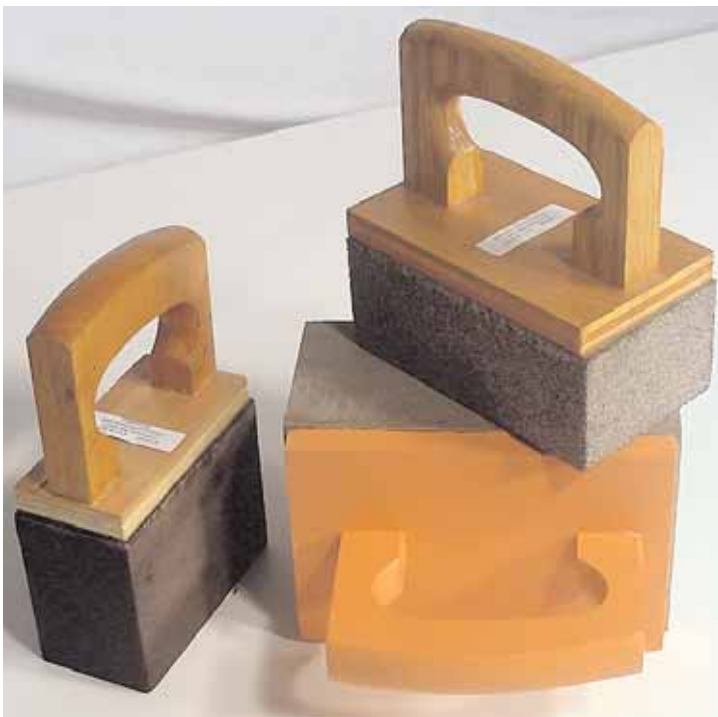


DIAMOND D ABRASIVES

By **M**ARTINDALE

Diamond D Products for Total Commutator Maintenance:



- **Resurfacing**
- **Contouring**
- **Burnishing**
- **Polishing**
- **Finishing**
- **Dressing**
- **Cleaning**

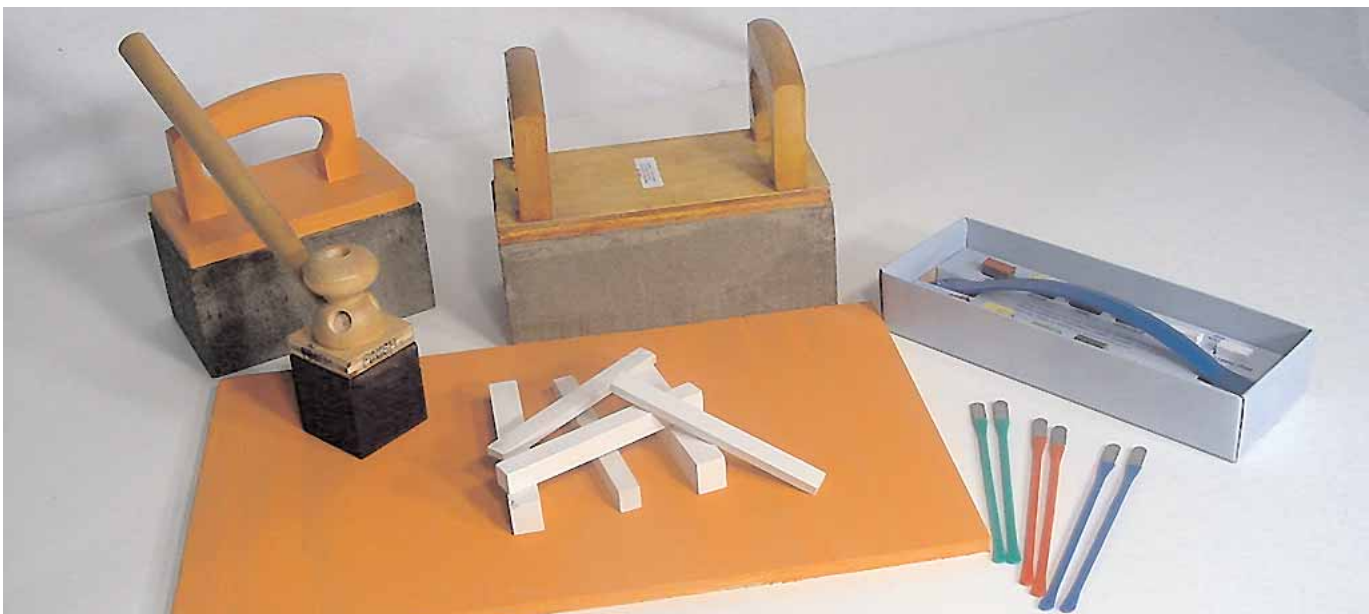


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MARTINDALE

Over 95 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.



Our approach worked. We prospered and grew. Gradually, we added new products to our line, including commutator treating supplies and specially abrasives now produced under our roof.

Martindale is stocked and staffed to promptly meet your electric motor repair tool needs. Each and every employee adheres to the standards of product quality and customer service that has kept us the one stop shop for electric motor repair tools for more than 90 years!



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10/04

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DIAMOND D By **M** MARTINDALE

Diamond D Commstones

QUICKLY REMOVE FLAT SPOTS, HIGH BARS, GROOVES, RIDGES, HIGH MICA, AND OTHER COMMUTATOR AND SLIP RING DEFECTS

Regular maintenance of commutators and slip rings with Martindale Commstones is so easy it enables you to eliminate the above defects in their early stages.

With Commstones, it is not necessary to take a machine out of service to resurface its commutator, thus production time is saved and time-consuming major overhauls can be prevented.

ADVANTAGES OF GRINDING OVER TURNING

Turning a commutator is an expensive operation and, furthermore, necessitates taking the machine out of service. For these reasons it is customary to postpone the turning until the machine gives serious trouble.

On the other hand, if Martindale Commstones are applied as soon as the defect appears, it will be eliminated before it has a chance to become serious.

A flat spot 1/16" deep will not be cleaned up until 1/16" of copper has been ground away from all other parts of the commutator. When the commutator is clean and bright all the way around, the grinding is finished and no more copper has been removed than was absolutely necessary.

The use of hand stones on any commutator even with large flats (if the stone is twice as long as the width of the flat spot) will not leave the commutator eccentric unless it is already so.

WHAT DIAMOND D COMMSTONES WILL DO

1. Cut copper faster than a turning tool.
2. Cut copper, brass or steel without clogging.
3. Cut the edges of every bar clean - no dragging of copper.
4. May be used on either flush mica or undercut commutators.
5. Remove ridges, flats, high bars, high mica, quicker and more effectively than any other method.
6. Save from 75% to 95% of the cost of turning a commutator.
7. Save from 80% to 99% of the time required to remove an armature and turn the commutator in a lathe.
8. Grind under full speed operating conditions where every bar is held in its true operating position by centrifugal force and leave every bar perfectly rounded even when some of the bars are loose.
9. Remove less copper than the most careful workman would with a turning tool.
10. Commstones are perfect insulators and may be used while the motor or generator is operating under normal voltage and even under full load. They can be used with perfect safety on any commutator on which sandpaper can be used.



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DIRECTIONS FOR USING COMMSTONES

If grease or oil is present, wipe or sandpaper the commutator thoroughly before applying the stone.

Run the machine at full speed.

Do not rock the stone; hold it firmly in order to get a true arc as quickly as possible.

Apply with sufficient pressure to get rapid cutting. If the stone wears faster on one side than on the other, it is because the pressure is not applied perpendicularly. This may be corrected by turning the stone three or four times until the full face has been obtained.

During grinding, move the stone slowly from side to side. This will prevent ridges in the commutator from wearing grooves in the stone. Large stones which are difficult to move while grinding may be held in one place for a few seconds, then lifted, moved about 1/4 inch, applied again for a few seconds, moved again, and so on until the commutator is true.

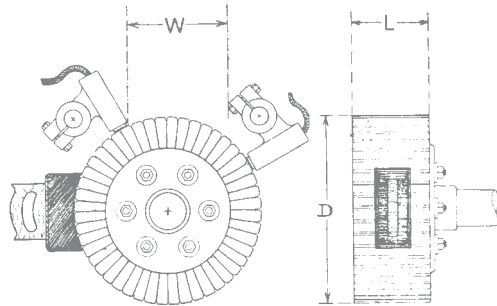
DON'T USE TOO SMALL OF A STONE

COMMSTONES can be made in ANY SIZE.

A Commutator stone should be as long as will work freely between adjacent brush sets, and should also be twice as long as the width of the largest flat spot. This latter requirement may occasionally make it necessary to remove one brush-holder stud during the grinding, to prevent commutator ridges from wearing grooves in the stones.

A Commstone that meets these size requirements will give much better results than too small a stone and will prove more economical.

If in doubt about the size to order, give us dimensions "W", "L" and "D" of your commutator and we will supply the proper size.



**Sandpaper only cleans a flat spot –
Commstones Remove it!**

NINE GRADES FOR COMMUTATORS AND SLIP RINGS

For Commutators and Brass or Copper Slip Rings

GRADE EC (Extra Coarse – 36 Grit) for use where a great deal of copper is to be removed and a very fast cutting stone is desired for pitted and grooved conditions.

GRADE C (Coarse – 46 Grit) recommended for general fast cutting.

GRADE M (Medium – 90 Grit) for use where only high mica or a small amount of copper is to be removed.

GRADE F (Fine – 120 Grit) recommended for general finishing, for periodic preventative maintenance or removing small ridges.

GRADE P (Extra Fine or Polishing – 220 Grit) for finishing or polishing / burnishing where a high mirror-like polish is desired.

GRADE EP (Extra Polish – 320 Grit) for finishing of small commutators.

For Cast Iron and Steel Slip Rings – When using on cast iron or steel slip rings, run at 1800 or more surface feet per minute.

GRADE SRC (Coarse – 36S Grit) for removing large quantities of metal.

GRADE SRM (Medium – 60S Grit) for general use and removing pits.

GRADE SRF (Finish – 90S Grit) for finishing.



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Commutator Dressing and Finishing Stones

• with Straight or Right-Angle Tramway Handles

This handle is mounted at a 45° angle which insures a good, positive grip in awkward positions. † Specify catalog number and grade when ordering. See Pg. 5 for Grades.



Straight
Tramway
Handle



Right-Angle
Tramway
Handle

Description			Catalog Number	
			Straight Handle	Right-Angle Handle
L.	W.	T.		
2"	1-1/2"	2"	COMMX300S †	COMMX300R †
2"	2"	2"	—	COMMX305R †
3"	1-1/2"	2"	COMMX306S †	COMMX306R †
3"	2"	1-1/2"	COMMX307S †	COMMX307R †
3"	2"	2"	COMMX310S †	COMMX310R †
3"	2"	3"	COMMX311S †	COMMX311R †
3"	3"	2"	—	COMMX315R †
4"	3"	2"	COMMX320S †	COMMX320R †

• with Adjustable Handles

This stone has a permanently mounted short knob with a removeable handle. The handle can be inserted in three different positions. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Description			Catalog Number
L.	W.	T.	
2"	1-1/2"	2"	COMMX500 †
2"	2"	2"	COMMX505 †
3"	1-1/2"	2"	COMMX506 †
3"	2"	1-1/2"	COMMX507 †
3"	2"	2"	COMMX510 †
3"	2"	3"	COMMX511 †
3"	3"	2"	COMMX515 †
4"	3"	2"	COMMX520 †

• with Railway Handles

This handle is mounted vertically, which allows the user to apply even pressure. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Short Railway
Handle
(Approximately
6" Long)

Long Railway
Handle
(Approximately
9" - 12" Long)

Description			Catalog Number	
			Short - Approx. 6" Long	Long - Approx. 9"-12" Long
L.	W.	T.		
2"	1-1/2"	2"	COMMX400S †	COMMX400L †
2"	2"	2"	COMMX405S †	COMMX405L †
3"	1-1/2"	2"	COMMX406S †	COMMX406L †
3"	2"	1-1/2"	COMMX407S †	COMMX407L †
3"	2"	2"	COMMX410S †	COMMX410L †
3"	2"	3"	COMMX411S †	COMMX411L †
3"	3"	2"	COMMX415S †	COMMX415L †
4"	3"	2"	COMMX420S †	COMMX420L †



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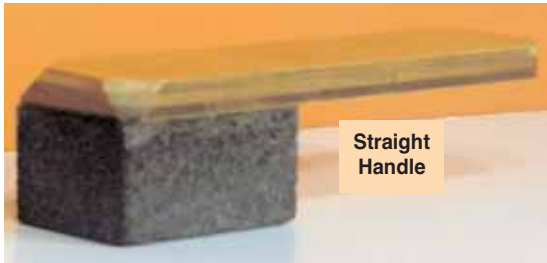
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03/08

• with Straight or Right-Angle Handles

Because of its long handle, this stone is excellent for use with commutators that are difficult to reach. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Description			Catalog Number	
			Straight Handle	Right-Angle Handle
L.	W.	T.		
1" x	1" x	1"	—	COMMX700R †
1" x	1" x	2"	—	COMMX705R †
1-1/2"x	1" x	2"	COMMX706S †	COMMX706R †
1-1/2"x	1-1/2"x	1-1/2"	—	COMMX725R †
2" x	1" x	1"	COMMX710S †	COMMX710R †
2" x	1" x	1-1/2"	COMMX712S †	COMMX712R †
2" x	1" x	2"	COMMX715S †	COMMX715R †
2" x	1-1/2"x	1"	COMMX716S †	COMMX716R †
3" x	1" x	2"	COMMX720S †	COMMX720R †
3" x	1-1/2"x	2"	COMMX722S †	COMMX722R †
3" x	2" x	1-1/2"	COMMX707S †	COMMX707R †
3" x	2" x	3"	COMMX711S †	COMMX711R †

• Unmounted Stones

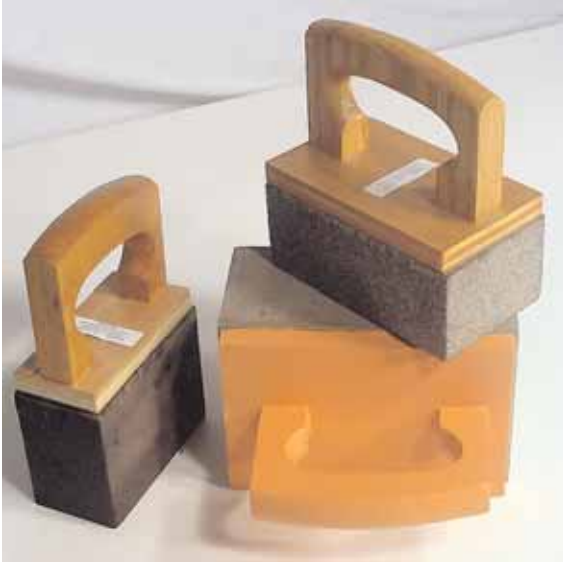
Available in a complete range of sizes to a maximum of 14" x 14" x 3". Specify size and grade when ordering. See Pg. 5 for Grades.



Commutator Dressing and Finishing Stones

• with Saw Handles

Because its large handle gives excellent control, this stone is used on large motors and generators. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Description			Catalog Number
L.	W.	T.	
4" x 1" x 3"			COMMX200 †
4" x 1-1/2" x 3"			COMMX205 †
4" x 2" x 2"			COMMX206 †
4" x 2" x 3"			COMMX207 †
4" x 2" x 4"			COMMX208 †
4" x 3" x 2"			COMMX210 †
4" x 4" x 2-1/2"			COMMX211 †
4" x 4" x 3"			COMMX215 †
5" x 2" x 2"			COMMX220 †
5" x 2" x 3"			COMMX225 †
5" x 3" x 2"			COMMX230 †
5" x 3" x 3"			COMMX235 †
6" x 2" x 3"			COMMX240 †
6" x 3" x 4"			COMMX242 †
6" x 4" x 3"			COMMX245 †
8" x 3" x 4"			COMMX247 †
8" x 4" x 3"			COMMX250 †

• with Double Saw Handles

This stone is used on very large rotating equipment. The dual handle design gives excellent leverage and control. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Description			Catalog Number
L.	W.	T.	
5" x 7" x 3"			COMMX105 †
5" x 9" x 3"			COMMX110 †
6" x 10" x 3"			COMMX115 †
7" x 5" x 3"			COMMX116 †
8" x 3" x 4"			COMMX101 †
8" x 4" x 3"			COMMX100 †
9" x 5" x 3"			COMMX117 †
10" x 6" x 3"			COMMX118 †



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03/05

• Small Motor Combination Stones

This handy two grade stone is excellent for use on fractional horsepower motors. Specify catalog number and both grades when ordering. † See Pg. 5 for Grades.



Description	Catalog Number
3/4" x 1/2" x 3/8"	COMMX950 †
1-1/8" x 1/2" x 5/16"	COMMX952 †
1-1/4" x 3/4" x 1/2"	COMMX955 †

• Pencil Type / • Plain-Lathe Type

These are unmounted stones (no handles). The smaller sizes are used for small motors and generators. The larger sizes are clamped in a lathe or portable grinder. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.



Description	No. of Pcs. Per Box	Catalog Number (Priced per Pc.)
3/4" x 3/4" x 3"	2	COMMXLS804 †
1/4" x 1/2" x 4"	6	COMMXLS802 †
1/4" x 3/8" x 6"	6	COMMXLS800 †
1/4" x 1/2" x 6"	6	COMMXLS805 †
1/8" x 3/8" x 6"	6	COMMXLS801 †
3/8" x 3/8" x 6"	6	COMMXLS810 †
3/8" x 1/2" x 6"	4	COMMXLS815 †
1/2" x 1/2" x 6"	4	COMMXLS820 †
3/8" x 5/8" x 6"	4	COMMXLS825 †
1/2" x 5/8" x 6"	4	COMMXLS830 †
5/8" x 5/8" x 6"	2	COMMXLS835 †
3/4" x 3/4" x 6"	1	COMMXLS840 †
1" x 1" x 6"	1	COMMXLS845 †
1" x 1" x 6-1/2"	Not Boxed	COMMXLS846 †
1" x 1-1/2" x 6-1/2"	Not Boxed	COMMXLS847 †
1/4" x 5/16" x 8"	6	COMMXLS803 †
5/16" x 3/4" x 8"	6	COMMXLS809 †
1" x 2" x 8"	Not Boxed	COMMXLS850 †
2" x 2" x 8"	Not Boxed	COMMXLS855 †
1" x 1-1/2" x 11"	Not Boxed	COMMXLS860 †

Only sold in box quantities shown.



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Commutator Dressing and Finishing Stones

• Lathe Type with Handle



This is supplied with a wooden block handle, which allows the entire stone to be used when clamped in a lathe or portable grinder. Specify catalog number and grade when ordering. † See Pg. 5 for Grades.

Description	Catalog Number
1" x 1-1/2" x 5" Stone, with 1-1/2" Wood Block	COMMX602 †
1" x 2" x 5" Stone, with 3" Wood Block	COMMX604 †
1-1/2" x 2-1/2" x 5" Stone, with 3" Wood Block	COMMX614 †
2" x 2" x 5" Stone, with 3" Wood Block	COMMX616 †
1" x 1-1/2" x 8" Stone, with 1-1/2" Wood Block	COMMX634 †
1-1/2" x 2-1/2" x 8" Stone, with 3" Wood Block	COMMX648 †
2" x 2" x 8" Stone with 3" Wood Block	COMMX650 †

• Pocket Combination Stones



A versatile two grade stone for use on small motors and generators. Specify catalog number and both grades when ordering. † See Pg. 5 for Grades.

Description	Catalog Number
1" x 1" x 4"	COMMX905 †
1" x 2" x 6"	COMMX910 †
1" x 2" x 8"	COMMX940 †

• Commutator Brush Saver

5/16 x 7/8"
Cutting Face



5/16 x 7/8"
Cutting Face

This uniquely shaped plastic handle with resurfacing stones at each end, (one polish grade, while the other is finish grade), is designed for smoothing commutators on many small motors and generators.

This non-conductive tool allows the user access into any motor frame, in order to resurface the commutator to a smooth finish. This extends brush life and improves commutation.



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Catalog Number
COMMX007



Commutators and slip ring brushes of any material can be easily and accurately seated with Diamond D Brush Seaters.

Just hold the Brush Seater on the commutator close to the brush so the Brush Seater material will be carried under the brush.

At the same time, press on the brush to increase pressure.

Many commutators and slip-ring troubles are caused by poor contact with the brushes. This is particularly true when new brushes are installed along with old ones because if the new brushes do not make good contact, the current is forced through the other brushes. This overloads the other brushes causing pitting of the brush faces, loosening of brush shunts, burning of brush holders, and many other evils that result from sparking and heating.

Size Selection For brush seating, choose a stone with a width equal to, or slightly greater, than the width of the brush. For cleaning commutators, pick a stone about 3/4 the length of the commutator bar and as thick as will neatly fit between the brush riggings. For slip rings, select a stone about 1/2" wider than the ring.

Grade Selection

Grade ES (Extra Soft)

Used for cleaning and seating brushes on all types of slip rings.

Grade FH (Fine Hard)

Recommended for small motor applications such as vacuum cleaners, fans and automotive generators.

Grade MS (Medium Soft)

Our most popular grade and is normally supplied for general purpose use.

Grade FS (Fine Soft)

Similar to Grade MS, except utilizing a finer grit abrasive.

Grade MH (Medium Hard)

Similar to grade MS except harder. It was specifically developed for use on undercut commutators where softer grades might wear too quickly.

Description	No. of Pcs. Per Box	Catalog Number (Priced per Pc.)
4" x 1-1/2" x 2"	2	BRSRX03 †
4-3/4" x 2" x 1-1/4"	2	BRSRX01 †
4-3/4" x 1-1/2" x 1-1/4"	2	BRSRX02 †
4-3/4" x 1-1/4" x 3/4"	4	BRSRX04 †
4-3/4" x 1-1/8" x 5/8"	4	BRSRX05 †
4-3/4" x 1" x 1/2"	4	BRSRX06 †
4-3/4" x 3/4" x 5/8"	4	BRSRX07 †
4-3/4" x 3/4" x 1/2"	4	BRSRX08 †
4-3/4" x 1/2" x 1/2"	2	BRSRX09 †
4-3/4" x 1/2" x 3/8"	2	BRSRX10 †
4-3/4" x 5/8" x 1/2"	4	BRSRX28 †
4-3/4" x 3/4" x 1/4"	2	BRSRX11 †
4-3/4" x 1/2" x 1/4"	4	BRSRX12 †
4-3/4" x 1/4" x 1/4"	6	BRSRX13 †
4-3/4" x 1/4" x 1/8"	12	BRSRX14 †
4-3/4" x 3/8" x 3/8"	4	BRSRX15 †
4-3/4" x 1" x 1"	4	BRSRX16 †
4-3/4" x 2" x 1"	2	BRSRX17 †
4-3/4" x 3/8" x 1/4"	4	BRSRX18 †
2" x 1" x 1"	1	BRSRX19 †
2" x 2" x 2"	1	BRSRX23 †
3" x 2" x 2"	1	BRSRX24 †
3" x 2" x 4"	1	BRSRX25 †
6" x 3" x 2"	1	BRSRX21 †
5" x 2" x 2"	1	BRSRX22 †
8" x 1-1/2" x 1-1/2"	1	BRSRX27 †
8" x 3" x 2"	1	BRSRX20 †

† Ordering: Specify Catalog Number and Grade.

Only sold in box quantities shown.

We can manufacture special sizes not shown. Please advise the size and grade for a prompt quotation.

See *Brush Seater Holders Pg. 18*



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Rubrite flexible abrasive cleaning stones are excellent for removing surface imperfections from any metal. Mildly abrasive, they do only enough cutting to produce a high polish and fine finish. They are slow-wearing, non-loading, and will not gum or dust.

Recommended in commutator maintenance for periodic cleanup of surface, or for polishing the commutator after grinding with Diamond D commstones. They can also be recommended to provide a smooth, clean finish on machined parts, etc.

Size and Grade Selection

We make Rubrite in only one grade. When using on commutators and slip rings, we suggest you use as large a Rubrite as will easily fit between your brush riggings.

If you don't see the exact size you want, remember you can always special order size up to a maximum of 12" x 5" x 2". Please specify size and quantity for us to quote price and delivery.



• Fractional Motor Handle

This type is used to clean and polish fractional horsepower motor commutators. **Specify catalog number when ordering.**

Description			Catalog Number
L.	W.	T.	
3/4"	3/8"	1"	RUBBX6249



• Railway Handle

This handle is mounted vertically, which gives excellent leverage. **Specify catalog number when ordering.**

Description			Catalog Number
L.	W.	T.	
2"	1-1/2"	2"	RUBBX6225
2"	2"	2"	RUBBX6226
3"	2"	2"	RUBBX6227
3"	3"	2"	RUBBX6228
4"	3"	2"	RUBBX6229



• Saw Handle

This type is used to clean and polish fractional horsepower motor commutators. **Specify catalog number when ordering.**

Description			Catalog Number
L.	W.	T.	
5"	1"	2"	RUBBX6290



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• Tramway Handle

This handle is mounted at a 45° angle, which gives good access to awkwardly positioned commutators. **Specify catalog number when ordering.**

Description			Catalog Number
L.	W.	T.	
2" x 1-1/2"		2"	RUBBX6235
2" x 2"		2"	RUBBX6236
3" x 2"		2"	RUBBX6237
3" x 3"		2"	RUBBX6238
4" x 3"		2"	RUBBX6239



• Pocket Handle

This Rubrite is excellent for burnishing small motor and generator commutators. **Specify catalog number when ordering.**

Description			Catalog Number
L.	W.	T.	
1-3/4" x 3/4"		1"	RUBBX6245
2" x 3/4"		1"	RUBBX6246
1-3/4" x 1"		1"	RUBBX6247
2" x 1"		1"	RUBBX6248

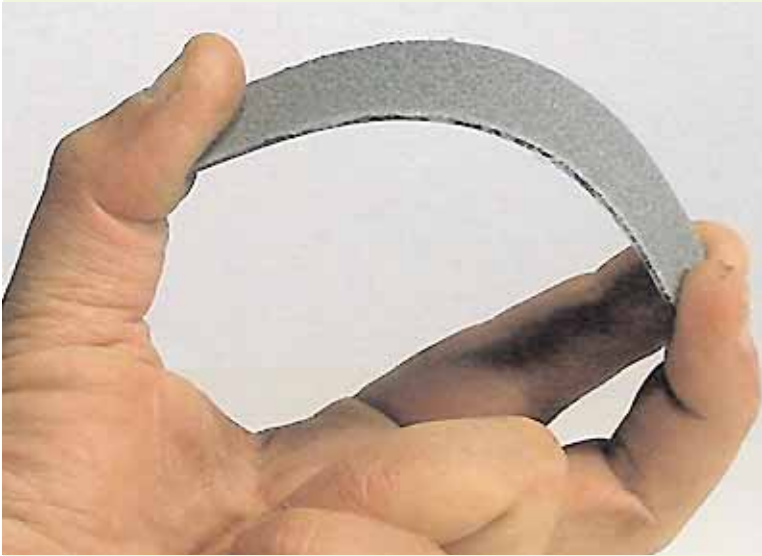
• Unmounted



This type can be used for hundreds of jobs — including metal cleaning, commutator burnishing and rust removal. **Specify catalog number when ordering.**

Description	Catalog Number
3/8" x 3/8" x 5"	RUBBX6250
3/8" x 1/2" x 5"	RUBBX6251
3/8" x 5/8" x 5"	RUBBX6252
3/8" x 3/4" x 5"	RUBBX6253
1/2" x 1/2" x 5"	RUBBX6254
1/2" x 3/4" x 5"	RUBBX6255
1/2" x 1" x 5"	RUBBX6256
5/8" x 1" x 5"	RUBBX6259
3/4" x 3/4" x 5"	RUBBX6260
3/4" x 1" x 5"	RUBBX6261
1" x 1" x 5"	RUBBX6262
1" x 1-1/2" x 5"	RUBBX6263
1" x 2" x 5"	RUBBX6264
1" x 3" x 5"	RUBBX6266
1" x 4" x 5"	RUBBX6268
1" x 5" x 6"	RUBBX6269
2" x 5" x 6"	RUBBX6270
1/8" x 1" x 5"	RUBBX6271





This unique product offers all of the traditional features of ordinary files — plus the flexibility you often need. Plastone flexible files are made of hard abrasive materials pressed into a flexible core. This enables you to bend or twist these tools any way you like to reach curved surfaces and otherwise hard-to-reach areas.

Because they are non-conductive, these special files are popular for dressing automotive, electrical and electronic contacts.

Many other uses can be found for these inexpensive files, wherever fine finishing of metals is required. They are impervious to oil and water; accumulations of grease can be washed from them with cleaning solvents or soap and water.

Ordering Information

Plastones are packed a dozen to a box. If you require a special size, give us complete specifications and we will furnish a quote.

W	L	T	Grit	Catalog Number
1/4"	4-3/4"	.020"	240-Extra Fine	FLXFX1002
3/8"	4-3/4"	.020"	240-Extra Fine	FLXFX1004
1/4"	4-3/4"	.015"	320-Polish	FLXFX1006
3/8"	4-3/4"	.015"	320-Polish	FLXFX1008
3/8"	4-3/4"	.025"	120-Medium	FLXFX1044
1/2"	4-3/4"	.025"	180-Fine	FLXFX1045
1/4"	4-3/4"	.025"	240-Extra Fine	FLXFX1502
3/8"	4-3/4"	.025"	240-Extra Fine	FLXFX1504
1/4"	4-3/4"	.025"	320-Polish	FLXFX1506
3/8"	4-3/4"	.025"	320-Polish	FLXFX1508
1/4"	4-3/4"	.040"	180-Fine	FLXFX3002
3/8"	4-3/4"	.040"	180-Fine	FLXFX3004
3/8"	4-3/4"	.040"	240-Extra Fine	FLXFX3008
3/8"	4-3/4"	.040"	320-Polish	FLXFX3012
3/8"	4-3/4"	.040"	80-Coarse	FLXFX3033
1/2"	4-3/4"	.040"	80-Coarse	FLXFX3043
1/2"	4-3/4"	.040"	120-Medium	FLXFX3044
1/2"	4-3/4"	.040"	180-Fine	FLXFX3045

W	L	T	Grit	Catalog Number
1/2"	4-3/4"	.030"	240-Extra Fine	FLXFX3046
1/2"	4-3/4"	.030"	320-Polish	FLXFX3048
7/8"	4-3/4"	.030"	80-Coarse	FLXFX3073
7/8"	4-3/4"	.030"	120-Medium	FLXFX3074
7/8"	4-3/4"	.030"	180-Fine	FLXFX3075
7/8"	4-3/4"	.030"	240-Extra Fine	FLXFX3076
7/8"	4-3/4"	.030"	320-Polish	FLXFX3077
1/2"	4-3/4"	.080"	80-Coarse	FLXFX6043
1/2"	4-3/4"	.080"	120-Medium	FLXFX6044
1/2"	4-3/4"	.080"	180-Fine	FLXFX6045
1/2"	4-3/4"	.080"	240-Extra Fine	FLXFX6046
1/2"	4-3/4"	.080"	320-Polish	FLXFX6047
3/8"	4-3/4"	.080"	120-Medium	FLXFX6048
3/8"	4-3/4"	.080"	240-Extra Fine	FLXFX6050
7/8"	4-3/4"	.080"	80-Coarse	FLXFX6073
7/8"	4-3/4"	.080"	120-Medium	FLXFX6074
7/8"	4-3/4"	.080"	180-Fine	FLXFX6075

Tolerances: Length = + / - 1/16" Width = + / - 1/32" Thickness = + / - .008"



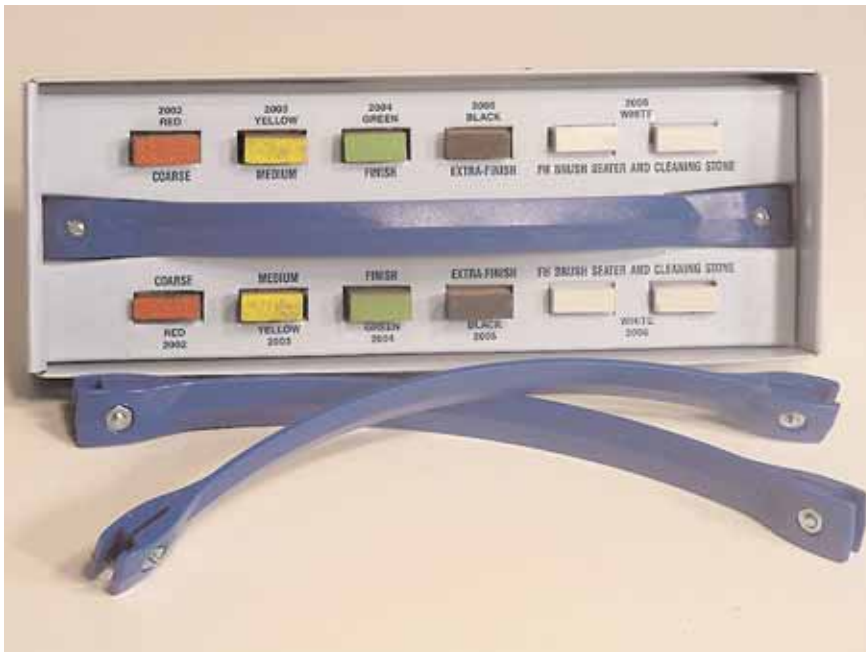
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08/09



You'll never find a more versatile tool than this one — the shape can be quickly changed to fit any job. Simply dip the tool in hot water for one minute, then bend the handle to suit your particular application.

The holder and inserts are both non-conductive, so the tool is extremely safe to use. The exclusive hex nut and screw locking assembly permits replacement and locking of inserts, eliminating the chance of the stone working its way loose.

With this versatile treating kit you'll find it easy to keep small commutators operating at peak efficiency.

Our kit contains four grades of stones and grade FH Seaters. Inserts are color coded for easy identification. Handles and replacement inserts (1" x 3/4" x 5/16") are available separately.

Description	Catalog Number
<p>Complete Kit —</p> <ul style="list-style-type: none"> 1 - Holder 2 - Coarse Stones (C) (Color Coded Red) 2 - Medium Stones (M) (Color Coded Yellow) 2 - Finish Stones (F) (Color Coded Green) 2 - Extra Finish Stones (EF) (Color Coded Black) 4 - FH Brush Seating Stones (FH) (Color Coded White) 	<p>DIAMX2000</p>
<p>Holder with 2 Stones —</p> <p>*Please specify stone grades when ordering.</p>	<p>DIAMX2001*</p>
<p>Replacement Inserts —</p> <ul style="list-style-type: none"> Coarse Stone (C) (Package of 6) (Color Coded Red) Medium Stone (M) (Package of 6) (Color Coded Yellow) Finish Stone (F) (Package of 6) (Color Coded Green) Extra Finish Stone (EF) (Package of 6) (Color Coded Black) FH Brush Seating Stone (FH) (Package of 6) (Color Coded White) 	<p>DIAMX2002 DIAMX2003 DIAMX2004 DIAMX2005 DIAMX2006</p>
<p>Holder Only —</p>	<p>DIAMX2007</p>





No product outperforms these Diamond Spatulas, when it comes to cleaning, polishing and burnishing contacts. Our spatulas consist of uniform diamond particles set in a special metal, then molded to a color coded nylon shaft.

The diamond particles we use are such an effective abrasive that only minimum pressure is required on the contact, so very little metal is removed. The naturally irregular shapes of the particles also prevents clogging. The surface remains clean, insuring maximum efficiency.

Our nylon shaft gives you good flexibility for normally inaccessible areas, as well as permitting use of the spatula under power.

All our Diamond Spatulas are approximately 5-5/8" long with a 1/4" wide by 7/8" diamond face.

Description	Catalog Number
Complete Kit (Set of 3) — 1 - Coarse Grit (Green) 1 - Medium Grit (Red) 1 - Fine Grit (Blue)	SPATX4003
Coarse Grit only (Green) — For rapid cleaning. This spatula has two diamond faces.	SPATX4000
Medium Grit only (Red) — For use on intermediate size contacts. This spatula has two diamond faces.	SPATX4001
Fine Grit only (Blue) — For use on small, sensitive contacts. Made with only one diamond face, selective cleaning of closely set contacts is possible.	SPATX4002





These exceptional tools are designed to burnish and polish all types of contacts — without removing virtually any precious metal. They leave no grit, no filings, no dust and no film that would start new carbon build-up.



Diamond D Contact Burnishers perform superbly on all types of metal, including silver, gold, platinum, molybdenum and tungsten. We have designed them with just enough stiffness to apply the proper pressure to the contact face.

Our contact burnishers are available either with plastic handles or in our handy Pocket-Pen Holder.

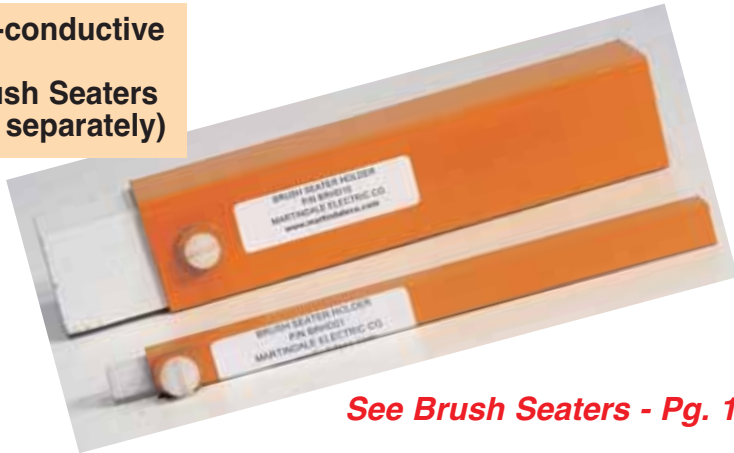
Proven by years and years of faithful field service, these tools have greatly extended the lives of millions of contacts.

Description	Catalog Number
<p>With Plastic Handles —</p> <p>3/16" wide x .007" thick x 4" long (Package of 12)</p> <p>1/4" wide x .007" thick x 4" long (Package of 12)</p> <p>3/8" wide x .007" thick x 4" long (Package of 12)</p> <p>1/4" wide x .011" thick x 5" long (Package of 12)</p> <p>1/4" wide x .020" thick x 5" long (Package of 12)</p> <p>1/4" wide x .011" thick x 3-1/2" long (Package of 12)</p>	<p>BURNX1</p> <p>BURNX2</p> <p>BURNX3</p> <p>BURNX4</p> <p>BURNX5</p> <p>BURNX6</p>
<p>With Pen Holder — (One Pen Holder with each package of 12 blades)</p> <p>3/16" wide x .007" thick x 1-1/2" long Blade (Package of 12)</p> <p>1/4" wide x .007" thick x 1-1/2" long Blade (Package of 12)</p> <p>1/4" wide x .011" thick x 1-1/2" long Blade (Package of 12)</p> <p>Replacement Blades only —</p> <p>3/16" wide x .007" thick x 1-1/2" long (Package of 25)</p> <p>1/4" wide x .007" thick x 1-1/2" long (Package of 25)</p> <p>1/4" wide x .011" thick x 1-1/2" long (Package of 25)</p>	<p>BURNXD21</p> <p>BURNXD22</p> <p>BURNXD23</p> <p>BURNXRB21</p> <p>BURNXRB22</p> <p>BURNXRB23</p>



Brush Seater Holders

Non-conductive
(Brush Seaters sold separately)



See Brush Seaters - Pg. 11

The Brush Seater Holder adds an element of safety when seating brushes while the motor is running. The non-decreasing length of the holder helps keep fingers away from rotating equipment and possible shock is reduced because the holder is non-conductive. This sheath also provides additional support to the relatively fragile seater material.

I.D. Dimension	Catalog Number
1/4" x 1/4"	BRHDX13
1/2" x 1/4"	BRHDX12
3/8" x 3/8"	BRHDX15
1/2" x 1/2"	BRHDX09
5/8" x 1/2"	BRHDX28
3/4" x 1/2"	BRHDX08
3/4" x 5/8"	BRHDX07
1" x 1/2"	BRHDX06
1" x 1"	BRHDX16
— Standard length is 5" —	
— 10" & 15" lengths available — (At Additional Cost) (To order longer lengths: Add "10" or "15" to above part numbers.)	

Garnet Commutator Paper

Garnet Commutator Paper is non-conductive and is used for pre-shaping new copper and carbon brushes and for cleaning and burnishing commutator surfaces.

To pre-shape brushes, commutator paper of sufficient width to contact all brushes is secured, abrasive side out, to the full commutator circumference with masking tape. With the new brushes in place, the commutator is rotated by hand until the brushes have taken on the radius of the commutator. Eighty grit paper does the primary shaping and should be followed by 220 grit for a fine finish.

Surface burnishing of the commutator should be done with 150 grit followed by 220 grit paper.



Non-Conductive

**Stocked In: 3 Grits
7 Widths
25 Yd. rolls**

Width	Length	Catalog Number		
		80 grit	150 grit	220 grit
1"	25 yds.	COMP01X080	COMP01X150	COMP01X220
2"	25 yds.	COMP02X080	COMP02X150	COMP02X220
3"	25 yds.	COMP03X080	COMP03X150	COMP03X220
4"	25 yds.	COMP04X080	COMP04X150	COMP04X220
6"	25 yds.	COMP06X080	COMP06X150	COMP06X220
8"	25 yds.	COMP08X080	COMP08X150	COMP08X220
12"	25 yds.	COMP12X080	COMP12X150	COMP12X220



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Stripping Wheels

EXTRA COARSE, NON-WOVEN ABRASIVE FIBER



Great for removing excess baked-on varnish from stators or paint from motor housings and the such.

The rugged construction of this material, along with the knife-like cutting characteristics of silicon carbide grain, produces the most aggressive working non-woven material without a reinforced backing.

Wheels			
O.D.	Thick.	I.D.	Catalog Number
4"	1/2"	1/4"	SDBDCSW414
6"	1/2"	1/2"	SDBDCSW612

Mandrels with 1/4" Shank	
Arbor	Catalog Number
1/4"	SDBDCSWM23
1/2"	SDBDCSWMW24SP

Flap Wheels

Aluminum Oxide Resin Bond Cloth
1/4" Shanks

Particularly effective in cleaning stator surfaces. Also adaptable to smoothing, finishing and polishing of any metal form having convex or concave surfaces, cylinders, cavities, etc. where finish is important.



Abrasive cloth segments are permanently bonded to the shank in a core of epoxy; no removable parts.

Grits stocked are 60, 80, and 120.
Finer and coarser grits are available.

Dia.	Width	Max. R.P.M.	Catalog Number
1-1/2"	1/2"	25,000	FLWH01 Δ
1-1/2"	1"	25,000	FLWH02 Δ
2"	1"	22,000	FLWH03 Δ
2-1/2"	1-1/2"	15,000	FLWH04 Δ
3"	1"	18,000	FLWH05 Δ
3"	2"	9,000	FLWH06 Δ

Δ Plus Grit: 60, 80, or 120

Grinding Discs

Full Resin Bond, Flexible, with 7/8" Hole

Single Faced



- OR -

Double Faced

No.	O.D.	Grit	Coated One Sided Only	Coated Both Sides
			Catalog Number	Catalog Number
702-S	7"	24	SDBD702S	SDBD702D
704-S	7"	36	SDBD704S	SDBD704D
706-S	7"	60	SDBD706S	SDBD706D
708-S	7"	80	SDBD708S	SDBD708D
902-S	9"	24	SDBD902S	SDBD902D
904-S	9"	36	SDBD904S	SDBD904D
906-S	9"	60	SDBD906S	SDBD906D
908-S	9"	80	SDBD908S	SDBD908D



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Sanding Drums

These drums have 1/4" diameter shanks except No. SH-3B which is 3/8". The core-expanding nut on the SH drum is on the shank side and there are no projections on the opposite end.



SH-1B

Number	Dia.	Width	Max. R.P.M.	Catalog Number
SH-1A	1"	1"	18,000	SDDR1A
SH-1B	1"	2"	8,000	SDDR1B
SH-2A	2"	1"	11,000	SDDR2A
SH-2B	2"	2"	6,000	SDDR2B
SH-3B	3"	3"	3,000	SDDR3B

(All have 1/4" shanks except SH-3B which is 3/8")

Sanding Bands



100 pcs. Per Package — Handling Fee (Catalog Number SDBD07) is applied to orders for less than package quantity.

Dia.	Width	Catalog Number				
		24 Grit	36 Grit	60 Grit	80 Grit	120 Grit
1"	1"	SDBD11024	SDBD11036	SDBD11060	SDBD11080	SDBD11120
1"	2"	SDBD12024	SDBD12036	SDBD12060	SDBD12080	SDBD12120
2"	1"	SDBD21024	SDBD21036	SDBD21060	SDBD21080	SDBD21120
2"	2"	SDBD22024	SDBD22036	SDBD22060	SDBD22080	SDBD22120
3"	3"	SDBD33024	SDBD33036	SDBD33060	SDBD33080	SDBD33120

Cut-Off Wheels and Arbor



Here is a little 3" or 4" cut-off wheel that will "cut anything", and is perfect for stripping the ends of coils in small diameter stators. The wheel fits on a 1/4" arbor, and can be used in any tool up to a 25,000 r.p.m. (We have cut chain links with this wheel and arbor in an electric hand drill at 700 r.p.m.)

Available also is a 4" diameter wheel, with 1/4" hole, but with a top speed limitation of 19,000 r.p.m.

Shown below is the arbor and 3" wheel in the Martindale 18,000 r.p.m. M-12 Production Air Grinder.

The M-12 Grinder is shown at left with a 3" wheel cutting off coil ends in a stator.



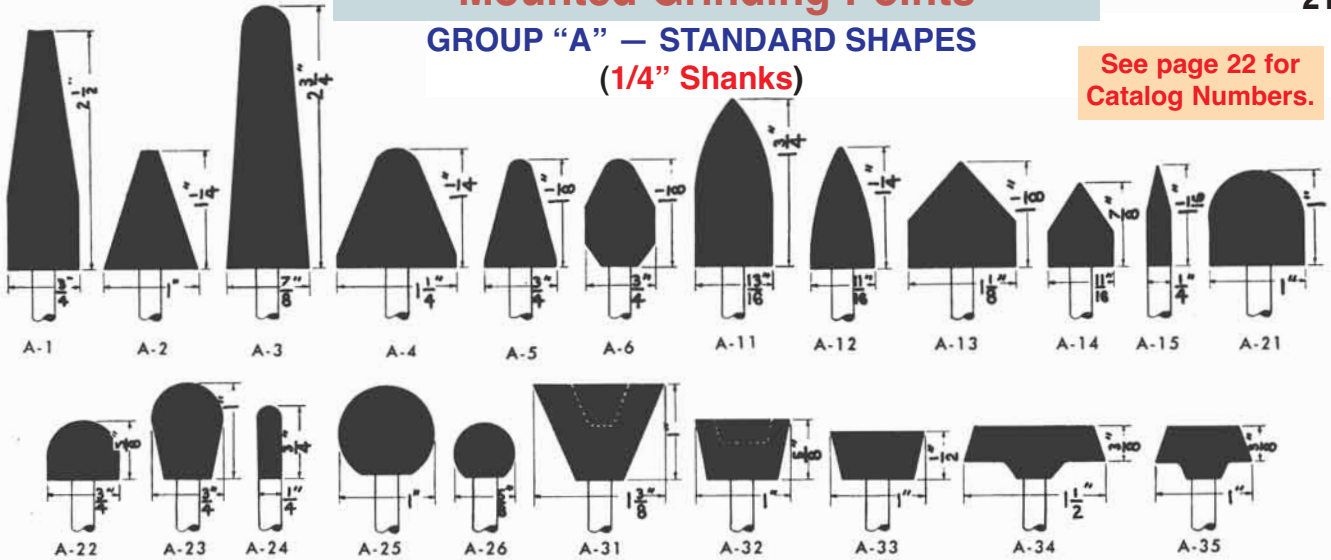
3" Cut-Off Wheel with 1/4" hole (25,000 r.p.m. Maximum)	Catalog Number CTWH3
4" Cut-Off Wheel with 1/4" hole (19,000 r.p.m. Maximum)	CTWH4
1/4" Diam. Arbor	Catalog Number MFLX54
M-12 Air Grinder, 1/4" collet and wrenches (see pg. 20 of Hand Tool Cat.) . .	AGR1814

Mounted Grinding Points

GROUP "A" — STANDARD SHAPES

(1/4" Shanks)

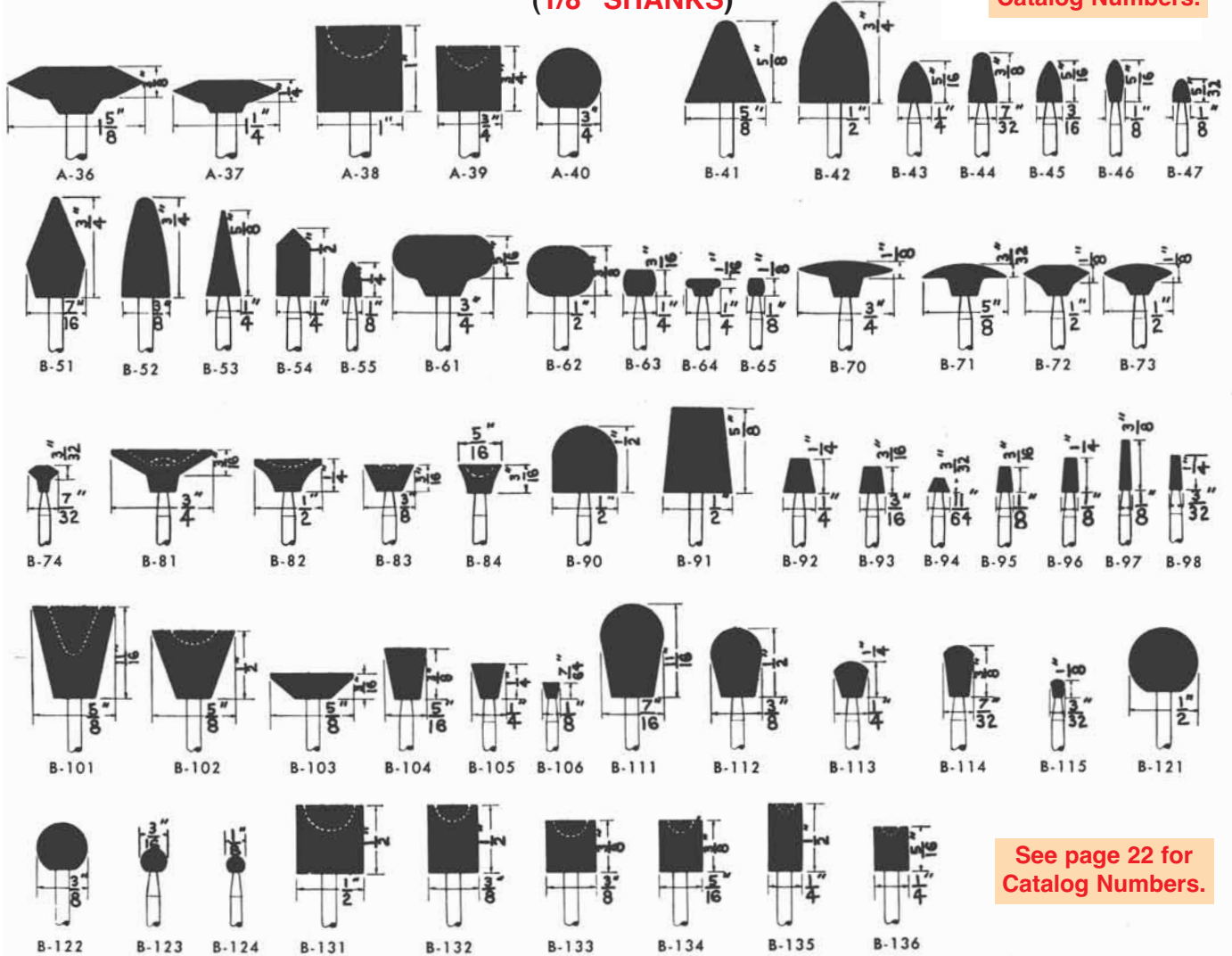
See page 22 for Catalog Numbers.



GROUP "B" — STANDARD SHAPES

(1/8" SHANKS)

See page 22 for Catalog Numbers.



See page 22 for Catalog Numbers.



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Mounted Grinding Points

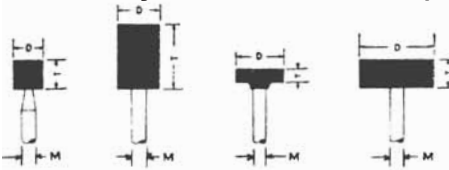
All Mounted Points and Wheels are stocked in Aluminum Oxide vitrified bond, and are available upon request in resinoid bond. Also available upon request in Silicon Carbide, either vitrified or resinoid bond.

Standard Shapes — Groups “A” and “B” (See Drawings on Page 21)

Shape No.	Catalog Number	Shape No.	Catalog Number	Shape No.	Catalog Number	Shape No.	Catalog Number	Shape No.	Catalog Number	Shape No.	Catalog Number
A1	GRWHA1	A24	GRWHA24	B42	GRWHB42	B64	GRWHB64	B93	GRWHB93	B113	GRWHB113
A2	GRWHA2	A25	GRWHA25	B43	GRWHB43	B65	GRWHB65	B94	GRWHB94	B114	GRWHB114
A3	GRWHA3	A26	GRWHA26	B44	GRWHB44	B70	GRWHB70	B95	GRWHB95	B115	GRWHB115
A4	GRWHA4	A31	GRWHA31	B45	GRWHB45	B71	GRWHB71	B96	GRWHB96	B121	GRWHB121
A5	GRWHA5	A32	GRWHA32	B46	GRWHB46	B72	GRWHB72	B97	GRWHB97	B122	GRWHB122
A6	GRWHA6	A33	GRWHA33	B47	GRWHB47	B73	GRWHB73	B98	GRWHB98	B123	GRWHB123
A11	GRWHA11	A34	GRWHA34	B51	GRWHB51	B74	GRWHB74	B101	GRWHB101	B124	GRWHB124
A12	GRWHA12	A35	GRWHA35	B52	GRWHB52	B81	GRWHB81	B102	GRWHB102	B131	GRWHB131
A13	GRWHA13	A36	GRWHA36	B53	GRWHB53	B82	GRWHB82	B103	GRWHB103	B132	GRWHB132
A14	GRWHA14	A37	GRWHA37	B54	GRWHB54	B83	GRWHB83	B104	GRWHB104	B133	GRWHB133
A15	GRWHA15	A38	GRWHA38	B55	GRWHB55	B84	GRWHB84	B105	GRWHB105	B134	GRWHB134
A21	GRWHA21	A39	GRWHA39	B61	GRWHB61	B90	GRWHB90	B106	GRWHB106	B135	GRWHB135
A22	GRWHA22	A40	GRWHA40	B62	GRWHB62	B91	GRWHB91	B111	GRWHB111	B136	GRWHB136
A23	GRWHA23	B41	GRWHB41	B63	GRWHB63	B92	GRWHB92	B112	GRWHB112		

Mounted Grinding Wheels

Plain Shapes — Group “W”
(See Sketches Below and Quantity Discounts Below)



Shape No.	Catalog Number	Diameter			Shape No.	Catalog Number	Diameter		
		D	T	M			D	T	M
		Inches	Inches	Inches			Inches	Inches	Inches
W144	GRWHW144	1/8	1/4	1/8	W202	GRWHW202	3/4	3/8	1/8
W145	GRWHW145	1/8	3/8	1/8	W204	GRWHW204	3/4	3/4	1/8
W146	GRWHW146	1/8	1/2	1/8	W205	GRWHW205	3/4	1	1/4
W151	GRWHW151	3/16	1/8	1/8	W208	GRWHW208	3/4	2	1/4
					W211	GRWHW211	7/8	1/8	1/8
					W212	GRWHW212	7/8	1/4	1/8
					W213	GRWHW213	7/8	3/8	1/8
					W215	GRWHW215	1	1/8	1/8
					W216	GRWHW216	1	1/4	1/8
					W217	GRWHW217	1	3/8	1/4
					W218	GRWHW218	1	1/2	1/4
					W220	GRWHW220	1	1	1/4
					W221	GRWHW221	1	1-1/2	1/4
					W222	GRWHW222	1	2	1/4
					W235	GRWHW235	1-1/2	1/4	1/4
					W236	GRWHW236	1-1/2	1/4	1/4
					W237	GRWHW237	1-1/2	1	1/4
					W238	GRWHW238	1-1/2	1-1/2	1/4
					W242	GRWHW242	2	1	1/4

GRINDING WHEELS

For Circular Saw Sharpening

For those who have indicated an interest in sharpening their own screw slotting saws. Many have found this wheel/spec to work well for sharpening the teeth of dull, hardened metal working saws, thereby giving new life to blades otherwise considered no longer useful.

Of course we offer a sharpening service for those who don't want to do the work themselves.



8" x 3/16" x 1-1/4" or
8" x 3/16" x 3/4" with
hole reducer.



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Catalog Number
Grinding Wheel . . GRWHV13