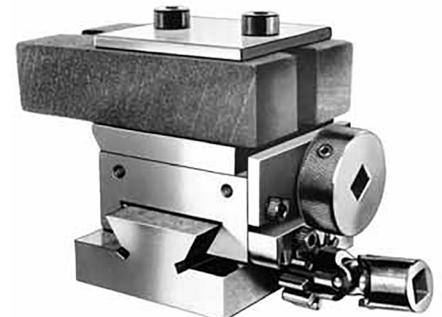
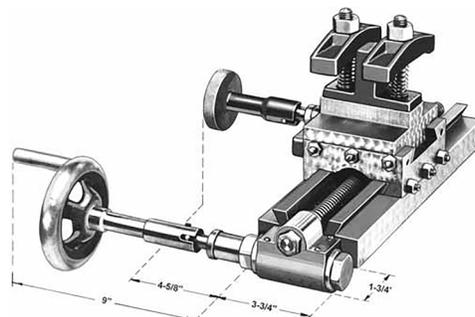
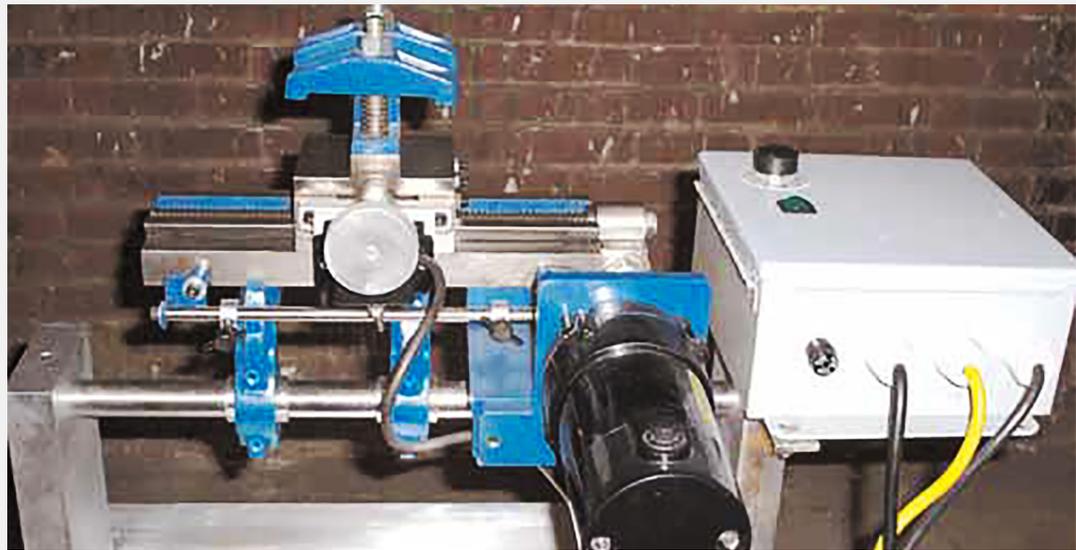
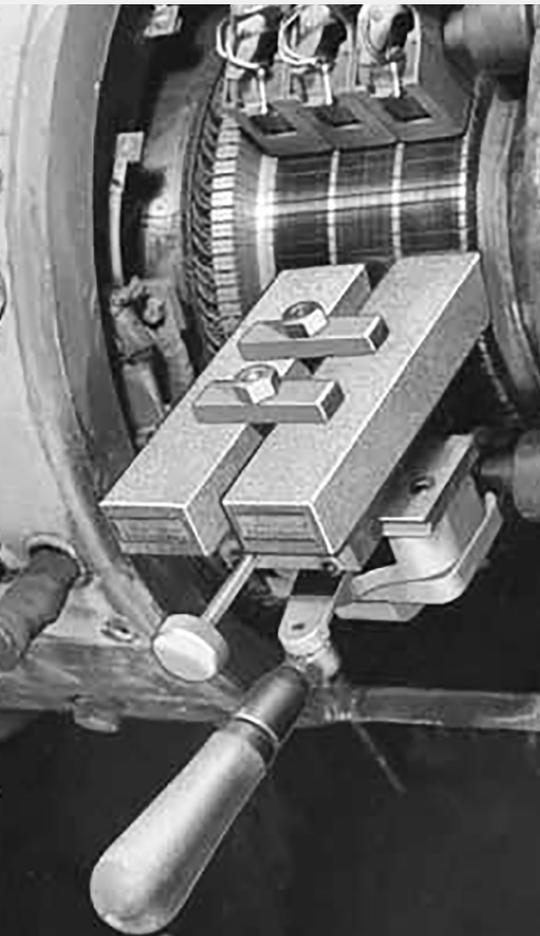




COMMUTATOR GRINDERS

Miniature & Compact Models | Grinding & Turning Models | Chain-Drive Models | Power Drives





OVER 100 YEARS OF SERVICE.

Martindale Electric Co. started in the electric motor maintenance tool manufacturing business in 1913. From the start, we put emphasis on quality materials and workmanship — and on dedicated customer service.

Martindale specializes in the manufacture of equipment and supplies for the electric motor repairman. The products on the following pages are the result of continuous field experience and research in an effort to help industry minimize the costs of maintaining electric motors and generators.

The following 9 pages describe our complete line of commutator grinding tools. The three salient factors in choosing a commutator resurfacing tool are:

1. Commutator bar length (or width of slip ring) matched to grinding capacity of tool.
2. Access area matched to dimensions of tool to ensure working clearance.
3. Diameter of brush stud matched to fit diameter of support used with tool.

You will need to order stones to work with appropriate surface condition. Standard stones are available for use on copper & brass, slip ring grade stones are also available for use on steel & cast iron. See our Diamond D Abrasives Catalog for a complete explanation of sizes, grades, etc.

Please advise quantity, catalog numbers of grinding tools, supports – with length of base required, and quantity & grades of stones needed for prices and availability. We appreciate the opportunity to be of service and look forward to meeting all of your electric motor repair tool needs.



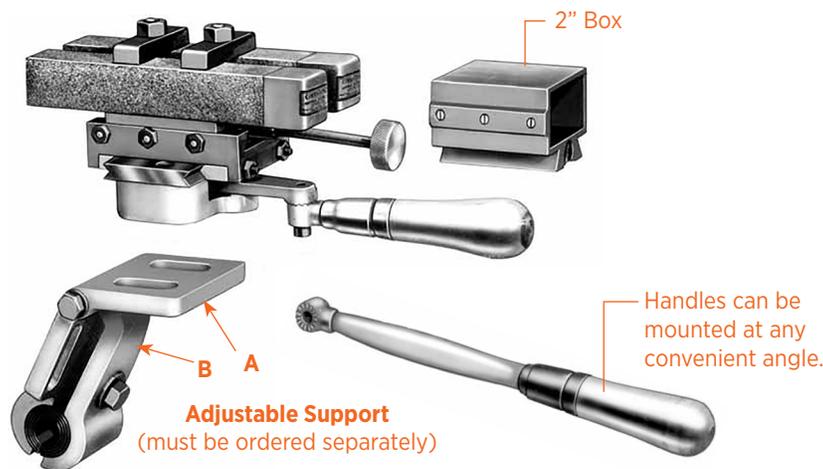
**Reliable Solutions
Today!**

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TYPE C COMMSTONE HOLDER

Compact - Versatile



Part "A" of adjustable support can be separated from part "B" (at hinged center) and Commstone Holder base mounted directly on part "B".

Split fiber bushings in the clamp reduce the hole from 1" to 3/8" in 1/8" steps.

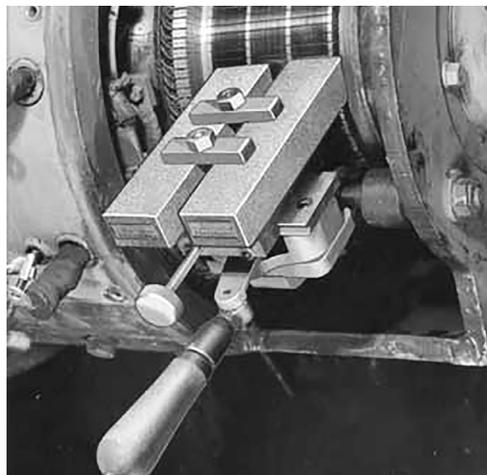
The Type C Commstone Holder is a compact grinder for slip rings and commutators up to 4-3/4" long. This unit is especially valuable when the motor frame or brush rigging extends over the commutator or slip ring.

Best results are obtained when the armature is running at normal speed, in its own bearings, with centrifugal force holding the commutator in its true running position.

Use of a commstone frequently, for truing the face of a commutator, will help in avoiding the long and costly delay of disassembly that is required to turn an armature in a lathe.

FEATURES

- Only 3-5/8" long; fits in close quartered jobs.
- Flexible in-feed deflects to side in cramped quarters.
- Long or Short Handle may be used pivoted in any position.
- Choice of 2" Box or Stone Holder. These are interchangeable and both may be ordered.
- Carriage travel is 1-1/4", on "Teflon" ways.
- Commstones for use with the 2" Box (1" x 2" x 8"), or for use with the Stone Holder (1" x 1-1/2" x 6-1/2"), are available in all grades.
- Steel Carrying Case is available with space for commstones, small tools, etc.



Type C mounted on Auxilliary Generator using only lower part of adjustable support.

Dimensions			
Base Length	Base Width	Height	Adjustable Support
3-5/8"	4-3/4" (without wood handle)	3-3/4" (base to top of stone-holder nut)	3-3/8" (part "B" from center of brush-arm hole to center of joint with part "A")

Grinding Capacity	
With 2" box and 1 pc. 1" x 2" x 8" Commstone	to 3-1/4"
With Stone Holder and 2 pcs. 1" x 1" x 6-1/2" Commstones	to 3-3/4"
With Stone Holder and 2 pcs. 1" x 1-1/2" x 6-1/2" Commstones	to 4-3/4"

Type C Commstone Holder Less Adjustable Support	Catalog Number
With Stone Holder and long and short handles	COMH100
With 2" Box and long and short handles	COMH101
Adjustable Support (not included with Commstone Holder)	COMH200
Stone Holder only	COMH201
2" Box only	COMH202
Steel Carrying Case for Type C Holder	CASE101

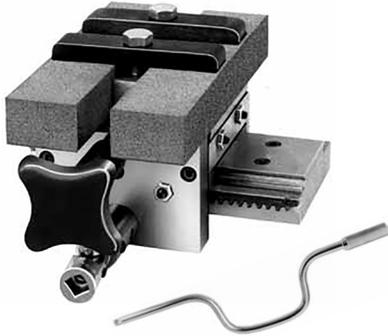
Net Weight, with Adj. Support: 4-1/4 lbs.

Commstones for above	Catalog Number
1" x 1" x 6-1/2"	COMMCLS846*
1" x 1-1/2" x 6-1/2"	COMMCLS847*
1" x 2" x 8"	COMMCLS850*

* When ordering, specify catalog number and grade (i.e. EC, C, M, F, P)
See Commstone descriptions in Diamond D Abrasives Catalog — pages 4, 5 & 7

GRINDING TOOL

“COMM-PACT” GRINDING TOOL



The “Comm-Pact” Grinding tool has a very low profile and is light-weight for use in confined spaces and on brush studs not heavy enough to support the weight of the large Commutator Grinder. Available in 6”, 8”, 10”, and 12” lengths, each of which can grind up to 2” longer than its base length.

The carriage travels on replaceable nylon V-blocks and is driven by a rack and pinion connected by a universal joint to a removable “speed-handle”. Standard 3/8” socket set extensions can be used to lengthen the drive handle.

Five different style mounting brackets are available including bushings for round brush arms from 1/2” to 1” diameter. For flat brush arms a wedge support is offered.

Dimensions	
Length	6”, 8”, 10”, or 12”
Width	7” (with knob)
Height	3-3/4” (bottom of base to top of stone-holder bolt) <i>Add height of required support - see above</i>
Grinding Capacity	2” longer than base length



Center Support
for round brush arms,
1” diam. or less.
Adds 1-1/2” to height.



Long “L” Support
for round brush arms,
1” diam. or less.
Adds 7/8” to height.



U-Support
for round brush arms,
7/16” to 1-1/2” diam.
Adds 1-1/4” to height.

Grinder with Carrying Case	Catalog Number	Supports and Accessories	Catalog Number
6” long	GRDR106	Center Support	GRDR200
8” long	GRDR108	Long “L” Support (pair)	GRDR201
10” long	GRDR110	“U” Support	GRDR202
12” long	GRDR112	Short “L” Support (pair)	GRDR203
		Wedge Support	GRDR204
		6” Extension Handle	GRDR205



Short “L” Support
for round brush arms,
1” diam. or less.
Adds 7/8” to height.



Wedge Support
for flat brush arms.
Adds 1-1/4” to height.

Commstones:
1” x 1-1/2” x 6-1/2”
See description, etc., under “Type C Commstone Holder”

MINIATURE GRINDING TOOL



Dimensions	
Length	2-3/8”
Height	2-9/16”
Grinding Capacity	to 3-3/4”

With this little grinder you can now precision-grind small motor and generator commutators or slip-rings which were formerly out of reach because of limited access space.

This grinder’s small size permits entry into confined areas through either end-opening or side-opening machines. It mounts on a brusharm with one of the two supports. It uses two 3/4” x 3/4” x 3” Commstones and will grind commutators up to 3-3/4” long. A flexible extension is available for use with the handle.

Support for Round Brush Arm



Support for Square Brush Arm



Flexible Handle

Miniature Grinder	Catalog Number
Complete with Flexible Handle and Carrying Case	JGRD100
Support for Round Brush Arm 5/8” to 3/4” diam	JGRD200
Support for 5/8” Square Brush Arm	JGRD201
Flexible Extension (6”) for Flexible Handle	JGRD202
Replacement Flexible Handle	JGRD203

Commstones for above	Catalog Number
3/4” x 3/4” x 3” Plain Lathe Type(All Grades Available)	COMMCLS804*

COMMUTATOR GRINDING AND TURNING TOOLS

FIG. 1

STRAIGHT: Used where there are no obstructions to interfere with crossfeed handle.

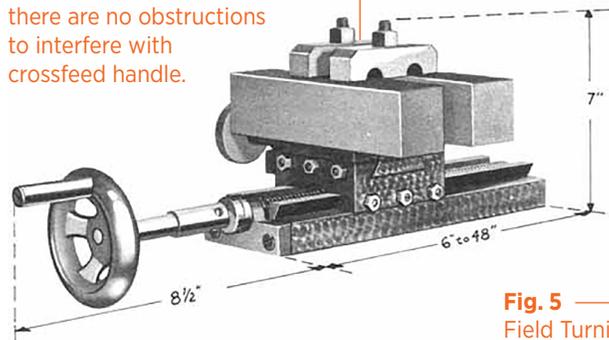


FIG. 8

RIGHT ANGLE: Used where end frame, fan, etc., would interfere with crossfeed handle of Fig. 1.

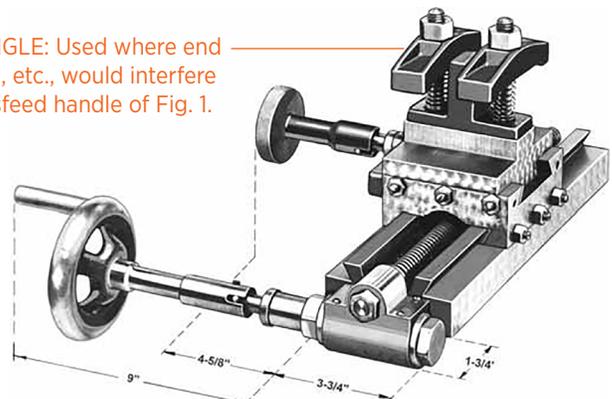


Fig. 5
Field Turning
Tool Head

Available in 2 styles in lengths from 6" to 48". Will grind, with commstones, 1" beyond base at each end or turn, with turning tool, 2" less than base length at each end.

Diamond Turning Tools for your Lathe - See Pg. 14

The Martindale Commutator Grinder assures concentricity of the commutator or slip-ring by precision grinding while it is turning in its own bearings at operating speeds and temperatures, with centrifugal force holding each bar in place.

Either tool (Fig. 1 or 8) can be quickly changed from right to left hand operation. On Fig. 1, remove two screws and turn the cross-slide around.

On Fig. 8, the right-angle driving shaft is removed and inserted in the other side of the right-angle housing, and the grinding head cross-slide turned around as with Fig. 1.

When grinding use 2" x 2" x 8" Commstones in any of the 5 grades shown and described in Diamond D Catalog — pages 4, 5 & 7. The stones will grind 1" beyond the grinder base at each end, and they can be cocked to get into the corner at the riser.

If very deep grooves must be removed, the Fig. 5 Turning Tool Head may be used. It is interchangeable with the Grinding Head on either Fig. 1 or Fig. 8. The tool holder should be positioned as indicated in the upper left corner of this page. The top of the commutator should rotate away from the operator so that if the mounting should slip, the tool bit would be pushed away from the commutator instead of digging in. It is necessary to add 4" to the grinder base length when using the Turning Tool.

Grinders: (Carrying Case included with grinders below)	Catalog Number
Commutator Grinding Tool (Fig. 1), w/ 10" base or less	GRDR300*
Commutator Turning Tool (Fig. 1), w/ 10" base or less, with Fig. 5 Head instead of Grinding Head	GRDR301*
Right-Angle Grinding Tool (Fig. 8), w/ 10" base or less	GRDR400*
Right-Angle Turning Tool (Fig. 8), w/ 10" base or less, with Fig. 5 Head instead of Grinding Head	GRDR401*
For Grinders 10" to 26": add per inch over 10"	GRDR666
Power-Drive and Accessories, 115 V., 60 Hz. (See Page 10 for Description)	GRDR501A
Power-Drive and Accessories, 230 V., 50 Hz. (See Page 10 for Description)	GRDR501B
Turning Tool Head (Fig. 5), including Tool Holder	GRDR505

Grinder prices 28" and over on application.

* Add base length to P/N when ordering (i.e.: "10", "12", etc.)

Supports	Catalog Number
Fig. 2 "L" Support (See Page 7 for Description)	GRDR50202
Fig. 6 Wedge Block (See Page 7 for Description)	GRDR50206
Fig. 9 "T" Support (See Page 7 for Description)	GRDR50209

Extension Handles (Fig. 7)	Catalog Number
6" (See Page 7 for Description)	GRDR50306
10" (See Page 7 for Description)	GRDR50310

Commstones for above	Catalog Number
2" x 2" x 8" Plain Lathe Type	COMMMLS855**

** When ordering, specify cat. no. and grade (i.e. EC, C, M, F, P)

See Commstone descriptions in Diamond D Abrasives Catalog — pages 4, 5 & 7

See Power-Drive and Supports for Commutator Grinders - Page 10 & 11

WEIGHTS:

Figs. 1 or 8 with 12" base, Net 29 lbs., Shipping 38 lbs.; add about 2 lbs. for each additional inch. Power- Drive unit, Net 27 lbs., Shipping 32 lbs.

MARTINDALE COMMUTATOR GRINDING AND TURNING TOOL POWER-DRIVE



Power-Drive For Either Style Grinder Reduces tedious labor; speeds up the job.

A variable speed gear-motor controlled by a full-wave SCR control is attached to either Fig. 1 or Fig. 8 grinder by a positive drive coupling. A reversing switch, mounted on the carriage, is operated by adjustable stops mounted on the main bed. The motor unit mounts directly to the bed casting providing positive drive to the carriage.

Power-Drive eliminates the need for the operator to hand crank the head back and forth across the face of the commutator.

See Page 6 for Part Numbers

MARTINDALE COMMUTATOR GRINDING AND TURNING TOOL SUPPORTS

The Round Stud Supports are both drilled 1-1/4", and fibre bushings are provided for bushing the hole in the support to the diameter of the brush stud. The bushings also serve to insulate the Grinder when used on live brush studs.

Adjustable Wedge Blocks usually can be mounted on the brush arms in the same holes by the same stud bolts that fasten the brush holders, as shown in the illustration.

See Page 6 for Part Numbers

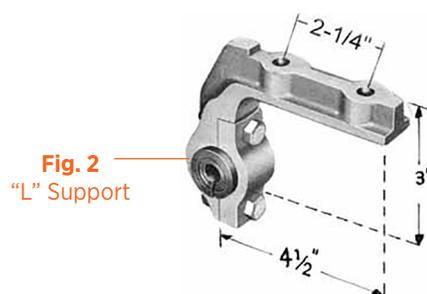


Fig. 2
"L" Support



Fig. 9
"T" Support



Fig. 6
Wedge Block



Fig. 7
Extension Handle

This extension can be supplied in a 6" or 10" length to extend handwheel past brush rigging or other obstruction, when necessary.



Grinders 16" or less require 2 supports

Grinders 18" to 34" require 3 supports

Grinders 36" and over require 4 supports

Grinder bases have mounting holes (3/8" - 16 thread) on 2-1/4" centers across the base and on 2" centers along the base for mounting supports.

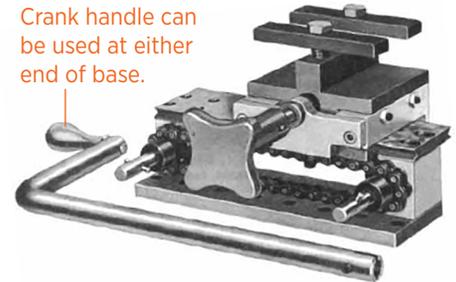
CHAIN-DRIVE COMMUTATOR GRINDING TOOLS

Designed at the request of the Railroad Industry, but equally suited for grinding commutators of industrial equipment up to 26" long.

The Martindale Chain-Drive Commutator Grinder is a departure from previous designs, in that friction has been reduced to a minimum. Grinding dust has little effect on the operation.

Two or three turns of the crank will move the carriage from one end of the bed to the other. The operator can "feel" the stone cut, and how fast to feed it. This is probably the quickest and easiest Commutator Grinder to use.

Crank handle can be used at either end of base.



A Universal Adjustable Support (shown below) is available for mounting on round brush arms. This support is in two parts, hinged together. It can be used as illustrated, with grinder mounted on top section and bottom section adjusted at desired angle; or top half can be removed and grinder mounted directly on lower part of support. Split fibre bushings reduce the clamp from 1-1/8" diam. to 3/8" diam. in 1/8" steps to make a tight fit on the brush stud.

Universal Adjustable Support



Fig. 6 Adjustable Wedge Block

For mounting on flat brush arms use Adjustable Wedge Block Fig. 6 shown at left. (Use 1, 2, or 3, according to length of base).

Grinders up to 7-1/2" base need 1 support.

Grinders 10" to 16" base need 2 supports.

Grinders 18" to 24" base need 3 supports.

Dimensions	
Length	5-1/2" to 24"
Width	5" (without handle or knob)
Height	4-3/4" (base to top of stone-holder nut)
Adjustable Support	3" (from center of brush-arm hole in lower part to center of joint with upper part)

Supports and Accessories	Catalog Number
Universal Adjustable Support	GRDR740
Adjustable Wedge Block (Fig. 6)	GRDR741
Steel Carrying Case for Grinders under 18"	CASE102
Steel Carrying Cases for Grinders over 18"	CASE103

GRINDER SIZES

The table below shows stock size Grinders and the length commutator bars they will grind. Two commutator lengths are given in each case, as two different width Commstones can be used.

Grinder Base Length	Grinding Lengths*		Catalog Number
	Using 1"x1-1/2"x6-1/2" Commstones	Using 1"x2"x8" Commstones	
5-1/2"	6"	7"	GRDR705
7-1/2"	8"	9"	GRDR707
10"	10-1/2"	11-1/2"	GRDR710
12"	12-1/2"	13-1/2"	GRDR712
14"	14-1/2"	15-1/2"	GRDR714
16"	16-1/2"	17-1/2"	GRDR716
18"	18-1/2"	19-1/2"	GRDR718
20"	20-1/2"	21-1/2"	GRDR720
22"	22-1/2"	23-1/2"	GRDR722
24"	24-1/2"	25-1/2"	GRDR724

Commstones for Above	Catalog Number
1" x 1-1/2" x 6-1/2"	COMMMLS847*
1" x 2" x 8"	COMMMLS850*

* When ordering, specify catalog number and grade (i.e. EC, C, M, F, P)

WEIGHTS:
5-1/2" base Grinder complete, Net 7 lbs., Shipping 10 lbs.; add 1/2 lb. for each additional inch.

Martindale Plain Lathe Type Commstones 1" x 1-1/2" x 6-1/2" and 1" x 2" x 8" are available in various grades. See our Diamond D Abrasives Catalog, page 6 for a complete listing of grade recommendations for various surface conditions.



Grinder mounted on a Dieselelectric Generator

* At least 1/2" can be added to grinding lengths by cocking Commstones in the stone-holder.

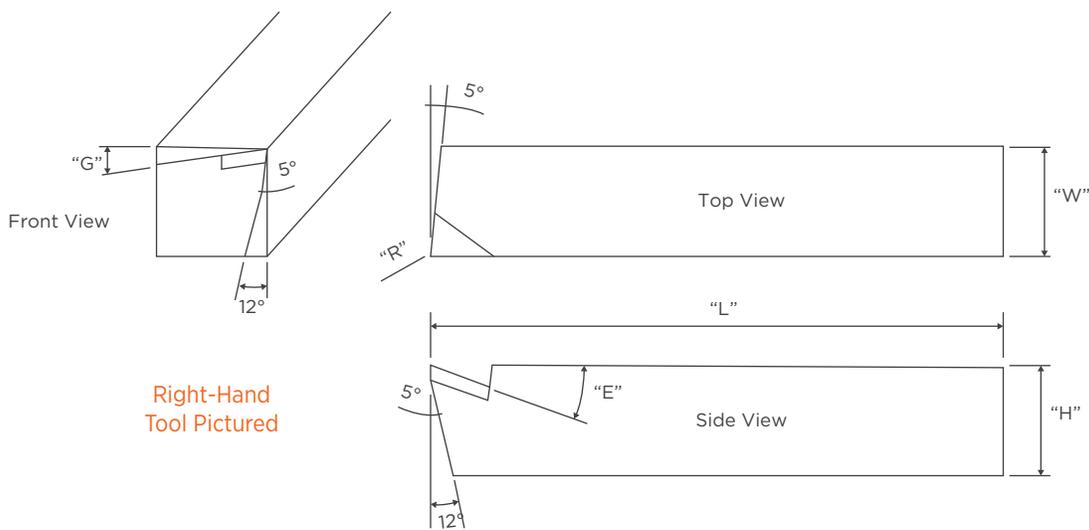
DIAMOND TURNING TOOLS

Synthetic Diamond



Diamond tipped turning tools shown are used in the finishing of the commutator surface. Steep rake angles on the tool ensure clean cutting of the copper, leaving no smearing or drag over across the mica. The nose radius of .010" leaves a very smooth surface to the copper requiring minimal preparation for the seating of brushes.

Right-hand tools cut right to left, left-hand tools cut left to right, with tool positioned diamond side up, as used in most commutator turning applications.



W	H	L	G	E	R	Catalog Number	
						Left Hand	Right Hand
3/8"	3/8"	3"	10°	20°	.010"	DIAWTT38L	DIAWTT38R
1/2"	1/2"	3-1/2"	10°	20°	.010"	DIAWTT12L	DIAWTT12R
5/8"	5/8"	4"	10°	20°	.010"	DIAWTT58L	DIAWTT58R
3/4"	3/4"	5"	10°	20°	.010"	DIAWTT34L	DIAWTT34R
1"	1"	6"	10°	20°	.010"	DIAWTT1L	DIAWTT1R
10mm	10mm	75mm	10°	20°	.25mm	DIAWTT10MML	DIAWTT10MMR
12mm	12mm	87.5mm	10°	20°	.25mm	DIAWTT12MML	DIAWTT12MMR
20mm	20mm	125mm	10°	20°	.25mm	DIAWTT20MML	DIAWTT20MMR
25mm	25mm	150mm	10°	20°	.25mm	DIAWTT25MML	DIAWTT25MMR



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