	1/4	6-1/8	3-3/4	12
12960	17/64	6-1/4	3-7/8	12
12970	9/32	6-1/4	3-7/8	12
12980	19/64	6-3/8	4	6
12990	5/16	6-3/8	4	6
13000	21/64	6-1/2	4-1/8	6
13010	11/32	6-1/2	4-1/8	6
13020	23/64	6-3/4	4-1/4	6
13030	3/8	6-3/4	4-1/4	6
13040	25/64	7	4-3/8	1
13050	13/32	7	4-3/8	1
13060	27/64	7-1/4	4-5/8	1
13070	7/16	7-1/4	4-5/8	1
13080	29/64	7-1/2	4-3/4	1
13090	15/32	7-1/2	4-3/4	1
13100	31/64	7-3/4	4-3/4	1
13110	1/2	7-3/4	4-3/4	1
13120	33/64	8	4-3/4	1
13130	17/32	8	4-3/4	1
13140	35/64	8-1/4	4-7/8	1
13150	9/16	8-1/4	4-7/8	1
13160	37/64	8-3/4	4-7/8	1
13170	19/32	8-3/4	4-7/8	1
13180	39/64	8-3/4	4-7/8	1
13190	5/8	8-3/4	4-7/8	1
13200	41/64	9	5-1/8	1
13240	21/32	9	5-1/8	1
13220	43/64	9-1/4	5-3/8	1
13230	11/16	9-1/4	5-3/8	1
72530	47/64			
72540	3/4			



## TAPER LENGTH DRILLS - HEAVY DUTY PARABOLIC

### Type 221-P

Heavy-Duty - Parabolic Flute Taper Length  
135° Split Point - Tang Drive - Surface  
Treated

Parabolic flute drills are designed to eliminate the need for frequent drill removal when deep hole drilling in low to medium tensile strength materials. The split point and heavy-duty design provide superior performance by permitting higher feed rates and continuous drilling of deep holes.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
35320	1/8	5-1/8	3-3/8	12
35330	9/64	5-3/8	3-5/8	12
35340	5/32	5-3/8	3-3/4	12
35350	11/64	5-3/4	4-1/8	12
35360	3/16	5-3/4	4-1/8	12
35370	13/64	6	4-3/8	12
35380	7/32	6	4-3/8	12
35390	15/64	6-1/8	4-13/16	12
35400	1/4	6-1/8	4-13/16	12
35410	17/64	6-1/4	5	12
35420	9/32	6-1/4	5	12
35430	19/64	6-3/8	5-1/8	6
35440	5/16	6-3/8	5-1/8	6
35450	21/64	6-1/2	5-1/4	6
35460	11/32	6-1/2	5-1/4	6
35470	23/64	6-3/4	5-3/8	6
35480	3/8	6-3/4	5-3/8	6
35490	25/64	7	5-5/8	1
35500	13/32	7	5-5/8	1
35510	27/64	7-1/4	5-11/16	1
35520	7/16	7-1/4	5-11/16	1
35530	29/64	7-1/2	5-3/4	1
35540	15/32	7-1/2	5-3/4	1
35550	31/64	7-3/4	5-3/4	1
35560	1/2	7-3/4	5-3/4	1

### Type 221-PT

Heavy-Duty - Parabolic Flute -Taper Length  
TiN Coated - Tang Drive 135° Split Point

This high performance drill combines the superior wear resistance of TiN coating, and the deep hole drilling advantages of parabolic flutes. The exceptional qualities of these drills can provide high productivity and 500% (or more) better tool life when compared to high-speed steel.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
34600	1/8	5-1/8	3-3/8	6
34610	9/64	5-3/8	3-5/8	6
34620	5/32	5-3/8	3-3/4	6
34630	11/64	5-3/4	4-1/8	6
34640	3/16	5-3/4	4-1/8	6
34650	13/64	6	4-3/8	6
34660	7/32	6	4-3/8	6
34670	15/64	6-1/8	4-13/16	6
34680	1/4	6-1/8	4-13/16	6
34690	17/64	6-1/4	5	6
34700	9/32	6-1/4	5-	6
34710	19/64	6-3/8	5-1/8	3
34720	5/16	6-3/8	5-1/8	3
34730	21/64	6-1/2	5-1/4	3
34740	11/32	6-1/2	5-1/4	3
34750	23/64	6-3/4	5-3/8	3
34760	3/8	6-3/4	5-3/8	3
34770	25/64	7	5-5/8	1
34780	13/32	7	5-5/8	1
34790	27/64	7-1/4	5-11/16	1
34800	7/16	7-1/4	5-11/16	1
34810	29/64	7-1/2	5-3/4	1
34820	15/32	7-1/2	5-3/4	1
34830	31/64	7-3/4	5-3/4	1
34840	1/2	7-3/4	5-3/4	1

# Extra Length Drills



## EXTRA LENGTH DRILLS - ULTRA BOR

### Type XGT-UB



#### Ultra Bor Super Premium - 6"-9"-12"

Special Hi-Molybdenum tool steel. Gold surface treated for maximum lubricity. Heavy-duty construction, 135° split point, and no center punch needed - will not walk. Gyroidal Torsion flute and land construction yields exceptional performance in deep hole drilling applications. Recommended for work hardening grades of stainless steel and other hard metal drilling applications. These drills will drill 12 or more diameters deep without drill removal to clear chips. Feed rates may be twice that of standard drills.



### FRACTIONAL

Part No.	Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
39240	1/8x6	6	4	3
39250	#29x6	6	4	3
39260	9/64x6	6	4	3
39270	5/32x6	6	4	3
39280	11/64x6	6	4	3
39300	3/16x6	6	4	3
39310	#10x6	6	4	3
39320	13/64x6	6	4	3
39330	7/32x6	6	4	3
39340	#1x6	6	4	3
39350	15/64x6	6	4	3
39360	1/4x6	6	4	3
39370	"F"x6	6	4	3
39380	9/32x6	6	4	3
39390	5/16x6	6	4	3
39400	11/32x6	6	4	3
39410	3/8x6	6	4	1
39420	13/32x6	6	4	1
39430	7/16x6	6	4	1
39440	1/2x6	6	4	1
40780	1/8x9	9	6	3
40890	9/64	9	6	3
40790	5/32x9	9	6	3
53140	11/64	9	6	3
40800	3/16x9	9	6	3
53160	13/64	9	6	3
40810	7/32x9	9	6	3
53180	15/64	9	6	3
40820	1/4x9	9	6	3
40830	9/32x9	9	6	3
40840	5/16x9	9	6	3
40850	11/32x9	9	6	3
40860	3/8x9	9	6	1
40870	7/16x9	9	6	1
40880	1/2x9	9	6	1
43050	1/8x12	12	9	3
53130	9/64	12	9	3
43060	5/32x12	12	9	3
53150	11/64	12	9	3
43070	3/16x12	12	9	3
53170	13/64	12	9	3
43080	7/32x12	12	9	3
53190	15/64	12	9	3
43090	1/4x12	12	9	3
43100	9/32x12	12	9	3
43110	5/16x12	12	9	3
43120	11/32x12	12	9	3
43130	3/8x12	12	9	1
43140	7/16x12	12	9	1
43150	1/2x12	12	9	1

### Type 200 & 208

#### Longboy Drills Bright Finish - 12" and 18"

This general purpose 118° point high-speed steel drill is recommended for a wide range of deep hole production drilling applications.



### TYPE 200 12"

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
27200	1/8	12	9	1
27210	9/64	12	9	1
27220	5/32	12	9	1
27230	11/64	12	9	1
27240	3/16	12	9	1
27250	13/64	12	9	1
27260	7/32	12	9	1
27270	15/64	12	9	1
27280	1/4	12	9	1
27290	17/64	12	9	1
27300	9/32	12	9	1
27310	19/64	12	9	1
27320	5/16	12	9	1
27330	21/64	12	9	1
27340	11/32	12	9	1
27350	23/64	12	9	1
27360	3/8	12	9	1
27370	25/64	12	9	1
27380	13/32	12	9	1
27390	27/64	12	9	1
27400	7/16	12	9	1
27410	29/64	12	9	1
27420	15/32	12	9	1
27430	31/64	12	9	1
27440	1/2	12	9	1
27450	17/32	12	9	1
27460	9/16	12	9	1
27470	19/32	12	9	1
27480	5/8	12	9	1
27490	11/16	12	9	1
27500	3/4	12	9	1

### TYPE 208 18"

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
27600	3/16	18	10	1
27610	7/32	18	10	1
27620	1/4	18	12	1
27630	9/32	18	12	1
27640	5/16	18	12	1
27650	11/32	18	12	1
27660	3/8	18	12	1
27670	13/32	18	12	1
27680	7/16	18	12	1
27690	15/32	18	12	1
27700	1/2	18	12	1
27710	17/32	18	12	1
27720	9/16	18	12	1
27730	19/32	18	12	1
27740	5/8	18	12	1

## EXTRA LENGTH DRILLS - 135° SPLIT POINT

### Type 211 (NAS-907)

#### Aircraft Type B - 6", 135° Split Point Surface Treated

This Heavy-duty surfaced treated 135° split point high-speed steel drill is used extensively in Aircraft and transportation applications for drilling holes in hard to reach places.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
68470	3/32	6	1-1/4	6
68490	7/64	6	1-1/2	6
68500	1/8	6	1-5/8	6
68510	9/64	6	1-3/4	6
68520	5/32	6	2	6
68530	11/64	6	2-1/8	6
68540	3/16	6	2-5/16	6
68550	13/64	6	2-7/16	6
68560	7/32	6	2-1/2	6
68570	15/64	6	2-5/8	6
68580	1/4	6	2-3/4	6
68760	5/16	6	2-7/8	6
68770	3/8	6	3-1/8	6
68780	7/16	6	3-1/4	6
68790	1/2	6	3-1/2	6

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
68590	#1	6	2-5/8	6
37400	2	6	2-5/8	6
68600	10	6	2-7/16	6
68610	11	6	2-5/16	6
68620	20	6	2-1/8	6
68630	21	6	2-1/8	6
68640	29	6	1-3/4	6
68650	30	6	1-5/8	6
37490	40	6	1-3/8	6

### Type 212

#### Welded Construction - 12"

#### Extension Drill, Surface Treated

This heavy-duty 135° split point high-speed steel drill is used for drilling holes in hard to reach places.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
68800	1/8	12	1-5/8	1
68810	9/64	12	1-3/4	1
68820	5/32	12	2	1
68830	11/64	12	2-1/8	1
68840	3/16	12	2-5/16	1
68850	13/64	12	2-7/16	1
68860	7/32	12	2-1/2	1
68870	15/64	12	2-5/8	1
68880	1/4	12	2-3/4	1
68890	17/64	12	2-7/8	1
68900	9/32	12	2-15/16	1
68910	19/64	12	3-1/16	1
68920	5/16	12	3-3/16	1
68930	21/64	12	3-5/16	1
68940	11/32	12	3-7/16	1
68950	23/64	12	3-1/2	1
68960	3/8	12	3-5/8	1
68970	25/64	12	3-3/4	1
68980	13/32	12	3-7/8	1
68990	27/64	12	3-15/16	1
69000	7/16	12	4-1/16	1
69010	29/64	12	4-3/16	1
69020	15/32	12	4-5/16	1
69030	31/64	12	4-3/8	1
69040	1/2	12	4-1/2	1

#### WIRE

Part No.	Wire Sizes	Overall Length Inches	Flute Length Inches	Qty. per/pack
69050	#1	12	2-5/8	1
69060	10	12	2-7/16	1
69070	11	12	2-5/16	1
69080	20	12	2-1/8	1
69090	21	12	2-1/8	1
69100	29	12	1-3/4	1
69110	30	12	1-5/8	1
02370	40	12	1-3/8	1

# Reduced Shank Drills



## REDUCED SHANK DRILLS - ULTRA BOR SUPER PREMIUM

### Type 280-UB

**1/2" Reduced Shank Silver & Deming Ultra Bor Super Premium-3-Flats on Shank Heavy-Duty, 135° Split Point**



- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without a center punch.
- Sizes larger than 1" diameter have 118° split point.
- Precision ground point, flutes, body and clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Space age nitro-carburized steel withstands higher drilling temperatures while maintaining sharpness.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
29550	33/64	6	1
29560	17/32	6	1
29570	35/64	6	1
29580	9/16	6	1
29590	37/64	6	1
29600	19/32	6	1
29610	39/64	6	1
29620	5/8	6	1
29630	41/64	6	1
29640	21/32	6	1
29650	43/64	6	1
29660	11/16	6	1
29670	45/64	6	1
29680	23/32	6	1
29690	47/64	6	1
29700	3/4	6	1
29710	49/64	6	1
29720	25/32	6	1
29730	51/64	6	1
29740	13/16	6	1
29750	53/64	6	1
29760	27/32	6	1
29770	55/64	6	1
29780	7/8	6	1
29790	57/64	6	1
29800	29/32	6	1
29810	59/64	6	1
29820	15/16	6	1
29830	61/64	6	1
29840	31/32	6	1
29850	63/64	6	1
29860	1"	6	1
29870	1-1/32	6	1
29880	1-1/16	6	1
29890	1-3/32	6	1
29900	1-1/8	6	1
29910	1-5/32	6	1
29920	1-3/16	6	1
29930	1-7/32	6	1
29940	1-1/4	6	1
29950	1-5/16	6	1
29960	1-3/8	6	1
29970	1-7/16	6	1
29980	1-1/2	6	1

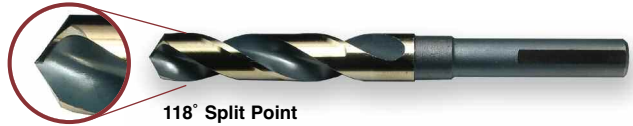


### Type 280-UBX

**1/2" Reduced Shank Silver & Deming Premium - 3-Flats on Shank 118° Split Point**



- M-2 High Speed Steel
- Precision ground point, flutes, body and clearance
- Standard 118° split point for general purpose drilling in metal, wood and plastic



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
74001	33/64	6	1
74011	17/32	6	1
74021	35/64	6	1
74031	9/16	6	1
74041	37/64	6	1
74051	19/32	6	1
74061	39/64	6	1
74071	5/8	6	1
74081	41/64	6	1
74091	21/32	6	1
74101	43/64	6	1
74111	11/16	6	1
74121	45/64	6	1
74131	23/32	6	1
74141	47/64	6	1
74151	3/4	6	1
74161	49/64	6	1
74171	25/32	6	1
74181	51/64	6	1
74191	13/16	6	1
74201	53/64	6	1
74211	27/32	6	1
74221	55/64	6	1
74231	7/8	6	1
74241	57/64	6	1
74251	29/32	6	1
74261	59/64	6	1
74271	15/16	6	1
74281	61/64	6	1
74291	31/32	6	1
74301	63/64	6	1
74311	1"	6	1
74321	1-1/16	6	1
74331	1-1/8	6	1
74341	1-5/32	6	1
74351	1-3/16	6	1
74361	1-1/4	6	1

### SETS

74771	9/16, 5/8, 3/4, 1"	1
74781	9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1"	1



## Type 280-UBM (Metric)

**1/2" Reduced Shank Silver & Deming  
135° Split Point Ultra Bor Super Premium,  
3-Flats on Shank**

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without a center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Space age nitro-carburized steel withstands higher drilling temperatures while maintaining sharpness.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



### METRIC

Part No.	Dia. MM	Overall Length Inches	Part No.	Dia. MM	Overall Length Inches
25500	14.0	6	25520	20.0	6
25502	15.0	6	25522	21.0	6
25504	16.0	6	25524	22.0	6
25510	17.0	6	25530	23.0	6
25512	18.0	6	25532	24.0	6
25514	19.0	6	25534	25.0	6

Qty. per package 1

## Type 281-UB

**3/4" Reduced Shank Silver & Deming  
Ultra Bor Super Premium - 135° Split Point**

These are high performance, close tolerance, tight runout spec. tools designed for drilling with Bridgeport style or other production machines with 3/4" chucks. Special Hi-Molybdenum tool steel with 135° split points for fast penetration and accurate starting without center punch. Precision ground point, body and drill diameter for the ultimate in accuracy and performance. Body and margin are gold surface treated for maximum lubricity. Heat treated at 2185°F and then nitro-carburize finished at 950°F to be measurably harder than high-speed steel. Space age nitro-carburized steel withstands substantially higher drilling temperatures while maintaining sharpness. Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.



### FRACTIONAL

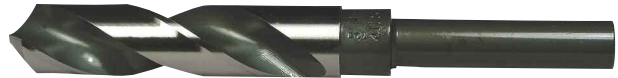
Part No.	Diameter Inches	Flute Length Inches	Overall Length Inches	Qty. per/pack
29741	13/16	3-1/4	5-1/2	1
29781	7/8	3-1/4	5-1/2	1
29821	15/16	3-1/4	5-1/2	1
29861	1	3-1/4	5-1/2	1
29901	1-1/8	3-1/2	5-27/32	1
29941	1-1/4	3-1/2	5-7/8	1
29961	1-3/8	3-1/2	5-29/32	1
29981	1-1/2	3-1/2	5-15/16	1

## REDUCED SHANK DRILLS - 1/2" SHANK

### Type 280

**1/2" Reduced Shank Silver & Deming  
118° General Purpose**

This general purpose 118° point high-speed steel drill is recommended for use in portable air and electric drilling equipment with 1/2" chucks. Type 280 drills may be used in power applications such as drill presses where a short rigid drill is required.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
29130	33/64	6	1
29140	17/32	6	1
29150	35/64	6	1
29160	9/16	6	1
29170	37/64	6	1
29180	19/32	6	1
29190	39/64	6	1
29200	5/8	6	1
29210	41/64	6	1
29220	21/32	6	1
29230	43/64	6	1
29240	11/16	6	1
29250	45/64	6	1
29260	23/32	6	1
29270	47/64	6	1
29280	3/4	6	1
29290	49/64	6	1
29300	25/32	6	1
29310	51/64	6	1
29320	13/16	6	1
29330	53/64	6	1
29340	27/32	6	1
29350	55/64	6	1
29360	7/8	6	1
29370	57/64	6	1
29380	29/32	6	1
29390	59/64	6	1
29400	15/16	6	1
29410	61/64	6	1
29420	31/32	6	1
29430	63/64	6	1
29440	1"	6	1
29450	1-1/16	6	1
29460	1-1/8	6	1
29470	1-5/32	6	1
29480	1-3/16	6	1
29490	1-1/4	6	1

# Reduced Shank Drills



## REDUCED SHANK DRILLS - 1/2" SHANK

### Type 280-D

1/2" Reduced Shank Silver & Deming Super High-Speed- M42 Cobalt

Heavy-duty 135° split point with gold finish for use in drilling hard tough metals, free machining stainless steel, high temperature alloys, titanium and certain plastics. High red hot hardness of cobalt steel permits speeds 30% higher than regular high speed steel drills. Cobalt drills require rigidly held, positive feed drilling equipment.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
29131	33/64	6	1
29141	17/32	6	1
29151	35/64	6	1
29161	9/16	6	1
29171	37/64	6	1
29181	19/32	6	1
29191	39/64	6	1
29201	5/8	6	1
29211	41/64	6	1
29221	21/32	6	1
29231	43/64	6	1
29241	11/16	6	1
29251	45/64	6	1
29261	23/32	6	1
29271	47/64	6	1
29281	3/4	6	1
29331	25/32	6	1
29321	13/16	6	1
24341	27/32	6	1
29361	7/8	6	1
29381	29/32	6	1
29401	15/16	6	1
29421	31/32	6	1
29441	1"	6	1

## REDUCED SHANK DRILLS - SILVER & DEMING

### Type 280-MRO

Maintenance Length - 1/2" Reduced Shank 135° Split Point 3-Flats on Shank Surfaced Treated Flutes

The 280-MRO is a shorter (5") tougher version of our very popular 1/2" reduced shank product. Designed specifically for the needs of the MRO market, the 280-MRO has a split point (135°) to insure fast hole starts without drill walking. The three flats on the shank insure positive chucking without slippage. The slightly shorter length allows the tool to get into frequently tighter MRO drilling locations. This feature packed tool provides tremendous value for your drilling dollar.



### FRACTIONAL

Part No.	Size / Inches	Overall Length	Qty. per/pack
54291	33/64	5	1
54300	17/32	5	1
54301	35/64	5	1
54310	9/16	5	1
54311	37/64	5	1
54320	19/32	5	1
54321	39/64	5	1
54330	5/8	5	1
54331	41/64	5	1
54340	21/32	5	1
54341	43/64	5	1
54350	11/16	5	1
54351	45/64	5	1
54360	23/32	5	1
54361	47/64	5	1
54370	3/4	5	1
54371	49/64	5	1
54380	25/32	5	1
54381	51/64	5	1
54390	13/16	5	1
54391	53/64	5	1
54400	27/32	5	1
54401	55/64	5	1
54410	7/8	5	1
54411	57/64	5	1
54420	29/32	5	1
54421	59/64	5	1
54430	15/16	5	1
54431	61/64	5	1
54440	31/32	5	1
54441	63/64	5	1
54450	1"	5	1

Lexan Counter Displays for Silver & Deming Drills



Part # 00940

- Compact case attractively displays S&D drills.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.

Contents One Each of: 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 & 1"

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Type 130-MRO 135° Split Point Silver & Deming Set



Part Number 54520 S&D-4 MRO Includes the four most popular drills (9/16, 5/8, 3/4 & 1") in a Sturdy Plastic Case.

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## METRIC DRILLS - JOBBER LENGTH



### Type 643-UB

### Jobber Length - Metric Ultra Bor Super Premium - 135° Split Point

Special Hi-Molybdenum tool steel with 135° split points for fast penetration and accurate starting without a center punch. Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance. Body and clearance are gold surface treated for maximum lubricity. Drills are heat treated at 2185° F and then nitro-carburize finished at 950° F to be measurably harder than high speed steel. Space age nitro-carburized steel withstands substantially higher drilling temperatures while maintaining sharpness. Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.

#### METRIC

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
48760	0.70	32	1-1/4	10	25/64	10
48780	0.80	35	1-3/8	13	1/2	10
48790	0.85	38	1-1/2	16	5/8	10
48800	0.90	38	1-1/2	16	5/8	10
49990	0.95	38	1-1/2	16	5/8	10
48690	0.98					
48820	1.00	41	1-5/8	17	11/16	10
48750	1.05	41	1-5/8	17	11/16	10
48840	1.10	44	1-3/4	19	3/4	10
48850	1.15	44	1-3/4	19	3/4	10
23270	1.18	44	1-3/4	19	3/4	10
48860	1.20	48	1-7/8	22	7/8	10
48870	1.25	48	1-7/8	22	7/8	10
48880	1.30	48	1-7/8	22	7/8	10
48890	1.35	48	1-7/8	22	7/8	10
48900	1.40	48	1-7/8	22	7/8	10
48910	1.45	48	1-7/8	22	7/8	10
48920	1.50	48	1-7/8	22	7/8	10
48930	1.55	48	1-7/8	22	7/8	10
48940	1.60	48	1-7/8	22	7/8	10
48950	1.65	51	2	25	1	10
48960	1.70	51	2	25	1	10
48970	1.75	51	2	25	1	10
48980	1.80	51	2	25	1	10
49000	1.90	51	2	25	1	10
49020	2.00	51	2	25	1	10
49030	2.05	54	2-1/8	29	1-5/32	10
49040	2.10	54	2-1/8	29	1-5/32	10
49060	2.20	57	2-1/4	32	1-1/4	10
49080	2.30	57	2-1/4	32	1-1/4	10
49100	2.40	60	2-23/64	35	1-3/8	10
49120	2.50	60	2-23/64	35	1-3/8	10
49130	2.60	64	2-1/2	37	1-29/64	10
49140	2.70	64	2-1/2	37	1-15/32	10
49150	2.80	67	2-5/8	38	1-1/2	10
49160	2.90	70	2-3/4	41	1-5/8	10
49170	3.00	70	2-3/4	41	1-5/8	10
49180	3.10	70	2-3/4	41	1-5/8	10
49190	3.20	70	2-3/4	41	1-5/8	10
49200	3.30	73	2-7/8	45	1-3/4	10
49210	3.40	73	2-7/8	45	1-3/4	10
49220	3.50	73	2-7/8	45	1-3/4	10
49230	3.60	76	3	48	1-7/8	10
49240	3.70	76	3	48	1-7/8	10
49250	3.80	76	3	48	1-7/8	10
49260	3.90	79	3-1/8	51	2	10
49270	4.00	83	3-1/4	54	2-1/8	10
49280	4.10	83	3-1/4	54	2-1/8	10
49290	4.20	83	3-1/4	54	2-1/8	10
49300	4.30	83	3-1/4	54	2-1/8	10
49310	4.40	86	3-3/8	56	2-13/64	10
49320	4.50	86	3-3/8	56	2-13/64	10
49330	4.60	86	3-3/8	56	2-13/64	10
49340	4.70	89	3-1/2	59	2-21/64	10
49350	4.80	89	3-1/2	59	2-21/64	10
49360	4.90	92	3-5/8	62	2-7/16	10
49370	5.00	92	3-5/8	62	2-7/16	10
49380	5.10	92	3-5/8	62	2-7/16	10
49390	5.20	95	3-3/4	64	2-1/2	10
49400	5.30	95	3-3/4	64	2-1/2	10
49410	5.40	95	3-3/4	64	2-1/2	10
49420	5.50	95	3-3/4	64	2-1/2	10
49430	5.60	98	3-7/8	67	2-5/8	10
49440	5.70	98	3-7/8	67	2-5/8	10
49450	5.80	98	3-7/8	67	2-5/8	10
49460	5.90	98	3-7/8	67	2-5/8	10
49470	6.00	102	4	70	2-3/4	10
49480	6.10	102	4	70	2-3/4	10
49490	6.20	102	4	70	2-3/4	10

#### METRIC

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
49510	6.40	105	4-1/8	73	2-7/8	10
49520	6.50	105	4-1/8	73	2-7/8	10
49530	6.60	105	4-1/8	73	2-7/8	10
49540	6.70	105	4-1/8	73	2-7/8	10
49550	6.80	105	4-1/8	73	2-7/8	10
49560	6.90	105	4-1/8	73	2-7/8	10
49570	7.00	105	4-1/8	73	2-7/8	10
49580	7.10	108	4-1/4	75	2-61/64	10
49590	7.20	108	4-1/4	75	2-61/64	10
49600	7.30	108	4-1/4	75	2-61/64	10
49610	7.40	111	4-3/8	78	3	10
49620	7.50	111	4-3/8	78	3	5
49630	7.60	111	4-3/8	78	3	5
49640	7.70	114	4-1/2	81	3-3/16	5
49650	7.80	114	4-1/2	81	3-3/16	5
49660	7.90	114	4-1/2	81	3-3/16	5
49670	8.00	114	4-1/2	81	3-3/16	5
49680	8.10	117	4-9/16	84	3-5/16	5
49690	8.20	117	4-9/16	84	3-5/16	5
49700	8.30	117	4-9/16	84	3-5/16	5
49710	8.40	121	4-3/4	87	3-27/64	5
49720	8.50	121	4-3/4	87	3-27/64	5
49730	8.60	121	4-3/4	87	3-27/64	5
49740	8.70	121	4-3/4	87	3-27/64	5
49750	8.80	124	4-7/8	89	3-1/2	5
49760	8.90	124	4-7/8	89	3-1/2	5
49770	9.00	124	4-7/8	89	3-1/2	5
49780	9.10	124	4-7/8	89	3-1/2	5
49790	9.20	127	5	92	3-5/8	5
49800	9.30	127	5	92	3-5/8	5
49810	9.40	127	5	92	3-5/8	5
49820	9.50	127	5	92	3-5/8	5
49830	9.60	130	5-1/8	95	3-3/4	5
49840	9.70	130	5-1/8	95	3-3/4	5
49850	9.80	130	5-1/8	95	3-3/4	5
49860	9.90	130	5-1/8	95	3-3/4	5
49870	10.00	130	5-1/8	95	3-3/4	5
12450	10.10	130	5-1/8	95	3-3/4	5
49880	10.20	133	5-15/64	98	3-7/8	5
12510	10.30	133	5-15/64	98	3-7/8	5
50220	10.40	133	5-15/64	98	3-7/8	5
49890	10.50	133	5-15/64	98	3-7/8	5
12460	10.60	133	5-15/64	98	3-7/8	5
50230	10.70	133	5-1/4	98	3-5/8	5
49900	10.80	140	5-1/2	103	4-1/16	5
12470	10.90	140	5-1/2	103	4-1/16	5
49910	11.00	140	5-1/2	103	4-1/16	5
12480	11.10	140	5-1/2	103	4-1/16	5
49920	11.20	143	5-5/8	106	4-7/32	5
50240	11.30	143	5-5/8	106	4-7/32	5
12490	11.40	143	5-5/8	106	4-7/32	5
49930	11.50	143	5-5/8	106	4-7/32	5
12500	11.60	143	5-5/8	106	4-7/32	5
50250	11.70	146	5-3/4	110	4-11/32	5
49940	11.80	146	5-3/4	110	4-11/32	5
12520	11.90	146	5-3/4	110	4-11/32	5
49950	12.00	149	5-7/8	111	4-3/8	5
12530	12.10	149	5-7/8	111	4-3/8	5
49960	12.20	149	5-7/8	111	4-3/8	5
50260	12.30	149	5-7/8	111	4-3/8	5
12540	12.40	149	5-7/8	111	4-3/8	5
49970	12.50	152	6	114	4-1/2	5
12550	12.60	152	6	114	4-1/2	5
12570	12.70	152	6	114	4-1/2	5
50270	12.80	152	6	114	4-1/2	5
12560	12.90	152	6	114	4-1/2	5
49980	13.00	152	6	114	4-1/2	5

# Metric Drills



DRILLS

## METRIC DRILLS - JOBBER LENGTH

### Type 643

**Jobber Length - Metric - 118° Point**  
**General Purpose - Surface Treated**

This 118° point, high speed steel drill performs well in a wide variety of ferrous metal drilling applications. The black surface treatment prevents chip welding and increases abrasion resistance.



#### METRIC

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
20630	.75	35	1-3/8	13	1/2	10
20640	.80	35	1-3/8	13	1/2	10
20650	.85	38	1-1/2	16	5/8	10
20660	.90	38	1-1/2	16	5/8	10
20670	.95	38	1-1/2	16	5/8	10
20680	1.00	41	1-5/8	17	11/16	10
20690	1.05	41	1-5/8	17	11/16	10
20700	1.10	44	1-3/4	19	3/4	10
20710	1.15	44	1-3/4	19	3/4	10
20720	1.20	48	1-7/8	22	7/8	10
20730	1.25	48	1-7/8	22	7/8	10
20740	1.30	48	1-7/8	22	7/8	10
20750	1.35	48	1-7/8	22	7/8	10
20760	1.40	48	1-7/8	22	7/8	10
20780	1.50	48	1-7/8	22	7/8	10
20800	1.60	48	1-7/8	22	7/8	10
20820	1.70	51	2	25	1	10
20830	1.75	51	2	25	1	10
20840	1.80	51	2	25	1	10
20860	1.90	51	2	25	1	10
20880	2.00	51	2	25	1	10
20980	2.50	60	2-23/64	35	1-3/8	10
21040	3.00	70	2-3/4	41	1-5/8	10
21110	3.50	73	2-7/8	45	1-3/4	10
21170	4.00	83	3-1/4	54	2-1/8	10
21230	4.50	86	3-3/8	56	2-13/64	10
21290	5.00	92	3-5/8	62	2-7/16	10
21350	5.50	95	3-3/4	64	2-1/2	10
21410	6.00	102	4	70	2-3/4	10
21470	6.50	105	4-1/8	73	2-7/8	10
21530	7.00	105	4-1/8	73	2-7/8	10
21590	7.50	111	4-3/8	78	3	5
21650	8.00	114	4-1/2	81	3-3/16	5
21710	8.50	121	4-3/4	87	3-27/64	5
21770	9.00	124	4-7/8	89	3-1/2	5
21830	9.50	127	5	92	3-5/8	5
21890	10.00	130	5-1/8	95	3-3/4	5
21900	10.50	133	5-15/64	98	3-7/8	5
21910	11.00	140	5-1/2	103	4-1/16	5
21920	11.50	143	5-5/8	106	4-7/32	5
21930	12.00	149	5-7/8	111	4-3/8	5
21940	12.50	152	6	114	4-1/2	5
21950	13.00	152	6	114	4-1/2	5

### Type 643-W

**Jobber Length - Metric - 118° Point**  
**General Purpose - Brite Finish**

This 118° point, high-speed steel drill performs well in a wide variety of drilling applications. It is recommended for non-ferrous metals, wood and plastics.



#### METRIC

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
17160	.75	35	1-3/8	13	1/2	10
17070	.80	35	1-3/8	13	1/2	10
17080	.85	38	1-1/2	16	5/8	10
29020	.90	38	1-1/2	16	5/8	10
29030	.95	38	1-1/2	16	5/8	10
29040	1.00	41	1-5/8	17	11/16	10
29050	1.05	41	1-5/8	17	11/16	10
29060	1.10	44	1-3/4	19	3/4	10
17100	1.15	44	1-3/4	19	3/4	10
29070	1.20	48	1-7/8	22	7/8	10
17150	1.25	48	1-7/8	22	7/8	10
29080	1.30	48	1-7/8	22	7/8	10
29090	1.35	48	1-7/8	22	7/8	10
29100	1.40	48	1-7/8	22	7/8	10
17110	1.50	48	1-7/8	22	7/8	10
29110	1.60	48	1-7/8	22	7/8	10
29010	1.70	51	2	25	1	10
17120	1.75	51	2	25	1	10
17130	1.80	51	2	25	1	10
29120	1.90	51	2	25	1	10
20881	2.00	51	2	25	1	10
20981	2.50	60	2-23/64	35	1-3/8	10
21041	3.00	70	2-3/4	41	1-5/8	10
21111	3.50	73	2-7/8	45	1-3/4	10
21171	4.00	83	3-1/4	54	2-1/8	10
21231	4.50	86	3-3/8	56	2-13/64	10
21291	5.00	92	3-5/8	62	2-7/16	10
21351	5.50	95	3-3/4	64	2-1/2	10
21411	6.00	102	4	70	2-3/4	10
21471	6.50	105	4-1/8	73	2-7/8	10
21531	7.00	105	4-1/8	73	2-7/8	10
21591	7.50	111	4-3/8	78	3	5
21651	8.00	114	4-1/2	81	3-3/16	5
21711	8.50	121	4-3/4	87	3-27/64	5
21771	9.00	124	4-7/8	89	3-1/2	5
21831	9.50	127	5	92	3-5/8	5
21891	10.00	130	5-1/8	95	3-3/4	5
21901	10.50	133	5-15/64	98	3-7/8	5
21911	11.00	140	5-1/2	103	4-1/16	5
21921	11.50	143	5-5/8	106	4-7/32	5
21931	12.00	149	5-7/8	111	4-3/8	5
21941	12.50	152	6	114	4-1/2	5
21951	13.00	152	6	114	4-1/2	5

Metric, Jobber Length



# Metric Drills



DRILLS

## METRIC DRILLS - M42 COBALT

### Type 643-D

#### Jobber Length

#### M42 Cobalt- NAS 907-J

Heavy-duty 135° split point with gold finish for use in drilling hard tough metals, free machining stainless steel, high temperature alloys, titanium and certain plastics. High red hardness of cobalt steel permits speeds 30% higher than regular high-speed steel drills. Cobalt drills require rigidly held positive feed drilling equipment. Sizes smaller than 1.60mm and #52 have non-split points.



### METRIC

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
27050	0.90	38	1-1/2	16	5/8	10
27060	0.95	38	1-1/2	16	5/8	10
27070	1.00	41	1-5/8	17	11/16	10
27080	1.05	41	1-5/8	17	11/16	10
27100	1.20	48	1-7/8	22	7/8	10
27110	1.30	48	1-7/8	22	7/8	10
08831	1.40	48	1-7/8	22	7/8	10
27130	1.50	48	1-7/8	22	7/8	10
27140	1.60	48	1-7/8	22	7/8	10
27150	1.70	51	2	25	1	10
27160	1.80	51	2	25	1	10
27170	1.90	51	2	25	1	10
26460	2.00	51	2	25	1	10
26940	2.05	54	2-1/8	25	1-5/32	10
26470	2.10	54	2-1/8	29	1-5/32	10
26480	2.20	57	2-1/4	32	1-1/4	10
26490	2.30	57	2-1/4	32	1-1/4	10
26500	2.40	60	2-23/64	35	1-3/8	10
26510	2.50	60	2-23/64	35	1-3/8	10
26520	2.60	64	2-1/2	37	1-29/64	10
26530	2.70	64	2-1/2	37	1-15/32	10
26540	2.80	67	2-5/8	38	1-1/2	10
26550	2.90	70	2-3/4	41	1-5/8	10
26560	3.00	70	2-3/4	41	1-5/8	10
26570	3.10	70	2-3/4	41	1-5/8	10
26580	3.20	70	2-3/4	41	1-5/8	10
26590	3.30	73	2-7/8	45	1-3/4	10
26600	3.40	73	2-7/8	45	1-3/4	10
26610	3.50	73	2-7/8	45	1-3/4	10
26620	3.60	76	3	48	1-7/8	10
26630	3.70	76	3	48	1-7/8	10
26640	3.80	76	3	48	1-7/8	10
26650	3.90	79	3-1/8	51	2	10
26660	4.00	83	3-1/4	54	2-1/8	10
26670	4.10	83	3-1/4	54	2-1/8	10
26680	4.20	83	3-1/4	54	2-1/8	10
26690	4.30	83	3-1/4	54	2-1/8	10
34570	4.40	86	3-3/8	56	2-13/64	10
26700	4.50	86	3-3/8	56	2-13/64	10
26710	4.60	86	3-3/8	56	2-13/64	10
26720	4.70	89	3-1/2	59	2-21/64	10
26730	4.80	89	3-1/2	59	2-21/64	10
26740	4.90	92	3-5/8	62	2-7/16	10
26750	5.00	92	3-5/8	62	2-7/16	10
33960	5.10	92	3-5/8	62	2-7/16	10
33970	5.20	95	3-3/4	64	2-1/2	10
33980	5.30	95	3-3/4	64	2-1/2	10
33990	5.40	95	3-3/4	64	2-1/2	10

Part No.	Diameter MM	Overall Length		Flute Length		Qty. per/pack
		MM	Inches	MM	Inches	
34000	5.50	95	3-3/4	64	2-1/2	10
34010	5.60	98	3-7/8	67	2-5/8	10
34020	5.70	98	3-7/8	67	2-5/8	10
34030	5.80	98	3-7/8	67	2-5/8	10
34040	5.90	98	3-7/8	67	2-5/8	10
34050	6.00	102	4	70	2-3/4	10
34060	6.10	102	4	70	2-3/4	10
34070	6.20	102	4	70	2-3/4	10
34080	6.30	102	4	70	2-3/4	10
34090	6.40	105	4-1/8	73	2-7/8	10
34100	6.50	105	4-1/8	73	2-7/8	10
34110	6.60	105	4-1/8	73	2-7/8	10
34120	6.70	105	4-1/8	73	2-7/8	10
34130	6.80	105	4-1/8	73	2-7/8	10
34140	6.90	105	4-1/8	73	2-7/8	10
34150	7.00	105	4-1/8	73	2-7/8	10
34160	7.10	108	4-1/4	75	2-61/64	10
34170	7.20	108	4-1/4	75	2-61/64	10
34180	7.30	108	4-1/4	75	2-61/64	10
34190	7.40	111	4-3/8	78	3	10
34200	7.50	111	4-3/8	78	3	5
34210	7.60	111	4-3/8	78	3	5
34220	7.70	114	4-1/2	81	3-3/16	5
34230	7.80	114	4-1/2	81	3-3/16	5
34240	7.90	114	4-1/2	81	3-3/16	5
34250	8.00	114	4-1/2	81	3-3/16	5
34260	8.10	117	4-9/16	84	3-5/16	5
34270	8.20	117	4-9/16	84	3-5/16	5
34280	8.30	117	4-9/16	84	3-5/16	5
34290	8.40	121	4-3/4	87	3-27/64	5
34300	8.50	121	4-3/4	87	3-27/64	5
34310	8.60	121	4-3/4	87	3-27/64	5
34320	8.70	121	4-3/4	87	3-27/64	5
34330	8.80	124	4-7/8	89	3-1/2	5
34320	8.90	124	4-7/8	89	3-1/2	5
34350	9.00	124	4-7/8	89	3-1/2	5
34360	9.10	124	4-7/8	89	3-1/2	5
34370	9.20	127	5	92	3-5/8	5
34380	9.30	127	5	92	3-5/8	5
34390	9.40	127	5	92	3-5/8	5
34400	9.50	127	5	92	3-5/8	5
34410	9.60	130	5-1/8	95	3-3/4	5
34420	9.70	130	5-1/8	95	3-3/4	5
34430	9.80	130	5-1/8	95	3-3/4	5
34450	10.00	130	5-1/8	95	3-3/4	5
34460	10.20	133	5-15/64	98	3-7/8	5
34461	10.30	133	5-15/64	98	3-7/8	5
34470	10.50	133	5-15/64	98	3-7/8	5
34480	10.80	140	5-1/2	103	4-1/16	5
34490	11.00	140	5-1/2	103	4-1/16	5
34500	11.20	143	5-5/8	106	4-7/32	5
34510	11.50	143	5-5/8	106	4-7/32	5
34520	11.80	146	5-3/4	110	4-11/32	5
34530	12.00	149	5-7/8	111	4-3/8	5
34540	12.20	149	5-7/8	111	4-3/8	5
34550	12.50	152	6	114	4-1/2	5
34580	12.70	152	6	114	4-1/2	5
34560	13.00	152	6	114	4-1/2	5

Metric, Jobber Length - M42 Cobalt

**METRIC DRILLS - M-42**

**Type XGT-J**

**Jobber Length - 135° Split Point**  
**M-42 Cobalt High-Speed Steel - DIN 338**

Gold surface treated for maximum lubricity. Heavy-duty construction, 135° split point, no center punch needed—will not walk. Gyroidal Torsion flute and land construction yields exceptional performance in deep hole drilling applications. Recommended for a wide range of steels, castings and other hard metal drilling applications. The cobalt steel is very abrasion and heat resistant. These drills will drill 12 diameters deep or more without drill removal to clear chips. Feed rates may be twice that of standard flute drills.



**METRIC**

Part No.	Dia. MM	Frac/Wire/Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
00200	1.00		41	1 5/8	17	11/16	10
00201	1.02	60	41	1 5/8	17	11/16	10
00202	1.04	59	41	1 5/8	17	11/16	10
00203	1.05		41	1 5/8	17	11/16	10
00204	1.07	58	41	1 5/8	17	11/16	10
00210	1.09	57	44	1 3/4	19	3/4	10
00211	1.10		44	1 3/4	19	3/4	10
00212	1.15		44	1 3/4	19	3/4	10
00213	1.18	56	44	1 3/4	19	3/4	10
00214	1.19	3/64	44	1 3/4	19	3/4	10
00220	1.20		48	1 7/8	22	7/8	10
00221	1.25		48	1 7/8	22	7/8	10
00222	1.30		48	1 7/8	22	7/8	10
00223	1.32	55	48	1 7/8	22	7/8	10
00224	1.35		48	1 7/8	22	7/8	10
00230	1.40	54	48	1 7/8	22	7/8	10
00232	1.45		48	1 7/8	22	7/8	10
00233	1.50		48	1 7/8	22	7/8	10
00234	1.51	53	48	1 7/8	22	7/8	10
00240	1.55		48	1 7/8	22	7/8	10
00241	1.59	1/16	48	1 7/8	22	7/8	10
00242	1.60		48	1 7/8	22	7/8	10
00243	1.61	52	48	1 7/8	22	7/8	10
00244	1.65		51	2	25	1	10
00250	1.70	51	51	2	25	1	10
00252	1.75		51	2	25	1	10
00253	1.78	50	51	2	25	1	10
00254	1.80		51	2	25	1	10
00260	1.85	49	51	2	25	1	10
00262	1.90		51	2	25	1	10
00263	1.93	48	51	2	25	1	10
00264	1.95		51	2	25	1	10
00270	1.98	5/64	51	2	25	1	10
00271	1.99	47	51	2	25	1	10
00272	2.00		51	2	25	1	10
00273	2.05		54	2 1/8	29	1 5/32	10
00274	2.06	46	54	2 1/8	29	1 5/32	10
00280	2.08	45	54	2 1/8	29	1 5/32	10
00281	2.10		54	2 1/8	29	1 5/32	10
00282	2.15		54	2 1/8	29	1 5/32	10
00283	2.18	44	54	2 1/8	29	1 5/32	10
00284	2.20		57	2 1/4	32	1 1/4	10
00290	2.25		57	2 1/4	32	1 1/4	10
00291	2.26	43	57	2 1/4	32	1 1/4	10
00292	2.30		57	2 1/4	32	1 1/4	10
00293	2.35		57	2 1/4	32	1 1/4	10
00294	2.37	42	57	2 1/4	30	1 3/16	10
00300	2.38	3/32	57	2 1/4	30	1 3/16	10
00301	2.40		57	2 1/4	30	1 3/16	10

**METRIC (CONTINUED)**

Part No.	Dia. MM	Frac/Wire/Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches	
00302	2.44	41	57	2 1/4	30	1 3/16	10
00303	2.45		57	2 1/4	30	1 3/16	10
00304	2.49	40	57	2 1/4	30	1 3/16	10
00310	2.50		57	2 1/4	30	1 3/16	10
00311	2.53	39	57	2 1/4	30	1 3/16	10
00231	2.55		57	2 1/4	30	1 3/16	10
00312	2.58	38	57	2 1/4	30	1 3/16	10
00313	2.60		57	2 1/4	30	1 3/16	10
00314	2.64	37	57	2 1/4	30	1 3/16	10
00251	2.65		57	2 1/4	30	1 3/16	10
00320	2.70		61	2 13/32	33	1 19/64	10
00321	2.71	36	61	2 13/32	33	1 19/64	10
00261	2.75		61	2 13/32	33	1 19/64	10
00322	2.78	7/64	61	2 13/32	33	1 19/64	10
00323	2.79	35	61	2 13/32	33	1 19/64	10
00324	2.80		61	2 13/32	33	1 19/64	10
00330	2.82	34	61	2 13/32	33	1 19/64	10
00360	2.85		61	2 13/32	33	1 19/64	10
00331	2.87	33	61	2 13/32	33	1 19/64	10
00332	2.90		61	2 13/32	33	1 19/64	10
00333	2.95	32	61	2 13/32	33	1 19/64	10
00334	3.00		61	2 13/32	33	1 19/64	10
00340	3.05	31	65	2 9/16	36	1 7/16	10
00341	3.10		65	2 9/16	36	1 7/16	10
00342	3.17	1/8	65	2 9/16	36	1 7/16	10
00343	3.20		65	2 9/16	36	1 7/16	10
00371	3.25		65	2 9/16	36	1 7/16	10
00344	3.26	30	65	2 9/16	36	1 7/16	10
00350	3.30		65	2 9/16	36	1 7/16	10
00351	3.40		70	2 3/4	39	1 17/32	10
00352	3.45	29	70	2 3/4	39	1 17/32	10
00353	3.50		70	2 3/4	39	1 17/32	10
00354	3.57	9/64-28	70	2 3/4	39	1 17/32	10
00361	3.60		70	2 3/4	39	1 17/32	10
00362	3.66	27	70	2 3/4	39	1 17/32	10
00363	3.70		70	2 3/4	39	1 17/32	10
00364	3.73	26	70	2 3/4	39	1 17/32	10
00370	3.80	25	75	2 15/16	43	1 11/16	10
00372	3.86	24	75	2 15/16	43	1 11/16	10
00373	3.90		75	2 15/16	43	1 11/16	10
00374	3.91	23	75	2 15/16	43	1 11/16	10
00380	3.97	5/32	75	2 15/16	43	1 11/16	10
00381	3.99	22	75	2 15/16	43	1 11/16	10
00382	4.00		75	2 15/16	43	1 11/16	10
00383	4.04	21	75	2 15/16	43	1 11/16	10
00384	4.09	20	75	2 15/16	43	1 11/16	10
00390	4.10		75	2 15/16	43	1 11/16	10
00391	4.15		75	2 15/16	43	1 11/16	10
00392	4.20		75	2 15/16	43	1 11/16	10
00393	4.22	19	75	2 15/16	43	1 11/16	10
00480	4.25		75	2 15/16	43	1 11/16	10
00394	4.30		80	3 5/32	47	1 27/32	10
00680	4.31	18	80	3 5/32	47	1 27/32	10
00400	4.37	11/64	80	3 5/32	47	1 27/32	10
00401	4.39	17	80	3 5/32	47	1 27/32	10
00402	4.40		80	3 5/32	47	1 27/32	10
00403	4.50	16	80	3 5/32	47	1 27/32	10
00404	4.55		80	3 5/32	47	1 27/32	10
00410	4.57	15	80	3 5/32	47	1 27/32	10
00411	4.60		80	3 5/32	47	1 27/32	10
00412	4.62	14	80	3 5/32	47	1 27/32	10
00413	4.70	13	80	3 5/32	47	1 27/32	10
00414	4.75		80	3 5/32	47	1 27/32	10
00420	4.76	3/16	86	3 3/8	52	2 1/16	10
00421	4.80	12	86	3 3/8	52	2 1/16	10
00423	4.85	11	86	3 3/8	52	2 1/16	10
00424	4.90		86	3 3/8	52	2 1/16	10

Metric sizes continued on page 43

## METRIC DRILLS - M-42

### Type XGT-J

Jobber Length - 135° Split Point

Cobalt High-Speed Steel - DIN 338



### METRIC

Part No.	Dia. MM	Frac/Wire/Letter	Overall Length		Flute Length		Qty. per/pack	Part No.	Dia. MM	Frac/Wire/Letter	Overall Length		Flute Length		Qty. per/pack
			MM	Inches	MM	Inches					MM	Inches	MM	Inches	
00430	4.91	10	86	3 3/8	52	2 1/16	10	00560	8.10	P	117	4 19/32	75	2 15/16	5
00431	4.98	9	86	3 3/8	52	2 1/16	10	00561	8.20		117	4 19/32	75	2 15/16	5
00432	5.00		86	3 3/8	52	2 1/16	10	00562	8.30		117	4 19/32	75	2 15/16	5
00433	5.05	8	86	3 3/8	52	2 1/16	10	00563	8.33	21/64	117	4 19/32	75	2 15/16	5
00434	5.10		86	3 3/8	52	2 1/16	10	00564	8.40		117	4 19/32	75	2 15/16	5
00440	5.11	7	86	3 3/8	52	2 1/16	10	00570	8.43	Q	117	4 19/32	75	2 15/16	5
00441	5.16	13/64	86	3 3/8	52	2 1/16	10	00571	8.50		117	4 19/32	75	2 15/16	5
00442	5.18	6	86	3 3/8	52	2 1/16	10	00572	8.60	R	125	4 29/32	81	3 3/16	5
00443	5.20		86	3 3/8	52	2 1/16	10	00573	8.70		125	4 29/32	81	3 3/16	5
00444	5.22	5	86	3 3/8	52	2 1/16	10	00574	8.73	11/32	125	4 29/32	81	3 3/16	5
00481	5.25		86	3 3/8	52	2 7/32	10	00580	8.80		125	4 29/32	81	3 3/16	5
00450	5.30		93	3 21/32	57	2 7/32	10	00581	8.84	S	125	4 29/32	81	3 3/16	5
00451	5.31	4	93	3 21/32	57	2 7/32	10	00582	8.90		125	4 29/32	81	3 3/16	5
00452	5.40		93	3 21/32	57	2 7/32	10	00583	9.00		125	4 29/32	81	3 3/16	5
00453	5.41	3	93	3 21/32	57	2 7/32	10	00584	9.10	T	125	4 29/32	81	3 3/16	5
00454	5.50		93	3 21/32	57	2 7/32	10	00590	9.13	23/64	125	4 29/32	81	3 3/16	5
00460	5.56	7/32	93	3 21/32	57	2 7/32	10	00591	9.20		125	4 29/32	81	3 3/16	5
00461	5.60		93	3 21/32	57	2 7/32	10	00592	9.30		125	4 29/32	81	3 3/16	5
00462	5.61	2	93	3 21/32	57	2 7/32	10	00593	9.35	U	125	4 29/32	81	3 3/16	5
00463	5.70		93	3 21/32	57	2 7/32	10	00594	9.40		125	4 29/32	81	3 3/16	5
00482	5.75		93	3 21/32	57	2 7/32	10	00600	9.50		125	4 29/32	81	3 3/16	5
00464	5.79	1	93	3 21/32	57	2 7/32	10	00601	9.52	3/8	133	5 1/4	87	3 7/16	5
00470	5.80		93	3 21/32	57	2 7/32	10	00602	9.58	V	133	5 1/4	87	3 7/16	5
00471	5.90		93	3 21/32	57	2 7/32	10	00603	9.60		133	5 1/4	87	3 7/16	5
00472	5.94	A	93	3 21/32	57	2 7/32	10	00604	9.70		133	5 1/4	87	3 7/16	5
00473	5.95	15/64	93	3 21/32	57	2 7/32	10	00610	9.80	W	133	5 1/4	87	3 7/16	5
00474	6.00		93	3 21/32	57	2 7/32	10	00611	9.90		133	5 1/4	87	3 7/16	5
00483	6.05	B	101	3 31/32	63	2 15/32	10	00612	9.92	25/64	133	5 1/4	87	3 7/16	5
00484	6.10		101	3 31/32	63	2 15/32	10	00613	10.00		133	5 1/4	87	3 7/16	5
00490	6.15	C	101	3 31/32	63	2 15/32	10	00614	10.08	X	133	5 1/4	87	3 7/16	5
00491	6.20		101	3 31/32	63	2 15/32	10	00620	10.10		133	5 1/4	87	3 7/16	5
00492	6.25	D	101	3 31/32	63	2 15/32	10	00621	10.20		133	5 1/4	87	3 7/16	5
00493	6.30		101	3 31/32	63	2 15/32	10	00622	10.26	Y	133	5 1/4	87	3 7/16	5
00494	6.35	1/4-E	101	3 31/32	63	2 15/32	10	00623	10.30		133	5 1/4	87	3 7/16	5
00500	6.40		101	3 31/32	63	2 15/32	10	00624	10.32	13/32	133	5 1/4	87	3 7/16	5
00501	6.50		101	3 31/32	63	2 15/32	10	00630	10.40		133	5 1/4	87	3 7/16	5
00502	6.53	F	101	3 31/32	63	2 15/32	10	00631	10.50	Z	133	5 1/4	87	3 7/16	5
00503	6.60		101	3 31/32	63	2 15/32	10	00632	10.60		133	5 1/4	87	3 7/16	5
00504	6.63	G	101	3 31/32	63	2 15/32	10	00633	10.70		142	5 19/32	94	3 11/16	5
00510	6.70		101	3 31/32	63	2 15/32	10	00634	10.72	27/64	142	5 19/32	94	3 11/16	5
00511	6.75	17/64-H	109	4 9/32	69	2 23/32	10	00640	10.80		142	5 19/32	94	3 11/16	5
00513	6.80		109	4 9/32	69	2 23/32	10	00641	10.90		142	5 19/32	94	3 11/16	5
00514	6.90	I	109	4 9/32	69	2 23/32	10	00642	11.00		142	5 19/32	94	3 11/16	5
00520	7.00		109	4 9/32	69	2 23/32	10	00643	11.10		142	5 19/32	94	3 11/16	5
00521	7.04	J	109	4 9/32	69	2 23/32	10	00644	11.11	7/16	142	5 19/32	94	3 11/16	5
00522	7.10		109	4 9/32	69	2 23/32	10	00650	11.20		142	5 19/32	94	3 11/16	5
00524	7.14	9/32-K	109	4 9/32	69	2 23/32	10	00651	11.30		142	5 19/32	94	3 11/16	5
00530	7.20		109	4 9/32	69	2 23/32	10	00652	11.40		142	5 19/32	94	3 11/16	5
00531	7.30		109	4 9/32	69	2 23/32	10	00653	11.50		142	5 19/32	94	3 11/16	5
00532	7.37	L	109	4 9/32	69	2 23/32	10	00654	11.51	29/64	142	5 19/32	94	3 11/16	5
00533	7.40		109	4 9/32	69	2 23/32	10	00660	11.60		142	5 19/32	94	3 11/16	5
00540	7.50	M	109	4 9/32	69	2 23/32	5	00661	11.70		142	5 19/32	94	3 11/16	5
00541	7.54	19/64	117	4 19/32	75	2 15/16	5	00662	11.75		142	5 19/32	94	3 11/16	5
00542	7.60		117	4 19/32	75	2 15/16	5	00663	11.80		142	5 19/32	94	3 11/16	5
00543	7.67	N	117	4 19/32	75	2 15/16	5	00664	11.91	15/32	151	5 15/16	101	3 31/32	5
00544	7.70		117	4 19/32	75	2 15/16	5	00670	12.00		151	5 15/16	101	3 31/32	5
00550	7.80		117	4 19/32	75	2 15/16	5	00671	12.30	31/64	151	5 15/16	101	3 31/32	5
00551	7.90		117	4 19/32	75	2 15/16	5	00672	12.50		151	5 15/16	101	3 31/32	5
00552	7.94	5/16	117	4 19/32	75	2 15/16	5	00673	12.70	1/2	151	5 15/16	101	3 31/32	5
00553	8.00	O	117	4 19/32	75	2 15/16	5	00674	13.00		151	5 15/16	101	3 31/32	5
00554	8.03		117	4 19/32	75	2 15/16	5								



**TAPER SHANK DRILLS - HIGH SPEED**

**Type 510**

**High-Speed Steel Taper Shank**

**Regular Shank - Surface Treated**

Taper shank drills are made to fit tapered holders. They are designed to perform well under a wide variety of conditions in a wide range of materials. Packaged individually.



**FRACTIONAL**

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
14150	1/8	.1250	1	5-1/8	1-7/8
14160	9/64	.1406	1	5-3/8	2-1/8
14170	5/32	.1562	1	5-3/8	2-1/8
14180	11/64	.1719	1	5-3/4	2-1/2
14190	3/16	.1875	1	5-3/4	2-1/2
14200	13/64	.2031	1	6	2-3/4
14210	7/32	.2188	1	6	2-3/4
14220	15/64	.2344	1	6-1/8	2-7/8
14230	1/4	.2500	1	6-1/8	2-7/8
14240	17/64	.2656	1	6-1/4	3
14250	9/32	.2812	1	6-1/4	3
14260	19/64	.2969	1	6-3/8	3-1/8
14270	5/16	.3125	1	6-3/8	3-1/8
14280	21/64	.3281	1	6-1/2	3-1/4
14290	11/32	.3438	1	6-1/2	3-1/4
14300	23/64	.3594	1	6-3/4	3-1/2
14310	3/8	.3750	1	6-3/4	3-1/2
14320	25/64	.3906	1	7	3-5/8
14330	13/32	.4062	1	7	3-5/8
14340	27/64	.4219	1	7-1/4	3-7/8
14350	7/16	.4375	1	7-1/4	3-7/8
14360	29/64	.4531	1	7-1/2	4-1/8
14370	15/32	.4688	1	7-1/2	4-1/8
14380	31/64	.4844	2	8-1/4	4-3/8
14390	1/2	.5000	2	8-1/4	4-3/8
14400	33/64	.5156	2	8-1/2	4-5/8
14410	17/32	.5312	2	8-1/2	4-5/8
14420	35/64	.5469	2	8-3/4	4-7/8
14430	9/16	.5625	2	8-3/4	4-7/8
14440	37/64	.5781	2	8-3/4	4-7/8
14450	19/32	.5938	2	8-3/4	4-7/8
14460	39/64	.6094	2	8-3/4	4-7/8
14470	5/8	.6250	2	8-3/4	4-7/8
14480	41/64	.6406	2	9	5-1/8
14490	21/32	.6562	2	9	5-1/8
14500	43/64	.6719	2	9-1/4	5-3/8
14510	11/16	.6875	2	9-1/4	5-3/8
14520	45/64	.7031	2	9-1/2	5-5/8
14530	23/32	.7188	2	9-1/2	5-5/8
14540	47/64	.7344	2	9-3/4	5-7/8
14550	3/4	.7500	2	9-3/4	5-7/8
14560	49/64	.7656	2	9-7/8	6
14570	25/32	.7812	2	9-7/8	6
14580	51/64	.7969	3	10-3/4	6-1/8
14590	13/16	.8125	3	10-3/4	6-1/8
14600	53/64	.8281	3	10-3/4	6-1/8
14610	27/32	.8438	3	10-3/4	6-1/8
14620	55/64	.8591	3	10-3/4	6-1/8
14630	7/8	.8750	3	10-3/4	6-1/8
14640	57/64	.8906	3	10-3/4	6-1/8
14650	29/32	.9062	3	10-3/4	6-1/8
14660	59/64	.9219	3	10-3/4	6-1/8
14670	15/16	.9375	3	10-3/4	6-1/8
14680	61/64	.9531	3	11	6-3/8
14690	31/32	.9688	3	11	6-3/8
14700	63/64	.9844	3	11	6-3/8

**Taper Shank Drills**

**FRACTIONAL (CONTINUED)**

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
14710	1"	1.0000	3	11	6-3/8
14720	1-1/64	1.0156	3	11-1/8	6-1/2
14730	1-1/32	1.0312	3	11-1/8	6-1/2
14740	1-3/64	1.0469	3	11-1/4	6-5/8
14750	1-1/16	1.0625	3	11-1/4	6-5/8
14760	1-5/64	1.0781	4	12-1/2	6-7/8
14770	1-3/32	1.0938	4	12-1/2	6-7/8
14780	1-7/64	1.1094	4	12-3/4	7-1/8
14790	1-1/8	1.1250	4	12-3/4	7-1/8
14800	1-9/64	1.1406	4	12-7/8	7-1/4
14810	1-5/32	1.1562	4	12-7/8	7-1/4
14820	1-11/64	1.1719	4	13	7-3/8
14830	1-3/16	1.1875	4	13	7-3/8
14840	1-13/64	1.2031	4	13-1/8	7-1/2
14850	1-7/32	1.2188	4	13-1/8	7-1/2
14860	1-15/64	1.2344	4	13-1/2	7-7/8
14870	1-1/4	1.2500	4	13-1/2	7-7/8
14880	1-17/64	1.2656	4	14-1/8	8-1/2
14890	1-9/32	1.2812	4	14-1/8	8-1/2
14900	1-19/64	1.2969	4	14-1/4	8-5/8
14910	1-5/16	1.3125	4	14-1/4	8-5/8
14920	1-21/64	1.3281	4	14-3/8	8-3/4
14930	1-11/32	1.3438	4	14-3/8	8-3/4
14940	1-23/64	1.3594	4	14-1/2	8-7/8
14950	1-3/8	1.3750	4	14-1/2	8-7/8
14960	1-25/64	1.3906	4	14-5/8	9
14970	1-13/32	1.4062	4	14-5/8	9
14980	1-27/64	1.4219	4	14-3/4	9-1/8
14990	1-7/16	1.4375	4	14-3/4	9-1/8
15000	1-29/64	1.4531	4	14-7/8	9-1/4
15010	1-15/32	1.4688	4	14-7/8	9-1/4
15020	1-31/64	1.4844	4	15	9-3/8
15030	1-1/2	1.5000	4	15	9-3/8
15040	1-17/32	1.5312	5	16-3/8	9-3/8
15050	1-9/16	1.5625	5	16-5/8	9-5/8
15060	1-19/32	1.5938	5	16-7/8	9-7/8
15070	1-5/8	1.6250	5	17	10
15080	1-21/32	1.6562	5	17-1/8	10-1/8
15090	1-11/16	1.6875	5	17-1/8	10-1/8
15100	1-23/32	1.7188	5	17-1/8	10-1/8
15110	1-3/4	1.7500	5	17-1/8	10-1/8
15120	1-25/32	1.7812	5	17-1/8	10-1/8
15130	1-13/16	1.8125	5	17-1/8	10-1/8
15140	1-27/32	1.8438	5	17-1/8	10-1/8
15150	1-7/8	1.8750	5	17-3/8	10-3/8
15160	1-29/32	1.9062	5	17-3/8	10-3/8
15170	1-15/16	1.9375	5	17-3/8	10-3/8
15180	1-31/32	1.9688	5	17-3/8	10-3/8
15190	2"	2.0000	5	17-3/8	10-3/8
15200	2-1/32	2.0312	5	17-3/8	10-3/8
15210	2-1/16	2.0625	5	17-3/8	10-1/4
15220	2-3/32	2.0938	5	17-3/8	10-1/4
15230	2-1/8	2.1250	5	17-3/8	10-1/4
15240	2-5/32	2.1562	5	17-3/8	10-1/4
15250	2-3/16	2.1875	5	17-3/8	10-1/4
15260	2-7/32	2.2188	5	17-3/8	10-1/8
15270	2-1/4	2.2500	5	17-3/8	10-1/8
15280	2-5/16	2.3125	5	17-3/8	10-1/8
15290	2-3/8	2.3750	5	17-3/8	10-1/8
15300	2-7/16	2.4375	5	18-3/4	11-1/4
15310	2-1/2	2.5000	5	18-3/4	11-1/4
15320	2-9/16	2.5625	5	19-1/2	11-7/8
15330	2-5/8	2.6250	5	19-1/2	11-7/8
15340	2-11/16	2.6875	5	20-3/8	12-3/4
15350	2-3/4	2.7500	5	20-3/8	12-3/4
15360	2-13/16	2.8125	5	21-1/8	13-3/8
15370	2-7/8	2.8750	5	21-1/8	13-3/8
15380	2-15/16	2.9375	5	21-3/4	14
15390	3"	3.0000	5	21-3/4	14

Letter sizes continued on page 45.

Proudly Manufactured in the U.S.A.

# Taper Shank Drills

## TAPER SHANK DRILLS - HSS REGULAR SHANK

### Type 510 (continued)

HSS, Regular Shank - Surface Treated

#### LETTER

Part No.	Letter Size	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
15700	A	.234	1	6-1/8	2-7/8
15710	B	.238	1	6-1/8	2-7/8
15720	C	.242	1	6-1/8	2-7/8
15730	D	.246	1	6-1/8	2-7/8
15740	E	.250	1	6-1/8	2-7/8
15750	F	.257	1	6-1/4	3
15760	G	.261	1	6-1/4	3
15770	H	.266	1	6-1/4	3
15780	I	.272	1	6-1/4	3
15790	J	.277	1	6-1/4	3
15800	K	.281	1	6-1/4	3
15810	L	.290	1	6-3/8	3-1/8
15820	M	.295	1	6-3/8	3-1/8
15830	N	.302	1	6-3/8	3-1/8
15840	O	.316	1	6-1/2	3-1/4
15850	P	.323	1	6-1/2	3-1/4
15860	Q	.332	1	6-1/2	3-1/4
15870	R	.339	1	6-1/2	3-1/4
15880	S	.348	1	6-3/4	3-1/2
15890	T	.358	1	6-3/4	3-1/2
15900	U	.368	1	6-3/4	3-1/2
15910	V	.377	1	7	3-5/8
15920	W	.386	1	7	3-5/8
15930	X	.397	1	7	3-5/8
15940	Y	.404	1	7	3-5/8
15950	Z	.413	1	7-1/4	3-7/8

### Type 520

High-Speed Steel Taper Shank -

Shank Larger than Regular-Surface Treated

Taper shank drills are made to fit tapered holders. They are designed to perform well under a variety of normal conditions in a wide range of materials. Packaged individually.



#### FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
15450	3/8	.3750	2	7-3/8	3-1/2
15460	25/64	.3906	2	7-1/2	3-5/8
15470	13/32	.4062	2	7-1/2	3-5/8
15480	27/64	.4219	2	7-3/4	3-7/8
15490	7/16	.4375	2	7-3/4	3-7/8
15500	29/64	.4531	2	8	4-1/8
15510	15/32	.4688	2	8	4-1/8
15520	41/64	.6406	3	9-3/4	5-1/8
15530	21/32	.6262	3	9-3/4	5-1/8
15540	43/64	.6719	3	10	5-3/8
15550	11/16	.6875	3	10	5-3/8
15560	45/64	.7031	3	10-1/4	5-5/8
15570	23/32	.7188	3	10-1/4	5-5/8
15580	47/64	.7344	3	10-1/2	5-7/8
15590	3/4	.7500	3	10-1/2	5-7/8
15600	49/64	.7656	3	10-5/8	6
15610	25/32	.7812	3	10-5/8	6
15620	1"	1.0000	4	12	6-3/8
15630	1-1/32	1.0312	4	12-1/8	6-1/2
15640	1-1/16	1.0625	4	12-1/4	6-5/8

### Type 500

High-Speed Steel Taper Shank -

Shank Smaller than Regular - Surface Treated

Taper shank drills are made to fit tapered holders. They are designed to perform well under a variety of normal conditions in a wide range of materials. Packaged individually.



#### FRACTIONAL

Part No.	Diameter Inches	Decimal Equivalent Inches	Taper Shank	Overall Length Inches	Flute Length Inches
16050	31/64	.4844	1	7-3/4	4-3/8
16060	1/2	.5000	1	7-3/4	4-3/8
16070	33/64	.5156	1	8	4-5/8
16080	17/32	.5312	1	8	4-5/8
16090	35/64	.5469	1	8-1/4	4-7/8
16100	9/16	.5625	1	8-1/4	4-7/8
16110	51/64	.7969	2	10	6-1/8
16120	13/16	.8125	2	10	6-1/8
16130	53/64	.8281	2	10	6-1/8
16140	27/32	.8438	2	10	6-1/8
16150	55/64	.8594	2	10	6-1/8
16160	7/8	.8750	2	10	6-1/8
16170	57/64	.8906	2	10	6-1/8
16180	29/32	.9062	2	10	6-1/8
16190	1-5/64	1.0781	3	11-1/2	6-7/8
16200	1-3/32	1.0938	3	11-1/2	6-7/8
16210	1-7/64	1.1094	3	11-3/4	7-1/8
16220	1-1/8	1.1250	3	11-3/4	7-1/8
16230	1-9/64	1.1406	3	11-7/8	7-1/4
16240	1-5/32	1.1562	3	11-7/8	7-1/4
16250	1-11/64	1.1719	3	12	7-3/8
16260	1-3/16	1.1875	3	12	7-3/8
16270	1-13/64	1.2031	3	12-1/8	7-1/2
16280	1-7/32	1.2188	3	12-1/8	7-1/2
16290	1-15/64	1.2344	3	12-1/2	7-7/8
16300	1-1/4	1.2500	3	12-1/2	7-7/8
16320	1-17/32	1.5312	4	15	9-3/8
16340	1-9/16	1.5625	4	15-1/4	9-5/8
16360	1-19/32	1.5938	4	15-1/2	9-7/8
16380	1-5/8	1.6250	4	15-5/8	10
16400	1-21/32	1.6562	4	15-3/4	10-1/8
16420	1-11/16	1.6875	4	15-3/4	10-1/8
16440	1-23/32	1.7188	4	15-3/4	10-1/8
16460	1-3/4	1.7500	4	16-1/4	10-3/8
16470	1-25/32	1.7812	4	16-1/4	10-3/8
16480	1-13/16	1.8125	4	16-1/4	10-3/8
16490	1-27/32	1.8438	4	16-1/4	10-3/8
16500	1-7/8	1.8750	4	16-1/2	10-1/2
16510	1-29/32	1.9062	4	16-1/2	10-1/2
16520	1-15/16	1.9375	4	16-5/8	10-5/8
16530	1-31/32	1.9688	4	16-5/8	10-5/8
16540	2"	2.0000	4	16-5/8	10-5/8

Taper Shank - HSS, Regular Shank, Smaller than Regular & Larger than Regular

# Drill Blanks

## DRILL BLANKS - JOBBER LENGTH

### Type 240-DB



### Jobbers Length

### Hardened and Ground - Brite Finish

Fully hardened drill blanks are used as hole size and bushing gauges. They may also be used as guide pins for die sets.

Tolerances: +.0000 -.0005 thru 1/4" +.0000 -.0007 over 1/4"

### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
02769	1/32	1-3/8	12
02779	3/64	1-3/4	12
02789	1/16	1-7/8	12
02799	5/64	2	12
02809	3/32	2-1/4	12
02819	7/64	2-5/8	12
02829	1/8	2-3/4	12
02839	9/64	2-7/8	12
02849	5/32	3-1/8	12
02859	11/64	3-1/4	12
02869	3/16	3-1/2	12
02879	13/64	3-5/8	12
02889	7/32	3-3/4	12
02899	15/64	3-7/8	12
02909	1/4	4	12
16919	17/64	4-1/8	12
16929	9/32	4-1/4	12
16939	19/64	4-3/8	6
16949	5/16	4-1/2	6
16959	21/64	4-5/8	6
16969	11/32	4-3/4	6
16979	23/64	4-7/8	6
16989	3/8	5	6
16999	25/64	5-1/8	6
17009	13/32	5-1/4	6
17019	27/64	5-3/8	6
17029	7/16	5-1/2	6
17039	29/64	5-5/8	6
17049	15/32	5-3/4	6
17059	31/64	5-7/8	6
17069	1/2	6	6

### LETTER

Part No.	Letter Sizes	Qty. per/pack
02419	A	12
02429	B	12
02439	C	12
02449	D	12
02459	E	12
02469	F	12
02479	G	12
02489	H	12
02499	I	12
02509	J	12
02519	K	12
02529	L	12
02539	M	6
02549	N	6
02559	O	6
02569	P	6
02579	Q	6
02589	R	6
02599	S	6
02609	T	6
02619	U	6
02629	V	6
02639	W	6
02649	X	6
02659	Y	6
26960	Z	6

### WIRE

Part No.	Wire Sizes	Overall Length Inches	Qty. per/pack
03199	1	3-7/8	12
03209	2	3-7/8	12
03219	3	3-3/4	12
03229	4	3-3/4	12
03239	5	3-3/4	12
03249	6	3-3/4	12
03259	7	3-5/8	12
03269	8	3-5/8	12
03279	9	3-5/8	12
03289	10	3-5/8	12
03299	11	3-1/2	12
03309	12	3-1/2	12
03319	13	3-1/2	12
03329	14	3-3/8	12
03339	15	3-3/8	12
03349	16	3-3/8	12
03359	17	3-3/8	12
03369	18	3-1/4	12
03379	19	3-1/4	12
03389	20	3-1/4	12
03399	21	3-1/4	12
03409	22	3-1/8	12
03419	23	3-1/8	12
03429	24	3-1/8	12
03439	25	3	12
03449	26	3	12
03459	27	3	12
03469	28	2-7/8	12
03479	29	2-7/8	12
03489	30	2-3/4	12
03499	31	2-3/4	12
03509	32	2-3/4	12
03519	33	2-5/8	12
03529	34	2-5/8	12
03539	35	2-5/8	12
03549	36	2-1/2	12
03559	37	2-1/2	12
03569	38	2-1/2	12
03579	39	2-3/8	12
03589	40	2-3/8	12
03599	41	2-3/8	12
03609	42	2-1/4	12
03619	43	2-1/4	12
03629	44	2-1/8	12
03639	45	2-1/8	12
03649	46	2-1/8	12
03659	47	2	12
03669	48	2	12
03679	49	2	12
03689	50	2	12
03699	51	2	12
03709	52	1-7/8	12
03719	53	1-7/8	12
03729	54	1-7/8	12
03739	55	1-7/8	12
03749	56	1-3/4	12
03759	57	1-3/4	12
03769	58	1-5/8	12
03779	59	1-5/8	12
03789	60	1-5/8	12
03799	61	1-5/8	12
03809	62	1-1/2	12
03819	63	1-1/2	12
03829	64	1-1/2	12
03839	65	1-1/2	12
03849	66	1-3/8	12
03859	67	1-3/8	12
03869	68	1-3/8	12
03879	69	1-3/8	12
03889	70	1-1/4	12
03899	71	1-1/4	12
03919	72	1-1/8	12
03929	73	1-1/8	12
03939	74	1	12
03949	75	1	12
03959	76	7/8	12
03969	77	7/8	12
03979	78	7/8	12
03989	79	3/4	12
03999	80	3/4	12

# Decimal Equivalent & Tap Drill Sizes Charts

Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal
00.10	.0039	54	.0550	25	.1495	H	.2660	29/64	.4531
97	.0059	01.40	.0551	03.80	.1496	06.80	.2677	11.80	.4646
96	.0063	01.45	.0571	24	.1520	06.90	.2717	15/32	.4688
95	.0067	01.50	.0591	03.90	.1535	I	.2720	12.00	.4724
94	.0071	53	.0595	23	.1540	07.00	.2756	12.20	.4803
93	.0075	01.55	.0610	5/32	.1562	J	.2770	31/64	.4844
92	.0079	1/16	.0625	22	.1570	07.10	.2795	12.50	.4921
00.20	.0079	01.60	.0630	04.00	.1575	K	.2810	1/2	.5000
91	.0083	52	.0635	21	.1590	9/32	.2812	13.00	.5118
90	.0087	01.65	.0650	20	.1610	07.20	.2835	33/64	.5156
89	.0091	01.70	.0669	04.10	.1614	07.30	.2874	17/32	.5312
88	.0095	51	.0670	04.20	.1654	L	.2900	13.50	.5315
87	.0100	01.75	.0689	19	.1660	07.40	.2913	35/64	.5469
86	.0105	50	.0700	04.30	.1693	M	.2950	14.00	.5512
85	.0110	01.80	.0709	18	.1695	07.50	.2953	9/16	.5625
84	.0115	01.85	.0728	11/64	.1719	19/64	.2969	14.50	.5709
00.30	.0118	49	.0730	17	.1730	07.60	.2992	37/64	.5781
83	.0120	01.90	.0748	04.40	.1732	N	.3020	15.00	.5906
82	.0125	48	.0760	16	.1770	07.70	.3031	19/32	.5938
81	.0130	01.95	.0768	04.50	.1772	07.80	.3071	39/64	.6094
80	.0135	5/64	.0781	15	.1800	07.90	.3110	15.50	.6102
00.35	.0138	47	.0785	04.60	.1811	5/16	.3125	5/8	.6250
79	.0145	02.00	.0787	14	.1820	08.00	.3150	16.00	.6299
1/64	.0156	02.05	.0807	13	.1850	O	.3160	41/64	.6406
00.40	.0157	46	.0810	04.70	.1850	08.10	.3189	16.50	.6496
78	.0160	45	.0820	3/16	.1875	08.20	.3228	21/32	.6562
00.45	.0177	02.10	.0827	12	.1890	P	.3230	17.00	.6693
77	.0180	02.15	.0846	04.80	.1890	08.30	.3268	43/64	.6719
00.50	.0197	44	.0860	11	.1910	21/64	.3281	11/16	.6875
76	.0200	02.20	.0866	04.90	.1929	08.40	.3307	17.50	.6890
75	.0210	02.25	.0886	10	.1935	Q	.3320	45/64	.7031
00.55	.0217	43	.0890	9	.1960	08.50	.3346	18.00	.7087
74	.0225	02.30	.0906	05.00	.1969	08.60	.3386	23/32	.7188
00.60	.0236	02.35	.0925	8	.1990	R	.3390	18.50	.7283
73	.0240	42	.0935	05.10	.2008	08.70	.3425	47/64	.7344
72	.0250	3/32	.0938	7	.2010	11/32	.3438	19.00	.7480
00.65	.0256	02.40	.0945	13/64	.2031	08.80	.3465	3/4	.7500
71	.0260	41	.0960	6	.2040	S	.3480	49/64	.7656
00.70	.0276	02.45	.0965	05.20	.2047	08.90	.3504	19.50	.7677
70	.0280	40	.0980	5	.2055	09.00	.3543	25/32	.7812
69	.0292	02.50	.0984	05.30	.2087	T	.3580	20.00	.7874
00.75	.0295	39	.0995	4	.2090	09.10	.3583	51/64	.7969
68	.0310	38	.1015	05.40	.2126	23/64	.3594	20.50	.8071
1/32	.0312	02.60	.1024	3	.2130	09.20	.3622	13/16	.8125
00.80	.0315	37	.1040	05.50	.2165	09.30	.3661	21.00	.8268
67	.0320	02.70	.1063	7/32	.2188	U	.3680	53/64	.8281
66	.0330	36	.1065	05.60	.2205	09.40	.3701	27/32	.8438
00.85	.0335	7/64	.1094	2	.2210	09.50	.3740	21.50	.8465
65	.0350	35	.1100	05.70	.2244	3/8	.3750	55/64	.8594
00.90	.0354	02.80	.1102	1	.2280	V	.3770	22.00	.8661
64	.0360	34	.1110	05.80	.2283	09.60	.3780	7/8	.8750
63	.0370	33	.1130	05.90	.2323	09.70	.3819	22.50	.8858
00.95	.0374	02.90	.1142	A	.2340	09.80	.3858	57/64	.8906
62	.0380	32	.1160	15/64	.2344	W	.3860	23.00	.9055
61	.0390	03.00	.1181	06.00	.2362	09.90	.3898	29/32	.9062
01.00	.0394	31	.1200	B	.2380	25/64	.3906	59/64	.9219
60	.0400	03.10	.1220	06.10	.2402	10.00	.3937	23.50	.9252
59	.0410	1/8	.1250	C	.2420	X	.3970	15/16	.9375
01.05	.0413	03.20	.1260	06.20	.2441	10.20	.4016	24.00	.9449
58	.0420	30	.1285	D	.2460	Y	.4040	61/64	.9531
57	.0430	03.30	.1299	06.30	.2480	10.30	.4055	24.50	.9646
01.10	.0433	03.40	.1339	1/4	.2500	13/32	.4062	31/32	.9688
01.15	.0453	29	.1360	E	.2500	Z	.4130	25.00	.9843
56	.0465	03.50	.1378	06.40	.2520	10.50	.4134	63/64	.9844
3/64	.0469	28	.1405	06.50	.2559	27/64	.4219	1	1.0000
01.20	.0472	9/64	.1406	F	.2570	10.80	.4252		
01.25	.0492	03.60	.1417	06.60	.2598	11.00	.4331		
01.30	.0512	27	.1440	G	.2610	7/16	.4375		
55	.0520	03.70	.1457	06.70	.2638	11.20	.4409		
01.35	.0531	26	.1470	17/64	.2656	11.50	.4528		

TAP DRILL SIZES							
Thread	Drill	Thread	Drill	Thread	Drill	Thread	Drill
0-80	3/64	6-32	36	M8.0-1.25	H	M16-2	14.0M
M1.6-.35	1.25M	6-40	33	5/16-24	I	5/8-11	17/32
1-64	54	M3.5-.6	2.90M	M8.0-1	7.0M	M16-1.5	14.5M
M1.8-.35	1.45M	M4.0-.7	3.30M	3/8-16	5/16	5/8-18	37/64
1-72	53	8-32	29	3/8-24	Q	M18-2.5	15.5M
M2.0-.4	1.60M	8-36	29	M10-1.5	8.5M	M18-1.5	16.5M
2-56	51	M4.5-.75	26	M10-1.25	11/32	3/4-10	21/32
M2.2-.45	1.75M	10-24	25	7/16-14	U	3/4-16	11/16
2-64	50	10-32	21	7/16-20	25/64	M20-2.5	17.5M
3-48	47	M5.0-.8	4.20M	M12-1.75	Y	M20-1.5	18.5M
M2.5-.45	2.05M	12-24	16	1/2-13	27/64	7/8-9	49/64
3-56	45	12-28	14	M12-1.25	10.8M	M22-2.5	19.5M
4-40	43	M6.0-1	5.0M	1/2-20	29/64	M22-1.5	20.5M
4-48	42	1/4-20	7	M14-2	12.0M	7/8-14	13/16
M3.0-.5	2.50M	1/4-28	3	9/16-12	31/64	M24-3	21.0M
5-40	38	M7.0-1	6.0M	M14-1.5	12.5M	M24-2	22.0M
5-44	37	5/16-18	F	9/16-18	33/64	1-8	7/8
						1-12	59/64
						1-14	15/16

## DRILL FEEDS & SPEEDS

Different drilling conditions make it impossible to develop any rigid rules for feeds and speeds. The following tables contain guidelines which can be utilized when drilling standard materials. Also, the following "rules of thumb" can be used to determine proper feeds and speeds for drilling ferrous materials (note: varying conditions can easily require adjustments).

Feed equals .001" per revolution for every 1/16" of drill diameter, plus or minus .001" on the total.

Speed equals 80 surface feet per minute in 100 Brinell hardness material and the speed should be reduced 10 surface feet per minute for each additional 50 points Brinell hardness.

Feed and speed rates should be reduced up to 45-50 % when drilling holes deeper than 4 drill diameters.

### Recommended Feeds

RECOMMENDED FEEDS FOR VARIOUS DIAMETER DRILLS	
Diameter of Drill—Inches	Feed Inches per Revolution
Under 1/8	.001 to .003
1/8 to 1/4	.002 to .006
1/4 to 1/2	.004 to .010
1/2 to 1	.007 to .015
1 inch and over	.015 to .025

NOTE: It is best to start with a moderate speed and feed, increasing either one, or both, after observing the action and condition of the drill.

### Recommended Speeds

RECOMMENDED SPEEDS FOR STANDARD MATERIALS WITH H.S.S. DRILLS	
Material	Recommended Speed (sfm)
Aluminum and its Alloys	200—300
Brass and Bronze (ordinary)	150—300
Bronze (High Tensile)	70—150
Die Castings (Zinc Base)	300—400
Iron—Cast (soft)	75—125
Cast (medium hard)	50—100
Hard Chilled	10—20
Malleable	80—90
Magnesium and its Alloys	250—400
Monel Metal or High-Nickel Steel	30—50
Plastics or Similar Materials	100—300
Steel—	
Mild .2 carbon to .3 carbon	80—110
Steel .4 carbon to .5 carbon	70—80
Tool 1.2 carbon	50—60
Forgings	40—50
Alloy—300 to 400 Brinell	20—30
High Tensile (Heat Treated)	
35 to 40 Rockwell "C"	30—40
40 to 45 Rockwell "C"	25—35
45 to 50 Rockwell "C"	15—25
50 to 55 Rockwell "C"	7—15
Stainless Steel	
Free Machining Grades	30—80
Work Hardening Grades	15—50
Titanium Alloy Sheet	50—60
Titanium Alloys	
Ti-75A (Commercially Pure)	50—60
RS-120	40—60
Ti-150A	40—50
Ti-140A	30—40
RC-130B	30—40
MST 6A1-4 Va.	20—35
MST 3A1-5 Cr.	10—20

## Cutting Speed

DRILL SIZE	CUTTING SPEED — FEET PER MINUTE					
	20	40	60	80	100	
	REVOLUTIONS	PER			MINUTE	(000)
1/64	4.89	9.78	14.78	19.72	24.45	
1/16	1.22	2.44	3.70	4.93	6.11	
1/8	.61	1.22	1.83	2.44	3.06	
3/16	.41	.82	1.23	1.63	2.04	
1/4	.30	.61	.92	1.22	1.53	
5/16	.24	.49	.74	.98	1.22	
3/8	.20	.41	.61	.81	1.02	
7/16	.18	.35	.52	.70	.87	
1/2	.15	.31	.46	.61	.76	
9/16	.14	.27	.41	.54	.68	
5/8	.12	.24	.37	.49	.61	
11/16	.11	.22	.34	.45	.56	
3/4	.10	.20	.31	.41	.51	
13/16	.09	.19	.28	.38	.47	
7/8	.09	.18	.26	.35	.44	
15/16	.08	.16	.25	.33	.41	
1	.08	.15	.23	.30	.38	



# Twist Drill Trouble Shooting

PROBLEM	CAUSE	CORRECTION
<b>BROKEN DRILL</b>	1. Flutes clogged with chips, drill binds in hole (common in deep holes)	<ul style="list-style-type: none"> <li>—Use drill with wider flutes and/or faster helix angle</li> <li>—Consider polished flutes</li> <li>—Withdraw drill at regular intervals to clear chips</li> <li>—If chips are not broken up, consider heavier feeds—or a chip breaker design</li> </ul>
	2. Drill binding due to worn outer corners	<ul style="list-style-type: none"> <li>—Repoint or replace drill</li> <li>—Check for excessive speed, inadequate or incorrect coolant, excessive run out as drill enters work</li> </ul>
	3. Work insecurely held	—Use adequate holding or clamping devices
	4. Excessive feed	—Reduce feed
	5. Improper point	<ul style="list-style-type: none"> <li>—Check for correct lip clearance</li> <li>—Use proper type of drill and point for the application</li> </ul>
	6. Drill is dull	—Replace before dulling occurs. Check feeds, speeds, and No. 5 for premature dulling
<b>BROKEN TANG</b>	1. Shank or socket damaged	—Repair or replace
	2. Drill not properly seated in socket	—Check for positive, secure fit
<b>CHIPS NOT BREAKING UP</b>	1. Insufficient feed	—Increase feed
	2. Improper style of drill and/or point	—Consider use of chip-breaker design drill and/or chip-breaker point grind
<b>DAMAGED POINT</b>	1. Using hard object to tap drill into socket	—Use soft lead, brass, plastic, etc. hammer
	2. Dropping, mishandling drill	—Handle with care
<b>OVERSIZE HOLE</b>	1. Drill point off center	—Repoint accurately or replace with properly pointed drill
	2. Machine spindle not rigid or not running true	—Repair if possible; consider use of bushing
	3. Work piece loose and/or vibrating	—Tighten and hold securely
<b>ROUGH HOLE</b>	1. Incorrect point grind and/or dull drill	—Repoint or replace with properly pointed drill
	2. Excessive feed	—Reduce feed
	3. Incorrect or insufficient coolant	—Correct and adjust
<b>POOR TOOL LIFE</b>	1. Coolant not reaching drill point or insufficient or incorrect coolant	—Correct and adjust
	2. Speed too high and/or feed too low	—Review and adjust
	3. Wrong type of point and/or drill for application	—Review requirements and conditions
<b>WEB SPLITS</b>	1. Insufficient lip clearance	—Repoint or replace with properly pointed drill
	2. Point thinned too much	—Repoint or replace with properly pointed drill
	3. Excessive feed	—Reduce feed
<b>CHIPPED LIPS</b>	1. Excessive lip clearance and/or heel relief	—Repoint or replace with properly pointed drill
<b>BROKEN OUTER CORNERS</b>	1. Insufficient or incorrect coolant	—Correct and adjust
	2. Excessive speed	—Reduce speed
	3. Scale, hard spots encountered in material	—No final remedy if this condition is prevalent; lower feeds and speeds may help

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# HSS Spiral Point & Reduced Neck Taps

## HSS SPIRAL POINT TAPS - PLUG STYLE

### Type 20-UB & 21-UB (Metric)

#### Plug Style - Ultra Bor Super Premium

Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity. Spiral point construction drives chips ahead of the tap, permitting higher speeds and faster cutting with less torque. Precision ground threads for the ultimate in accuracy and performance. Recommended for stainless and other hard metals. Plug style spiral pointed taps are ideal for production tapping of through holes.



#### TYPE 20 -UB

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60100	0-80	2	2	3
60110	1-64	2	2	3
60120	1-72	2	2	3
60130	2-56	2	2	3
60140	2-64	2	2	3
60150	3-48	2	2	3
60160	3-56	2	2	3
60170	4-40	2	2	3
60180	4-48	2	2	3
60190	4-36	2	2	3
60200	5-40	2	2	3
60210	5-44	2	2	3
60220	6-32	2	3	3
60230	6-40	2	2	3
60240	8-32	2	3	3
60250	8-36	2	2	3
60260	10-24	2	3	3
60270	10-32	2	3	3
60280	12-24	2	3	3
60290	12-28	2	3	3
60320	1/4-20	2	3	3
60330	1/4-28	2	3	3
60340	5/16-18	2	3	3
60350	5/16-24	2	3	3
60360	3/8-16	3	3	3
60370	3/8-24	3	3	3
60380	7/16-14	3	3	3
60390	7/16-20	3	3	3
60400	1/2-13	3	3	3
60410	1/2-20	3	3	3
60420	5/8-11	3	3	1
60430	5/8-18	3	3	1
60440	3/4-10	3	3	1
60450	3/4-16	3	3	1

#### TYPE 21-UB METRIC

Part No.	Size and Pitch	Number of Flutes	Pitch Diameter Limits	Inch Equivalent	Qty. per/pack
60500	2.5-0.45	2	D3	.0984 x 56.44	3
60510	3.0-0.50	2	D3	.1182 x 50.8	3
60520	3.5-0.60	2	D4	.1378 x 42.33	3
60530	4.0-0.70	2	D4	.1575 x 36.29	3
60550	5.0-0.80	2	D4	.1969 x 31.75	3
60560	6.0-1.00	2	D5	.2363 x 25.4	3
60580	8.0-1.25	2	D5	.3150 x 20.32	3
60600	10.0-1.50	3	D6	.3937 x 16.93	3
60620	12.0-1.75	3	D6	.4725 x 14.51	3
60630	14.0-2.00	3	D7	.5512 x 12.7	1
60640	16.0-2.00	3	D7	.6299 x 12.7	1
60650	18.0-2.50	3	D7	.7087 x 10.16	1

## HSS SPIRAL POINT - REDUCED NECK TAPS

### Type 29-UB

#### High-Speed Spiral Point

#### Ultra Bor Super Premium

Reduced neck taps for machine tapping applications. Reduced neck maximizes coolant flow in machine tapping application for ferrous and non-ferrous materials. Excellent for aluminum, magnesium, malleable cast iron and stainless steel materials. Hi-Molybdenum tool steel, with gold treatment for maximum lubricity and reduced neck on tap provide maximum torsion strength for machine tapping applications.



#### TYPE 29-UB

Part No.	Size	H Limits	Number of Flutes	Overall Length
44300	4-40	H2	2	1-7/8
44310	6-32	H3	2	2
44320	6-40	H2	2	2
44330	8-32	H3	3	2-1/8
44340	8-36	H2	3	2-1/8
44350	10-24	H3	3	2-3/8
44360	10-32	H3	3	2-3/8
44370	12-24	H3	3	2-3/8
44380	12-28	H3	3	2-3/8
20010	1/4-20	H3	3	2-1/2
20020	1/4-28	H3	3	2-1/2
20030	5/16-18	H3	3	2-23/32
20040	5/16-24	H3	3	2-23/32
20050	3/8-16	H3	3	2-15/16
20060	3/8-24	H3	3	2-15/16
20100	7/16-14	H3	3	3-5/32
20110	7/16-20	H3	3	3-5/32
20120	1/2-13	H3	3	3-3/8
20130	1/2-20	H3	3	3-3/8

## COMBINATION DRILL & TAP



### Type 40-UB

#### High-Speed Spiral Point - Ultra Bor Super Premium

Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production and other environments where one pass drilling and tapping saves time and costs. Hi-Molybdenum tool steel ensures longer tool life. Gold surface treatment provides maximum lubricity. The self-centering helical point provides excellent drilling precision and accuracy.



#### TYPE 40-AG

Part No.	Size	Overall Length	Drill Length	Drill Size in.	Thread Length	Shank Dia. in.	# of Flutes	Qty. per/pack
73770	4-40	1-7/8	1/4	.0910	3/8	.141	2	1
73780	4-48	1-7/8	1/4	.0945	3/8	.141	2	1
73790	5-40	1-15/16	9/32	.1040	13/32	.141	2	1
73800	5-44	1-15/16	9/32	.1060	13/32	.141	2	1
73810	6-32	2	5/16	.1115	7/16	.141	2	1
73820	6-40	2	5/16	.1170	7/16	.141	2	1
73830	8-32	2-1/8	3/8	.1375	1/2	.168	2	1
73840	8-36	2-1/8	3/8	.1405	1/2	.168	2	1
73850	10-24	2-3/8	13/32	.1545	5/8	.194	2	1
73860	10-32	2-3/8	13/32	.1635	5/8	.194	2	1
73870	12-24	2-3/8	15/32	.1805	21/32	.220	2	1
73880	12-28	2-3/8	15/32	.1860	21/32	.220	2	1
73890	1/4-20	2-1/2	17/32	.2080	25/32	.255	2	1
73900	1/4-28	2-1/2	17/32	.2200	25/32	.255	2	1
73910	5/16-18	2-27/32	11/16	.2660	15/16	.318	2	1
73920	5/16-24	2-27/32	11/16	.2770	15/16	.318	2	1
73930	3/8-16	3-3/8	13/16	.3225	1-1/16	.381	2	1
73940	3/8-24	3-3/8	13/16	.3395	1-1/16	.381	2	1
73950	7/16-14	3-3/4	1	.3770	1-1/4	.323	2	1
73960	7/16-20	3-3/4	1	.3955	1-1/4	.323	2	1
73970	1/2-13	4-1/16	1-1/8	.4350	1-3/8	.367	2	1
73980	1/2-20	4-1/16	1-1/8	.4580	1-3/8	.367	2	1

# HSS Straight Flute Taps



## HSS STRAIGHT FLUTE TAPS

Types 23-UB (Taper)

Types 24-UB (Plug)

Ultra Bor Super Premium

Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity. For general use in production tapping or hand operations. Precision ground threads for the ultimate in accuracy and performance. Taper, plug and bottoming styles provide great versatility in tough materials, both blind and through holes. These high performance taps are available in complete sets of one taper, plug and bottoming tap of the same size.



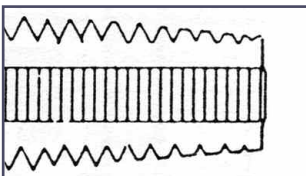
### TYPE 23-UB TAPER STYLE

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60660	2-56	3	2	3
60680	3-48	3	2	3
60700	4-40	3	2	3
60730	5-40	3	2	3
60750	6-32	3	3	3
60760	6-40	3	2	3
60770	8-32	4	3	3
60780	8-36	4	3	3
60790	10-24	4	3	3
60800	10-32	4	3	3
60810	12-24	4	3	3
60820	12-28	4	3	3
60830	1/4-20	4	3	3
60840	1/4-28	4	3	3
60850	5/16-18	4	3	3
60860	5/16-24	4	3	3
60870	3/8-16	4	3	3
60880	3/8-24	4	3	3
60890	7/16-14	4	3	3
60900	7/16-20	4	3	3
60910	1/2-13	4	3	3
60920	1/2-20	4	3	3
60950	9/16-12	4	3	1
60960	9/16-18	4	3	1
60970	5/8-11	4	3	1
60980	5/8-18	4	3	1
60990	3/4-10	4	4	1
61400	3/4-16	4	4	1
61410	7/8-9	4	4	1
61420	7/8-14	4	4	1
61430	1"-8	4	4	1
61440	1"-12	4	4	1
27570	1"-14	4	4	1
61450	1 1/8-7	4	4	1
61460	1 1/8-12	4	4	1
61470	1 1/4-7	4	4	1
61480	1 1/4-12	6	4	1
61490	1 3/8-6	4	4	1
61500	1 3/8-12	6	4	1
61510	1 1/2-6	4	4	1
61520	1 1/2-12	6	4	1

### TYPE 24-UB PLUG STYLE

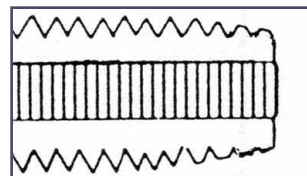
Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60661	2-56	3	2	3
60681	3-48	3	2	3
60701	4-40	3	2	3
60731	5-40	3	2	3
60751	6-32	3	3	3
60761	6-40	3	2	3
60771	8-32	4	3	3
60781	8-36	4	3	3
60791	10-24	4	3	3
60801	10-32	4	3	3
60811	12-24	4	3	3
60821	12-28	4	3	3
60831	1/4-20	4	3	3
60841	1/4-28	4	3	3
60851	5/16-18	4	3	3
60861	5/16-24	4	3	3
60871	3/8-16	4	3	3
60881	3/8-24	4	3	3
60891	7/16-14	4	3	3
60901	7/16-20	4	3	3
60911	1/2-13	4	3	3
60921	1/2-20	4	3	3
60951	9/16-12	4	3	1
60961	9/16-18	4	3	1
60971	5/8-11	4	3	1
60981	5/8-18	4	3	1
60991	3/4-10	4	4	1
61401	3/4-16	4	4	1
61411	7/8-9	4	4	1
61421	7/8-14	4	4	1
61431	1"-8	4	4	1
61441	1"-12	4	4	1
27571	1"-14	4	4	1
61451	1 1/8-7	4	4	1
61461	1 1/8-12	4	4	1
61471	1 1/4-7	4	4	1
61481	1 1/4-12	6	4	1
61491	1 3/8-6	4	4	1
61501	1 3/8-12	6	4	1
61511	1 1/2-6	4	4	1
61521	1 1/2-12	6	4	1

### TAPER - Type 23-UB



Eight to ten threads chamfered for easy thread starting in tough materials.

### PLUG - Type 24-UB



Three to five threads chamfered. For general use when tapping into the bottom of the hole is not critical. (This is the most widely used style.)

## STRAIGHT FLUTE TAPS - ULTRA BOR

Types 25-UB (Bottoming)  
Types 26-UB Sets (Plug, Taper, Bottom)  
Ultra Bor Super Premium



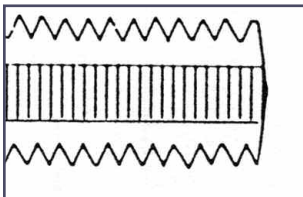
### TYPE 25-UB BOTTOMING STYLE

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60662	2-56	3	2	3
60682	3-48	3	2	3
60702	4-40	3	2	3
60732	5-40	3	2	3
60752	6-32	3	3	3
60762	6-40	3	2	3
60772	8-32	4	3	3
60782	8-36	4	3	3
60792	10-24	4	3	3
60802	10-32	4	3	3
60812	12-24	4	3	3
60822	12-28	4	3	3
60832	1/4-20	4	3	3
60842	1/4-28	4	3	3
60852	5/16-18	4	3	3
60862	5/16-24	4	3	3
60872	3/8-16	4	3	3
60882	3/8-24	4	3	3
60892	7/16-14	4	3	3
60902	7/16-20	4	3	3
60912	1/2-13	4	3	3
60922	1/2-20	4	3	3
60952	9/16-12	4	3	1
60962	9/16-18	4	3	1
60972	5/8-11	4	3	1
60982	5/8-18	4	3	1
60992	3/4-10	4	4	1
61402	3/4-16	4	4	1
61412	7/8-9	4	4	1
61422	7/8-14	4	4	1
61432	1"-8	4	4	1
61442	1"-12	4	4	1
27572	1"-14	4	4	1
61452	1 1/8-7	4	4	1
61462	1 1/8-12	4	4	1
61472	1 1/4-7	4	4	1
61482	1 1/4-12	6	4	1
61492	1 3/8-6	4	4	1
61502	1 3/8-12	6	4	1
61512	1 1/2-6	4	4	1
61522	1 1/2-12	6	4	1

### TYPE 26-UB SETS PLUG-TAPER-BOTTOM

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack each
60663	2-56	3	2	1
60683	3-48	3	2	1
60703	4-40	3	2	1
60733	5-40	3	2	1
60753	6-32	3	3	1
60763	6-40	3	2	1
60773	8-32	4	3	1
60783	8-36	4	3	1
60793	10-24	4	3	1
60803	10-32	4	3	1
60813	12-24	4	3	1
60823	12-28	4	3	1
60833	1/4-20	4	3	1
60843	1/4-28	4	3	1
60853	5/16-18	4	3	1
60863	5/16-24	4	3	1
60873	3/8-16	4	3	1
60883	3/8-24	4	3	1
60893	7/16-14	4	3	1
60903	7/16-20	4	3	1
60913	1/2-13	4	3	1
60923	1/2-20	4	3	1
60953	9/16-12	4	3	1
60963	9/16-18	4	3	1
60973	5/8-11	4	3	1
60983	5/8-18	4	3	1
60993	3/4-10	4	4	1
61403	3/4-16	4	4	1
61413	7/8-9	4	4	1
61423	7/8-14	4	4	1
61433	1"-8	4	4	1
61443	1"-12	4	4	1
27573	1"-14	4	4	1
61453	1 1/8-7	4	4	1
61463	1 1/8-12	4	4	1
61473	1 1/4-7	4	4	1
61483	1 1/4-12	6	4	1
61493	1 3/8-6	4	4	1
61503	1 3/8-12	6	4	1
61513	1 1/2-6	4	4	1
61523	1 1/2-12	6	4	1

### BOTTOMING Type 25-UB



One-and-one half threads chamfered. To use after threads have been started for tapping to the bottom of a hole.

### Type 26-UB Includes One of Each Same Size:

- Types 23-UB (Taper)
- Types 24-UB (Plug)
- Types 25-UB (Bottoming) taps.



# Straight Flute Taps



## STRAIGHT FLUTE TAPS - METRIC

### Types 31-UB (Taper)

### Types 32-UB (Plug)

### Ultra Bor Super Premium

Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity. For general use in production tapping or hand operations. Precision ground threads for the ultimate in accuracy and performance. Taper, plug and bottoming styles provide great versatility in tough materials, both blind and through holes.



#### TYPE 31-UB TAPER STYLE

Part No.	Size MM	Number of Flutes	Pitch Diameter Limit	Qty. per/pack
60379	2.5-.45	3	D-3	3
60389	3.0-.50	3	D-3	3
60519	3.5-.60	3	D-4	3
60529	4.0-.70	4	D-4	3
60369	4.5-.75	4	D-4	3
60539	5.0-.80	4	D-4	3
60549	6.0-1.00	4	D-5	3
60559	7.0-1.00	4	D-5	3
60569	8.0-1.00	4	D-5	3
60579	8.0-1.25	4	D-5	3
60589	10.0-1.25	4	D-6	3
60611	10.0-1.50	4	D-6	3
61601	12.0-1.25	4	D-6	3
61602	12.0-1.75	4	D-6	3
61603	14.0-1.50	4	D-7	1
61604	14.0-2.00	4	D-7	1
61609	16.0-1.50	4	D-7	1
61611	16.0-2.00	4	D-7	1
61612	18.0-2.50	4	D-7	1
61613	20.0-2.50	4	D-7	1
61614	24.0-3.00	4	D-8	1
61619	27.0-3.00	4	D-8	1
61621	30.0-3.50	4	D-8	1
61622	33.0-3.50	4	D-8	1
61623	36.0-4.00	4	D-8	1
61624	39.0-4.00	4	D-8	1

#### Taper Style

Starts the thread square with workpiece.



#### TYPE 32-UB PLUG STYLE

Part No.	Size MM	Number of Flutes	Pitch Diameter Limit	Qty. per/pack
61629	2.5-.45	3	D-3	3
61631	3.0-.50	3	D-3	3
61632	3.5-.60	3	D-4	3
61633	4.0-.70	4	D-4	3
61634	4.5-.75	4	D-4	3
61639	5.0-.80	4	D-4	3
61641	6.0-1.00	4	D-5	3
61642	7.0-1.00	4	D-5	3
61643	8.0-1.00	4	D-5	3
61644	8.0-1.25	4	D-5	3
61649	10.0-1.25	4	D-6	3
61651	10.0-1.50	4	D-6	3
61652	12.0-1.25	4	D-6	3
61653	12.0-1.75	4	D-6	3
61654	14.0-1.50	4	D-7	1
61659	14.0-2.00	4	D-7	1
61661	16.0-1.50	4	D-7	1
61662	16.0-2.00	4	D-7	1
61663	18.0-2.50	4	D-7	1
61664	20.0-2.50	4	D-7	1
61669	24.0-3.00	4	D-8	1
61671	27.0-3.00	4	D-8	1
61672	30.0-3.50	4	D-8	1
61673	33.0-3.50	4	D-8	1
61674	36.0-4.00	4	D-8	1
61679	39.0-4.00	4	D-8	1

#### Plug Style

Generally used in thru holes or in blind holes with sufficient clearance.

## PRODUCT TIPS

### Tap Wrenches:

They come in two sizes, large & small. Make sure tap is securely locked in place by turning the hex head as tightly as possible with your fingers. Do not use a wrench to tighten.



Taper Tap

This section cuts full-size thread



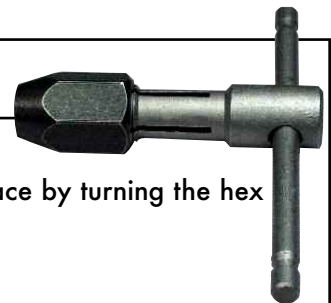
Plug Tap

This section cuts full-size thread



Bottoming Tap

This section cuts full-size thread



## STRAIGHT FLUTE TAPS - METRIC

Types 33-UB (Bottoming)

Types 35-UB Sets ( Plug, Taper, Bottom )



### TYPE 33-UB BOTTOMING STYLE

Part No.	Size MM	Number of Flutes	Pitch Diameter Limit	Qty. per/pack
61681	2.5-.45	3	D-3	3
61682	3.0-.50	3	D-3	3
61683	3.5-.60	3	D-4	3
61684	4.0-.70	4	D-4	3
61689	4.5-.75	4	D-4	3
61691	5.0-.80	4	D-4	3
61692	6.0-1.00	4	D-5	3
61693	7.0-1.00	4	D-5	3
61694	8.0-1.00	4	D-5	3
61699	8.0-1.25	4	D-5	3
61701	10.0-1.25	4	D-6	3
61702	10.0-1.50	4	D-6	3
61703	12.0-1.25	4	D-6	3
61704	12.0-1.75	4	D-6	3
61709	14.0-1.50	4	D-7	1
61711	14.0-2.00	4	D-7	1
61712	16.0-1.50	4	D-7	1
61713	16.0-2.00	4	D-7	1
61714	18.0-2.50	4	D-7	1
61719	20.0-2.50	4	D-7	1
61721	24.0-3.00	4	D-8	1
61722	27.0-3.00	4	D-8	1
61723	30.0-3.50	4	D-8	1
61724	33.0-3.50	4	D-8	1
61729	36.0-4.00	4	D-8	1
61731	39.0-4.00	4	D-8	1

### Bottoming Style

Generates the thread to the bottom of blind holes.



### TYPE 35-UB SETS PLUG-TAPER-BOTTOM

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack each
61741	3.0-.50	3	D-3	1
61742	4.0-.70	4	D-4	1
61743	5.0-.80	4	D-4	1
61744	6.0-1.00	4	D-5	1
61749	7.0-1.00	4	D-5	1
61751	8.0-1.00	4	D-5	1
61752	8.0-1.25	4	D-5	1
61753	10.0-1.25	4	D-6	1
61754	10.0-1.50	4	D-6	1
61759	12.0-1.25	4	D-6	1
61761	12.0-1.75	4	D-6	1
61762	14.0-1.50	4	D-7	1
61763	14.0-2.00	4	D-7	1
61764	16.0-1.50	4	D-7	1
61769	16.0-2.00	4	D-7	1
61772	18.0-2.50	4	D-7	1
61774	20.0-2.50	4	D-7	1

Type 35-UB  
Includes One of Each Same Size:

- Types 31-UB (Taper)
- Types 32-UB (Plug)
- Types 35-UB (Bottoming) taps.



## TAPER PIPE TAPS - ULTRA BOR

Type 30-UB

Ultra Bor Super Premium

Special Hi-Tungsten and Hi-Molybdenum tool steels, black surface treated threads for wear resistance and gold surface treated body for rich, high quality appearance. Precision ground threads for the ultimate in accuracy and performance.

Available in plug style with 3 to 3-1/2 thread chamfer.



### TYPE 30-UB

Part No.	Size NPT	Number of Flutes	Tap Drill Size	Qty. per/pack
61240	1/8-27(5/16 Shk)	4	11/32	3
61250	1/8-27	4	11/32	3
61260	1/4-18	4	7/16	3
61270	3/8-18	4	37/64	1
61280	1/2-14	4	23/32	1
61290	3/4-14	5	59/64	1
61300	1"-11 1/2	5	1-5/32	1
61310	1 1/4-11 1/2	5	1-1/2	1
61320	1 1/2-11 1/2	7	1-47/64	1
61330	2"-11 1/2	7	2-7/32	1

# Tap & Drill Sets



## STRAIGHT FLUTE TAPS - LEFT-HAND THREAD

### Types 23L-UB (Taper), 24L-UB (Plug) & 25L-UB (Bottoming)

#### Ultra Bor Super Premium

Special Hi-Tungsten and Hi-Molybdenum tool steels, gold surface treated for maximum lubricity. For general use in production tapping or hand operations. Precision ground threads for the ultimate in accuracy and performance. Taper, plug and bottoming styles provide great versatility in tough materials, both blind and through holes.



#### TYPE 23L-UB TAPER STYLE LEFT HAND

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60223	6-32	3	3	3
60243	8-32	4	3	3
60263	10-24	4	3	3
60273	10-32	4	3	3
60323	1/4-20	4	3	3
60333	1/4-28	4	3	3
60343	5/16-18	4	3	3
60353	5/16-24	4	3	3
60363	3/8-16	4	3	3
60373	3/8-24	4	3	3
60383	7/16-14	4	3	3
60393	7/16-20	4	3	3
60403	1/2-13	4	3	3
60413	1/2-20	4	3	3
60423	9/16-12	4	3	1
60433	9/16-18	4	3	1
60443	5/8-11	4	3	1
60453	5/8-18	4	3	1
60463	11/16-11	4	3	1
60473	11/16-16	4	3	1
60483	3/4-10	4	3	1
60493	3/4-16	4	3	1
60503	7/8-9	4	4	1
60513	7/8-14	4	4	1
60523	1-8	4	4	1
60533	1-12	4	4	1
60543	1-14	4	4	1
60553	1-1/8-7	4	4	1
60563	1-1/8-12	6	4	1
60573	1-1/4-7	4	4	1
60583	1-1/4-12	6	4	1
60593	1-3/8-6	4	4	1
60603	1-3/8-12	6	4	1
60613	1-1/2-6	6	4	1
60609	1-1/2-12	4	4	1

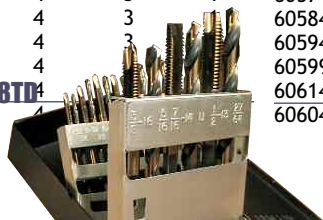
#### TYPE 24L-UB PLUG STYLE LEFT HAND

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60222	6-32	3	3	3
60242	8-32	4	3	3
60262	10-24	4	3	3
60272	10-32	4	3	3
60322	1/4-20	4	3	3
60332	1/4-28	4	3	3
60342	5/16-18	4	3	3
60352	5/16-24	4	3	3
60362	3/8-16	4	3	3
60372	3/8-24	4	3	3
60382	7/16-14	4	3	3
60392	7/16-20	4	3	3
60402	1/2-13	4	3	3
60412	1/2-20	4	3	3
60422	9/16-12	4	3	1
60432	9/16-18	4	3	1
60442	5/8-11	4	3	1
60452	5/8-18	4	3	1
60462	11/16-11	4	3	1
60472	11/16-16	4	3	1
60482	3/4-10	4	3	1
60492	3/4-16	4	3	1
60502	7/8-9	4	4	1
60512	7/8-14	4	4	1
60522	1-8	4	4	1
60532	1-12	4	4	1
60542	1-14	4	4	1
60552	1-1/8-7	4	4	1
60562	1-1/8-12	6	4	1
60572	1-1/4-7	4	4	1
60582	1-1/4-12	6	4	1
60592	1-3/8-6	4	4	1
60602	1-3/8-12	6	4	1
60612	1-1/2-6	4	4	1
60619	1-1/2-12	6	4	1



#### TYPE 25L-UB BOTTOMING STYLE

Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack	Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack	Part No.	Size	Number of Flutes	GH Limit	Qty. per/pack
60224	6-32	3	3	3	60404	1/2-13	4	3	3	60524	1-8	4	4	1
60244	8-32	4	3	3	60414	1/2-20	4	3	3	60534	1-12	4	4	1
60264	10-24	4	3	3	60424	9/16-12	4	3	1	60544	1-14	4	4	1
60274	10-32	4	3	3	60434	9/16-18	4	3	1	60554	1-1/8-7	4	4	1
60324	1/4-20	4	3	3	60444	5/8-11	4	3	1	60564	1-1/8-12	6	4	1
60334	1/4-28	4	3	3	60454	5/8-18	4	3	1	60574	1-1/4-7	4	4	1
60344	5/16-18	4	3	3	60464	11/16-11	4	3	1	60584	1-1/4-12	6	4	1
60354	5/16-24	4	3	3	60474	11/16-16	4	3	1	60594	1-3/8-6	4	4	1
60364	3/8-16	4	3	3	60484	3/4-10	4	3	1	60599	1-3/8-12	6	4	1
60374	3/8-24	4	3	3	60494	3/4-16	4	3	1	60614	1-1/2-6	6	4	1
60384	7/16-14	4	3	3	60504	7/8-9	4	4	1	60604	1-1/2-12	4	4	1
60394	7/16-20	4	3	3	60514	7/8-14	4	4	1					



Left Hand Tap & Drill Sets - Ultra Bor Super Premium



## TAP & DRILL SETS

Ultra Bor Super Premium



SP-18TD



### TAP & DRILL SETS

SP-18TD	( SPIRAL POINT, NC )	Description of Sizes
Part No.		
57580		
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64.	
20-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18, 3/8-16, 7/16-14 & 1/2-13.	

SP-18TDM	( SPIRAL POINT, METRIC )	Description of Sizes
Part No.		
57990		
643-UB Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.50 & 10.20.	
21-UB Tap Sizes (mm)	2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75.	

SP-18TDF	( SPIRAL POINT, NF )	Description of Sizes
Part No.		
58010		
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64.	
20-UB Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20.	

SP-12TD	( SPIRAL POINT, NC )	Description of Sizes
Part No.		
58501		
240-UB Drill Sizes	#36, 29, 25, 21, 7, F,	
20-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18.	

SF-18TDC	( STRAIGHT FLUTE, NC )	Description of Sizes
Part No.		
60930		
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64.	
24-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14 & 1/2-13.	

SF-18TDF	( STRAIGHT FLUTE, NF )	Description of Sizes
Part No.		
60940		
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64.	
24-UB Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20.	

SF-10TD	( STRAIGHT FLUTE, NC )	Description of Sizes
Part No.		
58500		
240-UB Drill Sizes	31/64.	
280-UB Drill Sizes	17/32, 21/32, 49/64 & 7/8.	
24-UB Tap Sizes	9/16-12, 5/8-11, 3/4-10, 7/8-9 & 1-8.	

## COMBINATION DRILL & TAP

Type 40-UB



Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production and other environments where one pass drilling and tapping saves time and costs. Hi-Molybdenum tool steel ensures longer tool life. Gold surface treatment provides maximum lubricity. The self-centering helical point provides excellent drilling precision and accuracy.

TYPE 40-UB		COMBO DRILL & TAP			
Part No.	Size	Part No.	Size	Part No.	Size
73770	4-40	73850	10-24	73930	3/8-16
73780	4-48	73860	10-32	73940	3/8-24
73790	5-40	73870	12-24	73950	7/16-14
73800	5-44	73880	12-28	73960	7/16-20
73810	6-32	73890	1/4-20	73970	1/2-13
73820	6-40	73900	1/4-28	73980	1/2-20
73830	8-32	73910	5/16-18		
73840	8-36	73920	5/16-24		

SETS		Description of Sizes
Part No.		
73991		7 pc set
40-UB - DT-7F		8-36, 10-32, 1/4-28,
Fine		5/16-24, 3/8-24, 7/16-20, 1/2-20
73990		7 pc set
40-UB - DT-7C		8-32, 10-24, 1/4-20,
Coarse		5/16-18, 3/8-16, 7/16-14, 1/2-13

## DRILL & TAP COMBO

Type 34-UB

Ultra Bor Super Premium

Hi-Molybdenum super premium twist drill combined with the corresponding Hi-Tungsten Ultra Bor spiral point tap. Both tools are gold surface treated for maximum lubricity, and precision ground for the ultimate in accuracy and performance.

TYPE 34-UB					
Part No.	Thread Size	Drill Size	Part No.	Thread Size	Drill Size
51800	6-32	36	51890	1/4-28	3
51810	6-40	33	51900	5/16-18	F
51820	8-32	29	51910	5/16-24	I
51830	8-36	29	51920	3/8-16	5/16
51840	10-24	25	51930	3/8-24	Q
51850	10-32	21	51940	7/16-14	U
51860	12-24	16	51950	7/16-20	25/64
51870	12-28	14	51960	1/2-13	27/64
51880	1/4-20	7	51970	1/2-20	29/64

## Carded Hanging Display

38 Piece MRO Pro-Pack Drilling & Tapping Combo  
Carded Super Premium Black & Gold Twist Drill combined with the Corresponding Hi-Tungsten Spiral Point Gold Tap.

Part No. 52001

One Each of	Two Each of	Three Each of	Four Each of
6-32	8-32	5/16-18	1/4-20
6-40	8-36	3/8-16	
12-24	10-24	7/16-14	
12-28	10-32	1/2-13	
	1/4-28		
	5/16-24		
	3/8-24		
	7/16-20		
	1/2-20		

# Tap Sets & Hexagon High-Speed Steel



## TAP SETS

### Ultra Bor Super Premium

Straight flute or spiral point taps in rugged black steel index.



## TAP SETS

### SP-19T - Type 20-UB - Spiral Point

Part No.	Sizes
61600	0-80, 1-64, 1-72, 2-56, 2-64, 3-48, 3-56, 4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32, 8-36, 10-24, 10-32, 12-24 & 12-28

### SP-10T - Type 20-UB - Spiral Point

Part No.	Sizes
61610	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

### SF-10T - Type 24-UB - Straight Flute

Part No.	Sizes
61620	1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

## HEXAGON HIGH-SPEED STEEL

### Type 27-UB

#### Ultra Bor Super Premium Dies

Special Hi-Molybdenum tool steel, polished gold finish with black surface treated threads for long life and rich appearance. These dies are used for threading rods, bolts, studs and other pieces requiring external threads. The outside hex configuration allows both wrench and die stock use in threading.



## TYPE 27-UB

Part No.	Size	Across Flats	Qty. per/pack
61000	4-40	1"	3
61010	6-32	1"	3
61020	8-32	1"	3
61030	10-24	1"	3
61040	10-32	1"	3
61050	12-24	1"	3
61060	1/4-20	1"	3
61070	1/4-28	1"	3
61080	5/16-18	1"	3
61090	5/16-24	1"	3
61100	3/8-16	1"	3
61110	3/8-24	1"	3
61120	7/16-14	1"	3
61130	7/16-20	1"	3
61140	1/2-13	1"	3
61150	1/2-20	1"	3
61160	9/16-12	1-7/16"	1
61170	9/16-18	1-7/16"	1
61180	5/8-11	1-7/16"	1
61190	5/8-18	1-7/16"	1
61200	3/4-10	1-7/16"	1
61210	3/4-16	1-7/16"	1
61220	1/8-27	1"	1
61230	1/4-18	1-7/16"	1

## METRIC

60511	3.0 x 0.50	1"	3
60521	3.5 x 0.60	1"	3
60531	4.0 x 0.70	1"	3
60551	5.0 x 0.80	1"	3
60561	6.0 x 1.00	1"	3
60581	8.0 x 1.25	1"	3
60601	10.0 x 1.50	1"	3
60621	12.0 x 1.75	1-7/16"	1
60622	14.0 x 1.50	1-7/16"	1

## GENERAL PURPOSE SPIRAL POINT TAPS - PLUG STYLE

### Type 20 & Type 21 Metric

#### High-Speed Steel - Plug Style, General Purpose



Manufactured using high-speed tool steel with a bright, polished finish. Spiral point construction drives chips ahead of the tap, permitting higher speeds and faster cutting with less torque. Precision ground threads for accuracy and performance. Recommended for those higher tensile strength production tapping applications. Plug style spiral pointed taps are ideal for production tapping of through holes.

#### TYPE 20 PLUG STYLE

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
60101	0-80	2	1	3
60111	1-64	2	1	3
60121	1-72	2	2	3
60131	2-56	2	2	3
60141	2-64	2	2	3
60151	3-48	2	2	3
60161	3-56	2	2	3
60171	4-40	2	2	3
60181	4-48	2	2	3
60191	4-36	2	2	3
60201	5-40	2	2	3
60211	5-44	2	2	3
60221	6-32	2	3	3
60231	6-40	2	2	3
60241	8-32	2	3	3
60251	8-36	2	2	3
60261	10-24	2	3	3
60271	10-32	2	3	3
60281	12-24	2	3	3
60291	12-28	2	3	3
60321	1/4-20	2	2	3
60331	1/4-28	2	2	3
60341	5/16-18	2	2	3
60351	5/16-24	3	3	3
60361	3/8-16	3	3	3
60371	3/8-24	3	3	3
60381	7/16-14	3	3	3
60391	7/16-20	3	3	3
60401	1/2-13	3	3	3
60411	1/2-20	3	3	3
60461	9/16-12	3	3	1
60471	9/16-18	3	3	1
60421	5/8-11	3	3	1
60431	5/8-18	3	3	1
60441	3/4-10	3	3	1
60451	3/4-16	3	3	1
60481	7/8-9	3	3	1
60491	7/8-14	3	3	1
60499	1-8	3	3	1
60501	1-12	3	3	1
60509	1-14	3	3	1

#### TYPE 21 PLUG STYLE METRIC

Part No.	Size	No. of Flutes	Pitch Limit	Qty. per/pack
60102	3.0-0.50	2	0.5	3
60103	3.5-0.60	2	0.6	3
60104	4.0-0.70	2	0.7	3
60114	5.0-0.80	2	0.8	3
60124	6.0-1.00	2	1	3
60234	8.0-1.25	2	1.25	3
60152	10.0-1.50	3	1.5	3
60162	12.0-1.75	3	1.75	3
60164	14.0-2.00	3	2	1
60173	16.0-2.00	3	2	1
60174	18.0-2.50	3	2.5	1

# Straight Flute Taps



## GENERAL PURPOSE STRAIGHT FLUTE TAPS

### Types 23 (Taper) & Types 24 (Plug)

#### High-Speed Steel Straight Flute - General Purpose

Manufactured using high-speed tool steel with a bright polished finish. For general use in production tapping or hand operations. Precision ground threads for accuracy and performance. Taper, plug and bottoming styles provide great versatility in many materials, both blind and through holes. These high quality taps are available in complete sets of one taper, plug, and bottoming tap of the same size.



#### TYPE 23 TAPER

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61001	4-40	3	2	3
61011	4-48	3	2	3
61021	5-40	3	2	3
61031	5-44	3	2	3
61041	6-32	3	3	3
61051	6-40	3	2	3
61061	8-32	4	3	3
61071	8-36	4	3	3
61081	10-24	4	3	3
61091	10-32	4	3	3
61101	12-24	4	3	3
61111	12-28	4	3	3
61121	1/4-20	4	3	3
61131	1/4-28	4	3	3
61141	5/16-18	4	3	3
61151	5/16-24	4	3	3
61161	3/8-16	4	3	3
61171	3/8-24	4	3	3
61181	7/16-14	4	3	3
61191	7/16-20	4	3	3
61201	1/2-13	4	3	3
61211	1/2-20	4	3	3
55011	9/16-12	4	3	1
55021	9/16-18	4	3	1
55031	5/8-11	4	3	1
55041	5/8-18	4	3	1
55051	3/4-10	4	4	1
55061	3/4-16	4	4	1
55071	7/8-9	4	4	1
55081	7/8-14	4	4	1
55091	1"-8	4	4	1
55101	1"-12	4	4	1
55111	1"-14	4	4	1
55121	1 1/8-7	4	4	1
55131	1 1/8-12	4	4	1
55141	1 1/4-7	4	4	1
55151	1 1/4-12	6	4	1
55161	1 3/8-6	4	4	1
55171	1 3/8-12	6	4	1
55181	1 1/2-6	4	4	1
55191	1 1/2-12	6	4	1

#### TYPE 24 PLUG

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61002	4-40	3	2	3
61012	4-48	3	2	3
61022	5-40	3	2	3
61032	5-44	3	2	3
61042	6-32	3	3	3
61052	6-40	3	2	3
61062	8-32	4	3	3
61072	8-36	4	3	3
61082	10-24	4	3	3
61092	10-32	4	3	3
61102	12-24	4	3	3
61112	12-28	4	3	3
61122	1/4-20	4	3	3
61132	1/4-28	4	3	3
61142	5/16-18	4	3	3
61152	5/16-24	4	3	3
61162	3/8-16	4	3	3
61172	3/8-24	4	3	3
61182	7/16-14	4	3	3
61192	7/16-20	4	3	3
61202	1/2-13	4	3	3
61212	1/2-20	4	3	3
55012	9/16-12	4	3	1
55022	9/16-18	4	3	1
55032	5/8-11	4	3	1
55042	5/8-18	4	3	1
55052	3/4-10	4	4	1
55062	3/4-16	4	4	1
55072	7/8-9	4	4	1
55082	7/8-14	4	4	1
55092	1"-8	4	4	1
55102	1"-12	4	4	1
55112	1"-14	4	4	1
55122	1 1/8-7	4	4	1
55132	1 1/8-12	4	4	1
55142	1 1/4-7	4	4	1
55152	1 1/4-12	6	4	1
55162	1 3/8-6	4	4	1
55172	1 3/8-12	6	4	1
55182	1 1/2-6	4	4	1
55192	1 1/2-12	6	4	1

## STRAIGHT FLUTE TAPS - HSS

### Types 25 (Bottoming) & Types 26 (Sets)



#### TYPE 25 BOTTOMING

Part No.	Size	No. of Flutes	GH Limit	Qty. per/pack
61003	4-40	3	2	3
61013	4-48	3	2	3
61023	5-40	3	2	3
61033	5-44	3	2	3
61043	6-32	3	3	3
61053	6-40	3	2	3
61063	8-32	4	3	3
61073	8-36	4	3	3
61083	10-24	4	3	3
61093	10-32	4	3	3
61103	12-24	4	3	3
61113	12-28	4	3	3
61123	1/4-20	4	3	3
61133	1/4-28	4	3	3
61143	5/16-18	4	3	3
61153	5/16-24	4	3	3
61163	3/8-16	4	3	3
61173	3/8-24	4	3	3
61183	7/16-14	4	3	3
61193	7/16-20	4	3	3
61203	1/2-13	4	3	3
61213	1/2-20	4	3	3
55013	9/16-12	4	3	1
55023	9/16-18	4	3	1
55033	5/8-11	4	3	1
55043	5/8-18	4	3	1
55053	3/4-10	4	4	1
55063	3/4-16	4	4	1
55073	7/8-9	4	4	1
55083	7/8-14	4	4	1
55093	1"-8	4	4	1
55103	1"-12	4	4	1
55113	1"-14	4	4	1
55123	1 1/8-7	4	4	1
55133	1 1/8-12	4	4	1
55143	1 1/4-7	4	4	1
55153	1 1/4-12	6	4	1
55163	1 3/8-6	4	4	1
55173	1 3/8-12	6	4	1
55183	1 1/2-6	4	4	1
55193	1 1/2-12	6	4	1

#### TYPE 26 SETS

Part No.	Size	No. of Flutes	GH Limit	Qty. per pack/ea.
61004	4-40	3	2	1
61014	4-48	3	2	1
61024	5-40	3	2	1
61034	5-44	3	2	1
61044	6-32	3	3	1
61054	6-40	3	2	1
61064	8-32	4	3	1
61074	8-36	4	3	1
61084	10-24	4	3	1
61094	10-32	4	3	1
61104	12-24	4	3	1
61114	12-28	4	3	1
61124	1/4-20	4	3	1
61134	1/4-28	4	3	1
61144	5/16-18	4	3	1
61154	5/16-24	4	3	1
61164	3/8-16	4	3	1
61174	3/8-24	4	3	1
61184	7/16-14	4	3	1
61194	7/16-20	4	3	1
61204	1/2-13	4	3	1
61214	1/2-20	4	3	1
55014	9/16-12	4	3	1
55024	9/16-18	4	3	1
55034	5/8-11	4	3	1
55044	5/8-18	4	3	1
55054	3/4-10	4	4	1
55064	3/4-16	4	4	1
55074	7/8-9	4	4	1
55084	7/8-14	4	4	1
55094	1"-8	4	4	1
55104	1"-12	4	4	1
55114	1"-14	4	4	1
55124	1 1/8-7	4	4	1
55134	1 1/8-12	4	4	1
55144	1 1/4-7	4	4	1
55154	1 1/4-12	6	4	1
55164	1 3/8-6	4	4	1
55174	1 3/8-12	6	4	1
55184	1 1/2-6	4	4	1
55194	1 1/2-12	6	4	1

#### TIPS

Find Drills For All Your Tapping Needs in the Drill Section on Pages 6-46.

#### Includes One of Each Same Size:

- Types 23 (Taper)
- Types 24 (Plug)
- Types 25 (Bottoming) taps.

# Hi-Carbon Steel Taps



## HI-CARBON STEEL TAPS U.S. SIZES - PLUG & TAPER

### Types 720 & 721 (Plug) and Types 740 & 741 (Taper)

Made of super tough carbon steel, these taps are ideal for hand tapping applications. Taps are offered in three different styles. All taps have the size drill to use permanently marked on the tap. These items are manufactured to U.S. industry specifications and may be imported. These items are also available carded. See Price List Catalog for details.



Plug - Type 721



Taper-Type 741

#### TYPE 720 - PLUG - FRACTIONAL

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55010	3/16x24	26	3	3
55020	3/16x32	22	3	3
55030	1/4x20	7	3	3
55040	1/4x28	3	3	3
55050	5/16x18	17/64	4	3
55060	5/16x24	17/64	4	3
55070	3/8x16	5/16	4	3
55080	3/8x24	21/64	4	3
55090	7/16x14	3/8	4	3
55100	7/16x20	25/64	4	3
55110	1/2x13	27/64	4	3
55120	1/2x20	29/64	4	3
55130	9/16x12	31/64	4	1
55140	9/16x18	33/64	4	1
55150	5/8x11	17/32	4	1
55720	5/8x18	37/64	4	1
55730	11/16x11	19/32	4	1
55740	11/16x16	5/8	4	1
55160	3/4x10	21/32	4	1
55890	3/4x16	11/16	4	1
55170	7/8x9	49/64	4	1
55180	7/8x14	13/16	4	1
55190	1x8	7/8	4	1
55200	1x12	29/32	4	1
55210	1x14	15/16	4	1

#### TYPE 740 - TAPER - FRACTIONAL

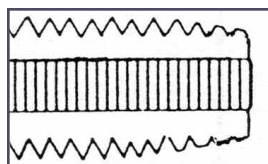
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55250	3/16x24	26	3	3
55260	3/16x32	22	3	3
55270	1/4x20	7	3	3
55280	1/4x28	3	3	3
55290	5/16x18	17/64	4	3
55300	5/16x24	17/64	4	3
55310	3/8x16	5/16	4	3
55320	3/8x24	21/64	4	3
55330	7/16x14	3/8	4	3
55340	7/16x20	25/64	4	3
55350	1/2x13	27/64	4	3
55360	1/2x20	29/64	4	3
55370	9/16x12	31/64	4	1
55380	9/16x18	33/64	4	1
55390	5/8x11	17/32	4	1
55460	5/8x18	37/64	4	1
55470	11/16x11	19/32	4	1
55480	11/16x16	5/8	4	1
55400	3/4x10	21/32	4	1
55710	3/4x16	2/3	4	1
55410	7/8x9	11/16	4	1
55420	7/8x14	13/16	4	1
55430	1x8	7/8	4	1
55440	1x12	29/32	4	1
55450	1x14	15/16	4	1

#### TYPE 721 - PLUG - MACHINE SCREW

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54860	0x80	3/64	3	3
54870	1x64	53	3	3
54880	1x72	53	3	3
54890	2x56	50	3	3
54900	2x64	50	3	3
54910	3x48	47	3	3
54920	3x56	46	3	3
55750	4x36	43	3	3
55760	4x40	44	3	3
55770	5x40	38	3	3
55780	6x32	36	3	3
55790	6x40	34	3	3
55800	6x48	32	3	3
55810	8x32	29	3	3
55820	8x36	29	3	3
55830	8x40	28	3	3
55840	10x24	25	3	3
55850	10x32	21	3	3
55860	12x24	16	3	3
55870	12x28	16	3	3
55880	14x20	10	3	3

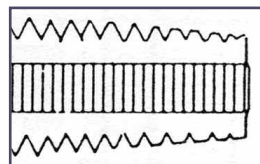
#### TYPE 741 - TAPER - MACHINE SCREW

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54790	0X80	3/64	3	3
54800	1X64	53	3	3
54810	1X72	53	3	3
54820	2X56	50	3	3
54830	2X64	50	3	3
54840	3X48	47	3	3
54850	3X56	46	3	3
55900	4x36	43	3	3
55910	4x40	44	3	3
55920	5x40	38	3	3
55930	6x32	36	3	3
55940	6x40	34	3	3
55950	6x48	32	3	3
55960	8x32	29	3	3
55970	8x36	29	3	3
55980	8x40	28	3	3
55990	10x24	25	3	3
56000	10x32	21	3	3
56010	12x24	16	3	3
56020	12x28	16	3	3
56030	14x20	10	3	3



#### PLUG - Type 720 & 721

Three to five threads chamfered. For general use when tapping into the bottom of the hole is not critical. (This is the most widely used style.)



#### TAPER - Type 740 & 741

Eight to ten threads chamfered for easy use thread starting in tough materials.

**HI-CARBON STEEL TAPS U.S. SIZES - PLUG & TAPER**

**Types 760 & 761 (Bottoming) and Types 723 & 722 (Sets)**



Bottoming - Type 761

**TYPE 760 - BOTTOMING - FRACTIONAL**

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
55500	3/16x24	26	3	3
55510	3/16x32	22	3	3
55520	1/4x20	7	3	3
55530	1/4x28	3	3	3
55540	5/16x18	17/64	4	3
55550	5/16x24	17/64	4	3
55560	3/8x16	5/16	4	3
55570	3/8x24	21/64	4	3
55580	7/16x14	3/8	4	3
55590	7/16x20	25/64	4	3
55600	1/2x13	27/64	4	3
55610	1/2x20	29/64	4	3
55620	9/16x12	31/64	4	1
55630	9/16x18	33/64	4	1
55640	5/8x11	17/32	4	1
56040	5/8x18	37/64	4	1
56050	11/16x11	19/32	4	1
56060	11/16x16	5/8	4	1
56070	3/4x10	21/32	4	1
56070	3/4x16	2/3	4	1
55660	7/8x9	11/16	4	1
55670	7/8x14	13/16	4	1
55680	1x8	7/8	4	1
55690	1x12	29/32	4	1
55700	1x14	15/16	4	1

These items are also available carded.  
See Price List Catalog for details.

**TYPE 761 - BOTTOMING - MACHINE SCREW**

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
54930	0x80	3/64	3	3
54940	1x64	53	3	3
54950	1x72	53	3	3
54960	2x56	50	3	3
54970	2x64	50	3	3
54980	3x48	47	3	3
54990	3x56	46	3	3
56100	4x36	43	3	3
56110	4x40	44	3	3
56120	5x40	38	3	3
56130	6x32	36	3	3
56140	6x40	34	3	3
56150	6x48	32	3	3
56160	8x32	29	3	3
56170	8x36	29	3	3
56180	8x40	28	3	3
56190	10x24	25	3	3
56200	10x32	21	3	3
56210	12x24	16	3	3
56220	12x28	16	3	3
56230	14x20	10	3	3

These items are also available carded.  
See Price List Catalog for details.

**TYPE 723 - 3 PIECE SET MACHINE SCREW**

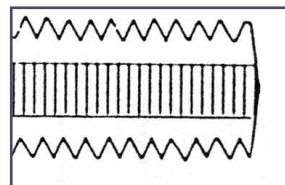
Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
56600	4x36	43	3	1
56610	4x40	44	3	1
56620	5x40	38	3	1
56630	6x32	36	3	1
56640	6x40	34	3	1
56650	6x48	32	3	1
56660	8x32	29	3	1
56670	8x36	29	3	1
56680	8x40	28	3	1
56690	10x24	25	3	1
56700	10x32	21	3	1
56710	12x24	16	3	1
56720	12x28	16	3	1
56730	14x20	10	3	1

Includes one of each same size Taper, Plug and Bottoming taps.

**TYPE 722 - 3 PIECE SET FRACTIONAL**

Part No.	Size	Tap Drill Size	No. of Flutes	Qty. per/pack
56300	3/16x24	26	3	1
56310	3/16x32	22	3	1
56320	1/4x20	7	3	1
56330	1/4x28	3	3	1
56340	5/16x18	17/64	4	1
56350	5/16x24	17/64	4	1
56360	3/8x16	5/16	4	1
56370	3/8x24	21/64	4	1
56380	7/16x14	3/8	4	1
56390	7/16x20	25/64	4	1
56400	1/2x13	27/64	4	1
56410	1/2x20	29/64	4	1
56420	9/16x12	31/64	4	1
56430	9/16x18	33/64	4	1
56440	5/8x11	17/32	4	1
56590	5/8x18	37/64	4	1
56740	11/16x11	19/32	4	1
56750	11/16x16	5/8	4	1
56450	3/4x10	21/32	4	1
56760	3/4x16	11/16	4	1
56460	7/8x9	49/64	4	1
56470	7/8x14	13/16	4	1
56480	1x8	7/8	4	1
56490	1x12	29/32	4	1
56500	1x14	15/16	4	1

Includes one of each same size Taper, Plug and Bottoming taps.



**BOTTOMING Type 760 & 761**

One-and-one half threads chamfered. To use after threads have been started for tapping to the bottom of a hole.



# Hi-Carbon Steel Dies



## HI-CARBON STEEL DIES - HEX DIES

### Types 405 & 790

#### Hex Dies

These dies are made of high quality carbon tool steel and meet the highest industry specifications. We offer a complete selection of solid round, adjustable round, and solid hex dies for right hand threads. Select sizes of dies may be imported.



#### MACHINE SCREW & FRACTIONAL SIZES

#### Type 405 - Hex

Part No.	Size	Across Flats	Qty. per/pack
86000	4x40	1"	3
86010	4x36	1"	3
86020	5x40	1"	3
86030	6x32	1"	3
86040	8x32	1"	3
86050	10x24	1"	3
86060	10x32	1"	3
86070	12x24	1"	3
86080	14x20	1"	3
86100	3/16x24	1"	3
86110	3/16x32	1"	3
86120	1/4x20	1"	3
86130	1/4x28	1"	3
86140	5/16x18	1"	3
86150	5/16x24	1"	3
86160	3/8x16	1"	3
86170	3/8x24	1"	3
86180	7/16x14	1"	3
86190	7/16x20	1"	3
86200	1/2x13	1"	3
86210	1/2x20	1"	3
86220	9/16x12	1-7/16	1
86230	9/16x18	1-7/16	1
86240	5/8x11	1-7/16	1
86250	5/8x18	1-7/16	1
86260	11/16x11	1-7/16	1
86270	11/16x16	1-7/16	1
86280	3/4x10	1-7/16	1
86290	3/4x16	1-7/16	1
86300	7/8x9	1-5/8	1
86310	7/8x14	1-5/8	1
86320	1x8	1-13/16	1
86330	1x12	1-13/16	1
86340	1x14	1-13/16	1
86350	1/8x27	1"	1
86360	1/4x18	1"	1



#### METRIC SIZES

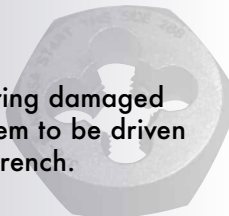
#### Type 790 - Hex

Part No.	Size	Size Across Flats	Qty. per/pack
84000	3x.50	1"	3
84010	3x.60	1"	3
84020	4x.70	1"	3
84030	4x.75	1"	3
84040	5x.80	1"	3
84050	5x.90	1"	3
84060	6x1.00	1"	3
84070	7x1.00	1"	3
84270	8x1.00	1"	3
84080	8x1.25	1"	3
84090	9x1.00	1"	3
84100	9x1.25	1"	3
84110	10x1.00	1"	3
84120	10x1.25	1"	3
84130	10x1.50	1"	3
84140	11x1.50	1"	3
84280	12x1.25	1"	3
84150	12x1.50	1"	3
84160	12x1.75	1"	3
84170	14x1.25	1-7/16	1
84290	14x1.50	1-7/16	1
84180	14x2.00	1-7/16	1
84190	16x1.50	1-7/16	1
84200	16x2.00	1-7/16	1
84210	18x1.50	1-7/16	1
84300	18x2.00	1-7/16	1
84220	18x2.50	1-7/16	1

These items are also available carded.  
See Price List Catalog for details.

#### HEXAGONAL DIES: TIPS

These are also used for restoring damaged threads. Hex shape allows them to be driven in cramped quarters with a wrench.





## HI-CARBON STEEL DIES - ADJUSTABLE & ROUND

### Types 415 & Types 400

#### Adjustable & Round Dies

These dies are made of high quality carbon tool steel and meet the highest industry specifications. We offer a complete selection of solid round, adjustable round and solid hex dies for right hand threads. Select sizes of dies may be imported.

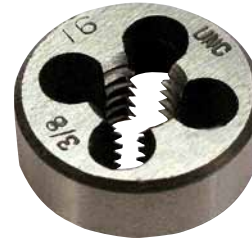


#### MACHINE SCREW & FRACTIONAL SIZES

#### Type 415 - Adjustable

Part No.	Size	O.D.	Qty. per/pack
85000	0x80	1"	3
85010	1x64	1"	3
85020	1x72	1"	3
85030	2x56	1"	3
85040	2x64	1"	3
85050	3x48	1"	3
85060	3x56	1"	3
85070	4x40	1"	3
85080	4x36	1"	3
85090	5x40	1"	3
85100	6x32	1"	3
85110	8x32	1"	3
85120	10x24	1"	3
85130	10x32	1"	3
85140	12x24	1"	3
85150	14x20	1"	3
85170	3/16x24	1"	3
85180	3/16x32	1"	3
85190	1/4x20	1"	3
85200	1/4x28	1"	3
85210	5/16x18	1"	3
85220	5/16x24	1"	3
85230	3/8x16	1"	3
85240	3/8x24	1"	3
85250	7/16x14	1"	3
85260	7/16x20	1"	3
85270	1/2x13	1"	3
85280	1/2x20	1"	3
85290	9/16x12	1-1/2"	1
85300	9/16x18	1-1/2"	1
85310	5/8x11	1-1/2"	1
85320	5/8x18	1-1/2"	1
85330	11/16x11	2"	1
85340	11/16x16	2"	1
85350	3/4x10	2"	1
85360	3/4x16	2"	1
85370	7/8x9	2"	1
85380	7/8x14	2"	1
85390	1x8	2"	1
85400	1x12	2"	1
85410	1x14	2"	1
85420	1/8x27	2"	3
85430	1/4x18	2"	3
85440	3/8x18	1-1/2"	1
85450	1/2x14	1-1/2"	1

These items are also available carded.  
See Price List Catalog for details.



#### MACHINE SCREW & FRACTIONAL SIZES

#### Type 400 - Round

Part No.	Size	O.D.	Qty. per/pack
53600	4x36	1"	3
53610	4x40	1"	3
53620	5x40	1"	3
53630	6x32	1"	3
53640	8x32	1"	3
53650	10x24	1"	3
53660	10x32	1"	3
53670	12x24	1"	3
53680	14x20	1"	3
53690	3/16x24	1"	3
53700	3/16x32	1"	3
53710	1/4x20	1"	3
53720	1/4x28	1"	3
53730	5/16x18	1"	3
53820	5/16x24	1"	3
53740	3/8x16	1"	3
53750	3/8x24	1"	3
53760	7/16x14	1"	3
53830	7/16x20	1"	3
53770	1/2x13	1"	3
53780	1/2x20	1"	3
53790	1/2x24	1"	3
53800	1/8x27	1"	3
53810	1/4x18	1"	3

These items are also available carded.  
See Price List Catalog for details.

### ADJUSTABLE & ROUND DIES: TIPS

#### Adjustable Dies:

These dies have a recessed adjusting bolt so threads can be cut slightly undersize or oversize.

#### Round Dies:

Inexpensive round dies are 1" wide.  
They will thread rods up to 1/2" diameter.

# Metric Plug & Pipe Taps



## METRIC PLUG TAPS - HIGH CARBON

### Type 780

#### Hi-Carbon Steel Taps

All popular sizes offered for foreign car, motorcycle, and machinery threading needs. Made of tough carbon steel to exacting specifications. Offered in plug style only and permanently marked with drill size for use.



### METRIC

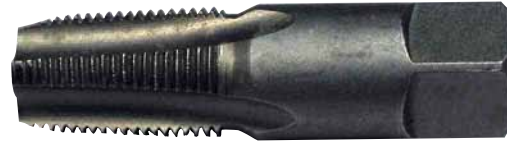
Part No.	Size	Tap Drill Size	Number of Flutes	Qty. per/pack
83010	3x.50	40	3	3
83020	3x.60	3/32	3	3
83030	4x.70	1/8	3	3
83040	4x.75	1/8	3	3
83050	5x.80	11/64	3	3
83060	5x.90	20	3	3
83070	6x1.00	13/64	3	3
83080	7x1.00	15/64	4	3
84230	8x1.00	F	4	3
83090	8x1.25	17/64	4	3
83100	9x1.00	5/16	4	3
83110	9x1.25	5/16	4	3
56800	10x1.00	23/64	4	3
83130	10x1.25	5	4	3
83140	10x1.50	11/32	4	3
83150	11x1.50	3/8	4	3
84240	12x1.25	27/64	4	3
83160	12x1.50	13/32	4	3
83170	12x1.75	27/64	4	3
56810	14x1.25	33/64	4	1
84250	14x1.50	1/2	4	1
83190	14x2.00	15/32	4	1
83200	16x1.50	37/64	4	1
83210	16x2.00	35/64	4	1
56820	18x1.50	21/32	4	1
84260	18x2.00	5/8	4	1
83230	18x2.50	39/64	4	1

These items are also available carded.  
See Price List Catalog for details.

## PIPE TAPS - HIGH CARBON

### Type 410

#### Hi-Carbon Steel Pipe & Taps



### FRACTIONAL

Part No.	Diameter	Tap Drill Size	Number of Flutes	Qty. per/pack
56910	1/8 x 27	11/32	4	3
56920	1/4 x 18	7/16	4	3
56930	3/8 x 18	37/64	4	1
56940	1/2 x 14	23/32	4	1
56950	3/4 x 14	59/64	4	1
56960	1 x 11-1/2	1-5/32	4	1
56970	1-1/4 x 11-1/2	1-1/2	4	1
56980	1-1/2 x 11-1/2	1-47/64	7	1
56990	2 x 11-1/2	2-7/32	6	1

These items are also available carded.  
See Price List Catalog for details.

## Product Tips

### NEED A TAPPING LUBE?

High Performance

Ultra Lube™

will do the job!

Found on page 96



## TAP & REAMER WRENCHES

### Types 725, 726 & 727

Accessories for every threading job, economy, and professional type. Rugged construction. Tap wrench jaws heat treated and hardened for long life. Offered in display packages as indicated.

#### Type 725

#### Tap & Reamer Wrench Professional Quality

Hardened steel jaws. Adjusts easily by turning handles.



#### TYPE 725

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50350	1/4-3/4	Bulk	1
50360	1/2-1-1/8	Bulk	1
50347	4-1/2	Carded	1

#### Type 726

#### Tap & Reamer Wrench Economy

For taps up to 1/2".  
Chrome finished, knurled handles with black center.



#### TYPE 726

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50337	up to 1/2"	Carded	1

#### Type 727

#### T-Handle Tap Wrenches

Sliding T-handle with spring tension to hold handles in place, self equalizing jaws. No. 50320 has removable handle and 3/8" female square drive for extensions, ratchet, and power drive.

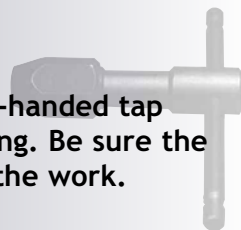
#### TYPE 727

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50307	0-1/4	Carded	1
50310	3/16-1/2	Bulk	1
50320	3/16-1/2	Bulk	1



### TAPS AND DIES: TIPS

If the tap is large, a two-handed tap wrench is used for turning. Be sure the tap is at right angles to the work.



# Tap & Reamer Wrenches



## TAP & REAMER WRENCHES AND GAUGES

### Types 728, 729 & 730

Accessories for every threading job, economy and professional type. Rugged construction. Offered in display packages as indicated.

#### Type 728

##### Die Stock

##### Economy Solid

Designed to hold either 1" round or hex dies. This simple tool is strong and will provide long service and accurate threads.



#### TYPE 728

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50377	1" round or hex	Carded	1

#### Type 729

##### Die Stock

##### Professional Quality

Numbers 50388 and 50390 have 3-jaw self centering adjustable guides to assure straight threads and easy starting. Number 50400 is a sturdy cast hex die stock with chromed steel handles.



#### TYPE 729

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50390	1-1/2 Rd. , 1-7/16 Hex	Bulk	1
50400	1-7/8 Hex	Bulk	1
50387	1" Rd or Hex	Carded	1

#### Type 730

##### Screw Pitch Gauges

Made with flat thread forms on top of each blade. Gives screw pitches on V-threads, U.S. and Metric gauges available.



#### TYPE 730

Part No.	For Tap Sizes	Package Type	Qty. per/pack
50417	US 9-40 U.S.	Carded	1
50427	METRIC .45 - 2.5mm	Carded	1

## HIGH-SPEED STEEL TAP & DIE ASSORTMENTS AND DISPLAYS

### Ultra Bor Super Premium - Tap & Die Assortments

Special Hi - Tungsten and Hi - Molybdenum tool steels, gold surface treated for maximum lubricity. Recommended for use in production tapping and drilling in work hardening grades of stainless steel and other hard metal applications. Precision ground tap threads for the ultimate in accuracy and performance.



#### Super Premium Large Tap & Die Set 58 Piece, Straight Flute Plug Taps & Hex Dies

Set contains:

- HSS straight flute taps & HSS hex dies sizes: 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 1/8-27NPT & 1/4-18NPT.
- Straight handle tap wrenches: #4-1/2" & 1/4"-3/4".
- Die stocks: MED R/H & 1"R/H.
- T-handle tap wrench: 0-1/4".
- Screw pitch gauge.
- Screw driver & Spiral flute extractors sizes: Ex 1 thru Ex 5.
- SF-58TDI

**PART NO. 61680**



**Part # 61680**

#### Super Premium Tap & Die Set 40 Piece, Straight Flute Plug Taps & Hex Dies

Set contains:

- HSS straight flute taps & HSS hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20.
- HSS pipe tap and hex die size: 1/8-27 NPT.
- T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
- Straight handle tap wrench: #4 - 1/2".
- Die stock, Screw pitch gauge & Screw driver.
- SF-40TDI

*Supplied in sturdy red plastic case.*

**PART NO. 35171**



**Part # 35171**

#### Super Premium Tap & Die Set 40 Piece, Spiral Point Plug Taps & Hex Dies

Set contains:

- HSS spiral point taps & HSS hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20.
- HSS pipe tap and hex die size: 1/8-27 NPT.
- T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
- Straight handle tap wrench: #4 - 1/2".
- Die stock, Screw pitch gauge & Screw driver.
- SP-40TDI

*Supplied in sturdy red plastic case.*

**PART NO. 35181**

# Tap & Die Sets (CONTINUED)



## HSS TAP & DIE ASSORTMENTS AND DISPLAYS

### Ultra Bor Super Premium - Tap & Die Assortments

#### Super Premium Tap & Die Set 25 Piece, Spiral Point Plug Taps & Hex Dies

**BLACK & GOLD**

##### Set contains:

- HSS spiral point taps & HSS hex dies sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20.
  - HSS pipe tap and hex die size: 1/8-27 NPT.
  - T-Handle tap wrench: 3/16"-1/2".
  - Die stock & Screw pitch gauge.
  - SP-25TDI
- Supplied in sturdy red plastic case.*

**Supplied  
In  
Sturdy  
Plastic Case!**

**PART NO. 35173**



**Part # 35173**

#### Super Premium Tap & Die Set - Metric 23 Piece, Spiral Point Taps & Hex Dies

##### Set contains:

- HSS spiral point taps & HSS hex dies sizes: 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75.
  - HSS pipe tap and hex die size: 1/8-27 NPT.
  - T-Handle tap wrenches: 0 - 1/4" & 3/16"-1/2".
  - Straight handle tap wrench: #4 - 1/2".
  - Die stock & Screw metric pitch gauge.
  - SP-23TDI
- Supplied in sturdy red plastic case.*

**PART NO. 35170**

**Supplied  
in Black  
Plastic Case  
with Clear  
Sliding Cover**

#### Super Premium Tap & Die Set - 15 Piece, Spiral Point Plug Taps & Hex Dies

##### Set contains:

- HSS spiral point taps & HSS hex dies sizes: 6-32, 8-32, 10-24, 10-32, 12-24 & 1/4-20.
  - T-Handle tap wrench: 0 - 1/4".
  - Economy die stock & Screw pitch gauge.
  - SP-15TDI
- Supplied in black plastic case with clear sliding cover.*

**PART NO. 35174**



**Part # 35174**

#### Super Premium Tap & Die Set - Metric 14 Piece, Spiral Point Taps & Hex Dies

##### Set contains:

- HSS spiral point taps sizes: 2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80 & 6.0-1.00.
  - HSS hex dies sizes: 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80 & 6.0-1.00.
  - T-Handle tap wrench: 0 - 1/4".
  - SP-14TDI
- Economy die stock & Screw metric pitch gauge.  
Supplied in black plastic case with clear sliding cover.*

**PART NO. 35172**

## CARBON STEEL TAP & DIE SETS - 14 PCS & 16 PCS SETS

### Type 724

#### Professional Quality

Taps and Dies made of extra-tough tool steel. Sharp, clean cutting edges, hardened, and tempered to cut smooth threads. Plug taps are furnished in all sets in sizes to fill most requirements. Dies are available in round and hexagon styles. Sets are packed in practically indestructible cases.



### Carbon Steel Fractional NC - with Hex Die Set 14 Piece Set Stock #HNC14PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in sturdy red plastic case.*

**PART NO. 50090**

### Carbon Steel Fractional FC - with Hex Die Set 14 Piece Set Stock #HNF14PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in sturdy red plastic case.*

**PART NO. 50080**

### Carbon Steel Fractional NC - with Round Die Set 14 Piece Set Stock #RNC14PC

#### Set contains:

- Carbon steel plug taps and round dies sizes: 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in sturdy red plastic case.*

**PART NO. 50030**

### Carbon Steel Fractional FC - with Round Die Set 14 Piece Set Stock #RNF14PC

#### Set contains:

- Carbon steel plug taps and round dies sizes: 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in sturdy red plastic case.*

**PART NO. 50020**



### Carbon Steel Metric - with Hex Die Set 16 Piece Set Stock #HMM16PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 4mm x 0.70, 5mm x 0.80, 6mm x 1.00, 8mm x 1.25, 10mm x 1.25, 10mm x 1.50, 12mm x 1.50
  - T-Handle Tap Wrench: 3/16 to 1/2
- Supplied in Black Plastic Case with Clear Sliding Cover.*

**PART NO. 50140**

### Carbon Steel Fractional NC - with Hex Die Set 16 Piece Set Stock #HEX16PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
  - T-Handle Tap Wrench: 0 to 1/4
- Supplied in Black Plastic Case with Clear Sliding Cover.*

**PART NO. 50100**

### Carbon Steel Fractional NC - with Round Die Set 16 Piece Set Stock #RND16PC

#### Set contains:

- Carbon steel plug taps and round dies sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20
  - T-Handle Tap Wrench: 0 to 1/4
- Supplied in Black Plastic Case with Clear Sliding Cover.*

**PART NO. 50040**

# 24 Pcs, 37 Pcs Tap & Die Sets



## CARBON STEEL TAP & DIE SETS - 24 PCS & 37 PCS SETS

### Type 724

#### Professional Quality

Taps and Dies made of extra-tough tool steel. Sharp, clean cutting edges, hardened, and tempered to cut smooth threads. Plug taps are furnished in all sets in sizes to fill most requirements. Dies are available in round and hexagon styles. Sets are packed in practically indestructible cases.



### Carbon Steel Fractional Combination NC, NF - with Hex Die Set 24 Piece Set Stock #HEX24PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes:  
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,  
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2  
*Supplied in sturdy red plastic case.*

#### PART NO. 50110

### Carbon Steel Fractional Combination NC, NF - with Round Die Set 24 Piece Set Set Stock #RND24PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes:  
1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24,  
7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 3/16 to 1/2  
*Supplied in sturdy red plastic case.*

#### PART NO. 50050



### Carbon Steel Machine Screw & Fractional NC, NF - with Round Die Set 37 Piece Set Stock #RND37PC

#### Set contains:

- Carbon steel plug taps and round dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2  
*Supplied in sturdy red plastic case.*

#### PART NO. 50060

### Carbon Steel Master & Metric - with Hex Die Set 37 Piece Set Stock #HMM37PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes:  
3mm x 0.50, 3mm x 0.60, 4mm x 0.70, 4mm x 0.75,  
5mm x 0.80, 5mm x 0.90, 6mm x 1.00, 7mm x 1.00,  
8mm x 1.25, 9mm x 1.00, 9mm x 1.25, 10mm x 1.25,  
10mm x 1.50, 11mm x 1.50, 12mm x 1.50, 12mm x 1.75,  
1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2  
*Supplied in sturdy red plastic case.*

#### PART NO. 50150

### Carbon Steel Machine Screw & Fractional NC, NF - with Hex Die Set 37 Piece Set Stock #HEX37PC

#### Set contains:

- Carbon steel plug taps and round hex dies sizes:  
4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28  
5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20  
1/2-13, 1/2-20, 1/8-27 NPT Pipe
- T-Handle Tap Wrench: 0 to 1/4 & 3/16 to 1/2  
*Supplied in sturdy red plastic case.*

#### PART NO. 50120



## CARBON STEEL TAP & DIE SETS - MASTER MECHANIC 40 PCS SETS

### Type 724

#### Professional Quality

Taps and Dies made of extra-tough tool steel. Sharp, clean cutting edges, hardened, and tempered to cut smooth threads. Plug taps are furnished in all sets in sizes to fill most requirements. Dies are available in round and hexagon styles. Sets are packed in practically indestructible cases.



### Carbon Steel Machine Screw Fractional NC, NF - with Round Die Set 40 Piece Set Stock #RND40PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
  - Tap & Reamer Wrench: 0 to 1/2
  - Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
- Supplied in sturdy red plastic case.*

**PART NO. 50070**

### Carbon Steel Machine Screw Fractional NC, NF - with Hex Die Set 40 Piece Set Stock #HEX40PC

#### Set contains:

- Carbon steel plug taps and hex dies sizes: 4-40 , 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Pipe
  - T-Handle Tap Wrench: 0 to 1/4 & 1/4 to 1/2
  - Tap & Reamer Wrench: 0 to 1/2
  - Adjustable Die Stock, Screw Driver, Screw Pitch Gauge
- Supplied in sturdy red plastic case.*

**PART NO. 50130**

## ULTRA LUBE High Performance High Viscosity Super Concentrated No-Run Formula

Turn to Specialty Tool Section on page 96



# Technical Reference



## Standard Cutting Taps

### DRILL SELECTOR

#### Machine Screw Sizes

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Theoretical % of Thread	Prob-able Oversize (Mean)	Prob-able Hole Size	Percentage of Thread
0-80	56	.0465	83	.0015	.0480	74
	5/64	.0469	81	.0015	.0484	71
1-64	54	.0550	89	.0015	.0565	81
1-72	53	.0595	75	.0015	.0610	67
2-56	51	.0670	82	.0017	.0687	74
	50	.0700	69	.0017	.0717	62
2-64	50	.0700	79	.0017	.0717	70
3-48	48	.0760	85	.0019	.0779	78
	5/64	.0781	77	.0019	.0800	70
	47	.0785	76	.0019	.0804	69
	46	.0810	67	.0019	.0829	60
3-56	46	.0810	78	.0019	.0829	69
	45	.0820	73	.0019	.0839	65
4-40	44	.0860	80	.0020	.0880	74
	43	.0890	71	.0020	.0910	65
4-48	42	.0935	68	.0020	.0955	61
	3/32	.0938	68	.0020	.0958	60
5-40	40	.0980	83	.0023	.1003	76
	39	.0995	79	.0023	.1018	71
	38	.1015	72	.0023	.1038	65
5-44	38	.1015	79	.0023	.1038	72
	37	.1040	71	.0023	.1063	63
6-32	37	.1040	84	.0023	.1063	78
	36	.1065	78	.0026	.1091	71
	3/16	.1094	70	.0026	.1120	64
	35	.1100	69	.0026	.1126	63
6-40	34	.1110	67	.0026	.1136	60
	34	.1110	83	.0026	.1136	75
	33	.1130	77	.0026	.1156	69
8-32	32	.1160	68	.0026	.1186	60
	29	.1360	69	.0029	.1389	62
8-36	29	.1360	78	.0029	.1389	70
10-24	27	.1440	85	.0032	.1472	79
	26	.1470	79	.0032	.1502	74
	25	.1495	75	.0032	.1527	69
	24	.1520	70	.0032	.1552	64
	23	.1540	67	.0032	.1572	61
10-32	22	.1563	83	.0032	.1595	75
	22	.1570	81	.0032	.1602	73
	21	.1590	76	.0032	.1622	68
	20	.1610	71	.0032	.1642	64
	12-24	17	.1719	82	.0035	.1754
17		.1730	79	.0035	.1765	73
16		.1770	72	.0035	.1805	66
15		.1800	67	.0035	.1835	60
12-28	16	.1770	84	.0035	.1805	77
	15	.1800	78	.0035	.1835	70
	14	.1820	73	.0035	.1855	66

These tables show both the theoretical percentage of thread represented by the drill size and the percentage that would normally be obtained in drilling.

#### Fractional Sizes

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Theoretical % of Thread	Prob-able Oversize (Mean)	Prob-able Hole Size	Percentage of Thread
1/4-20	9	.1960	83	.0038	.1998	77
	8	.1990	79	.0038	.2028	73
	7	.2010	75	.0038	.2048	70
	3/16	.2031	72	.0038	.2069	66
	6	.2040	71	.0038	.2078	65
	5	.2055	69	.0038	.2093	63
1/4-28	4	.2090	63	.0038	.2128	57
	3	.2130	80	.0038	.2168	72
5/16-18	F	.2570	77	.0038	.2608	72
	G	.2610	71	.0041	.2651	66
5/16-24	H	.2660	86	.0041	.2701	78
	I	.2720	75	.0041	.2761	67
3/8-16	5/16	.3125	77	.0044	.3169	72
	O	.3160	73	.0044	.3204	68
3/8-24	21/64	.3281	87	.0044	.3325	79
	Q	.3320	79	.0044	.3364	71
7/16-14	T	.3580	86	.0046	.3626	81
	23/64	.3594	84	.0046	.3640	79
	U	.3680	75	.0046	.3726	70
	3/8	.3750	67	.0046	.3796	62
	V	.3770	65	.0046	.3816	60
7/16-20	W	.3860	79	.0046	.3906	72
	25/64	.3906	72	.0046	.3952	65
1/2-13	27/64	.4219	78	.0047	.4266	73
	29/64	.4531	72	.0047	.4578	65
1/2-20	19/32	.4688	87	.0048	.4736	82
	31/64	.4844	72	.0048	.4892	68
1/2-18	1/2	.5000	87	.0048	.5048	80
5/8-11	17/32	.5313	79	.0049	.5362	75
	35/64	.5469	66	.0049	.5518	62
5/8-18	9/16	.5625	87	.0049	.5674	80
	3/4-10	41/64	.6406	84	.0050	.6456
3/4-16	21/32	.6563	72	.0050	.6613	68
	11/16	.6875	77	.0050	.6925	71
3/8-9	49/64	.7656	76	.0052	.7708	72
	25/32	.7812	65	.0052	.7864	61
3/8-14	51/64	.7969	84	.0052	.8021	79
	13/16	.8125	67	.0052	.8177	62
1"-8	59/64	.8594	87	.0059	.8653	83
	3/8	.8750	77	.0059	.8809	73
	57/64	.8906	67	.0059	.8965	64
1"-12	23/32	.9063	87	.0060	.9122	81
	59/64	.9219	72	.0060	.9279	67
1"-14	59/64	.9219	84	.0060	.9279	78
	13/16	.9375	67	.0060	.9435	61
1 1/8-7	31/32	.9688	84	.0062	.9750	81
	63/64	.9844	76	.0067	.9911	72
	1"	1.0000	67	.0070	1.0070	64
1 1/8-12	1 1/32	1.0313	87	.0071	1.0384	80
	1 3/64	1.0469	72	.0072	1.0541	66
1 1/4-7	1 3/32	1.0938	84			
	1 3/64	1.1094	76			
	1 1/8	1.1250	67			
1 1/4-12	1 5/32	1.1563	87			
	1 11/64	1.1719	72			
1 3/8-6	1 3/16	1.1875	87			
	1 13/64	1.2031	79			
	1 7/32	1.2188	72			
	1 15/64	1.2344	65			
1 3/8-12	1 9/32	1.2813	87			
	1 19/64	1.2969	72			
1 1/2-6	1 5/16	1.3125	87			
	1 21/64	1.3281	79			
	1 11/32	1.3438	72			
	1 23/64	1.3594	65			
1 1/2-12	1 13/32	1.4063	87			
	1 27/64	1.4219	72			

Reaming Recommended

## Metric Cutting Taps

### DRILL SELECTOR

Metric Tap Size	Basic Major Dia. (Ins.)	Tap Drill Size	Decimal Equiv. of Tap Drill (Ins.)	Theoretical Percent of Thread	Probable Mean Over-Size (Ins.)	Probable Hole Size (Ins.)	Probable Percent of Thread
M1.6 x 0.35	.0630	1.25 mm	.0492	77	.0015	.0507	69
M1.8 x 0.35	.0709	1.45 mm	.0571	77	.0015	.0586	69
M2 x 0.4	.0787	1/16"	.0625	79	.0015	.0640	72
		1.60 mm	.0630	77	.0017	.0647	69
		#52	.0635	74	.0017	.0652	66
M2.2 x 0.45	.0866	1.75 mm	.0689	77	.0017	.0706	70
M2.5 x 0.45	.0984	2.05 mm	.0807	77	.0019	.0826	69
		#46	.0810	76	.0019	.0829	67
		#45	.0820	71	.0019	.0839	63
M3 x 0.5	.1181	#40	.0980	79	.0023	.1003	70
		2.5 mm	.0984	77	.0023	.1007	68
		#39	.0995	73	.0023	.1018	64
M3.5 x 0.6	.1378	#33	.1130	81	.0026	.1156	72
		2.9 mm	.1142	77	.0026	.1168	68
		#32	.1160	71	.0026	.1186	63
M4 x 0.7	.1575	*3.25 mm	.1280	82	.0029	.1309	74
		#30	.1285	81	.0029	.1314	73
		3.3 mm	.1299	77	.0029	.1328	69
M4.5 x 0.75	.1772	3.7 mm	.1457	82	.0032	.1489	74
		#26	.1470	79	.0032	.1502	70
		*3.75 mm	.1476	77	.0032	.1508	69
M5 x 0.8	.1968	#25	.1495	72	.0032	.1527	64
		4.2 mm	.1654	77	.0032	.1686	69
M6 x 1	.2362	#19	.1660	75	.0032	.1692	68
		#10	.1935	84	.0038	.1973	76
M7 x 1	.2756	#9	.1960	79	.0038	.1998	71
		5 mm	.1968	77	.0038	.2006	70
		#8	.1990	73	.0038	.2028	65
		"A"	.2340	81	.0038	.2378	74
M8 x 1.25	.3150	1/4"	.2344	81	.0038	.2382	73
		6 mm	.2362	77	.0038	.2400	70
		"B"	.2380	74	.0038	.2418	66
		6.7 mm	.2638	80	.0041	.2679	74
M8 x 1	.3150	1/4"	.2656	77	.0041	.2697	71
		*6.75 mm	.2657	77	.0041	.2698	71
		"H"	.2660	77	.0041	.2701	70
		6.8 mm	.2677	74	.0041	.2718	68
M8 x 1	.3150	7 mm	.2756	77	.0041	.2797	69
		"J"	.2770	74	.0041	.2811	66
M10 x 1.5	.3937	8.4 mm	.3307	82	.0044	.3351	76
		"Q"	.3320	80	.0044	.3364	75
M10 x 1.25	.3937	8.5 mm	.3346	77	.0044	.3390	71
		8.7 mm	.3425	80	.0046	.3471	73
		1/32"	.3438	78	.0046	.3483	71
M12 x 1.75	.4724	*8.75 mm	.3445	77	.0046	.3491	70
		1 1/32"	.4016	79	.0047	.4063	74
		"Y"	.4040	76	.0047	.4087	71
M12 x 1.75	.4724	1 3/32"	.4062	74	.0047	.4109	69

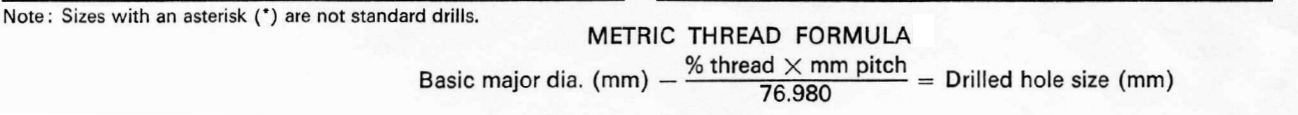
Note: Sizes with an asterisk (\*) are not standard drills.

Metric Tap Size	Basic Major Dia. (Ins.)	Tap Drill Size	Decimal Equiv. of Tap Drill (Ins.)	Theoretical Percent of Thread	Probable Mean Over-Size (Ins.)	Probable Hole Size (Ins.)	Probable Percent of Thread	
M12 x 1.25	.4724	2 1/64"	.4219	79	.0047	.4266	72	
		10.8 mm	.4252	74	.0047	.4299	66	
M14 x 2	.5512	1 1/32"	.4688	81	.0048	.4736	76	
		12 mm	.4724	77	.0048	.4772	72	
M14 x 1.5	.5512	12.5 mm	.4921	77	.0048	.4969	71	
M16 x 2	.6299	3 5/64"	.5469	81	.0049	.5518	76	
		14 mm	.5512	77	.0049	.5561	72	
M16 x 1.5	.6299	14.5 mm	.5709	77	.0049	.5758	71	
M18 x 2.5	.7087	3 9/64"	.6094	78	.0050	.6144	74	
		15.5 mm	.6102	77	.0050	.6152	73	
M18 x 1.5	.7087	4 1/64"	.6406	89	.0050	.6456	82	
		16.5 mm	.6496	77	.0050	.6546	70	
		2 1/32"	.6562	68	.0050	.6612	62	
M20 x 2.5	.7874	1 1/16"	.6875	78	.0052	.6925	74	
		17.5 mm	.6890	77	.0052	.6942	73	
M20 x 1.5	.7874	18.5 mm	.7283	77	.0052	.7335	70	
M22 x 2.5	.8661	4 9/64"	.7656	79	.0052	.7708	75	
		19.5 mm	.7677	77	.0052	.7729	73	
M22 x 1.5	.8661	20.5 mm	.8071	77	.0052	.8123	70	
M24 x 3	.9449	21 mm	.8268	77	.0059	.8327	73	
		5 3/64"	.8281	76	.0059	.8340	72	
M24 x 2	.9449	22 mm	.8661	77	.0059	.8720	71	
M27 x 3	1.0630	1 5/16"	.9375	82	.0060	.9435	78	
		24 mm	.9449	77	.0062	.9511	73	
M27 x 2	1.0630	25 mm	.9843	77	.0070	.9913	70	
		5 3/64"	.9844	77	.0070	.9914	70	
M30 x 3.5	1.1811	26.5 mm	1.0433	77				
		1 3/64"	1.0469	75				
M30 x 2	1.1811	28 mm	1.1024	77				
M33 x 3.5	1.2992	1 1/32"	1.1562	80				
		29.5 mm	1.1614	77				
		1 1/64"	1.1719	71				
M33 x 2	1.2992	1 1/32"	1.2188	79				
		31 mm	1.2205	77				
M36 x 4	1.4173	1 1/4"	1.2500	82				
		32 mm	1.2598	77				
M36 x 3	1.4173	1 9/64"	1.2969	78				
		33 mm	1.2992	77				
M39 x 4	1.5354	1 3/8"	1.3750	78				
		35 mm	1.3780	77				
M39 x 3	1.5354	36 mm	1.4173	77				
		1 7/64"	1.4219	74				

REAMING RECOMMENDED

#### METRIC THREAD FORMULA

$$\text{Basic major dia. (mm)} - \frac{\% \text{ thread} \times \text{mm pitch}}{76.980} = \text{Drilled hole size (mm)}$$



## TAP TROUBLE SHOOTING

# Taps

Problems encountered in tapping are often the fault of the tapping machine, tap holding devices and conditions of the hole to be tapped. The tapping machine should be checked for spindle, fixture and work alignment; for slipping belts, wear and power. The tap holding device should be checked as to correct type, for wear and alignment with the hole. The drilled hole should be checked for diameter and trueness in round and axis to assure correct percentage of thread engagement. Blind holes must have sufficient chip room at the bottom.

### General Suggestions

1. If holes are undersize or oversize check against the setup instructions. Check the tap for correct pitch diameter limit for desired class of thread, and the drill for correct size.
2. If the tap is producing rough thread it generally means that the tap is pushing or tearing the metal instead of cutting it. The tap may be dull, have galled threads or may be running at too slow a speed. If none of these, increase the hook angle of the cutting face.
3. If the tap is loading (metal clinging to the tap) or galling, check the lubrication. Here, too, the tap may be dull, or it may be producing too high a percentage of thread. Shift to a surface-treated tap.
4. If tap breakage is encountered the tap may be cutting too high a percentage of thread, be insufficiently lubricated or have too little clearance for chips at the bottom of the blind hole. If none of these conditions exist, increase the speed, except in hard or tough materials. In these materials, lower the speed.

Trouble	Cause
Tap Breakage	<ol style="list-style-type: none"> <li>1. Wrong type of tap.</li> <li>2. Dull tap.</li> <li>3. Tap incorrectly ground.</li> <li>4. Tap drill too small.</li> <li>5. Drilled hole too shallow.</li> <li>6. Misalignment of tap and hole.</li> <li>7. Wrong machine.</li> <li>8. Incorrect fixture or holding device.</li> <li>9. Work hardened material/</li> <li>10. Lack of lubricant, or use of wrong type.</li> </ol>
Tap Failure on Reversal	<ol style="list-style-type: none"> <li>1. Tap cutting too tightly. Cutting face angle should be increased.</li> <li>2. Tap galling. Face angle on back of land should be increased.</li> <li>3. Chips wedged between flutes. (See the following)</li> </ol>
Chips Clogging Flutes	<ol style="list-style-type: none"> <li>1. Wrong type of tap.</li> <li>2. Insufficient chamfer.</li> <li>3. Incorrect cutting face angle.</li> <li>4. Rough Flutes.</li> <li>5. Flutes improperly reground.</li> <li>6. Lack of lubrication, or use of wrong type.</li> </ol>
Stripped or Chipped Tap Threads	<ol style="list-style-type: none"> <li>1. Misalignment.</li> <li>2. Careless handling.</li> <li>3. Dull Tap</li> <li>4. Tap too hard.</li> <li>5. Wrong application of surface treated taps.</li> <li>6. Improper sharpening of tap.</li> </ol>
Torn Threads in Tapped Part	<ol style="list-style-type: none"> <li>1. Incorrect cutting face angle (usually too small).</li> <li>2. Tap drill too small.</li> <li>3. Chips clogging flutes.</li> <li>4. Broken threads on taps.</li> <li>5. Improper resharpener of tap.</li> <li>6. Lack of lubricant, or use of wrong type.</li> </ol>
Tap Sticking or Binding	<ol style="list-style-type: none"> <li>1. Tap drill too small.</li> <li>2. Tap lands too wide.</li> <li>3. Incorrect cutting face angle.</li> <li>4. Lack of lubricant, or use of wrong type.</li> <li>5. Surface treatment (lubricant) required.</li> </ol>
Excessive Tap Wear	<ol style="list-style-type: none"> <li>1. Material is abrasive, or inclusions present. Surface treated tap required.</li> <li>2. Misalignment.</li> </ol>
Cutting Face Breakdown	<ol style="list-style-type: none"> <li>1. Incorrect cutting face angle.</li> <li>2. Surface treatment required.</li> </ol>
Overheating of Tap	<ol style="list-style-type: none"> <li>1. Excessive land width.</li> <li>2. Lack of lubricant, or use of wrong type.</li> <li>3. Dull tap.</li> <li>4. Excessive flank contact, pitch diameter relief required.</li> <li>5. Excessive tapping speeds.</li> </ol>
Poor Finish on Thread in Tapped Part	<ol style="list-style-type: none"> <li>1. Pitch diameter relief required.</li> <li>2. Incorrect cutting face angle, usually too small.</li> <li>3. Tap drill too small.</li> <li>4. Insufficient number of chamfered threads.</li> <li>5. Dull tap.</li> <li>6. Lack of lubricant, or use of wrong type.</li> </ol>
Excessive Frictional Drag and Power Requirement	<ol style="list-style-type: none"> <li>1. Pitch diameter relief required.</li> <li>2. Point size on tap too small.</li> <li>3. Dull tap.</li> <li>4. Incorrect cutting face angle.</li> <li>5. Incorrect tapping speed.</li> <li>6. Lack of lubricant, or use of wrong type.</li> <li>7. Incorrect or inadequate equipment.</li> <li>8. Misalignment.</li> </ol>

# Tap Limits, Product Limits

## CLASS OF THREAD

We sometimes receive requests for a Class 3B (or other class) tap. Many times the customer will ask for a tap to produce a "Class 3Bfit". Ordering taps by these specifications is incorrect and often impractical. The following information is presented to clarify the difference between the terms Class of Thread, Tap Limits and Product Limits to make ordering taps easier and aid the customer in obtaining the tap best suited for their requirements.

### Class of Thread

Class of Thread refers simply to the tolerances that control the closeness of fit between two threaded mating parts. This term should be used only in reference to a threaded assembly, as, for example, a screw and nut.

### Product Limits

Product Limits refer to the limits and tolerances of the internal or female thread. The degree of tolerance is expressed by the terms Class 2, 2B, 3 and 3B. Product limits refer to the various limits and tolerances applying to nuts or internal threads and are identified by the terms Class 2, 2B, 3 or 3B.

### Tap Limits

Tap Limits refer to the various sizes of taps manufactured to permit selection of a tap which will produce an internal thread within the desired product limit. Tap limits are designated as L-1, H-1, H-2, H-3, etc.

In the chart on this page we have illustrated the difference between tap and product limit, using a 1/4-20 tapped hole as the example.

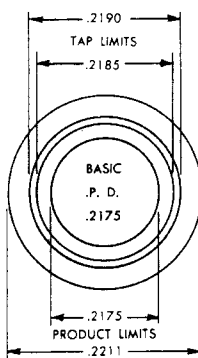
Although ground thread taps are produced to precision tolerances under closely controlled manufacturing processes and are guaranteed for accuracy of individual elements, there is always the possibility of the presence of unknown factors which can be detrimental to good tap performance. The tap manufacturer, therefore, is not able to guarantee the size of the tapped hole.

To summarize, the following points should be remembered:

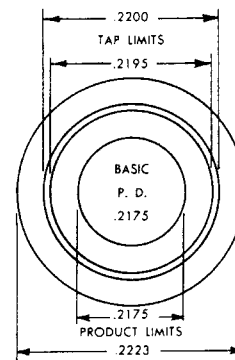
1. A tap cannot produce a Class of Thread. It can produce a tapped hole within specific product limits.
  2. Since it is used only in tapping a hole, or producing an internal thread, a tap has no control over the fitting properties of the mating external thread.
  3. To product what is commonly referred to as a "Class of Thread," both the external and internal threads must be within their respective product limits. Only when both members of a threaded assembly fall within the desired class limits can the proper fit be assured.
  4. The acceptability of any class of threaded hole is determined only by an accurate "Go" or "Hi" thread plug gage of the correspond-
5. ing class. Similarly, the acceptability of a male part with an external thread is also determined by a corresponding "Go" or "Lo" thread ring gage.
  6. When ordering taps, specify either the tap limit or the class of thread that identifies the limit of the tapped hole.
  7. In special applications, supply as much information as possible. The more information our engineers have to work with, the better they can recommend a tap to do the job properly with least expense.
  8. Remember, it is not always the most expensive tap which will do the job best. Our files contain many examples of special jobs which were solved with inexpensive standard taps.

### 1/4 - 20 Tapped Hole

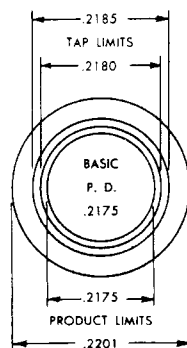
**Class 2 Limit GH-3 Tap**



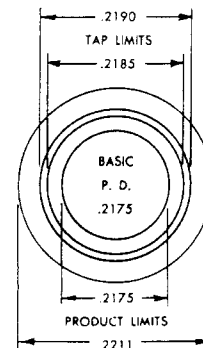
**Class 2B Limit GH-5 Tap**



**Class 3 Limit GH-2 Tap**



**Class 3B Limit GH-3 Tap**



# TAPS Thread Constants for Various Percentages

## FORMULA FOR OBTAINING TAP DRILL SIZES

(Select nearest commercial stock drill)

$$\left( \begin{array}{c} \text{Outside Diam.} \\ \text{of Thread} \end{array} \right) - \left( \frac{.01299 \times \text{Amount of percentage of full thread}}{\text{Number of threads per inch}} \right) = \text{Drilled Hole Size}$$

$$\left( \begin{array}{c} \text{No. of Threads} \\ \text{per inch} \end{array} \right) \times \left( \frac{\text{Outside Diam. of thread} - \text{Selected Drill Diam.}}{.01299} \right) = \text{Percent- age of Full Thread}$$

**EXAMPLE:** To find the hole size for obtaining 75% of thread in a ¼-20 tapped hole, follow first column to 20 threads, then across to 75% of thread. This figure (.0485) when subtracted from the .250 diameter leaves .2015, which is the required diameter of the hole for a ¼-20 thread.

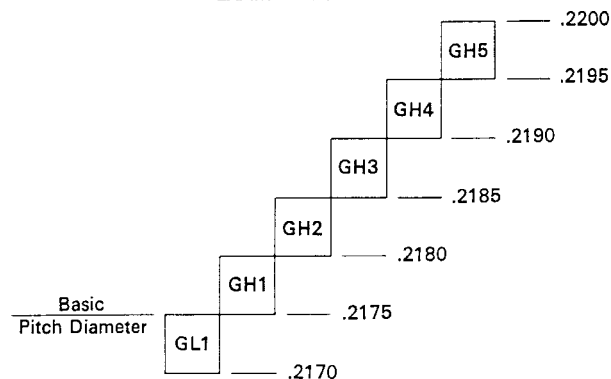
Figures in table show amount to subtract from O.D. of screw to obtain specific percentages of thread.

Threads per Inch	Double Depth	60% Thread	65% Thread	70% Thread	75% Thread	80% Thread	85% Thread
6	.21651	.1300	.1408	.1517	.1625	.1733	.1842
7	.18558	.1114	.1207	.1300	.1393	.1486	.1579
8	.16238	.0975	.1056	.1138	.1219	.1300	.1381
9	.14434	.0866	.0939	.1011	.1083	.1156	.1228
10	.12990	.0779	.0844	.0909	.0974	.1039	.1105
11	.11809	.0708	.0767	.0826	.0885	.0944	.1005
12	.10825	.0649	.0702	.0755	.0808	.0861	.0921
13	.09992	.0599	.0649	.0699	.0749	.0799	.0850
14	.09278	.0556	.0602	.0648	.0694	.0740	.0789
16	.08119	.0486	.0526	.0566	.0606	.0646	.0691
18	.07217	.0431	.0466	.0501	.0536	.0571	.0614
20	.06495	.0389	.0421	.0453	.0485	.0517	.0553
24	.05412	.0326	.0354	.0382	.0410	.0438	.0460
27	.04811	.0288	.0312	.0336	.0360	.0384	.0409
28	.04639	.0276	.0298	.0324	.0347	.0370	.0395
30	.04330	.0260	.0282	.0304	.0326	.0348	.0368
32	.04059	.0243	.0263	.0283	.0303	.0323	.0345
36	.03608	.0216	.0234	.0252	.0270	.0288	.0307
40	.03247	.0194	.0210	.0226	.0242	.0258	.0276
44	.02952	.0177	.0192	.0207	.0222	.0237	.0251
48	.02706	.0161	.0174	.0187	.0200	.0213	.0230
56	.02319	.0138	.0149	.0160	.0171	.0182	.0197
64	.02029	.0121	.0131	.0141	.0151	.0161	.0173
72	.01804	.0107	.0115	.0123	.0131	.0139	.0153
80	.01623	.0097	.0105	.0113	.0121	.0129	.0138

## Relation of Tap Pitch Diameter to Basic Pitch Diameter

American tap manufacturers use a series of tap pitch diameter limits. These limits feature a .0005" tolerance in tap sizes #0 through 1", and a .001" or greater tolerance in tap sizes above 1" through 1½" diameter, inclusive. The chart shows the relationship between tap pitch diameter limits and basic (nominal) pitch diameter.

EXAMPLE: ¼ — 20NC



# Quick Index

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## INTRODUCTION

### Portable Magnetic Press

Using the Latest Manufacturing and Design Technology to provide hole-cutting solutions for a Wide Range of Industries, such as the following:

- Construction
- Steel Fabrication
- Oil & Gas
- Mining and Tunneling
- Shipyards
- Offshore Oil/Gas Rigs
- Structural Steelwork
- Automotive
- Highway and Railroad Bridgework
- Petrochemical Plants
- Welding Shops
- Railroads
- HVAC
- Machinery Installation
- Underwater Drilling

## Advantages

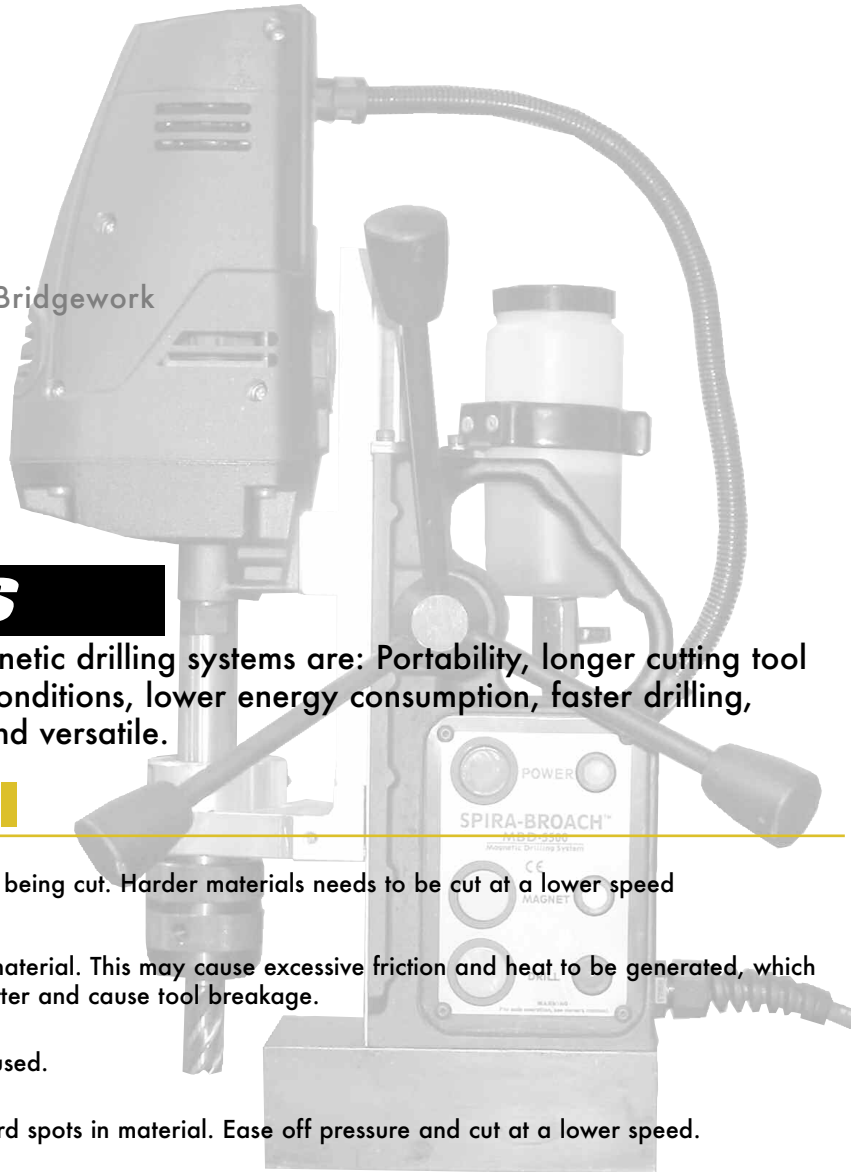
Some advantages of using magnetic drilling systems are: Portability, longer cutting tool life, safe cutting in hazardous conditions, lower energy consumption, faster drilling, cleaner and more precise cut and versatile.

## Before you drill

- ✓ Adjust feed rate to match material being cut. Harder materials needs to be cut at a lower speed and, may require a special cutter.
- ✓ Do not force cutting tool into the material. This may cause excessive friction and heat to be generated, which will reduce the efficiency of the cutter and cause tool breakage.
- ✓ Make sure coolant or lubricant is used.
- ✓ Do not force the cutter through hard spots in material. Ease off pressure and cut at a lower speed.
- ✓ Identify material properties before cutting.
- ✓ Remember Cobalt cutters offer a longer life when compared with standard High-Speed Steel.

## Some factors that Effect Efficiency of Hole Drilling

- |                             |                |
|-----------------------------|----------------|
| • Hardness of Material      | • Machine h.p. |
| • Abrasion Resistance       | • Lubrication  |
| • Condition of Cutting Tool | • Speed        |
| • Feed Rate                 |                |





## SPIRA-BROACH™ MAG-BASED DRILL

### MBD 5500

The Spira-Broach™ MBD 5500 is an extremely light, yet powerful magnetic drill featuring the **Kwik-Lok Arbor**. These attributes give the operator the ability to cut large diameter holes up to 1-3/8" with a minimum amount of effort and time.

#### Features

##### Integral Arbor Support For Added Rigidity

New super-safe panel which includes:

- Visual indication of status, solid state electronics.
- Time delay
- 1-3/8 inch broaching capacity
- Lubrication reservoir
- Ultimate in versatility just 22 lbs.
- Complete with moulded carrying case

#### Special Feature: Kwik-Lok Arbor

##### Ability To Convert To Twist Drilling In Seconds

- Internal lubricant system



### MBD 5500

Part No.	Size	Qty.
12850	MBD5500	1
12860	1/2" Drill Chuck & Key (5500-DC)	1



**SPIRA-BROACH™ CUTTING FLUID**

**Type 13-UB**

Spira-Broach™ Cutting Fluid is specially formulated for use with Spira-Broach 5500/3500 Mag drill systems and Type 13, 14 and 15 Spira-Broach annular cutter. Improves cutting tool life and increases drilling efficiency. Available in pints and gallons.

<b>Part No. 03130</b> 16oz	<b>Part No. 03140</b> 128oz
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ANNULAR CUTTERS AND MAG-BASE DRILLS

Portable Magnetic Systems Introduction

## SPIRA-BROACH™ MAG-BASED DRILL

### MBD 6500 - Heavy Duty

Spira-Broach™ MBD 6500 variable speed Magnetic based drill.

#### Features:

- Variable speed control
- Morse Taper allows for quick conversion to twist drilling
- Two gear ranges
- Convenient carrying case

#### Technical Specifications:

- Power Full 1.5hp
- Cutter Capacity - 2"
- Morse Taper - #2
- Speed Ranges - 280/ 500rpm
- Magnet Adhesion - 2000 lbs.
- Weight - 40 lbs.

#### Also Includes:

- Integral lubrication system
- Warranty
- Allen keys
- Safety strap & guard

### MBD 7000 - Heavy Duty w/ Reverse

Spira-Broach™ MBD 7000 variable speed Magnetic based drill with reversible motor

#### Features

- Reversible motor for tapping
- Variable Speed Control
- Morse Taper allows for quick conversion to twist drilling
- Two gear ranges
- Convenient carrying case

#### Technical Specifications

- Power 1.5hp
- Cutter Capacity - 2"
- Morse Taper - 2
- Speed Ranges - 280/ 500 rpm
- Magnet Adhesion - 2000 lbs.
- Weight - 40 lbs.

#### Also Includes

- Integral lubrication system
- Warranty
- Allen keys
- Safety strap & guard



### MBD 6500/ 7000

Part No.	Description	Qty.
17920	MBD 6500	1
17930	MBD 7000	1
00952	#2 Morse Taper with Drill Chuck	1

# Annular Cutters



## SPIRA-BROACH™ ANNULAR CUTTERS - M42 POWDERED COBALT

### Types 15 & 15L

#### Spira-Broach™

#### Ultra High Performance, Gold Finish - Super Cobalt Steel

These unique cutters reduce time and power requirements by cutting larger diameter holes as a ring to produce a solid slug. The power requirements are a fraction of those needed when using a twist drill or indexable tooling. The multiple teeth cut only the outer diameter of the hole and yield a super fast reamed quality hole. SPIRA-BROACH™ tools are manufactured using powdered metal M-42 cobalt steel and allow speeds 30-40% higher than high speed steel annular cutters. In many applications SPIRA-BROACH cutters will more than double tool life between resharpenings.



#### 1" CUT DEPTH

##### Type 15

Part No.	Dia. Size	Qty.
14351	7/16	1
14391	1/2	1
14431	9/16	1
14471	5/8	1
14511	11/16	1
14551	3/4	1
14591	13/16	1
14631	7/8	1
14671	15/16	1
14711	1-INCH	1
14751	1-1/16	1
14791	1-1/8	1
14831	1-3/16	1
14871	1-1/4	1
14911	1-5/16	1
14951	1-3/8	1
14991	1-7/16	1
15031	1-1/2	1
15051	1-9/16	1
15071	1-5/8	1
15091	1-11/16	1
15111	1-3/4	1
15131	1-13/16	1
15151	1-7/8	1
15171	1-15/16	1
15191	2-INCH	1
15211	2-1/16	1
15231	2-1/8	1
15251	2-3/16	1
15271	2-1/4	1
15281	2-5/16	1
15291	2-3/8	1

#### 2" CUT DEPTH

##### Type 15-L

Part No.	Dia. Size	Qty.
14352	7/16	1
14392	1/2	1
14432	9/16	1
14472	5/8	1
14512	11/16	1
14552	3/4	1
14592	13/16	1
14632	7/8	1
14672	15/16	1
14712	1-INCH	1
14752	1-1/16	1
14792	1-1/8	1
14832	1-3/16	1
14872	1-1/4	1
14912	1-5/16	1
14952	1-3/8	1
14992	1-7/16	1
15032	1-1/2	1
15052	1-9/16	1
15072	1-5/8	1
15092	1-11/16	1
15112	1-3/4	1
15132	1-13/16	1
15152	1-7/8	1
15172	1-15/16	1
15192	2-INCH	1
15212	2-1/16	1
15232	2-1/8	1
15252	2-3/16	1
15272	2-1/4	1
15282	2-5/16	1
15292	2-3/8	1

#### SPIRA-BROACH™ Cutters

- Give the lowest cost per hole
- Leave a burr-free hole
- Allow overlapping cuts on existing holes
- Cut on curved surfaces
- Use less power
- Stay sharp much longer

All cutters have 3/4" shank drive with 2-flats @90°

#### Pilot Pins for 1" Cut Depth

Part No.	Description	Size
00902	1/4" dia. pin fits one inch depth cutters 1/2" & larger	PP1/4x1

#### Pilot Pins for 1" Cut Depth

Part No.	Description
13710	11/64" dia. pin fits 7/16" 1" depth cutter

#### Pilot Pins 2" Cut Depth

Part No.	Description	Size
00903	1/4" dia. pin fits two inch depth cutters 1/2" & larger	PP1/4x2

#### Pilot Pins 2" Cut Depth

Part No.	Description
13720	11/64" dia. pin fits 7/16" 2" depth cutter

**SPIRA-BROACH™ ANNULAR CUTTERS - M35 COBALT**

**Types 14 & 14L**

**Spira-Broach™**

**Special Cobalt Cutters - Gold Finish**

M-35 Cobalt Cutters are known for their long lasting durability and ease of penetration in hard materials. Annular cutters only cut materials at the periphery of the hole, rather than converting the entire hole to shavings. As a result, the effort required to drill the hole is less than that for a traditional twist drill.



**1" CUT DEPTH**

**Type 14**

Part No.	Cutter Diameter	Quantity
16631	7/16	1
16641	1/2	1
16651	9/16	1
16661	5/8	1
16671	11/16	1
16681	3/4	1
16691	13/16	1
16701	7/8	1
16711	15/16	1
16721	1"	1
16731	1-1/16	1
16741	1-1/8	1
16751	1-3/16	1
16761	1-1/4	1
16771	1-5/16	1
16781	1-3/8	1
16791	1-7/16	1
16801	1-1/2	1
16811	1-9/16	1
16821	1-5/8	1
16831	1-11/16	1
16841	1-3/4	1
16851	1-13/16	1
16861	1-7/8	1
16871	1-15/16	1
16881	2"	1
16891	2-1/16	1

**2" CUT DEPTH**

**Type 14L**

Part No.	Cutter Diameter	Quantity
16632	7/16	1
16642	1/2	1
16652	9/16	1
16662	5/8	1
16672	11/16	1
16682	3/4	1
16692	13/16	1
16702	7/8	1
16712	15/16	1
16722	1"	1
16732	1-1/16	1
16742	1-1/8	1
16752	1-3/16	1
16762	1-1/4	1
16772	1-5/16	1
16782	1-3/8	1
16792	1-7/16	1
16802	1-1/2	1
16812	1-9/16	1
16822	1-5/8	1
16832	1-11/16	1
16842	1-3/4	1
16852	1-13/16	1
16862	1-7/8	1
16872	1-15/16	1
16882	2"	1
16892	2-1/16	1

**Pilot Pins for 1" Cut Depth**

Part No.	Description	Size
00902	1/4" dia. pin fits one inch depth cutters 1/2" & larger	PP1/4x1

**Pilot Pins 2" Cut Depth**

Part No.	Description	Size
00903	1/4" dia. pin fits two inch depth cutters 1/2" & larger	PP1/4x2

**Pilot Pins for 1" Cut Depth**

Part No.	Description
13710	11/64" dia. pin fits 7/16" 1" depth cutter

**Pilot Pins 2" Cut Depth**

Part No.	Description
13720	11/64" dia. pin fits 7/16" 2" depth cutter

# Annular Cutters



## SPIRA-BROACH™ ANNULAR CUTTERS - HIGH SPEED STEEL

### High-Speed Steel - Types 13SP & 13LSP

Spira-Broach™ M2

#### High-Speed Steel Cutters

Our value priced high performance cutter designed for a wide variety of applications.



#### 1" CUT DEPTH

##### Type 13SP

Part No.	Cutter Diameter	Quantity
16311	7/16	1
16321	1/2	1
16331	9/16	1
16341	5/8	1
16351	11/16	1
16361	3/4	1
16371	13/16	1
16381	7/8	1
16391	15/16	1
16401	1"	1
16411	1-1/16	1
16421	1-1/8	1
16431	1-3/16	1
16441	1-1/4	1
16451	1-5/16	1
16461	1-3/8	1
16471	1-7/16	1
16481	1-1/2	1
16491	1-9/16	1
16501	1-5/8	1
16511	1-11/16	1
16521	1-3/4	1
16531	1-13/16	1
16541	1-7/8	1
16551	1-15/16	1
16561	2"	1
16571	2-1/16	1
16581	2-1/8	1
16591	2-3/16	1
16601	2-1/4	1
16611	2-5/16	1
16621	2-3/8	1

#### Pilot Pins for 1" Cut Depth

Part No.	Description	Size
00902	1/4" dia. pin fits one inch depth cutters 1/2" & larger	PP1/4x1

#### Pilot Pins for 1" Cut Depth

Part No.	Description
13710	11/64" dia. pin fits 7/16" 1" depth cutter

#### 2" CUT DEPTH

##### Type 13LSP

Part No.	Cutter Diameter	Quantity
16312	7/16	1
16322	1/2	1
16332	9/16	1
16342	5/8	1
16352	11/16	1
16362	3/4	1
16372	13/16	1
16382	7/8	1
16392	15/16	1
16402	1"	1
16412	1-1/16	1
16422	1-1/8	1
16432	1-3/16	1
16442	1-1/4	1
16452	1-5/16	1
16462	1-3/8	1
16472	1-7/16	1
16482	1-1/2	1
16492	1-9/16	1
16502	1-5/8	1
16512	1-11/16	1
16522	1-3/4	1
16532	1-13/16	1
16542	1-7/8	1
16552	1-15/16	1
16562	2"	1
16572	2-1/16	1
16582	2-1/8	1
16592	2-3/16	1
16602	2-1/4	1
16612	2-5/16	1
16622	2-3/8	1

#### Pilot Pins 2" Cut Depth

Part No.	Description	Size
00903	1/4" dia. pin fits two inch depth cutters 1/2" & larger	PP1/4x2

#### Pilot Pins 2" Cut Depth

Part No.	Description
13720	11/64" dia. pin fits 7/16" 2" depth cutter

## SPIRA-BROACH™ ANNULAR CUTTER SETS

These unique cutters reduce time and power requirements by cutting larger diameter holes as a ring to produce a solid slug.

#### SPIRA-BROACH Cutters

- Give the lowest cost per hole
- Cut on curved surfaces
- Leave a burr-free hole
- Allow overlapping cuts on existing holes



#### SB-5 1" LENGTH

Part No.	Type	Components
15301	15	1" Pin, 9/16, 11/16, M-42 ASP
		13/16, 15/16 & 1-1/16

16901	14	1" Pin, 9/16, 11/16, M-35 HSS
		13/16, 15/16 & 1-1/16

16624	13SP	1" Pin, 9/16, 11/16, M-2 HSS
		13/16, 15/16 & 1-1/16

#### SB-5 2" LENGTH

Part No.	Type	Components
15302	15L	2" Pin, 9/16, 11/16, M-42 ASP
		13/16, 15/16 & 1-1/16

16902	14L	2" Pin, 9/16, 11/16, M-35 HSS
		13/16, 15/16 & 1-1/16

16629	13LSP	2" Pin, 9/16, 11/16, M-2 HSS
		13/16, 15/16 & 1-1/16

## COUNTER DISPLAYS

### Annular Cutters

- Compact metal case attractively displays annular cutters.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.



#### DISPLAY CONTENTS

Part Number	Size	Type	Qty.	
00943	M-42 ASP	SB-20	15	1
00944	M-35 HSS	SB-20HS	14	1
00949	M-2 HSS	SB-20SP	13SP	1

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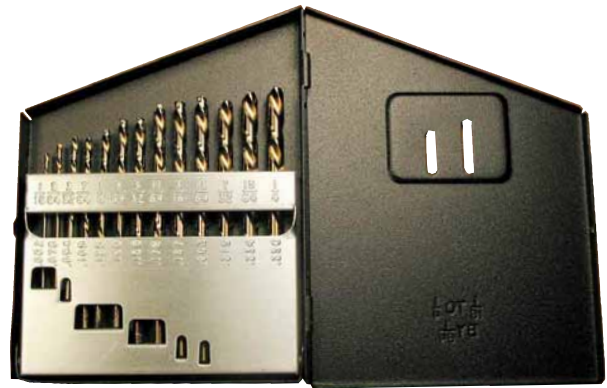
Proudly Manufactured in the U.S.A.

## LEFT-HAND SPIRAL DRILLS - ULTRA BOR SUPER PREMIUM

### Type 240-AL

#### Ultra Bor Super Premium - Left Hand Spiral

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Ideal for drilling broken studs.
- Need for screw and bolt extractor may be eliminated.
- Left hand spiral drill may loosen the bolt stud while drilling a hole for use of the screw and bolt extractor.



### LEFT HAND SPIRAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
92430	1/16	1-7/8	7/8	6
23150	5/64	2	1	6
89290	3/32	2-1/4	1-1/4	6
23160	7/64	2-5/8	1-1/2	6
92440	1/8	2-3/4	1-5/8	6
92441	9/64	2-7/8	1-3/4	6
23170	5/32	3-1/8	2	6
92442	11/64	3-1/4	2-1/8	6
92450	3/16	3-1/2	2-5/16	6
92443	13/64	3-5/8	2-7/16	6
92444	7/32	3-3/4	2-1/2	6
92451	15/64	3-7/8	2-5/8	6
92460	1/4	4	2-3/4	6
92452	17/64	4-1/8	2-7/8	6
92453	9/32	4-1/4	2-15/16	6
23180	19/64	4-3/8	3-1/16	3
92470	5/16	4-1/2	3-3/16	3
92471	21/64	4-5/8"	3-5/16"	3
92472	11/32	4-3/4	3-7/16	3
92473	23/64	4-7/8"	3-1/2"	3
92480	3/8	5	3-5/8	3
92481	25/64	5-1/8"	3-3/4"	3
92482	13/32	5-1/4	3-7/8	3
92483	27/64	5-3/8"	3-15/16"	3
92490	7/16	5-1/2	4-1/16	3
92491	29/64	5-5/8"	4-3/16"	3
92492	15/32	5-3/4	4-5/16	3
92493	31/64	5-7/8"	4-3/8"	3
92500	1/2	6	4-1/2	3

### Broken Bolt Remover Combo

#### Type 420-AL

Carded left hand drill combined with spiral style screw extractor is ideal for removing broken studs.

Part No.	Screw Extractor Number	Description of Sizes	Qty of each
30137	EX-1	3/32 LH drill	1
30147	EX-2	1/8 LH drill	1
30157	EX-3	3/16 LH drill	1
30167	EX-4	1/4 LH drill	1
30177	EX-5	5/16 LH drill	1



### TYPE 240-AL SETS

#### Left-Hand Spiral Sets

##### LF-8

Part No.	Description of Sizes	Qty of each
87650	1/16-1/2 by 16ths	1

##### LF-12

Part No.	Description of Sizes	Qty of each
87651	1/16-5/16 by 32nds, 3/8, 7/16 & 1/2	1

##### LF-13

Part No.	Description of Sizes	Qty of each
87652	1/16-1/4 by 64ths	1

##### LF-15

Part No.	Description of Sizes	Qty of each
87654	1/16 - 1/2 by 32nds	1

##### LF-17

Part No.	Description of Sizes	Qty of each
87853	1/16-1/4 by 64ths, 5/16-1/2 by 16ths	1

##### LF-29

Part No.	Description of Sizes	Qty of each
87854	1/16-1/2 by 64ths	1

##### LF-29P Ultra Dex

Part No.	Description of Sizes	Qty of each
87859	1/16-1/2 by 64ths	1

### PRODUCT: TIPS

Bolt Remover Sets Include BOTH Left-Hand Spiral Drills and Bolt/Screw Extractors.

# Extractors

## EXTRACTORS - HIGH CARBON STEEL

### Type 420-UB

#### Screw & Pipe Extractors

#### Hi-Carbon Steel - Spiral Style

Remove broken screws, bolts, threaded parts, and pipes. To remove the broken threaded part: drill a hole in the broken part, insert extractor, then turn to the left. Broken piece is extracted with out damage to threads.



### SCREW & PIPE EXTRACTORS

Part No.	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
57100	EX-1	3/32 to 5/32	1/8	.060	5/64	5
57110	EX-2	5/32 to 7/32	3/16	.080	7/64	5
57120	EX-3	7/32 to 9/32	1/4	1/8	5/32	5
57130	EX-4	9/32 to 3/8 and 1/8 pipe	5/16	3/16	1/4	5
57140	EX-5	3/8 to 5/8 and 1/4 pipe	7/16	1/4	17/64	5
57150	EX-6	5/8 to 7/8 and 3/8 pipe	5/8	3/8	13/32	1
57160	EX-7	7/8 to 1-1/8 and 1/2 pipe	7/8	15/32	17/32	1
57170	EX-8	1-1/8 to 1-3/8 and 3/4 pipe	11/32	3/4	13/16	1
57180	EX-9	1-3/8 up and 1" pipe	1-9/32	1	1-1/8	1

### CARDER - SCREW & PIPE EXTRACTORS

57107	EX-1	3/32 to 5/32	1/8	.060	5/64	1
57117	EX-2	5/32 to 7/32	3/16	.080	7/64	1
57127	EX-3	7/32 to 9/32	1/4	1/8	5/32	1
57137	EX-4	9/32 to 3/8 and 1/8 pipe	5/16	3/16	1/4	1
57147	EX-5	3/8 to 5/8 and 1/4 pipe	7/16	1/4	17/64	1

### Type 421-UB

#### Screw, Stud and Pipe Extractors

#### Studout™ Super Premium - Square Style Forged Hi-Carbon Steel


**BLACK & GOLD**


The square shape of these extractors gives the tools the ability to remove broken bolts, screws, and pipes with minimum deformation of the broken part. To remove the broken threaded part: Drill a hole in the end of the broken part (left hand spiral heavy duty drills are recommended for this drilling operation), insert extractor, then turn counterclockwise using a wrench on the exposed end of the extractor. The broken part should unscrew without damage to the threads. These extractors will not chew up or expand the object being removed.

### STUDOUT™ SUPER PREMIUM

Part No.	Screw Extractor Number	To remove Diameter of Screw	Diameter. of Screw Extractor Shank Point		Drill Size	No. per/pack
70760	E-1	3/16-9/32	3/16	1/8	1/8	5
70770	E-2	9/32-11/32	1/4	11/64	3/16	5
70780	E-3	11/32-1/2	5/16	7/32	1/4	5
70800	E-4	1/2-3/4	3/8	9/32	5/16	5
70810	E-5	5/8-7/8	7/16	21/64	3/8	5
70820	E-6	7/8-1"	1/2	7/16	1/2	1
70830	E-7	1"-1-1/4	5/8	1/2	9/16	1
70860	E-8	1-1/8 - 1-1/2	3/4	9/16	5/8	1
70870	E-9	1-1/4 - 1-3/4	7/8	5/8	11/16	1



## BOLT EXTRACTOR SETS

### Type 420-UB & 421-UB Sets

A unique combination of left-hand spiral drills and bolt/screw extractors. Both BR sets provide these benefits:

- Fast and easy stud removal
- Left-hand spiral drills often eliminate the need for bolt and screw extractors.
- Drill may loosen bolt stud with counter clockwise rotation.
- 135° split point left hand drill cuts harder metals than a 118° point drill. Most broken studs are work hardened during the breaking process.

### BOLT EXTRACTOR SETS - TYPE 420-UB SPIRAL EXTRACTOR

#### SE-4N - Type 420-UB

Part No.	Description of Sizes	Qty of each
47170	EX 2, 3, 4 & 5	1

#### SE-5N - Type 420-UB

Part No.	Description of Sizes	Qty of each
47180	EX 1, 2, 3, 4 & 5	1

### BOLT EXTRACTOR SETS - LEFT HAND DRILL

#### BR-8 - Type 420-UB & 240-AL

Part No.	Description of Sizes	Qty of each
88550	EX 1, 2, 3, 4 + 3/32, 1/8, 3/16 & 1/4	1

#### BR-10 - Type 420-UB & 240-AL

Part No.	Description of Sizes	Qty of each
58510	EX 1, 2, 3, 4 & 5 + 3/32, 1/8, 3/16, 1/4, 5/16	1

## GLASS & TILE DRILLS

### Type 626

#### Carbide Tipped with Spear Point

These drills are designed for drilling in glass, tile, mirrors and ceramic materials. The spear point allows clean penetration with reduced cutting pressure and breakout. The carbide tip insures long tool life. Fits drills with 3/8" or larger chucks. Individually packaged in clear hanging tubes.



### TYPE 626

Part No.	Size Inches
56510	1/8
56520	5/32
56530	3/16
56540	1/4
56550	5/16
56560	3/8
56570	1/2

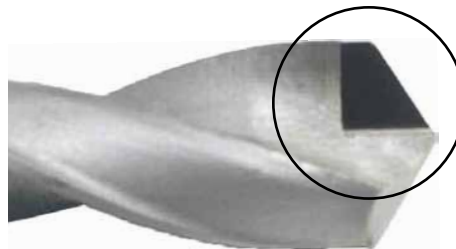
### Type 626 SET Part # 56580

Convenient set includes four commonly used sizes;  
1/8, 3/16, 1/4 & 5/16

## DIAMOND TIPPED TWIST DRILLS FOR TILE, MARBLE AND GRAPHITE

### Type 627

Drills all ceramic, porcelain tile, and marble. Drills ten times faster than carbide, less chipping, and less breakout - saves time and money.



### TYPE 627

Part No.	Diameter	Overall Length	Flute Length	Qty Per Pack
33201	3/16	3-1/2"	2-5/16"	1
33211	1/4	4"	2-3/4"	1
33221	5/16	4-1/2"	3-3/16"	1
33231	3/8	5"	3-5/8"	1
33241	1/2	6"	4-1/2"	1



BR-10



SE-5N

### BOLT EXTRACTOR SETS - TYPE 421-UB

#### SQE-4 - Type 421-UB

Part No.	Description of Sizes	Qty of each
70840	E 2, 3, 4 & 5	1

### BOLT EXTRACTOR SETS WITH LEFT-HAND DRILLS

#### BR-8SQ - Type 421-UB & 240-AL

Part No.	Description of Sizes	Qty of each
70850	E 1, 2, 3 & 4 + 1/8, 3/16, 1/4 & 5/16	1

# Hole Expansion Tools



## HOLE EXPANSION TOOLS - CAR REAMERS

### Type 50-UB

Car Reamers, Standard Flute 3-Flats on Shank



Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity. These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels. For use only to enlarge previously formed or drilled holes.

All tools are constructed with left-hand spiral and right-hand cut. The left-hand spiral eliminates the tendency of the reamer to hog into holes.

### STANDARD FLUTE

Part No.	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
06390	3/8	0.250	5/16	4-5/8	3/8
06400	1/2	0.281	3/8	5-7/8	1/2
06410	9/16	0.343	7/16	5-7/8	1/2
06420	5/8	0.343	7/16	6-3/8	1/2
06430	11/16	0.375	15/32	6-3/8	1/2
06440	3/4	0.406	1/2	6-7/8	1/2
06450	13/16	0.468	35/64	6-7/8	1/2
06460	7/8	0.500	19/32	6-7/8	1/2
06470	15/16	0.585	5/8	6-7/8	1/2
06480	1"	0.594	7/8	6-7/8	1/2
06484	1-1/4	0.719	1"	6-7/8	1/2

### SET

12270	CR-4SP	3/8, 1/2, 5/8, 3/4
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### Type 51-UB

Car Reamers - Fast Spiral

Hole Buster™, Super Premium 3-Flats on Shank



Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity. These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels. For use only to enlarge previously formed or drilled holes. All tools are constructed with left-hand spiral and right-hand cut.

The left-hand spiral eliminates the tendency of the reamer to hog into holes. The 51-UB, with the fast spiral, is the more aggressive of the two styles. It also will fit the needs of users who prefer a stop collar.

### FAST SPIRAL

Part No.	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
06381	5/16	0.215	17/64	4-5/8	5/16
06391	3/8	0.250	5/16	5-7/8	3/8
06501	7/16	0.250	3/8	5-3/8	7/16
06401	1/2	0.281	3/8	5-7/8	1/2
06411	9/16	0.343	7/16	5-7/8	1/2
06421	5/8	0.343	7/16	6-3/8	1/2
06432	0.652	0.375	15/32	6-3/8	1/2
06431	11/16	0.375	15/32	6-3/8	1/2
06441	3/4	0.406	1/2	6-7/8	1/2
06531	0.776	0.406	1/2	6-7/8	1/2
06451	13/16	0.468	35/64	6-7/8	1/2
06461	7/8	0.500	19/32	6-7/8	1/2
06471	15/16	0.585	5/8	6-7/8	1/2
06481	1"	0.594	7/8	6-7/8	1/2
06491	1-1/16	0.807	7/8	6-7/8	1/2
06482	1-1/4	0.719	1"	6-7/8	1/2

### SET

12271	CR-4FS	3/8, 1/2, 5/8, 3/4
12281	SM-4FS	5/16, 3/8, 7/16, 1/2



### Type 52-UB & 53-UB

Hex Nut Reamers- Black & Gold Finish HSS- Spiral Flute

#### TYPE 52-UB BRIDGE LENGTH

Part No.	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	No. per/pack
20480	9/16	1-1/16	5-1/8	6-7/8	1
20490	5/8	1-1/16	6-1/8	7-7/8	1
20510	11/16	1-1/16	7-1/8	9-1/4	1
20520	3/4	1-1/4	7-3/8	9-3/8	1
20530	13/16	1-1/4	7-3/8	9-3/8	1
20540	7/8	1-7/16	7-3/8	9-3/8	1
20550	15/16	1-7/16	7-3/8	9-3/8	1
20560	1"	1-7/16	7-3/8	9-3/8	1
20570	1-1/16	1-5/8	7-3/8	9-3/8	1
20500	1-1/8	1-5/8	7-3/8	9-3/8	1
20580	1-3/16	1-13/16	7-3/8	9-3/8	1
20590	1-5/16	2	7-3/8	10	1

#### TYPE 53-UB CAR LENGTH

Part No.	Diameter Inches	Hex Shank Inches	Flute Length	Overall Length	No. per/pack
35580	9/16	1-1/16	4	5-1/2	1
35590	5/8	1-1/16	4-1/2	6	1
35610	11/16	1-1/16	4-1/2	6-3/8	1
35620	3/4	1-1/4	5	7	1
35630	13/16	1-1/4	5	7	1
35640	7/8	1-7/16	5	7	1
35650	15/16	1-7/16	5	7	1
35660	1"	1-7/16	5	7	1
35670	1-1/16	1-5/8	5	7	1
35600	1-1/8	1-5/8	5	7	1
35680	1-3/16	1-13/16	5	7	1
35690	1-5/16	2	5	7-7/8	1

## HOLE EXPANSION TOOLS - BRIDGE REAMERS

### Type 54-UB & 55-UB

#### Bridge Reamers - Straight & Spiral Flutes - Taper Shank High-Speed Steel, Surface Treated

These special Hi-Tungsten tool steel reamers with gold surface treated body and clearance are designed to be used with Morse Taper shank equipment. They are available in both straight and spiral flute configuration and are designed for heavy-duty reaming as encountered in the fabrication of structural steel assemblies, bridge erection, and ship construction. The tapered design permits the reamer to enter out-of-line holes often encountered in structural work.



#### TYPE 54-UB STRAIGHT FLUTE

Part No.	Diameter Inches	Flute Length	Overall Length	Morse Taper
81630	7/16	4-3/8	8-1/4	#2
81640	1/2	5-1/8	9	#2
81650	9/16	5-1/8	9	#2
81660	5/8	6-1/8	10	#2
81670	11/16	7-1/8	11-3/4	#3
81680	3/4	7-3/8	12	#3
81690	13/16	7-3/8	12	#3
81700	7/8	7-3/8	12	#3
81710	15/16	7-3/8	12	#3
81720	1	7-3/8	12	#3
81730	1-1/16	7-3/8	12	#3
81740	1-1/8	7-3/8	12	#3
81750	1-3/16	7-3/8	12	#3
81760	1-1/4	7-3/8	13	#4
81770	1-5/16	7-3/8	13	#4

#### TYPE 55-UB SPIRAL FLUTE

Part No.	Diameter Inches	Flute Length	Overall Length	Morse Taper
83310	7/16	4-3/8	8-1/4	#2
83320	1/2	5-1/8	9	#2
83330	9/16	5-1/8	9	#2
83340	5/8	6-1/8	10	#2
83350	11/16	7-1/8	11-3/4	#3
83360	3/4	7-3/8	12	#3
83370	13/16	7-3/8	12	#3
83380	7/8	7-3/8	12	#3
83390	15/16	7-3/8	12	#3
83400	1	7-3/8	12	#3
83410	1-1/16	7-3/8	12	#3
83420	1-1/8	7-3/8	12	#3
83430	1-3/16	7-3/8	12	#3
83440	1-1/4	7-3/8	13	#4
83450	1-5/16	7-3/8	13	#4

### Type 284-UB

#### Hole Hog™ - 4-Flute Core Drill Super Premium, Flats on Shank

**BLACK & GOLD**



Special Hi - Molybdenum tool steel, gold surface treated body and clearance for maximum lubricity. Close tolerance construction. This tool is designed for enlarging existing holes exclusively.

The 4-flute design eliminates the catching and hogging-in experienced with standard S & D drills when breaking through thinner materials such as truck frames. These core drills may replace tapered reamers in many applications.

**BLACK & GOLD**



#### Hole Hog™ Sets

##### 1/2" Shank (3-flats on Shank) 4-Flute Core Drill

##### Ultra Bor Super Premium

A selection of core drills and companion (minimum starting hole size) pilot drills in a black steel index.

#### FRACTIONAL

Part No.	Diameter Inches	Minimum Starting Hole Size	Overall Length Inches	Flute Length Inches	Qty. per/pack
22030	3/8	1/4	4-5/16	1-7/8	1
22040	1/2	5/16	4-5/16	1-7/8	1
22060	9/16	3/8	4-5/16	1-7/8	1
22080	5/8	25/64	4-5/16	1-7/8	1
22100	11/16	7/16	4-5/16	1-7/8	1
22120	3/4	15/32	4-5/16	1-7/8	1

#### TYPE 284-UB SETS

##### SP-8HH Set contains:

1 each:  
284-UB core drill sizes 3/8, 1/2, 5/8 & 3/4.  
250-UB drill sizes 1/4, 5/16, 25/64 & 15/32

**Part No. 38880**

##### SP-6HHL Set contains:

1 each:  
284-UB core drill sizes 1/2, 5/8 & 3/4. 250-UB drill sizes 5/16, 25/64 & 15/32.

**Part No. 38870**

##### SP-6HHS Set contains:

1 each:  
284-UB core drill sizes: 3/8, 1/2 & 5/8. 250-UB drill sizes 1/4, 5/16 & 25/64

**Part No. 38860**

# Wood Auger Bits



## WOOD AUGER BITS

### Types 940, 941 & 942

#### Carbide-Tipped Auger's

A carbide-tipped cutting tip combined with a hardened steel cutting edge, allows it to bore holes in all types of wood quickly, leaving little or no residue. A truly clean, smooth hole is provided. Requires less torque to operate and can be used with electric, air or gasoline powered drill motors, and impact wrenches. The carbide cutter is brazed onto the steel body and the hardened steel cutting edge can be resharpened.



#### Type 940

##### 12" AUGER BITS

Part No.	Description of Sizes
51300	1/2
51310	9/16
51320	5/8
51330	11/16
51340	3/4
51350	13/16
51360	7/8
51370	15/16
51380	1"
51390	1-1/16
51400	1-1/8

#### Type 941

##### 18" AUGER BITS

Part No.	Description of Sizes
51410	1/2
51420	9/16
51430	5/8
51440	11/16
51450	3/4
51460	13/16
51470	7/8
51480	15/16
51490	1"
51500	1-1/16
51510	1-1/8

#### Type 942

##### 24" AUGER BITS

Part No.	Description of Sizes
51520	1/2
51530	9/16
51540	5/8
51550	11/16
51560	3/4
51570	13/16
51580	7/8
51590	15/16
51600	1"
51610	1-1/16
51620	1-1/8

### Types 950, 951, 952 & 953

#### Standard Wood Auger's

High quality auger bits with hex shanks produced from alloy tool steel. Drill points with threads and one counterblade for cleaner holes. For deep drilling wood applications, quickly and easily drill holes in all types of wood products.



#### Type 950

##### 9" AUGER BITS

Part No.	Description of Sizes
53200	3/8"
53210	1/2"
53220	9/16"
53230	5/8"
53240	11/16"
53250	3/4"
53260	7/8"
53270	15/16"
53280	1"
53290	1-1/8"

#### Type 951

##### 16" AUGER BITS

Part No.	Description of Sizes
53300	3/8"
53310	1/2"
53320	9/16"
53330	5/8"
53340	11/16"
53350	3/4"
53360	7/8"
53370	15/16"
53380	1"
53390	1-1/8"

#### Type 952

##### 18" AUGER BITS

Part No.	Description of Sizes
53400	3/8"
53410	1/2"
53420	9/16"
53430	5/8"
53440	11/16"
53450	3/4"
53460	7/8"
53470	15/16"
53480	1"
53490	1-1/8"

#### Type 953

##### 24" AUGER BITS

Part No.	Description of Sizes
53500	3/8"
53510	1/2"
53520	9/16"
53530	5/8"
53540	11/16"
53550	3/4"
53560	7/8"
53570	15/16"
53580	1"
53590	1-1/8"

## BRAD POINT DRILLS & POWER BITS

### Type 16-UB

#### Jobber Length - Burrout™ Brad Point Super Premium

These high performance drills made from Hi-Moly tool steel will cut holes in wood or plastics and leave no burr. They will also drill splinter free holes in wood. The special BURROUT™ point cuts at the circumference of the hole to avoid the break through burr problems common with standard point drills.

When drilling into higher tensile strength metals such as cold rolled steel; a small pilot hole may prove helpful since the center spur does not cut aggressively.



### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
01041	5/64	2	1	12
01051	3/32	2 1/4	1 1/4	12
01061	7/64	2 5/8	1 1/2	12
01071	1/8	2 3/4	1 5/8	12
01081	9/64	2 7/8	1 3/4	12
01091	5/32	3 1/8	2	12
01101	11/64	3 1/4	2 1/8	12
01111	3/16	3 1/2	2 5/16	12
01131	7/32	3 3/4	2 1/2	12
01151	1/4	4	2 3/4	12
01191	5/16	4 1/2	3 3/16	6
01231	3/8	5	3 5/8	6
01271	7/16	5 1/2	4 1/16	6
01311	1/2	6	4 1/2	6

### TYPE 16-UB SETS

#### Burrout™

#### BF-10

Part No.	Description of Sizes	Qty of each
42001	5/64-3/16 by 64ths + 7/32, 1/4	1

#### BF-14

Part No.	Description of Sizes	Qty of each
42031	5/64-3/16 by 64ths + 7/32, 1/4-1/2 by 16ths	1

### Type 935

#### Quick Release 1/4" Hex Shank - Power Bits

Cuts clean accurate holes in all soft and hard woods plus foam core, plastic, many non-metallic building siding, and foam insulation.

### TYPE 935 1/4" HEX SHANK

Part No.	Diameter Inches	Qty. per/pack
52005	1/4	1
52015	5/16	1
52025	3/8	1
52035	7/16	1
52045	1/2	1
52055	9/16	1
52065	5/8	1
52075	11/16	1
52085	3/4	1
52095	13/16	1
52105	7/8	1
52115	15/16	1
52125	1 INCH	1
52135	1-1/8	1
52145	1-1/4	1
52155	1-3/8	1
52165	1-1/2	1
27555	6 INCH	1
52175	12 INCH	1

### TYPE 935 SETS 1/4" HEX SHANK

#### EASY-CUT 4 PIECE SET

One each: 3/8, 1/2, 5/8 & 3/4 in plastic pouch.  
Part No. 52185

#### EASY-CUT 6 PIECE SET

One each: 3/8, 1/2, 5/8, 3/4, 7/8 & 1" in plastic pouch.  
Part No. 52195

#### EASY-CUT 13 PIECE SET

One each: 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" in plastic pouch.  
Part No. 52205

#### EASY-CUT 6" - 12" EXTENSION

For all bits with 1/4" shanks.  
For those jobs that require extra reach.  
With allen wrench.

**NEW**

Quick Release  
1/4" Hex Shank



### EXTENSIONS

Part No.	Size	Qty. per/pack
27555	6"	1
52175	12"	1

# Quick Release Step Drills, Pilot Drills, & Bell Hanger Bits

## STEP DRILLS, PILOT DRILLS & BELL HANGER BITS Type 78-AG & Type 78-QR

Ultra Bit™ Multi-Diameter 3-Flats on Shank

Special Axial and Radial flute design speed work piece penetration. The 135° split point self centers and easily starts with no pilot hole required. Dual flute construction drills clean accurate holes in thin materials, quickly and easily. Use for all thin metals, rigid plastics, wood or composite materials with a thickness equal to or less than the step thickness. When drilling steel with 1/8" or greater thickness, a starter hole of the smallest step diameter will speed the drilling process.



TYPE 78-AG STEP DRILLS						
Part No.	Size	Hole Sizes	No. of Range	Shank Size	Step Increments	Step Thickness
00700	1/8-1/2	13	1/8-1/2	1/4	1/32	1/8
00701	3/16 A	6	3/16-1/2	1/4	1/16	3/8
00702	3/16 B	12	3/16-7/8	3/8	1/16	1/8
00703	1/4-3/4	9	1/4-3/4	3/8	1/16	5/32
00704	9/16-1	8	9/16-1"	3/8	1/16	5/32
00710	13/16	10	13/16-1-3/8	3/8	1/32	5/32
00711	1/4 K0	10	1/4-1-3/8	3/8	1/8	*SEE NOTE

TYPE 78-QR QUICK RELEASE - HEX SHANK STEP DRILLS						
Part No.	Size	Hole Sizes	No. of Range	Shank Size	Step Increments	Step Thickness
01401	1/8-1/2	13	1/8-1/2	1/4	1/32	1/8
01402	3/16A	6	3/16-1/2	1/4	1/16	3/8
01403	3/16 B	12	3/16-7/8	1/4	1/16	1/8
01404	1/4-3/4	9	1/4-3/4	1/4	1/16	5/32

SETS	SIZES
00721	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
00731	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1
00741	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4



SETS	SIZES
01441	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
01451	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4

All tools individually packed in clear tubes

**Note:** Part # 00711 Extra length steps at 7/8, 1-1/8 & 1-3/8 for conduit knock-outs.

## Type 491

### Pilot Drills For Hole Saws

High-Speed Steel - 135° Split Point



## TYPE 185

Part No.	Size Inches	Description	Diameter Inches	Overall Length Inches	Qty. per/pack
95100	1/4 x 4	Universal pilot with two whistle notch flats. Fits most hole saws needing 4" length - brite finish	1/4	4	12
95101	1/4 x 3	Fits most arbors with one set screw: Lennox, Starrett, Morse, Milwaukee & more. One flat on shank. Brite finish.	1/4	3	12
95102	1/4 x 4L	Three long flats on shank allow for set screw and eliminate slippage. Fits through the arbor drive. (Replaces Lennox and others). Surface treated.	1/4	4	12
95103	1/4 x 3L	Same as 95101 except surface treated. (Replaces Lennox and others).	1/4	3	12

## Type 601

### Bell Hanger Bits

#### Carbide Tipped, Alloy Steel Shanks

Recommended for all telephone, electrical, cable T.V. installers. Flutes are designed for quick chip clearance. Hole in flute for pulling wire. Excellent for drilling through wood, metal lathe, plaster, wallboard.



## FRACTIONAL

Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack	Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32000	1/4	1/4	12	1	32100	3/8	3/8	24	1
32010	5/16	5/16	12	1	32110	1/2	3/8	24	1
32020	3/8	3/8	12	1	32120	1/4	1/4	36	1
32030	1/2	3/8	12	1	32130	5/16	5/16	36	1
32040	1/4	1/4	18	1	32140	3/8	3/8	36	1
32050	5/16	5/16	18	1	32150	1/2	3/8	36	1
32060	3/8	3/8	18	1	32160	1/4	1/4	48	1
32070	1/2	3/8	18	1	32170	5/16	5/16	48	1
32080	1/4	1/4	24	1	32180	3/8	3/8	48	1
32090	5/16	5/16	24	1	32190	1/2	3/8	48	1

Order toll-free: 1-800-328-4655

Proudly Manufactured in the U.S.A.

## SUPER ROTARY SAW BITS & TWIN END DRILLS

### Type 180-RP & 180

#### Super Rotary Saw Bits for Drywall Cutouts

High-Speed Steel - Parabolic Triple Flute - All Bright Finish - Replaces Zip@Bits.

**TYPE 180-RP 1/8" SIZE** - Tougher stronger HI-MOLY tool steel. Non-grabbing roller point and gold paraflutes for true super premium cutting and endurance.

**Type 180 Standard #32 size** now tougher with thicker core to reduce breakage. Made with high-speed steel, bright finish, triple parabolic flute - replaces Zip@ Bits. Type 180 1/4" size virtually eliminates breakage. Fits 1/4" chuck on standard routers. Use 1 instead of 10. Short size has 3/16" flute for close cuts around outlet boxes.



#### TYPE 180-RP

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
96010	1/8	2-1/4	10

#### TYPE 180

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
99700	3/2	2-1/4	10
57930	1/4	2-1/2	1

**CAUTION:** Safety glasses and dust mask must be worn at all times when using super Rotary saw bits.

### Type 490-G

#### Twin End - Ultra Bor Super Premium 135° Split Point

Special Hi-Molybdenum tool steel, gold surface treated for maximum lubricity. 135° split point for fast penetration and accurate starting without a center punch. Extra rugged uncleaned construction gives superior performance and less breakage.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
95090	3/32	1-3/4	9/16	12
95080	7/64	1-15/16	5/8	12
95980	1/8	1-15/16	5/8	12
95070	9/64	2	5/8	12
95060	5/32	2-1/8	5/8	12
95050	3/16	2-5/16	5/8	12
95040	7/32	2-9/16	3/4	12
95030	1/4	2-5/8	13/16	12

#### WIRE

Part No.	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
95020	10	2-5/16	5/8	12
95010	11	2-5/16	5/8	12
95000	20	2-1/8	5/8	12
94990	30	2	5/8	12

### Type 490

#### Twin End - Heavy-Duty - 135° Split Point

This twin end drill has wide applications in drilling any thin sheet metal or wood. Automotive body shops will find twin end drills especially productive. Black Oxide Finish.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
28470	3/32	1-3/4	9/16	12
28480	7/64	1-15/16	5/8	12
28490	1/8	1-15/16	5/8	12
28500	9/64	2	5/8	12
28510	5/32	2-1/8	5/8	12
28530	3/16	2-5/16	5/8	12
28550	7/32	2-9/16	3/4	12
28570	1/4	2-5/8	13/16	12

#### WIRE

Part No.	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
27940	10	2-5/16	5/8	12
27950	11	2-5/16	5/8	12
28040	20	2-1/8	5/8	12
28140	30	2	5/8	12

# Acrylic, Hard Steel, & Sheeters Drills

## SPECIALTY TOOLS

### Type 183-UB

Acrylic Drills with Chipfree™

Point Ultra Bor Super Premium

Special Hi-Molybdenum tool steel, gold surface treated body, flute and point for maximum lubricity. Super CHIPFREE™ point is precision ground at a 60° angle for gradual penetration to avoid cracking and chipping of the acrylic material. Special 0° rake angle on cutting edge eliminates "grabbing" when drill breaks through plastic, acrylic, or laminate surfaces. All sizes over 1/4" have 1/4" shanks.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Flute Length Inches	Qty. per/pack
32260	3/32	2-1/4	1-5/16	12
31500	1/8	2-1/2	1-3/8	12
31510	5/32	2-7/8	2-3/16	12
31520	3/16	3-3/16	2	12
32220	7/32	3-3/4	2-9/16	12
31530	1/4	3-9/16	2-5/16	12
32240	9/32	3-9/16	2	12
31540	5/16	3-5/16	2-3/16	6
32290	11/32	4-1/32	2-3/8	6
31550	3/8	3-5/8	2-9/16	6
32460	13/32	4-1/32	2-3/4	6
31560	7/16	4	2-15/16	6
32470	15/32	4-7/8	3-1/8	6
31570	1/2	4-1/4	3-1/4	6

### Type 213

Sheeters Drill - Black Surface Treated

This heavy-duty 135° split point high-speed steel drill is excellent for drilling sheet metal and corrugated construction panels.



#### WIRE

Part No.	Diameter Wire Gauge	Overall Length Inches	Flute Length Inches	Qty. per/pack
27010	1	3	1-5/16	12
27030	1	4-1/2	1-5/16	12
27040	1	6	1-5/16	12

## CUTTING TOOL LUBRICANT

### Type 11-UB

Ultra Lube™ High Performance

High Viscosity.

Super concentrated no run formula. Clings to vertical surfaces for continual lubrication. Rich gold color and thick consistency gives a quality appearance. Virtually smoke free in even the most heat prone applications. Contains no ozone depleting substances. This fluid will extend tool life and yield a super smooth machined finish.



#### ULTRA LUBE™

Part No.	Size MM	Bottles Per Case	Weight Per Case
96050	12 - 4 OZ.	12	4.4 Lbs./2 Kgs.
96060	48 - 4 OZ.	48	18 Lbs./8.2 Kgs.
96070	12 - 16 OZ.	12	15 Lbs./6.8 Kgs.

**Part No. 96071** is a self selling display with an attractive attention getting decal applied to the inside of the display flap. Dispose of display when empty.

## HARD STEEL DRILLS

### Type 602

Hard Steel Drills

Carbide Tipped, Straight Flute

These drills are made for use in drilling hardened steel in the range of 48 to 65 Rockwell C. Holes may be drilled without annealing or appreciably changing the structure of the material. Used for drilling broken studs, springs, bolts, die sections, broken easy outs, extra tough or exotic metals, and brake drums.



#### FRACTIONAL

Part No.	Diameter Inches	Shank Diameter Inches	Overall Length Inches	Qty. per/pack
32300	1/8	1/8	2-3/4	1
32310	5/32	5/32	3	1
32320	11/64	11/64	3	1
32330	3/16	3/16	3	1
32340	7/32	7/32	4	1
32350	1/4	1/4	4	1
32360	1/4	1/4	6	1
32370	9/32	9/32	4	1
32380	5/16	1/4	4	1
32390	5/16	5/16	6	1
32400	3/8	1/4	4	1
32410	3/8	3/8	6	1
32420	7/16	3/8	6	1
32430	1/2	1/2	6	1
32440	9/16	1/2	6	1
32450	5/8	1/2	6	1

## CARBIDE TIPPED HOLECUTTER HANGING DISPLAY

### Type CHC-18

Easily cuts large diameter holes in pipe and steel plate up to 1" thick. 18 piece display contains rack, one of each

Hanging Display : #62700

CHC-UB holecutters 3/16" Thin Material:

13/16, 7/8, 15/16, 1", 1-1/16, 1-1/8, 1-3/16, 1-1/4, and 1-3/8. and one of each

CHD-UB holecutters 1" Thick Material:

13/16, 7/8, 15/16, 1", 1-1/16, 1-1/8, 1-3/16, 1-1/4, and 1-3/8.





# Carbide Tipped Holecutters

## SPECIALTY TOOLS

### Type CHC-UB

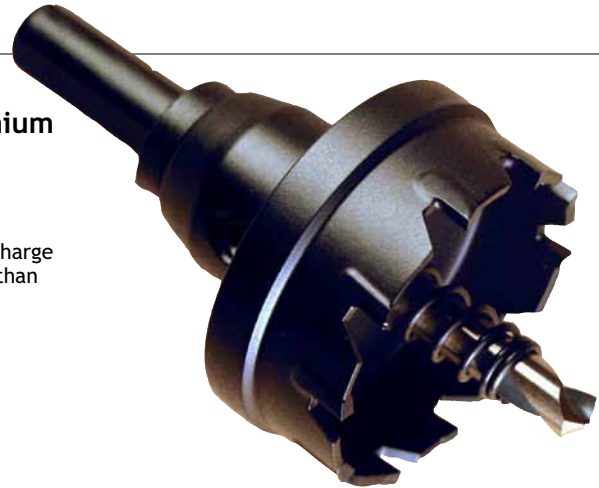
#### Carbide Tipped Holecutters Ultra Bor Super Premium

The Super Premium Carbide Tipped Holecutters are made with ultra-hard tungsten carbide teeth for cutting through tough alloys.

The design provides sharp, crisp cuts without burrs and prevents over penetration. The built-in ejector spring and pilot drill smooth the discharge of metal for increased productivity that is 3 times faster and cleaner than hole saws in sheet metal.

#### Provides these benefits:

- Easy slug removal
- Built-in ejector spring and pilot drill for quick, smooth discharge of metal slug for greater productivity.
- 3-flatted shank for keyless chucks
- Produces overlapping and interrupted holes easily.
- Produces holes 3 times faster than bi-metal hole saws.



HOLECUTTERS				CUTS UP TO 3/16"				THIN MATERIAL			
Part No.	Diameter Inches	Shank Diameter	Qty. per/pack	Part No.	Diameter Inches	Shank Diameter	Qty. per/pack	Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
62000	9/16	3/8"	1	62170	1-5/8	3/8"	1	62340	2-11/16	1/2"	1
62010	5/8	3/8"	1	62180	1-11/16	3/8"	1	62350	2-3/4	1/2"	1
62020	11/16	3/8"	1	62190	1-3/4	3/8"	1	62360	2-13/16	1/2"	1
62030	3/4	3/8"	1	62200	1-13/16	3/8"	1	62370	2-7/8	1/2"	1
62040	13/16	3/8"	1	62210	1-7/8	3/8"	1	62380	2-15/16	1/2"	1
62050	7/8	3/8"	1	62220	1-15/16	3/8"	1	62390	3"	1/2"	1
62060	15/16	3/8"	1	62230	2"	3/8"	1	62400	3-1/4	1/2"	1
62070	1"	3/8"	1	62240	2-1/16	3/8"	1	62410	3-1/2	1/2"	1
62080	1-1/16	3/8"	1	62250	2-1/8	3/8"	1	62420	3-3/4	1/2"	1
62090	1-1/8	3/8"	1	62260	2-3/16	3/8"	1	62430	4"	1/2"	1
62100	1-3/16	3/8"	1	62270	2-1/4	3/8"	1	62440	4-1/4	1/2"	1
62110	1-1/4	3/8"	1	62280	2-5/16	3/8"	1	62450	4-1/2	1/2"	1
62120	1-5/16	3/8"	1	62290	2-3/8	3/8"	1	62460	4-3/4	1/2"	1
62130	1-3/8	3/8"	1	62300	2-7/16	3/8"	1	62470	5"	1/2"	1
62140	1-7/16	3/8"	1	62310	2-1/2	3/8"	1	62480	Pilot Drill		1
62150	1-1/2	3/8"	1	62320	2-9/16	3/8"	1	62490	Screw		1
62160	1-9/16	3/8"	1	62330	2-5/8	3/8"	1	62500	Spring		1

### Type CHD-UB

#### Deephole Carbide Tipped Holecutters Ultra Bor Super Premium



DEEP HOLECUTTERS				CUTS UP TO 1" THICK MATERIAL							
Part No.	Diameter Inches	Shank Diameter	Qty. per/pack	Part No.	Diameter Inches	Shank Diameter	Qty. per/pack	Part No.	Diameter Inches	Shank Diameter	Qty. per/pack
63990	9/16	3/8"	1	64130	1-7/16	3/8"	1	64280	2-5/16	3/8"	1
64000	5/8	3/8"	1	64140	1-1/2	3/8"	1	64290	2-3/8	3/8"	1
64010	11/16	3/8"	1	64150	1-9/16	3/8"	1	64330	2-7/16	3/8"	1
64020	3/4	3/8"	1	64160	1-5/8	3/8"	1	64340	2-1/2	3/8"	1
64030	13/16	3/8"	1	64170	1-11/16	3/8"	1	64350	2-9/16	3/8"	1
64040	7/8	3/8"	1	64180	1-3/4	3/8"	1	64360	2-5/8	3/8"	1
64050	15/16	3/8"	1	64190	1-13/16	3/8"	1	64370	2-11/16	3/8"	1
64060	1"	3/8"	1	64200	1-7/8	3/8"	1	64380	2-3/4	3/8"	1
64070	1-1/16	3/8"	1	64210	1-15/16	3/8"	1	64390	2-13/16	3/8"	1
64080	1-1/8	3/8"	1	64220	2"	3/8"	1	64400	2-7/8	3/8"	1
64090	1-3/16	3/8"	1	64240	2-1/16	3/8"	1	64410	2-15/16	3/8"	1
64100	1-1/4	3/8"	1	64250	2-1/8	3/8"	1	64420	3	1/2"	1
64110	1-5/16	3/8"	1	64260	2-3/16	3/8"	1	64231	Pilot Drill		1
64120	1-3/8	3/8"	1	64270	2-1/4	3/8"	1	62490	Screw		1
								62530	Spring		1

# Countersinks



## SPECIALTY TOOLS

### Type 82-UB & 90-UB

Type 82-UB Chatterproof™  
Countersinks Super Premium

**BLACK & GOLD**



Type 82-UB - Piloted

Type 90-UB Chatterproof™  
Deburring Tools Super Premium



Type 82-UB - Pilotless

Special Hi-Molybdenum tool steel, gold surface treated points for maximum lubricity and chatterproof finish.

These high performance, flute-less tools are:

- Free cutting - for ease of use
- Single cutting edge - for fast stock removal
- Chatterproof - for a micro smooth finish
- Easily resharpened - for extra long life
- Wide selection of styles & angles - a tool for any job



Type 90-UB - Deburring

Recommended for superior finishes on metal, plastic and wood applications.

### TYPE 82-UB 82° Piloted Countersinks

Part No.	Size	Style	Screw Size	Shank Diameter		Overall Length C	D	E	F	No. per/pack
				A	B					
67010	CS1/4	1	1/4	1/4	3/8	2	33/64	1	5/32	1
67020	CS1/4A	1	1/4	17/64	3/8	2	33/64	1	5/32	1
67030	CS5/16	1	5/16	5/16	3/8	2-3/16	41/64	1-3/16	5/32	1
67040	CS5/16A	1	5/16	21/64	3/8	2-3/16	41/64	1-3/16	5/32	1
67050	CS3/8	1	3/8	3/8	1/2	2-5/8	49/64	1-3/8	5/32	1
67060	CS3/8A	1	3/8	25/64	1/2	2-5/8	49/64	1-3/8	5/32	1
67070	CS7/16	1	7/16	7/16	1/2	2-3/4	53/64	1-1/2	7/32	1
67080	CS7/16A	1	7/16	29/64	1/2	2-3/4	53/64	1-1/2	7/32	1
67090	CS1/2	1	1/2	1/2	1/2	2-13/16	15/16	1-9/16	1/4	1
67100	CS1/2A	1	1/2	33/64	1/2	2-13/16	15/16	1-9/16	1/4	1

See opposite page for technical diagram.

### TYPE 82-UB 82° Pilotless Countersinks

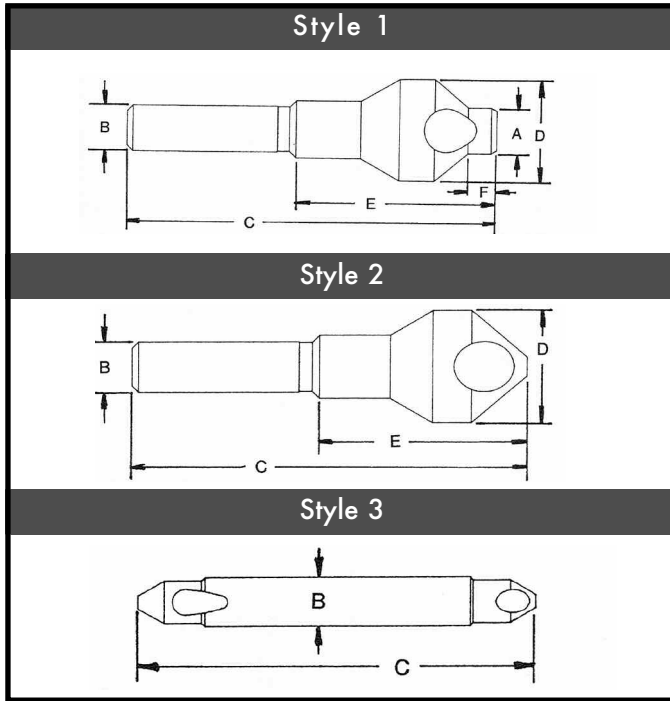
Part No.	Size	Style	Diameter of Cut		Screw Size	Shank Diameter B	Overall Length C	D	E	No. per/pack
			Min	Max						
67110	CS073	2	0.073	15/64		1/4	1-3/4			1
67120	CS3/16	3	3/16	17/32		1/4	1-7/8	9/16	1	1
67130	CS307	3	0.307	25/32		1/2	2-5/8	13/16	1-3/8	1
67140	CS307A	3	0.307	25/32		1/4	2-1/16	13/16	1-1/4	1
67150	CS431	3	0.431	7/8		1/2	2-13/16	1-1/8	1-9/16	1
67160	CS1/2B	3	1/2	1-15/32		1/2	3-1/2	1-1/2	2-1/8	1
67170	CS5S	3			No. 4,	1/4	1-1/2	17/64	5/8	1
67180	CS6S	3			No. 6	1/4	1-1/2	19/64	5/8	1
67190	CS8S	3			No. 8	1/4	1-5/8	11/32	3/4	1
67200	CS10S	3			No. 10	1/4	1-5/8	25/64	3/4	1

See opposite page for technical diagram.

### TYPE 90-UB 82° 90° Deburring Tools

Part No.	Size	Style	Diameter of Cut		Shank B	Overall Diameter C	Length D	E	No. per/pack
			Min	Max					
67210	DB1/64	2	1/64	11/64	3/16	1-1/2			1
67220	DB1/16	2	1/16	11/64	3/16	1-1/2			1
67230	DB1/8	2	1/8	15/64	1/4	1-3/4			1
67240	DB5/32	3	5/32	13/32	1/4	1-11/16	7/16	13/16	1
67250	DB3/16	3	3/16	17/32	1/4	1-7/8	9/16	1	1
67260	DB5/16	3	5/16	25/32	1/2	2-19/32	13/16	1-3/8	1
67270	DB5/16C	3	5/16	25/32	1/4	2-1/32	13/16	1-5/32	1
67280	DB9/16	3	9/16	1-3/32	1/2	2-13/16	1-1/8	1-9/16	1
67290	DB1/2	3	1/2	1-15/32	1/2	3-1/2	1-1/2	2-1/8	1

See opposite page for technical diagram.



**TYPE 82-UB & 90-UB SETS**

Part No.	Description of Sizes
<b>SP-4CS</b> 10440	82-UB C/S sizes: CS5S, CS6S, CS5S, CS10S
<b>SP-4CS</b> 10442	82-UB C/S sizes: CS6S, CS8S, CS10S, CS3/16S
<b>SP-6DB</b> 10450	90-UB D/B sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
<b>SP-9CS</b> 10443	82-UB C/S sizes: CS5S, CS6S, CS8S, CS10S, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2



**Types 296 & 297**

**Combined Drills & Countersinks**  
**High-Speed Steel**

**Plain Type 296**

Drill ends are of equal diameter. The included angle is 60°.

**Bell Type 297**

The included angles are 60° and 120°. The diameter at the intersection of these two angles is the bell diameter. The small 120° angular chamfer protects the edges of the center hole.



**Plain - Type 296**



**Bell - Type 297**

**COUNTERSINKS**

**Plain Type 296**

Part No.	Size	Dia. of Body Inches	Dia. & Length of drills	Overall Length Inches	Std. Pack
26760	00	1/8	.025x.030	1-7/32	12
26770	0	1/8	1/32x.038	1-7/32	12
26780	1	1/8	3/64x3/64	1-1/4	12
26790	2	3/16	5/64x5/64	1-7/8	12
26800	3	1/4	7/64x7/64	2	12
26810	4	5/16	1/8x1/8	2-1/8	6
26820	5	7/16	3/16x3/16	2-3/4	6
26830	6	1/2	7/32x7/32	3	6
26840	7	5/8	1/4x1/4	3-1/4	1
26850	8	3/4	5/16x5/16	3-1/2	1

**Bell Type 297**

Part No.	Size	Dia. of Body Inches	Dia. & Length of drills	Dia. of Bell Inches	Overall Length Inches	Std. Pack
26860	11	1/8	3/64x3/64	.100	1-1/4	12
26870	12	3/16	1/16x1/16	.150	1-7/8	12
26880	13	1/4	3/32x3/32	.200	2	12
26890	14	5/16	7/64x7/64	.250	2-1/8	12
26900	15	7/16	5/32x5/32	.350	2-3/4	6
26910	16	1/2	3/16x3/16	.400	3	6
26920	17	5/8	7/32x7/32	.500	3-1/4	1
26930	18	3/4	1/4x1/4	.600	3-1/2	1

# Weldout™ Spotweld



## WELDOUT™ SPOTWELD DRILLS - SUPER COBALT

### Types 492-D & 493-D Weldout™ Spotweld Drills

#### Super Cobalt High-Speed Steel Gold Finish - Heavy-Duty Spur Point

This rugged high performance drill is designed to effectively cut auto body panel spot welds. The high red hot hardness of cobalt steel permits speeds 30% greater than H.S.S. drills. Cobalt steel is substantially more abrasion resistant, resulting in very long wearing cutting edges. The spur point on the Type 492-D is designed to cut through the weld on one panel while leaving the second panel free of holes. The modified point on the Type 493-D drill is chip resistant with slightly greater penetration into the second panel.

#### TYPE 492-D

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
66420	6.5mm	1/4	1.56	.44	5
37240	6.5mm	1/4	1.49	.44	5
37520	6.5mm	1/4	1.75	none	5
37660	6.5mm TE*	1/4	3.62	none	5
66430	8.0mm	5/16	1.56	.44	5
37250	8.0mm	5/16	1.49	.44	5
37510	8.0mm	5/16	1.69	.75	5
37470	8.0mm	5/16	1.75	none	5
37670	8.0mm TE*	5/16	3.62	none	5
37530	10.0mm	3/8	1.75	none	5
37680	10.0mm TE*	3/8	3.62	none	5

#### TYPE 493-D

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
66180	8.0	5/16	2.25	none	5
66190	10.00	3/8	2.25	none	5
37671	8.0 TE*	5/16	3.62	none	5
37681	10 TE	3/8	3.62	none	5

These items are also available individually tubed.  
See Price List Catalog for details.

### Types 493-DN

#### TiN Coated Weldout™ Spotweld Drills M-42 Cobalt High-Speed Steel - Heavy-Duty Spur Point



Titanium coated M-42 cobalt steel spotweld drills are designed for use in high strength high alloy steel commonly used in the automobile industry. TiN coating doubles the tool life, gives additional lubricity and protects the cutting edges of the drill in tough removal applications. TiN coated drills require a slower speed (490 RPM) than standard drills (1800 RPM) when drilling difficult materials.

#### TYPE 493-DN

Part No.	Diameter MM	Approx Spotweld Size, Inches	Overall Length Inches	Flat Length Inches	Qty. per/pack
73450	8.0	5/16	2.25	none	5
73460	10.00	3/8	2.25	none	5
73470	8.0 TE*	5/16	3.62	none	5
73480	10 TE	3/8	3.62	none	5

These items are also available individually tubed.  
See Price List Catalog for details.

\* These twin end drills will cut twice as many spotwelds with the added advantage of longer reach to drill the less accessible spotwelds. There are many spotweld drilling systems in use.

Some have a significant amount of adjustment for the length of the drill. If you have a system that will not operate using one of the lengths specified, special lengths can be made to accommodate your needs.

Call for price. The three sizes without flats are for use in standard, air powered drill motors. This makes freehand spotweld drilling available to all body shops.

### Weldout™ Spotweld Drills Sets

A selection of the most popular sizes of spotweld drills in an attractive, rugged black steel case.



#### TYPE 492-D

##### WO-6

Part No.	Description of Sizes
35010	6.5mm, 8.0mm & 10.0mm single-end drills with 1.75" length.
	6.5mm, 8.0mm & 10.0mm twin end drills with 3.62" length.



#### TYPE 493-D

##### WO-4

Part No.	Description of Sizes
35050	8.0mm & 10mm Single-end
	8.0mm & 10mm Twin-end In Type 187 Length

Proudly Manufactured in the U.S.A.

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# Masonry Drills & Sets

## MASONRY DRILLS - FAST SPIRAL

### Type 341

Fast Spiral, Heavy-Duty Rotary  
Carbide tipped, hardened steel bodies & bright finish.

These masonry drills are designed with the fast spiral flutes to drill faster in the extra hard masonry products.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46000	1/8	3	12
46010	3/16	3	12
46020	3/16	4	12
46040	1/4	4	12
46050	1/4	6	12
46060	5/16x1/4	4	6
46070	5/16x1/4	6	6
46080	3/8x1/4	4	6
46090	3/8x1/4	6	6
46220	3/8	12	6
46380	3/8	18	6
46100	7/16x1/4	4	6
46110	7/16x1/4	6	6
46120	1/2x1/4	4	6
46130	1/2x3/8	6	6
46360	1/2x1/4	6	6
46230	1/2x3/8	12	6
46390	1/2x3/8	18	6
46140	9/16x1/2	6	1
46370	9/16x3/8	6	1
46150	5/8x1/2	6	1
46160	11/16x1/2	6	1
46170	3/4x1/2	6	1
46180	7/8x1/2	6	1
46190	1x1/2	6	1

### Type 390

Slow Spiral, Heavy-Duty Rotary  
Carbide tipped, hardened steel bodies & bright finish.

The fastest, easiest way to drill holes in brick, tile, cement, asbestos, marble, concrete, etc. No special equipment needed. Use them in any regular electric drill.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46240	1/8	2	12
45800	1/8	3	12
46400	1/8	6	12
46250	5/32	3	12
46260	11/64	3	12
45810	3/16	3	12
45820	3/16	4	12
45830	3/16	6	12
46270	13/64	3	12
46280	7/32	4	12
46420	7/32	6	12
46290	1/4	3	12
45840	1/4	4	12
45850	1/4	6	12
46300	9/32x1/4	4	12
46440	9/32x1/4	6	12
45860	5/16x1/4	4	6
45870	5/16x1/4	6	6
46460	5/16	6	6
45880	3/8x1/4	4	6
45890	3/8x1/4	6	6
46480	3/8	6	6
45900	7/16x1/4	4	6
45910	7/16x1/4	6	6
46490	7/16x3/8	6	6
45920	1/2x1/4	4	6
45930	1/2x1/4	6	6
46860	1/2x3/8	6	6
46870	1/2	6	6
45940	9/16x3/8	6	1
45950	5/8x1/2	6	1
46310	5/8x3/8	6	1
45960	11/16x1/2	6	1
45970	3/4x1/2	6	1
46320	13/16x1/2	6	1
45980	7/8x1/2	6	1
45990	1x1/2	6	1
45120	1-1/8x1/2	6	1
45130	1-1/4x1/2	6	1
46340	1-3/8x1/2	6	1
45140	1-1/2x1/2	6	1

## MASONRY DRILLS - SLOW SPIRAL

### Type 216

Slow Spiral, Heavy-Duty Rotary

Carbide tipped, hardened steel bodies & bright finish.

The fastest easiest way to drill in brick, tile, cement, asbestos, marble, concrete etc. No special equipment needed. Use them in any electric drill. For Drills shorter than 12" see Type 341 on page 107.

**FLUTE LENGTH:** Maximum standard flute for drills 18 through 48 inches long with 1/4 through 3/4 inch diameter is 16 inches. All drills over 3/4 inch diameter have a maximum standard flute length of 5 1/2 inches.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
46500	1/8	12	1
46620	1/8	18	1
46510	3/16	12	1
46630	3/16	18	1
46520	7/32	12	1
46640	7/32	18	1
45680	1/4	12	1
45500	1/4	18	1
47200	1/4	24	1
47370	1/4	36	1
46740	1/4	48	1
46530	9/32x1/4	12	1
46650	9/32x1/4	18	1
47210	9/32x1/4	24	1
47380	9/32x1/4	36	1
45690	5/16x1/4	12	1
46540	5/16	12	1
45510	5/16x1/4	18	1
46660	5/16	18	1
47220	5/16	24	1
47390	5/16	36	1
46750	5/16	48	1
45700	3/8x5/16	12	1
46550	3/8	12	1
45520	3/8x5/16	18	1
46670	3/8	18	1
47230	3/8	24	1
47400	3/8	36	1
46760	3/8	48	1
45710	7/16x3/8	12	1
45530	7/16x3/8	18	1
47240	7/16x3/8	24	1
47410	7/16x3/8	36	1
45720	1/2x3/8	12	1
45540	1/2x3/8	18	1
47250	1/2x3/8	24	1
47420	1/2	36	1
46770	1/2	48	1
45730	9/16x3/8	12	1
45550	9/16x3/8	18	1
47260	9/16x3/8	24	1
47430	9/16x1/2	36	1
45740	5/8x1/2	12	1
45560	5/8x1/2	18	1
47270	5/8x1/2	24	1

#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
47440	5/8x1/2	36	1
46780	5/8x1/2	48	1
46560	11/16x1/2	12	1
46680	11/16x1/2	18	1
47280	11/16x1/2	24	1
47450	11/16x1/2	36	1
45750	3/4x1/2	12	1
45570	3/4x1/2	18	1
47290	3/4x1/2	24	1
47460	3/4x1/2	36	1
46790	3/4x1/2	48	1
46570	13/16x1/2	12	1
46690	13/16x1/2	18	1
47300	13/16x1/2	24	1
47470	13/16x1/2	36	1
45760	7/8x1/2	12	1
45580	7/8x1/2	18	1
47310	7/8x1/2	24	1
47480	7/8x1/2	36	1
46800	7/8x1/2	48	1
45770	1x1/2	12	1
45590	1x1/2	18	1
47320	1x1/2	24	1
47490	1x1/2	36	1
46810	1x1/2	48	1
46580	1-1/8x1/2	12	1
46700	1-1/8x1/2	18	1
47330	1-1/8x1/2	24	1
47500	1-1/8x1/2	36	1
46820	1-1/8x1/2	48	1
46590	1-1/4x1/2	12	1
46710	1-1/4x1/2	18	1
47340	1-1/4x1/2	24	1
47510	1-1/4x1/2	36	1
46830	1-1/4x1/2	48	1
46600	1-3/8x1/2	12	1
46720	1-3/8x1/2	18	1
47350	1-3/8x1/2	24	1
47520	1-3/8x1/2	36	1
46840	1-3/8x1/2	48	1
46610	1-1/2x1/2	12	1
46730	1-1/2x1/2	18	1
47360	1-1/2x1/2	24	1
47530	1-1/2x1/2	36	1
46850	1-1/2x1/2	48	1

## MASONRY DRILLS

### Type 214

#### All Purpose, Heavy-Duty

Carbide tipped, hardened steel bodies (3/8" diameter and smaller), 6% cobalt carbide grade, lifetime tip warranty against braze failure, and slow spiral. Black surface finish with bronze colored tip. Recommended for both impact and rotary use. Especially suited for drilling 2500-5000 psi concrete.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
94600	1/8	3	12
94610	3/16	4	12
94620	3/16	6	12
94630	7/32	4	12
94640	1/4	4	12
94650	1/4	6	12
94660	1/4	13	1
94670	5/16x1/4	4	6
94680	5/16x1/4	6	6
94690	5/16x1/4	13	1
94700	3/8x1/4	4	6
94710	3/8x1/4	6	6
94720	3/8x1/4	13	1
94730	3/8x3/8	6	6
94740	3/8x3/8	13	1
94750	7/16x1/4	4	6
94760	7/16x1/4	6	6
94770	7/16x1/4	13	1
94780	7/16x3/8	6	6
94790	7/16x3/8	13	1
94800	1/2x1/4	4	6
94810	1/2x1/4	6	6
94820	1/2x1/4	13	1
94830	1/2x3/8	6	6
94840	1/2x3/8	13	1
94850	9/16x3/8	6	1
94860	9/16x3/8	13	1
94870	9/16x1/2	6	1
94880	9/16x1/2	13	1
94890	5/8x3/8	6	1
94900	5/8x3/8	13	1
94910	5/8x1/2	6	1
94920	5/8x1/2	13	1

### Type 217

#### High-Performance Tapcon™ Style

The 217 Series high performance drills are designed for use in the Tapcon™ style anchoring systems used for setting masonry anchor screws with self-tapping threads. The 217 series fits most standard installation tools. Constructed of hardened alloy steel and a close tolerance carbide tip which provide long life and superior performance.



#### FRACTIONAL

Part No.	Diameter Inches	Overall Length Inches	Qty. per/pack
19910	5/32	3-1/2	12
19920	5/32	4-1/2	12
19930	5/32	5-1/2	12
19940	3/16	3-1/2	12
19950	3/16	4-1/2	12
19960	3/16	5-1/2	12
19970	3/16	6-1/2	1
19980	3/16	7-1/2	1

### TIPS



Drill bit storage solutions can be found in the Displays, Cabinets & Index Sections.

Turn to Pages 000-000



## ROTARY CORES & REPLACEMENT SHANKS

### Types 235 & 236

#### Rotary Cores

Carbide tipped, multiple insert, spiral flute.

For a more accurate starting position and to keep the drill from walking, use a rotary core starter bit. The starter bit is used to make the initial starting groove and is then removed before drilling is continued. Fits in sizes 1-3/8 and up-interchangeable with all rotary core drills.



#### TYPE 235 12" LENGTH

Part No.	Diameter Inches	Overall Length Inches	Shank Diameter Inches	Qty. per/pack
45210	5/8	12	1/2	1
45220	11/16	12	1/2	1
45230	3/4	12	1/2	1
45250	7/8	12	1/2	1
45260	1 INCH	12	1/2	1
45270	1-1/8	12	1/2	1
45280	1-1/4	12	1/2	1
45290	1-3/8	12	1/2	1
45300	1-1/2	12	1/2	1
45310	1-5/8	12	1/2	1
45320	1-3/4	12	1/2	1
45330	1-7/8	12	1/2	1
45340	2 INCH	12	1/2	1
45350	2-1/4	12	1/2	1
53900	2-3/8	12	1/2	1
45360	2-1/2	12	1/2	1
45370	2-3/4	12	1/2	1
45380	3 INCH	12	1/2	1
53910	3-1/4	12	1/2	1
53920	3-1/2	12	1/2	1
53930	4 INCH	12	3/4	1
53940	4-1/2	12	3/4	1
53950	5 INCH	12	3/4	1
53960	6 INCH	12	3/4	1

#### TYPE 236 18" LENGTH

Part No.	Diameter Inches	Overall Length Inches	Shank Diameter Inches	Qty. per/pack
53970	5/8	18	1/2	1
53980	11/16	18	1/2	1
53990	3/4	18	1/2	1
54000	7/8	18	1/2	1
54010	1 INCH	18	1/2	1
54020	1-1/8	18	1/2	1
54030	1-1/4	18	1/2	1
54040	1-3/8	18	1/2	1
54050	1-1/2	18	1/2	1
54060	1-5/8	18	1/2	1
54070	1-3/4	18	1/2	1
54080	1-7/8	18	1/2	1
54090	2 INCH	18	1/2	1
54100	2-1/4	18	1/2	1
54110	2-3/8	18	1/2	1
54120	2-1/2	18	1/2	1
54130	2-3/4	18	1/2	1
54140	3 INCH	18	1/2	1
54150	3-1/4	18	1/2	1
54160	3-1/2	18	3/4	1
54170	4 INCH	18	3/4	1
54180	4-1/2	18	3/4	1
54190	5 INCH	18	3/4	1
54200	6 INCH	18	3/4	1

### Type 237

#### Replacement Shanks

Drill diameters - 1-3/8 and over have removable shanks.



#### TYPE 237

Part No.	Actual Length Inches	Body & Shank Overall Length Inches	Shank Diameter Inches	Qty. per/pack
54220	3/4 x 6	12	1/2	1
54230	3/4 x 12	18	1/2	1
54240	3/4 x 18	24	1/2	1
54250	3/4 x 24	30	1/2	1
54260	3/4 x 30	36	1/2	1

#### STARTER - BIT

Part No.	Actual Length Inches	Body & Shank Overall Length Inches	Shank Diameter Inches	Qty. per/pack
54210	Starter-Bit		1/2	1

## PERCUSSION CORE DRILLS - SPIRAL FLUTE

### Type 605

#### Multiple Insert - Spiral Flute

Carbide tipped.

These rugged Percussion Core Bits are designed for the heavy-duty hammer-action electric tools. The special carbide tips used are designed for continuous hammering action and matched with extra tough alloy bodies to give maximum drilling life under the most demanding conditions.

- Bodies are drilled and threaded to receive 3/4-10 threaded shank
- Tough alloy body's for long life
- Deep spirals for fast dust removal & reduced heat build-up
- Specially engineered percussion carbide tips

These core bits can also be utilized for heavy rotary drilling, using standard rotary core drill shanks. See **Type 235** on previous page. (000) They can also be used for rotary drilling in diamond core machines by using a conversion adapter.

### TYPE 605

Part No.	Diameter Inches	Body Length Inches	Qty. per/pack
30000	1"	6	1
30010	1-1/8	6	1
30020	1-1/4	6	1
30030	1-1/2	6	1
30040	1-3/4	6	1
30050	2"	6	1
30060	2-1/2	6	1
30070	2-3/4	6	1
30080	3"	6	1
30090	3-1/2	6	1
30100	4"	6	1
30110	4-1/2	6	1
30120	Pilot Drill	N/A	1



**Core Drill**



**Pilot Drill 30120**

The Percussion Core Drill Starter Bit is interchangeable with all Type 605 Percussion Core Drills. The Starter Bit is used to make the initial starting groove and then removed before drilling is continued. To be used only with 1-1/2" diameter and larger core drills.

# Drive Adapters & Extensions



## PERCUSSION CORE DRILL DRIVE ADAPTERS

### Types 603

#### Percussion Core Drill Drive Adapters

These Percussion Core Drill Adapters have a replaceable 3/4-10 drive thread to give extra long working life. You need only replace the threads if they should wear out or break.

#### TYPE 603

##### 30200

Part No.	For Models Make or Type
30200	Skil 706, 707, 708, 1706 & B & D 5040, 5049 & Rockwell 600, 601

##### 30210

Part No.	For Models Make or Type
30210	Skil 726 & Milw. 5300, 5310, 5305 & 5315

##### 30220

Part No.	For Models Make or Type
30220	Skil 728, 731, 732, 628 & Rockwell 602, 605, 606, 1602 & B & D 5048 & Milw. 5325 5326

##### 30230

Part No.	For Models Make or Type
30230	Skil 736

##### 30240

Part No.	For Models Make or Type
30240	B & D 717, 718, 719, 5045, 5046 5050

##### 30250

Part No.	For Models Make or Type
30250	B & D 723, 5055

##### 30260

Part No.	For Models Make or Type
30260	Rockwell 607, Kango 750, 627, 625, 500, 501

##### 30270

Part No.	For Models Make or Type
30270	Bosch Hex Drive 11201, Phillips 700, 747, Metabo RH90

##### 30280

Part No.	For Models Make or Type
30280	Bosch Spline Drive AEG PH-350, PH-350D, PH-350HD, PH-240D, PH-38, PHD-38 & 26; B & D 5041, 5042, 5043, 5044 (Macho); Bosch 11202, 11204, 11205, 1206, 11209, 11214; Hitachi DH-38YA, DH-38YE, DH-38YF, DH-50SB; Kango 430S501S, 637S, 638S, 950S; Makita HR 3851; Metabo RH66, RH99, RH99X, Milw. 5343, 5344, 5347, 5348; Phillips 747-2; Porter Cable 639; Ramset 442, 445, 475; Ryobi ED382P, ER 382; Wacker 11/110

##### 30290

Part No.	For Models Make or Type
30290	Kango 950

##### 30300

Part No.	For Models Make or Type
30300	Ramset 640

##### 30310

Part No.	For Models Make or Type
30310	AEG-BH25



## PERCUSSION CORE DRILL DRIVE ADAPTERS & EXTENSIONS

### Types 603 (Cont.)

#### Percussion Core Drill Drive Adapters

These Percussion Core Drill Adapters have a replaceable 3/4-10 drive thread to give extra long working life. You need only replace the threads if they should wear out or break.



30320

30330

30321

30340

**30320**

**Part No.**

30320

**For Models Make or Type**

Hilti TE-60, 52, 72, 92

**30330**

**Part No.**

30330

**For Models Make or Type**

Torno 765

**30321**

**Part No.**

30321

**For Models Make or Type**

B & D 5097, 5099; Bosch 11214EVS, 11216, 11230, 11227, 11231; Hilti TE-F52, TE-F60, TE-F72, TE-F92, TE-Y54, TE-Y55, TE-Y74, TE-Y75, TE-94; Hitachi DH-40; Milw. 5313; Wacker EBH-75M

**30340**

**Part No.**

30340

**For Models Make or Type**

Replacement Thread

### Types 604

#### Extensions

These extensions fit all Type 603 Percussion Core Drive Shanks. 3/4-10 male and 3/4-10 female end.



30400

30410

30420

**30400**

**Part No.**

30400

**Extension Length**

6"

**Qty.**

1

**30410**

**Part No.**

30410

**Extension Length**

12"

**Qty.**

1

**30420**

**Part No.**

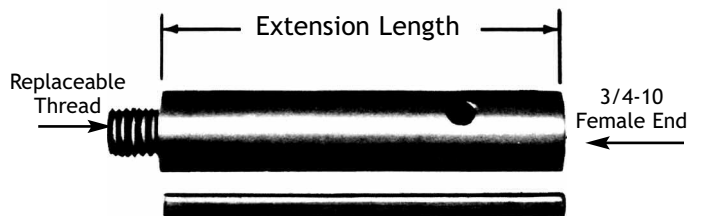
30420

**Extension Length**

18"

**Qty.**

1



# Impact Hammer Drills



## IMPACT HAMMER DRILLS - SLOT DRIVE

### Type 606

#### “Slot Drive System”

These impact hammer drills are designed to fit all rotary hammers that specify an SDS shank. Positive drive slots deliver maximum torque and hammering energy for faster drilling. The performance of these drills is excellent over a wide variety of masonry applications.



### TYPE 606

Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack	Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
58990	3/16	4	2-1/2	1	33180	9/16	9	7-7/8	1
33000	3/16	6	4-1/2	1	33190	9/16	12	10-7/8	1
33010	1/4	4	2-1/2	1	33200	9/16	18	16-7/8	1
33020	1/4	6	4-1/2	1	33210	5/8	6	4-7/8	1
33030	5/16	6	4-1/2	1	33220	5/8	9	7-7/8	1
33040	5/16	9	7-1/2	1	33230	5/8	12	10-7/8	1
33050	5/16	12	10-1/2	1	33240	5/8	18	16-7/8	1
33060	3/8	6	4-1/2	1	33250	11/16	9	7-1/4	1
33070	3/8	9	7-1/2	1	33260	3/4	9	7-1/4	1
33080	3/8	12	10-1/2	1	33270	3/4	12	10-1/4	1
33090	3/8	18	16-1/2	1	33280	3/4	18	16-1/4	1
33100	7/16	6	4-1/2	1	33290	13/16	9	7-1/4	1
33110	7/16	12	10-1/2	1	33300	27/32	9	7-1/4	1
33120	7/16	18	16-1/2	1	33310	7/8	9	7-1/4	1
33130	1/2	6	4-7/8	1	33320	7/8	12	10-1/4	1
33140	1/2	9	7-7/8	1	33330	7/8	18	16-1/4	1
33150	1/2	12	10-7/8	1	33340	1	12	10-1/4	1
33160	1/2	18	16-7/8	1	33350	1	18	16-1/4	1
33170	9/16	6	4-7/8	1					

### DRILL FITS:

- AEG PH 210, PHE 16RL & PHE 19 RL, 26
- B&D 5014, 5016-09
- Bosch 11207, 11210VSR, 11212VSR, 11215 DVSR & 11213RK
- Hilti TE 10, 12, 14, 15, 17 & 22
- Hitachi VRT-22A, VA 16 & DH 22
- Kango 285, 327, 422 & 426
- Makita HR 2511 & HR 1821
- Metabo 6020, 6026 & 6018
- Phillips 555 & 715
- Porter Cable 639
- Ramset 425
- Ryobi ED-211
- Skil 1740
- Milwaukee 5366, 5368 & 5371

\* Not Fit with "Slot Drive System" (SDS Plus)

## SPLINE BITS - HEAVY DUTY

### Types 614, 615 & 616

#### Spline Bits - Heavy-Duty

Percussion grade carbide tip with extra strength shank for the most demanding hammer drill applications.

Heavy-Duty shanks to fit the following popular hammer drills:

- AEG PH-350, 350D, 350HD, 240D & 38, PHD38 & 26
- B & D 5041, 5042, 5043 & 5044(Macho)
- Bosch 11202, 11203, 11204, 11205, 11209 & 11214
- Hitachi DH 50SB , DH 38YA, 38YE & 38YF
- Kango 430S, 501S, 637S, 638S & 950S
- Makita HR 3851
- Metabo RH66, RH99, RH99X & 1129
- Milwaukee 5343, 5344, 5347 & 5348
- Phillips 747-2
- Ramset 442, 445 & 475
- Ryobi ED 382P & ER 382
- Wacker 11/110



**Type 614**



**Type 615**



**Type 616**

11" & 17" lengths are packaged in plastic hang up tubes.

## SPLINE BITS

Type 614			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47540	3/8	6	11
47550	1/2	6	11
47560	5/8	6	11
47570	3/4	6	11
47580	1	6	11
47590	1-1/8	6	11

Package quantity is 1.

Type 615			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47600	3/8	12	17
47610	1/2	12	17
47620	9/16	12	17
47630	5/8	12	17
47640	11/16	12	17
47650	3/4	12	17
47660	7/8	12	17
47670	1	12	17
47680	1-1/8	12	17
47690	1-1/4	12	17
47700	1-1/2	12	17

Package quantity is 1.

Type 616			
Part No.	Dia. Inches	Drilling Depth Inches	Overall Length Inches
47710	1/2	18	23
47720	5/8	18	23
47730	3/4	18	23
47740	7/8	18	23
47750	1	18	23
47760	1-1/8	18	23
47770	1-1/4	18	23
47780	1-1/2	18	23

Package quantity is 1.

# Impact Hammer Drills



MASONRY TOOLS

## IMPACT HAMMER DRILLS - EXTRA HEAVY

### Type 609

#### Extra Heavy-Duty

A straight shank impact hammer bit is designed for use in the hard hitting impact tools using a Jacobs type chuck. These extra tough bits will give outstanding performance in the roughest drilling applications. The specially heat treated alloy steel body, coupled with extra tough percussion tips will stay sharp longer, and can be resharpened many times for extra long life. 6" and shorter lengths are carded.

Over 6" lengths are packaged in plastic hang up tubes



### TYPE 609

Part No.	Diameter Inches	O.A.L.	Shank Diameter Inches	No. per/pack	Part No.	Diameter Inches	O.A.L.	Shank Diameter Inches	No. per/pack
30450	1/8	2	1/8	1	30920	1/2	18	3/8	1
30470	5/32	3	5/32	1	30660	9/16	6	3/8	1
30460	11/64	3	11/64	1	30830	9/16	12	3/8	1
30480	3/16	3	3/16	1	30930	9/16	18	3/8	1
30490	3/16	4	3/16	1	30670	5/8	x6	1/2	1
30500	3/16	6	3/16	1	30840	5/8	12	1/2	1
30510	13/64	3	13/64	1	30940	5/8	18	1/2	1
30520	7/32	4	7/32	1	30680	11/16	6	1/2	1
30530	1/4	4	1/4	1	30850	11/16	12	1/2	1
30540	1/4	6	1/4	1	30950	11/16	18	1/2	1
30780	1/4	12	1/4	1	30690	3/4	6	1/2	1
30550	9/32	4	1/4	1	30860	3/4	12	1/2	1
30560	5/16	4	1/4	1	30960	3/4	18	1/2	1
30580	5/16	6A	1/4	1	30700	13/16	6	1/2	1
30590	5/16	6B	5/16	1	30710	27/32	6	1/2	1
30790	5/16	12	5/16	1	30720	7/8	6	1/2	1
30570	3/8	4	1/4	1	30870	7/8	12	1/2	1
30600	3/8	6A	1/4	1	30970	7/8	18	1/2	1
30610	3/8	6B	3/8	1	30730	1	6	1/2	1
30800	3/8	12A	5/16	1	30880	1	12	1/2	1
30810	3/8	12B	3/8	1	30440	1	18	1/2	1
30900	3/8	18A	5/16	1	30740	1-1/8	6	1/2	1
30910	3/8	18B	3/8	1	30890	1-1/8	12	1/2	1
30620	7/16	6	3/8	1	30430	1-1/8	18	1/2	1
30630	15/32	6	3/8	1	30750	1-1/4	6	1/2	1
30640	1/2	6A	1/4	1	30760	1-3/8	6	1/2	1
30650	1/2	6B	3/8	1	30770	1-1/2	6	1/2	1
30820	1/2	12	3/8	1					

### Spira-Broach™ Cutting Fluid

#### Type 13-UB

Spira-Broach™ Cutting Fluid is specially formulated for use with Spira-Broach 5500/6500/7000 Mag drill systems and Type 13, 14 and 15 Spira-Broach annular cutter. Improves cutting tool life and increases drilling efficiency. Available in pints and gallons.



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Impact Hammer Drills - Extra Heavy-Duty

**PERCUSSION BITS - A-TAPER**

**Type 607**

**Heavy-Duty A-Taper**

Percussion grade carbide tip and strong alloy steel body make these taper shank bits excellent performers in all types of masonry drilling applications. The bits are designed to fit all standard taper chucks. See Type 610 for taper chuck adapters on page 113.



TYPE 607		3/16 - 9/16		
Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
31000	3/16	4	2-3/4	1
31010	1/4	4	2-3/4	1
31040	1/4	6	4-3/4	1
31050	9/32	6	4-3/4	1
31020	5/16	4	2-3/4	1
31060	5/16	6	4-3/4	1
31200	5/16	9	7-1/2	1
31340	5/16	12	10-3/4	1
31030	3/8	4	2-3/4	1
31070	3/8	6	4-3/4	1
31210	3/8	9	7-1/2	1
31350	3/8	12	10-3/4	1
31080	7/16	6	4-3/4	1
31220	7/16	9	7-1/2	1
31090	15/32	6	4-3/4	1
31230	15/32	9	7-1/2	1
31100	1/2	6	4-3/4	1
31240	1/2	9	7-1/2	1
31360	1/2	12	10-3/4	1
31440	1/2	19	17-3/4	1
31110	17/32	6	4-3/4	1
31250	17/32	9	7-1/2	1
31120	9/16	6	4-3/4	1
31260	9/16	9	7-1/2	1
31370	9/16	12	10-3/4	1

TYPE 607		9/16 - 7/8		
Part No.	Diameter Inches	Overall Length Inches	Drilling Depth Inches	No. per/pack
31450	9/16	19	17-3/4	1
31130	5/8	6	4-3/4	1
31270	5/8	9	7-1/2	1
31380	5/8	12	10-3/4	1
31460	5/8	19	17-3/4	1
31140	21/32	6	4-3/4	1
31280	21/32	9	7-1/2	1
31150	11/16	6	4-3/4	1
31290	11/16	9	7-1/2	1
31390	11/16	13	11	1
31470	11/16	19	17-3/4	1
31160	3/4	6	4-3/4	1
31300	3/4	9	7-1/2	1
31400	3/4	13	11	1
31480	3/4	19	17-3/4	1
31170	13/16	6	4-3/4	1
31320	13/16	9	7-1/2	1
31410	13/16	13	11	1
31180	27/32	6	4-3/4	1
31310	27/32	9	7-1/2	1
31420	27/32	13	11	1
31190	7/8	6	4-3/4	1
31330	7/8	9	7-1/2	1
31430	7/8	13	11	1



# Taper Chuck Adapters



## TAPER CHUCK ADAPTERS

### Types 610

#### Taper Chuck Adapters

Type 610 are used with A-Taper shank percussion hammer bits. (Found on page 112.)

A complete line of taper chuck adapters and taper shank bits is offered to keep drill expenditures to a minimum. Taper shank bits and adapters can significantly reduce inventory requirements when compared to one piece bits.

#### TYPE 610

##### 31610

**Part No.** **For Models Make or Type**  
31610 Skil 726 & Milwaukee: 5300, 5310, 5305, 5315

##### 31620

**Part No.** **For Models Make or Type**  
31620 Skil: 706, 707, 708, 1706 & B & D 5040, 5049 & Rockwell 600, 601

##### 31630

**Part No.** **For Models Make or Type**  
31630 Skil 728, 731, 732, 628 & Rockwell 602, 605, 606, 1602 & B & D 5048 & Milwaukee 5325, 5326

##### 31640

**Part No.** **For Models Make or Type**  
31640 Skil 717

##### 31650

**Part No.** **For Models Make or Type**  
31650 B&D 717, 718, 719, 5045, 5046, 5050

##### 31660

**Part No.** **For Models Make or Type**  
31660 Bosch Hex Drive 11201 & Phillips 700, 747 and Metabo RH90

##### 31670

**Part No.** **For Models Make or Type**  
31670 Bosch Spline Drive: AEG PH-350, PH-350D, PH-350HD, PH-2400, PH-38, PHD-38, PHD-26; B&D 5041, 5042, 5043, 5044(MACHO); Bosch 11202, 11203, 11204, 11205, 11206, 11209, 11214; Hitachi DH-38YA, DH-38YE, DH-38YF, DH-50SB; Kango 430S, 501S, 637S, 638S, 950S; Makita HR 3851; Metabo RH66, RH99, RH99X, 11315; Milwaukee 5343, 5344, 5347, 5348; Phillips 747-2; Porter Cable 639; Ramset 442, 445, 475; Ryobi ED382P, ER 382; Wacker 11/110

##### 31680

**Part No.** **For Models Make or Type**  
31680 Ramset 640

##### 31690

**Part No.** **For Models Make or Type**  
31690 AEG-BH25

##### 31700

**Part No.** **For Models Make or Type**  
31700 Hilti TE-12, 17, 22, Kango 327, Phillips 555, 715

##### 31701

**Part No.** **For Models Make or Type**  
31701 B & D 5097, 5099; Bosch 11214EVS, 11216 11230, 11227, 11231; Hilti TE-F 52, TE-F60, TEF72, TE-F92, TE-Y54, TE-Y55, TE-Y74, TE-Y75, TE-94; Hitachi DH40; Milwaukee 5313; Wacker EBH-75M



# Rebar Cutter - BitSaver



## REBAR CUTTER

### Type 612

#### Rebar Cutter - Bitsaver™

The Bitsaver™ rebar cutter is the answer to your damaged impact hammer bit problem. The rebar cutter is to be used in the rotary drilling mode only. Using the impact hammer mode will damage the cutter. The Bitsaver cutter can be used in any 1/2" capacity drill motor with a rated no-load speed of 400 to 1200 RPM. This includes most hammer drills with 3-jawed chucks.



### TYPE 612

Part No.	Diameter Inches	Overall Length Inches	No. pe/pack
45211	1/2	12	1
45221	9/16	12	1
45231	5/8	12	1
45241	11/16	12	1
45251	3/4	12	1
45261	7/8	12	1
45271	1"	12	1
45281	1-1/8	12	1
45291	1-1/4	12	1
45301	1-3/8	12	1
45311	1-1/2	12	1
45321	1-3/4	12	1
45331	2"	12	1
45341	2-1/2	12	1
45351	3"	12	1

## Bitsaver™ Drilling Process

Drill into the concrete with an impact or rotary hammer carbide masonry bit. When the bit comes into contact with reinforcing bar or wire mesh, stop immediately.

Continued drilling will most likely damage the carbide tip. Use a

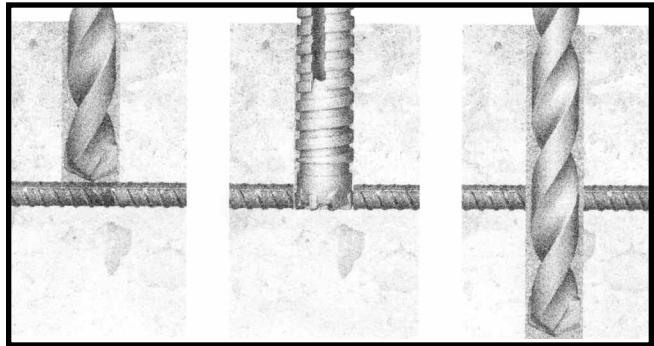
1/2" rotary drill motor or switch the hammer drill into rotary only mode.

The Bitsaver cutter is inserted into the 3 jawed chuck and then placed into the hole with the rebar or mesh obstruction.

Drill using constant

and even pressure until you have cut through the rebar or wire mesh.

Return to the original masonry bit and hammer drill after you have finished cutting the rebar or mesh and have removed the debris from the hole.



**CARBIDE TIPPED WITH SPEAR POINT**

**Type 626**

**Carbide Tipped with Spear Point**

These drills are designed for drilling in glass, tile, mirrors, and ceramic materials. The spear point allows clean penetration with reduced cutting pressure and breakout. The carbide tip insures long tool life. Fits drills with 3/8" or larger chucks. Individually packaged in clear hanging tubes.

**TYPE 626**

Part No.	Size Inches
56510	1/8
56520	5/32
56530	3/16
56540	1/4
56550	5/16
56560	3/8
56570	1/2



**Type 626 SET**  
**Part # 56580**

Convenient set includes four commonly used sizes;  
1/8, 3/16, 1/4 & 5/16



**DIAMOND TIPPED TWIST DRILLS FOR TILE, MARBLE AND GRAPHITE**

**Type 627**

Drills all ceramic, porcelain tile, and marble. Drills ten times faster than carbide, less chipping, and less breakout saves time and money.



**TYPE 627**

Part No.	Diameter	Overall Length	Flute Length	Qty Per Pack
33201	3/16	2-1/4"	1-1/4"	1
33211	1/4	2-13/16"	1-5/8"	1
33221	5/16	3-1/8"	1-7/8"	1
33231	3/8	3-5/8"	2-3/8"	1
33241	1/2	4"	2-3/8"	1

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Proudly Manufactured in the U.S.A.

## DRILL SETS - JOBBER LENGTH ULTRA BOR SUPER PREMIUM

### Type 240-UB

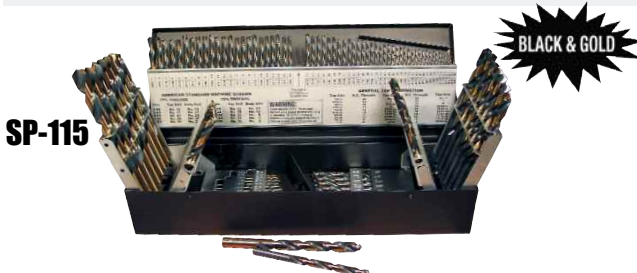
Jobber Length - 135° Split Point

**Black & Gold Ultra Bor Super Premium**

Special Hi-Molybdenum tool steel. Precision ground: points, flutes, body, clearance, and drill diameter for the ultimate in accuracy and performance. Body and clearance are gold surface treated for maximum lubricity. Especially designed for hand held drills. Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

#### ULTRA BOR SUPER PREMIUM

SP-13 Part No.	Description of Sizes	Qty of each
44110	1/16-1/4 by 64ths	1
SP-15 Part No.	Description of Sizes	Qty of each
44120	1/16-1/2 by 32nds	1
SP-21 Part No.	Description of Sizes	Qty of each
44130	1/16-3/8 by 64ths	1
SP-26 Part No.	Description of Sizes	Qty of each
88660	A-Z	1
SP-29 Part No.	Description of Sizes	Qty of each
44150	1/16-1/2 by 64ths	1
SP-29P - Ultra Dex Part No.	Description of Sizes	Qty of each
44170	1/16-1/2 by 64ths	1
SP-60 Part No.	Description of Sizes	Qty of each
88640	1-60	1
SP-115 Part No.	Description of Sizes	Qty of each
93840	1/16-1/2 x 64ths + A-Z & 1-60	1
TRI-1SP Part No.	Description of Sizes	Qty of each
06510	1/16-1/4 by 64ths	1



### 643-UB METRIC - ULTRA BOR SUPER PREMIUM

SP-11M Part No.	Description of Sizes	Qty of each
58650	1.0mm-6.0mm x .5mm	1
SP-13M Part No.	Description of Sizes	Qty of each
49042	1.0mm-7.0mm x .5mm	1
SP-19M Part No.	Description of Sizes	Qty of each
58920	1.0mm-10.0mm x .5mm	1
SP-25M Part No.	Description of Sizes	Qty of each
58660	1.0mm-13.0mm x .5mm	1
SP-41M Part No.	Description of Sizes	Qty of each
49043	6.0mm-10.0mm x .1mm	1

### Type 278-UB

Jobber Length - 135° Split Point

3/8" Reduced Shank

**Black & Gold - Ultra Bor Super Premium**

Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

#### 3/8" SHANK - ULTRA BOR SUPER PREMIUM

SP-21R Part No.	Description of Sizes	Qty of each
92170	1/16-1/4 by 64ths, 9/32-1/2 x 32nds	1
RSP-15 Part No.	Description of Sizes	Qty of each
92110	1/16-1/2 by 32nds	1
RSP-29 Part No.	Description of Sizes	Qty of each
92100	1/16-1/2 by 64ths	1
RSP-29P - Ultra Dex Part No.	Description of Sizes	Qty of each
92150	1/16-1/2 by 64ths	1



# Mechanics Length & Reduced Shank

## DRILL SETS -MECHANICS LENGTH

### Type 250-UB

Mechanics Length - 135° Split Point  
Black & Gold Ultra Bor Super Premium  
3-Flats on Shank 3/16 and Larger

Special Hi-Molybdenum tool steel. Precision ground: points, flutes, body, clearance, and drill diameter for the ultimate in accuracy and performance. Body and clearance are gold surface treated for maximum lubricity. Especially designed for hand held drills. Recommended for use in work hardening grades of stainless steel & other hard metal drilling applications.

#### ULTRA BOR SUPER PREMIUM

SPM-13		
Part No.	Description of Sizes	Qty of each
66460	1/16-1/4 by 64ths	1
SPM-15		
Part No.	Description of Sizes	Qty of each
66470	1/16-1/2 by 32nds	1
SPM-21		
Part No.	Description of Sizes	Qty of each
57810	1/16-3/8 by 64ths	1
SPM-29		
Part No.	Description of Sizes	Qty of each
66480	1/16-1/2 by 64ths	1
SPM-29P - Ultra Dex		
Part No.	Description of Sizes	Qty of each
66820	1/16-1/2 by 64ths - w/ Ultra Dex	1

### Type 258-UB

135° Split Point - 3/8" Reduced Shank  
Black & Gold - Ultra Bor Super Premium

#### ULTRA BOR SUPER PREMIUM - 3/8" W/FLATS ON SHANK

SPM-21R		
Part No.	Description of Sizes	Qty of each
92340	1/16-1/4 by 64ths + 9/32-1/2 by 32nds (3/8" shank)	1
RSPM-15		
Part No.	Description of Sizes	Qty of each
57910	1/16-1/2 by 32nds (3/8" shank)	1
RSPM-29		
Part No.	Description of Sizes	Qty of each
57920	1/16-1/2 by 64ths (3/8" shank)	1
RSPM-29P - Ultra Dex		
Part No.	Description of Sizes	Qty of each
57950	1/16-1/2 by 64ths (3/8" shank) - w/ Ultra Dex	1

## TYPE QR-AG HEX SHANK SETS

Quick Release Drills  
- 135° Split Point

Magnum Super Premium  
135° Split Point - Magnum Super Premium with 1/4" Hex Shanks



QR12-AG SET		HARD CASE
Part No.	Description of Sizes	Qty of each
34815	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 7/16, 1/2 & Quick Release Adaptor	1

QR16-AG SET		SOFT POUCH
Part No.	Description of Sizes	Qty of each
34812	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, & Quick Release Adaptor	1



QR7A-AG SET		SOFT POUCH
Part No.	Description of Sizes	Qty of each
34803	1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4	1

Sets QR-7A and QR-7B do not include Quick Release Adaptors.



QR7B-AG SET		SOFT POUCH
Part No.	Description of Sizes	Qty of each
34804	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	1

**SPM-29**

**SPM-21R**

**SPM-29P**

## DRILL SETS - GOLDSTRIKE

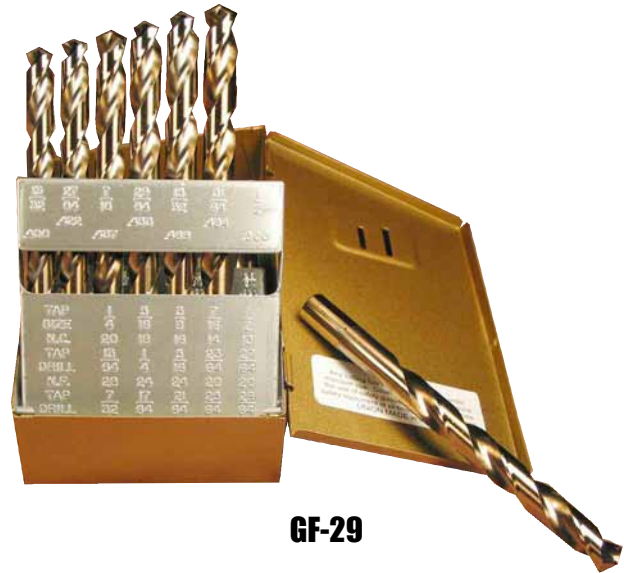
### Type 240-GF

#### Gold-Strike™ - 3-Flats on Shank

These heavy-duty 135° split point drills perform well in very demanding applications. The flats on shank give positive chuck grip, ideal for use with hand held drills with keyless chucks.

#### 3-FLATS ON SHANK 3/16" AND LARGER

GF-13 Part No.	Description of Sizes	Qty of each
40611	1/16-1/4 by 64ths	1
GF-15 Part No.	Description of Sizes	Qty of each
40612	1/16-1/2 by 32nds	1
GF-21 Part No.	Description of Sizes	Qty of each
40613	1/16-3/8 by 64ths	1
GF-29 Part No.	Description of Sizes	Qty of each
40604	1/16-1/2 by 64ths	1
GF-29P - Ultra Dex Part No.	Description of Sizes	Qty of each
40614	1/16-1/2 by 64ths	1



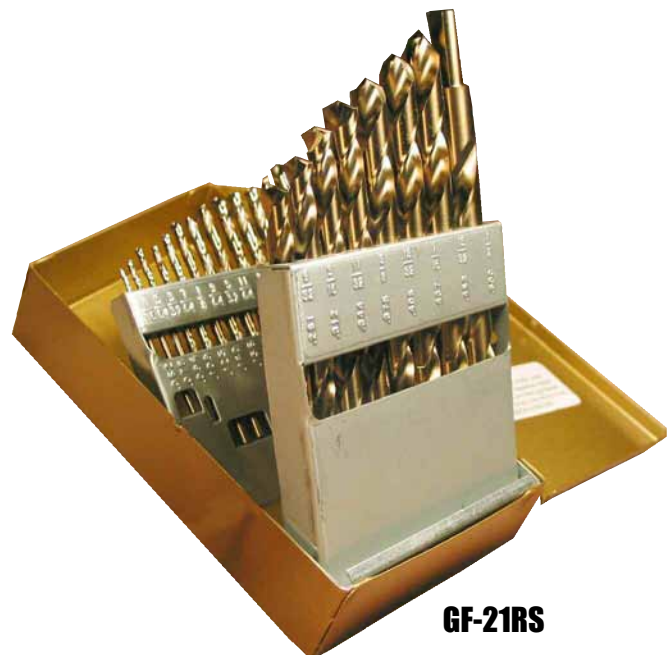
GF-29

### Type 240-GFR

#### 3/8" Reduced Shank

#### 3/8" WITH FLATS ON SHANK

GF-15RS Part No.	Description of Sizes	Qty of each
		1
GF-21RS Part No.	Description of Sizes	Qty of each
40631	1/16-1/4 by 64ths, 9/32-1/2 by 32nds (3/8" shank)	1
GF-29RS Part No.	Description of Sizes	Qty of each
40641	1/16-1/4 by 64ths, 9/32-1/2 by 32nds (3/8" shank)	1
GF-29RSP - Ultra Dex Part No.	Description of Sizes	Qty of each
40651	1/16 thru 1/4 by 64ths, 9/32 thru 1/2 by 32nds (3/8" shank)	1



GF-21RS

# Jobber Length

## DRILL SETS - JOBBER LENGTH

### Type 240-A

#### Jobber Length - Heavy-Duty Surface Treated Black

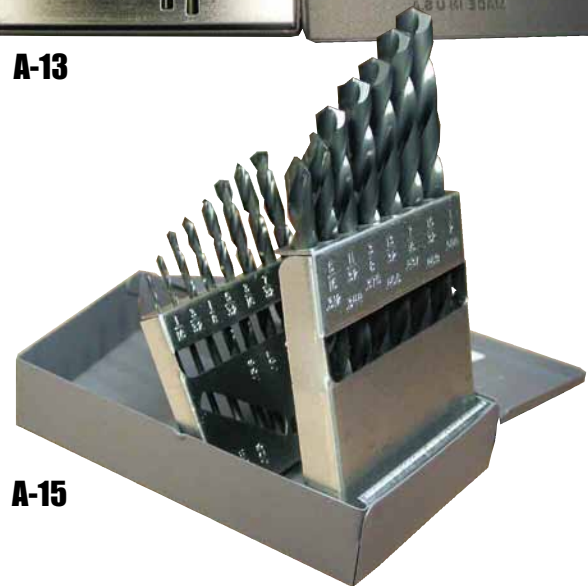
The 135° split point makes this drill self-centering and requires less thrust in drilling harder metal than a general purpose drill. It is recommended for medium hardness drilling applications.

#### SURFACE TREATED BLACK - 135° SPLIT POINT

A-10 Part No.	Description of Sizes	Qty of each
43330	1/16-5/32 by 64ths + 3/16, 7/32, 1/4	1
A-11 Part No.	Description of Sizes	Qty of each
43320	1/16-3/8 by 32nds	1
A-13 Part No.	Description of Sizes	Qty of each
43340	1/16-1/4 by 64ths	1
A-15 Part No.	Description of Sizes	Qty of each
43350	1/16-1/2 by 32nds	1
A-21 Part No.	Description of Sizes	Qty of each
43360	1/16-3/8 by 64ths	1
A-26 Part No.	Description of Sizes	Qty of each
43370	A-Z	1
A-29 Part No.	Description of Sizes	Qty of each
43380	1/16-1/2 by 64ths	1
A-29P Part No.	Description of Sizes	Qty of each
60590	1/16-1/2 by 64ths	1
A-60 Part No.	Description of Sizes	Qty of each
43390	1-60	1
A-115 Part No.	Description of Sizes	Qty of each
43420	1/16-1/2 by 64ths + A-Z, 1-60	1



A-10



A-15



A-60



# Jobber Length & General Purpose

SETS

## DRILL SETS - JOBBER LENGTH

### Type 240

Jobber Length - Black Surface Treated  
118° Point - General Purpose

Performs well in a variety of ferrous metal drilling applications. The black surface treatment prevents chip welding and increases abrasion resistance.

#### BLACK SURFACE TREATED

B-10 Part No.	Description of Sizes	Qty of each
42000	1/16-5/32 by 64ths + 3/16, 7/32, 1/4	1
B-11 Part No.	Description of Sizes	Qty of each
42010	1/16-3/8 by 32nds	1
B-13 Part No.	Description of Sizes	Qty of each
42020	1/16-1/4 by 64ths	1
B-15 Part No.	Description of Sizes	Qty of each
42030	1/16-1/2 by 32nds	1
B-20 Part No.	Description of Sizes	Qty of each
42040	61-80	1
B-21 Part No.	Description of Sizes	Qty of each
42050	1/16-3/8 by 64ths	1
B-26 Part No.	Description of Sizes	Qty of each
42060	A-Z	1
B-29 Part No.	Description of Sizes	Qty of each
42070	1/16-1/2 by 64ths	1
B-60 Part No.	Description of Sizes	Qty of each
42080	1-60	1
B-115 Part No.	Description of Sizes	Qty of each
43440	1/16-1/2 by 64ths + A-Z, 1-60	1



B-13



B-21



B-115

Jobber Length - General Purpose, Black Surface Treated

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# Jobber Length



## DRILL SETS - JOBBER LENGTH BRIGHT FINISH

### Type 240-B

#### Jobber Length Bright Finish, General Purpose

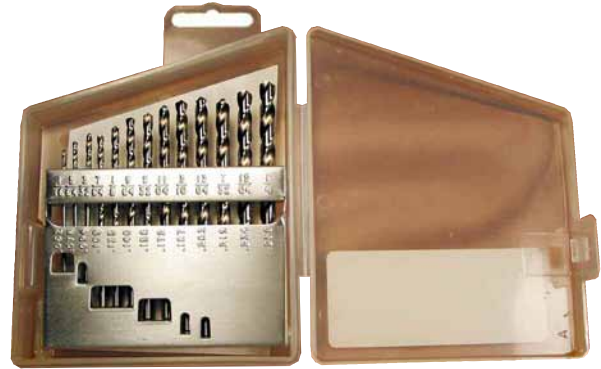
118° point, high-speed steel drill performs well in a wide variety of drilling applications. It is recommended for non-ferrous metals, wood and plastics.

#### BRIGHT

J-10 Part No.	Description of Sizes	Qty of each
43400	1/16-5/32 by 64ths + 3/16, 7/32 & 1/4	1
J-11 Part No.	Description of Sizes	Qty of each
43410	1/16-3/8 by 32nds	1
J-13 Part No.	Description of Sizes	Qty of each
43430	1/16-1/4 by 64ths	1
J-15 Part No.	Description of Sizes	Qty of each
43450	1/16-1/2 by 32nds	1
J-20 Part No.	Description of Sizes	Qty of each
43460	61-80	1
J-21 Part No.	Description of Sizes	Qty of each
43480	1/16-3/8 by 32nds	1
J-26 Part No.	Description of Sizes	Qty of each
43500	A-Z	1
J-29 Part No.	Description of Sizes	Qty of each
43520	1/16-1/2 by 64ths	1
J-60 Part No.	Description of Sizes	Qty of each
43540	1-60	1
J-115 Part No.	Description of Sizes	Qty of each
43550	1/16-1/2 by 64ths + A-Z, 1-60	1
TRI-1 Part No.	Description of Sizes	Qty of each
43570	1/16-1/4 by 64ths	1



J-29



PL-13

#### DRILLS IN CLEAR PLASTIC HANGING INDEX

PL-7 Part No.	Description of Sizes	Qty of each
44267	1/16-1/4 by 32nds	1
PL-10 Part No.	Description of Sizes	Qty of each
44277	1/16-5/32 by 64ths + 13/16, 7/32 & 1/4	1
PL-13 Part No.	Description of Sizes	Qty of each
44287	1/16-1/4 by 64ths	1

Jobber Length - General Purpose Bright Finish

## DRILL SETS - JOBBER LENGTH

### Type 278

Jobber Length - 3/8" Reduced Shank  
Bright Finish General Purpose - 118° Point

For use in portable air or electric equipment with 3/8" chucks.

#### 3/8" REDUCED SHANK - BRIGHT FINISH

R-15 Part No.	Description of Sizes	Qty of each
44540	1/16-1/2 by 32nds	1

R-29 Part No.	Description of Sizes	Qty of each
44530	1/16-1/2 by 64ths	1

#### R-29P - Ultra Dex

Part No.	Description of Sizes	Qty of each
44550	1/16-1/2 by 64ths	1

R-115 Part No.	Description of Sizes	Qty of each
44520	1/16-1/2 by 64ths, + A-Z & 1-60	1



R-29

### Type 275

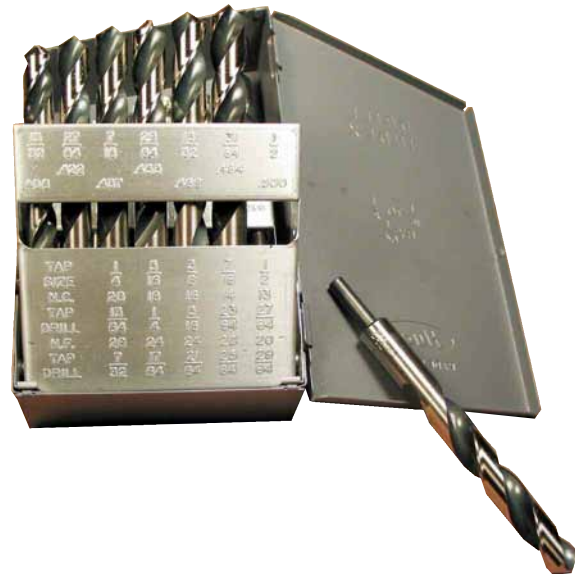
1/4" Shank - General Purpose 118° Point

For use in portable air and electric equipment with 1/4" chucks, the shorter-than-jobber length greatly increases rigidity and improves performance.

#### 1/4" SHANK

Q-15 Part No.	Description of Sizes	Qty of each
43580	1/16-1/2 by 32nds	1

Q-29 Part No.	Description of Sizes	Qty of each
43620	1/16-1/2 by 64ths	1



#### DRILLS IN PLASTIC POUCH

DC-4N Part No.	Description of Sizes	Qty of each
47080	5/16, 3/8, 7/16 & 1/2	1

DC-5N Part No.	Description of Sizes	Qty of each
47090	1/4, 5/16, 3/8, 7/16 & 1/2	1

# Metric Cobalt & Jobber Length Sets

## DRILL SETS - M42 COBALT

### Type 240-D

M42 Cobalt NAS 907-J - 135° Split Point Jobber Length, Gold Finish, Heavy-Duty

Used in drilling hard tough metals, free machining stainless steel, high-temperature alloys, titanium, and certain plastics.

#### M42 COBALT

D-13 Part No.	Description of Sizes	Qty of each
68320	1/16-1/4 by 64ths	1

D-15 Part No.	Description of Sizes	Qty of each
68340	1/16-1/2 by 32nds	1

D-21 Part No.	Description of Sizes	Qty of each
68360	1/16-3/8 by 64ths	1

D-26 Part No.	Description of Sizes	Qty of each
68380	A-Z	1

D-29 Part No.	Description of Sizes	Qty of each
68400	1/16-1/2 by 64ths	1

#### D-29P - Ultra Dex

Part No.	Description of Sizes	Qty of each
68410	1/16-1/2 by 64ths	1

D-60 Part No.	Description of Sizes	Qty of each
68420	1-60	1

D-115 Part No.	Description of Sizes	Qty of each
69280	1/16-1/2 by 64ths + A-Z, 1-60	1

### Type 643-D

M42 Cobalt NAS 907-J- Metric Jobber Length, Gold Finish, Heavy-Duty

Heavy-Duty 135° split point with gold finish for use in drilling hard tough metals, free machining stainless steel, high-temperature alloys, titanium, and certain plastics. High red hardness of cobalt steel permits speeds 30% higher than regular high-speed steel drills.

#### M42 COBALT - METRIC

D-11M Part No.	Description of Sizes	Qty of each
58670	1.0mm-6.0mm x .5mm	1

D-13M Part No.	Description of Sizes	Qty of each
49082	1.0mm-7.0mm x .5mm	1

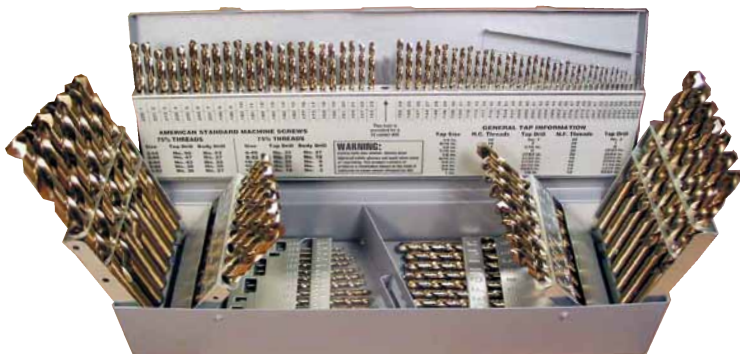
D-19M Part No.	Description of Sizes	Qty of each
49081		1

D-25M Part No.	Description of Sizes	Qty of each
58680	1.0m-13.0mm x .5mm	1

D-41M Part No.	Description of Sizes	Qty of each
49083	6.0m-10.0mm x .1mm	1



D-25M



D-115

## DRILL SETS - TiN COATED

### Type 240-AN

#### TiN Coated -Jobber Length, Heavy-Duty

Titanium nitrite coated, 135° split point drill performs well in very demanding applications. The TiN coating provides a super hard surface with high lubricity. The tool life may be extended 500% or more in high wear or very abrasive applications.

#### TIN COATED - 135° SPLIT POINT

AN-13 Part No.	Description of Sizes	Qty of each
88670	1/16-1/4 by 64ths	1
AN-15 Part No.	Description of Sizes	Qty of each
88680	1/16-1/2 by 32nds	1
AN-29 Part No.	Description of Sizes	Qty of each
96690	1/16-1/2 by 64ths	1
AN-60 Part No.	Description of Sizes	Qty of each
96700	1-60	1
AN-115 Part No.	Description of Sizes	Qty of each
95110	1/16-1/2 by 64ths + A-Z, 1-60	1

### Type 240-BN

#### TiN Coated - 118° Point

#### Jobber Length, General Purpose

TiN coated 118° point general purpose construction. Performs well in mild drilling applications with strong abrasive wear characteristics. TiN coating may extend drill life 500% or more in high wear applications.

#### TIN COATED

BN-13 Part No.	Description of Sizes	Qty of each
48310	1/16-1/4 by 64ths	1
BN-15 Part No.	Description of Sizes	Qty of each
48320	1/16-1/2 by 32nds	1
BN-29 Part No.	Description of Sizes	Qty of each
48330	1/16-1/2 by 64ths	1
BN-60 Part No.	Description of Sizes	Qty of each
48340	1-60	1
BN-115 Part No.	Description of Sizes	Qty of each
48350	1/16-1/2 by 64ths + A-Z, 1-60	1



**AN-29**



**BN-15**

# Jobber Length Parabolic



## DRILL SETS - TIN COATED & PARABOLIC SURFACE TREATED

### Type 240-PT

Jobber Length - Heavy-Duty  
Parabolic - TiN Coated - 135° Split Point

This exceptional high-performance drill with the super hard TiN coating may extend tool life 500% or more in very abrasive drilling applications. The parabolic flutes eliminate the need for frequent drill removal in deep hole drilling.

#### PARABOLIC - TIN COATED

PT-13 Part No.	Description of Sizes	Qty of each
68090	1/16-1/4 by 64ths	1
PT-15 Part No.	Description of Sizes	Qty of each
68110	1/16-1/2 by 32nds	1
PT-21 Part No.	Description of Sizes	Qty of each
68130	1/16-3/8 by 64ths	1
PT-29 Part No.	Description of Sizes	Qty of each
68160	1/16-1/2 by 64ths	1

### Type 240-P

Heavy-Duty - Parabolic Flute  
135° Split Point, Surface Treated

Parabolic flute drills are designed to allow deep hole drilling without frequent drill removal to clear chips. These drills perform best in low to medium tensile strength materials. The split point and heavy-duty design provides superior performance by permitting higher feed rates and continuous drilling of deep holes.

#### PARABOLIC

P-13 Part No.	Description of Sizes	Qty of each
68080	1/16-1/4 by 64ths	1
P-15 Part No.	Description of Sizes	Qty of each
68100	1/16-1/2 by 32nds	1
P-21 Part No.	Description of Sizes	Qty of each
68120	1/16-3/8 by 64ths	1
P-29 Part No.	Description of Sizes	Qty of each
68150	1/16-1/2 by 64ths	1

Jobber Length - Fast Spiral



PT-29



P-21

## DRILL SETS - HEAVY DUTY

### Type 248-A

#### Heavy-Duty, Surface Treated, 135° Split Point

These 135° split point drills are self centering and perform well in harder metals. This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard Type 240-A.

#### HEAVY-DUTY

SA-13 Part No.	Description of Sizes	Qty of each
06072	1/16-3/8 by 32nds	1
SA-15 Part No.	Description of Sizes	Qty of each
06082	1/16-1/2 by 32nds	1
SA-21 Part No.	Description of Sizes	Qty of each
06092	1/16-3/8 by 64ths	1
SA-29 Part No.	Description of Sizes	Qty of each
06102	1/16-1/2 by 64ths	1

### Type 248

#### General Purpose - Surface Treated, 118° Point

These general purpose drills are ideal for a wide variety of light tensile strength metal drilling applications. This series is designed for the user whose applications are well served without the need for the tighter tolerances of our standard Type 240.

#### BLACK

SJ-13 Part No.	Description of Sizes	Qty of each
06073	1/16-1/4 by 64ths	1
SJ-15 Part No.	Description of Sizes	Qty of each
06083	1/16-1/2 by 32nds	1
SJ-21 Part No.	Description of Sizes	Qty of each
06093	1/16-3/8 by 64ths	1
SJ-29 Part No.	Description of Sizes	Qty of each
06103	1/16-1/2 by 64ths	1

### Type 241-A

#### CAD-HD

#### Heavy-Duty Surface Treated - 135° Split Point

Mechanic length yields a sturdier drill with less flexing. This resistance to flexing may provide longer life than other drills in many applications. The 135° split point allows cutting of harder materials than general purpose drills. The split point reduces the tendency of the drill to walk and allows for reduced thrust in drilling harder materials.

#### CAD

#### CAD-13A

Part No.	Description of Sizes	Qty of each
43342	1/16-1/4 by 64ths	1

#### CAD-15A

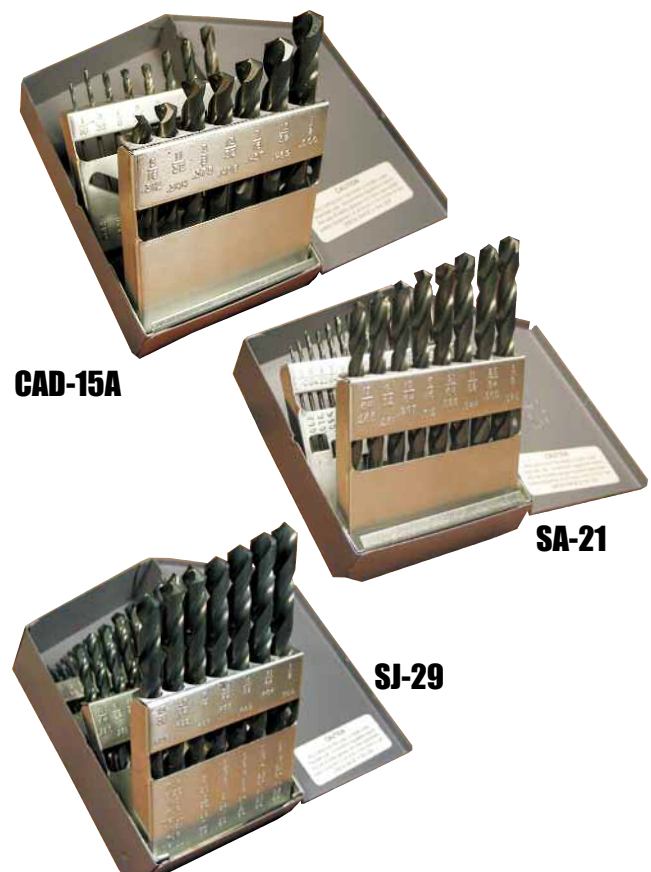
Part No.	Description of Sizes	Qty of each
43352	1/16-1/2 by 32nds	1

#### CAD-21A

Part No.	Description of Sizes	Qty of each
43362	1/16-3/8 by 64ths	1

#### CAD-29A

Part No.	Description of Sizes	Qty of each
43382	1/16-1/2 by 64ths	1



# Screw Machine Length & Tin Coated

## DRILL SETS - SCREW MACHINE LENGTH

### Type 260-UB

#### Screw Machine Length

#### Black & Gold, Ultra Bor Super Premium

Special Hi-Molybdenum surface treated body and clearance for maximum lubricity. 135° split point, drill will not walk. Recommended for work hardening grades of stainless steel and other hard metal drilling applications.



#### ULTRA BOR SUPER PREMIUM

##### SPT-26

Part No.	Description of Sizes	Qty of each
66850	A-Z	1

##### SPT-29

Part No.	Description of Sizes	Qty of each
66490	1/16-1/2 by 64ths	1

##### SPT-60

Part No.	Description of Sizes	Qty of each
23560	#1-60	1

### Type 260-TN

#### TiN Coated

#### Screw Machine Length, Heavy-Duty

Heavy-duty 135° split point drill performs well in very demanding applications. The TiN coating provides a super hard surface with high lubricity. The tool life may be extended 500% or more in high wear or very abrasive applications.

#### STUB LENGTH - 135° SPLIT POINT

##### TN-29

Part No.	Description of Sizes	Qty of each
96680	1/16-1/2 by 64ths	1

##### TN-60

Part No.	Description of Sizes	Qty of each
96730	#1-60	1

### Type 260-T

#### Screw Machine Length

#### Black Surface Treated, 135° Split Point

135° split point provides accurate centering and fast penetration. Ideal for sheet metal work and sturdy for all portable power drilling applications.

#### STUB LENGTH - 135° SPLIT POINT

##### T-10

Part No.	Description of Sizes	Qty of each
43660	1/16-5/32 by 64ths + 3/16, 7/32, 1/4	1

##### T-11

Part No.	Description of Sizes	Qty of each
43670	1/16-3/8 by 32nds	1

##### T-13

Part No.	Description of Sizes	Qty of each
43690	1/16-1/4 by 64ths	1

##### T-21

Part No.	Description of Sizes	Qty of each
43710	1/16-3/8 by 64ths	1

##### T-29

Part No.	Description of Sizes	Qty of each
43730	1/16-1/2 by 64ths	1

##### T-60

Part No.	Description of Sizes	Qty of each
43750	1-60	1

### Type 260

#### HSS- General Purpose, 118° Point

The short length of drill and flute makes this an especially rigid drill for greater drilling accuracy. Can be used for all screw machine operation. This drill is designed for ease of penetration and to facilitate chip removal in tough, hard materials. May also be used in portable drilling equipment.

#### STUB LENGTH

##### SM-29

Part No.	Description of Sizes	Qty of each
10390	1/16-1/2 by 64ths	1

##### SM-60

Part No.	Description of Sizes	Qty of each
35210	#1-60	1



TN-29



## DRILL SETS - SILVER & DEMING

### Type 280-UB

1/2" Shank Silver & Deming Ultra Bor Super Premium, 3-Flats on Shank Heavy-Duty, 135° Split Point

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without a center punch.
- Sizes larger than 1" diameter have 118° split point.
- Precision ground: point, flutes, body, clearance, and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Space age nitro-carburized steel withstands higher drilling temperatures while maintaining sharpness.
- Recommended for use in work hardening grades of stainless steel and other hard metal drilling applications.

### SILVER & DEMING - 1/2" SHANK

#### S & D-4SP

Part No.	Description of Sizes	Qty of each
12250	9/16, 5/8, 3/4 & 1	1

#### S & D-8SP

Part No.	Description of Sizes	Qty of each
92400	9/16-1 by 16ths	1

#### S & D-33SP

Part No.	Description of Sizes	Qty of each
92401	1/2-1 by 64ths	1

### Type 280-UBX

1/2" Shank Silver & Deming, Premium - 3-Flats on Shank 118° Split Point

- M-2 High Speed Steel
- Precision ground point, flutes, body and clearance.
- Standard 118° split point for general purpose drilling in metal, wood and plastic.

**NEW**

### TYPE 280-UBX

### SILVER & DEMING

#### S & D-4UBX

Part No.	Description of Sizes	Qty of each
74770	9/16, 5/8, 3/4, 1"	1

#### S & D-8UBX

Part No.	Description of Sizes	Qty of each
74780	9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1"	1

### Type 280-MRO

Silver & Deming, 135° Split Point

The 280-MRO is a new shorter (5") tougher version of our very popular 1/2" reduced shank product. Designed specifically for the needs of the MRO market, the 280-MRO has a slit point (135°) to insure fast hole starts without drill walking. The three flats on the shank insure positive chucking without slippage. The slightly shorter length allows the tool to get into frequently tighter MRO drilling locations. This feature packed tool provides tremendous value for your drilling dollar.

### TYPE 280-MRO

### SILVER & DEMING

#### S & D-4MRO

Part No.	Description of Sizes	Qty of each
54520	9/16, 5/8, 3/4 & 1"	1

**BLACK & GOLD**



S&D-4SP

**BLACK & GOLD**



S&D-8SP

### Type 280

1/2" Shank Silver & Deming 118° General Purpose

This general purpose 118° point high-speed steel drill is recommended for use in portable air and electric drilling equipment with 1/2" chucks. Type 280 drills may be used in power applications such as drill presses where a short rigid drill is required.

### SILVER & DEMING - 1/2" SHANK

#### S & D-4

Part No.	Description of Sizes	Qty of each
12260	9/16, 5/8, 3/4 & 1"	1

#### S & D-8

Part No.	Description of Sizes	Qty of each
43200	9/16-1" by 16ths	1

#### S & D-33

Part No.	Description of Sizes	Qty of each
92401	1/2-1 by 64ths	1

# Spotweld Drill, Left Hand Sets & Brad Point Drills

## WELDOUT™ SPOTWELD DRILLS SUPER COBALT SETS

### Weldout™ Spotweld Drills Sets

This rugged high performance drill is designed to effectively cut auto body panel spot welds. The high red hardness of cobalt steel permits speeds 30% greater than H.S.S. drills. Cobalt steel is substantially more abrasion resistant, resulting in very long wearing cutting edges. A selection of the most popular sizes of spotweld drills in an attractive, rugged black steel case.



WO-4



WO-6

#### TYPE 493-D

##### WO-4

Part No.	Description of Sizes
35050	8.0mm & 10mm Single-end
	8.0mm & 10mm Twin-end In Type 187 Length

#### TYPE 492-D

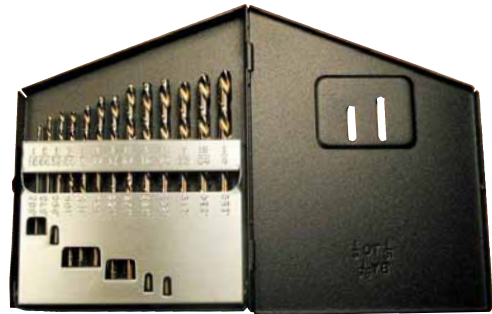
##### WO-6

Part No.	Description of Sizes
35010	6.5mm, 8.0mm & 10.0mm single-end drills with 1.75" length.
	6.5mm, 8.0mm & 10.0mm twin end drills with 3.62" length.

## LEFT HAND SPIRAL DRILLS SETS

### Type 240-AL Ultra Bor Super Premium - Left Hand Spiral

- Special Hi-Molybdenum tool steel.
- 135° split point for fast penetration and accurate starting without center punch.
- Precision ground point, flutes, body, clearance and drill diameter for the ultimate in accuracy and performance.
- Body and clearance are gold surface treated for maximum lubricity.
- Ideal for drilling broken studs.
- Need for screw and bolt extractor may be eliminated.
- Left hand spiral drill may loosen the bolt stud while drilling a hole for use of



#### TYPE 240-AL SETS

##### Left-Hand Spiral Sets

##### LF-8

Part No.	Description of Sizes	Qty of each
87650	1/16-1/2 by 16ths	1

##### LF-12

Part No.	Description of Sizes	Qty of each
87651	1/16-5/16 by 32nds, 3/8, 7/16 & 1/2	1

##### LF-13

Part No.	Description of Sizes	Qty of each
87652	1/16-1/4 by 64ths	1

##### LF-15

Part No.	Description of Sizes	Qty of each
87654	1/16 - 1/2 by 32nds	1

##### LF-17

Part No.	Description of Sizes	Qty of each
87853	1/16-1/4 by 64ths, 5/16-1/2 by 16ths	1

##### LF-29

Part No.	Description of Sizes	Qty of each
87854	1/16-1/2 by 64ths	1

##### LF-29P - Ultra Dex

Part No.	Description of Sizes	Qty of each
87859	1/16-1/2 by 64ths	1

## BRAD POINT DRILLS & POWER BITS

### Type 16-UB

#### Jobber Length

### Burrou™ Brad Point Super Premium

These high performance drills made from Hi-Moly tool steel will cut holes in wood or plastics and leave no burr. They will also drill splinter free holes in wood. The special BURROUT™ point cuts at the circumference of the hole to avoid the break through burr problems common with standard point drills.



#### TYPE 16-UB SETS Burrou™

##### BF-10

Part No.	Description of Sizes	Qty of each
42001	5/64-3/16 by 64ths + 7/32, 1/4	1

##### BF-14

Part No.	Description of Sizes	Qty of each
42031	5/64-3/16 by 64ths + 7/32, 1/4-1/2 by 16ths	1

# Tap & Drill, Combination Drill & Tap Sets

SETS

## COMBINATION DRILL & TAP SETS

### Type 40-UB

Combination drill and taps are ideally suited for on-site tapping in construction, maintenance and repair, assembly, production and other environments where one pass drilling and tapping saves time and costs. Hi-Molybdenum tool steel ensures longer tool life. Gold surface treatment provides maximum lubricity. The self-centering helical point provides excellent drilling precision and accuracy.

**NEW**



### SETS

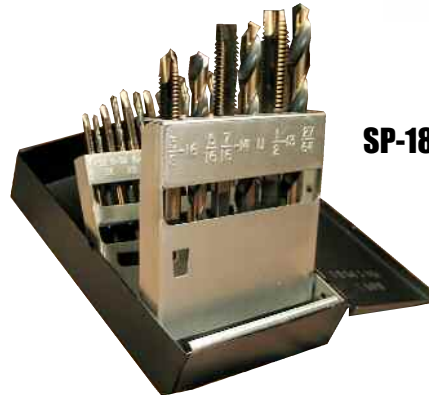
Part No.	Description of Sizes	Part No.	Description of Sizes
73991	7 pc set	73990	7 pc set
<b>40-UB - DT-7F Fine</b>	8-36, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	<b>40-UB - DT-7C Coarse</b>	8-32, 10-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13

## TAP & DRILL SETS



### Ultra Bor Super Premium

Hi-Molybdenum super premium twist drill combined with the corresponding Hi-Tungsten ultra bor spiral point tap. Both tools are gold surface treated for maximum lubricity, and precision ground for the ultimate in accuracy and performance.



SP-18TD

### TAP & DRILL SETS SPIRAL POINT

SP-18TD ( SPIRAL POINT, NC )	Description of Sizes
Part No. 57580	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
20-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 7/16-18, 3/8-16, 7/16-14 & 1/2-13
SP-18TDM ( SPIRAL POINT, METRIC )	Description of Sizes
Part No. 57990	
643-UB Drill Sizes (mm)	2.05, 2.50, 2.90, 3.30, 4.20, 5.00, 6.70, 8.50 & 10.20
21-UB Tap Sizes (mm)	2.5-.45, 3.0-.50, 3.5-.60, 4.0-.70, 5.0-.80, 6.0-1.00, 8.0-1.25, 10.0-1.50 & 12.0-1.75
SP-18TDF ( SPIRAL POINT, NF )	Description of Sizes
Part No. 58010	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
20-UB Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20
SP-12TD ( SPIRAL POINT, NC )	Description of Sizes
Part No. 58501	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F
20-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20 & 5/16-18

### TAP & DRILL SETS STRAIGHT FLUTE

SF-18TDC ( STRAIGHT FLUTE, NC )	Description of Sizes
Part No. 60930	
240-UB Drill Sizes	#36, 29, 25, 21, 7, F, 5/16, U & 27/64
24-UB Tap Sizes	6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 7/16-14 & 1/2-13
SF-18TDF ( STRAIGHT FLUTE, NF )	Description of Sizes
Part No. 60940	
240-UB Drill Sizes	#33, 29, 25, 21, 3, 1, Q, 25/64 & 29/64
24-UB Tap Sizes	6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20 & 1/2-20
SF-10TD ( STRAIGHT FLUTE, NC )	Description of Sizes
Part No. 58500	
240-UB Drill Sizes	31/64
280-UB Drill Sizes	17/32, 21/32, 49/64 & 7/8
24-UB Tap Sizes	9/16-12, 5/8-11, 3/4-10, 7/8-9 & 1-8

Tap & Drill, Combination Drill & Tap Sets

# Step Drills, Bolt Extractor & Countersink Sets

## STEP DRILLS, BOLT EXTRACTOR & COUNTERSINK SETS

### Type 78-UB

#### Ultra™ Bit Super Premium, Multi-Diameter Step Drill 3-Flats on Shank

Special moly alloy steel. Gold surface treated for maximum lubricity. Dual flute construction drills clean accurate holes in thin materials, quickly and easily. Use for all thin metals, rigid plastics such as plexiglas and wood or composite materials with a thickness equal to or less than the step thickness.

When drilling steel with 1/8" or greater thickness, a starter hole of the smallest step diameter will speed the drilling process.



### STEP DRILLS

Part No.	Size	No. of Hole Sizes	Range	Shank Size	Step Increments	Step Thickness
00700	1/8-1/2	13	1/8-1/2	1/4	1/32	1/8
00701	3/16A	6	3/16-1/2	1/4	1/16	3/8
00702	3/16B	12	3/16-7/8	3/8	1/16	1/8
00703	1/4-3/4	9	1/4-3/4	3/8	1/16	5/32
00704	9/16-1	8	9/16-1"	3/8	1/16	5/32
00710	13/16	10	13/16-1-3/8	1/2	1/32	5/32
00711	1/4 KO	10	1/4-1-3/8	3/8	1/8	*see note

### SETS

### Sizes

00721	1/8 - 1/2, 3/16 - 1/2, & 3/16 - 7/8
00731	1/8 - 1/2, 3/16 - 1/2, & 9/16 - 1"
00741	1/8 - 1/2, 3/16 - 1/2, & 1/4 - 3/4"

All tools individually packed in clear tubes

Note: Part # 00711 Extra length steps at 7/8, 1-1/8 & 1-3/8 for conduit knock-outs

## BOLT EXTRACTOR SETS

### Type 420-UB & 421-UB Sets

- Fast and easy stud removal
  - Left-hand spiral drills often eliminate the need for bolt and screw extractors.
  - Drill may loosen bolt stud with counter clockwise rotation.
  - 135° split point drill cut harder metals than a 118° point drill.
- Most broken studs are work hardened during the breaking process.

### LEFT HAND DRILL BOLT EXTRACTOR SETS - TYPE 420-UB

#### BR-8 - Type 420-UB & 240-AL

Part No.	Description of Sizes	Qty of each
88550	EX 1, 2, 3, 4 + 3/32, 1/8, 3/16, 1/4	1

#### BR-10 - Type 420-UB & 240-AL

Part No.	Description of Sizes	Qty of each
58510	EX 1, 2, 3, 4, 5 + 3/32, 1/8, 3/16, 1/4, 5/16	1

### BOLT EXTRACTOR SETS - TYPE 420-UB SPIRAL EXTRACTOR

#### SE-4N - Type 420-UB

Part No.	Description of Sizes	Qty of each
47170	EX 2, 3, 4, 5	1

#### SE-5N - Type 420-UB

Part No.	Description of Sizes	Qty of each
47180	EX 1, 2, 3, 4, 5	1

### LEFT HAND DRILL BOLT EXTRACTOR SET - TYPE 421-UB SQUARE

#### BR-8SQ - Type 421-UB & 240-AL

Part No.	Description of Sizes	Qty of each
70850	E 1, 2, 3, 4 + 1/8, 3/16, 1/4, 5/16	1

### BOLT EXTRACTOR SETS - TYPE 420-UB

#### SQE-4 - Type 421-UB

Part No.	Description of Sizes	Qty of each
70840	E 2, 3, 4, 5	1

### BR-10

### SE-5N



## CHATTERPROOF™ COUNTERSINK SETS SUPER PREMIUM

### Type 82-UB Countersinks

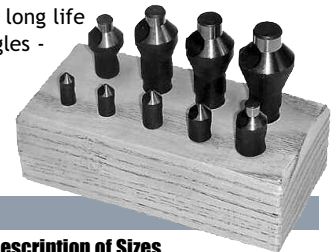
### Type 90-UB Deburring Tools

Special Hi-Molybdenum tool steel, gold surface treated points for maximum lubricity and chatterproof finish.

These high performance, flute-less tools are:

- Free cutting - for ease of use
- Single cutting edge - for fast stock removal
- Chatterproof - for a micro smooth finish
- Easily resharpened - for extra long life
- Wide selection of styles & angles - a tool for any job

Recommended for superior finishes on metal, plastic and wood applications.



### TYPE 82-UB & 90-UB SETS

Part No.	Description of Sizes
SP-4CS 10440	82-UB C/S sizes: CS55, CS65, CS55, CS105
SP-4ACS 10442	82-UB C/S sizes: CS65, CS85, CS105, CS3/165
SP-6DB 10450	90-UB D/B sizes: DB1/16, DB1/8, DB5/32, DB3/16, DB5/16 & DB9/16
SP-9CS 10443	82-UB C/S sizes: CS55, CS65, CS85, CS105, CS1/4, CS5/16, CS3/8, CS7/16, & CS1/2

# Car Reamers, Hole Hog & Carbide Hole Cutters Sets

SETS

## HOLE EXPANSION TOOLS - CAR REAMERS



### Type 50-UB Car Reamers, Standard Flute 3-Flats on Shank

Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity. These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels. For use only to enlarge previously formed or drilled holes. All tools are constructed with left-hand spiral and right-hand cut. The left-hand spiral eliminates the tendency of the reamer to hog into holes.

### Type 51-UB



### Car Reamers - Fast Spiral Hole Buster™, Super Premium 3-Flats on Shank

Special Hi-Tungsten tool steel, gold surface treated body and clearance for maximum lubricity. These reamers are especially designed for the reaming of structural steel plates commonly found in truck frames, rail cars, bridges, and pressure vessels. For use only to enlarge previously formed or drilled holes. All tools are constructed with left-hand spiral and right-hand cut. The left-hand spiral eliminates the tendency of the reamer to hog into holes. The 51-UB, with the fast spiral, is the more aggressive of the two styles. It also will fit the needs of users who prefer a stop collar.

#### TYPE 50-UB STANDARD FLUTE SET - Contains 1 ea.

Part No.	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
12270	CR-4SP	3/8, 1/2, 5/8, 3/4			
06390	3/8	0.250	5/16	4-5/8	3/8
06400	1/2	0.281	3/8	5-7/8	1/2
06420	5/8	0.343	7/16	6-3/8	1/2
06440	3/4	0.406	1/2	6-7/8	1/2

#### TYPE 51-UB FAST SPIRAL SET - Contains 1 ea.

Part No.	Diameter Inches	Point Diameter	Min. Starting Hole Size	Overall Length	Shank Dia.
12271	CR-4FS	3/8, 1/2, 5/8, 3/4			
12281	SM-4FS	5/16, 3/8, 7/16, 1/2			
06391	3/8	0.250	5/16	5-7/8	3/8
06401	1/2	0.281	3/8	5-7/8	1/2
06421	5/8	0.343	7/16	6-3/8	1/2
06441	3/4	0.406	1/2	6-7/8	1/2

## HOLE HOG

### Hole Hog™ Sets

#### 1/2" Shank (3-flats on shank) 4-Flute Core Drill Ultra Bor Super Premium

A selection of core drills and companion (minimum starting hole size) pilot drills in a black steel index.



#### TYPE 284-UB SETS

##### SP-8HH Set contains:

1 each:  
284-UB core drill sizes 3/8, 1/2, 5/8 & 3/4.  
250-UB drill sizes 1/4, 5/16, 25/64 & 15/32

Part No. 38880

##### SP-6HHL Set contains:

1 each:  
284-UB core drill sizes 1/2, 5/8 & 3/4. 250-UB drill sizes 5/16, 25/64 & 15/32.

Part No. 38870

##### SP-6HHS Set contains:

1 each:  
284-UB core drill sizes: 3/8, 1/2 & 5/8. 250-UB drill sizes 1/4, 5/16 & 25/64

Part No. 38860

## CARBIDE HOLE CUTTERS SETS

### Type CHC-UB & CHD-UB Sets

Ultra Bor Super Premium



#### Type CHC-UB Cuts up to 3/16" Thin Material

HC-4B - CHC-UB 3/16" Depth . . . . . Part No. 62600

Set contains: 1 each:  
Fractional sizes 11/16, 13/16, 15/16, 1-1/16.

HC-4A - CHC-UB 3/16" Depth . . . . . Part No. 62610

Set contains: 1 each:  
Fractional sizes 5/8, 3/4, 7/8, 1-inch.

HC-5C - CHC-UB 3/16" Depth . . . . . Part No. 62620

Set contains: 1 each:  
Fractional sizes 7/8, 1-1/8, 1-3/8, 1-3/4, 2-inch.

CHC-UB Individual Sizes Available 9/16 to 5-inch

#### Type CHD-UB Cuts up to 1" Thick Material

HCD-4B - CHD-UB 1" Depth . . . . . Part No. 64300

Set contains: 1 each:  
Fractional sizes 11/16, 13/16, 15/16, 1-1/16.

HCD-4A - CHD-UB 1" Depth . . . . . Part No. 64310

Set contains: 1 each:  
Fractional sizes 5/8, 3/4, 7/8, 1-inch.

HCD-5C - CHD-UB 1" Depth . . . . . Part No. 64320

Set contains: 1 each:  
Fractional sizes: 7/8, 1-1/8, 1-3/8, 1-3/4, 2-inch.

CHD-UB Individual Sizes Available 5/8 to 2-inch

Car Reamers, Hole Hog & Carbide Tipped Hole Cutters Sets

# Metric, Acrylic, & Ultra-Dex



## DRILL SETS - JOBBER LENGTH - METRIC

### Type 643

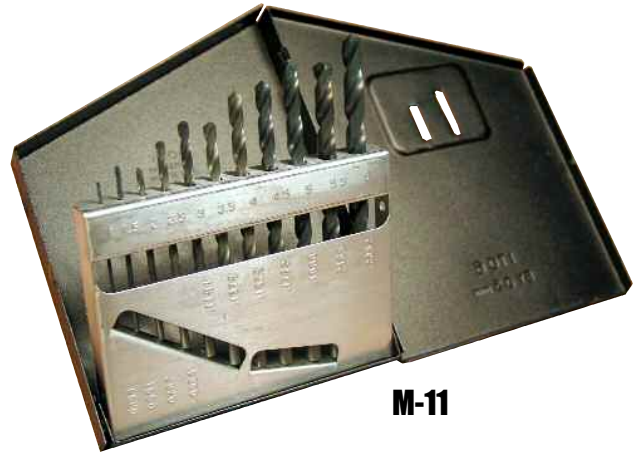
#### Jobber Length - METRIC

#### General Purpose, Black Surface Treated

This 118° point, high speed steel drill performs well in a wide variety of ferrous metal drilling applications. The black surface treatment prevents chip welding and increases abrasion resistance.

#### METRIC

M-11 Part No.	Description of Sizes	Qty of each
44050	1.0mm - 6.00 by .5mm	1
M-15 Part No.	Description of Sizes	Qty of each
44180	1.0mm - 7.0mm x .5mm	1
M-25 Part No.	Description of Sizes	Qty of each
44060	1.0mm - 13.0mm by .5mm	1



M-11

### Type 183-UB

#### Ultra Bor Super Premium Acrylic Drills

Special Hi-Molybdenum tool steel, gold surface treated body, flute and point for maximum lubricity. Super CHIPFREE™ point is precision ground at a 60° angle for gradual penetration to avoid cracking and chipping of the acrylic material. Special 0° rake angle on cutting edge eliminates "grabbing" when drill breaks through plastic, acrylic, or laminate surfaces. All sizes over 1/4" have 1/4" shanks.

#### ACRYLIC

AD-7 Part No.	Description of Sizes	Qty of each
31580	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2	1



**BLACK & GOLD**

AD-7

#### ULTRA-DEX - Weather-proof, Water-tight & Unbreakable

### SP-29P

Part No.	Sizes	Description
44170	SP-29P	Super Premium
92150	RSP-29P	3/8" Reduced Shank, Super Premium
40614	GF-29P	Heavy-Duty Jobber, Gold
66820	SPM-29P	Mechanics Length Super Premium
57950	RSPM-29P	Mechanics Length 3/8" Reduced Shank Super Premium



SP-29P

Jobber Length - Metric, Acrylic

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# Stock Master Drill Dispensers & Displays

DISPLAYS, CABINETS & INDEXES

## STOCKED MASTER DRILL DISPENSER - FRACTIONAL DRILLS

### Type 925

#### Fractional Drills - 300 Piece Assortment

This assortment is complete with glass front display pictured on the right side of this page. The case stocks 29 fractional sizes - 1/16" thru 1/2" by 64ths - each size in a separate compartment. Individual compartments are plainly marked with drill sizes. Drills will be attractively displayed yet secure with the glass locking cover.

Counter Top Display are available stocked with type 190-AG, 175-AG, 150, 190, 115 or 100 drills.



44950



### 300 PIECE ASSORTMENTS

Part No.	Assortment No.	Drill Type	Qty. per/pack
06490	300-SP	240-UB	1
06520	300-HD	240-A	1
54720	300	240-B	1
54750	300-BL	240	1
57640	300-SPM	250-UB	1
57641	300-RSPM	250/258-UB	1
68460	300-D	240-D	1
40632	300-GF	240-GF	1

### EACH DISPLAY CONTAINS:

No. of Drills	Fractional Size
24	1/16
12	5/64
24	3/32
18	7/64
48	1/8
18	9/64
18	5/32
12	11/64
24	3/16
6	13/64
12	7/32
6	15/64
24	1/4
6	17/64
6	9/32
2	19/64
6	5/16
2	21/64
3	11/32
2	23/64
6	3/8
2	25/64
2	13/32
2	27/64
3	7/16
2	29/64
2	15/32
2	31/64
6	1/2
Total 300	

### ACCESSORIES

Part No.	Description	Qty. per/pack
58350	Lock & key	1

**DISPLAY Only**  
**Part Number 44950**

Displays - Stocked & Unstocked



# Counter Displays



## LEXAN COUNTER DISPLAYS - SILVER & DEMING / ANNULAR CUTTERS

### Silver & Deming Drills

- Compact Lexan case attractively displays S&D drills.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.

Part No. 00940

#### DISPLAY CONTENTS

Contents	No. of Each
9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 & 1"	1



DISPLAY Only  
Part Number 00934



### Annular Cutters

- Compact metal case attractively displays annular cutters.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.

#### DISPLAY CONTENTS

1 of each, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1",  
1-1/16 by 1" depth and same sizes as above by 2" depth.  
Both include five pins.

Part No.	Size/Type
00943	SB-20 /15
00944	SB-20HS /14
00949	SB-20SP/13SP

DISPLAY Only  
Part Number 00939



# Reamer Counter Displays & Annular Cutter Sets

## REAMER COUNTER DISPLAY

### Type 50 - Reamers

- Compact case attractively displays reamers.
- Scratch proof Lexan front reduces pilferage and keeps merchandise clean.

Part No. 00941

#### DISPLAY CONTENTS

Contents	No. of Each
3/8, 1/2, 9/16, 5/8, 11/16, 3/4, 7/8 & 1"	1

**DISPLAY Only**  
**Part Number 00934**



CR8SPA

## SPIRA-BROACH™ ANNULAR CUTTER SETS

### Type 901

These unique cutters reduce time and power requirements by cutting larger diameter holes as a ring to produce a solid slug. The effort required is a fraction what is needed when using a twist drill or indexable tooling.

#### SPIRA-BROACH™ Annular Cutters

- Give the lowest cost per hole
- Leave a burr-free hole
- Allow overlapping cuts on existing holes
- Cut on curved surfaces
- Use less power
- Stay sharp much longer



#### SB-5 1" LENGTH

Part No.	Type	Components
15301	M-42 ASP 15	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16901	M-35 14	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16624	M-2 13SP	1" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16



#### SB-5 2" LENGTH

Part No.	Type	Components
15302	M-42 ASP 15L	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16902	M-35 14L	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16
16629	M-2 13LSP	2" Pin, 9/16, 11/16, 13/16, 15/16 & 1-1/16

# Stocking Cases



DISPLAYS, CABINETS & INDEXES

## STOCKING CASES - FRACTIONAL, WIRE, LETTER, METRIC & SILVER DEMING PCS ASSORTMENT

### Type 925

#### Closed Drawer All-Steel Stocking Units

Stocking cases for Fractional, Wire Gauge, Letter, Metric, and Silver & Deming drills.



#### FRACTIONAL DRILLS - 96 PIECE ASSORTMENT

Part No.	Assortment No.	Drill Type
06500	96-SP	240-UB
16010	96-HD	240-A
37270	96-SPM	250-UB
54690	96-BR	240-B
54760	96-BL	240
68440	96-D	240-D
37271	96-RSPM	250/258-UB

#### Fractional

Drill Size - Contains	Quantity
1/16, 3/32, 1/8, 5/32, 11/64, 3/16, 7/32 & 1/4	6 each
5/64, 7/64, 9/64, 13/64, 15/64, 9/32, 5/16, 11/32	3 each
17/64, 21/64, 23/64, 3/8, 25/64, 13/32, 27/64, 7/16 & 29/64	2 each
15/32 & 1/2	2 each
19/64 & 31/64	1 each

#### WIRE GAUGE DRILLS - 249 PIECE ASSORTMENT

Part No.	Assortment No.	Drill Type
16030	249-HD	240-A
35070	249-SP	240-UB
54700	249-BR	240-B
54770	249-BL	240

#### Wire Gauge

Drill Size - Contains	Quantity
1-22	3 each
23-29	4 each
30-60	5 each

#### LETTER DRILLS - 72 PIECE ASSORTMENT

Part No.	Assortment No.	Drill Type
16020	72-HD	240-A
35080	72-SP	240-UB
54710	72-BR	240-B
54790	72-BL	240

#### Letter

Drill Size - Contains	Quantity
A-T	3 each
U-Z	2 each

Fractional & Metric Sizes = 3 Drawers  
 Wire Sizes = 5 Drawers  
 Letter Sizes = 3 Drawers  
 Silver & Deming = 4 Drawers

### CABINET ONLY

Fractional Sizes = Part # 44920  
 Wire Sizes = Part # 44930  
 Letter Sizes = Part # 44940  
 Metric Sizes = Part # 08930  
 Silver & Deming = Part # 43203

#### METRIC DRILLS - 91 PIECE ASSORTMENT

Part No.	Assortment No.	Drill Type
18910	91-SP	643-UB

#### Metric

Drill Size - Contains	Quantity
2.5, 3.5, 4.5, 5.0, 5.0, 6.0 & 6.5	5 each
1.5, 2.0, 3.0, 7.0, 8.0 & 8.5	4 each
1.0, 4.0, 9.0, 9.5, 10.0, 10.5, 11.0 & 12.0	3 each
7.5, 11.5, 12.5 & 13.0	2 each

#### SILVER & DEMING DRILL ASSORTMENTS

Part No.	Assortment No.	Drill Type
43202	S&D 13	280
92402	S&D 13-SP	280-UB

#### Silver & Deming

Drill Size - Contains	Quantity
9/16 & 5/8	3
3/4	2
11/16, 13/16, 7/8, 15/16 & 1"	1

All Steel Stocking Cases

# Silver & Deming Drill Dispensers

## SILVER & DEMING DRILL DISPENSERS

### Type 914

Holds 2 each Reduced Shank S & D bits from 33/64ths to 63/64ths by 64ths.

Part No. 00950



**HUOT MODEL 13166**

Part No.	Dimensions Inches	Weight	Qty. per/pack
00950	14-5/8 W x 7-3/8 D x 7-3/4 H	13-1/4 lbs.	1

Part No. 00951

Holds 2 each Reduced Shank S & D bits from 1, 1-1/32, 1-1/16, 1-1/8, 1-5/32, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16 & 1-1/2.



**HUOT MODEL 13167**

Part No.	Dimensions Inches	Weight	Qty. per/pack
00951	14-5/8 W x 7-3/8 D x 7-3/4 H	10-3/4 lbs.	1

## DRAWER-MOUNT DRILL ORGANIZER

### Type 914

#### Drawer-Mount

The latest thing in organizing, sorting, storing, and securing your cutting tools. The outer shell can be mounted underneath a work bench, desk, shelf, inside a cabinet, or just about anywhere. The drawer has a cam-lock to keep your cutting tools safely locked away.

- Workbench-space-saver.
- Out-of-the way convenience.
- Security-Built in cam lock and two keys.
- Heavy-duty ball bearing drawer slides.
- Time-saving Cutting tools are stored away in their proper locations making it fast and easy to find the right tool.
- Each space clearly marked for the proper tool.
- Decimal equivalent shown under each size tool.

Part No. 01021

**Huot Model 30000**

For Fractional Drills 1/16 to 1/2 x 64ths.

Part No. 01022

**Huot Model 30025**

For Wire Gage Drills #1 to #60.

No. 01023

**Huot Model 30050**

For Letter Drills from A to Z.

Part No. 01024

**Huot Model 30001**

Empty drawer-mount drawer, no dividers for miscellaneous storage space.



**Overall Dimensions:** 26-1/8 W x 12-1/2 D x 4-1/2 H

**Drawer Dimensions:** 23-1/8 W x 11 D x 3 H

**Shipping Weight:** 14-1/2 pounds

# Master Drill Dispensers



DISPLAYS, CABINETS & INDEXES

## MASTER DRILL DISPENSERS

Baked, Epoxy finish for long life

Lockable models

Heavy gauge fabricated steel cabinet and drawers

Stackable models, full drawer extension slides

Exclusive, patented Glydex® slides on Master Series

Easy-to-read, permanent, durable identification strips show tool size and decimal equivalents!

- Cost effective tool management and storage
- Safest way to store sharp tools
- Fast inventory tracking
- Eliminates wasted searching
- Helps prevent losing or damaging tools
- See tool inventory at a glance
- 100% U.S.A. made!

### Type 914

#### Master Drill Dispensers

##### (U.S. and Metric Sizes) Feature:

- All steel cabinet with vinyl dividers to help protect and separate bits.
- Each cabinet is lockable with its own set of 2 keys.
- Each drawer measures 23-1/8" wide; 11" front to back.
- Stackable for larger inventories at one location.
- Lower drawer is undivided for extra long drills, reamers, and miscellaneous tools.
- Drawer Divider Kit available for lower drawer.

##### U.S Sizes

#### Part No. 00682

Holds full packages (minimum of 12 pcs.) of jobber or screw machine length drills, fractional, letter, and wire gauge sizes in one complete cabinet.

- Top drawer holds fractional drills 1/16" to 1/2" by 64th with 42 compartments.
- 2nd drawer is for #1 to #60 wire gauge with 75 compartments.
- 3rd drawer for letter size A to Z with 42 compartments.

##### Metric Sizes

#### Part No. 00681

Holds metric drills from .35mm to 13.00mm.

Sizes include: .35mm to 2.50mm by .05mm, 2.6mm to 10.0mm by .1mm, 10.2mm, 10.5mm, 10.8mm, 11.0mm, 11.2mm, 11.5mm, 11.8mm, 12.0mm, 12.2mm, 12.5mm, and 13.0mm.

138 compartments to store and inventory all your metric drill bits.

Same great features as our #00682 jobbers length master cabinet.



Part # 00682

#### HUOT MODEL 13175 - US SIZE DRILLS

Part No.	Dimensions Inches	Weight	Qty. per/pack
00682	26" W x 12" D x 12 - 1/2" H	43 lbs.	1

#### HUOT MODEL 13180 - METRIC SIZE DRILLS

Part No.	Dimensions Inches	Weight	Qty. per/pack
00681	26" W x 12" D x 12 - 1/2" H	43 lbs.	1

Cabinets - Master Drill Dispensers,



# Master Tap Dispensers

## MASTER TAP DISPENSERS

### Type 914

#### Part No. 01321

- Holds most common NC/NF sizes from 1/4" to 1-1/2".
- Holds metrics from 2.5 mm to 30 mm.
- Holds machine screw size 2-56 thru 12-28, taper, plug, bottom, and spiral.
- Extruded vinyl drawer dividers protect taps.
- Top drawer has 40 compartments.
- Second drawer has 78 compartments.
- Third drawer has 21 compartments.
- Fourth drawer has 13 compartments.
- Stackable for larger inventories.
- Lockable.

#### Part No. 01322

For sizes 1/4"-20 to 1"-14 taps  
Many compartments hold multiples of a given size tap.

##### Holds bottom, plug and taper of each size:

1/4"-20	1/4"-28	5/16"-18	5/16"-24	3/8"-16	3/8"-24
7/16"-14	7/16"-20	1/2"-13	1/2"-20	9/16"-12	9/16"-18
5/8"-11	5/8"-18	3/4"-10	3/4"-16	7/8"-9	7/8"-14
1"-8	1"-14				

##### Holds taper, plug, bottom and spiral:

2-56	3-48	3-56	4-40	4-48	5-40
5-44	6-32	6-40	8-32	8-36	10-24
10-32	12-24	12-28			



#### HUOT MODEL 13585

Part No.	Dimensions Inches	Weight	Qty. per/pack
01321	26" W x 12" D x 12 - 1/2" H	46 lbs.	1

#### HUOT MODEL 13580

Part No.	Dimensions Inches	Weight	Qty. per/pack
01322	26" W x 12" D x 12 - 1/2" H	46 lbs.	1

### Type 914

#### Part No. 01323

- Holds all sizes of National Pipe taps (NPT) from 1/16 to 2.
- Top drawer has 13 compartments measuring 3/4 W x 7/8 H x 4-1/2 D.
- 2 compartments for 1/16-27, 2 for 1/8-27, 3 for 1/4-18, 3 for 3/8-18 and 3 for 1/2-14.
- Middle drawer has 9 compartments for 3 for 3/4-14, 3 for 1-11-1/2, 3 for 1-1/4-11-1/2.
- Bottom drawer has 7 compartments measuring 1-3/4 W x 2 H x 7 D.
- 3 compartments for 1-1/2-11-1/2 and 1 large compartment for 2-11-1/2

#### Part No. 01324

Holds Metric, Taps, Drills and Dies.

From 2.5 x .45 tap to 12.0 x 1.75 tap and holds the following sizes:

- Top drawer holds 2.5 x .45 tap - 2.05 drill dies, 3.0 x .50 tap-2.50 drill - dies, 3.5 x .60 tap - 2.90 drill - dies, 4.0 x .70 tap -3.30 drill-dies.
- Middle drawer holds 5.0 x .80 tap -4.20 drill-dies, 6.0 x 1.00 tap - 5.00 drill-dies, 8.0 x 1.25 tap - 6.70 drill-dies.
- Bottom drawer holds 10.0 x 1.50 tap - 8.50 drill-dies, 12.0 x 1.75 tap - 10.20 drill-dies.
- Room in top drawer for your T-handle wrench.



#### HUOT MODEL 13560

Part No.	Description	Qty. per/pack
01323	National Pipe Taps (NPT)	1

#### HUOT MODEL 13595

Part No.	Description	Qty. per/pack
01324	Taps, Drill & Dies	1

## DRILL STANDS - GAUGES

### Type 914

#### Drill Stands

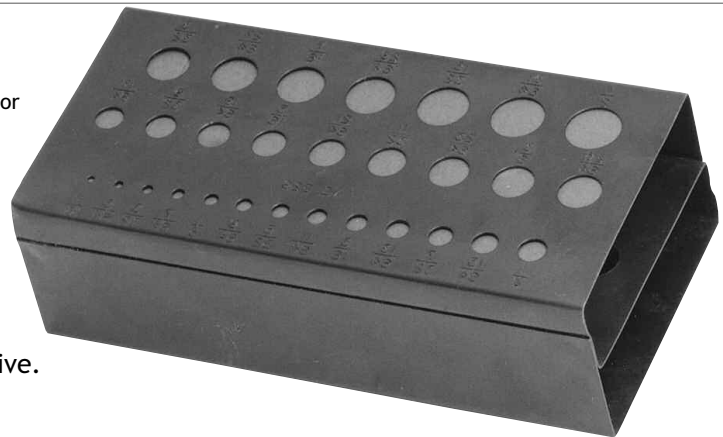
- These drill stands can be hung on a wall, used on a bench, or mounted on a press.
- Durably made from a single piece of prime steel, rigidly formed.

#### Part No. 01011

Letter sizes A to Z inclusive

#### Part No. 01012

Fractional drills 1/16" to 1/2" by 64ths inclusive.



#### Part No. 57430

Silver & Deming drills from 1/2-1 by 64ths. Held by shank.

#### HUOT MODEL 11850

Part No.	Dimensions Inches	Qty. per/pack
01011	5-5/8" W x 2-5/8" D x 1-1/2" H	1

#### HUOT MODEL 11985

Part No.	Dimensions Inches	Qty. per/pack
57430	13" W x 5" D x 2" H	1

#### HUOT MODEL 11900

Part No.	Dimensions Inches	Qty. per/pack
01012	5-5/8" W x 2-5/8" D x 1-1/2" H	1

## DRILL GAUGES

### Type 914

Economical gauge made from prime steel and finished

#### Part No. 58520

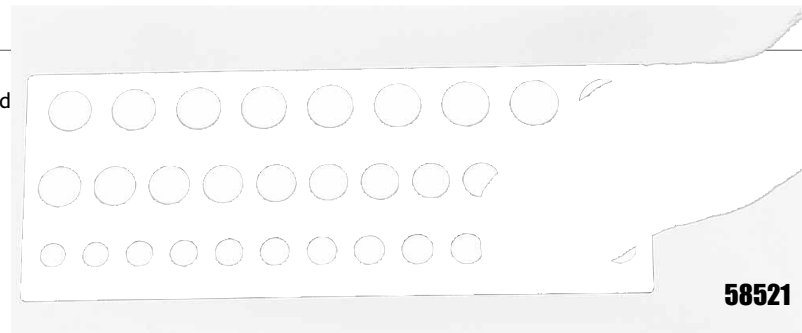
For measuring 1/16" to 1/2" by 64ths drill bits.

#### Part No. 58522

For measuring #1 to 60 wire gauge drill bits.

#### Part No. 58521

For measuring drills 1/2" to 1" by 64ths.



#### HUOT MODEL 12250

Part No.	Dimensions Inches	Qty. per/pack
58520	6" W x 3" D	1

#### HUOT MODEL 12260

Part No.	Dimensions Inches	Qty. per/pack
58522	5-1/4" W x 2" D	1

#### HUOT MODEL 12280

Part No.	Dimensions Inches	Qty. per/pack
58521	13" W x 5" D	1

# Stocked Counter Displays & Countertops

## STOCKED TAP & DIE COUNTER DISPLAYS

- Compact metal case attractively displays complete assortment of taps, dies, and wrenches.
- Locking scratch proof Lexan front reduces pilferage and keeps merchandise clean.
- Broad range of sizes. Practically all customers can be served with small investment.
- Furnished with hex or round dies.
- Price strips furnished on each display for quick reference at point of sale

Part No. 50010 - Display with Round Dies

Part No. 50210 - Display with Hex Dies

### DISPLAY CONTENTS

Contents	Size	No. of Each
Plug Tap	1/4-20 NC	6
	1/4-28 NF	6
	5/16-18 NC	6
	5/16-24 NF	6
	3/8-16 NC	6
	3/8-24 NF	6
	7/16-14NC	6
	7/16-20NF	6
	1/2-13 NC	6
	1/2-20 NF	6
	9/16-12NC	6
	9/16-18NF	6
	5/8-11NC	6
	5/8-18NF	6
	3/4-10NC	6
	3/4-16NF	6
	4-40NC	12
	6-32NC	12
	8-32NC	12
10-24NC	12	
10-32NF	12	
12-24NC	12	
Pipe Tap	1/8-27NPT	6
Round or Hex Die	1/4-20NC	3
	1/4-28NF	3
	5/16-18NC	3
	5/16-24NF	3
	3/8-16NC	3
	3/8-24NF	3
	7/16-14NC	3
	7/16-20NF	3
	1/2-13NC	3
	1/2-20NF	3
	9/16-12NC	3
	9/16-18NF	3
	5/8-11NC	3
	5/8-18NF	3
	3/4-10NC	3
	3/4-16NF	3
	4-40NC	3
	6-32NC	3
	8-32NC	3
	10-24NC	3
10-32NF	3	
12-24NC	3	
1/8-27NPT	3	
T-Handle Tap Wrench	0 to 1/4"	3
T-Handle Tap Wrench	3/16" to 1/2"	3
Economy Die Stock		3



DISPLAY ONLY  
45000

## TAP & DIE COUNTERTOP

### Ultra Bor Super Premium

Super Premium Tap & Die Counter Top Dispenser 53 Piece, Straight Flute Taps & Hex Dies

53-SF Assortment contains:

Super premium straight flute plug tap sizes:

- 3 each 6-32, 8-32, 10-24, 10-32 & 1/4-20;
- 2 each 5/16-18, 3/8-16, 7/16-14 & 1/2-13;
- 1 each 4-40, 12-24, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-12, 5/8-11 & 3/4-10.

Super premium hex die sizes:

- 1 each 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 5/8-11 & 3/4-10;
- 2 each 1/4-20.

Includes glass front stocking cabinet.

**PART NO. 35150**

Super Premium Tap & Die Counter Top Dispenser 55 Piece, Spiral Point Taps & Hex Dies

55-SP Assortment contains:

Super premium spiral point tap sizes:

- 3 each 6-32, 8-32, 10-24, 10-32 & 1/4-20;
- 2 each 5/16-18, 3/8-16, 7/16-14 & 1/2-13;
- 1 each 4-40, 12-24, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-11, 5/8-18, 3/4-10 & 3/4-16.

Super premium hex die sizes:

- 1 each 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10 & 3/4-16;
- 2 each 1/4-20.

Includes glass front stocking cabinet.

**PART NO. 35160**

When Ordering Specify Round or Hex Dies



## TAP & DRILL ASSORTMENTS - ULTRA BOR SUPER PREMIUM

### Ultra Bor Super Premium

Special Hi - Tungsten and Hi - Molybdenum tool steels, gold surface treated for maximum lubricity. Recommended for use in production tapping and drilling of work hardening grades of stainless steel and other hard metal applications. Precision ground tap threads for the ultimate in accuracy and performance.

### Super Premium Tap & Drill Dispenser Assortment 67 Piece, Spiral Point Taps & Jobber Length Drills

#### 67-SP Assortment contains:

##### Super premium jobber drill sizes:

- 6 each #36, 29, 25, 21
- 3 each #7, F & 5/16
- 2 each #3, I, Q, U, 25/64, 27/64 & 29/64

##### Super premium spiral point plug tap sizes:

- 3 each 1/4-20
- 2 each 6-32, 8-32, 10-24, 10-32 and 1 each 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13 & 1/2-20

Includes 3 drawer stocking cabinet.

**PART NO. 35121**



**CABINET ONLY  
PART NUMBER 35100**

### Super Premium Tap & Drill Dispenser Assortment 123 Piece, Spiral Point Taps & Jobber Length Drills

#### 123-SP Assortment contains:

##### Super premium jobber drill sizes:

- 12 each #36, 29, 25, 21
- 6 each #7, F & 5/16
- 3 each #3, I, Q, U, 25/64, 27/64 & 29/64

##### Super premium spiral point plug tap sizes:

- 6 each 1/4-20
- 3 each 6-32, 8-32, 10-24, 10-32, 5/16-18 & 3/8-16
- 2 each 1/4-28, 5/16-24, 3/8-24, 7/16-14 & 1/2-13
- 1 each 7/16-20 & 1/2-20

Includes 3 drawer stocking cabinet

**PART NO. 35120**

### Super Premium Tap & Drill Dispenser Assortment 123 Piece, Straight Flute Taps & Jobber Length Drills

#### 123-SF Assortment contains:

##### Super premium jobber drill sizes:

- 12 each #36, 29, 25, 21
- 6 each #7, F & 5/16
- 3 each #3, I, Q, U, 25/64, 27/64 & 29/64

##### Super premium straight flute plug tap sizes:

- 6 each 1/4-20
- 3 each 6-32, 8-32, 10-24, 10-32, 5/16-18 & 3/8-16
- 2 each 1/4-28, 5/16-24, 3/8-24, 7/16-14 & 1/2-13
- 1 each 7/16-20 & 1/2-20

Includes 3 drawer stocking cabinet

**PART NO. 35110**

# Display Packages



## DISPLAY PACKAGES



### Type 250-UB

Mechanics Length Drills  
Ultra Bor Super Premium -  
Black & Gold - 135° Split Point

Super premium drills in attractive, displays. All drills are packed on cards with logo and scannable barcode. The complete super premium drill feature / benefit story is printed on the cards.

Display prices are 15% lower than the combined prices of individual drills. 1/16 thru 1/8 sizes are packed 3 per card and 9/64 thru 1/4 are packed 2 per card. 250-UB drills with flatted reduced shanks are used where indicated.

All displays contain an attractive header card and 1/4" peg board fasteners.



### DISPLAY NO. DC145SP

#### Part No. 81651

Contents	Size	No. of Cards
250-UB	3/16, 1/4	5
1/16 thru 1/2	1/16, 5/64, 3/32, 7/64, 1/8, 5/16	4
	9/64, 5/32, 11/64, 13/64, 7/32	3
	15/64, 3/8	2
	17/64, 9/32, 19/64, 21/64, 11/32	
	23/64, 7/16, 1/2	1
	25/64, 13/32, 27/64, 29/64	
	15/32, 31/64	

\* 1/16 thru 1/8 = 3 per card, 9/64 thru 1/4 = 2 per card

### DISPLAY NO. DC116SP

#### Part No. 81631

Contents	Size	No. of Cards
250-UB 1/16 thru 13/32	1/8	7
	1/16, 3/32	5
	5/32	3
258-UB 7/16 thru 1/2	1/4	7
	3/16, 5/16	6
	9/32, 11/32, 3/8	4
	13/32, 7/32, 7/16	3
	1/2	2
	15/32	1

### DISPLAY NO. DC72SP

#### Part No. 81641

Contents	Size	No. of Cards
250-UB 1/16 thru 3/8	1/8	7
	1/16, 3/32	5
	5/32	3
258-UB 7/16 thru 1/2	1/4	7
	3/16, 5/16	6
	3/8	4
	7/32, 7/16	3
	1/2	2

\* 1/16 thru 1/8 = 3 per card, 9/64 thru 1/4 = 2 per card

### Type CHC-18

Carbide Tipped Holecutter Display  
Ultra Bor Super Premium

Ultra Bor Super Premium Carbide Tipped Holecutters are made with ultra-hard tungsten carbide teeth for cutting through tough alloys. The design provides sharp, crisp cuts without burrs and prevents over penetration. The built-in pilot drill with ejector spring quickly discharges the slug effortlessly.



### HOLECUTTER DISPLAY

#### Part No. 62700

Contents	Size	No. of Each
CHC-UB	13/16, 7/8, 15/16, 1"	1
Depth of cut	1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-3/8	
	3/16"	
CHD-UB	13/16, 7/8, 15/16, 1"	1
Depth of cut	1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-3/8	
	1"	
Display Rack	16" width x 27" height	1
(Display Rack Only Part # 14120)		

**INDEXES ONLY**

**Type 902**

**Jobber Indexes**

Part No.	Description	Qty. per/pack
57450	I-7	1
43870	I-11	1
43760	I-13	1
49044	I-13M	1
43770	I-15	1
43780	I-20	1
43790	I-21	1
43880	I-25	1
43800	I-26	1
43810	I-29	1
49049	I-41	1
43860	I-60	1
43940	I-115	1
43850	H-13	1

**Silver & Deming Indexes**

Part No.	Description	Qty. per/pack
57440	ISD-8SP	1
43930	I-SD	1
12240	PL-4SD	1
57430	A-33	1

**Screw Machine Indexes**

Part No.	Description	Qty. per/pack
43890	S-13	1
43900	S-21	1
43910	S-29	1
43920	S-60	1



**Plastic Indexes & Cases**

Part No.	Description	Qty. per/pack
44000	13-PL	1
44010	14-PL	1
44030	I-19TDI	1
44020	I-25TDI	1
44040	I-40TDI	1
61670	I-58TDI	1

# Indexes



## INDEXES ONLY

### Type 902



## BLACK INDEXES - ID PLATE SLOT

### Jobber Indexes

Part No.	Description	Qty. per/pack
28580	I-3SP	1
57460	I-13SP	1
57470	I-15SP	1
57480	I-21SP	1
57490	I-26SP	1
57500	I-29SP	1
57510	I-60SP	1
57520	I-115SP	1
58930	I-25SP	1
99860	I-21SPR	1

### Screw Machine Index

Part No.	Description	Qty. per/pack
23250	I-29SPT	1

### Silver & Deming Indexes

Part No.	Description	Qty. per/pack
57440	ISD-8SP	1
12240	PL-4SP	1

### Hole Hog Index

Part No.	Description	Qty. per/pack
38850	I-8HH	1

### Tap & Drill Indexes

Part No.	Description	Qty. per/pack
58320	I-10TD	1
57570	I-18TD	1
57980	I-18TDM	1
58000	I-18TDF	1
58502	I-12TD	1

### Drill & Extractor Index

Part No.	Description	Qty. per/pack
58330	I-BRSP	1
58331	I-BRSQ	1

### Tap Indexes

Part No.	Description	Qty. per/pack
61630	I-19T	1
61640	I-10T	1

### Spotweld Index

Part No.	Description	Qty. per/pack
35000	I-6WO	1
16040	I-4WO	1