

DIAMOND TOOLS

DIAMOND TOOLS

Norton provides the industry's most comprehensive line of stock and made-to-order truing and dressing products. In addition to these catalog stock stationary tools, Norton manufactures a full line of custom stationary tools, rotary diamond dressers and truing/dressing devices to meet all your specific application needs. Contact us at 1-800-438-4773.

Typical Applications

- Truing and dressing conventional and superabrasive wheels
- Straight, step, radius and form dressing

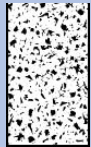


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Selecting the Correct Diamond Tool

To determine the type of Norton dressing tool to use, it is best to think about the desired shape of the wheel face. Finished wheel face shapes are generally categorized into six types, as illustrated below.

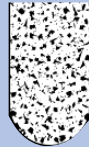
Typical Wheel Forms Dressed by Stationary Diamond Tools



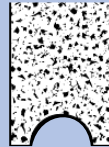
Straight



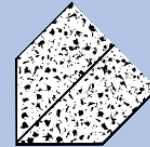
Tapered



Convex



Concave



Angled



Multi-Angled

Single Point Tools

The Norton line of single point tools sets the industry standard for straight and simple form dressing applications. It includes: resettable and non-resettable products, tools for all abrasive types (conventional and advanced ceramic grains) and the technology-leading Norton "Indexable" tool design.

Wheel Forms Dressed by These Tools



Straight



Tapered



Convex



172

Single Point Diamond Tools

FEATURES

- Sharp, long-lasting diamond
- Steeper 60° included head design

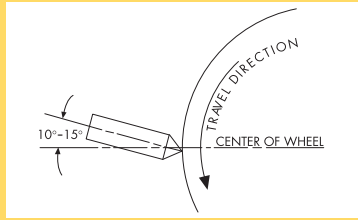
BENEFITS

- Long life, fast truing and dressing action
- Consistent performance from tool to tool
- Greater machine and part clearance produce forms with tighter tolerances.



TECHtips

- Rigidly mount Single Point tools at a 10° - 15° angle to the wheel centerline with a line drawn through the center of the wheel, pointing in the direction of wheel travel.
- Point of contact should be slightly below centerline of wheel as shown.
- Use coolant whenever possible.
- Normal infeed is .001" per pass.
- Lead values range from .002" - .010" per wheel revolution.
- Rotate the tool 1/4 turn periodically to maintain a sharp point.



To optimize applications using SG (ceramic) abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in substantially lower cost per part ground.

Single Point Dress Traverse Rate

Select a Lead Value based on desired Surface Finish and run the formula below.

FINISH	LEAD VALUE (PER WHEEL REVOLUTIONS)
For Coarse Finish (approx. 64 RMS)	.008" to .010"
For Medium Finish (approx. 32 RMS)	.005" to .009"
For Fine Finish (approx. 16 RMS)	.002" to .004"

LEAD VALUE X WHEEL SPEED (RPM) = TRAVERSE RATE IN INCHES/MINUTE

- Slower traverse rates result in a closed wheel face and lower surface finish readings on the workpiece.
- Faster traverse rates result in an open wheel face that produces greater stock removal and a rougher workpiece finish.



It is the user's responsibility to refer to and comply with ANSI B7.1

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Selection Guide

Stock Tools for SG (ceramic) Abrasive Wheels

SG Engineered for use on SG and Targa wheels but may also provide significant benefits when used on conventional abrasive products. These tools are furnished with top quality specially selected diamonds.

BCSG Economical alternative to an "SG" tool. Best choice when a disposable tool is preferred.

Stock Tools for Conventional Abrasive Wheels

NS Engineered for use on conventional abrasives. These high quality, value-priced tools can be used for a variety of dressing applications.

BC Economical alternative to an "NS" tool. Best choice when a disposable tool is preferred.

Selecting the Correct Single Point Tool:

- Identify the wheel abrasive type: A/O, S/C or SG (ceramic)
- Determine the wheel diameter – to select the optimum carat weight
- Determine the tool holder size – to select the appropriate shank diameter

Examples of Single Point Tool Selection

Wheel Spec: 32A46-IVBE 7" x 1/2" x 1-1/4"
The machine has a 7/16" tool holder

Tool Selections: Resettable: NS2M7 or NSUD2 (Indexable)
Non-Resettable: BC2M7 or BCUD2 (Indexable)

Wheel Spec: 5SG60-JVS 10" x 1" x 3"
The machine has a 3/8" tool holder

Tool Selections: Resettable: SG3M6
Non-Resettable: BCSG3M6

Stock Single Point Tool Marking System

DIAMOND QUALITY	DIAMOND SIZE	SHANK DESIGN	SHANK DIAMETER
SG	1 = 1/5 (.20) carat	M	6 = 3/8"
NS	2 = 1/4 (.25) carat	J	7 = 7/16"
BCSG	3 = 1/3 (.33) carat		
BC	5 = 1/2 (.50) carat		
	7 = 3/4 (.75) carat		
	10 = 1 carat		

Example:

SG 2 M 6

Single Point Tools for Truing/Dressing SG (Ceramic) Abrasives

SG Single Point Tools

FEATURES	BENEFITS
• Specially selected broad-shaped, diamond	• Withstands the increased grinding pressures of SG abrasive
• Each diamond is hand selected for stone shape, quality and structural integrity	• Consistent tool performance
• Multi-purpose	• Accommodates most straight dressing and minor form dressing applications
	• Stands up to SG ceramic abrasive sharpness: but may also be used to dress conventional abrasives



BEST Resettable SG Single Point Tools

- Norton high quality diamond and a proactive resetting program will usually result in the lowest dressing cost per part

GOOD Non-resettable BCSG Single Point Tools

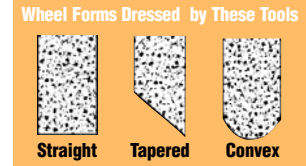
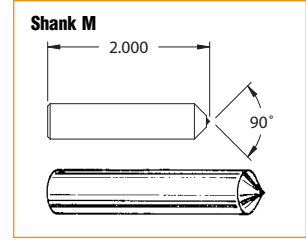
- The best selection when a resetting program is not feasible, or low initial cost is the primary purchasing consideration

SINGLE POINT DIAMOND TOOLS

Single Point Tools (CONTINUED)

WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL LENGTH	TOOL DIAMETER	BEST		GOOD	
				PRODUCT NO.	3 SETTABLE PTS (2 RESETS) UPC NO.	PRODUCT NO.	NON-RESETTABLE UPC NO.
SINGLE POINT TOOLS FOR TRUING/DRESSING SG ABRASIVES							
Up to 7"	1/4 (.25)	2"	3/8" 7/16"	SG2M6 SG2M7	66260195365 66260195366	BCSG2M6 BCSG2M7	66260157007 66260156905
8" to 10"	1/3 (.33)	2"	3/8" 7/16"	SG3M6 SG3M7	66260195367 66260195368	BCSG3M6 BCSG3M7	66260157008 66260156906
11" to 14"	1/2 (.50)	2"	3/8" 7/16"	SG5M6 SG5M7	66260195369 66260195370	BCSG5M6 BCSG5M7	66260157009 66260156907
15" to 20"	3/4 (.75)	2"	3/8" 7/16"	SG7M6 SG7M7	66260195371 66260195372	BCSG7M7	66260156908
21"+	1 (1.00)	2"	7/16"			BCSG10M7	66260157010

STANDARD PACKAGE = 1 TOOL
NON-STOCK SG RESETTABLE SINGLE POINT TOOLS ARE ALSO AVAILABLE.



Single Point Tools for Truing/Dressing Conventional Abrasives

Conventional Single Point Tools	
FEATURE	BENEFIT
• Consistent diamond structure and shape	• Repeatable dressing performance
• Well defined, sharp diamond point	• Durable; maximum cost effectiveness for dressing conventional abrasives
• Steeper 60° included head design	• Greater machine and part clearance produce forms with tighter tolerances.



BETTER Resetable NS (Norton Standard) Single Point Tools

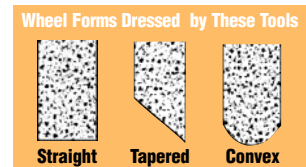
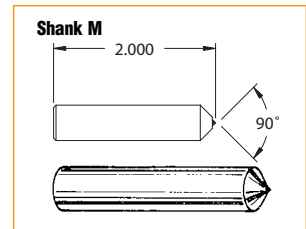
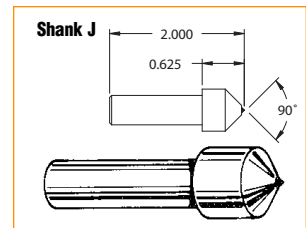
- High quality diamonds, value priced
- Selection of the correct tool and a proactive resetting program will result in the lowest dressing cost per part

GOOD Non-resettable BC Single Point Tools

- The best selection when a resetting program is not feasible, or low initial cost is the primary purchasing consideration

WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL DIAMETER	BEST		GOOD	
			PRODUCT NO.	RESETTABLE UPC NO.	PRODUCT NO.	NON-RESETTABLE UPC NO.
SINGLE POINT TOOLS FOR TRUING/DRESSING CONVENTIONAL ABR.						
Internal Wheels	1/5 (.20)	3/8 7/16			BC1M6 BC1M7	66260195021 66260195022
Up to 7"	1/4 (.25)	3/8 7/16	NS2M6 NS2M7	66260195116 66260195117	BC2M6 BC2M7	66260195000 66260195001
8" to 10"	1/3 (.33)	3/8 7/16	NS3M6 NS3M7	66260195121 66260195122	BC3M6 BC3M7	66260195002 66260195003
11" to 14"	1/2 (.50)	3/8 7/16	NS5M6 NS5M7	66260195126 66260195127	BC5M6 BC5M7	66260195004 66260195005
15" to 20"	3/4 (.75)	3/8 7/16	NS7M6 NS7M7	66260195131 66260195132	BC7M6 BC7M7	66260195006 66260195007
21" +	1 (1.00)	3/8 7/16 7/16	NS10M6 NS10M7 NS10J7 *	66260195136 66260195137 66260195135	BC10M6 BC10M7	66260195008 66260195009

* J-SHANK TOOLS ARE 7/16" DIAMETER WITH A 5/8" HEAD.
STANDARD PACKAGE = ONE TOOL



INDEXABLE SINGLE POINT DIAMOND TOOLS

Single Point Tools (CONTINUED)

Indexable Single Point Tools

Indexable tools are specifically designed to alleviate any misalignment issues and are the tool of choice for CNC grinders. They feature a two-part construction with the head and shank as separate pieces. After the initial installation, operators simply turn the indexable head with a wrench, while the tool shank remains secure (and aligned) in the tool holder.

Indexable Single Point Tools	
FEATURE	BENEFIT
<ul style="list-style-type: none"> Easily turned without removing tool from the holder 	<ul style="list-style-type: none"> Easier for operators to turn than conventional tools – increasing frequency of beneficial tool turning Extended life; less downtime and increased productivity
<ul style="list-style-type: none"> U-Dex-It and Mini-Dex tools have a 60° included angle head design 	<ul style="list-style-type: none"> Provides additional form versatility through machine and part clearance Excellent choice for regulating wheels



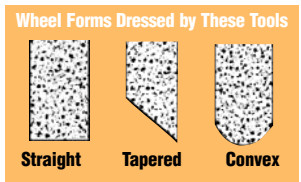
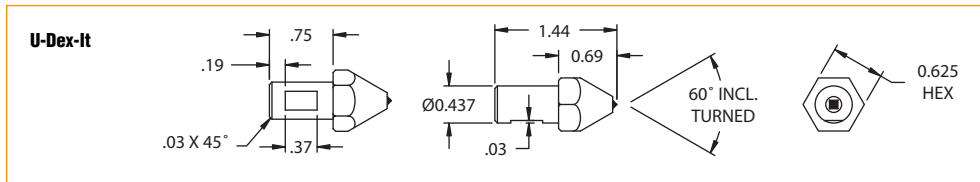
Indexable Single Point Tools for Truing/Dressing SG (Ceramic) Abrasives

GOOD Non-resettable BCSGUD U-Dex-It Indexable Single Point Tools

- These U-Dex-It tools contain specially selected diamonds to withstand increased ceramic grinding pressures
- Ideal for centerless grinders; the head can be turned, using standard 5/8" wrench, through the hole in the side of the wheel guard without removing the guard
- The best selection when a resetting program is not feasible, or low initial cost is the primary purchasing consideration

WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL SIZE	GOOD	
			PRODUCT NO.	NON-RESETTABLE UPC NO.
INDEXABLE SINGLE POINT TOOLS FOR TRUING/DRESSING SG (CERAMIC) ABRASIVES				
Up to 7"	1/4 (.25)	7/16" x 1-7/16" with 5/8" head	BCSGUD2	66260162669
8" to 10"	1/3 (.33)	7/16" x 1-7/16" with 5/8" head	BCSGUD3	66260162668
11" to 14"	1/2 (.50)	7/16" x 1-7/16" with 5/8" head	BCSGUD5	66260159894

STANDARD PACKAGE = ONE TOOL



Indexable Single Point Tools for Truing/Dressing Conventional Abrasives

BETTER Resettable Norton Standard U-Dex-It NSUD Indexable Single Point Tools

- High quality diamonds, value priced
- Ideal for centerless grinders; the head can be turned, using standard 5/8" wrench, through the hole in the side of the wheel guard without removing the guard
- Selection of the correct tool and a proactive resetting program will usually result in the lowest dressing cost per part

BETTER Resettable Norton Standard Mini-Dex NSMD Indexable Single Point Tools

- High quality diamonds, value priced
- Use a standard 7/16" wrench to turn; designed for internal, bearing race and twist drill flute machines
- Selection of the correct tool and a proactive resetting program will usually result in the lowest dressing cost per part

GOOD Non-resettable U-Dex-It BCU D Indexable Single Point Tools

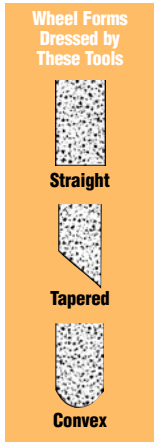
- Ideal for centerless grinders; the head can be turned, using standard 5/8" wrench, through the hole in the side of the wheel guard without removing the guard
- The best selection when a resetting program is not feasible, or low initial cost is the primary purchasing consideration

INDEXABLE SINGLE POINT DIAMOND TOOLS

Single Point Tools (CONTINUED)

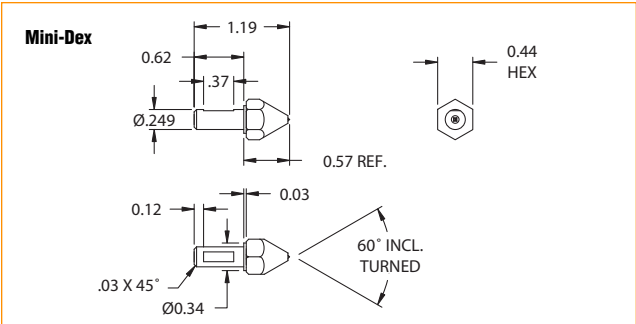
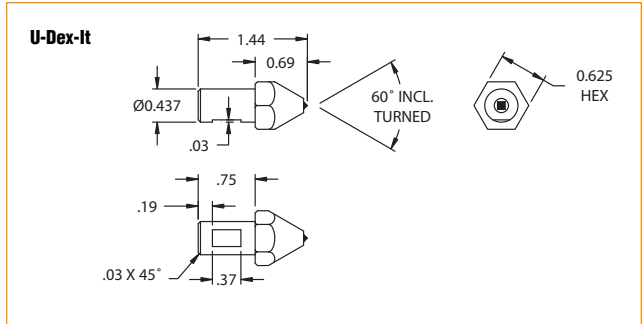
Indexable Single Point Tools for Truing/Dressing Conventional Abrasives (CONTINUED)

WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL SIZE	BETTER		GOOD	
			PRODUCT NO.	2 SETTABLE PTS (1 RESET) UPC NO.	PRODUCT NO.	NON-RESETTABLE UPC NO.
Up to 7"	1/4 (.25)	7/16" x 1-7/16" with 5/8" head 1/4" x 1-3/16" with 7/16" head	NSUD2 NSMD2	66260195161 66260195171	BCUD2	66260195023
8" to 10"	1/3 (.33)	7/16" x 1-7/16" with 5/8" head 1/4" x 1-3/16" with 7/16" head	NSUD3 NSMD3	66260195162 66260195172	BCUD3	66260195024
11" to 14"	1/2 (.50)	7/16" x 1-7/16" with 5/8" head 1/4" x 1-3/16" with 7/16" head	NSUD5 NSMD5	66260195163 66260195173	BCUD5	66260195025
15" to 20"	3/4 (.75)	7/16" x 1-7/16" with 5/8" head	NSUD7	66260195164		
21" +	1 (1.00)	7/16" x 1-7/16" with 5/8" head	NSUD10	66260195165		



INDEXABLE SINGLE POINT TOOLS FOR TRUING/DRESSING CONVENTIONAL ABR.

STANDARD PACKAGE = ONE TOOL

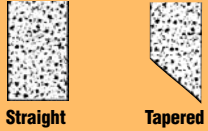


MULTI-POINT DIAMOND TOOLS

Multi-Point (Grit) Tools

Since Norton conventional and high-performance Multi-Point tools never need turning or resetting, they are the most economical way to accomplish a variety of straight, tapered and step dressing operations on all sizes of cylindrical, centerless, surface and toolroom grinding wheels.

Wheel Forms Dressed by These Tools



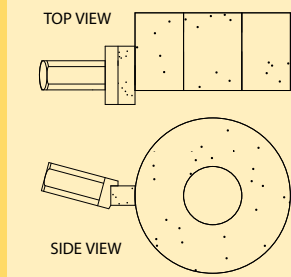
Norton Multi-Point Tools

FEATURES	BENEFITS
• Uniformly distributed diamonds in a tough, durable matrix	• Consistent performance throughout tool life
• Fresh, multiple diamond points exposed in truing operation; no turning or resetting required	• Faster, more consistent straight face dressing with maximum efficiency and longer tool life than single point tools
• Overall diamond weight exceeds equivalent single point tool	• The most economical way to dress straight and tapered forms

Multi-Point Tools (CONTINUED)

TECHtips

- Multi-Point Tools – Straight Face Dressing and Truing
- Most multi-point tools are used for straight face dressing.
- Tool should have full face contact with the wheel.
- With new tool, 3–5 passes at .005" per pass should be taken to expose diamonds.
- Infeed per pass .001" - .002"
- Use coolant whenever possible.
- Use appropriate lead (and traverse rate).
- Contact Norton for proper tool selection for Targa wheels.



Multi-Point Dress Traverse Rate

Select a Lead Value based on desired Surface Finish and run the formula below.

FINISH	LEAD VALUE (PER WHEEL REVOLUTIONS)
For Coarse Finish (approx. 64 RMS)	.023" to .030" (.58mm - .76mm)
For Medium Finish (approx. 32 RMS)	.013" to .022" (.33mm - .57mm)
For Fine Finish (approx. 16 RMS)	.006" to .012" (.15mm - .33mm)

$$\text{LEAD VALUE} \times \text{WHEEL SPEED (RPM)} = \text{TRAVERSE RATE IN INCHES/MINUTE}$$

- Slower traverse rates result in a closed wheel face that produces less stock removal and improved workpiece finish.
- Faster traverse rates result in an open wheel face that produces greater stock removal and a rougher workpiece finish.



It is the user's responsibility to refer to and comply with ANSI B7.1

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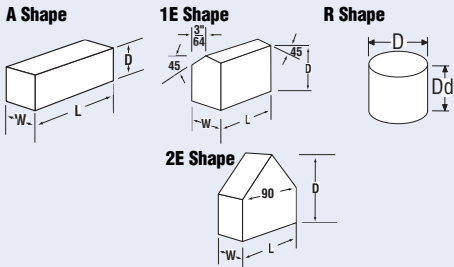
Selecting the Correct Multi-Point Tool

- Identify the wheel abrasive type: SG (ceramic), A/O, or S/C
- Determine the wheel diameter and grit size
- Determine the tool's approach angle to the centerline of the wheel
- Identify the tool holder diameter
- Use 1E shape for angular wheel slide, cylindrical grinding and for shoulder or step truing

Examples of Multi-Point Tool Selection

Conventional Wheel Spec: 32A46-IVBE 7" x 1/2" x 1-1/4"
The machine has a 3/8" tool holder
Tool Selection: 1R6J6

SG Wheel Spec: 5SG60-JVS 10" x 1" x 3"
The machine has a 7/16" tool holder
Tool Selections: SG1R6J7



A Shape is used primarily for straight face dressing.

E Shape (double angle top face) is used for standard N-Face wheels, angular wheels, face and side truing of cylindrical wheels, and in step dressing.

R Shape is used for straight face dressing where the tool holder is perpendicular to the wheel face (no drag angle), and on thread grinding machines

Multi-Point Tool Marking System

DIAMOND SHAPE	TOOL DIAMOND SIZE	TO DRESS GRINDING WHEELS WITH GRIT SIZE OF:	SHANK DESIGN	SHANK DIAMETER
1A	4	= 46 grit	See Page 178 for shank configuration	6 = 3/8"
2A	6	= 54 - 100 grit		7 = 7/16"
3A	8	= 120 - 150 grit		8 = 1/2"
1E	12	= 150+ grit		
2E	14	= Special Applications		
1R				
2R				

Example:

1A 6 A 7



Multi-Point Tool Diamond Section Specifications

SHAPE	WIDTH	LENGTH	DEPTH	TOOL APPROACH ANGLE TO WHEEL	FOR WHEEL DIAMETER
1A	1/4"	3/4"	5/16"	0°	Over 20"
2A	1/4"	1/2"	3/8"	0°	15" - 20"
3A	5/32"	3/8"	1/4"	0°	Over 20"
1E	5/32"	3/8"	5/16"	-	
2E	1/4"	1/2"	1/2"	-	20" x 2" and up
1R	1/4" Round		1/4"	0°	Up to 10"
2R	3/8" Round		3/8"	0°	11" - 14"

MULTI-POINT DIAMOND TOOLS

Multi-Point Tools (CONTINUED)

Multi-Point Tools for Truing and Straight Dressing SG (ceramic) Abrasives

BEST SG Multi-Point Tools

- Designed specifically for use on SG (ceramic) abrasives, SG tools contain a higher diamond concentration to withstand the increased grinding pressures generated by the SG abrasive. These tools have improved life and dress quality; they can also offer significant benefits in many applications using conventional abrasives.

Multi-Point Tools for Truing/Dressing Conventional Abrasives

BETTER Standard Multi-Point Tools

- The best selection for use on conventional abrasives in high-production applications

GOOD BC Multi-Point Tools

- General purpose tools are the ideal selection for conventional toolroom applications

SG MULTI-POINT TOOL SHAPE & SHANK AVAILABILITY

CONVENTIONAL ABRASIVE MULTI-POINT TOOL SHAPE & SHANK AVAILABILITY

CONVENTIONAL TOOLROOM MULTI-POINT TOOLS

Wheel Form Dressed by These Tools

Straight

WHEEL DIAMETER	WHEEL GRIT SIZE	TOOL APPROACH ANGLE	TOOL DIAMETER	BEST		BETTER		GOOD					
				SG ABRASIVES PRODUCT NO.	UPC NO.	CONVENTIONAL ABRASIVES PRODUCT NO.	UPC NO.	CONVENTIONAL TOOLROOM PRODUCT NO.	UPC NO.				
Up to 10"	54 to 100	0°	7/16	SG1R6J7	66260195377	1R6J7	66260195088	BC64	66260195014				
		0°	3/8			1R6J6	66260195085						
11" to 14"	46 54 to 100 120 to 150	0°	7/16	SG2R6K7	66260195378	2R4K7	66260195095	BC65	66260195015				
		0°	7/16			2R6K7	66260195096						
		0°	7/16			2R8K7	66260195097						
15" to 20"	46	0°	7/16			2A4D7	66260195045						
		15°	7/16			2A4E7	66260195048						
	54 to 100	0°	7/16			SG2A6D7	66260195375			2A6D7	66260195046	BC62	66260195012
		15°	7/16			SG2A6E7	66260195376			2A6E7	66260195049	BC63	66260195013
	120 to 150	0°	7/16							2A8D7	66260195047		
		15°	7/16							2A8E7	66260195050		
21" +	46	0°	7/16			1A4A7	66260195030						
		15°	7/16			1A4C7	66260195038						
	54 to 100	0°	7/16			SG1A6A7	66260195373			1A6A7	66260195031	BC61	66260195011
		15°	7/16							1A6B7	66260195035		
		15°	7/16			SG1A6C7	66260195374			1A6C7	66260195039		

STANDARD PACKAGE = ONE TOOL

See our catalog #106 "Norton Stationary Diamond Dressing Tools" for more information and non-stock, custom-made diamond tool availability.

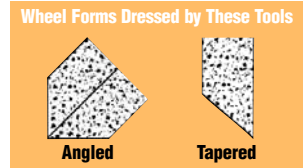
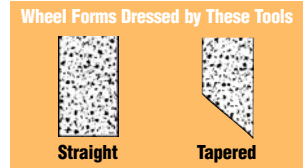
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MULTI-POINT DIAMOND TOOLS

Multi-Point Tools (CONTINUED)

Form, Shape, or Step Truing, and Angular Dressing Conventional Abrasives

WHEEL DIAMETER	WHEEL GRIT SIZE	TOOL APPROACH ANGLE	TOOL DIAMETER	BETTER	
				PRODUCT NO.	UPC NO.
MULTI-POINT TOOLS FOR FORM, SHAPE OR STEP TRUING					
All	54 to 100	0°	7/16	3A6F7	66260195055
		15°	7/16	3A6G7	66260195975
	120 to 150	15°	7/16	3A8G7	66260195058
MULTI-POINT TOOLS FOR ANGULAR DRESSING CONVENTIONAL ABRASIVES					
All	54 to 100	0°	7/16"	1E6F7	66260195080

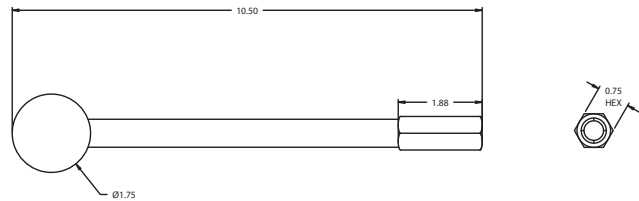


STANDARD PACKAGE = ONE TOOL

Tool Holder/Hand Dresser

Designed for use when offhand truing and dressing on tool and cutter, or benchstand grinders. This hand dresser is rust-free, 10-1/2" long, with a hollow shaft that accepts any tool shank length from 3/4" to 9". The 1-3/4" diameter plastic knob ensures a firm grip. The collet accepts a 7/16" diameter tool shank.

DESCRIPTION	UPC NUMBER
Hand Dresser	66260195020



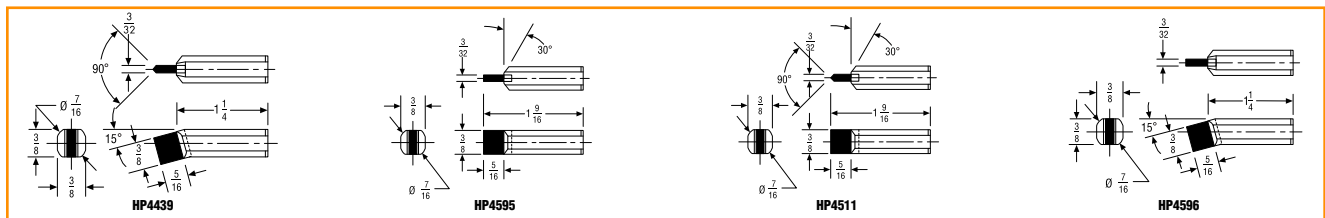
HIGH PERFORMANCE GRIT TOOLS

Norton High Performance Grit Tools are used in the same manner as multi-point tools, but are designed to produce a superior finish. They are used on 120 - 150 grit wheels. The traverse rates are equal to or faster than ordinary tools. Mounted on standard shanks, standard High Performance Grit Tools have a 3/8" wide by .100" thick diamond impregnated blade with a greater number of sharp points than in conventional multi-point tools.

Since High Performance Grit Tools contain a higher concentration of diamond than found in standard multi-point tools, they are well suited for Norton SG (ceramic) applications.

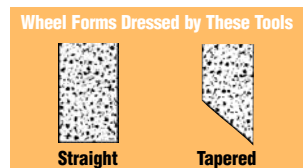
Typical Machines and Applications

- HP4439: cylindrical machines, grinding thrust walls, bearing diameters and multi-diameter shafts with radii
- HP4511: angular machines plunge grinding multi-diameter shafts and plunge grinding on dual-wheel forms
- HP4595: cylindrical machines grinding main bearing and lobes on camshafts
- HP4596: centerless machines step grinding and machines dual-wheel grinding transmission shafts



WHEEL DIAMETER	WHEEL GRIT SIZE	TOOL APPROACH ANGLE	TOOL LENGTH	SHANK DIAMETER	BETTER	
					PRODUCT NO.	UPC NO.
HIGH PERFORMANCE TOOLS						
Up to 20"	120 to 150	15°	1-9/16	7/16	HP4439	66260195270
	120 to 150	Perpendicular	1-9/16	7/16	HP4511	66260195271
	120 to 150	Perpendicular	1-9/16	7/16	HP4595	66260195272
	120 to 150	15°	1-9/16	7/16	HP4596	66260195273

STANDARD PACKAGE = ONE TOOL



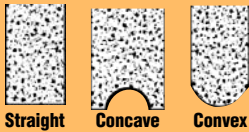
TOOLROOM DRESSING DIAMOND TOOLS

Toolroom Dressing Tools

Norton Toolroom Dressing Tools are primarily used on surface grinders to form the grinding wheel to an exact concave or convex radius. Although some tools are designed for use on a specific machine, many radius tools can be used on any grinder having the correct set-up.

Primarily used on 8" diameter and smaller vitrified toolroom wheels, Norton offers a selection of three types of radius tools and phono-point tools.

Wheel Forms Dressed by These Tools



TECHtips

How to Use Toolroom Tools

- We recommend dressing with coolant. However, if dressing totally dry, allow three to five seconds between passes for diamond to cool.
- Use extremely light cuts from .0002" to .001" maximum.
- Rotate tool if the application and set-up allow.

Radius Tools

Concave Radius Tools

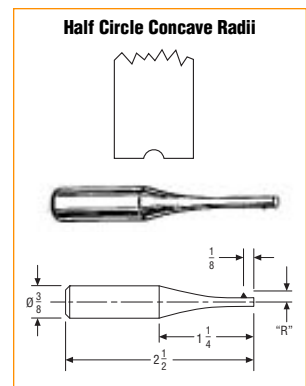
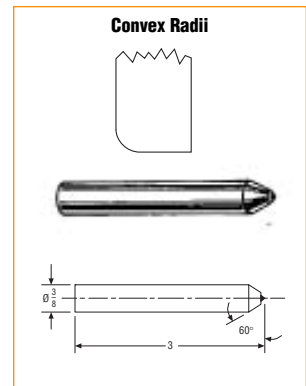
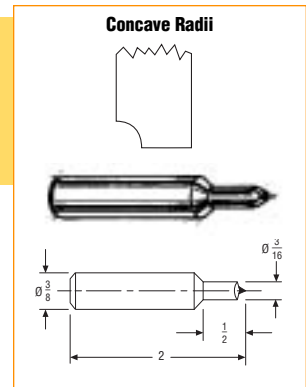
A specially-shaped single point diamond, designed for forming concave radii on small diameter grinding wheels. Not resettable.

Convex Radius Tools

A specially-shaped single point diamond, designed for forming convex radii on small diameter grinding wheels. Not resettable.

Half-Circle Concave Radius Tools

A specially-shaped diamond set in the side of the shank for forming half-circle radii on small diameter grinding wheels. The tool is rotated to form the radius. Commonly called a "rat tail dresser." Not resettable.



RADIUS SIZE TO BE DRESSED	SHANK DIAMETER	TOOL LENGTH	BEST		GOOD	
			PRODUCT NO.	NON-RESETTABLE UPC NO.	PRODUCT NO.	NON-RESETTABLE UPC NO.
CONCAVE RADIUS TOOLS						
.010" to .015"	3/8"	2"	NR1P6	66260195210		
.016" to .020"	3/8"	2"	NR2P6	66260195211		
.021" to .032"	3/8"	2"	NR3P6	66260195212		
.033" to .062"	3/8"	2"	NR4P6	66260195213	BCRD	66260195016
.063" to .125"	3/8"	2"	NR5P6	66260195214	BCRD	66260195016
.126" to .250"	3/8"	2"	NR6P6	66260195215	BCRD	66260195016
CONVEX RADIUS TOOLS						
.020" to .125"	3/8"	3"	NR2M6	66260195216	BCRD	66260195016
.126" to .250"	3/8"	3"	NR12M6	66260195217	BCRD	66260195016
.251" to .500"	3/8"	3"	NR25M6	66260195218		
HALF CIRCLE CONCAVE RADIUS TOOLS						
.032"	3/8"	2-1/2"	NR3N6	66260195219		
.062"	3/8"	2-1/2"	NR6N6	66260195220		
.125"	3/8"	2-1/2"	NR12N6	66260195221		

STANDARD PACKAGE = ONE TOOL

TOOLROOM DRESSING DIAMOND TOOLS

Toolroom Dressing Tools (CONTINUED)

Phono-Point Tools

For general toolroom concave and convex dressing on small diameter grinding wheels. Not resettable.

INCLUDED ANGLE	SHANK DIAMETER	TOOL LENGTH	BETTER		GOOD	
			PRODUCT NO.	NON-RESETTABLE UPC NO.	PRODUCT NO.	NON-RESETTABLE UPC NO.
Phono-Point Tools						
60°	1/8" 3/16" 1/4"	1"	NP1M2 NP1M3 NP1M4	66260195225 66260195226 66260195227	BCPP-60	66260195017
75°	1/8" 3/16" 1/4"	1"	NP2M2 NP2M3 NP2M4	66260195228 66260195229 66260195230	BCPP-75	66260195018
90°	1/8" 3/16" 1/4"	1"	NP3M2 NP3M3 NP3M4	66260195231 66260195232 66260195233	BCPP-90	66260195019

STANDARD PACKAGE = ONE TOOL

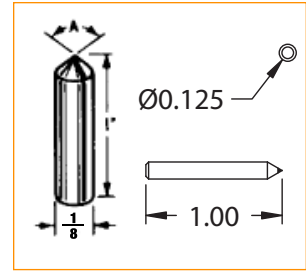
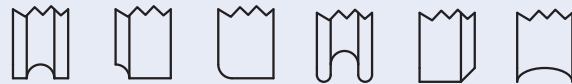


Phono-Point Tool Marking System

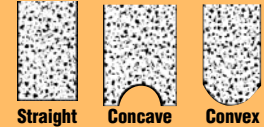
TOOL TYPE	INCLUDED ANGLE ON DIAMOND	SHANK STYLE	SHANK DIAMETER
NP	1 = 60°	M	2 = 1/8"
BCPP	2 = 75°		3 = 3/16"
	3 = 90°		4 = 1/4"

Example: NP 1 M 3

Typical Wheel Forms



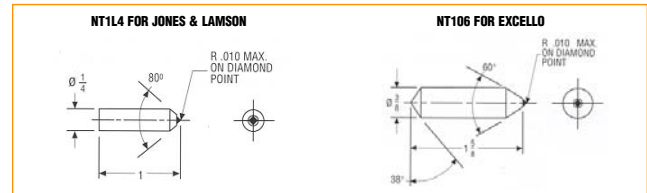
Wheel Forms Dressed by These Tools



Specialty Dressing Tools

Thread Grinding Tools

These tools are used on J & L and Excello thread grinding machines to accurately dress the grinding wheels that form the desired thread configuration (non-resettable).



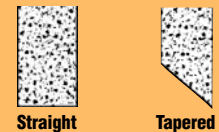
MACHINE TYPE	SHANK DIAMETER	TOOL LENGTH	INCLUDED ANGLE	MAX RADIUS ON POINT
J & L	1/4"	1"	80°	.010"
EXCELLO	3/8"	1-5/8"	60°	.010"

STANDARD PACKAGE = 1 TOOL

BEST

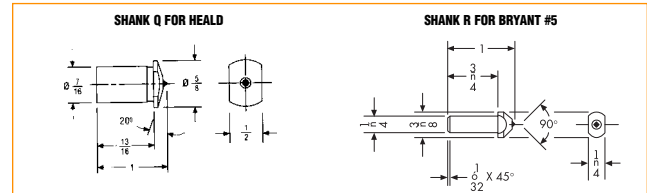
PRODUCT NO.	NON-RESETTABLE UPC NO.
NT114	66260195187
NT106	66260195190

Wheel Forms Dressed by These Tools



Internal Grinding Tools

Q style shank is used on a Heald internal grinder (resettable).
R style shank is used on a Bryant #5 internal grinder (resettable).

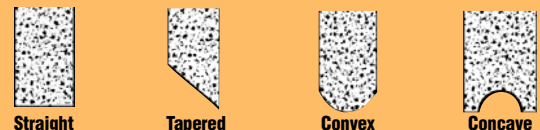


BEST

MACHINE TYPE	CARAT WEIGHT	SHANK DIAMETER	TOOL LENGTH	PRODUCT NO.	2 SETTABLE PTS (1 RESET) UPC NO.
HEALD	1/5 (.20)	7/16"	1"	NI21Q7	66260195180
BRYANT	1/5 (.20)	1/4"	1"	NI21R4	66260195181

STANDARD PACKAGE = 1 TOOL

Wheel Forms Dressed by These Tools

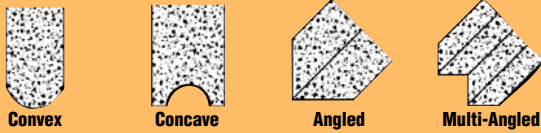


Form Tools

Norton Form Tools have diamond lapped to specific angles and radii required for a particular application, machine, contour dressing system, or CNC operation. Due to the high degree of accuracy necessary, the diamond is of special shape and quality.



Wheel Forms Dressed by These Tools



TECHtips

How to Use Form Dressing Tools

- Form Tools should be used in compliance with the guidelines established for the machine or dress.
- Proper centerline and light infeeds are essential to minimize side pressure. Excessive pressure will cause the diamond to fracture.
- Cone point tools should be rotated approximately 1/4 turn daily.
- Chisel Point Tools should be rotated 180° when dulling or contour problems occur.

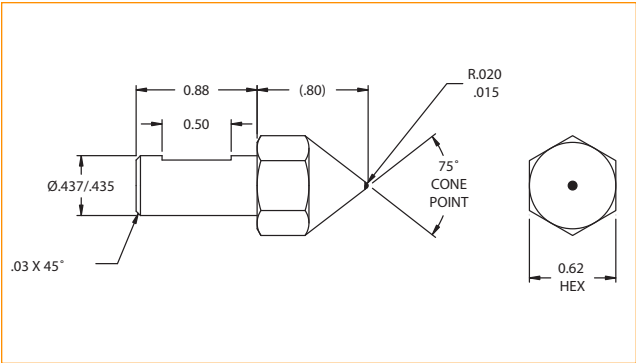
Cone Point Tools

BEST Cone Point Tools

- The Norton vacuum braze technology used in the manufacturing of cone points surpasses all traditional diamond retention methods.
- Benefits of this revolutionary technology include absolute diamond retention, diamond pullout prevention during the dressing cycle, and longer tool life through multiple relaps.
- Because the diamond is accurately coned to the specific included angle and radius, these tools are ideal when the most intricate, precise forms and radii are required.
- Can be relapped.

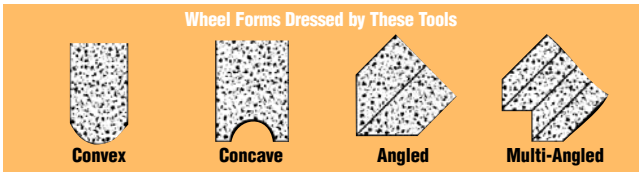
U-Dex-It Cone Point Tool

Used for precision dressing of intricate forms and radii. Specially designed with 5/8" indexable head for easy turning during use. These tools can be relapped.



INCLUDED ANGLE ON DIAMOND	RADIUS ON DIAMOND	TOOL CARAT WEIGHT	SHANK DIAM.	TOOL LENGTH	BEST	
					PRODUCT NO.	RELAPPABLE UPC NO.
75°	.020"	.50	7/16"	1.678"	CPUD720-7	66260158981

STANDARD PACKAGE = ONE TOOL



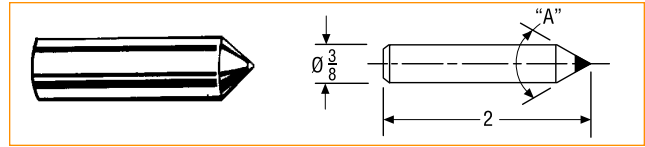
See our catalog #106 "Norton Stationary Diamond Dressing Tools" for more information and non-stock, custom-made diamond tool availability.



Form Tools (CONTINUED)

Standard Cone Point Tool

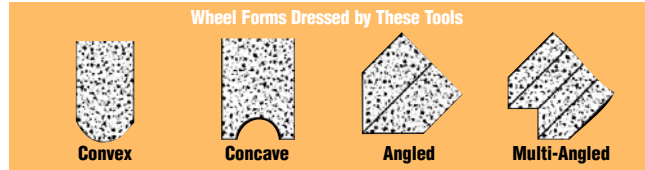
These tools are used for precision dressing when the most intricate forms and radii are required. Can be relapped.



INCLUDED ANGLE ON DIAMOND	RADIUS ON DIAMOND	TOOL CARAT WEIGHT	SHANK DIAM.	TOOL LENGTH	BEST	
					PRODUCT NO.	RELAPPABLE UPC NO.
60°	.010"	.20 - .25	3/8"	2"	CP610M-6	66260195240

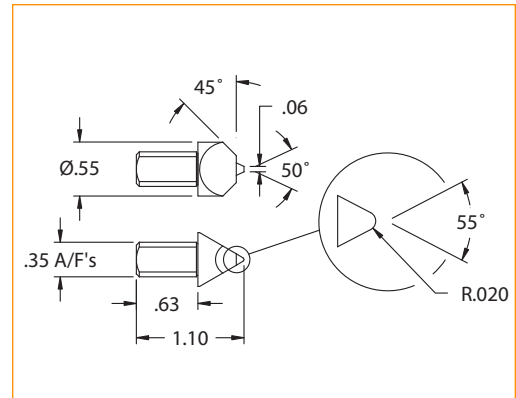
Standard Cone Point Tools

STANDARD PACKAGE = ONE TOOL



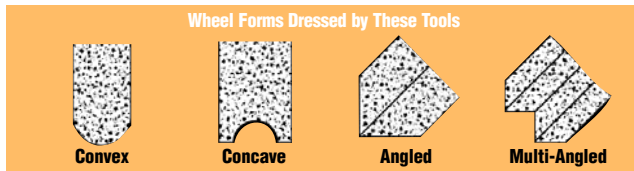
Chisel Point Tool for Toyoda Grinders

High precision chisel point tool designed for forming intricate shapes and radii. Specifically engineered to fit Toyoda® machine series GL32 and GL4, it can also be used on various straight and angle-head grinders – for dressing conventional and ceramic abrasive wheels, sizes 12" to 24". This tool can be reset/relapped.



INCLUDED ANGLE ON DIAMOND	RADIUS ON DIAMOND	TOOL CARAT WEIGHT	SHANK DIAM.	TOOL LENGTH	BEST	
					PRODUCT NO.	RESETTABLE/RELAPPABLE UPC NO.
55°	.020"	3/4 (.75)	7/16"	1.10"	CHT520-7	66260103741

STANDARD PACKAGE = ONE TOOL



TECHtip

Chisel Point Tools should be rotated 180° when dulling or contour problems occur.

Blade Tools (REFER TO CATALOG #106 FOR MORE ON THESE NON-STOCK BLADE TOOLS)

BEST USB (Uniform Synthetic Blade) Blade Tools

- Synthetic diamond with a controlled diamond shape provides a constant cross section of diamond to the wheel throughout the life of the tool
- Economical, long-lasting alternative to chisel-type tools for centerless form grinding
- Provides consistent wheel conditioning from the first dress to last
- Ideal for close tolerance wheel dressing on manual and CNC grinders, long production runs, and critical form and finish applications (e.g. automotive cam, crank and valve grinding)
- The best choice to lower your overall dressing cost per part

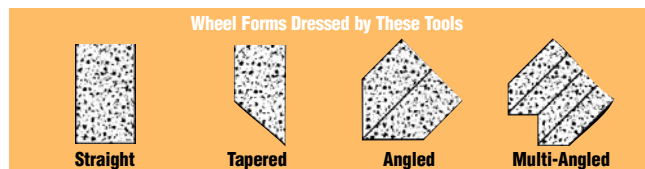
BETTER Multi-Cut Blade Tools

- Manufactured with top quality elongated-shaped natural diamond
- The best choice when natural diamond is preferred on surface, cylindrical and centerless grinders
- Durable performing tools in a medium price range

GOOD Long Life Blade Tools

- Manufactured with processed elongated shaped natural diamond
- Developed as the first generation of the blade tool line for surface, cylindrical and centerless grinders
- The choice when initial price is the primary purchasing consideration

Please contact Customer Service at 1-828-684-2500 for all your non-stock, custom configuration questions, requests for quotes, etc.



Blade Tools (CONTINUED)



USB Blade Tool Marking System

SYNTHETIC DIAMOND TYPE	NUMBER OF DIAMONDS	TOOL APPROACH ANGLE	DIAMOND SETTING POSITION	SHANK DIAMETER	MINIMUM RADIUS TO BE DRESSED
USC = CVD	2	0°	A = Angled	7 = 7/16"	.008"
	3	10°		6 = 3/8"	.0"
	5	15°		11 = 11mm	.05"

Example:

USC 3 10 A 7

Multi-Cut Blade Tool Marking System

TOOL TYPE	NUMBER OF DIAMONDS	APPROX. DIAMETER OF DIAMONDS	MINIMUM AND CONCAVE RADIUS TO BE DRESSED
MC = 15° Drag Angle	2 = 1 layer of 2 diamonds	55 = .055"	.028"
MCS = 0° Drag Angle	3 = 1 layer of 3 diamonds	75 = .075"	.038"
		90 = .090"	.045"

Example:

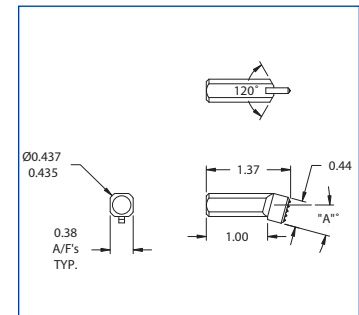
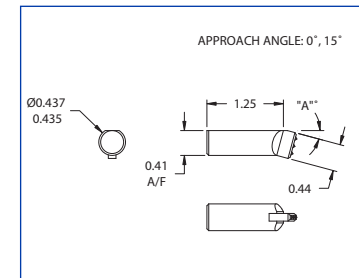
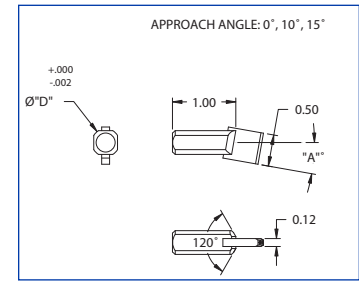
MC 3 75

Long Life Blade Tool Marking System

TOOL TYPE	STYLE	NUMBER OF LAYERS	APPROX. DIAMETER OF DIAMONDS	MINIMUM RADIUS TO BE DRESSED
LL =	20 = 5 diamonds @ 15° Drag Angle	1 = 1 layer	A = .030"	.015"
Long Life	27 = 5 diamonds @ 0° Drag Angle	Non-stock: 2 and 3 layers are available on request	B = .040" C = .050" D = .060"	.020" .025" .030"

Example:

LL 20 1 A



USB TOOLS

MULTI-CUT TOOLS

LONG LIFE TOOLS

WHEEL DIAMETER (WIDTH < 9")	TOOL APPROACH ANGLE	SHANK DIAMETER	BEST		BETTER		GOOD	
			PRODUCT NO.	UPC NO.	PRODUCT NO.	UPC NO.	PRODUCT NO.	UPC NO.
Stock Blade Tools								
12" TO 17"	15°	7/16"			MC355	66260195266		
18" TO 29"	15°	7/16"			MC375	66260195267		
Non-Stock Blade Tools								
UP TO 11"	0°	7/16"			MCS255	66260148412	LL271A	66260196447
	10°	7/16"					LL201A	66260196446
	15°	7/16"			MC255	66260195265		
12" TO 17"	0°	7/16"	USC20A7	66260103532	MCS355	66260195268	LL271B	66260196449
	10°	7/16"	USC210A7	66260103534			LL201B	66260196448
	15°	7/16"	USC215A7	66260103535				
18" TO 29"	0°	7/16"	USC30A7	66260103305	MCS375	66260148417	LL271C	66260196451
	10°	7/16"	USC310A7	66260103545			LL201C	66260196450
	15°	7/16"	USC315A7	66260103303				
30" TO 36"	0°	7/16"	USC50A7	66260103306	MCS390	66260148418	LL271D	66260196453
	10°	7/16"	USC510A7	66260103555			LL201D	66260196452
	15°	7/16"	USC515A7	66260103307	MC390	66260196266		

STANDARD PACKAGE = ONE TOOL
 THESE TOOLS ARE NOT RESETTABLE OR RELAPPABLE.
 OTHER SHANK DIAMETERS AND CONFIGURATIONS ARE AVAILABLE.
 BLADE TOOLS FOR DRESSING WHEEL WIDTHS > 9" ARE ALSO AVAILABLE.

CLUSTER TOOLS

Cluster Tools

Norton Cluster Tools are designed specifically for straight face dressing of large diameter, coarse grit grinding wheels on single or double disc, centerless or surface grinders.



DIAMOND TOOLS

Wheel Forms Dressed by These Tools



Straight



Tapered

TECHtips

- Cluster and Dia-Pak Tools – Straight face dressing of hard/ coarse wheels:
 - Tool should approach the wheel at a 15° angle and be rotated periodically to keep 3 diamonds in contact with the wheel at all times.
 - Tools can also be used at a 90° to the wheel face.
 - Multi-Point Cluster Tools should be rotated at frequent intervals.
 - Infeed per pass should not exceed .0015" (.001" with Norton Ceramic SG and Targa wheels).
 - Use coolant whenever possible.
 - These tools permit a faster traverse rate providing a freer cutting wheel than when dressed by a conventional single-point tool.



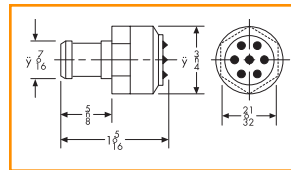
It is the user's responsibility to refer to and comply with ANSI B7.1

Multi-Point Cluster Tools

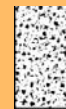
Multi-Point Cluster tools are typically used for straight face dressing on disc and centerless operations. For greatest efficiency, these tools should be mounted at a 15° angle so that three diamonds are in contact with the wheel face at all times. The tool should be rotated at frequent intervals. Not resettable.

DIAMONDS ON FACE	SHANK DIAMETER	TOOL LENGTH	BETTER	
			PRODUCT NO.	NON-RESETTABLE UPC NO.
Multi-Point Cluster Tools				
7	7/16"	1-5/16"	NC7K7	66260195206

STANDARD PACKAGE = 1 TOOL



Wheel Forms Dressed by These Tools



Straight



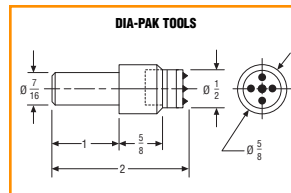
Tapered

Dia-Pak Tools

Dia-Pak tools are primarily used in straight face disc grinding, but are extremely versatile and may also be used in centerless and surface operations. Designed for maximum economy, three layers of diamond are carefully arranged so that a new layer is exposed before the previous layer is completely worn away. Not resettable.

FOR WHEEL DIAMETERS	DIAMONDS PER LAYER	SHANK DIAM.	TOOL LENGTH	BETTER	
				PRODUCT NO.	NON-RESETTABLE UPC NO.
Dia-Pak Tools					
UP TO 14"	5-4-5	7/16"	2"	DP20	66260195200
UP TO 20"	7-6-7	7/16"	2"	DP30	66260195201
ANY	7-6-7	7/16"	2"	DP35	66260195202

STANDARD PACKAGE = 1 TOOL



Wheel Forms Dressed by These Tools



Straight



Tapered

See our catalog #106 "Norton Stationary Diamond Dressing Tools" for more information and non-stock, custom-made diamond tool availability.

Brake Controlled Truing Devices

Designed for truing diamond and CBN wheels rapidly, effectively and with a minimum of superabrasive loss.

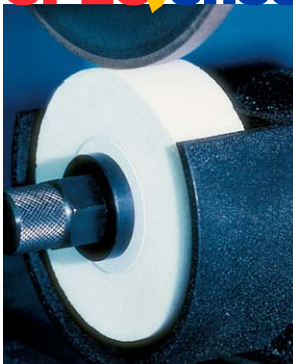
Typical Applications

Truing 1A1, 11V9, 11A2, 6A2 and 12A2 wheels:

- Straight wheels, used on chip breaker, tool and cutter, surface and cylindrical grinding machines
- Cup wheels, used on vertical spindle surface grinders
- Internal grinding wheels
- Cut-off wheels



SPECcheck



Truing Diamond and CBN Wheels

SUPERABRASIVE WHEEL	TRUING WHEEL SPECIFICATION
RESIN AND VITRIFIED BOND	
80, 100 and 120 grit	38A60-MVBE, 37C60-MVK
150, 180 and 220 grit	38A80-MVBE, 37C80-MVK
320 and finer grits	37C100-HVK
METAL BOND	
80, 100 and 120 grit	38A60-MVBE
150, 180 and 220 grit	38A80-MVBE
240 and finer grits	37C80-HVK

4597 Brake Controlled Truing Device

The 4597 is engineered for heavier and more frequent truing applications. The adjustable speeds allow for varying conditions (between 1050 and 1500 SFPM). It comes complete with a reusable case, "True to Form, Dress to Cut" training video, two 3" 38A60-M8VBE vitrified wheels, Truing Device Tips book and a dressing stick. It can be rebuilt using the 4597RK Rebuild Kit.

Worn #4597 Brake Controlled Truing Devices (UPC 66260195350) in need of reconditioning (beyond new shoes and springs) may be returned to be rebuilt. Contact Diamond Tool Customer Service for return instructions and quote.

3597 Pacesetter Brake Controlled Truing Device

The Pacesetter model is ideal for light duty use. The pre-set brake speed requires no adjusting. This model includes one 3" 38A60-M8VBE vitrified wheel and can be rebuilt using the 3597RK Rebuild Kit.

4597RK and 3597RK Rebuild Kits

You can rebuild your truing device with these kits, consisting of three brake shoes, three springs and three screws.

TECHtips

- Prior to truing the wheel, run a wax crayon over the wheel face. Important: do NOT use any liquid-based ink on superabrasive wheels.
- Any crayon left on the wheel face after truing will reveal untrued areas.
- Indicate the superabrasive wheel runout before starting... usually within .001" to .002", to minimize wheel loss.
- Mount the device spindle parallel to the wheel spindle to ensure proper straight face truing.
- For cup wheels, the device spindle will be mounted perpendicular to the wheel spindle.
- Always use the Brake Controlled Truing Device dry.
- Bring the diamond/CBN wheel and the truing wheel together until they almost touch.
- Start the diamond/CBN wheel to normal speed; spin the truing wheel in the same direction at point of contact.
- Bring the two wheels together until they touch.
- Make sure the truing wheel is spinning at time of contact.
- Traverse the wheel back and forth at 30 to 60 inches/minute.
- Downfeed .0005" to .001" at the end of each traverse.
- At the end of truing, the diamond/CBN wheel should be smooth and in truth.
- Apply a dressing stick to sharpen the truing wheel.



It is the user's responsibility to refer to and comply with ANSI B7.1

ITEM	BETTER		GOOD	
	PRODUCT NO.	UPC NO.	PRODUCT NO.	UPC NO.
4597 Brake Controlled Truing Device	4597	66260195350		
4597 Rebuild Kit	4597RK	66260195351		
3597 Pacesetter Brake Controlled Truing Device			3597	66260135578
3597 Pacesetter Rebuild Kit			3597RK	66260135595
Replacement Wheels 3 x 1 x 1/2			38A60-MVBE	66243529145
			38A80-MVBE	66243529146
			37C60-MVK	66243529166
			37C80-HVK	66243529170
			37C80-MVK	66243529171
			37C100-HVK	66243529172
			37C100-MVK	66243529070

STATIONARY DIAMOND DRESSING TOOL COMPETITIVE CROSS REFERENCE



Minimize Your Cost Per Dress and Maximize Your Grinding Wheel Performance

Get Ahead With the Norton Dressing Tool Competitive Edge

For every dollar spent on precision grinding wheels, another 10% is spent on stationary tools to true and dress the wheels.

To make the most of that 10%, Norton offers the industry's most comprehensive line of quality stock and custom-made stationary diamond dressing tools – ensuring a repeat order for the wheels and the dressing tools.

If you find competitive pricing lower than the Norton published price for any product in this chart, we will match that documented price and give you a one-time redeemable coupon of 10% against your next order of Norton stationary dressing products.

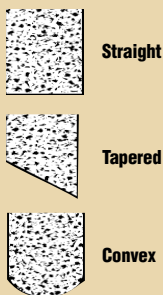
THE NORTON STATIONARY DRESSING TOOLS FOUND IN THIS CROSS REFERENCE:

- Help you quickly convert competitive business to Norton tools
- Will successfully provide the solutions for greater than 50% of the truing and dressing applications in today's market
- Simplify your tool selection – whether a competitor is involved or not
- Are competitively priced at published book prices to enable you to get the order (prices have been set using extensive marketing research)

Single Point Diamond Dressing Tools



Wheel Forms Dressed by These Tools



Selecting the Correct Single Point Tool

- Identify the wheel abrasive type: A/O, S/C or Ceramic (Norton SG)
- Determine the wheel diameter – to select the optimum carat weight
- Determine the tool holder size – to select the appropriate shank diameter

Stock Single Point Tool Marking System

DIAMOND QUALITY	DIAMOND SIZE	SHANK DESIGN	SHANK DIAMETER
BCSG	1 = 1/5 (.20) carat	M	6 = 3/8"
BC	2 = 1/4 (.25) carat	J	7 = 7/16"
	3 = 1/3 (.33) carat		
	5 = 1/2 (.50) carat		
	7 = 3/4 (.75) carat		
	10 = 1 carat		

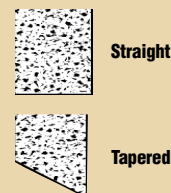
Example:

BCSG 2 M 6

Multi-Point Diamond Dressing Tools



Wheel Forms Dressed by These Tools



Selecting the Correct Multi-Point Tool

- Identify the wheel abrasive type: A/O, S/C or Ceramic (Norton SG)
- Determine the wheel diameter and grit size
- Determine the tool's approach angle to the centerline of the wheel
- Identify the tool holder diameter

Multi-Point Tool Diamond Section Specifications

SHAPE	WIDTH	LENGTH	DEPTH	TOOL APPROACH ANGLE TO WHEEL	FOR WHEEL DIAMETER
1A	1/4"	3/4"	5/16"	0°	Over 20"
2A	1/4"	1/2"	3/8"	0°	15" – 20"
1R	1/4" Rnd		1/4"	0°	Up to 10"
2R	3/8" Rnd		3/8"	0°	11" – 14"

STATIONARY DIAMOND DRESSING TOOL COMPETITIVE CROSS REFERENCE

		NORTON		GIDCO (3M)		CITCO		ACCURATE	
WHEEL DIAMETER	CARAT WEIGHT	UPC (662601)	PRODUCT NUMBER	UPC (051115)	PRODUCT NUMBER	UPC N/A	PRODUCT NUMBER	UPC N/A	PRODUCT NUMBER

Single Point Tools for Truing/Dressing Aluminum Oxide Abrasive Wheels

Standard Grade Diamond; Non-resettable. These are most commonly used in straight dressing applications, but may also be used in some forming operations.

3/8" DIAMETER SHANK X 2" OVERALL LENGTH

Up to 7"	0.25	95000	BC2M6	20793-8	TR2S6	-	TR26	-	T41-624
8" to 10"	0.33	95002	BC3M6	20795-2	TR3S6	-	TR36	-	T31-624
11" to 14"	0.50	95004	BC5M6	20797-6	TR5S6	-	TR46	-	T21-624
15" to 20"	0.75	95006	BC7M6	20799-0	TR7S6	-	TR56	-	T43-624
21" +	1.00	95008	BC10M6	20801-0	TR10S6	-	TR66	-	T10-624

7/16" DIAMETER SHANK X 2" OVERALL LENGTH

Up to 7"	0.25	95001	BC2M7	20794-5	TR2S7	-	TR27	-	T41-724
8" to 10"	0.33	95003	BC3M7	20796-9	TR3S7	-	TR37	-	T31-724
11" to 14"	0.50	95005	BC5M7	20798-3	TR5S7	-	TR47	-	T21-724
15" to 20"	0.75	95007	BC7M7	20800-3	TR7S7	-	TR57	-	T43-724
21" +	1.00	95009	BC10M7	20802-7	TR10S7	-	TR67	-	T10-724

Single Point Tools for Truing/Dressing Ceramic (SG) and Silicon Carbide Abrasive Wheels

Standard Grade Diamond; Non-resettable. These are most commonly used in straight dressing applications, but may also be used in some forming operations.

3/8" DIAMETER SHANK X 2" OVERALL LENGTH

Up to 7"	0.25	57007	BCSG2M6		TR2P6	-	TRP26	-	C41-624
8" to 10"	0.33	57008	BCSG3M6	20803-4	TR3P6	-	TRP36	-	C31-624
11" to 14"	0.50	57009	BCSG5M6	20805-8	TR5P6	-	TRP46	-	C21-624
15" to 20"	0.75	60312	BCSG7M6		TR7P6	-	TRP56	-	C43-624
21" +	1.00	-	BCSG10M6		TR10P6	-	TRP66	-	C10-624

7/16" DIAMETER SHANK X 2" OVERALL LENGTH

Up to 7"	0.25	56905	BCSG2M7		TR2P7	-	TRP27	-	C41-724
8" to 10"	0.33	56906	BCSG3M7	20804-1	TR3P7	-	TRP37	-	C31-724
11" to 14"	0.50	56907	BCSG5M7	20806-5	TR5P7	-	TRP47	-	C21-724
15" to 20"	0.75	56908	BCSG7M7		TR7P7	-	TRP57	-	C43-724
21" +	1.00	57010	BCSG10M7		TR10P7	-	TRP67	-	C10-724

WHEEL DIAMETER	APPROACH ANGLE	UPC (662601)	PRODUCT NUMBER	UPC (051115)	PRODUCT NUMBER	UPC N/A	PRODUCT NUMBER	UPC N/A	PRODUCT NUMBER
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Multi-Point (Grit) Tools for Truing/Dressing Aluminum Oxide Abrasive Wheels

Standard Grade Diamond; Non-resettable. Multi-Point tools are engineered for straight dressing, but some tools may be used in step dressing applications. Recommended for 54-100 grit wheels.

7/16" DIAMETER SHANK

Up to 10"	0 Degree	95088	1R6J7	20786-0	1R6J7	-	1RJ	-	171RJ
11" to 14"	0 Degree	95096	2R6K7	20787-7	2R6K7	-	2RK	-	171RK
15" to 20"	0 Degree	95046	2A6D7	20782-2	2A6D7	-	2AD	-	112AD
15" to 20"	15 Degree	95049	2A6E7	20781-5	2A6E7	-	2AE	-	112AE
21"+	0 Degree	95031	1A6A7	20784-6	1A6A7	-	Not Available	-	101A1
21"+	15 Degree	95039	1A6C7	20783-9	1A6C7	-	1AC	-	101AC

Norton offers a full line of custom-made stationary dressing tools. Use our simple online selection guide at www.nortonabrasives.com/industrial/EZTool, contact Technical Service at 1-800-684-2500 or contact Customer Service for any other competitive conversions or questions.



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Stephenville, TX 76401-3799
Telephone: (254) 918-2313
Fax: (254) 918-2314

US CUSTOMER SERVICE –
NON-STOCK ORDERS AND ALL
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65 Beale Road
Arden, NC 28704
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Fax: (828) 684-1401

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Telephone: (905) 547-2551
Fax: (905) 547-8157

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NORTON

NORTON USB DIAMOND BLADE TOOLS FOR TRUING AND DRESSING

new!

www.nortonabrasives.com

**Designed for close tolerance wheel dressing on
manual and CNC grinders**



NORTON USB DIAMOND BLADE TOOLS FOR TRUING AND DRESSING

Lower Dressing Cost Per Part With Norton USB Uniform Synthetic Blade Dressing Tools

new!

Consistent Wheel Conditioning From a Longer Lasting Dressing Tool

Increasing the consistency of grinding wheel conditioning results in superior part finish and geometry. The new Norton USB tools use rectangular-shaped synthetic diamond material. The controlled shape of the engineered diamond eliminates the shape variation found in natural stones, providing a constant cross section of diamond to the wheel throughout the life of the tool. Tests have shown this provides the most consistent performance from first dress to last on conventional aluminum oxide and ceramic abrasive grinding wheels.



Where to Use USB Tools

- Centerless Form Grinding: Economical, long-lasting alternative to chisel-type tools
- Cylindrical Grinding: Straight or anglehead machines
- Any application where form and/or finish are critical such as automotive cam, crank and valve grinding
- Long production runs requiring consistent dressing performance
- Perfect for use on CNC machines because of the tools' consistency and repeatability



USB Tool Marking System

SYNTHETIC DIAMOND TYPE	NUMBER OF STONES	TOOL APPROACH ANGLE	DIAMOND SETTING POSITION	SHANK DIAMETER
USC = CVD	2	0°	A = Angled	7 = 7/16"
	3	10°		6 = 3/8"
	5	15°		11 = 11mm

Example:

USC 3 10 A 7

USB Standard Product Availability

WHEEL DIAMETER	APPROACH ANGLE	WHEEL WIDTH UP TO 9"	WHEEL WIDTH OVER 9"
Up to 11"	0° (Straight)	*	*
	10°	*	*
	15°	*	*
12" to 17"	0° (Straight)	USC20A7	USC30A7
	10°	USC210A7	USC310A7
	15°	USC215A7	USC315A7
18" to 29"	0° (Straight)	USC30A7	USC50A7
	10°	USC310A7	USC510A7
	15°	USC315A7	USC515A7
30" to 36"	0° (Straight)	USC50A7	*
	10°	USC510A7	*
	15°	USC515A7	*
37" to 42"	0° (Straight)	*	*
	10°	*	*
	15°	*	*

* Consult Factory for Recommendation

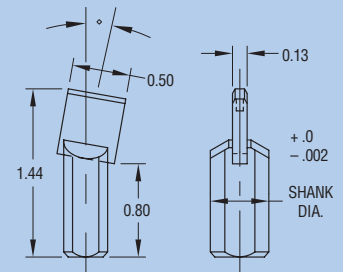
- Wide range of standard product available
- For use on conventional and ceramic abrasives
- Custom configurations available
- Quick delivery on standard products

tips

- We recommend 3/8" diameter stream of coolant directed at point of contact with the wheel.
- Normal infeed should not exceed .001" for aluminum oxide wheels. Decrease by 25% when using SG and by 50% when using TG.
- To calculate traverse rate (the speed the tool moves across the wheel):
 $Wheel\ RPMs \times .015" = Traverse\ Rate\ inches/minute$
A slower traverse rate equals lower surface finish readings.
- Mount tools with all diamonds contacting wheel. Position row of diamonds vertically.

Blueprint

APPROACH ANGLE: 0°, 5°, 10°, 15°



Use These USB Tools for



▲ Straight Dressing



▲ Step Dressing



▲ Radius Dressing



▲ Form Dressing



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