

Radiac **Abrasives**

2012 - 2013

MADE IN USA



800-223-0457

Grinding Wheels and Shop Supplies for Engine Rebuilders



AUTOMOTIVE ABRASIVES

PRODUCT LISTING WITH JOBBER PRICES

Effective January 2nd, 2011

Supercedes Jobber Prices Effective January 1, 2010

PRICING SUBJECT TO CHANGE WITHOUT NOTICE



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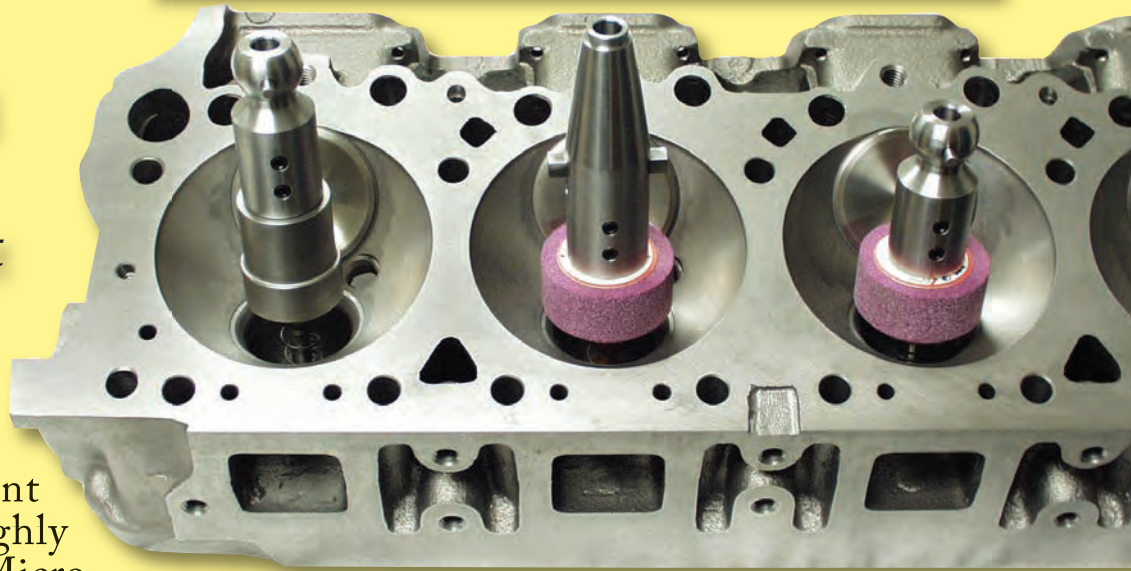
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without notice due to
Energy and Raw Material
increases we incur from our suppliers.**



VALVE SEAT LAP MASTER



Innovative new tooling designed to save time and improve seat finish after form cutting.



Product development involves a system of highly specialized Diamond Micro-Finishing Laps and Spindle Drive Bodies adapted to fit drive spindles on Automotive and Diesel Seat and Guide machines. Spindle Drive Bodies will also fit conventional Sioux and Kwikway valve seat grinding wheels. The system is used in the reconditioning of valve seats in a cylinder head to reduce time in setup, reduce labor costs and increase the surface quality of the seat.



LAP MASTER DRIVE BODIES PATENT PENDING

PETERSON, WINONA, T&S, SUNNEN, KWIKWAY, DCM, ROTTLER, SERDI, NEWEN

Style	I.D.	Thread	Product Number	Price
Ball Top	.375	11/16-16	7419635	\$154.49
Ball Top	.385	11/16-16	7419636	\$154.49
Ball Top	.389	11/16-16	7419637	\$154.49
Ball Top	.375	13/16-13	7419638	\$154.49
Ball Top	.385	13/16-13	7419639	\$154.49
Ball Top	.389	13/16-13	7419640	\$154.49
Tapered Top	.375	11/16-16	7419641	\$247.19
Tapered Top	.375	13/16-13	7419642	\$247.19

Diamond Micro-Laps will be made to order per customers needs.
Special angles available. Size range 7/8" through 2-5/8".



www.radiac.com

Oswego: 800-223-0457 or fax 630-898-1796

101 Kendall Point Drive, Oswego, IL 60543

SEAT LAP MASTER DIAMOND MICRO-FINISHING SYSTEM

BENEFITS OF TOOLING

Tooling system is for all internal combustion engine cylinder heads. This universal micro-finishing tool package can be used with conventional seat and guide machines as well as single and double stanchion machines using either diamond laps or conventional valve seat grinding wheels. This system will improve seat finish quality, reducing time and labor costs involved with finishing valve seats.

Example: The form tools used to create the valve seat form, collects deposits from the base metal of the seat from heat and also wears during use creating imperfections on the seat surface, either chatter or a threading appearance. This creates a surface with less than desirable vacuum sealing for the valve to operate correctly. With this new tooling system adapted to fit many machines, it enables the operator to finish work without removing the cylinder heads from the machine. Improving valve seat surface quality and sealing of the valve to the surface of the valve seat, thus saving set-up time, labor, etc.

Without this type of tooling the operator would have to remove the heads from the machine, set up on a work bench and grind seats with conventional valve seat grinding wheels to remove valve seat imperfections which would require more set up time and labor costs.

Furthermore the tooling will also allow the operator to remove minimal material from the valve seat surface which relates to longer valve seat and head life.



CUSTOMER TOOLING

Customer valve guide pilot tooling used with this surfacing system must be in excellent condition to use this system. Carbide pilots are the best for rigidity, but tool steel pilots will work fine if not worn on the tops.

Worn guide pilots will cause vibration of the micro-finishing lap, valve seat surface run out, and surface finish problems. Vibration will also damage the cutting surface of the micro-finishing lap. Bounce springs are a must when using the micro-finishing laps. Bounce springs used between the lap and the guide keeps the lap suspended above the valve seat so it doesn't come in contact with the seat until the lap is spinning the recommended 100 rpm spindle speed with a few drops of honing oil applied or Windex spray to the valve seat being lapped. If springs are not used it will damage the lap.

MACHINES

Rottler Sunnen K.I. Kwikway D.C.M.
T & S Winona Serdi Newen

OPERATING INSTRUCTIONS FOR RADIAC VALVE SEAT LAP MASTER

For Diamond Laps use 100 rpm spindle speed with
(Bounce Spring).

For Abrasive Seat Stones use higher rpm's with
(Bounce Spring)

1. It is important that all tooling be in good condition especially the top sizes on the guide pilots to keep the set up ridged. Also the dresser pilot and stone holder spinners for truing seat stones.
2. Clean guide pilot tops and I.D. of the driver body with nylon brush before use.
3. A light oil can be used on the pilot top before use.
4. Clean all threads on seat stones, diamond laps and driver bodies before use. This is a MUST DO.

CLEANING OF THE DIAMOND LAP SEAT WHEELS

1. You can use compressed air and a wire brush with light pressure to remove any grinding accumulation on the lap.

SEAT STONE DRESSING

1. A variation of fine to medium dressing speeds across the face of the abrasive valve seat wheel may be required on different valve seat materials. Dresser pilot and stone holder spinners must be in good condition for truing stones correctly.

SEAT FINISHING OPERATION (Must Be Used with Bounce Springs)

1. This is all about feel and a light touch of the diamond lap or abrasive seat stone against the valve seat surface.
2. Do not crowd or use force when the diamond lap or abrasive seat stone is in contact with the valve seat. It will only take a light touch to achieve good results.
3. Do not start the machine with the diamond lap or seat stone in contact with the valve seat. Have machine up to operating rpm before applying lap or seat stone to the valve seat surface.



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Crankshaft Grinding is cylindrical grinding which requires absolute precision. As a manufacturer, Radiac Abrasives stocks a full line of the most commonly used crankshaft wheels. Furthermore we have 18" to 36" O.D. Blank Wheel Stock to rework to your specific needs. **Finish and Rough Grind with Radiac's WAA High Performance vitri-**

fied crankshaft wheels. With excellent dimensional accuracy, corner radii and surface finish, one grade covers multiple applications including weld grinding. **Any width, any size, made to order. Most complete crankshaft program in the country.**

WAA

WAA54-M5-V1096 PREMIUM MULTI ABRASIVE

- From Cast to Steel
- Finishing & Roughing Wheel
- Multi-Purpose Abrasive
- Excellent for Soft & Hard Material
- Premium Aluminum Oxide and a Multi-Purpose Aluminum Oxide
- Light to Medium Stock Removal
- Blue/White in Color
- Wheel Speeds to 8500 SFPM

43A

43A602-K8-V1 PREMIUM ABRASIVE

- Made to Order
- Excellent Cooler Cutting
- Excellent Finish
- Excellent for Flame Hardened Material
- Finishing Wheel

NOTE: Recesses, Special Faces or Special Shapes can be added to fit every crankshaft wheel need. Contact Customer Service for finishing requirements and quotation.

CRANKSHAFT MOUNTING PROCEDURES ON PAGE 56

Excellent user satisfaction

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
18 x 3/4 x 3	Storm-Vulcan 14, 15	Straight	E335187	1	146.71	132.06
18 x 7/8 x 3		Straight	E335188	1	146.71	132.06
18 x 15/16 x 3		Straight	E335189	1	146.71	132.06
18 x 1 x 3		Straight	E337308	1	146.71	132.06
18 x 1-1/16 x 3		Rec. 1S 6-1/2 x 1/16	E335190	5	189.78	170.71
18 x 1-1/8 x 3		Rec. 1S 6-1/2 x 1/8	E335191	5	189.78	170.71
18 x 1-3/16 x 3		Rec. 1S 6-1/2 x 3/16	E335192	5	189.78	170.71
18 x 1-1/4 x 3		Rec. 1S 6-1/2 x 1/4	E335193	5	197.78	178.12
18 x 1-3/8 x 3		Rec. 1S 6-1/2 x 3/8	E335194	5	206.25	185.71
18 x 1-1/2 x 3		Rec. 1S 6-1/2 x 1/2	E335196	5	206.25	185.71
18 x 1-5/8 x 3		Rec. 1S 6-1/2 x 5/8	E335197	5	222.77	200.34
18 x 1-11/16 x 3		Rec. 1S 6-1/2 x 11/16	E335198	5	222.77	200.34
18 x 1-3/4 x 3		Rec. 1S 6-1/2 x 3/4	E335199	5	222.77	200.34
18 x 1-7/8 x 3		Rec. 1S 6-1/2 x 7/8	E335200	5	249.04	223.92
18 x 1-15/16 x 3		Rec. 1S 6-1/2 x 15/16	E346092	5	249.04	223.92
18 x 2 x 3		Rec. 1S 6-1/2 x 1	E335201	5	249.04	223.92
20 x 3/4 x 3-3/4	Kwik-Way	Straight	E335202	1	180.14	162.16
20 x 7/8 x 3-3/4		Straight	E335203	1	180.14	162.16
20 x 15/16 x 3-3/4		Straight	E335204	1	180.14	162.16
20 x 1 x 3-3/4		Straight		1		
20 x 1-1/8 x 3-3/4		Straight		1		
20 x 1-1/4 x 3-3/4		Rec. 1S 7-1/2 x 1/4		5		
20 x 1-1/2 x 3-3/4		Rec. 1S 7-1/2 x 1/2		5		
20 x 1-3/4 x 3-3/4		Rec. 1S 7-1/2 x 3/4		5		
20 x 3/4 x 3	Storm-Vulcan	Straight	E335210	1	180.14	162.16
20 x 7/8 x 3		Straight	E335211	1	180.14	162.16
20 x 15/16 x 3		Straight	E335212	1	180.14	162.16
20 x 1 x 3		Straight	E335213	1	180.14	162.16
20 x 1-1/16 x 3		Rec. 1S 7-1/4 x 1/16	E335214	5	208.85	187.94
20 x 1-1/8 x 3		Rec. 1S 7-1/4 x 1/8	E335215	5	208.85	187.94
20 x 1-3/16 x 3		Rec. 1S 7-1/4 x 3/16	E335216	5	208.85	187.94
20 x 1-1/4 x 3		Rec. 1S 7-1/4 x 1/4	E335217	5	208.85	187.94
20 x 1-3/8 x 3		Rec. 1S 7-1/4 x 3/8	E335218	5	240.86	216.85

ONLY RADIAC ABRASIVES MANUFACTURES AND SIZES SPECIAL WHEELS TO ORDER

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
20 x 1-7/16 x 3	Storm-Vulcan	Rec. 1S 7-1/4 x 7/16		5		
20 x 1-1/2 x 3		Rec. 1S 7-1/4 x 1/2	E335220	5	240.86	216.85
20 x 1-5/8 x 3		Rec. 1S 7-1/4 x 5/8	E335221	5	273.18	245.69
20 x 1-11/16 x 3		Rec. 1S 7-1/4 x 11/16	E335222	5	273.18	245.69
20 x 1-3/4 x 3		Rec. 1S 7-1/4 x 3/4	E335223	5	273.18	245.69
20 x 1-7/8 x 3		Rec. 1S 7-1/4 x 7/8	E335224	5	305.28	274.49
20 x 1-15/16 x 3		Rec. 1S 7-1/4 x 15/16	E335225	5	305.28	274.49
20 x 2 x 3		Rec. 1S 7-1/4 x 1	E335226	5	305.28	274.49
†† 22 x 3/4 x 3-3/4	Kwik-Way	Straight	E335227	1	245.43	220.75
†† 22 x 7/8 x 3-3/4	Lempco 519	Straight		1		
†† 22 x 15/16 x 3-3/4		Straight		1		
†† 22 x 1 x 3-3/4		Straight		1		
22 x 1-1/8 x 3-3/4		Rec. 1S 7-1/2 x 1/8		5		
22 x 1-3/8 x 3-3/4		Rec. 1S 8 x 3/8		5		
22 x 1-1/2 x 3-3/4		Rec. 1S 8 x 1/2		5		
22 x 1-3/4 x 3-3/4		Rec. 2S 7-1/2 x 3/8		7		
22 x 1-7/8 x 3-3/4		Rec. 2S 7-1/2 x 7/16		7		
22 x 3/4 x 5	Storm-Vulcan 15A	Straight	E335237	1	239.75	216.00
22 x 7/8 x 5	To Serial #593	Straight	E335238	1	239.75	216.00
22 x 15/16 x 5	AMC Machine	Straight	E337309	1	239.75	216.00
22 x 1 x 5		Straight	E337310	1	239.75	216.00
22 x 1-1/16 x 5		Rec. 1S 7-1/2 x 1/16	E335239	5	262.55	236.52
22 x 1-1/8 x 5		Rec. 1S 7-1/2 x 1/8	E335240	5	262.55	236.52
22 x 1-3/16 x 5		Rec. 1S 7-1/2 x 3/16	E335241	5	262.55	236.52
22 x 1-1/4 x 5		Rec. 1S 7-1/2 x 1/4	E335242	5	262.55	236.52
22 x 1-3/8 x 5		Rec. 1S 7-1/2 x 3/8	E335243	5	285.36	256.95
22 x 1-7/16 x 5		Rec. 1S 7-1/2 x 7/16		5		
22 x 1-1/2 x 5		Rec. 1S 7-1/2 x 1/2	E335245	5	322.06	289.70
22 x 1-5/8 x 5		Rec. 1S 7-1/2 x 5/8	E335246	5	322.06	289.70
22 x 1-11/16 x 5		Rec. 1S 7-1/2 x 11/16	E335247	5	322.06	289.70
22 x 1-3/4 x 5		Rec. 1S 7-1/2 x 3/4	E335248	5	322.06	289.70
22 x 1-7/8 x 5		Rec. 1S 7-1/2 x 7/8	E335249	5	363.86	327.73
22 x 1-15/16 x 5		Rec. 1S 7-1/2 x 15/16	E335250	5	363.86	327.73
22 x 2 x 5		Rec. 1S 7-1/2 x 1	E335251	5	363.86	327.73
22 x 3/4 x 8	Peterson-Berco 180	Straight	E335439	1	296.39	266.83
22 x 7/8 x 8		Straight		1		
22 x 15/16 x 8		Straight		1		
22 x 1 x 8		Straight	E335442	1	296.39	266.83
22 x 1-1/8 x 8		Straight		1		
22 x 1-1/4 x 8		Straight	E335444	1	296.39	266.83
22 x 1-1/2 x 8		Rec. 2S 16 x 1/4	E335445	7	316.20	284.58
22 x 1-3/4 x 8		Rec. 2S 16 x 3/8		7		
22 x 2 x 8		Rec. 2S 16 x 3/8	E335447	7	356.12	320.70
24 x 3/4 x 5	Storm-Vulcan 15A	Straight	E335448	1	256.11	230.55
24 x 7/8 x 5	15A Special	Straight	E335449	1	256.11	230.55
24 x 15/16 x 5	15A Special	Straight	E335450	1	276.32	248.74
24 x 1 x 5	15C and 1860	Straight	E337311	1	276.32	248.74
24 x 1-1/16 x 5	RMC/Robbi Rex 1200	Straight	E335452	1	312.00	280.86
24 x 1-1/8 x 5	Sclodum 200	Rec. 1S 8-1/2 x 1/8	E335453	5	332.14	298.98
24 x 1-3/16 x 5		Rec. 1S 8-1/2 x 1/8	E335454	5	335.20	301.66

††All wheels 1" and less must be made T/58. 1" thick at the hole.

ONLY RADIAC ABRASIVES MANUFACTURES AND SIZES SPECIAL WHEELS TO ORDER

Crankshaft Grinding is cylindrical grinding which requires absolute precision. As a manufacturer, Radiac Abrasives stocks a full line of the most commonly used crankshaft wheels. Furthermore we have 18" to 36" O.D. Blank Wheel Stock to rework to your specific needs. **Finish and Rough Grind with Radiac's WAA High Performance vitri-**

fied crankshaft wheels. With excellent dimensional accuracy, corner radii and surface finish, one grade covers multiple applications including weld grinding. **Any width, any size, made to order. Most complete crankshaft program in the country.**



WAA54-M5-V1096 PREMIUM MULTI ABRASIVE

- From Cast to Steel
- Finishing & Roughing Wheel
- Multi-Purpose Abrasive
- Excellent for Soft & Hard Material
- Premium Aluminum Oxide and a Multi-Purpose Aluminum Oxide
- Light to Medium Stock Removal
- Blue/White in Color
- Wheel Speeds to 8500 SFPM



43A602-K8-V1 PREMIUM ABRASIVE

- Made to Order
- Excellent Cooler Cutting
- Excellent Finish
- Excellent for Flame Hardened Material
- Finishing Wheel

NOTE: Recesses, Special Faces or Special Shapes can be added to fit every crankshaft wheel need. Contact Customer Service for finishing requirements and quotation.

CRANKSHAFT MOUNTING PROCEDURES ON PAGE 56

Excellent User Satisfaction

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
24 x 1-1/4 x 5	Storm-Vulcan 15A	Rec. 1S 8-1/2 x 1/4	E335455	5	340.56	306.50
24 x 1-3/8 x 5	15A Special	Rec. 1S 8-1/2 x 3/8	E335456	5	348.94	313.86
24 x 1-7/16 x 5	15A Special	Rec. 1S 8-1/2 x 1/4		5		
24 x 1-1/2 x 5	15C and 1860	Rec. 1S 8-1/2 x 1/2	E335458	5	391.52	352.61
24 x 1-5/8 x 5	RMC/Robbi Rex 1200	Rec. 1S 8-1/2 x 5/8	E335539	5	414.29	372.95
24 x 1-11/16 x 5	Scledum 200	Rec. 1S 8-1/2 x 11/16		5		
24 x 1-3/4 x 5		Rec. 1S 8-1/2 x 3/4	E335460	5	414.29	372.95
24 x 1-7/8 x 5		Rec. 1S 8-1/2 x 7/8	E335461	5	440.34	396.06
24 x 1-7/8 x 5		Rec. 1S 10-1/2 x 7/8	E335462	5	443.55	398.95
24 x 1-15/16 x 5		Rec. 1S 8-1/2 x 15/16	E335463	5	440.34	396.06
24 x 2 x 5		Rec. 1S 8-1/2 x 1	E335464	5	440.34	396.06
24 x 3/4 x 8	Winona-Van Norman	Straight	E335467	1	296.96	243.02
24 x 15/16 x 8	438, 448, 460 & 465	Straight	E335466	1	296.96	243.02
24 x 7/8 x 8		Straight	E337312	1	296.96	243.02
24 x 1 x 8		Straight	E335468	1	296.96	243.02
24 x 1-1/8 x 8	Winona-Van Norman	Straight				
24 x 1-1/4 x 8	438, 448, 460 & 465	Straight	E335470	1	304.39	274.01
24 x 2 x 8	RMC/Robbi Rex 1200	Rec. 2S 10-3/4, 1S 1/8, OS 3/4		7		
	Scledum 200					
24 x 3/4 x 5-1/2	Lempco	Straight		1		
24 x 7/8 x 5-1/2	KGA and NKG	Straight		1		
24 x 1 x 5-1/2	Kwik-Way	Straight		1		
24 x 1-1/8 x 5-1/2		Straight		1		
24 x 1-1/2 x 5-1/2		Rec. 1S 8-1/2 x 1/4		5		
24 x 1-1/2 x 5-1/2		Rec. 2S 8-1/2 x 1/4		7		
24 x 1-3/4 x 5-1/2		Rec. 2S 8-1/2 x 1/4		7		
25 x 3/4 x 5	Storm-Vulcan 15C	Straight	E335482	1	381.86	343.75
25 x 7/8 x 5	From Serial #173 & Up	Straight	E335483	1	381.86	343.75
25 x 15/16 x 5		Straight	E335484	1	381.86	343.75
25 x 1 x 5		Straight	E335485	1	381.86	343.75
25 x 1-1/8 x 5		Straight	E335486	1	381.86	343.75
25 x 1-1/4 x 5		Straight	E335487	1	381.86	343.75

ONLY RADIAC ABRASIVES MANUFACTURES AND SIZES SPECIAL WHEELS TO ORDER

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
26 x 3/4 x 8	AMC K-1100 K-1400	Rec. 2S 19 x 1/16	E335488	7	414.67	373.05
26 x 3/4 x 8	K-1500, K-1800	Straight	E337313	1	375.15	337.50
26 x 7/8 x 8	Peterson-Berco	Rec. 2S 19 x 1/16	E335489	7	441.53	397.59
26 x 7/8 x 8	180B, 225A & 225B	Straight	E341931	1	375.15	337.50
26 x 15/16 x 8	225C, RT225	Straight	E339175	1	375.15	337.50
26 x 15/16 x 8	Winona-Van Norman	Rec. 2S 19 x 1/16	E335490	7	449.82	404.55
26 x 1 x 8	438, 448, 460, 465,	Rec. 2S 19 x 1/16	E335491	7	458.11	412.34
26 x 1 x 8	475, 476, CG210	Straight	E340720	1	375.15	337.50
26 x 1-1/16 x 8	Zanrosso 210 & 230	Straight	E347998	1	375.15	337.50
26 x 1-1/8 x 8	RG 230	Rec. 2S 19 x 1/16	E335493	7	468.22	421.46
26 x 1-3/16 x 8	New Scledum	Rec. 2S 19 x 1/16	E345476	7	491.10	441.86
26 x 1-1/4 x 8	Storm-Vulcan 230 Std	Rec. 2S 19 x 1/8	E335495	7	491.10	441.86
26 x 1-1/4 x 8	Storm-Vulcan 230 Prod	Straight	E335496	1	375.15	337.50
26 x 1-1/4 x 8	Scledum 200, 230	Rec. 2S 19 x 1/16	E335379	7	491.10	441.86
26 x 1-3/8 x 8		Rec. 2S 19 x 1/8	E335378	7	498.31	448.11
26 x 1-7/16 x 8		Rec. 2S 19 x 3/16		7		
26 x 1-1/2 x 8		Rec. 2S 19 x 3/16	E335381	7	498.31	448.11
26 x 1-5/8 x 8		Rec. 2S 19 x 1/4	E335383	7	498.31	448.11
26 x 1-11/16 x 8		Rec. 2S 19 x 1/4	E335384	7	498.31	448.11
26 x 1-3/4 x 8		Rec. 2S 19 x 1/4	E335386	7	556.89	501.24
26 x 1-7/8 x 8		Rec. 2S 19 x 3/8	E335387	7	549.88	494.48
26 x 1-15/16 x 8		Rec. 2S 19 x 3/8	E335388	7	549.88	494.48
26 x 2 x 8		Rec. 2S 19 x 3/8	E335389	7	549.88	494.48
27-1/2 (225mm) x 8-55/64 x any thickness for Schou Crank Grinder Available on Request						
28 x 3/4 x 6	Kwik-Way KGB-C-E	Straight		1		
28 x 7/8 x 6	Lempco	Straight		1		
28 x 15/16 x 6	KG1049, KG1050	Straight		1		
28 x 1 x 6	KG1051, KG1122	Straight	E335392	1	455.36	409.84
28 x 1-1/2 x 6	KG1123, KG1170	Rec. 1S 10 x 1/4		5		
28 x 1-3/4 x 6	KG B-C-E	Rec. 2S 10 x 1/4		7		
28 x 3/4 x 8	Peterson-Berco	Straight	E337315	1	429.24	385.99
28 x 7/8 x 8	260, 260A, 260B	Straight	E337316	1	429.24	385.99
28 x 7/8 x 8	270A, 270B, 270C	Rec. 2S 19 x 1/16	E335396	7	429.50	386.49
28 x 15/16 x 8	Winona-Van Norman	Rec. 2S 19 x 1/16	E335397	7	429.50	386.49
28 x 15/16 x 8	400, 438, 439	Straight	E341932	1	429.24	385.99
28 x 1 x 8	475, 476, 477,	Rec. 2S 19 x 1/16	E335398	7	472.11	424.54
28 x 1 x 8	666, CG-250	Straight	E337317	1	429.24	385.99
28 x 1-1/16 x 8	Scledum RG 270	Straight	E342342	1	429.24	385.99
28 x 1-1/8 x 8	RG270Y, RG280	Rec. 2S 19 x 1/16	E335400	7	472.05	424.94
28 x 1-3/16 x 8	Zanrosso Series	Rec. 2S 19 x 1/16	E345477	7	541.09	486.98
28 x 1-1/4 x 8	Robbi Rex 1500	Rec. 2S 19 x 1/8	E335402	7	541.09	486.98
28 x 1-3/8 x 8		Rec. 2S 19 x 1/8	E335403	7	541.09	486.98
28 x 1-1/2 x 8		Rec. 2S 19 x 1/8	E335404	7	541.09	486.98
28 x 1-5/8 x 8		Rec. 2S 19 x 1/8	E335405	7	591.21	531.64
28 x 1-5/8 x 8		Rec. 2S 19 x 3/16	E335406	7	591.21	531.64
28 x 1-11/16 x 8		Rec. 2S 19 x 3/16	E345478	7	591.21	531.64
28 x 1-11/16 x 8		Rec. 2S 19 1S 3/8, OS 1/8		7		
28 x 1-3/4 x 8		Rec. 2S 19 x 1/4	E341933	7	591.21	531.64
28 x 1-7/8 x 8		Rec. 2S 19 1S 3/8, OS 1/8	E337318	7	650.76	585.19
28 x 1-7/8 x 8		Rec. 2S 19 x 5/16	E341281	7	650.76	585.19

ONLY RADIAC ABRASIVES MANUFACTURES AND SIZES SPECIAL WHEELS TO ORDER



Crankshaft Grinding is cylindrical grinding which requires absolute precision. As a manufacturer, Radiac Abrasives stocks a full line of the most commonly used crankshaft wheels. Furthermore we have 18" to 36" O.D. Blank Wheel Stock to rework to your specific needs. **Finish and Rough Grind with Radiac's WAA High Performance vitri-**

WAA

WAA54-M5-V1096 PREMIUM MULTI ABRASIVE

- From Cast to Steel
- Finishing & Roughing Wheel
- Multi-Purpose Abrasive
- Excellent for Soft & Hard Material
- Premium Aluminum Oxide and a Multi-Purpose Aluminum Oxide
- Light to Medium Stock Removal
- Blue/White in Color
- Wheel Speeds to 8500 SFPM

43A

43A602-K8-V1 PREMIUM ABRASIVE

- Made to Order
- Excellent Cooler Cutting
- Excellent Finish
- Excellent for Flame Hardened Material
- Finishing Wheel

NOTE: Recesses, Special Faces or Special Shapes can be added to fit every crankshaft wheel need. Contact Customer Service for finishing requirements and quotation.

CRANKSHAFT MOUNTING PROCEDURES ON PAGE 56

Excellent User Satisfaction

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
28 x 1-15/16 x 8	Refer to last group	Rec. 2S 19 x 3/8	E344443	7	650.76	585.19
28 x 2 x 8	on page 5	Rec. 2S 19 1S 5/8, OS 1/8	E335410	7	650.76	585.19
Seest 30" o.d., 6 i.d. Available Upon Request						
30 x 3/4 x 8	Winona-Van Norman	Straight	E322599	1	527.46	474.53
30 x 7/8 x 8	Zanrosso 280, AMC 2000	Straight	E335412	1	527.46	474.53
30 x 15/16 x 8	SV/Scledum 270, 280	Straight	E345864	1	527.46	474.53
30 x 1 x 8	RMC/Robbi Rex 1800	Straight	E337319	1	527.46	474.53
30 x 1-1/4 x 8	2200L, 2700RM,	Straight	E340501	1	527.46	474.53
30 x 1-1/4 x 8	3100RM	*Special Dimensions	E335413	21	646.41	581.51
30 x 1-1/2 x 8		*Special Dimensions	E335414	26	638.50	574.16
30 x 1-3/4 x 8		*Special Dimensions		26		
30 x 2 x 8		*Special Dimensions	E335416	26	775.58	697.44
32 x 3/4 x 8	Winona-Van Norman	*Straight	E344089	1	591.45	531.86
32 x 3/4 x 8	467, 471, 477,	*Special Dimensions	E335417	21	666.96	599.76
32 x 7/8 x 8	472, CG 280CG300	Straight	E335418	1	591.45	531.86
32 x 15/16 x 8	Zanrosso 280	Straight		1	591.45	531.86
32 x 1 x 8	AMC Machine	Straight	E335419	1	591.45	531.86
32 x 1-1/8 x 8	1400, K1500, K1800	Straight	E335420	1	591.45	531.86
32 x 1-1/4 x 8		Straight	E335422	1	591.45	531.86
32 x 1-3/8 x 8		Rec 2s 26 x 1/16		7		
32 x 1-1/2 x 8		Rec 2s 26 x 1/4		7		
32 x 1-7/8 x 8		Straight	E335427	1	847.44	763.25
32 x 8-55/64 x any thickness for Schou Crank Grinder Available on Request						
32 x 3/4 x 12	Peterson-Berco	Straight		7		
32 x 7/8 x 12	TM 280, 300 & 300A	Straight		7		
32 x 15/16 x 12	Scledum 280	Rec. 2S 26 x 1/32	E335431	7	628.84	565.61
32 x 1 x 12		Rec. 2S 26 x 1/32	E335432	7	628.84	565.61
32 x 1-1/8 x 12		Rec. 2S 26 x 1/16		7		
32 x 1-1/4 x 12		Rec. 2S 26 x 1/8	E335434	7	728.04	655.03
32 x 1-1/2 x 12		Rec. 2S 26 x 1/8		7		
32 x 1-3/4 x 12	Peterson-Berco	Rec. 2S 26 x 1/4	E335436	7	789.11	710.35
32 x 1-15/16 x 12	TM 280, 300 & 300A	Rec. 2S 26 x 1/4		7		
32 x 2 x 12	Scledum 280	Rec. 2S 26 x 3/8		7		

* Special Dimension: Relieved 2 sides .090" DP to 11-1/4" Hub Diameter

ONLY RADIAC ABRASIVES MANUFACTURES AND SIZES SPECIAL WHEELS TO ORDER

Receive quality and value in Premium Radiac Crankshaft Wheels. Only Radiac Abrasives manufactures and sizes special wheels to order. Your direct abrasive source from an abrasive manufacturer.

DIMENSIONS	MACHINE/MODEL	OTHER DIMENSION	PRODUCT #	TYPE	1 PC	2+ PCS
36 x 3/4 x 12	Peterson-Berco	Straight	E335127	1	800.95	720.56
36 x 7/8 x 12	300, 350, 350A	Straight	E335128	1	800.95	720.56
36 x 15/16 x 12	350B, 350C & 350D	Straight	E335129	1	800.95	720.56
36 x 1 x 12	Scledum	Rec. 2S 29 x 1/16	E335130	7	830.96	747.24
36 x 1-1/8 x 12	Winona-Van Norman	Rec. 2S 29 x 1/16	E335131	7	830.96	747.24
36 x 1-1/4 x 12	111	Rec. 2S 29 x 1/16	E335132	7	830.96	747.24
36 x 1-3/8 x 12		Rec. 2S 29 x 1/16	E335133	7	925.88	832.60
36 x 1-1/2 x 12		Rec. 2S 29 x 1/8	E335134	7	925.88	832.60
36 x 1-3/4 x 12		Rec. 2S 29 x 1/4	E335135	7	979.41	880.91
36 x 1-7/8 x 12		Rec. 2S 29 x 1/4	E335136	7	1114.66	1002.35
36 x 2 x 12		Rec. 2S 29 x 3/8	E335437	7	1114.66	1002.35
36 x 2-1/4 x 12		Rec. 2S 29 x 3/8		7		
36 x 3/8 x 12		Rec. 2S 29 x 7/16		7		
36 x 2-1/2 x 12		Rec. 2S 29 x 1/2		7		

NOTE: Multi/Single Wheel Crankshaft Grinders. Large Diameter wheels engineered and manufactured to order with custom specifications and requirements. Contact Application Engineering for complete recommendations or contact Customer Service for finishing requirements and quotations.

NOTE: Recesses, Special Faces or Special Shapes can be added to fit every crankshaft wheel need. Contact Customer Service for finishing requirements and quotation.

36-1/2 x 1-1/4 x 12	42 x 2 x 12
36-1/2 x 1-1/2 x 12	42 x 2 x 20
40 x 1-1/4 x 12	42 x 2-1/2 x 12
40 x 1-1/2 x 12	42 x 2-3/4 x 12
40 x 1-3/4 x 12	42 x 3 x 12
40 x 2 x 12	42 x 3 x 20
40 x 2-1/2 x 12	42 x 3-1/2 x 12
40 x 2-3/4 x 12	48 x 2-1/4 x 20
42 x 1-1/4 x 12	48 x 2 x 2-1/2 x 12
42 x 1-1/2 x 12	48 x 3 x 12
42 x 1-3/4 x 12	48 x 4 x 12

STANDARD WHEEL SHAPES

Note: When ordering, please advise machine, make model number, recess or relieve, 1 or 2 sides. diameter of recess, and/or amount of relief in inches on both sides, as applicable.

	Straight T/1
	Recessed - 1 side T/5
	Recessed - 2 sides T/7
	Hub - 1 side T/57
	Hub - 2 sides T/58
	Relieved - 1 side T/20
	Relieved - 2 sides T/21
	Relieved & Recessed - 1 side T/23
	Relieved & Recessed - 2 sides T/26
	Relieved & Hub 2 sides T/26R

SEE BACK COVER FOR ADDITIONAL SHAPES

TIME COSTS MONEY

RADIAC ABRASIVES INTRODUCES

CRANKSHAFT ROUGHING WHEELS

FOR THE PRODUCTION ENGINE REBUILDER

Increase your profit by . . .

- INCREASING PARTS PER HOUR
- DECREASING COST PER PART
- DECREASING CUTTING TIME PER JOURNAL
- USER FRIENDLY

Our crankshaft roughing wheels are very aggressive and offer cost effective grinding performance.

Wheels are currently stocked in 26" and 28" diameter, other diameters are available on a made to order basis.

Radiac
Abrasives

Contact your authorized Radiac Representative for additional information



CAM GRINDING is a form of cylindrical grinding. Most cam grinding machines are custom fitted to the part being ground. In generating camshapes, some variation in

grain and grade can improve the results. Cam grinding wheels are available for both steel and cast.

WAA

WAA54-L5-V1 MULTI-ABRASIVE

- Roughing, Finishing Wheel
- Dual Cycle Machines
- Multi-Purpose Vitrified Wheel
- Free Cutting
- Great Durability
- Stock Item

43A

43A602-K8-V1 PREMIUM ABRASIVE

- Roughing, Finishing Wheel
- Free Cutting
- Great Durability
- Multi-purpose
- Stock Item

43A801-K800-VOS PREMIUM ABRASIVE

- Finishing Wheel
- Made to Order

CAMSHAFT MOUNTING PROCEDURES ON PAGE 56

DIMENSIONS	MACHINE/MODEL	SPECIFICATION	STYLE	PRODUCT #	TYPE	PRICE
18 x 3/4 x 6	Van Norman	43A602-K8-V1	Straight	E342030	1	155.85
18 x 7/8 x 6	253, 254, 255	43A602-K8-V1	Straight	E339945	1	155.85
18 x 1 x 6	Berco Rac1500	43A602-K8-V1	Straight	E342031	1	155.85
18 x 1-1/4 x 6	Rac 2130	43A602-K8-V1	Straight	E348558	1	185.21
18 x 1 x 3	75, 75D, 1165, 1165A	WAA54-L5-V1	Straight	E335336	1	150.88
18 x 1-1/8 x 3		WAA54-L5-V1	Straight	E335337	1	179.24
18 x 3/4 x 6		WAA54-L5-V1	Straight	E341420	1	148.44
18 x 7/8 x 6	Van Norman	WAA54-L5-V1	Straight	E335351	1	148.44
18 x 1 x 6	253, 254, 255	WAA54-L5-V1	Straight	E335352	1	148.44
18 x 1-1/8 x 6	Berco Rac1500	WAA54-L5-V1	Straight	E335353	1	176.41
18 x 1-1/4 x 6	Rac 2130	WAA54-L5-V1	Straight	E335354	1	176.41

ADVANCED CAM GRINDING WHEELS

DIMENSIONS	MATERIAL	SPECIFICATION	APPLICATION	PRODUCT #	TYPE	PRICE
18 x 3/4 x 6	Cast/Steel	WAA100	Finishing	E379225	1	158.37
18 x 7/8 x 6	Cast/Steel	WAA100	Finishing	E397667	1	158.37
18 x 1 x 6	Cast/Steel	WAA100	Finishing	E416878	1	158.37
18 x 1-1/4 x 6	Cast/Steel	WAA100	Finishing	E416183	1	184.78
20 x 7/8 x 6	Cast/Steel	WAA100	Finishing	E416879	1	184.87
18 x 3/4 x 6	Steel Roller	7BL801	Dual Cycle	E416880	1	249.10
18 x 7/8 x 6	Steel Roller	7BL801	Dual Cycle	E427392	1	249.10
20 x 7/8 x 6	Steel Roller	7BL801	Dual Cycle	E416881	1	275.81
18 x 3/4 x 6	Steel Roller	Epoxy	Billet Finishing	0397150	1	224.19

Radiac manufactures many different specs of Cam Wheels

Steel Roller Shafts are very difficult to grind. Radiac offers special made to order Vitrified and Plastic Epoxy camshaft wheels that make grinding steel easy. This product is very user friendly. Contact your representative with your requirements.

Radiac has extensive knowledge in Cam and Crank grinding. We have developed wheels for the most recognized companies in America such as Eagle, Scat, Crower, Crane, Cam Motion, Winberg etc. Give us a try!

For custom finishing; Recesses, Special Faces or Special Shapes can be added to fit every camshaft wheel. Contact Customer Service for finishing requirements and quotations.

MADE TO ORDER

FOR SIZES 18" TO 48":

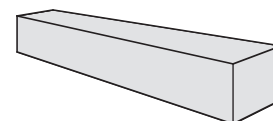
Landis Tool Co. Type S (Dual Cycle) Cam Control Grinder, Type R Cam Grinder

Norton Co Cam-O-Matic #1, #2, #3

Warner & Swasey #3 Cam-O-Matic, Cam-Master, #4 Cam-O-Matic

Lapping Bricks, Sticks and Stones

DIMENSIONS	SPECIFICATION	PRODUCT USE	PRODUCT #	WHEEL TYPE	PKG QTY	PRICE PER PC
3/8 x 3/4 x 4	WA90-L5-V2	Jointer Stone	F087750	60	20	6.80
	WA240-H-V8	Dresser Stick	F879258	60	20	6.80
1/2 x 1/2 x 4	C24-Q5-VL	Dresser Stick	F087319	60	10	6.34
1/2 x 1/2 x 6	C24-Q5-VL	Dresser Stick	F104841	60	10	7.37
1/2 x 3/4 x 3	WA80-L5-V8	Jointer Stone	F087769	60	20	5.49
1/2 x 3/4 x 4	A100-O5-V1	Jointer Stone	F087203	60	20	7.01
	WA60-M5-V8	Combo Oil Stone	F087777	60	20	7.52
	WA80-L5-V8	Jointer Stone	F087785	60	20	7.52
	WA90-L5-V2	Jointer Stone	F087700	60	20	7.52
	GC180-L6-VL	Carbide Tool Stone	F086975	60	20	10.15
3/4 x 3/4 x 4	A100-O5-V1	Jointer Stone	F087270	60	20	8.42
	C180-L6-VL	Jointer Stone	F087815	60	20	11.52
	WA60-L5-V8	Jointer Stone	F087696	60	20	9.12
	WA80-L5-V1	Jointer Stone	F087491	60	20	9.12
	WA90-L5-V2	Jointer Stone	F087548	60	20	9.12
1 x 1 x 6	C24-Q5-VL	Dresser Stick	F087343	60	10	14.15
1 x 1 x 8	C24-Q5-VL	Dresser Stick	F287415	60	10	17.69
1 x 2 x 6	A320-M-V1	Combo Oil Stone	7086789	60	10	18.35



Dressing Sticks are used to condition the grinding wheel face to ensure a free cutting action. Dressing sticks are also used to generate contours on grinding wheels.

Square file applications range from dimensioning keyways to maintain fit, stoning radial faces on router bits, touching-up edges of reamer teeth, and lapping/honing to close tolerances while producing the finest edge on precision instruments, die work and delicate tools.

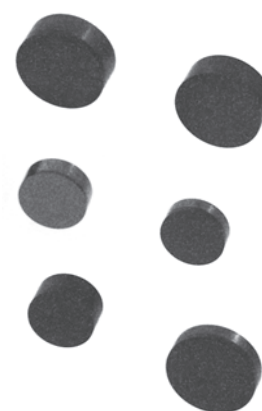
Sold in box quantities

CBN Surfacing Buttons

CBN

CBN superabrasive is designed for use on cast iron applications. Our premium quality CBN is one of the most consistent, quickest, coolest cutting surfacing tools used in automotive applications today.

DIA.	THICKNESS	STYLE	PRODUCT #	PRICE
3/8	1/8"	Single Sided, DCM, Rottler	2X5346	175.71
3/8	3/16"	Single Sided	2359231	161.39
3/8	3/16"	Solid	2359232	222.88
1/2	1/8"	Single Sided, DCM, Rottler	2X5357	187.44
1/2	1/8"	Solid,	2X5299	210.92
1/2	3/16"	Single Sided	2359233	196.41
1/2	3/16"	Special Edge prep diesel heads only	2379268	196.41
1/2	3/16"	Single Sided w/eyelet screw hole (Sunnen)	2X6144	196.41



PCD

Poly Crystalline Diamond. Made of the highest quality industrial diamond. Leaves almost mirror-like finish on aluminum heads. Use PCD to maximize both surface finish and production speeds on aluminum heads.

DIA.	THICKNESS	STYLE	PRODUCT #	PRICE
3/8	3/16"	Single Sided	2379263	185.77
1/2	1/8"	Single Sided	2379264	210.92
1/2	3/16"	Single Sided	2379265	210.92
1/2	3/16"	Single Sided w/ eyelet screw hole (Sunnen)	2X6145	196.41

Use only PCD on Aluminum. Use Only CBN for Cast Iron. Silicon Content in Aluminum will burn CBN cutting edge.

Resharpening available.

Increase Profit and Productivity with Flymaster Superabrasive Products. Some competitors will try to pass off a cheap imitation of this fine product. Don't settle for anything but the best. Stick with FlyMaster Products. The Original wheel is made in the USA by Radiac Abrasives.

Sparky
Silences
"The Squealer"

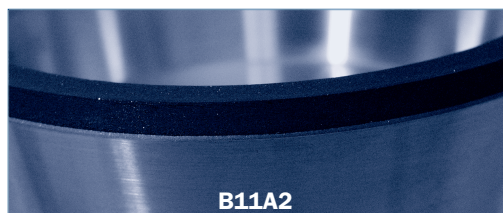


**Flywheel
Spindle
Adapter**

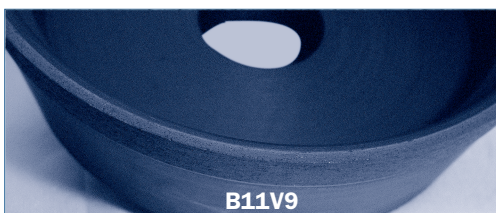


Flywheel Spindle Adapter for 2" Superabrasive Cup. Special Adapter for Audi and some VW. Includes Adapter Spindle, Flange and Bolt.

Product 7401842 98.77



B11A2



B11V9



**"No Squeal"
Formula**

FlyMaster®
**FLYWHEEL
SUPERABRASIVES**

Bring your flywheel & floater grinding into the 21st century with the Radiac FlyMaster wheel. Customers report great satisfaction with this product. The magic of this product isn't just the quantity of flywheels or floaters ground, but the speed in the diamond cutting action to reduce grind time and increase profits.

**Instructions for the Radiac
Superabrasive Wheels**

1. Set the motor spindle 90 degrees to the cutting turntable. Look for cross-hatch pattern in flywheel.
2. Machine must be clean and have fresh water with new charge of coolant 8-10%
3. Never dress your Superabrasive with dresser attachment on your machine.
4. Dress with hand held dresser stick or old piece of flywheel stone only.
5. Flood wheel with coolant to keep cutting edge clean and cool
6. Use very light pressure while cutting.
7. Spark out without pressure for finishing.
8. The dresser stick which is provided can be used to remove light metal loading in wheel if it occurs.

DIMENSIONS

		TYPE	PRODUCT #	PRICE
2/1¹/₂ x 7/8 x 3/8	CBN†	B11V9	2H0998	104.78
3 x 1³/₄ x 1¹/₄	CBN†	B11V9	261453	124.99
3³/₄/2⁵/₈ x 1¹/₂ x 1¹/₄	CBN†	B11V9	2371052	152.00
5/3³/₄ x 1³/₄ x 1¹/₄	CBN†	B11V9	2379270	189.84
6/4⁵/₈ x 1⁷/₈ x 1¹/₄*	CBN†	B11V9	2367275	209.80
6/4⁵/₈ x 1³/₄ x 1¹/₄	CBN††	B11A2	2G0772	378.23
6/4⁵/₈ x 1⁷/₈ x 1¹/₄	DIAMOND†††	D11V9	2E5742	215.05

APPLICATION GUIDE FOR FLYWHEEL SUPERABRASIVES

* Most Popular Wheel Application

† CBN light to heavy applications with light to medium flywheel wear.

†† CBN Longlasting design for light to heavy duty applications with light to medium flywheel wear. Grinding Head must be set at 0° so that wheel is in full contact with part all the way around the wheel's cutting surface. Excellent for production grinding.

††† DIAMOND For hard spray coated Floaters and Flywheels

Exceptional quality flywheel product in a wide range of hardness grades to choose from. 100% Abrasive, no fillers.

CWA

SILICON CARBIDE ABRASIVE

For Popular Machines:

- Ideal for Gray Iron
- Heavy Stock Removal
- Black in Color
- Ideal for Hard Materials
- User Friendly

- Kwik-Way
- Kansas Instruments
- Tobin Arp
- Winona-Van Norman
- Storm Vulcan
- Peterson
- IDL
- DCM

CWA/WA/RA	HARDNESS	
Aggressive Cutting	H	Soft
No Dressing	I	Med. Soft
Good Cutting	J	Med. Hard
Some Dressing/Long Life	K	Hard

DUCTILE IRON - CAST IRON - STEEL

DIMENSIONS	HARDNESS	SPECIFICATION	SHAPE	COLOR	PRODUCT #	TYPE	1-2 PCS	3+ PCS
3/2-½ x 1½ x 1¼	Med. Hard	CWA36-K5-B35	Flared	Black	U364512	11	26.86	24.19
3¾/2½ x 2 x 1¼	Med. Hard	CA24-J5-B35	Flared	Black	U360974	11	31.57	28.41
4/3 x 2 x 1¼	Soft	CWA36-H5-B35	Flared	Black	U335368	11	39.56	35.57
	Med. Soft	CWA36-I5-B10	Flared	Black	U335369	11	39.56	35.57
	Med. Hard	CWA36-J5-B10	Flared	Black	U335370	11	39.56	35.57
	Hard	CWA36-K5-B10	Flared	Black	U335372	11	39.56	35.57
6/4½ x 2½ x 1¼	Soft	CWA36-H5-B35	Flared	Black	U324494	11	46.44	41.78
	Med. Soft	CWA36-I5-B35	Flared	Black	U324495	11	46.44	41.78
	Med. Hard	CWA36-J5-B35	Flared	Black	U335376	11	46.44	41.78
	Hard	CWA36-K5-B35	Flared	Black	U335377	11	46.44	41.78
	Med. Soft	CA24-I5-B35	Flared	Black	U357854	11	46.44	41.78
	Med. Hard	CA24-J5-B35	Flared	Black	U343805	11	46.44	41.78
Extended Life Ceramic	Med. Hard	8CAX24 Ceramic	Flared	Black	U397903	11	61.63	58.90
Extended Life								
6/4¾ x 3 x 1¼	Med. Hard	CA24-J5-B35T	Flared	Black	U370095	11	70.16	63.15

WA

PREMIUM WHITE ALUMINUM OXIDE

- Cool Cutting
- Good for Finish Grinding
- Good for Heat Sensitive Materials
- Light/Medium Stock Removal
- White in color

Arbor Reducing Bushings available for Van Norman 570

MILD STEEL - HARDENED STEEL

DIMENSIONS	GRADE	SPECIFICATION	SHAPE	COLOR	PRODUCT #	TYPE	1-2 PCS	3+ PCS
4/3 x 2 x 1¼	Soft	WA36-H5-V8	Flared	White	F335364	11	32.86	29.59
	Medium	WA36-I5-V8	Flared	White	F335365	11	32.86	29.59
6/4½ x 2½ x 1¼	Soft	WA36-H5-V8	Flared	White	F342636	11	50.79	45.68
	Medium	WA36-I5-V8	Flared	White	F335373	11	50.79	45.68

RA

PREMIUM RUBY

- Tough Abrasive
- Long Life
- Light/Medium Stock Removal
- Red in color

DIMENSIONS	HARDNESS	SPECIFICATION	SHAPE	COLOR	PRODUCT #	TYPE	1-2 PCS	3+ PCS
4/3 x 2 x 1¼	Med. Soft	RA36-H5-V8	Flared	Ruby	F348768	11	33.89	30.49
	Med.	RA36-I5-V8	Flared	Ruby	F348769	11	33.89	30.49
	Hard	RA36-J5-V8	Flared	Ruby	F348770	11	33.89	30.49
6/4½ x 2½ x 1¼	Soft	RA36-G7-V8	Flared	Ruby	F372039	11	52.37	47.07
	Med. Soft	RA36-H5-V8	Flared	Ruby	F348771	11	52.37	47.07
	Med.	RA36-I5-V8	Flared	Ruby	F348772	11	52.37	47.07
	Hard	RA36-J5-V8	Flared	Ruby	F348773	11	52.37	47.07

Radiac also manufactures Ring Wheels and Segments for Flywheel Grinding



RESTORE CLUTCH PEDAL TRAVEL WITH FLYWHEEL SAVER SHIMS

Several makes and models of vehicles have non-adjustable linkages. After grinding the flywheel must be put back in the original location. These saver shims install between the crank flange and the flywheel to restore clutch pedal travel.

Shims listed with a diamond shape next to the thickness can be stacked up to .075 thick. **\$9.87 ea.**

CHRYSLER	DIA.	THICK.	SHIM #	NUMBER #
3.7 (225ci), 3.9 (238ci), 4.0 (Jeep)	4.375"	.025"	SY852-25-B	7388100
5.2 (318ci), 5.6 (340ci), 5.8, 5.9 (360ci), 6.3 (383ci), 6.5, 7.2		.050"	SY852-50-B	7388101
5.7, 5.9 (Diesel) 8.0 and 8.3 Liter Engines	5.125"	.025"	SY810-25	7436800
these shims have break-off tabs to fit 4.316" and 3.750" ODs as well		.050"	SY810-50	7436801
FORD				
1.3, 2.0, 2.8, 2.9, 4.0 (6 hole)	3.250"	.025"	SF629-25	7388102
		.050"	SF629-50	7388103
3.0, 4.0, 4.6, 5.4 (8 hole)		.025"	SF340-25	7415320
1.6, 1.9, 2.0, 2.3, 3.0, 3.3, 3.1, 3.3, 3.4, 3.8, 3.9, (420ci), 4.1 (250ci), 4.2 (255ci), 4.6, 4.7 (289ci), 4.9 (300ci), 5.0 (392ci), 5.4, 5.8 (351ci), (6 hole)	3.625"	.025"	SF468-25-B	7388104
		.050"	SF468-50-B	7388105
5.7 (352ci), 5.9 (360ci), 6.4 (390ci), 5.000"	.025"		SF460-25-B	7388106
6.9 Diesel (420ci), 7.0 (427ci), 7.3, 7.5 (460ci)		.050"	SF460-50-B	7388107
GENERAL MOTORS				
2.0, 2.2, 2.3, 2.5, 2.8, 3.1	3.000"	.025"	SG-628-25-B	7388108
		.050"	SG-628-50-B	7388109
3.0, 3.2, 3.3, 3.7 (225ci Buick), 3.8, 4.6 (283ci), 5.0 (305/307ci), 5.3, 5.4 (327ci), 5.7 (350ci), 6.0 (366ci), 6.2 diesel (378), 6.5 (396ci), 6.6 (400ci), 6.7 (402ci), 7.0 (427ci), 7.3, 7.4 (454ci), 8.1	4.500"	.025"	SC-857-25	7388110
		.050"	SC-857-50	7388111
2.0, 3.8, 4.3	3.750"	.025"	SG643-25	7388112
		.050"	SG643-50	7388113
4.2, 4.8, 5.3, 6.0 and 6.6 (Diesel)	4.056"	.025"	SC866-25	7436802
8.1 Duramax Diesel		.050"	SC866-50	7436803
HONDA				
1.2, 1.3, 1.5, 1.6, 2.0, 2.2, 2.3, 2.7	3.125"	.025"	SH40-25	7388118
		.050"	SH40-50	7388119
JEEP				
2.5 (GM engine)	3.000"	.025"	SG-628-25-B	7388108
		.050"	SG-628-50-B	7388109
MAZDA				
1.2, 1.3, 1.5, 1.6, 1.8, 1.9, 2.0, 2.2, 2.4, 2.7, 3.0	3.500"	.025"	SM-420-25	7388122
		.050"	SM-420-50	7388123
MITSUBISHI & CHRYSLER				
1.4, 1.5, 1.6, 1.8, 2.4, 2.2, 2.4, 2.5, 2.6, 3.0, 3.3,	3.125"	.025"	SY-4625	7388114
		.050"	SY-4650	7388115
NISSAN, HYUNDAI				
1.5, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0 ex V-6	3.125"	.025"	SN-418-25	7388120
		.050"	SN-418-50	7388121
HONDA & TOYOTA				
1.5, 1.6, 1.8, 1.9, 2.0, 2.2, 2.3, 2.4, 2.6, 3.0	3.125"	.025"	ST-4625	7388114
		.050"	ST-4650	7388115



CHRYSLER
SY852



CHRYSLER
SY810



FORD
SF468



FORD
SF340



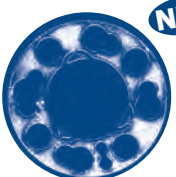
FORD
SF629



FORD
SF460B



**GM SMALL
& MIDSIZE**
SG628



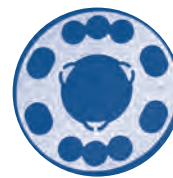
GM
SC866



GM FULL SIZE
SC857



MAZDA
SM420



HONDA
SH40



NISSAN/Hyundai
SN418



TOYOTA
ST4625



TOYOTA
SY4625

Buy 10 or more and receive 10% Off



This is the Good Stuff!!!

Grinding Coolant Additive

- Crank
- Belt
- Cam
- Segmented
- Flywheel
- Platemounted Surfacing

SIZE	COLOR	PRODUCT #	PKG QTY	PRICE EACH
1 Gallon	Blue	7439996	1	40.50
5 Gallon	Blue	7439995	1	140.43

Dilution 2.5 to 5% for Best Results

Dowel Pin Puller Kits

STYLE	PRODUCT #	PKG QTY	1 KIT
Standard	7381959	1	204.00
Metric	7381960	1	204.00
Collet Closer Replacement	7411115	1	32.34

Dowel Pin Replacement Collets

			PKG	
SIZE		PRODUCT #	QTY	1 PC
3/16"	.188	7381961	1	34.92
1/4"	.250	7381962	1	34.92
5/16"	.312	7381963	1	34.92
3/8"	.375	7393346	1	34.92
7/16"	.437	7393347	1	34.92
1/2"	.500	7411108	1	34.92
9/16"	.562	7411109	1	34.92
5/8"	.625	7411110	1	34.92
11/16"	.687	7411112	1	34.92
.600	.600	7400004	1	34.92
.675	.675	7411111	1	34.92
.735	.735	7411113	1	34.92
4mm	.157	7381964	1	34.92
5mm	.197	7381965	1	34.92
6mm	.236	7393344	1	34.92
7mm	.275	7400005	1	34.92
8mm	.315	7393345	1	34.92
10mm	.393	7400006	1	34.92
12mm	.472	7400007	1	34.92
14mm	.552	7400008	1	34.92

Radiac 100 metalworking fluid is an extremely low-foaming synthetic, which is free of mineral oil, phenols, mercurials, phosphates, PCB's, nitrite and diethanolnitrosamine. Excellent rust inhibitor and prohibits bacterial growth.



Dowel Pin Puller Kits

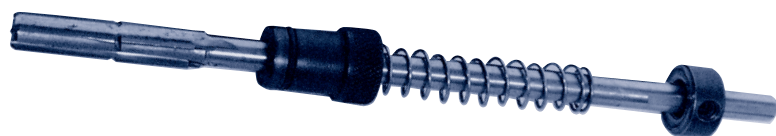
Standard Kit contains collets for 1/4, 5/16, 3/8, and 7/16" dowel pins. Metric Kit contains collets for 4, 5, 6 and 8mm dowel pins. Add Collets to your kit from the listing below. Quality built pin remover.



Fast dowel pin removal

Top quality tool gives years of dependable use. Slide hammer action removes stubborn dowels. Split collets grip firmly without damage. Use on blocks, heads, flywheels, etc.

Dowel Puller kits include sliding weight, collet closer, release stand, main shaft, 4 collets, 1/4", 5/16", 3/8" and 7/16". Packed in a sturdy plastic storage box.



+ .030 Carbide Boring Reamer Assembly

Specially designed carbide fluted boring assembly for reaming valve guides prior to bronze guide liner installation. A quality tool with long life. 9" Over all length. Assembly contains: 1 Carbide Reamer, 1 Reamer Bushing, 1 Spring, 1 Retaining Collar.



SIZE	PRODUCT #	PRICE
5.5mm	7389684	120.69
6mm	7389685	120.69
7mm	7389687	120.69
5/16"	7389688	120.69
8mm	7389689	120.69
11/32"	7389690	120.69
3/8"	7389691	120.69

45° Seat Centering Cones for Guide Boring

Use with guide boring assembly to center valve seat with the guide being bored. Black oxide coated to prevent rusting.

SIZE	BUSHING #	PRODUCT #	PRICE
1"	SB-100	7389807	38.42
1-3/8"	SB-138	7389808	38.42
1-1/2"	SB-112	7389809	38.42
1-5/8"	SB-158	7389810	38.42
1-3/4"	SB-134	7389811	38.42
1-7/8"	SB-178	7389812	38.42
2"	SB-200	7389813	38.42
2-1/4"	SB-214	7389814	38.42
2-1/2"	SB-212	7389815	38.42



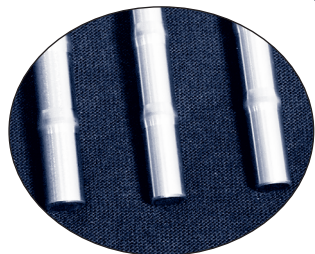
Bronze Bullet Guide Liners

The simplest and most economical guide reconditioning method used. These bullet nosed liners make installation quick and easy and eliminate the need to chamfer the guide I.D. The interrupted I.D. spiral feature holds the lubrication in the guide to reduce valve stem and guide wear. For all Aluminum and cast iron cylinder heads.

I.D.	O.D.	LENGTH	REFERENCE #	PRODUCT #	BOX QTY	PRICE
5.5mm / .216"	+.030"	2.250	KL1857STA	7389667	100	85.86
6mm / .236"	+.030"	2.250	KL1856STA	7389668	100	85.86
6mm / .238"	+.030"	2.000	KL1906STA	7396235	100	85.86
7mm / .277"	+.030"	2.500	KL1850STA	7389670	100	85.86
7mm / .278"	+.030"	1.800	KL1903STA	7396236	100	85.86
5/16" / .312"	+.030"	3.125	KL1840STA	7389671	100	89.69
8MM / .314"	+.030"	2.500	KL1997STA	7396238	100	85.88
8MM / .315"	+.030"	2.500	KL1939STA	7389672	100	91.92
8MM / .316"	+.030"	2.500	KL1851STA	7389673	100	85.88
8MM / .317"	+.030"	2.500	KL1940STA	7396239	100	85.88
11/32" / .339"	+.030"	2.250	KL1948STA	7389674	100	88.54
11/32" / .339"	+.030"	2.500	KL1961STA	7389675	100	88.54
11/32" / .341"	+.030"	2.400	KL1983STA	7396240	100	88.54
11/32" / .342"	+.030"	2.400	KL1932STA	7396241	100	88.54
11/32" / .343"	+.030"	2.250	KL1958STA	7389676	100	88.54
11/32" / .343"	+.030"	2.500	KL1923STA	7389677	100	88.54
11/32" / .343"	+.030"	3.125	KL1841STA	7389678	100	91.92
11/32" / .344"	+.030"	2.400	KL1934STA	7389679	100	88.54
11/32" / .344"	+.030"	2.500	KL1921STA	7389680	100	88.54
3/8" / .368"	+.030"	2.500	KL1976STA	7396242	100	90.85
3/8" / .370"	+.030"	2.500	KL1970STA	7396243	100	90.85
3/8" / .371"	+.030"	2.500	KL1985STA	7396244	100	90.85
3/8" / .373"	+.030"	2.500	KL1977STA	7417692	100	91.92
3/8" / .374"	+.030"	2.500	KL1974STA	7389682	100	90.85
3/8" / .374"	+.030"	3.000	KL1842STA	7389683	100	91.92
3/8" / .375"	+.030"	2.500	KL1975STA	7396245	100	90.85

Guide Liner Auto Installers on Page 17

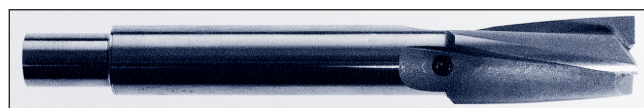
3 or More Boxes - 10% Off



Ball Broach - Bronze Liner Sizing Tool

A fast and simple method for sizing the inside diameter on bronze liners. These tool steel sizing broaches are hard chrome plated for long life and durability. Light lubing with Mirror Finish® will increase tool life. Page 26.

SIZE	BROACH SIZE	REFERENCE#	PRODUCT #	PRICE
5.5mm	.217"	KL5808	7389692	45.33
	.2175"	KL5809	7389693	45.33
	.218"	KL5810	7389694	45.33
	.2185"	KL5811	7389695	45.33
6mm	.237"	KL5815	7389696	45.33
	.2375"	KL5816	7389697	45.33
	.238"	KL5817	7389698	45.33
	.2385"	KL5818	7389699	45.33
7mm	.276"	KL5835	7389704	45.33
	.277"	KL5836	7389705	45.33
	.278"	KL5837	7389706	45.33
	.311"	KL5843	7389707	45.33
5/16"	.312"	KL5844	7389708	45.33
	.313"	KL5845	7389709	45.33
	.314"	KL5846	7389710	45.33
	.315"	KL5847	7389711	45.33
8mm	.316"	KL5848	7389712	45.33
	.317"	KL5849	7389713	45.33
	.318"	KL5850	7389714	45.33
	.319"	KL5851	7401040	45.33
11/32"	.339"	KL5853	7391621	48.29
	.340"	KL5854	7391622	48.29
	.341"	KL5855	7391623	48.29
	.342"	KL5856	7391624	48.29
	.3435"	KL5857	7389715	48.29
	.3445"	KL5858	7389716	48.29
	.345"	KL5889	7389717	48.29
	.3455"	KL5859	7389718	48.29
3/8"	.371"	KL5870	7389719	50.54
	.372"	KL5871	7389720	50.54
	.373"	KL5869	7389721	50.54
	.374"	KL5872	7389722	50.54
	.3745"	KL5892	7389723	50.54
	.375"	KL5873	7389724	50.54
	.3755"	KL5893	7389725	50.54
	.376"	KL5874	7389726	50.54
	.377"	KL5890	7389727	50.54



Fluted Bronze Liner Trimming Tool

Fluted trimming tool for cutting excess bronze liner from the top and bottom of the guide. The fluted end is made so you can change pilots in and out for the correct application.

SHANK	FACE O.D.	PILOT HOLE	FOR LINER	PRODUCT #	PRICE
3/8"	5/8"	3/16"	5.5mm thru 3/8	7390692	71.33



Fluted Bronze Liner Trimming Tool Pilots

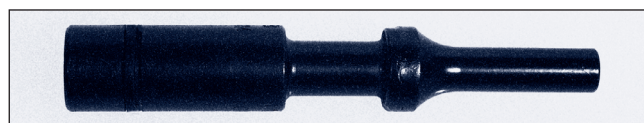
SHANK	O.D.	PILOT O.D.	FOR LINER	PRODUCT #	PRICE
3/16"	.213	5.5mm		7390693	15.40
3/16"	.233	6mm		7396248	15.40
3/16"	.270	7mm		7396249	15.40
3/16"	.309	5/16, 8mm		7390695	15.40
3/16"	.336	11/32		7390696	15.40
3/16"	.366	3/8		7390697	15.40



Bronze Liner Removal Tool

The most widely used tool for removal of guide liners. Specially designed piloted end allows the removal tool to move through the guide without fear of damaging the existing guide.

SIZE	PRODUCT #	PRICE
5.5mm	7389735	32.93
7mm	7389737	32.93
5/16	7389738	32.93
8mm	7389739	32.93
11/32	7389740	32.93
3/8	7389741	32.93



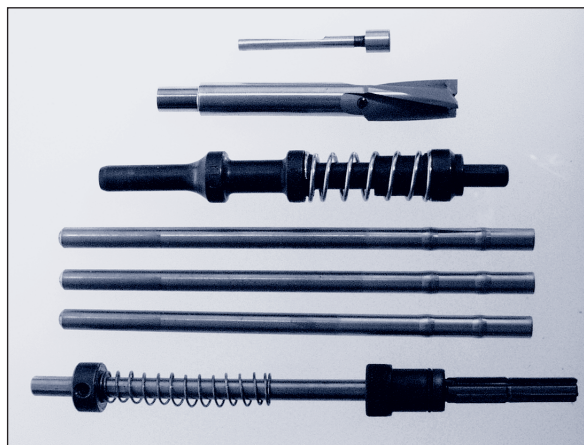
Pneumatic Driver for Guide Liner Removal Tool & Ball Broaches

Used with air hammer to drive ball broaches and guide liner removal tools. Black oxide coated to prevent rusting.

SIZE	PRODUCT #	PRICE
5.5mm - 8mm	7389742	47.99
11/32" - 7/16"	7389743	47.99

Guide Liner Installation Kits

These installation kits provide the basic tooling needed to Install, Size, Trim, and Remove Bronze Liners. You can add tooling to these kits to expand your sizing capabilities and needs. Kit comes in a hard plastic case for easy storage.



KIT SIZE	CONTENTS	PRODUCT #	COMPONENT DESCRIPTION
5.5mm	1	7389684	Boring Reamer Assembly
	1	7389692	.217" Ball Broach
	1	7389693	.2175" Ball Broach
	1	7389694	.218" Ball Broach
	1	7389695	.2185 Ball Broach
	1	7389816	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7390693	Trim Tool Pilot
	1	7389735	Liner Removal Tool
KIT PT# 7GL217			
467.99			

6mm	1	7389685	Boring Reamer Assembly
	1	7389696	.237" Ball Broach
	1	7389697	.2375" Ball Broach
	1	7389698	.238" Ball Broach
	1	7389699	.2385 Ball Broach
	1	7389817	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7396248	Trim Tool Pilot
	1	7389736	Liner Removal Tool
KIT PT# 7GL236			
467.99			

7mm	1	7389687	Boring Reamer Assembly
	1	7389704	.276" Ball Broach
	1	7389705	.277" Ball Broach
	1	7389706	.278" Ball Broach
	1	7389818	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7396249	Trim Tool Pilot
	1	7389737	Liner Removal Tool
KIT PT# 7GL276			
455.99			

KIT SIZE	CONTENTS	PRODUCT #	COMPONENT DESCRIPTION
8mm	1	7389689	Boring Reamer Assembly
	1	7389711	.315" Ball Broach
	1	7389712	.316" Ball Broach
	1	7389713	.317" Ball Broach
	1	7389714	.318" Ball Broach
	1	7401040	.319" Ball Broach
	1	7439428	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7390695	Trim Tool Pilot
	1	7389739	Liner Removal Tool
KIT PT# 7GL315			
503.99			

5/16"	1	7389688	Boring Reamer Assembly
	1	7389707	.311" Ball Broach
	1	7389708	.312" Ball Broach
	1	7389709	.313" Ball Broach
	1	7389710	.314" Ball Broach
	1	7389819	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7390695	Trim Tool Pilot
	1	7389738	Liner Removal Tool
KIT PT# 7GL312			
473.99			

11/32"	1	7389690	Boring Reamer Assembly
	1	7389715	.3435" Ball Broach
	1	7389716	.3445" Ball Broach
	1	7389717	.345" Ball Broach
	1	7389718	.3455" Ball Broach
	1	7389820	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7390696	Trim Tool Pilot
	1	7389740	Liner Removal Tool
KIT PT# 7GL343			
473.99			

3/8"	1	7389691	Boring Reamer Assembly
	1	7389719	.371" Ball Broach
	1	7389720	.372" Ball Broach
	1	7389721	.373" Ball Broach
	1	7389722	.374" Ball Broach
	1	7389723	.3745" Ball Broach
	1	7389724	.375" Ball Broach
	1	7389725	.3755" Ball Broach
	1	7389726	.376" Ball Broach
	1	7389727	.377" Ball Broach
	1	7389821	Liner Auto Installer
	1	7390692	Liner Trim Tool
	1	7390697	Trim Tool Pilot
	1	7389741	Liner Removal Tool
KIT PT# 7GL375			
687.59			

**Prices Reflect 10% Off
For Package Deal**

H.S.S. VALVE GUIDE CORE DRILL

SHANK DRIVE	O.D. X PILOT	MACHINE	DRILL #	PRODUCT #	PRICE
	.4687 x 11/32"	Pet./Kwik/K.I./K.O./DCM.	K4196	7389782	76.84
	.492 x 11/32"	Pet./Kwik/K.I./K.O./DCM.	K4211	7389780	76.84
	.5312 x 11/32"	Pet./Kwik/K.I./K.O./DCM.	K4061	7389783	76.84
	.5937 x 7/16"	Pet./Kwik/K.I./K.O./DCM.	K4200	7389784	86.72
	.615" x 7/16"	Pet./Kwik/K.I./K.O./DCM.	K4220	7389781	76.84
	.475 x 5/16"	I.D.L. / VN	K1758	7389785	76.84
	.475 x 11/32"	I.D.L. / VN	K1762	7389786	76.84

H.S.S. VALVE GUIDE COMBINATION CORE DRILL & REAMER

SHANK DRIVE	O.D. X PILOT	MACHINE	DRILL #	PRODUCT #	PRICE
	.500 x 5/16"	Winona	CDR-6054	7389787	131.69
	.500 x 11/32"	Winona	CDR-6055	7389788	131.69
	.500 x 3/8"	Winona	CDR-6056	7389789	131.69
	.500 x 5/16"	Pet./Kwik/K.I./K.O./DCM.	CDR-6195	7389790	131.69
	.500 x 11/32"	Pet./Kwik/K.I./K.O./DCM.	CDR-6196	7389791	131.69
	.500 x 3/8"	Pet./Kwik/K.I./K.O./DCM.	CDR-6197	7389792	131.69
	.500 x 5/16"	Serdi	CDR-7195	7389793	131.69
	.500 x 11/32"	Serdi	CDR-7196	7389794	131.69
	.500 x 3/8"	Serdi	CDR-7197	7389795	131.69
	.500 x 5/16"	I.D.L. / VN	CDR-6761	7391625	131.69
	.500 x 3/8"	I.D.L. / VN	CDR-6763	7391627	131.69

H.S.S. VALVE GUIDE O.D. REAMERS

SHANK DRIVE	SIZE	MACHINE	DRILL #	PRODUCT #	PRICE
	.437"	Kwik / K.O. Lee / DCM	KL4206	7389796	71.96
	.500"	Peterson / K.I.	KL4198	7389797	71.96
	.500"	I.D.L. / VN	KL1764	7389798	71.96
	.500"	Winona	KL4057	7389799	71.96



Bronze Liner
Installer

VALVE GUIDE KNURLING ARBORS

SIZE	ARBOR #	PRODUCT #	PRICE
6mm / .236"	KL1081	7389800	72.46
7mm / .275"	KL1082	7389802	72.46
5/16" / .312"	KL1088	7389803	72.46
11/32" / .343"	KL1089	7389804	76.84
9mm / .354"	KL1084	7389805	76.84
3/8" / .375"	KL1091	7389806	76.84

BRONZE GUIDE LINER AUTO INSTALLER

SIZE	KL#	PRODUCT #	PRICE
5.5mm	KL9958	7389816	109.98
6mm	KL9971	7389817	109.98
7mm	KL9973	7389818	109.98
8mm	KL9968	7439428	109.98
5/16"	KL9961	7389819	109.98
11/32"	KL9962	7389820	109.98
3/8"	KL9963	7389821	109.98

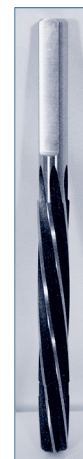
High Speed Steel Valve Guide Core Drills

Piloted core drill for installation of cast iron or solid bronze valve guides. Finish I.D. final sizing with valve guide O.D. Reamer.



High Speed Steel Combination Core Drill & Reamer

Drills and reams with one pass. Piloted core drill for installation of cast iron or solid bronze valve guides.



High Speed Steel Valve Guide O.D. Reamers

Use this reamer after using the core drill to finish the I.D. of the guide hole for proper guide fit.



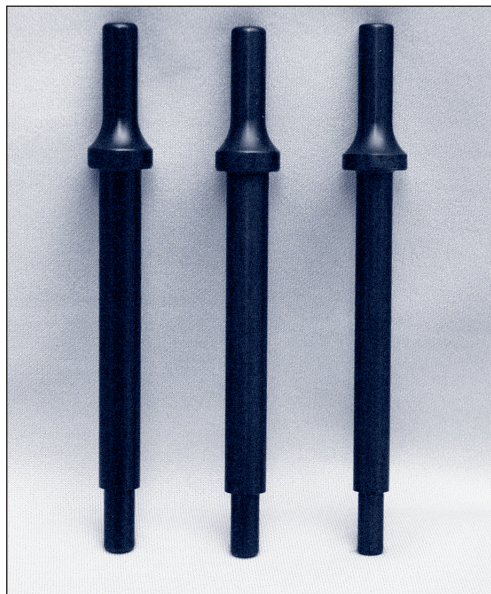
Cast Iron Valve Guide Knurling Arbors

Each arbor is piloted for self centering in the worn guide. Arbors are made of the finest tool steel for long life and durability. Always clean the arbor free of chip after each pass through the guide and always coat the arbor with a lubricant before using on each guide. Never use these arbors on chilled, hardened, or bronze valve guides. Made for 1/4" drive speed reducers.



Bronze Liner Auto Installer

Use with air hammer to quickly install liners to proper depth. Specially designed tool holds liner prior to installation. Black oxide coated to help prevent rusting.

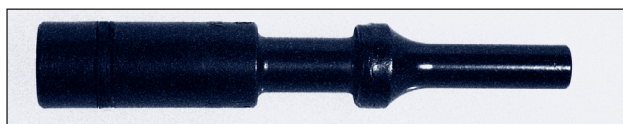


Extended Length (7-1/2") Pneumatic Valve Guide Drivers

GUIDE I.D.	METRIC/ FRACTION	DRIVER O.D.	PILOT	PRODUCT #	PRICE
.2165"	5.5mm	.412"	.205"	7397541	17.57
.236"	6mm	.433"	.225"	7397542	17.57
.260"	6.6mm	.463"	.248"	7397543	17.57
.275"	7mm	.432"	.260"	7397544	17.57
.312"	5/16"	.423"	.304"	7397545	17.57
.315"	8mm	.462"	.307"	7397546	17.57
.343"	11/32"	.487"	.337"	7397547	17.57
*.375"	3/8"	.487"	.367"	7397551	17.57

* This driver is a short standard 5-1/2" length, not 7-1/2"

Buy 3 or More and Receive 10% Off.



Pneumatic Driver for Guide Liner Removal Tool & Ball Broaches

Used with air hammer to drive ball broaches and guide liner removal tools. Black oxide coated to prevent rusting.

SIZE	PRODUCT #	PRICE
5.5mm - 8mm	7389742	47.99
11/32" - 7/16"	7389743	47.99

Driver Organizers

A convenient way to store your valve guide drivers while not in use. Durable construction to protect your tools.



DESCRIPTION	MODEL	PRODUCT #	PRICE
Wall Rack Organizer	G200	7397549	29.64



H.S.S. Valve Guide Reamers

High quality reamers made with the finest tool steel and hardened for long life. Reamers are piloted for self centering in the worn valve guide. 1/4" square top drive incorporated into the reamer for speed reducer.

SIZE DECIMEL	METRIC/FRACTION	REAMER #	PRODUCT #	PRICE
.216"	5.48mm	K1185	7389752	38.41
.217"	5.51mm	K1063	7389753	38.41
.236"	6.00mm	K1110	7389754	38.41
.260"	6.60mm	K1173	7389755	38.41
.275"	6.99mm	K1111	7389756	38.41
.276"	7.01mm	K1214	7389757	38.41
.310"	7.87mm	K1116	7389758	39.52
.311"	7.90mm	K1117	7389759	39.52
.312"	5/16"	K1118	7389760	39.52
.313"	7.95mm	K1176	7389761	39.52
.314"	7.97mm	K1177	7389762	39.52
.315"	8.00mm	K1112	7389763	39.52
.316"	8.03mm	K1174	7389764	39.52
.317"	8.05mm	K1175	7389765	39.52
.342"	8.69mm	K1120	7389766	41.71
.343"	8.71mm	K1121	7389767	41.71
.3435"	11/32"	K1180	7389768	41.71
.344"	8.74mm	K1122	7389769	41.71
.372"	9.45mm	K1125	7389770	42.81
.373"	9.47mm	K1126	7389771	42.81
.374"	9.50mm	K1127	7389772	42.81
.375"	3/8"	K1128	7389773	42.81
.376"	9.55mm	K1139	7389774	42.81
.393"	9.98mm	K1205	7389775	43.91
.433"	11.00mm	K1114	7389776	43.91
.453"	29/64"	K1165	7389778	48.30
.472"	11.98mm	K1135	7389779	49.40

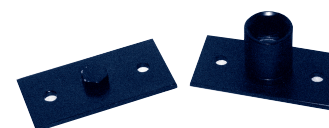
Buy 3 or more and receive 10% Off

SIZE DECIMEL	PILOT #	PRODUCT #	PRICE
.157	T 157	7399714	41.60
.158	T 158	7407857	41.60
.177	T 177	7399715	41.60
.196	T 196	7399716	39.41
.197	T 197	7399717	39.41
.198	T 198	7399718	39.41
.216	T 216	7399719	39.41
.217	T 217	7399720	39.41
.235	T 235	7399721	39.41
.236	T 236	7399722	39.41
.237	T 237	7399723	39.41
.238	T 238	7400844	39.41
.239	T 239	7400845	39.41
.250	T 250	7399724	39.41
.251	T 251	7399725	39.41
.260	T 260	7399726	39.41
.261	T 261	7399727	39.41
.275	T 275	7399728	39.41
.276	T 276	7399729	39.41
.277	T 277	7399730	39.41
.278	T 278	7399731	39.41
.310	T 310	7399732	39.41
.311	T 311	7399733	39.41
.312	T 312	7399734	39.41
.313	T 313	7399735	39.41

SIZE DECIMEL	PILOT #	PRODUCT #	PRICE
.314	T 314	7399736	39.41
.315	T 315	7399737	39.41
.316	T 316	7399738	39.41
.317	T 317	7399739	39.41
.340	T 340	7399740	39.41
.341	T 341	7399741	39.41
.342	T 342	7399743	39.41
.343	T 343	7399744	39.41
.344	T 344	7399745	39.41
.345	T 345	7399746	39.41
.353	T 353	7399748	39.41
.354	T 354	7399749	39.41
.355	T 355	7399750	39.41
.357	T 357	7399751	39.41
.358	T 358	7399752	39.41
.371	T 371	7399753	39.41
.372	T 372	7399754	39.41
.373	T 373	7399755	39.41
.374	T 374	7399756	39.41
.375	T 375	7399757	39.41
.376	T 376	7399758	39.41
.377	T 377	7399759	39.41
.393	T 393	7399742	39.41
.394	T 394	7399761	39.41

Sioux Tapered Pilots

- Solid Tapered Pilots
- Sioux .385 Top O.D.
- Precision Ground
- High Quality
- High Speed Steel



NEW

Seat Wheel Dresser Pilot .385 Sioux 7420363 \$39.41

Replace your worn pilots to improve seat stone dressing and valve seat finishes

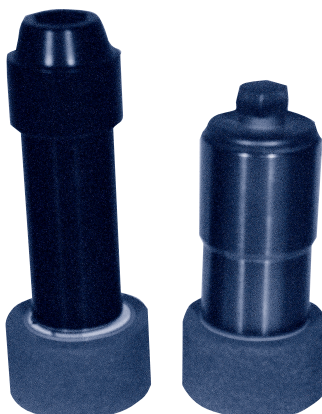
Buy 3 or More and Receive 10% Off

Pneumatic Seat Wheel Driver

User friendly seat stone driver. Built-in air adjust in the handle to regulate spindle speed. Very easy to operate and lightweight. Sioux style High Speed Driver for wheels up to 2-1/2" O.D.



MODEL	PRODUCT #	PRICE
Pneumatic Seat Wheel Driver	7413714	306.23



SIUX

KWIKWAY

Valve Seat Wheel Holders for Seat Grinding

Valve Seat Holders are hardened and precision ground. Ball bearing stone holders are designed to fit your valve seat driver. OEM made. Superior quality construction and built to last. Replace your worn spinners to improve seat stone dressing and valve seat finish-

SIZE	THREAD	PILOT TOP O.D.	PRODUCT #	PKG QTY	EACH
Short Sioux 1672	11/16 - 16	.385	7413704	1	99.78
Tall Sioux 1702	11/16 - 16	.385	7381966	1	105.33
Kwikway 3056	13/16 - 13	.437	7381967	1	166.31
Sioux 1703	7/8 - 14	.572	7413897	1	221.75

Buy 2 or More Holders and Receive 30% Off Stone Removers

Seat Stone Removers

SPINNER/HOLDER	PRODUCT #	PRICE
Sioux 1672, 1702, 1703	7396250	20.49
Kwikway 3056	7396251	20.49



Parts Washer And Hot Tank Cleaning Baskets

SMALL PARTS KEEPER - Model K2, Model K4 for very Small Parts. Excellent for Retainers, Valve Locks, etc.

SINGLE BASKET - Model G-40FH Small Parts Washer Basket with Handle. Excellent for Rockers, Springs, Retainers and other small parts.

BASKET LID - Model G-40FHL Lid for Small Parts Washer Basket.

SIZE	PRODUCT#	PRICE
K-2	7397552	8.78
K-4	7397553	11.40
G-40FH Basket W/handle	7397554	12.29
G-40FHL Lid for basket	7397555	6.58

Buy 1 of Each and Receive 10% Off



G40FH BASKET

Assembly Lube

This product is simply the best multipurpose Assembly Lube available today. High Teflon content protects bearings, wrist pins and valve stems during initial start up of your engine. Good for assembly of all applications.

A Great Product!



SIZE	PRODUCT #	PRICE
2 oz. Bottle	7397556	5.27
8 oz. Bottle	7397557	13.72

When product is depleted, it will not be restocked.

Sioux Refacer Chuck Bullets

Three per set.

Replacement Bullets for OEM Sioux Valve Grinder

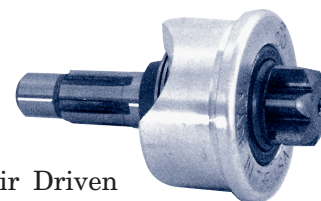


MACHINES	RANGE	PRODUCT #	PRICE
620/622/624/645			
680/2001/2075	.230 - .687	7416379	98.81
2001SM/2075SM	.170 - .500	7416380	120.77

Sioux Driver Rebuild Parts

Reduce Runout and Vibration for better seat finishes

Rebuild your Sioux Electric or Air Driven Seat Grinding Driver with these high quality spindle and bearing replacement parts.



MACHINE	DESCRIPTION	PRODUCT #	PRICE
1710 Electric	Spindle Drive	7400371	74.99
1710 Electric	Bearing Cap	7400372	38.99
1792 Air	Spindle Drive	7400373	81.62
1792 Air	Bearing Cap	7400374	43.50

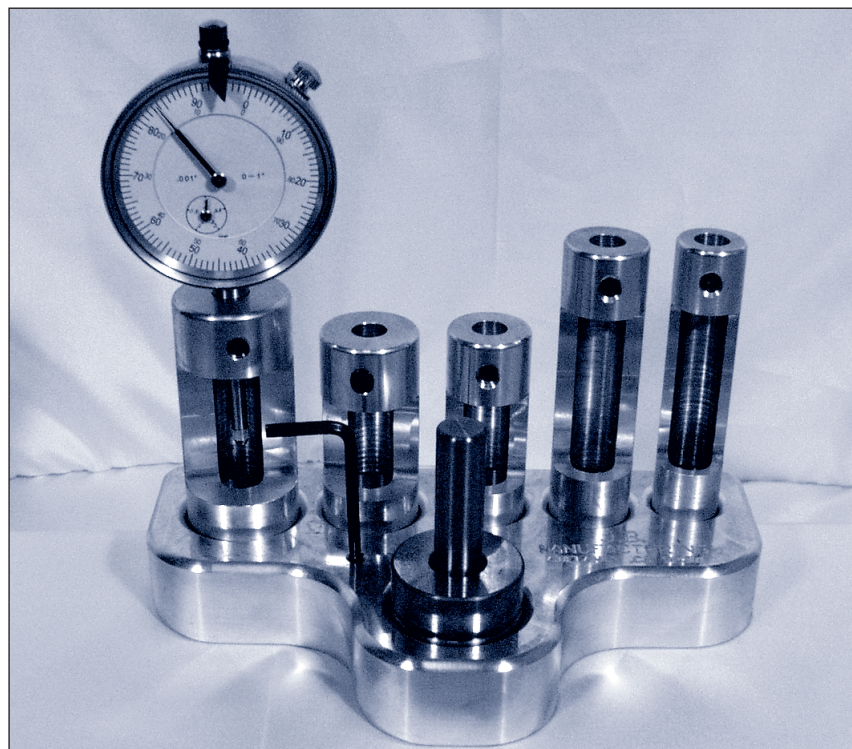


Pneumatic Lifter Burnishing Broach

Size Lifter Bore Sleeves easily with this Pneumatic Bore Broach. Heavy duty construction and black oxide finished. Finish lifter bore with Ball Hones on page 35.

DESCRIPTION	PRODUCT #	PRICE
Lifter Broach Kit	7400366	164.69
Broach driver	7400367	65.87

BROACH SIZE	PRODUCT #	PRICE
.845	7400368	38.42
.875	7400369	38.42
.906	7400370	38.42



Valve Stem Height Gauge Set

The most functional and user friendly stem height gauge set made today. This high quality aluminum set has a dial indicator with 5 setting fixtures and set up gauge with self containing storage stand included. It's easy to see the top of the stem with the site window cut into the side.

GAUGE NUMBER	PRODUCT #	PRICE
VSG-1	7389823	230.56

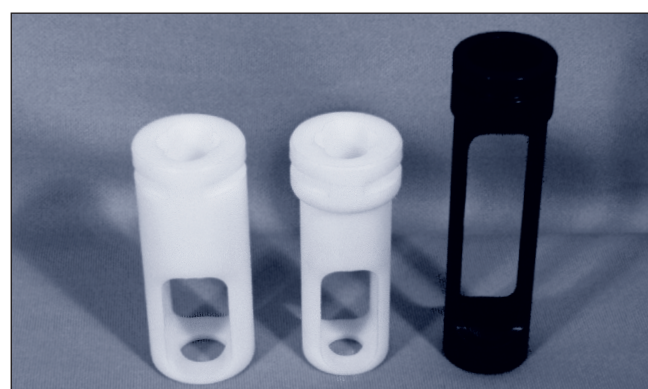


Valve Spring Assembly Compressors (Seat & Guide Machines)

Compressors are made to be used with your seat and guide machine to compress the spring with the quill for assembly and disassembly. Black oxide coated to prevent rusting.

O.D.	SHANK	PRODUCT #	PRICE
1"	1/2"	7389825	38.42
1-1/4"	1/2"	7389826	38.42
1-1/2"	1/2"	7389827	38.42

Buy a Full Set and Receive 10% Off



Air Powered Valve Spring Compressor Adaptors

Adapters for 2 and 4 valves per cylinder head. Use with air powered C-Clamp valve spring compressor. For assembly and disassembly of recessed valve springs.

O.D.	DESCRIPTION	PRODUCT #	PRICE
26mm	1.023" Metal	7389828	23.05
27mm	1.062" Plastic	7389829	15.36
32mm	1.260" Plastic	7389830	15.36

Buy a Full Set and Receive 10% Off



Boss Foot Seal Remover Kit
Slide Hammer/Foot Design



Metric Double Ended Seal Installer
Also works on 5/16" and 11/32"



Teflon Seal Installer Kit
Comes with Setter Sleeves

Valve Seal Removers and Installers

DESCRIPTION	PRODUCT #	PRICE
Boss Foot Valve Seal Remover Kit	7397970	147.83
Double Ended Metric Seal Setter Kit	7397972	121.43
Teflon Seal Setter Kit (4 sizes)	7397973	211.19
5/16" Teflon Seal Setter	7397974	52.79
8mm Teflon Seal Setter	7397975	52.79
11/32" Teflon Seal Setter	7397976	52.79
3/8" Teflon Seal Setter	7397977	52.79

Replacement Seal Setter Sleeves

5/16" Seal Setter Sleeves	7397978	21.11
8mm Seal Setter Sleeves	7397979	21.11
11/32" Seal Setter Sleeves	7397980	21.11
3/8" Seal Setter Sleeves	7397981	21.11

Seal Setter
Sleeves →

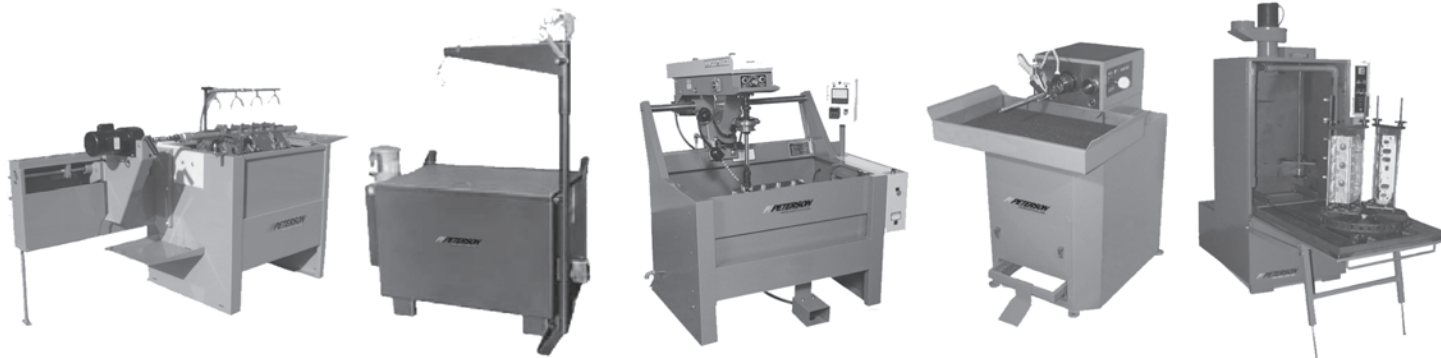
Teflon Seal
Installers →



Valve Stem Seal Installation Kit

DESCRIPTION	PRODUCT #	PRICE
Valve Stem Seal Installation Kit	7397540	105.59





645 Honing Oil

645 is formulated for all automatic & semi-automatic cylinder, line & rod honing operations. Also excellent for use in all valve grinders.

- Excellent lubricity & heat dispersal, maximized stone life.
- Viscosity controlled to reduce chatter & improve finish.
- Safe on all metals, no misting or smoke.
- Significantly reduces stone loading.

395 Rust Dizolv

395 is designed to provide the user with the latest technology in rust control.

- Biodegradable; contains no acids, bases or hazardous ingredients.
- Not harmful to plastic, rubber.
- Hot Tanks and Soak Tanks.
- Non-corrosive, non-flammable, non-toxic.
- Inhibits rust from reforming.
- Mix one gallon of product to one gallon of water.

1195 Alum. & Cast Iron High Performance Cleaner

1195 is the ultimate aluminum & cast iron cleaner. For use in jet spray cabinets & agitated tanks.

- Powerful removal of dirt, greases, carbon and light paint.
- Superior rinsing, non-foaming, excellent in hard water.
- Use 4-8 ounces per gallon @ 160°F - 180°F.
- For use on all engines & transmissions.
- Most powerful cleaner on carbon (may discolor some alloys).

625 Valve Grinding Oil

625 is formulated for all valve grinding machines.

- User friendly.
- Keeps wheel face clean.
- For the best results, add Mirror Finish #7371267, 8 oz. per charge.

1525 Cast Iron & Steel High Performance Cleaner

1525 is a *new formula* designed for heavy duty cleaning of all types of steel & cast iron components in jet spray cabinets and agitated tanks.

- Superb cleaning of rust, scale, carbon, paint, grease, oils & other bonded soils.
- Rinses easily with hot water, will not leave film or bloom.
- Use 8-12 ounces per gallon @ 170°F - 190°F.
- Long lasting & non-foaming.

888 Ultrasonic Cleaner

888 delivers the results ultrasonic machines deserve. This is the newest surfactant package for maximum penetration.

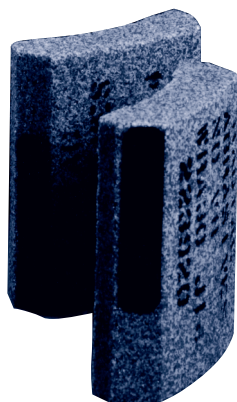
- Chemical builders for breakup & removal of hard solids.
- Use at lower temperatures in most applications.
- Formulated for maximum cavitation.
- Non-hazardous use solution.
- Mix one gallon of product to ten gallons of water.

PRODUCT DESCRIPTION	SIZE	CODE #	PRODUCT #	PRICE
645 Honing Oil	1 Gal	645-01	7401703	25.50
	5 Gal	645-05	7401704	84.59
	55 Gal.	645-55	7401705	746.92
395 Rust Dizolv	5 Gal.	395-05	7401706	111.55
1195 Aluminum/Steel High Performance Cleaner	5 Gal.	1195-45	7401707	139.64
	16 Gal.	1195-125	7401708	357.18
1525 Cast Iron/Steel High Performance Cleaner	5 Gal.	1525-50	7401709	140.26
	16 Gal.	1525-125	7401710	346.21
888 Ultra Sonic Cleaner	5 Gal.	888-05	7401711	109.43
625 Valve Grinding Oil	1 Gal.	625-01	7414540	29.64

Glass Beads and Steel Shot can be found on page 53



Make your next choice for Segments Radiac Abrasives



Surface grinder segments available in three different compositions:

Most Popular

Black Silicon CarbideCast Iron and Aluminum.
RubyCast Iron and Steel (Long Life)
Salt & Pepper (S&P)Cast Iron and Steel

Customers report excellent results in repeatability and performance. Diesel Heads cut well with a mixture of segments half Salt & Pepper and half Black Silicon Carbide. If you are surfacing a lot of Diesel Heads, split the set 50/50 Black / S&P Segments.

Black Silicon Carbide is the **best all around** for Segment Grinding of Cast Iron and Aluminum



STORM VULCAN

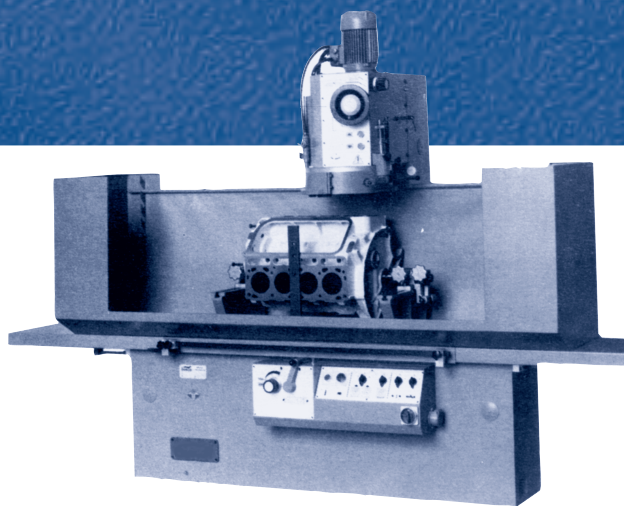
MACHINE	DIAMETER	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
RT-17Y				C30-H800-VOS	Black	P348641	18.18
Early	12-1/2"	8	79 x 21 x 79MM	RA36-F+800-VOS	Ruby	P348642	17.51
SN UP TO 128696				97A36-F+800-VOS	S&P	P348643	17.03
RT-7Y				C30-H800-VOS	Black	P348641	18.18
Early	14"	10	79 x 21 x 79MM	RA36-F+800-VOS	Ruby	P348642	17.51
SN UP TO 103151				97A36-F+800-VOS	S&P	P348643	17.03
RT 17Y				C30-H800-V4	Black	P337252	18.18
Late	14"	10	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	17.51
SN 128697 & up				97A36-F+800-VOS	S&P	P337254	18.18
RT 7Y				C30-H800-V4	Black	P337252	18.18
Late	16"	10	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	17.51
SN 103152 & up				97A36-F+800-VOS	S&P	P337254	18.18

*Segments are priced per piece, sold in sets as required

PETERSON-BERCO

MACHINE	DIAMETER	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
				C30-H800-V4	Black	P337252	18.18
RSC 950	12"	8	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	17.51
				97A36-F+800-VOS	S&P	P337254	18.18
RSC1200				C30-H800-V4	Black	P337252	18.18
RSC1550	14"	10	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	17.51
STC361/1300				97A36-F+800-VOS	S&P	P337254	18.18
RSC1200				C30-H800-V4	Black	P337252	18.18
RSC1500	16"	12	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	18.18
RPY S1500				97A36-F+800-VOS	S&P	P337254	18.18
1055				C30-H800-V4	Black	P337252	18.18
1055 AWL	18"	14	65 x 25 x 100MM	RA36-F+800-VOS	Ruby	P337253	17.51
STC461/2000				97A36-F+800-VOS	S&P	P337254	18.18
RG35				C30-H800-V4	Black	P343756	15.37
300/900P	13"	10	1⁶³/₆₄ x 2¹/₃₂ x 3⁹/₁₆	RA36-F+800-VOS	Ruby	P343757	17.11
RP1200			(50 x 16 x 90MM)	97A36-F+800-VOS	S&P	P343758	14.41
				C30-H800-VOS	Black	P348641	18.18
RG32	12"	8	79 x 21 x 79MM	RA36-F+800-VOS	Ruby	P348642	17.51
				97A36-F+800-VOS	S&P	P348643	17.03

*Segments are priced per piece, sold in sets as required



WINONA VAN NORMAN, ZANROSSO

MACHINE	DIAMETER	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
SM2000	13"	8		C30-H800-V4	Black	P337252	18.18
4000, 5000	13 1/2"	10	65 x 25 x 100mm	RA36-F+800-VOS	Ruby	P337253	17.51
6000	17 1/2"	12		97A36-F+800-VOS	S&P	P337254	18.18

*Segments are priced per piece, sold in sets as required.

KWIKWAY

MACHINE	DIAMETER	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
858	14"	10		C30-H800-V4	Black	P345775	17.03
861	14"	10	65 x 20 x 100mm	RA36-F+800-VOS	Ruby	P345776	17.51
862	16"	12		97A36-F+800-VOS	S&P	P345777	17.03

*Segments are priced per piece, sold in sets as required

DCM

MACHINE	DIAMETER	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
280m, 3800	12"	10		C30-H800-V4	Black	P337252	18.18
5400	12"	10	65 x 25 x 100mm	RA36-F+800-VOS	Ruby	P337253	17.51
5400	18"	14		97A36-F+800-VOS	S&P	P337254	18.18

*Segments are priced per piece, sold in sets as required

HAUSKIN SURFACE GRINDER

MACHINE	SEGMENTS	SEGMENT SIZE	SPECIFICATION	COLOR	PRODUCT #	EACH PC*
Hauskin	4/6	PA-14	79A36-G3-VOS	S&P	P354106	17.08

*Segments are priced per piece, sold in sets as required

Grinding Coolant Page 13

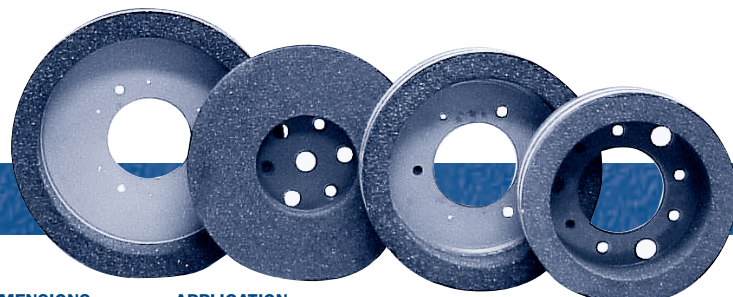


Plate Mounted Surfacing

DIMENSIONS	APPLICATION	SPECIFICATION	COLOR	PRODUCT #	PRICE
12 x 3 x 9	Kwikway, Lempco 545, 545H, 855	C36-J5-B10	Black	U350423	365.33
14 x 3 x 11	(1-1/2" Rim) Kwikway 545-B, 855-5, 856, 860	C24-J5-B10	Black	U354540	467.51
14 x 1-1/2 x 6	All Peterson 14" Drygrinders	C36-I5-B10	Black	U338279	325.93
14 x 1-1/2 x 6	All Peterson 14" Drygrinders	C24-J5-B10	Black	U342040	325.93
14 x 2 x 9	Peterson 950, 952 nut inserted	C16-J5-B10T	Black	U385326	316.97
14 x 2 x 11	(1-1/2" Rim) Van Norman 561, 562	C36-J5-B10	Black	U345396	384.60
16 x 2 x 11	(2-1/2" Rim) Peterson 1050, 1054 (nut inserted)	C24-I5-B10	Black	U351997	351.81
16 x 3 x 13	(1-1/2" Rim) Kwikway 545-BL, 860A, L, & T	C24-J5-B10	Black	U342550	467.51
NEW	Kwikway 860A, L,T & T (softer Hardness, Better Finish)	C36-H7-B4264T	Black	U422304	467.51



VS-100 Series Sioux, K.O. Lee, Thor, Winona & Skill 11/16 Thread

WHITE - FINE		SIOUX		80 GRIT		1-2 PCS	3+ PCS
DIAMETER		TYPE	PRODUCT #				
1-1/8"	(28mm)	VS-101W	7335342			8.26	7.44
1-3/16"	(30mm)	VS-101.5W	7363910			8.26	7.44
1-1/4"	(31mm)	VS-102W	7335343			8.26	7.44
1-5/16"	(33mm)	VS-103W	7335344			8.26	7.44
1-3/8"	(35mm)	VS-104W	7335345			8.26	7.44
1-7/16"	(36mm)	VS-104.5W	7363911			8.26	7.44
1-1/2"	(38mm)	VS-105W	7335346			8.26	7.44
1-9/16"	(39mm)	VS-106W	7335355			8.26	7.44
1-5/8"	(41mm)	VS-107W	7335356			8.26	7.44
1-11/16"	(43mm)	VS-107.5W	7363912			8.26	7.44
1-3/4"	(44mm)	VS-108W	7335357			8.26	7.44
1-7/8"	(47mm)	VS-109W	7335358			8.26	7.44
2"	(50mm)	VS-110W	7335359			9.67	8.71
2-1/8"	(54mm)	VS-111W	7335360			9.67	8.71
2-1/4"	(57mm)	VS-112W	7335361			9.67	8.71
2-3/8"	(60mm)	VS-113W	7335362			9.67	8.71
2-1/2"	(63mm)	VS-114W	7335363			9.67	8.71

RUBY - FINE		SIOUX		80 GRIT		1-2 PCS	3+ PCS
DIAMETER		TYPE	PRODUCT #				
7/8"	(22mm)	VS-99RF	7364407			14.99	13.95
15/16"	(24mm)	VS-99.5RF	7364408			14.99	13.95
1"	(25mm)	VS-100RF	7364409			14.99	13.95
1-1/16"	(27mm)	VS-100.5RF	7364410			14.99	13.95
1-1/8"	(28mm)	VS-101RF	7335290			8.50	7.66
1-3/16"	(30mm)	VS-101.5RF	7363913			8.50	7.66
1-1/4"	(31mm)	VS-102RF	7335291			8.50	7.66
1-5/16"	(33mm)	VS-103RF	7335292			8.50	7.66
1-3/8"	(35mm)	VS-104RF	7335293			8.50	7.66
1-7/16"	(36mm)	VS-104.5RF	7363914			8.50	7.66
1-1/2"	(38mm)	VS-105RF	7335294			8.50	7.66
1-9/16"	(39mm)	VS-106RF	7335295			8.50	7.66
1-5/8"	(41mm)	VS-107RF	7335296			8.50	7.66
1-11/16"	(43mm)	VS-107.5RF	7363915			8.50	7.66
1-3/4"	(44mm)	VS-108RF	7335297			8.50	7.66
1-7/8"	(47mm)	VS-109RF	7335298			8.50	7.66
2"	(50mm)	VS-110RF	7335299			8.50	7.66
2-1/8"	(54mm)	VS-111RF	7335300			9.67	8.71
2-1/4"	(57mm)	VS-112RF	7335301			9.67	8.71
2-3/8"	(60mm)	VS-113RF	7335302			9.67	8.71
2-1/2"	(63mm)	VS-114RF	7335303			9.67	8.71

RUBY - COARSE		SIOUX		60 GRIT		1-2 PCS	3+ PCS
DIAMETER		TYPE	PRODUCT #				
1-1/8"	(28mm)	VS-101RC	7335160			8.50	7.66
1-3/16"	(30mm)	VS-101.5RC	7363916			8.50	7.66
1-1/4"	(31mm)	VS-102RC	7335161			8.50	7.66
1-5/16"	(33mm)	VS-103RC	7335162			8.50	7.66
1-3/8"	(35mm)	VS-104RC	7335163			8.50	7.66
1-7/16"	(36mm)	VS-104.5RC	7363917			8.50	7.66
1-1/2"	(38mm)	VS-105RC	7335164			8.50	7.66
1-9/16"	(39mm)	VS-106RC	7335165			8.50	7.66
1-5/8"	(41mm)	VS-107RC	7335166			8.50	7.66
1-11/16"	(43mm)	VS-107.5RC	7363918			8.50	7.66
1-3/4"	(44mm)	VS-108RC	7335167			8.50	7.66
1-7/8"	(47mm)	VS-109RC	7335168			8.50	7.66
2"	(50mm)	VS-110RC	7335169			9.67	8.71
2-1/8"	(54mm)	VS-111RC	7335170			9.67	8.71
2-1/4"	(57mm)	VS-112RC	7335171			9.67	8.71
2-3/8"	(60mm)	VS-113RC	7335172			9.67	8.71
2-1/2"	(63mm)	VS-114RC	7335173			9.67	8.71

★ Indicates Small O.D.

BLUE - FINE		SIOUX		80 GRIT		1-2 PCS	3+ PCS
DIAMETER		TYPE	PRODUCT #				
1-1/8"	(28mm)	VS-101F	7335276			8.26	7.44
1-3/16"	(30mm)	VS-101.5F	7363919			8.26	7.44
1-1/4"	(31mm)	VS-102F	7335277			8.26	7.44
1-5/16"	(33mm)	VS-103F	7335278			8.26	7.44
1-3/8"	(35mm)	VS-104F	7335324			8.26	7.44
1-7/16"	(36mm)	VS-104.5F	7363920			8.26	7.44
1-1/2"	(38mm)	VS-105F	7335325			8.26	7.44
1-9/16"	(39mm)	VS-106F	7335326			8.26	7.44
1-5/8"	(41mm)	VS-107F	7335327			8.26	7.44
1-11/16"	(43mm)	VS-107.5F	7363921			8.26	7.44
1-3/4"	(44mm)	VS-108F	7335328			8.26	7.44
1-7/8"	(47mm)	VS-109F	7335329			8.26	7.44
2"	(50mm)	VS-110F	7335330			8.26	7.44
2-1/8"	(54mm)	VS-111F	7335331			9.67	8.71
2-1/4"	(57mm)	VS-112F	7335332			9.67	8.71
2-3/8"	(60mm)	VS-113F	7335333			9.67	8.71
2-1/2"	(63mm)	VS-114F	7335334			9.67	8.71

BLACK - VERY FINE		SIOUX		NEW 120/150 Grit!		1-2 PCS	3+ PCS
DIAMETER		TYPE	PRODUCT #				
7/8"	(22mm)	VS-99 BVF	7427127			17.10	15.99
15/16"	(24mm)	VS-99.5 BVF	7427128			17.10	15.99
1"	(25mm)	VS-100 BVF	7427129			17.10	15.99
1-1/16"	(27mm)	VS-100.5 BVF	7427130			18.19	17.09
1-1/8"	(28mm)	VS-101 BVF	7427131			8.70	7.78
1-3/16"	(30mm)	VS-101.5 BVF	7427132			8.70	7.78
1-1/4"	(31mm)	VS-102 BVF	7427133			8.70	7.78
1-5/16"	(33mm)	VS-103 BVF	7427134			8.70	7.78
1-3/8"	(35mm)	VS-104 BVF	7427135			8.70	7.78
1-7/16"	(36mm)	VS-104.5 BVF	7427136			8.70	7.78
1-1/2"	(38mm)	VS-106 BVF	7427137			8.70	7.78
1-9/16"	(39mm)	VS-106 BVF	7427138			8.70	7.78
1-5/8"	(41mm)	VS-107 BVF	7427139			8.70	7.78
1-11/16"	(43mm)	VS-107.5 BVF	7427140			8.70	7.78
1-3/4"	(44mm)	VS-108 BVF	7427141			8.70	7.78
1-7/8"	(47mm)	VS-109 BVF	7427142			8.70	7.78
2"	(50mm)	VS-110 BVF	7427143			9.83	8.91
2-1/8"	(54mm)	VS-111 BVF	7427144			9.83	8.91
2-1/4"	(57mm)	VS-112 BVF	7427145			9.83	8.91
2-3/8"	(60mm)	VS-113 BVF	7427146			9.83	8.91

BLACK		SIOUX 1703		PRODUCT #	PRICE
DIAMETER		SIOUX #/GRIT			
2-5/8"	(67mm)	K109CK 24 grit		7415842	23.22
2-5/8"	(67mm)	K449CK 60 grit		7415843	23.22
2-5/8"	(67mm)	K449 120 grit		7415844	23.22

Threaded Insert 7/8 - 14 for use with 1703 Holder

Bounce Springs

NEW

Used with Seat Wheels and Lap Master products. These springs enable seat grinding wheels to get up to speed before they come in contact with the valve seat. Helps produce a better seat finish.		SPRING HEIGHT	PRODUCT #	EACH
	For .236" to .375" Top Pilot	1-1/2"	7420916	3.98
		2"	7420917	3.98
		2-1/2"	7420918	3.98
	For .375" to .437" Top Pilot	1-1/2"	7420919	5.48
		2"	7420920	5.48
		2-1/2"	7420921	5.48

finish.



- WHITE - FINE**
- General Purpose
 - Stellite Finishing
 - Hardened Seat Alloys
 - Excellent Form Holding
 - Good Finish

- RUBY - FINE**
- General Purpose
 - Hardened Seat Alloys
 - Finishing Stone
 - Cast Iron /Stellite
 - Excellent Form Holding

- RUBY - COARSE**
- General Purpose
 - Stellite Roughing
 - Cast Iron Roughing
 - Will Not Groove
 - Excellent Form Holding

- BLUE - FINE**
- Fine Finishing/Light Pressure
 - Cast Iron Finishing
 - Stellite Finish/Light Pressure
 - Excellent General Purpose
 - Best All Around

VS-300 Series Kwikway 13/16 Thread

WHITE - FINE	KWIKWAY	80 GRIT		
DIAMETER	TYPE	PRODUCT #	1-2 PCS	3+ PCS
1-1/4" (31mm)	VS-301W	7335318	9.99	9.02
1-5/16" (33mm)	VS-301.5W	7363922	9.99	9.02
1-3/8" (35mm)	VS-302W	7335319	9.99	9.02
1-7/16" (36mm)	VS-302.5W	7363923	9.99	9.02
1-1/2" (38mm)	VS-303W	7335320	9.99	9.02
1-9/16" (39mm)	VS-303.5W	7363924	9.99	9.02
1-5/8" (41mm)	VS-304W	7335321	9.99	9.02
1-11/16" (43mm)	VS-304.5W	7363925	9.99	9.02
1-3/4" (44mm)	VS-305W	7335322	9.99	9.02
1-7/8" (47mm)	VS-306W	7335323	9.99	9.02
2" (50mm)	VS-307W	7335339	9.99	9.02
2-1/8" (54mm)	VS-307.5W	7335887	10.36	9.32
2-1/4" (57mm)	VS-308W	7335340	10.36	9.32
2-3/8" (60mm)	VS-309W	7335341	10.36	9.32
2-1/2" (63mm)	VS-310W	7333987	10.36	9.32

RUBY - COARSE	KWIKWAY	60 GRIT		
DIAMETER	TYPE	PRODUCT #	1-2 PCS	3+ PCS
1-1/4" (31mm)	VS-301RC	7335151	9.99	9.02
1-5/16" (34mm)	VS-301.5RC	7363930	9.99	9.02
1-3/8" (35mm)	VS-302RC	7335152	9.99	9.02
1-7/16" (36mm)	VS-302.5RC	7363931	9.99	9.02
1-1/2" (38mm)	VS-303RC	7335153	9.99	9.02
1-9/16" (39mm)	VS-303.5RC	7363932	9.99	9.02
1-5/8" (41mm)	VS-304RC	7335154	9.99	9.02
1-11/16" (43mm)	VS-304.5RC	7363933	9.99	9.02
1-3/4" (44mm)	VS-305RC	7335155	9.99	9.02
1-7/8" (47mm)	VS-306RC	7335156	9.99	9.02
2" (50mm)	VS-307RC	7335157	9.99	9.02
2-1/8" (54mm)	VS-307.5RC	7335889	10.36	9.32
2-1/4" (57mm)	VS-308RC	7335158	10.36	9.32
2-3/8" (60mm)	VS-309RC	7335159	10.36	9.32
2-1/2" (63mm)	VS-310RC	7333986	10.36	9.32

RUBY - FINE	KWIKWAY	80 GRIT		
DIAMETER	TYPE	PRODUCT #	1-2 PCS	3+ PCS
★ 7/8" (22mm)	VS-298.5RF	7364614	14.99	13.95
★ 15/16" (24mm)	VS-299RF	7364615	14.99	13.95
★ 1" (25mm)	VS-299.5RF	7364616	14.99	13.95
★ 1-1/16" (27mm)	VS-300RF	7364617	14.99	13.95
★ 1-1/8" (28mm)	VS-300.5RF	7364618	14.99	13.95
★ 1-3/16" (30mm)	VS300.6RF	7397551	14.99	13.95
1-1/4" (31mm)	VS-301RF	7335280	9.99	9.02
1-5/16" (34mm)	VS-301.5RF	7363926	9.99	9.02
1-3/8" (35mm)	VS-302RF	7335281	9.99	9.02
1-7/16" (36mm)	VS-302.5RF	7363927	9.99	9.02
1-1/2" (38mm)	VS-303RF	7335282	9.99	9.02
1-9/16" (39mm)	VS-303.5RF	7363928	9.99	9.02
1-5/8" (41mm)	VS-304RF	7335283	9.99	9.02
1-11/16" (43mm)	VS-304.5RF	7363929	9.99	9.02
1-3/4" (44mm)	VS-305RF	7335284	9.99	9.02
1-7/8" (47mm)	VS-306RF	7335285	9.99	9.02
2" (50mm)	VS-307RF	7335286	9.99	9.02
2-1/8" (54mm)	VS-307.5RF	7335888	10.36	9.32
2-1/4" (57mm)	VS-308RF	7335287	10.36	9.32
2-3/8" (60mm)	VS-309RF	7335288	10.36	9.32
2-1/2" (63mm)	VS-310RF	7335289	10.36	9.32

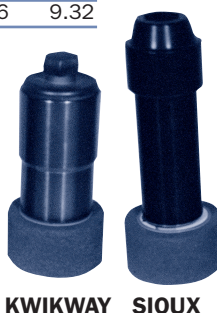
BLUE - FINE	KWIKWAY	80 GRIT		
DIAMETER	TYPE	PRODUCT #	1-2 PCS	3+ PCS
1-1/4" (31mm)	VS-301F	7335266	9.99	9.02
1-5/16" (34mm)	VS-301.5F	7364094	9.99	9.02
1-3/8" (35mm)	VS-302F	7335267	9.99	9.02
1-7/16" (36mm)	VS-302.5F	7364095	9.99	9.02
1-1/2" (38mm)	VS-303F	7335268	9.99	9.02
1-9/16" (39mm)	VS-303.5F	7364096	9.99	9.02
1-5/8" (41mm)	VS-304F	7335269	9.99	9.02
1-11/16" (43mm)	VS-304.5F	7364097	9.99	9.02
1-3/4" (44mm)	VS-305F	7335270	9.99	9.02
1-7/8" (47mm)	VS-306F	7335271	9.99	9.02
2" (50mm)	VS-307F	7335272	9.99	9.02
2-1/8" (54mm)	VS-307.5F	7335890	10.36	9.32
2-1/4" (57mm)	VS-308F	7335273	10.36	9.32
2-3/8" (60mm)	VS-309F	7335274	10.36	9.32
2-1/2" (63mm)	VS-310F	7335275	10.36	9.32

CAUTION: 60 Degree Angle On Wheels can cause chatter and threaded bushings to loosen, if used incorrectly. Note: All stones standard 90 degree angle only. Use of Bounce Springs recommended.

★ Indicates Small O.D.

Valve Seat Wheel Holders for Seat Grinding

Valve Seat Holders are hardened and precision ground. Ball bearing stone holders are designed to fit your valve seat driver. OEM made. Superior quality construction and built to last.



SIZE	THREAD	PILOT TOP O.D.	PRODUCT #	EACH
Short Sioux 1672	11/16 - 16	.385	7413704	99.78
Tall Sioux 1702	11/16 - 16	.385	7381966	105.33
Kwikway 3056	13/16 - 13	.437	7381967	166.31
Sioux 1703	7/8 - 14	.572	7413897	221.75

Buy 2 or More Holders and Receive 30% Off Stone Removers on Page 19
Buy 2 or More Holders and Receive 10% Off.

MIRROR FINISH

Pro-Blend Valve Grinding Oil Additive

Superior oil additive that keeps the wheel face clean and sharp to produce brilliant valve finishes. Excellent for Titanium, Stainless, Stellite and OEM valve materials. Good for lubing Ball Broaches when sizing liners.

PRODUCT #	1 CAN	2+ CANS
7371267	36.57	33.24

This Stuff Works!!
16 oz. Can. Use 8 oz per tank of oil



Valve Refacer Wheels

Radiac manufactures many popular sizes and shapes of Valve Refacing Wheels while using top quality grain for every wheel. We thoroughly test every wheel for size, shape and balance. Make your next refacer wheel a Radiac made product.



DIMENSIONS	APPLICATION	SPECIFICATION	COLOR	PRODUCT #	PRICE
4 x 3/4 x 7/8	Fits KWIKEY models C and P	WRA80-K5-V8	Red/White	F336031	24.57
4 x 1 x 5/8	Fits BLACK & DECKER models A to EF, SIOUX all models	WRA80-K5-V8	Red/White	F167851	28.16
4-1/2 x 7/8 x 7/8	Fits KWIKEY models CV and SV	WRA80-K8-V8	Red/White	F336032	32.21
5 x 3/4 x 5/8	Fits KO Lee models K3, K3A and K103	WRA80-K8-V8	Red/White	F336034	35.06
5 x 3/4 x 5/8	15 Deg. Face - Fits KO Lee models K103A, 303, 403 & 500. SNAP-On all models	WRA80-K8-V8	Red/White	F336035	36.56
5 x 7/8 x 7/8	Fits KWIKEY model VS	OEM, Stainless WRA80-K8-V8	Red/White	F257738	35.58
5 x 7/8 x 7/8	Fits KWIKEY model VS	NEW OEM, Stainless, Titanium GC100-J6-V4	Green	F389354	63.59
5 x 1 x 5/8	Fits BLACK & DECKER models P and 550 - 20 Deg. Face	WRA80-K8-V8	Red/White	F336033	39.72
6/5 x 1 x 3/4	Sunnen VR-6500, Sunnen 603 wheel	OEM, Stainless WAA100-M5-V1	Grey	F345291	59.24
7 x 1.100/.550 x 30mm	Peterson RV20PP	General Purpose WA80-J+6-V28	Orange	F401585	56.06
7 x .675 x 1-3/4	Fits SIOUX 2001, 2075, 680, 956 Rottler VR-7	OEM, Stainless, Titanium GC100-J6-V4	Green	F401501	74.57
		General Purpose #176 WA80-I+8-V28	Orange	A364068	43.48
		Fine Finishing #177 WA120-I+6-V8**	White	A324814	43.48
		NEW Fine Finishing XX801-I+8-V424892	Brown	A424892	43.48
		Fine Finishing WA120-J+6-V28**	Orange	A382438	43.48
		General Purpose RA80-M5-V8	Ruby	A379613	45.94
		OEM, Stainless, Titanium GC100-J6-V4	Green	A340229	66.15
7 x 1/9/16 x 7/8	Fits KWIKEY SVS and SVSII	General Purpose WA80-I+8-V28	Orange	F372239	54.54
		Fine Finishing WA120-I+6-V8**	White	F342482	54.54
		NEW Fine Finishing A901-M8-V28	Brown	F426141	54.54
		General Purpose RA80-M5-V8	Ruby	F377419	57.64
		OEM, Stainless, Titanium GC100-J6-V4	Green	F342484	82.21
8/7 x 1 x 1 1/2	Winona V90, Sunnen VR-7000, 8000 IDL CG50, CG80, CG82	General Purpose WA80-I+6-V28	Orange	G393775	75.88
		OEM, Stainless WA120-M6-V8**	White	G344815	74.85
		OEM, Stainless WA120-M6-V28**	Orange	G344816	74.85
		NEW OEM, Stainless, Titanium GC100-J6-V4	Green	G344817	118.29
		General Purpose RA80-M5-V8	Ruby	G387105	78.39
8 x 1 x 1/2	Kwikway VL	General Purpose WAA100-M5-V1	Grey	G358784	80.86
215 x 35 x 76mm (8 1/2")	Comec RV516, Rottler VR416	OEM, Stainless, Titanium GC120-J6-V4	Green	G391946	155.57
		OEM, Stainless WA120-J+6-V28**	Orange	G397752	108.58
		General Purpose WAA100-K6-V1	Grey	G400086	108.58
12 x 5/8 x 3	Winona VR-1000, CRW	OEM, Stainless, GP WA100-J+6-V28	Orange	A343620	72.26
		OEM, Stainless, Titanium GC100-J6-V4	Green	A343621	100.06
		General Purpose RA80-M5-V8	Ruby	A401605	97.76
200mm x 1.032/.532 x .875		OEM, Stainless, GP WA100-J+8-V28	Orange	F406724	109.95
	Serdi VVR120	OEM, Stainless, Titanium GC100-J6-V4	Green	G411913	155.61
200mm x 10 x 41		OEM, Stainless, GP WA100-J+8-V28	Orange	A416344	36.65
	Serdi 2	OEM, Stainless, Titanium GC100-J5-VL	Green	A353227	54.45

** 120 Grit requires fine dressing

Mirror Finish Valve Oil Additive Recommended. See Page 26.

Valve Stem Butt Grinding

DIMENSIONS	APPLICATION	SPECIFICATION	COLOR	PRODUCT #	PRICE
3 x 1-1/4 x 5/8	Fits KWIKEY all models, Rottler VR-7	WAA602	Grey	7336036	24.01
4 x 1 x 5/8	Fits SIOUX all models. Fits some BLACK & DECKER, K.O.Lee	WAA602	Grey	F336037	26.69
4 x 1-1/8 x 1/2	Fits BLACK & DECKER, SNAP-ON	WAA80	Grey	7336038	25.99
5 x 1-3/8 x 3/4	Sunnen VR-6500	WAA46	Grey	F345599	36.34
6 x 1-1/4 x 3/4	Kwikway VL	WAA46	Grey	F348645	47.44
8/7 x 1 x 1 1/2	Winona V90, Sunnen VR-7000, 8000 IDL CG50, CG80, CG82	WAA46	Grey	G344818	62.89
100 x 50 x 20mm	Comec RV-516, Rottler VR416, Rottler VR-	WAA46	Grey	F401039	56.44

Valve Grinding Oil page 23 – Do Not Use Honing Oil or Transmission Fluid for Valve Grinding



R-1 R-2 R-3 R-4 R-5 R-7 R-8 R-9 R-17 R-18 R-19

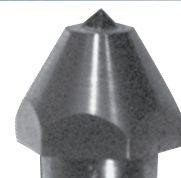
Premium Diamond Dressing Tools

Grinding wheels will operate at peak efficiency if properly trued and dressed. Premium dressing tools stay sharp longer, last longer and can improve wheel performance. Single Point Diamond Tools are used for straight wheel dressing with

high point definition for fast cutting and superior finish. Threaded Diamond Tools have precision threads that screw easily into tool holder to prevent vibration and support the diamond dressing point properly.

DIMENSIONS	THREAD	REMARKS	STYLE	MACHINES	PRODUCT #	PRICE
5/16 x 2-1/4	18NC	Threaded	R-9	KO Lee Reseater	2335667	29.77
5/16 x 2-1/4	18NC	Threaded	R-9	Snap-On Refacer	2335667	29.77
5/16 x 2-1/4	24NF	Threaded	R-8	Black & Decker Reseater	2335666	29.77
5/16 x 2-1/4	24NF	Threaded	R-8	Hall Reseater	2335666	29.77
5/16 x 2-1/4	24NF	Threaded	R-8	SKIL Reseater	2335666	29.77
5/16 x 2-1/4	24NF	Threaded	R-8	Snap-On Refacer	2335666	29.77
5/16 x 2-1/4	24NF	Threaded	R-8	Snap-On Reseater	2335666	29.77
5/16 x 2-1/2	None	Round	R-3	KO Lee/Kwikway Refacer	2335662	29.77
5/16 x 2-1/2	None	Round	R-3	S&D Refacer	2335662	29.77
5/16 x 2-1/2	None	Round	R-3	Sunnen Refacer/WVN VR6500-7000-8000	2335662	29.77
5/16 x 2-1/2	None	Round	R-3	Tobin Arp Refacer	2335662	29.77
10mm x 2	None	Round	R-1	Comec/Rottler Refacers	2V6836	42.66
3/8 x 1-1/8	None	1/4" STEP	R-7	Hall Refacer	2335665	29.77
3/8 x 1-1/8	None	1/4" STEP	R-7	KO Lee Kwikway, WVN Refacer	2335665	29.77
3/8 x 1-1/8	None	1/4" STEP	R-7	Snap-On Refacer	2335665	29.77
3/8 x 1-1/8	None	1/4" STEP	R-7	Black & Decker Refacer	2335665	29.77
3/8 x 1-5/8	None	Round	R-1	Black & Decker Refacer	2335660	29.77
3/8 x 1-5/8	None	Round	R-1	Sioux Refacer/CRG Sunnen 500 Cap Grinder	2335660	29.77
3/8 x 1-5/8	None	Round	R-1	SKIL Refacer	2335660	29.77
3/8 x 1-5/8	None	Round	R-1	Thor Refacer	2335660	29.77
3/8 x 1-5/8	None	Round	R-1	Van Dorn Refacer	2335660	29.77
3/8 x 1-5/8	None	Round	R-1	Van Norman Refacer	2335660	29.77
3/8 x 2	24NF	Threaded	R-2	Black & Decker Reseater	2335661	29.77
3/8 x 2	24NF	Threaded	R-2	Sioux Reseater	2335661	29.77
3/8 x 2	24NF	Threaded	R-2	S&D Reseater	2335661	29.77
3/8 x 2	24NF	Threaded	R-2	Thor Reseater	2335661	29.77
3/8 x 2	24NF	Threaded	R-2	Van Dorn Reseater	2335661	29.77
3/8 x 2	1/4-28 LH	Hex. Internal Thread	R-11	Sioux Reseater	2335668	29.77
3/8 x 2	1/4-28 RH	Hex. Internal Thread	R-11	Sioux Reseater	2V8674	29.77
3/8 x 2-3/8	24NF	Threaded	R-19	Kwikway Reseater	2335672	29.77
3/8 x 3	24NF	Threaded	R-5	Sunnen Sioux Refacer/IDL, WVN CG-50, CG80	2335664	29.77
3/8 x 3	24NF	Threaded	R-5	Sunnen Sioux Reseater	2335664	29.77
7/16 x 3	20NF	Threaded	R-17	Kwikway Refacer	2335670	29.77
7/16 x 3	20NF	Threaded	R-17	Kwikway Reseater	2335670	29.77
1/2 x 2-3/4	20NF	Half Threaded	R-18	HD Kwikway Reseater	2335671	29.77
1/2 x 3-1/4	20NF	Threaded	R-4	Kwikway Refacer/Storm Rod Grinder	2335663	29.77
1/2 x 3-1/4	20NF	Threaded	R-4	Kwikway Reseater	2335663	29.77

Premium Radiac Manufactured Diamond Dressing Tools last longer and improve wheel performance. Excellent user satisfaction. Resettable Quality Dressers



MACHINE	DIMENSIONS	SHANK	CARAT	STYLE	PRODUCT #	1 PC	2+ PCS
Storm Vulcan 14, 15, 15A,	1/2 x 3	Straight	3/4c	R-25A	2354244	119.00	108.00
15C, 75, 75A	1/2 x 3	Straight	1c	R-25B	2354245	165.00	149.00
Peterson-Berco Cam, Crank Radius/Table dresser	1/2 x 3	Straight	1-1/2c	R-25C	2354246	223.45	201.10
Zanrosso, Winona	1/2 x 2-1/4	Straight	1c	R-25A-Z	2354247	165.00	149.00
	1/2 x 2-1/4	Straight	1-1/2c	R-25B-Z	2354248	223.45	201.10
	1/2 x 2-1/4	Straight	2c	R-25C-Z	2354249	334.00	311.00
Scledum, Step Type	10mm x 1-1/2	Straight	1c	R-27A	2354250	165.00	149.00
RMC	10mm x 1-1/2	Straight	1-1/2c	R-27B	2354251	334.00	311.00
	10mm x 1-1/2	Straight	2c	R-27C	2354252	275.55	248.00
Peterson-Berco	Step Type	Tapered	1c	R-32	2354253	165.00	149.00
Hydraulic Dresser	Step Type	Tapered	1-1/2c	R-32A	2354254	223.45	201.10
	Step Type	Tapered	2c	R-32B	2354255	334.00	311.00
Peterson-Berco (Radius Dresser)	Tapered x 60°	Tapered	3/4c	R-32/60°	2V7035	165.00	149.00
Van Norman 253, 254	3/8 x 1-3/4	Straight	3/4c	R-31	2354235	135.00	123.00
Van Norman Radius Dresser	7/16 x 2 x 70°	Straight	3/4c	R-34	2354236	165.00	149.00
Storm Vulcan, Van Norman, CG-210, 250, 280 Radius Dresser	1/2 x 2 x 70°	Straight	3/4c	R-33	2354237	165.00	149.00
Van Norman, Lempco, Landis	7/16 x 1-1/2	5/8" Head	1c	R-30A	2354238	165.00	149.00
	7/16 x 1-1/2	5/8" Head	1-1/2c	R-30B	2354239	223.45	201.10
	7/16 x 1-1/2	5/8" Head	2c	R-30C	2354240	334.00	311.00
Schou Model K-1100H/Kwikway	10mm x 2-1/4	Straight	1c	R-25B-10mm	2354241	165.00	149.00
	10mm x 2-1/4	Straight	1-1/2c	R-25C-10mm	2354242	223.45	201.10

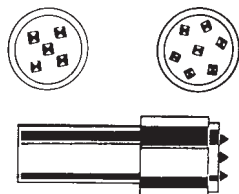
Wheel Dressing Procedures are outlined on Page 47. Resetting Service Available



Keep your wheels sharp!

Diamond Cluster Dressers

For side dressing crank and cam wheels.



CRANK / CAM DRESSERS



OD	LENGTH	CARAT	DIAMOND CLUSTER	STYLE	MACHINE	PRODUCT #	PKG QTY	1 PC	2+ PCS
1/2"	4"	1-1/2	7	R-25S	Storm Vulcan, Straight Shank	2V7185	1	103.86	93.47
1/2"	3-1/2"	1/3	5	R-26S	Storm Vulcan 1/2-20 NF 1" Knurled Finger Adjuster	2V7186	1	103.86	93.47
7/16	1-5/8	1/3	5	R-30S	Winona Van Norman, Lempco, Landis	2V7187	1	103.86	93.47

Sharp Diamonds Give Better Finishes

AN BLACK SILICON CARBIDE Mounted Honing Stone Sets For Tall Cylinders over 6"

PORTABLE & POWER STROKE HONING

HONE NO.	SUNNEN NUMBERS	BORE RANGE	SPEC.	PRODUCT #	1-2 BXS	3+ BXS
RAN-100S	AN-100 M27-J17	2.7-4.1	C70	7341545	19.45	17.49
RAN-200S	AN-200 M27-J45	2.7-4.1	C150	7341546	19.45	17.49
RAN-300S	AN-300 M27-J55	2.7-4.1	C220	7341547	19.45	17.49
RAN-500S	AN-500 M27-J65	2.7-4.1	C280	7341548	19.45	17.49
RAN-820S	M27-J87	2.7-4.1	C400	7341549	19.45	17.49
RAN-101S	AN-101 N37-J17	3.5-5.5	C70	7341550	19.45	17.49
RAN-201S	AN-201 N37-J45	3.5-5.5	C150	7341551	19.45	17.49
RAN-301S	AN-301 N37-J55	3.5-5.5	C220	7341552	19.45	17.49
RAN-501S	AN-501 N37-J65	3.5-5.5	C280	7341553	19.45	17.49
RAN-821S	N37-J87	3.5-5.5	C400	7341554	19.45	17.49

Price Per Box

- 2 Hones and 2 Wipers per set
- Standard 4" length stone mounted on 4" holders.
- 1 set per box (4 pcs)
- 2 Stones, 2 wipers
- Fits AN Series hone head
- Silicon Carbide

AN BLACK SILICON CARBIDE Mounted Honing Stone Sets For Short Cylinders under 6"

PORTABLE & POWER STROKE HONING

HONE NO.	SUNNEN NUMBERS	BORE RANGE	SPEC.	PRODUCT #	1-2 BXS	3+ BXS
RAN-100-3S	AN-100-71 M27-J17-71	2.7-4.1	C70	7341535	19.45	17.49
RAN-200-3S	AN-200-71 M27-J45-71	2.7-4.1	C150	7341536	19.45	17.49
RAN-300-3S	AN-300-71 M27-J55-71	2.7-4.1	C220	7341537	19.45	17.49
RAN-500-3S	AN-500-71 M27-J65-71	2.7-4.1	C280	7341538	19.45	17.49
RAN-820-3S	M27-J87-71	2.7-4.1	C400	7341539	19.45	17.49
RAN-101-3S	AN-101-71 N37-J17-71	3.5-5.5	C70	7341540	19.45	17.49
RAN-201-3S	AN-201-71 N37-J45-71	3.5-5.5	C150	7341541	19.45	17.49
RAN-301-3S	AN-301-71 N37-J55-71	3.5-5.5	C220	7341542	19.45	17.49
RAN-501-3S	AN-501-71 N37-J65-71	3.5-5.5	C280	7341543	19.45	17.49
RAN-821-3S	N37-J87-71	3.5-5.5	C400	7341544	19.45	17.49

Price per Box

- 2 Hones and 2 Wipers per set
- 1 set per box (4 pcs)
- 3" stone mounted on standard 4" holders.
- For honing of short length cylinder bores.
- Fits AN Series hone head
- Silicon Carbide

AN ALUMINUM OXIDE SULFUR TREATED Mounted Honing Stone Sets For Tall Cylinders over 6"

POWER STROKE HONING

HONE NO.	BORE RANGE	SPECIFICATION	PRODUCT #	1-2 BXS	3+ BXS
RAN-200	2.7-4.1	A150	7377241	18.71	16.86
RAN-300	2.7-4.1	A220	7377242	18.71	16.86
RAN-500	2.7-4.1	A280	7377243	18.71	16.86
RAN-201	3.5-5.5	A150	7377245	19.45	17.49
RAN-301	3.5-5.5	A220	7377246	19.45	17.49
RAN-501	3.5-5.5	A280	7377247	19.45	17.49

Price Per Box

- 2 Hones and 2 Wipers per set
- Standard 4" length stone mounted on 4" holders.
- 1 set per box (4 pcs)
- 2 Stones, 2 wipers
- Fits AN Series hone head
- Harder Hone
- Aluminum Oxide

AN ALUMINUM OXIDE SULFUR TREATED Mounted Honing Stone Sets For Short Cylinders under 6"

POWER STROKE HONING

HONE NO.	BORE RANGE	SPECIFICATION	PRODUCT #	1-2 BXS	3+ BXS
RAN-200-3	2.7-4.1	A150	7377249	18.71	16.86
RAN-300-3	2.7-4.1	A220	7377250	18.71	16.86
RAN-500-3	2.7-4.1	A280	7377251	18.71	16.86
RAN-201-3	3.5-5.5	A150	7377253	19.45	17.49
RAN-301-3	3.5-5.5	A220	7377254	19.45	17.49
RAN-501-3	3.5-5.5	A280	7377255	19.45	17.49

Price per Box

- 2 Hones and 2 Wipers per set
- 1 set per box (4 pcs)
- 3" stone mounted on standard 4" holders.
- For honing of short length cylinder bores.
- Fits AN Series hone head
- Harder Hone
- Aluminum Oxide

RCR Connecting Rod Reconditioning Hones



HONE NUMBER	FINISH	SPEC.	MANDREL	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RCR-2	Fine	A220	CR1450-CR1750	7349462	2	17.91	16.12
RCR-4	Fine	A320	CR1450-CR1750	7349463	2	17.91	16.12
RCR-10	Rough	A100	CR1900-CR4500	7341570	2	17.91	16.12
RCR-10-N	Rough	A100	Power Stroke Harder Hone	7349464	2	20.27	18.23
RCR-12	Medium	A220	CR1900-CR4500	7341571	2	17.91	16.12
RCR-12-8	Medium	A220	Power Stroke Harder Hone	7349465	2	20.27	18.23
RCR-14	Fine	A320	CR1900-CR4500	7341572	2	17.91	16.12

- Crank Journal Rod End
- Power Stroke (Harder Hone)

Priced per box, 2 pcs

RKL Connecting Rod/Piston Reconditioning Hones



HONE NUMBER	FINISH	SPEC.	MANDREL	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RKL-5	Rough	C80	(Pin), Sunnen KL	7341555	12	45.12	40.75
RKL-7	Medium	C150	(Pin), Sunnen KL	7341556	12	45.12	40.75
RKL-13	Fine	C280	(Pin), Sunnen KL	7341557	12	45.12	40.75

- Small Wrist Pin Connecting Rods
- Single Stone Length

Priced per box; 12 pcs

RML Connecting Rod/Piston Reconditioning Hones



HONE NUMBER	FINISH	SPEC.	MANDREL	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RML-5	Rough	C80	Piston & King (Pin), Sunnen ML	7341558	12	45.12	40.75
RML-7	Medium	C150	Piston & King (Pin), Sunnen ML	7341559	12	45.12	40.75
RML-13	Fine	C280	Piston & King (Pin), Sunnen ML	7341560	12	45.12	40.75

- Small Wrist Pin Connecting Rods
- Multiple Stone Length

Priced per box; 12 pcs

RPL Connecting Rod/Piston Reconditioning Hones



HONE NUMBER	FINISH	SPEC.	MANDREL	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RPL-5	Rough	C80	(Pin), Sunnen PL	7341561	12	53.69	48.34
RPL-7	Medium	C150	(Pin), Sunnen PL	7341562	12	53.69	48.34
RPL-13	Fine	C280	(Pin), Sunnen PL	7341563	12	53.69	48.34

- Large Wrist Pin Connecting Rods
- Multiple Stone Length

Priced per box; 12 pcs

RSL Connecting Rod/Piston Reconditioning Hones



HONE NUMBER	FINISH	SPEC.	MANDREL	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RSL-5	Rough	C80	(Pin), SL720-SL2300	7349447	6	44.14	39.72
RSL-7	Medium	C150	(Pin), SL720-SL2300	7349448	6	44.14	39.72
RSL-13	Fine	C280	(Pin), SL720-SL2300	7349449	6	44.14	39.72

- Piston Pin fitting
- Multiple Stone Length

Priced per box; 6 pcs

RCR/RCK Wear Shoes For Reconditioning Hones

HONE NUMBER	FINISH	SPEC.	RANGE	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
RCR-40D	Cast	CR Series	1.450-1.900	7349450	2	6.29	5.66
RCR-50D	Cast	CR Series	1.900-4.700	7349451	2	7.13	6.39
RCR-50B	Bronze	CR Series	1.900-4.700	7349452	2	27.29	24.56
RCK-3070	Bronze	CK Series	Wear Shoe	7349453	2	27.29	24.56
RCK-3120	Bronze	CK Series	Stabilizing Shoe	7349454	2	20.99	18.89

CV616 and CK10 Honing Machines

HONE NUMBER	GRADE	FINISH	SPECIFICATION	PRODUCT #	1-2 BXS	3+ BXS
REHU-123	J	Roughing	A70	7341564	56.99	51.35
REHU-133	L	Roughing	A70	7341565	56.99	51.35
REHU-518	J	Finishing	A220	7341566	56.99	51.35
REHU-525	L	Finishing	A220	7341567	56.99	51.35
RJHU-625	L	Finishing	C280	7341568	56.99	51.35
RJHU-825	L	X-Fine Finishing	C400	7341569	56.99	51.35

- Packaged 12 per box
- General Honing

Pin Honing Wear Shoes

HONE NUMBER	GRADE	BORE RANGE	PRODUCT #	PKG QTY	1-2 BXS	3+ BXS
☆ RUA-B	KL	.744 - 0.843	7349455	2	25.76	23.18
☆ RUB-B	KL	.806 - 0.906	7349456	2	25.76	23.18
☆ RUD-B	KL	.994 - 1.125	7349458	2	25.76	23.18
☆ RUE-B	KL	1.119 - 1.250	7349459	2	26.97	24.28
RVA-B	ML/PL	.990 - 1.156	7349460	2	26.97	24.28
RVB-B	ML/PL	1.115 - 1.281	7349461	2	28.23	25.41

☆ When KL Shoe inventory is depleted, they will become obsolete

Rod and Cap Grinding

Sunnen and other popular brands

SIZE	MAKE/MODEL	SPECIFICATION	COLOR	PRODUCT #	PKG QTY	PRICE
4 x 1-1/2 x 1	CRG 500-550	WAA46-J8-V1	Grey	F343792	1	33.33
6 x 2 x 1-1/4	CRG 700, 750, 770, 780, 805, 920K	WAA46-J8-V1	Grey	F343793	1	71.03
7 x 1-1/2 x 5-1/2	Delta 6200XHD, Tobin Arp CG-8400		Red/White	J384516	1	209.98

Superabrasive! 21st Century Rod & Cap Cutting with Diamond Technology

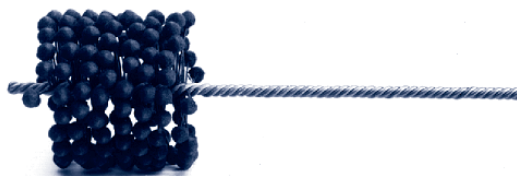
SIZE	MAKE/MODEL	SPECIFICATION	PRODUCT #	PKG QTY	PRICE
6 x 3/4 x 1-1/4	Delta 6200HD	PCB	2H1402	1	220.67
6 x 1-3/4 x 1-1/4	CRG 700, 750, 770, 780, 805, 920K	PCB	2379267	1	243.86

Super Abrasive available through special order

Tappet Refacing

SIZE	SHAPE	SPECIFICATION	COLOR	PRODUCT #	PKG QTY	1 PC
6 x 1-1/2 x 1-1/4	Straight Cup	WA60-J5-V8	White	F050326	1	72.25
6 x 1-5/8 x 3/4	Straight Cup	GC100	Green	F422897	1	77.24

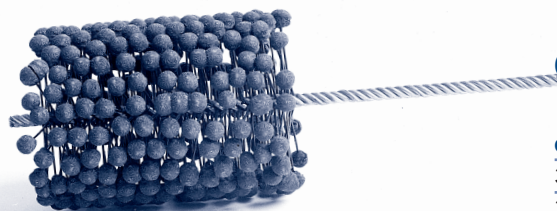
Ask for Arbor Reducing Bushing if needed



For any type and size of cylinder

The Flex-Hone® Process (Super Finishing) produces a controlled surface condition unobtainable by any other method. It involves finish, geometry and metallurgical structure.

A resilient flexible honing tool with a soft cutting action. The abrasive (points) globules each have independent suspension that assures the Flex-Hone® to be self centering, self aligning to the bore, and self compensating for wear.



180 or 320 Grit

Gives a consistent cross-hatch for fast piston ring sealing. Silicon-Carbide globules laminated to high density nylon. Order 180 grit in standard duty or choose 320 grit for a fine RMS finish.

CYLINDER Flex Hone (Standard Duty) S/C 180 Grit

OD	MM	OVERALL LENGTH	PRODUCT #	PKG QTY	PRICE
3-1/4"	83	13-1/2"	7382651	1	42.10
3-1/2"	89	13-1/2"	7382652	1	43.57
3-3/4"	95	13-1/2"	7382653	1	45.54
4-1/8"	105	13-1/2"	7382654	1	49.95
4-5/8"	110	13-1/2"	7382655	1	55.50

CYLINDER Flex Hone (Standard Duty) S/C 320 Grit

OD	MM	OVERALL LENGTH	PRODUCT #	PKG QTY	PRICE
3-1/4"	83	13-1/2"	7382664	1	62.38
3-1/2"	89	13-1/2"	7382665	1	65.47
3-3/4"	95	13-1/2"	7382666	1	68.42
4-1/8"	105	13-1/2"	7382667	1	72.49
4-5/8"	118	13-1/2"	7382668	1	82.64

CYLINDER Flex Hone (Heavy Duty) S/C 320 Grit

OD	MM	OVERALL LENGTH	PRODUCT #	PKG QTY	PRICE
3"	76	13-1/2"	7382656	1	92.05
3-1/4"	83	13-1/2"	7382657	1	94.96
3-1/2"	89	13-1/2"	7382658	1	97.84
4"	101	13-1/2"	7382659	1	111.92
4-1/4"	108	13-1/2"	7383400	1	119.11
4-1/2"	114	13-1/2"	7382660	1	127.35
5"	127	17-1/2"	7382661	1	147.74



Valve Guides (240 Grit)

Fast way to enlarge bore slightly to create proper clearance. Use with a portable drill. Silicon-Carbide Flexhones work with all materials including cast iron, bronze, Bronze-El, phosphor-bronze and silicon-aluminum-bronze.

VALVE GUIDE Flex Hone S/C 240 Grit

OD	MM	OVERALL LENGTH	PRODUCT #	PKG QTY	PRICE
.217	5mm	8"	7382669	1	22.97
1/4"	6.4	8"	7382670	1	12.68
9/32"	7	8"	7382671	1	12.78
5/16"	8	8"	7382672	1	13.28
11/32"	9	8"	7382673	1	13.82
3/8"	10	8"	7382674	1	14.07
7/16"	11	8"	7382675	1	14.31

CAM BEARING/LIFTER BORE/BRAKE CYLINDER Flex Hone S/C 180

OD	MM	OVERALL LENGTH	PRODUCT #	PKG QTY	PRICE
1/2"	12.7	8"	7382676	1	15.28
5/8"	16	8"	7382677	1	14.96
3/4"	19	8"	7382678	1	15.96
7/8"	22	8"	7382679	1	16.41
1"	25.4	8"	7382680	1	17.61
1-1/8"	29	8"	7382681	1	18.08
1-3/8"	35	8"	7382682	1	20.13
1-1/2"	38	8"	7382683	1	26.73
1-3/4"	45	8"	7382684	1	27.92
2"	51	8"	7382685	1	28.82
2-1/4"	57	8"	7382686	1	31.41
2-3/4"	70	8"	7382687	1	33.07

Portable Cylinder Hone

DESCRIPTION	PRODUCT #	PKG QTY	PRICE
For AN-Series Hones	7381968	1	326.70

See Hones on page 31

Rubber Chamfering Cones

OVERALL LENGTH	MANDREL	ANGLE	PRODUCT #	PKG QTY	PRICE
5"	1/2"	45°	7382264	1	54.43
3/2 x 3-1/2"	3/8"	82°	7382265	1	49.99

Abrasive Cones & Sleeves

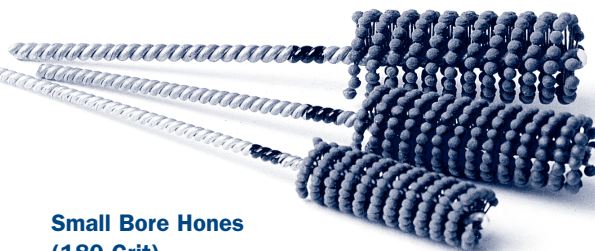
5" Tapered Cloth Back Cone 45° with 1/2" Pilot hole
3/2" Tapered cloth 82°

SIZE	GRIT	GRAIN	ANGLE	PRODUCT #	PKG QTY	1 BOX
5"	60	A/O	45°	C382266	5	22.17
3/2 x 3-1/2"	60	A/O	82°	C382267	5	22.17

(The Best) Work Shop Gloves

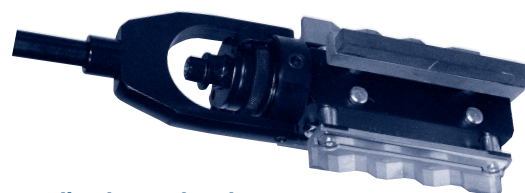
DESCRIPTION	PRODUCT #	PKG QTY	1 PAIR
Flex-Lite	7382360	1 pr	5.91

Most comfortable Shop Gloves you'll ever wear!



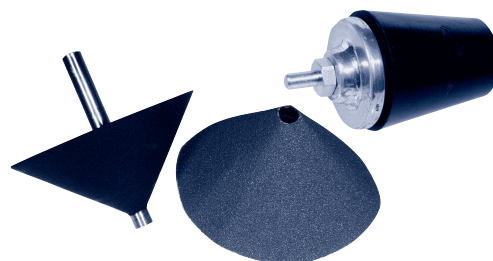
Small Bore Hones (180 Grit)

Used for lifter bores, brake cylinders, etc. Silicon-Carbide Flex-hones are ideal for a variety of cast iron and bronze applications.



Top quality, heavy-duty hone

For automotive and industrial use. Accurate over the full range. Use with a 1/2" drill for manual honing. The standard hone includes a 1/2" drive shaft (7/16-14 NC thread), 220 grit hones and storage case included.



Chamfering Cones, Abrasive Cones and Sleeves.

Chamfering the top edges of cylinders after boring/honing for easy piston installation. Stops damage to rings caused by sharp cylinder-wall edges.



Get a tight grip with our **Flex-Lite Shop Gloves**. Gloves fit tight to hand and move with you, not against you. Washable and reuseable.



High Speed Die Grinders Cut-Off Wheels General Purpose Aluminum Oxide

A24TB(F8)

- Fast Aggressive Cutting
- Long Life
- Steel, Iron, Ferrous
- Non-Ferrous Metals

A36TB(F8)

- Fast Cutting
- Good Life
- Stainless & Structural Steel
- Ferrous / Non-Ferrous Metals

A46TB(F8)

- Smooth Finish
- Minimum Burr
- Alloys, Stainless
- Hardened Sheet Steel

A60TB(F8)

- Fine Finish
- Burr Free
- Thin Wall Tubing
- Light Structural Steel

DIMENSIONS	TYPE	SPECIFICATION	MAX RPM	PRODUCT #	PKG QTY	1 PKG	2+ PKGS
1 x .035 x 1/8	1	A60TB(F8)	61000	7315947	50	.80	.73
1 x 1/16 x 1/8	1	A60TB(F8)	61000	7315948	50	.80	.73
1-1/2 x .035 x 1/8	1	A60TB(F8)	45000	7315954	50	.98	.89
1-1/2 x 1/16 x 1/8	1	A36TB(F8)	45000	7315950	50	.98	.89
1-1/2 x 1/16 x 1/4	1	A36TB(F8)	45000	7315951	50	.98	.89
1-1/2 x 1/8 x 1/8	1	A60TB(F8)	45000	7315958	50	.98	.89
2 x .035 x 1/4	1	A60TB(F8)	30000	7315968	50	1.21	1.11
2 x .035 x 3/8	1	A60TB(F8)	30000	7315969	50	1.21	1.11
2 x 1/16 x 1/4	1	A36TB(F8)	30000	7315960	50	1.21	1.11
	1	A60TB(F8)	30000	7315970	50	1.21	1.11
2 x 1/16 x 3/8	1	A36TB(F8)	30000	7315961	50	1.21	1.11
2 x 1/8 x 1/4	1	A36TB(F8)	30000	7315962	50	1.21	1.11
	1	A60TB(F8)	30000	7315972	50	1.21	1.11
2 x 1/8 x 3/8	1	A46TB(F8)	30000	7315967	50	1.21	1.11
	1	A60TB(F8)	30000	7315973	50	1.21	1.11
★ 3 x .035 x 1/4	1	A60TB(F8)	25000	7316088	50	1.28	1.13
3 x 1/16 x 1/4	1	A36TB(F8)	25000	7315990	50	1.29	1.16
	1	A46TB(F8)	25000	7315994	50	1.29	1.16
	1	A60TB(F8)	25000	7316090	50	1.29	1.16
★ 3 x 1/16 x 3/8	1	A36TB(F8)	25000	7315991	50	1.29	1.16
	1	A46TB(F8)	25000	7315995	50	1.29	1.16

★ **Most Popular**

Price per wheel

Box Quantities of 100 pieces will receive 2nd Column Pricing

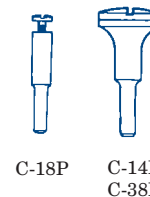
Reinforced Cut-Off Wheels

DIMENSIONS	TYPE	SPECIFICATION	MAX RPM	PRODUCT #	PKG QTY	1 PKG	2+ PKGS
3 x 1/16 x 3/8	1	A60TB(F8)	25000	7316091	50	1.29	1.16
3 x 1/8 x 1/4	1	A36TB(F8)	25000	7315992	50	1.33	1.19
	1	A60TB(F8)	25000	7316092	50	1.33	1.19
3 x 1/8 x 3/8	1	A24TB(F8)	25000	7315989	50	1.33	1.19
	1	A36TB(F8)	25000	7315993	50	1.33	1.19
	1	A46TB(F8)	25000	7316087	50	1.33	1.19
	1	A60TB(F8)	25000	7316093	50	1.33	1.19
4 x .035 x 1/4	1	A60TB(F8)	19000	7316104	50	1.42	1.30
4 x .035 x 3/8	1	A60TB(F8)	19000	7316105	50	1.42	1.30
4 x 1/16 x 1/4	1	A36TB(F8)	19000	7316096	50	1.67	1.51
	1	A46TB(F8)	19000	7316100	50	1.67	1.51
4 x 1/16 x 3/8	1	A36TB(F8)	19000	7316097	50	1.67	1.51
	1	A46TB(F8)	19000	7316101	50	1.67	1.51
	1	A60TB(F8)	19000	7316107	50	1.67	1.51
4 x 1/16 x 5/8	1	A36TB(F8)	19000	7316098	50	1.67	1.51
4 x 1/8 x 3/8	1	A24TB(F8)	19000	7316095	50	1.73	1.56
4-1/2 x 1/16 x 7/8	1	A60TB(F8)	13500	7316113	50	2.18	1.96
4-1/2 x 3/32 x 7/8	1	A36TB(F8)	13500	7316111	50	2.18	1.96
4-1/2 x 1/8 x 7/8	1	A36TB(F8)	13500	7316112	50	2.18	1.96
5 x 1/8 x 7/8	1	A36TB(F8)	12200	7316120	50	2.73	2.45

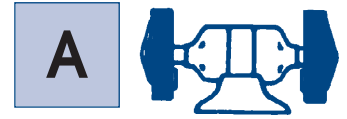
Price per wheel

Cut-Off Wheel Mounting Mandrels

DIMENSIONS ARBOR x SHANK	FOR WHEELS .035" TO 1/4" THICK	FOR WHEELS 3/8" TO 1/2" THICK	PRODUCT#	WHEEL TYPE	PKG QTY	1 PC	2+ PCS
1/8 x 1/4 Shank	C-18P		7318446	55	10	5.75	5.57
1/4 x 1/4 Shank	C-14P		7318447	55	10	5.75	5.57
3/8 x 1/4 Shank	C-38P		7318448	55	10	5.75	5.57
3/8 x 1/4 Shank		C-38L	7318451	55	10	7.99	7.75



General Purpose Blue Aluminum Oxide Bench/Pedestal Wheels



For grinding or cutting carbon steel, high speed steel, tool and die steel and other high alloy, high tensile strength materials.

Regular Aluminum Oxide
Good for Rough Grinding
Versatile for Soft/Hard Materials
Bluish Gray in Color

A36-M5-V1

- Fast, Free Cutting
- Rough Grinding

A46-M5-V1

- Free Cutting
- General Purpose

A60-M5-V1

- Small Tool Sharpening
- Fine Cleanup Grinding
- Finishing

DIMENSIONS	TYPE	SPECIFICATION	MAX RPM	PRODUCT #	1-4 PCS	5+ PCS
6 x 1/2 x 1-1/4	1	A46-M5-V1	4140	A001708	29.81	23.32
	1	A60-M5-V1	4140	A003271	29.81	23.32
6 x 3/4 x 1-1/4	1	A36-M5-V1	4140	A089850	34.74	27.17
	1	A46-M5-V1	4140	A089982	34.74	27.17
	1	A60-M5-V1	4140	A090158	34.74	27.17
6 x 1 x 1-1/4	1	A36-M5-V1	4140	A090140	40.14	31.41
	1	A46-M5-V1	4140	A090166	40.14	31.41
	1	A60-M5-V1	4140	A090352	40.14	31.41
7 x 3/4 x 1-1/4	1	A36-M5-V1	3600	A290548	42.72	33.42
	1	A46-M5-V1	3600	A090557	42.72	33.42
	1	A60-M5-V1	3600	A090573	42.72	33.42
7 x 1 x 1-1/4	1	A36-M5-V1	3600	A090638	49.06	38.38
	1	A46-M5-V1	3600	A090611	49.06	38.38
	1	A60-M5-V1	3600	A090719	49.06	38.38
8 x 3/4 x 1-1/4	1	A46-M5-V1	3600	A090972	50.94	39.85
	1	A60-M5-V1	3600	A066397	50.94	39.85
8 x 1 x 1-1/4	1	A36-M5-V1	3600	A085626	60.09	47.01
	1	A46-M5-V1	3600	A087416	60.09	47.01
	1	A60-M5-V1	3600	A091243	60.09	47.01
10 x 1 x 1-1/4	1	A36-M5-V1	2485	A091936	92.49	72.36
	1	A46-M5-V1	2485	A091952	92.49	72.36
	1	A60-M5-V1	2485	A092126	92.49	72.36
10 x 1-1/4 x 1-1/4	1	A46-M5-V1	2485	A092142	109.86	85.94
	1	A60-M5-V1	2485	A092150	109.86	85.94
10 x 1-1/2 x 1-1/4	1	A36-M5-V1	2485	A092223	127.73	99.53
	1	A46-M5-V1	2485	A092274	127.73	99.53
	1	A60-M5-V1	2485	A092320	127.73	99.53
12 x 1-1/2 x 1-1/4	1	A46-M5-V1	2070	A092983	174.88	136.81
	1	A60-M5-V1	2070	A092932	174.88	136.81
12 x 2 x 1-1/4	1	A36-M5-V1	2070	A093114	223.94	175.19
	1	A46-M5-V1	2070	A093335	223.94	175.19
	1	A60-M5-V1	2070	A093378	223.94	175.19

Price per wheel

High Performance Green Silicon Carbide Bench/Pedestal Wheels

Used in grinding of tungsten carbide, cast iron, aluminum, copper, bronze and non-metallic materials such as plastic and glass. A very hard, sharp abrasive grain.



Silicon Carbide Abrasive

Excellent for Sharpening
Carbide Cutting Tools
Grinding of Cemented Carbide
Iron and Titanium
Green in Color

GC60-J5-VL

- Carbide
- Non-Ferrous Metals
- Rough Grinding

GC120-J5-VL

- Finish Grinding
- Carbide Tools

DIMENSIONS	TYPE	SPECIFICATION	MAX RPM	PRODUCT #	1-4 PCS	5+ PCS
6 x 1/2 x 1-1/4	1	GC60-J5-VL	4140	A008931	63.46	49.52
	1	GC120-J5-VL	4140	A107719	63.46	49.52
6 x 3/4 x 1-1/4	1	GC60-J5-VL	4140	A107735	73.94	57.71
	1	GC120-J5-VL	4140	A107778	73.94	57.71
6 x 1 x 1-1/4	1	GC60-J5-VL	4140	A107794	85.44	66.68
	1	GC120-J5-VL	4140	A107824	85.44	66.68
7 x 1/4 x 1-1/4	1	GC60-J5-VL	3600	A016721	60.96	47.58
	1	GC120-J5-VL	3600	A107930	60.96	47.58
7 x 1/2 x 1-1/4	1	GC60-J5-VL	3600	A107964	75.95	59.27
	1	GC120-J5-VL	3600	A108022	75.95	59.27
7 x 3/4 x 1-1/4	1	GC60-J5-VL	3600	A108030	90.94	70.97
	1	GC120-J5-VL	3600	A108065	90.94	70.97
7 x 1 x 1-1/4	1	GC60-J5-VL	3600	A108081	104.43	81.50
	1	GC120-J5-VL	3600	A108090	104.43	81.50
8 x 1 x 1-1/4	1	GC60-J5-VL	3600	A108189	127.91	99.83
	1	GC120-J5-VL	3600	A108243	127.91	99.83
10 x 1 x 1-1/4	1	GC60-J5-VL	2485	A108359	196.86	153.64
	1	GC120-J5-VL	2485	A109878	196.86	153.64
10 x 1-1/2 x 1-1/4	1	GC60-J5-VL	2485	A063460	270.81	211.36
12 x 2 x 1-1/4	1	GC60-J5-VL	2070	A108561	476.66	372.01

Price per wheel

Buff and Blend Disc

Non-Woven Red

Bench and Pedestal Mounted. Excellent product for deburring and cleaning of Small Parts like Valve Stems, Valve Springs, Pistons, Wrist Pins, Etc. Mount as many discs on the spindle as the guard will allow on Buffing Motor. Safer and more user friendly than wire wheels. Wheels are very flexible and will fit 5/8" spindle.

*Great for
Valve Stems!*

DIMENSIONS	COLOR	HARDNESS	PRODUCT #	PKG QTY	PRICE PER BOX
6 x 1/2 x 1/2	Red	Medium	C400475	10	34.94
8 x 1/2 x 1/2	Red	Medium	C400476	10	58.24

Sold in Package Quantity Only



Superior quality Wire Brush Wheels made in the U.S.

Wire Brush Wheels

Heavy Duty with Superior Durability and Performance

- Fatigue resistant steel
- Long life
- Cleaning and Blending
- Surface Conditioning



WHEEL DIAMETER		WIRE SIZE	TYPE	WHEEL FACE	MOUNTING TYPE	MAX RPM	PRODUCT #	EACH
6"	Crimped Wire Wheel	.014	Coarse	Narrow 3/4"	5/8 - 1/2 AH	6000	7337267	32.37
		.006	Fine	Narrow 3/4"	5/8 - 1/2 AH	6000	7337268	35.24
		.014	Coarse	Wide 1-1/8"	5/8 - 1/2 AH	6000	7337269	42.97
8"	Crimped Wire Wheel	.014	Coarse	Narrow 3/4"	5/8 - 1/2 AH	6000	7337270	46.66
		.014	Coarse	Wide 1-1/8"	5/8 - 1/2 AH	6000	7337271	68.81

All brushes made of high quality carbon steel

Steel Wire Brushes



Steel Solid End Crimped

- Light carbon removal
- Light rust removal
- Fatigue resistant steel
- Use in die grinders or drills
- Excellent light material removal



Steel Hollow End Knot Twist

- Heavy carbon removal
- Fatigue resistant steel
- Very aggressive
- Long life
- Use in die grinders or drills



Steel Circular Flared

- Very aggressive carbon removal
- For use in cylinder head ports
- Use in die grinders or drills
- Super Product

	WHEEL DIAMETER	WIRE SIZE	MANDREL O.D.	WIRE TYPE	MOUNTING TYPE	PRODUCT#	EACH
SOLID END CRIMPED	3/4"	.020	1/4"	Crimped	Mandrel	7341450	6.44
	1"	.020	1/4"	Crimped	Mandrel	7341451	8.10
	3/4"	.014	1/4"	Crimped	Mandrel	7341452	8.18
	1"	.014	1/4"	Crimped	Mandrel	7341453	8.70
HOLLOW END KNOT TWIST	3/4"	.020	1/4"	Twisted	Mandrel	7341454	11.95
	1-1/8"	.020	1/4"	Twisted	Mandrel	7341455	12.31
	3/4"	.014	1/4"	Twisted	Mandrel	7341456	11.24
	1-1/8"	.014	1/4"	Twisted	Mandrel	7341457	13.04
CIRCULAR FLARED CRIMPED	1"	.020	1/4"	Crimped	Mandrel	7352623	7.46
	1-1/4"	.020	1/4"	Crimped	Mandrel	7352624	9.27
	1-1/2"	.020	1/4"	Crimped	Mandrel	7352625	9.27

Remember: High P.S.I. line pressure destroys brushes. Reduce line pressure to avoid brush

Knot Cup Brushes provide the most aggressive cutting and cleaning action.

- Heavy Duty Cleaning
- Weld Scale, Corrosion Removal
- Deburring
- Cleaning Prior to Welding



DESCRIPTION	APPLICATION	WIRE SIZE	TYPE	MOUNTING	MAX RPM	PRODUCT #	EACH
2-3/4" Knot Wire	Small Grinders	.020	Extra Coarse	5/8 - 11 UNCL	14000	7337272	1 29.96
3" Crimped Wire	Small Grinders	.014	Coarse	5/8 - 11 UNCL	13000	7337273	1 30.31
4" Knot Wire - Standard Twist	Small Grinders	.014	Coarse	5/8 - 11 UNCL	20000	7337275	1 35.04
4" Crimped Wire	Large Grinders	.020	Coarse	5/8 - 11 UNCL	9000	7337276	1 28.02
4" Knot Wire	Large Grinders	.023	Extra Coarse	5/8 - 11 UNCL	9000	7337277	1 35.04

Small Right Angle Grinder Adapters

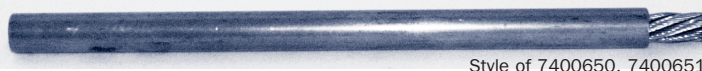
DESCRIPTION	PRODUCT #	EACH
Hole to Metric Size M10 x 1.25	7337287	6.05
Adapter 5/8 - 11 Arbor Hole to Metric Size M10 x 1.50	7337288	6.05

Cleaning Brushes

Cylinder Washing Brushes

Twisted Wire Stem/6-12 Nylon

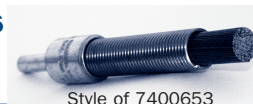
DIAMETER	LENGTH	PRODUCT #	PRICE
2-1/2"	18"	7400654	18.54
2-3/4"	18"	7400655	18.54
3-1/2"	18"	7400656	16.28
4"	18"	7400657	17.41
4-1/2"	18"	7400658	20.80
5"	18"	7400659	21.93



Style of 7400650, 7400651

Mandrel Mounted Port Brushes

DIMENSION DIA. X WIRE	O.A.L.	MANDREL	PRODUCT #	PRICE
1/4" x .012	6"	1/4"	7400650	10.17
3/8" x .017	6"	3/8"	7400651	11.86
1/2" x .020	2-1/2"	1/4"	7400653	15.82



Style of 7400653

Wire Valve Guide Brushes

DIMENSIONS O.D. X BRUSH	LENGTH	PRODUCT #	PRICE
1/4 x 2	10"	7400660	5.19
5/16 x 2-1/2	9-1/2"	7400661	5.19
11/32 x 2-1/2	9-1/2"	7400662	5.19
3/8 x 2-1/2	9-1/2"	7400663	5.19
7/16 x 2-1/2	9-1/2"	7400664	5.19

Power driven brush

Nylon Oil Gallery Brushes

DIMENSIONS O.D. X BRUSH	LENGTH	PRODUCT #	PRICE
3/8 x 3	34"	7400671	4.85
1/2 x 2-1/2	34"	7400672	4.85
5/8 X 3	34"	7400673	4.85
3/4 X 3	34"	7400674	5.64
3/4 X 3	40"	7400675	6.77

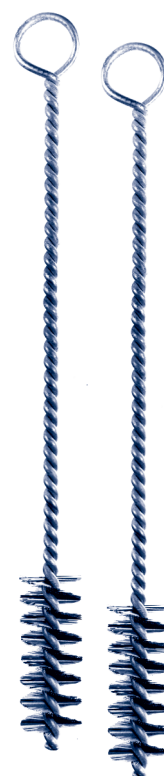
Nylon Cam Bore Washing Brushes

DIMENSIONS O.D. X BRUSH	LENGTH	PRODUCT #	PRICE
2 x 4	36"	7400676	16.28
2-1/4 x 4	36"	7400677	18.54
2-1/2 x 4	36"	7400678	19.67
2-3/4 x 4	36"	7400679	20.80
3 x 4	36"	7400680	21.93
3-1/4 x 4	36"	7400681	23.06
3-1/2 x 4	36"	7400682	24.19

Nylon Valve Guide Brushes

DIMENSIONS O.D. X BRUSH	LENGTH	PRODUCT #	PRICE
1/4 x 2	10"	7400665	5.19
5/16 x 2-1/2	12"	7400666	5.19
11/32 x 2-1/2	12"	7400667	5.19
3/8 x 2-1/2	12"	7400668	5.19
7/16 x 2-1/2	12"	7400669	5.19
1/2 x 2-1/2	10-1/2"	7400670	5.19

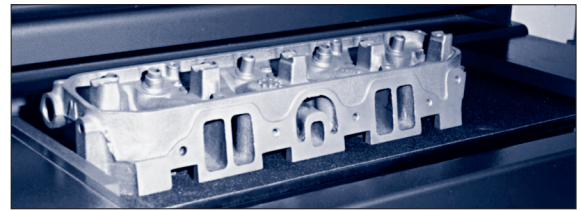
Cut off finger loop to make power driven brush



Brown Aluminum Oxide Dry Surfacing Belts

For grinding cast iron, carbon steel, high speed steel, tool and die steel and other high alloy, high tensile strength materials.

- Steel/Cast Iron
- Bi-directional
- Good Life
- No Lap Splice
- High Strength Backing

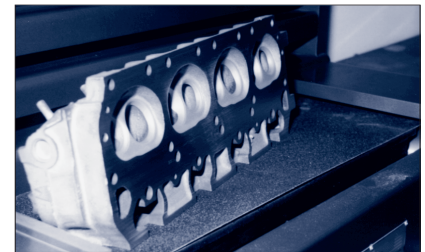


SIZE	MACHINE	40 GRIT	60 GRIT	PKG QTY	1-4 PCS	5+ PCS
10 x 103	Mastertool, RMC, T&S	C335634	C335635	5	28.78	26.01
12 x 79	RMC, WV, PET, KI, US Metalworks	C341321	C341322	5	34.38	31.14
12 x 89	US Metalworks, WV, Comec, RMC800, Serv-Equip	C341079	C341080	5	30.92	27.81
14 x 86	Autocraftsman	C335636		5	36.18	32.56
14 x 103	Mastertool, RMC, T&S	C335637		5	44.09	39.78
14 x 107-1/2	KW	C335584		5	47.52	42.77
14 x 113-1/4	AND, KI, PET, SV, DCM	C335639		5	50.09	45.19
15 x 127-1/2	AND, IDL, KI, PET, SV, WV	C335641		5	51.28	46.16
18 x 161-5/8	AND, KI, PET, SV	C335642		5	73.92	66.54

Black Silicon Carbide Wet/Dry Surfacing Belts

For grinding of tungsten carbide, cast iron, aluminum, copper, bronze, and non metallic materials such as plastic and glass.

- Best general purpose belt
- Cast Iron/Aluminum/Steel
- Bi-directional
- No Lap Splice
- Excellent Life
- High Strength Backing



SIZE	MACHINE	40 GRIT	60 GRIT	80 GRIT	PKG QTY	1-4 PCS	5+ PCS
10 x 87	Mastertool, RMC, T&S	C335643			5	34.87	31.49
10 x 103	Mastertool, RMC, T&S	C335645	C335646		5	39.52	35.70
				C354641	5	39.56	35.77
12 x 76	WV, McGlogan	C348646	C348647		5	34.69	30.01
				C354642	5	33.82	29.25
12 x 79	RMC, WV, US Metalworks, PET, KI	C337196	C337197		5	34.69	30.01
				C354643	5	33.60	28.95
12 x 89	US Metalworks, WV, Comec, RMC800, Serv-Equip	C341081			5	35.78	30.75
					5	39.56	35.77
				C354644	5	39.56	35.77
12 x 91	KI, PET	C355447			5	32.61	27.76
			C355448		5	31.78	27.02
14 x 86	Autocraftsman	C342041			5	47.73	41.24
			C342042		5	42.09	38.12
				C354645	5	44.26	40.05
14 x 103	Mastertool, RMC, T&S	C335647	C335648		5	49.39	44.71
				C354646	5	42.19	40.64
14 x 107-1/2	KW	C335998			5	47.96	41.49
			C335999		5	46.56	40.28
				C354647	5	41.12	37.22
14 x 113-1/4	AND, KI, PET, SV, DCM	C336088			5	48.85	42.20
			C336611		5	48.13	41.65
				C354648	5	55.51	47.90
15 x 127-1/2	AND, IDL, KI, PET, SV, WV DCM	C336090			5	52.36	45.01
			C336613		5	49.06	42.24
				C354649	5	59.65	51.35
18 x 161-5/8	AND, KI, PET, SV	C336091			5	80.04	68.76
			C336614		5	71.27	61.25

Platen Surfacing Belts with High Strength Backing

Blue Zirconia Wet/Dry Surfacing Belts -

Best suited grain for quick cutting, long life and high production applications.

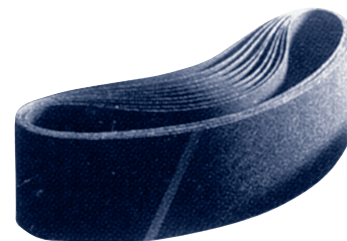
- Steel/Cast Iron
- Down pressure required
- Superior Life
- No Lap Splice
- High Strength Backing
- Long lasting abrasive
- Bi-directional



SIZE	MACHINE	36 GRIT	40 GRIT	60 GRIT	PKG QTY	1-4 PCS	5+ PCS
10 x 103	Mastertool, RMC, T&S	C335650			5	52.01	46.80
12 x 76	WV		C348648		5	52.27	47.26
12 x 79	RMC, WV, PET, KI, US Metalworks		C335652		5	52.27	47.26
14 x 86	Auto Craftsman		C335653		5	53.49	48.14
14 x 103	Mastertool, RMC, T&S		C335654		5	65.26	62.50
14 x 107-1/2	KW		C335655	C337867	5	66.37	59.33
14 x 113-1/4	AND, KI, PET, SV, DCM		C335656		5	62.77	56.49
15 x 127-1/2	AND, IDL, KI, PET, SV, WV		C335658		5	84.26	75.96

Grinding Coolant Page 13

Brown Aluminum Oxide/Blue Zirconia Platen Belts



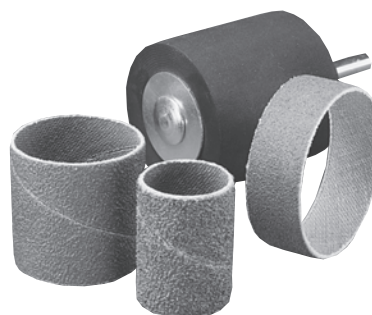
SIZE	DESCRIPTION	40 GRIT	60 GRIT	80 GRIT	PKG QTY	1 BOX
6 x 48	"X" WT. Brown A/O	C354888			10	59.76
	"X" WT. Brown A/O		C354889		10	56.62
	"X" WT. Brown A/O			C354890	10	53.47
6 x 48	"Y" WT. Blue Zirc	C354868			10	97.51
	"Y" WT. Blue Zirc		C354869		10	89.33

Sold in Package Quantities Only

Spiral Band (A/O Resin Bond Cloth)

O.D. X WIDTH	80	PKG QTY	BOX
3/4 x 1	C355130	100	24.01
1 x 1	C355101	100	27.71

100 Per Box



Premium Brown Aluminum Oxide Super Flexible Belts (New Composition)

Excellent customer satisfaction. Just a great product!



LENGTH	WIDTH	A240	A320	A400	PKG QTY	BOX
60"	3/4 "		C355329	C355332	10	18.88
	1"	C355327	C355330	C355333	10	20.83
	1-1/4"			C355334	10	24.83
	1-1/2"			C355335	10	27.57
	2"		C371679	C371680	10	31.49
64"	3/4"	C355336	C355340	C355346	10	20.69
	1"	C355337	C355341	C355347	10	21.72
	1-1/4"	C355338	C355342	C355348	10	26.37
	1-1/2"	C355339	C355343	C355349	10	28.78
	1-3/4"		C371681	C371682	10	28.96
	2"		C371683	C371684	10	33.76
70"	3/4"	C355350	C355352	C355354	10	22.40
	1"	C355351	C355353	C355355	10	24.59
	1-1/4"			C355356	10	23.97
72"	3/4"	C355357	C355359	C355361	10	20.63
	1"	C355358	C355360	C355362	10	23.70
	1-1/4"			C355363	10	29.09
	1-1/2"			C355364	10	29.09
77"	3/4"	C355365	C355367	C355371	10	20.24
	1"	C355366	C355368	C355372	10	25.79
	1-1/4"		C355369	C355373	10	28.14
	1-1/2"		C355370	C355374	10	31.49
	1-3/4"		C371685	C371686	10	34.29
	2"		C371687	C371688	10	38.36
91"	3/4"	C355375	C355377	C355381	10	21.43
	1"	C355376	C355378	C355382	10	27.05
	1-1/4"		C355379		10	30.25
	1-1/2"		C355380		10	33.57
	1-3/4"		C371689		10	36.47
	2"		C371691		10	39.88

10 Per Box

Customer Preferred Crankshaft surface polishing belts manufactured with quality resin bonded J lightweight, flexible backing material that will give you consistent high quality surface finishes. Superior quality crankshaft polishing belt with a super flexible backing material that allows the operator to push the belt up on the radius of the crankshaft for smoother surface finishes. Applications range from heavy stock removal to precise fine finishing applications.

MACHINE APPLICATION

60" Berco SFN, Goodson, PCP1000, PCP1070, K-Line 8490
64" Regis CP-64, Storm (750), Atlas, Lempc, Van Norman 450, Peterson (SFN), K-Line 8490, 9300 Kwik-way (LMF), Goodson PCP-1070
70" Storm Vulcan (Mod. 70), K-Line 9300, Goodson (PCP-1070)
72" Tillis, Dumore, K-Line KL 9300, Goodson PCP-1070
77" Storm Vulcan #135, 135A, 135G, 135L,, 77 Portable, Kotafin
91" Van Norman (Van-O-Lite), Storm Vulcan, 135B, 135GA, 135J, Berco SF

Non-Woven (Scotch Material) Crankshaft Polishing Belts

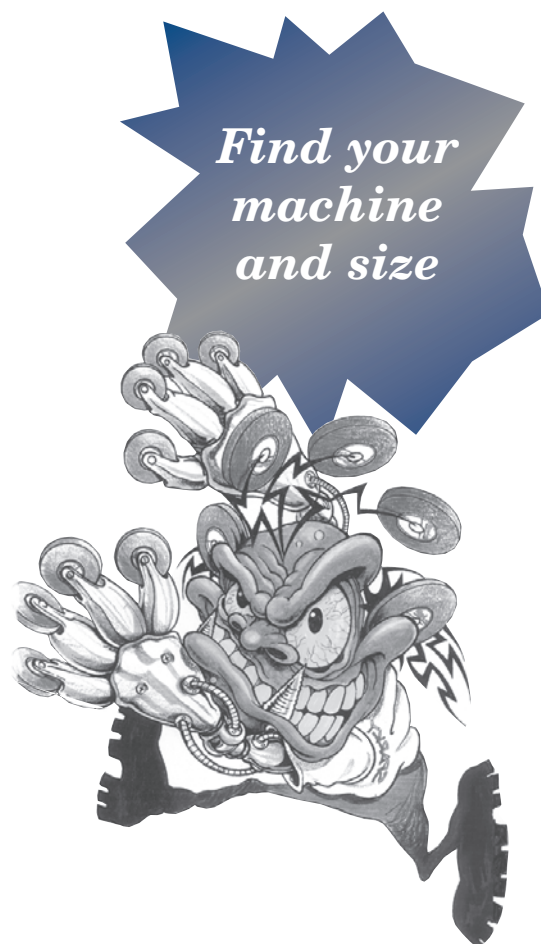
DIMENSIONS	FINISH	COLOR	PRODUCT #	PKG QTY	EACH
3/4 x 60	Very Fine	Blue	C396226	1	20.25
3/4 x 64	Very Fine	Blue	C396227	1	20.25
3/4 x 70	Very Fine	Blue	C396228	1	20.25
3/4 x 72	Very Fine	Blue	C396229	1	20.25
3/4 x 77	Very Fine	Blue	C396230	1	20.25
3/4 x 91	Very Fine	Blue	C396311	1	25.81
1 x 64	Very Fine	Blue	C349757	1	22.46
1 x 70	Very Fine	Blue	C349758	1	22.46
1 x 72	Very Fine	Blue	C349759	1	22.46
1 x 77	Very Fine	Blue	C349760	1	22.46
1 x 91	Very Fine	Blue	C349761	1	28.02

1 Per Box

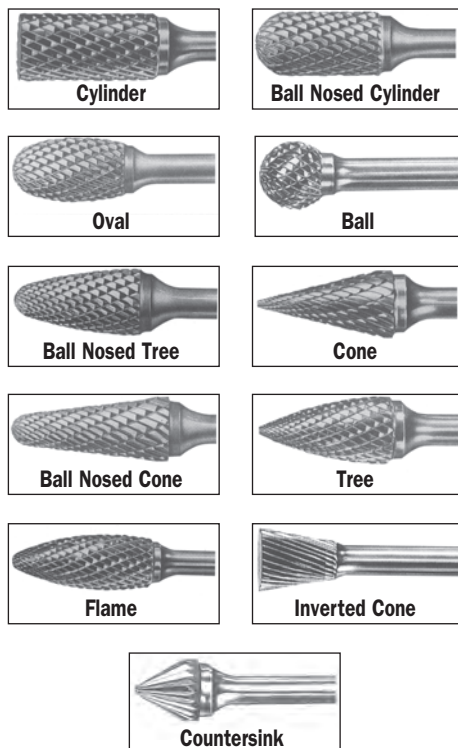
Cork Belts 400 Grit with cork for polishing action

DIMENSIONS	FINISH	COLOR	PRODUCT #	PKG QTY	1-2 BXS
3/4 x 60	Micro-RA	Brown	C355422	1	13.32
3/4 x 64	Micro-RA	Brown	C355423	1	13.32
3/4 x 70	Micro-RA	Brown	C355424	1	13.92
3/4 x 72	Micro-RA	Brown	C355425	1	14.18
3/4 x 77	Micro-RA	Brown	C355426	1	14.39
3/4 x 91	Micro-RA	Brown	C355427	1	15.54
1 x 60	Micro-RA	Brown	C355428	1	13.32
1 x 64	Micro-RA	Brown	C355429	1	13.32
1 x 70	Micro-RA	Brown	C355430	1	13.92
1 x 72	Micro-RA	Brown	C355431	1	14.18
1 x 77	Micro-RA	Brown	C355432	1	14.39
1 x 91	Micro-RA	Brown	C355433	1	15.54

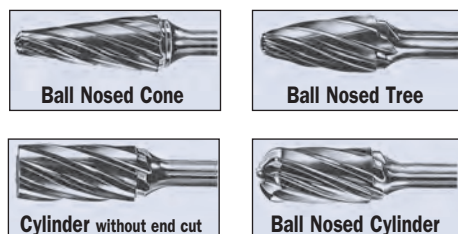
1 Per Box



*For micro-fine polishing
of crankshafts with little
to no stock removal.
Customers love them.*



Wide Fluted Aluminum Burrs



*High quality Carbide
Burrs for extra long life*

DoubleCut 1/4 Shank For Steel/Cast Iron

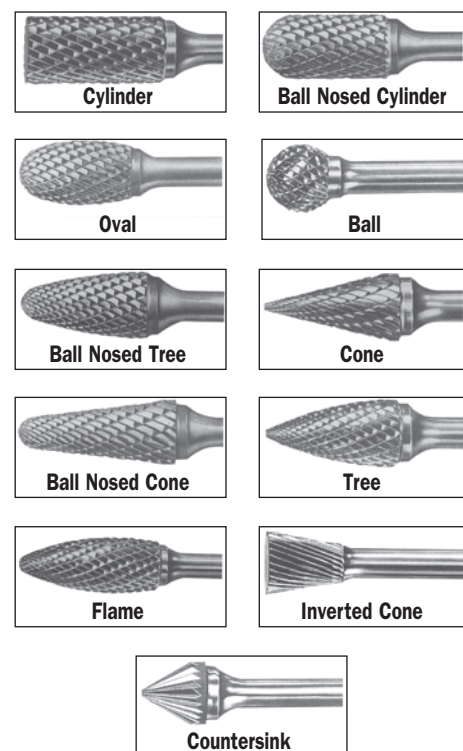
HEAD DIAMETER./ HEAD LENGTH	LENGTH	SHAPE	PRODUCT #	EACH
5/16 x 3/4	2-1/2"	Cylinder	7348426	16.66
3/8 x 3/4	2-1/2"	Cylinder	7348427	17.97
1/2 x 3/4	2-1/2"	Cylinder	7348428	23.74
1/4 x 3/4	2"	Cone	7348429	15.87
3/8 x 5/8	2-1/2"	Cone	7348430	24.84
1/2 x 3/4	2-1/2"	Cone	7348431	30.43
1/2 x 7/16	2-1/2"	Counter Sink	7348432	21.65
3/8 x 3/16	2-1/4"	Counter Sink	7348433	17.76
5/8 x 5/16	2-1/2"	Counter Sink	7348434	28.83
5/16 x 3/4	2-1/2"	Ball Nosed Cylinder	7348435	18.15
3/8 x 3/4	2-1/2"	Ball Nosed Cylinder	7348436	19.86
1/2 x 3/4	2-1/2"	Ball Nosed Cylinder	7348437	27.44
3/8 x 3/4	2-1/2"	Ball Nosed Cone	7348438	22.34
3/8 x 1	3"	Ball Nosed Cone	7348439	24.84
1/2 x 1-3/16	3"	Ball Nosed Cone	7348440	30.32
5/16 x 1/2	2-1/4"	Oval	7348441	18.95
3/8 x 5/8	2-3/8"	Oval	7348442	19.86
3/8 x 3/4	2-1/2"	Tree	7348443	20.75
1/2 x 3/4	2-1/2"	Tree	7348444	28.23
1/2 x 1	2-3/4"	Tree	7348445	28.23
5/16 x 5/16	2"	Ball	7348446	14.67
3/8 x 3/8	2-1/8"	Ball	7348447	16.36
1/2 x 1/2	3-1/4"	Ball	7348448	21.95
1/4 x 1/2	2"	Flame	7348449	18.15
5/16 x 3/4	2-1/2"	Flame	7348450	20.45
1/4 x 5/8	2"	Ball Nosed Tree	7348451	15.47
3/8 x 3/4	2-1/2"	Ball Nosed Tree	7348452	19.46
1/2 x 1	2-3/4"	Ball Nosed Tree	7348453	28.84
3/8 x 3/4	6-3/4"	Cylinder	7348454	30.53
3/8 x 3/4	6-3/4"	Ball Nosed Cylinder	7348455	30.53
3/8 x 1	7"	Ball Nosed Cone	7348456	34.72
3/8 x 3/4	6-3/4"	Tree	7348457	31.52
3/8 x 3/8	6-1/2"	Ball	7348458	28.43
3/8 x 3/4	6-3/4"	Ball Nosed Tree	7348459	31.43

10 or more Burrs Receive 10% Off

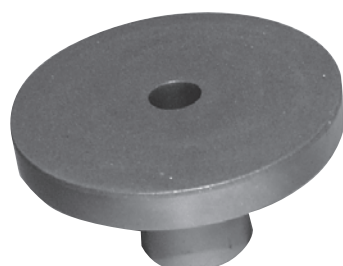
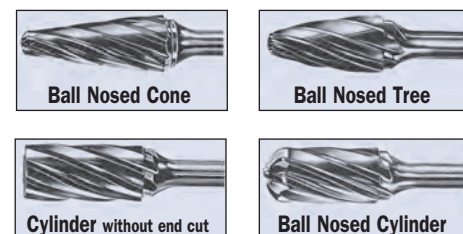
Non Ferrous Cut 1/4 Inch Shank (For Aluminum)

HEAD DIAMETER./ HEAD LENGTH	LENGTH	SHAPE	PRODUCT #	EACH
3/8 x 3/4	2-1/2"	Ball Nosed Cylinder	7348460	25.84
1/2 x 1	2-3/4"	Ball Nosed Cylinder	7348461	37.81
3/8 x 1	2-3/4"	Ball Nosed Cone	7348462	35.62
1/2 x 1-1/4	3"	Ball Nosed Cone	7348463	48.29
3/8 x 3/4	2-1/2"	Ball Nosed Tree	7348464	27.34
1/2 x 1	2-3/4"	Ball Nosed Tree	7348465	37.92
3/8 x 3/4	2-1/2"	Cylinder	7348466	25.84
1/2 x 1	2-3/4"	Cylinder	7348467	37.81
3/8 x 5/16	2-1/8"	Ball	7348468	28.65
1/2 x 7/16	3-1/4"	Ball	7348469	38.47
3/8 x 3/4	6-3/4"	Cylinder	7348470	39.70
3/8 x 3/4	6-3/4"	Ball Nosed Cylinder	7348471	52.74
3/8 x 1	7"	Ball Nosed Cone	7348472	48.14
3/8 x 5/16	6-5/16"	Ball	7348473	59.29
3/8 x 3/4	6-3/4"	Ball Nosed Tree	7348475	43.66
3/8 x 5/8	3"	Oval	7401020	22.16
3/8 x 5/8	7"	Oval	7401022	38.79
1/2 x 7/8	7"	Oval	7401021	49.88

10 or more Burrs Receive 10% Off



Wide Fluted Aluminum Burrs



Kwik-Way



Rottler



**WVN, VN,
Petersen, KI**

Boring Bar Diamond Laps

For resharpener boring bar cutters and valve seat cutters.

NEW

O.D.	I.D.	MACHINE	PRODUCT #	PRICE
3-1/4"	1/2"	Kwik-Way	26410P	239.99
1-3/4"	1/4"	Rottler	2A114E	179.99
2-1/2"	15mm	WVN, VN, Peterson, KI	2A114P	179.99

Diamond Replating Service Available - \$84.00

Cartridge Rolls *Superior grade cartridge rolls are glue bonded for high strength*

DIMENSIONS	SHAPE	A40	A60	A80	A120	BOX
3/8 x 1 x 1/8	Straight		C345546	C345547		14.13
3/8 x 1-1/2 x 1/8	Straight	C371936	C345549	C345550	C345551	20.15
3/8 x 1-1/2 x 1/8	Full Tapered	C371937	C345552	C345553	C345554	26.29
1/2 x 1 x 1/8	Straight		C345555	C345556		16.91
1/2 x 1-1/2 x 1/8	Straight	C371938	C345558	C345559	C345560	22.48
1/2 x 1-1/2 x 1/8	Full Tapered	C371939	C345561	C345562	C345563	33.16
5/8 x 1 x 1/8	Straight		C347666	C347667		23.78
5/8 x 1 x 1/8	Full Tapered		C347669			35.97
5/8 x 1-1/2 x 1/8	Straight	C371940	C347672	C347673		33.67
5/8 x 1-1/2 x 1/8	Full Tapered	C371941	C347675	C347676		41.42
3/4 x 1 x 1/8	Full Tapered			C347682		38.63
3/4 x 1 x 1/4	Straight			C347691		27.84
3/4 x 1-1/2 x 1/8	Straight		C347684	C347685		34.58
3/4 x 1-1/2 x 1/8	Full Tapered		C347687	C347688		45.36
3/4 x 1-1/2 x 1/4	Straight	C371942		C347697		38.18
3/4 x 1-1/2 x 1/4	Full Tapered	C371943		C347700		50.12

Boxes of 50



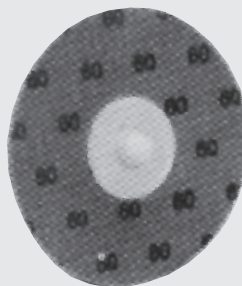
Taper Threaded Mandrels for Cartridge Rolls

DIMENSIONS	OVERALL LENGTH	PRODUCT #	EACH
1/4 Shank, 1/8 Pilot	2 1/4"	C345544	3.41
	4"	C345545	3.86
	6"	C396231	6.65
	8"	C396233	8.86
1/4 Shank, 1/4 Pilot	2-3/4"	C347702	3.41
	4"	C347703	4.65
	6"	C396232	7.75

Cloth Mechanical Locking Discs



*Female (Turn On)
Locking
Attachment*



*Male (Roll On)
Locking
Attachment*

Brown A/O General Purpose

SIZE	GRIT	COLOR	ROLL-ON STYLE A/O	TURN-ON STYLE A/O	PKG QTY	BOX
2"	36	Brown	C354468		50	24.47
	50	Green	C354470		50	22.72
	60	Orange		C354499	50	21.85
	80	Yellow	C354472	C354500	50	21.41
3"	50	Green	C354478		50	30.15
	60	Orange	C354479	C354507	50	29.72
	80	Yellow	C354480	C354508	50	28.84

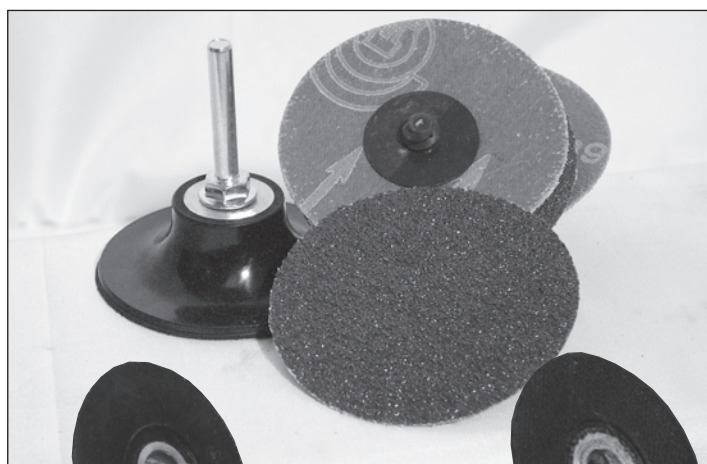
Blue Zirconia Long Life

SIZE	GRIT	COLOR	ROLL-ON STYLE A/Z	TURN-ON STYLE A/Z	PKG QTY	BOX
2"	36	Brown	C354484		50	28.41
	40	Red	C354485		50	27.09
	50	Green	C354486		50	26.22
	60	Orange	C354487		50	25.25
	80	Yellow	C354488		50	24.91
3"	36	Brown	C354490		50	37.58
	40	Red	C354491		50	36.71
	50	Green	C354492		50	35.83
	60	Orange	C354493	C354521	50	34.96
	80	Yellow	C354494		50	34.96



Surface Conditioning Non-Woven (Scotch Material) Mechanical Locking Discs

SIZE	GRIT	COLOR	STYLE ROLL-ON	TURN-ON	PKG QTY	BOX
2"	Very Fine	Blue	C355069		50	32.00
	Medium	Maroon	C355070	C355076	50	32.00
	Coarse	Brown	C355071	C355077	50	36.00
3"	Very Fine	Blue	C355072	C355078	25	28.00
	Medium	Maroon	C355073	C355079	25	28.00
	Coarse	Brown	C355074	C355080	25	32.00



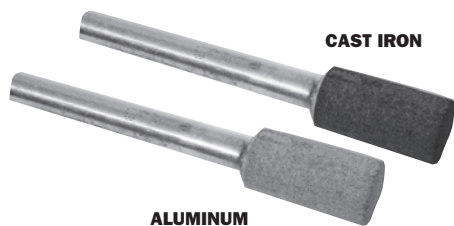
TURN-ON

ROLL-ON

Rubber Back-up Pads for Mechanical Locking Discs

SIZE	FLEX	PRODUCT # ROLL-ON PAD	TURN-ON PAD	EACH
2"	Medium	C354735	C354737	9.48
3"	Medium	C354736	C354738	11.15

(All Back-up pads have 1/4 shank)



Excellent porting tool for cast iron and aluminum castings.

Mandrel Mounted Porting Tools

1/4" x 4" Mandrel

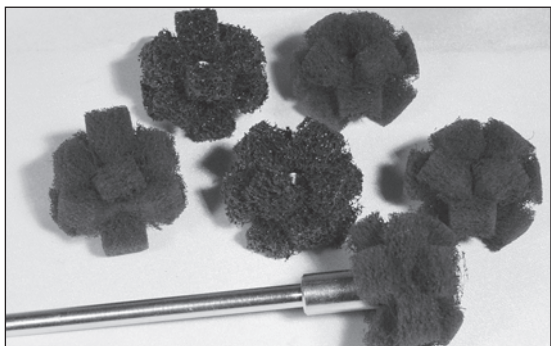
DIMENSIONS	SPECIFICATION	MATERIAL	PRODUCT #	PKG QTY	1 BOX
1/2 x 1"	C46-U-VAC	Cast Iron	7384469	10	48.89
5/8 x 1"	C46-U-VAC	Cast Iron	7384470	10	48.89
1/2 x 1"	Fiber 80-P	Aluminum	7384471	5	35.91

sold in pkg qty only

Crossbuffs for Porting & Blending Cylinder Heads/Carburetors

1-1/2" OD, 3 ply, 8-32 threaded eyelet. Non-woven material

GRIT	COLOR	PRODUCT #	PKG QTY	1 BOX
Fine	Maroon	C381365	50	108.45
Medium	Blue	C381366	50	108.45



Crossbuffs made exclusively to help auto mechanics hone and polish the I.D. of lifter bores, valve bodies and brake cylinders. Cleans and polishes the venturis of carburetors. Excellent for porting and blending cylinder head combustion chambers and valve pockets.

Crossbuff/Flap Wheel Mandrel 8-32" Threaded end

OVERALL LENGTH	SHANK	PRODUCT #	PKG QTY	1 PC
4"	1/4"	C381367	1	5.96

Flap Wheels

WHEEL SIZE DIA X WIDTH X SHANK	60	80	120	PKG. QTY	1 PC
1 x 5/8 x 1/4	C355012	C355026	C355040	10	2.10
1 x 1 x 1/4	C345528	C345529	C345530	10	3.56
1-1/2 x 1 x 1/4	C345531	C345532	C345533	10	4.79
2 x 1 x 1/4	C345534	C345535	C345536	10	6.02
3 x 1/2 x 1/4		C355032		10	4.19
3 x 1 x 1/4	C355019	C355033	C355047	10	4.89

10 per Box

Flap Wheels - A/O 1/4" - 20 Thread

WHEEL SIZE DIA X WIDTH	MAX RPM	60	80	120	PKG QTY.	BOX
1 x 1 x 1/4-20	30,000	C355872	C355873	C355874	10	28.15
1-1/2 x 1 x 1/4-20	30,000	C355875			10	31.25

(Use mandrel C381367 without 8/32" stud)

10 per Box



Convalute Deburring

Bench and Pedestal Mounted as well as Buffer mounted. Use to Deburr Piston Skirt Edges, Valve Spring Edges, all around cleaning and corrosion removal.

DIMENSIONS	SPECIFICATION	HARDNESS	PRODUCT #	QTY	PKG PRICE
6 x 1/2 x 1	8S-Fine	Medium	C400473	1	34.89
6 x 1 x 1	8S-Fine	Medium	C400474	1	48.92



Buff and Blend Disc *Great for Valve Stems!*

Non-Woven Red

Bench and Pedestal Mounted. Excellent product for deburring and cleaning of Small Parts like Valve Stems, Valve Springs, Pistons, Wrist Pins, Etc. Mount as many discs on the spindle as the guard will allow on Buffing Motor. Safer and more user friendly than wire wheels. Wheels are very flexible and will fit 5/8" spindle.

DIMENSIONS	COLOR	HARDNESS	PRODUCT #	PKG QTY	PRICE PER BOX
6 x 3/8 x 1/2	Red	Medium	C400475	10	34.94
8 x 3/8 x 1/2	Red	Medium	C400476	10	58.24



Non-Woven (Scotch Material) Hand Pads

DIMENSIONS	GRADE	COLOR	PRODUCT #	PKG QTY	BOX
6 x 9	Medium	Maroon	C355110	60	53.64

60 Per Box



Aluminum Oxide Shop Rolls

DIMENSIONS	GRIT	PRODUCT #	BOX
1 x 50 yds	A80	C345537	20.07
	A100	C345538	20.07
	A120	C345539	20.07
	A150	C345540	20.07
	A180	C347657	20.07
	A240	C345541	20.07
	A320	C345542	20.07
	A400	C345543	20.07



DIMENSIONS	GRIT	PRODUCT #	BOX
2 x 50 yds	A80	C347658	41.16
	A100	C347659	37.96
	A120	C347660	35.83
	A150	C347661	35.83
	A180	C347662	35.83
	A240	C347663	35.83
	A320	C347664	35.83
	A400	C347665	39.81



Bulk Pack Thread Repair Inserts

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
1/4 - 20	7414837	25	8.11
5/16 - 18	7414838	25	10.31
3/8 - 16	7414839	25	18.38
7/16 - 14	7414840	25	15.91
1/2 - 13	7414841	25	21.18
6 x 1.00mm	7414842	25	8.11
7 x 1.00mm	7414843	25	10.31
8 x 1.25mm	7414844	25	10.31
10 x 1.5mm	7414845	25	13.38

Spark Plug Repair Kits

Contains Tap and Installation Tool

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
10 x 1.00mm	7414833	1	57.30
12 x 1.25mm	7414834	1	59.83
14 x 1.25mm	7414835	1	63.34
18 x 1.50mm	7414836	1	86.62

Bulk Pack Spark Plug Inserts

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
14 x 1.25mm x 1/2"	7414846	25	19.75
14 x 1.25mm x 3/4"	7414847	25	28.54

Six Pack Spark Plug Inserts

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
10 x 1.00mm x 1/2	7414848	6	4.38
12 x 1.25mm x 1/2	7414849	6	4.93
12 x 1.25mm x 3/4	7414850	6	5.48
14 x 1.25mm x 3/8	7414851	6	4.38
14 x 1.25mm x 1/2	7414852	6	5.81
14 x 1.25mm x 3/4	7414853	6	6.91
18 x 1.50mm x 1/2	7414854	6	8.00

Coarse Thread Repair Kits

Contains Inserts, Installation Tool and Tap

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
1/4 - 20 x .375 Kit	7414824	12	23.05
5/16 - 18 x .469 Kit	7414825	12	23.05
3/8 - 16 x .562 Kit	7414826	12	23.05
7/16 - 14 x .656 Kit	7414827	6	25.24
1/2 - 13 x .750 Kit	7414828	6	29.64



Master Coarse Thread Repair Kits

DESCRIPTION	PRODUCT NUMBER	PKG QTY	PRICE
SAE Coarse	7414822		115.83
1/4 - 20 Inserts		6 ea.	
5/16 - 18 Inserts		6 ea.	
3/8 - 16 Inserts		6 ea.	
7/16 - 14 Inserts		6 ea.	
1/2 - 13 Inserts		6 ea.	
1/4 - 20 Installation Tool		1 ea.	
5/16 - 18 Installation Tool		1 ea.	
3/8 - 16 Installation Tool		1 ea.	
7/16 - 14 Installation Tool		1 ea.	
1/2 - 13 Installation Tool		1 ea.	
1/4 - 20 STI Tap		1 ea.	
5/16 - 18 STI Tap		1 ea.	
3/8 - 16 STI Tap		1 ea.	
7/16 - 14 STI Tap		1 ea.	
1/2 - 13 STI Tap		1 ea.	

Master Metric Thread Repair Kit

DESCRIPTION	PRODUCT NUMBER	PKG QTY	PRICE
Metric	7414823		140.24
5 x 0.80mm Inserts		6 ea.	
6 x 1.00mm Inserts		6 ea.	
8 x 1.25mm Inserts		6 ea.	
10 x 1.25mm Inserts		6 ea.	
10 x 150mm Inserts		6 ea.	
5 x 0.80mm Installation Tool/Prewinder		1 ea.	
6 x 1.00mm Installation Tool/Prewinder		1 ea.	
8 x 1.25mm Installation Tool/Prewinder		1 ea.	
10 x 1.25mm Installation Tool/Prewinder		1 ea.	
10 x 150mm Installation Tool/Prewinder		1 ea.	
5 x 0.80mm STI Tap		1 ea.	
6 x 1.00mm STI Tap		1 ea.	
8 x 1.25mm STI Tap		1 ea.	
10 x 1.25mm STI Tap		1 ea.	
10 x 150mm STI Tap		1 ea.	

Metric Thread Repair Kits

Contains Inserts, Installation Tool and Tap

DIMENSIONS	PRODUCT NUMBER	INSERTS	PRICE
6 x 1.00mm x .90 Kit	7414829	12	29.64
7 x 1.00mm x 10.5 Kit	7414830	12	29.64
8 x 1.25mm x 12.0 Kit	7414831	12	29.64
10 x 1.5mm x 13.5 Kit	7414832	12	31.83

When inventory is depleted on Thread Repair Kits, product will be obsolete

Type "A" Shape Mounted Points *For Medium to Heavy Duty Blending and Contouring*

SHAPE/ MANDREL	DIAM.	THICK.	TYPE	SPECIFICATION	MAX RPM	PRODUCT NUMBER	PKG QTY	1-24 PCS	25+ PCS
A03-D2	1"	2-3/4"	55	WA60-R5-V2	16100	7122246	25	10.14	8.95
A04-D2	1-1/4"	1-1/4"	55	WA60-R5-V2	30560	7122270	25	6.43	5.67
A05-D2	3/4"	1-1/8"	55	WA60-R5-V2	45000	7122300	25	5.45	4.80
A11-D2	7/8"	2"	55	A36-Q-V1	19860	7122319	25	6.92	6.11
A11-D2	1-1/8"	1-1/8"	55	WA60-R5-V2	19860	7122343	25	6.92	6.11
A12-D2	11/16"	7/8"	55	WA60-R5-V2	48000	7122351	25	5.45	4.80
A14-D2	1"	1"	55	WA60-R5-V2	55560	7122394	25	4.08	3.59
A23-D2	3/4"	1"	55	WA60-R5-V2	39370	7122483	25	4.08	3.59
A25-D2	1"	1"	55	WA60-R5-V2	35620	7122521	25	4.45	3.93
A31-D2	1-3/8"	1"	55	WA60-R5-V2	27780	7122548	25	5.45	4.80
A36-D2	1-5/8"	3/8"	55	WA60-R5-V2	23520	7122637	25	5.45	4.80
A38-D2	1"	1"	55	WA60-R5-V2	34500	7122696	25	3.71	3.28
A39-D2	3/4"	3/4"	55	WA60-R5-V2	47250	7122718	25	3.10	2.72

Type "B" Mounted Points *For Light Blending in Small Areas*

SHAPE/ MANDREL	DIAM.	THICK.	TYPE	SPECIFICATION	MAX RPM	PRODUCT NUMBER	PKG QTY	1-24 PCS	25+ PCS
B43-D1	1/4"	5/16"	55	WA60-R5-V2	81370	7122815	25	3.46	3.05
B52-D1	3/8"	3/4"	55	WA60-R5-V2	45370	7122939	25	3.71	3.28
B53-D1	5/16"	5/8"	55	WA60-R5-V2	60000	7309614	25	3.71	3.28
B81-D1	3/4"	3/16"	55	WA60-R5-V2	50930	7318865	25	3.46	3.05
B97-D1	1/8"	3/8"	55	WA90-R5-V2	105000	7123170	25	3.46	3.05
B123-D1	3/16"	3/16"	55	WA90-R5-V2	104250	7123340	25	3.10	2.72
B132-D1	3/8"	1/2"	55	WA60-R5-V2	45370	7123420	25	2.72	2.40

Type "W" Shapes & Sizes *For Off-Hand and Precision Grinding of Medium to Heavy Stock*

SHAPE/ MANDREL	DIAM.	THICK.	TYPE	SPECIFICATION	MAX RPM	PRODUCT NUMBER	PKG QTY	1-24 PCS	25+ PCS
W145-D1	1/8"	3/8"	55	WA90-R5-V2	105000	7123528	25	2.72	2.40
W154-D1	3/16"	1/2"	55	WA90-R5-V2	70500	7123587	25	2.72	2.40
W163-D1	1/4"	1/2"	55	WA60-R5-V2	60000	7123714	25	2.72	2.40
W164-D1	1/4"	3/4"	55	WA60-R5-V2	45900	7161020	25	2.84	2.51
W176-D1	3/8"	1/2"	55	WA60-R5-V2	45370	7123803	25	2.72	2.40
W179-D2	3/8"	1-1/4"	55	WA60-R5-V2	45750	7916536	25	3.95	3.50
W185-D2	1/2"	1/2"	55	WA60-R5-V2	61500	7123919	25	2.72	2.40
W188-D2	1/2"	1-1/2"	55	WA60-R5-V2	30370	7123978	25	4.70	4.14
W196-D2	5/8"	1"	55	WA60-R5-V2	35250	7318869	25	3.46	3.05
W204-D2	3/4"	3/4"	55	WA60-R5-V2	42750	7124095	25	3.10	2.72
W217-D2	1"	3/8"	55	WA60-R5-V2	38200	7124281	25	3.10	2.72
W220-D2	1"	1"	55	WA60-R5-V2	25500	7124362	25	3.71	3.28
W236-D2	1-1/2"	1/2"	55	WA60-R5-V2	25470	7124524	25	3.95	3.50
W242-D2	2"	1"	55	WA60-R5-V2	19100	7161195	25	5.94	5.24

D1 = 1/8" x 1-1/2"

D2 = 1/4" x 1-1/2"

RECOMMENDATIONS FOR SINGLE POINT DRESSERS

1. Mounting the dressing tool

- Mount the tool with minimum overhang to avoid vibration.
- Never mount a dressing tool in an oversize hole. (3/8" shank tool in a 7/16" holder.)
- Mount the diamond with a 10 to 15 degree drag angle pointing in the direction of wheel travel. When a straight dressing fixture is mounted on the table, position the diamond point 2" past the center. A diamond pointing to the center of the wheel, will cause vibration and shorten the tool life considerably. (Figure 1)

2. Coolant

- Dress dry when grinding dry. Dress with coolant if it is used during the grinding cycle.
- Do not turn the coolant on after the dressing cycle was started dry. The thermal shock may fracture the diamond.
- Direct a generous flow of coolant to the diamond at all times.

3. Operating parameters

- Start the dressing cycle in the center of the wheel. (Figure 2)
- Traverse rate. See chart below.
- Infeed. 36 to 60 grit wheels .0005" to maximum .001"
80 to 180 grit wheels .0005" to maximum .001"
230 grit and finer .0002" to maximum .0005"
- Index the diamond dresser frequently.
When the diamond wears, the increased contact area will generate more heat and shorten the tool life. Index the dresser 20 to 30 degree when the wear flat reaches 1/16". The diamond will then develop a conical wear pattern. (Figure 3)
- **Have the diamond reset before a 3/32" flat develops.**
FOR CERAMIC WHEELS REDUCE INFEEED RATE BY 50% AND INCREASE THE TRAVERSE RATE. GOOD QUALITY DIAMONDS WITH A SHARP POINT ARE RECOMMENDED.

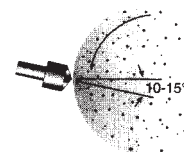


Figure 1



Figure 2

Right

Wrong

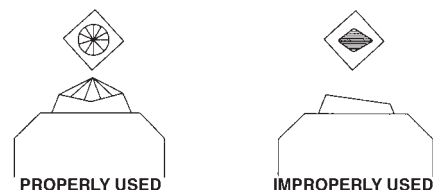


Figure 3

PROPERLY USED

IMPROPERLY USED

Recommended Trueing Time Cycle for Single Point Dressers

To calculate the trueing cycle take into account:

- The grit size of the grinding wheel.
- The speed of the grinding wheel.
- The width of the grinding wheel.

These are the reasons.

- To dress an open structure and aggressive grinding wheel, the diamond should not hit each abrasive grain more than once per revolution. Therefore grit size and wheel speed will determine the traverse rate.
- To achieve a better finish slow down the traverse rate to hit each grain maximum 2 times per revolution. If the traverse rate is too slow the diamond dulls the abrasive and the grinding wheel will burnish and cause heat checks.

Chart Of Trueing Times In Seconds Per Inch

Lower figures for open wheel — Higher figures for finish

Rev/Min	Grit Size								
	36	46	54/60	80	100	120	150	180	220
500	6-10	8-15	12-20	18-30	24-40	30-50	35-56	40-60	50-80
750	4-7	6-10	8-13	12-20	16-26	20-33	27-42	30-45	38-60
1,000	3-5	4-8	6-10	9-15	12-20	15-25	18-28	20-30	25-40
1,250	2-4	3-6	5-8	7-12	10-16	12-20	14-22	16-24	20-32
1,500	2-3	3-5	4-7	6-10	8-14	10-17	12-19	13-20	17-27
1,750	1.5-3	2.5-4	3.5-6	5-9	7-12	9-14	10-16	11-17	14-23
2,000	1.3-2	2-4	3-5	4-8	6-10	8-12	9-14	10-16	11-17
2,500	1-2	1.5-3	2.5-4	3.5-6	5-8	6-10	7-11	8-12	10-16
2,750	1-2	1.4-2.8	2-3.5	3-5.5	4-7	5.5-9	6-10	7-11	9-15
3,200	.9-1.7	1.3-2.6	1.7-3	2.6-5	3-6	4.5-8	5-9	6-10	8-13
3,600	.8-1.5	1-2	1.5-2.5	2.3-4	2.5-5	4-7	4.5-8	5-8.5	7-12

Instructions

1. Check the spindle speed.
2. Go to the corresponding grit size column.
3. Multiply the indicated seconds by the width of the wheel.
4. The lower figure applies to dress an open wheel.
5. The higher figure results in a finer finish.

EXAMPLE: For a 36" x 4" 46 grit wheel running at 500 RPM, the dressing time will be 8 seconds x 4 = 32 seconds to dress an open wheel, 15 x 4 = 60 seconds to dress for finer finish.

These calculations assume that a relatively sharp diamond is used.

CRANKSHAFT GRINDING

Problem	Possible Causes	Suggested Correction
Poor Finish	Wheel too coarse or too soft Improper wheel dressing Dress traverse too fast	Use harder grade and/or finer grit Use sharp, rigidly held diamond tool with point contact below center Dress wheel finer
Flats Generated on Diameter	Wheel too hard Wheel out of balance Steady rest deflection	Use softer cutting wheel Balance wheel Ensure rigid steady rest
Chatter in Radii	Poor quality coolant Dull diamond in radii attachment Work head speed too high Too high stock removal	Check coolant concentrator Check and replace Slow work head speed Reduce stock removal rate
Thrust Face Poor Geometry (stepped/taper)	Wheel too soft Workspeed too high Wheel speed too low Tapered wall wheel too hard	Use harder acting, better corner holding wheel Slow work speed Increase wheel speed, check correct pulley Use softer acting wheel
Thrust Face Burning	One side burning – poor diamond dressing Both sides burning – poor diamond dressing	Redress and/or redress at increased infeed Use corner diamond dress & check for worn diamond

FLYWHEEL GRINDING

Problem	Possible Causes	Suggested Correction
Poor Surface Finish or Quality of Grind	Dirty coolant Wheel too soft use hard grade wheel Wheel too coarse Poor wheel dressing Machine vibration	Clean coolant through filter Dress wheel finer Dress wheel finer or use finer grit wheel Check diamond sharpness and redress Check worn bearings and clamping
Burning of Work Piece	Poor coolant flow Wheel too hard Infeed too fast	Increase or direct coolant to grinding contact Dress wheel coarser or use softer wheel Reduce amount of stock removed per pass
Wheel Corner	Poor wheel dressing Wheel too soft	Dress wheel finer Use harder grade wheel
Wheel Loading or Glazing	Wheel too hard Dirty coolant Poor wheel dressing	Use softer grade wheel Filter coolant or replace with new Redress more frequently Reduce coolant 50% and direct to outer diameter of flywheel

CRANK/CAM MOUNTING PROCEDURES

1. Clean both flanges and bolts thoroughly.
2. Place flange that goes against the motor side down first on a table and apply one blotter.
3. Place wheel on the flange with **Mount Up** mark at 12 noon.
4. With your left hand holding the flange, take your right hand and put it at the 12 Noon position to hold the wheel. At this time with your left hand push or bump the flange to the top side of the arbor hole and apply one blotter.
5. Apply ring flange for balance weights at this time with all the mounting bolts.
6. With a ratchet and correct size Allen socket snug bolts firmly.
7. Using a torque wrench, cross torque all bolts to 20 ft. lbs. Repeat torque sequence twice or as needed to retain 20 ft. lbs.
8. It is always a good idea after running the wheel for a while to stop it and re-check the torque on the flange bolts.

SURFACE GRINDING

VERTICAL SPINDLE - T-2 OR SEGMENTS:

Problem	Possible Causes	Suggested Correction
Chatter	Segments too hard Interrupted cut and set up not rigid	Use softer grade segments Adjust loading and blocking or clamping
Poor Finish	Segments too soft Grinding rate too fast	Use harder grade segments Slow grinding rate
Burn	Segments too hard Grinding rate too slow Poor coolant application	Use softer grade segments Increase grinding rate Adjust coolant flow

CAMSHAFT GRINDING

Problem	Possible Causes	Suggested Correction
Chatter on Cam Nose	Interference of rocker bar motion Scored bearings Insufficient lubrication Insufficient rocker tension	Sludge jamming motion, clean or replace Check for irregularities in rocker bearings Tight bearings in rocker bar – lubricate Tighten rocker tension
Irregular Ramp Contour	Interference of rocker motion Loose bearings Insufficient contact between master cam and follower	Sludge jamming motion or scored bearing; clean and/or replace; lubricate Check bearings for excessive wear Ensure positive contact between masters
Poor Quality	Wheel too coarse Wheel too hard Poor quality of dressing Dirty coolant Poor coolant concentrate	Use finer grit wheel Use softer grade of grinding wheel Ensure quality diamond and dress technique Ensure clean coolant and change filter regularly Check coolant

CUTTING-OFF

Problem	Possible Causes	Suggested Correction
Poor Cutting Rate	Insufficient power being used	Increase feed or pressure to pull full power
	Wheel too hard	Use softer wheel or thinner wheel
	Contact area too large	Reduce contact area to minimum
Poor Quality Cut	Wheel out of side truth	Check spindle and wheel
	Non square cuts	See appropriate section below
	Work piece burn	Wheel too coarse Use finer grit
Non-Square Cuts	Wheel too hard	Spasmodic wheel breakdown Use softer wheel
	Work not clamped properly	Check clamp and clean to remove swarf
	Misaligned spindle bearings	Check for bearing truth and alignment
	Poor coolant distribution	Ensure equal volume of coolant to each wheel side
Work Piece Burn	Wheel too hard	Use softer acting wheel - softer grade/finer grit
	Insufficient feed rate	Work machine to maximum power available
	Poor coolant flow	Increase volume and direct at cutting point
	Wheel too coarse	Use finer grit wheel or pull more power
	Wheel too hard	Use softer grade wheel
	Wheel running out	Check spindle and clock wheel side truth
Poor Finish	Wheel speed too slow	Ensure no wheel slippage and maximum speed being used
	Too much burr	Use finer grit or softer wheel
	Wheel too coarse	Use finer grit

MOUNTED WHEELS

Problem	Possible Causes	Suggested Correction
Wheel Loading (metal lodged in wheel pores)	Wheel too fine	Use coarser grit wheel
	Wheel too hard	Use softer grade wheel
	Wheel too finely dressed	Give a more open dressing to wheel
	Poor coolant	Increase supply and clean coolant
	Insufficient wheel breakdown	Increase work and traverse speeds
Chatter Marks	Wheel too hard	Use softer wheel
	Spindle material not rigid enough	Replace spindle
	Defective belt	Replace belt
	Wheel out of balance or truth	Balance and/or true wheel . . . avoid use of bushed wheels
	Dust or other particles inside wheel motor pulley	Clean inside surface of pulleys
	Worn spindle	Replace spindle
	Machine not on solid foundation	Assure machine is properly aligned and not adjacent to heavy vibrating machines

BELT FINISHING

Problem	Possible Causes	Suggested Correction
Poor Surface Finish	Coarse grit size	Try finer grit size
	Loading	Clean with wire brush Reverse belt direction
No cutting Action or Slow Cutting	Belt worn out	Replace belt with coarser grit
	Loading	Clean with wire brush
	Fine grit size	Reverse belt direction

DIAMOND DRESSING TOOLS

Problem	Possible Causes	Suggested Correction
Chatter Marks	Out of balance	Balance carefully on own mount in and rebalance after truing operation
	Out of round	True before and after balancing
	Acting too hard	Use faster dressing feed and traverse
Scratching of the Work	Coarse grit or loading of foreign matter in wheel	Dress the wheel
Checking or Burning of the Work	Wheel too hard	Use a faster dress to open the wheel face
	Poor dress	
Diamond Lines in Work	Dressing too fast	Slow dress the wheel face
Inaccuracies in Work	Improper dressing	Check alignment of dress
Rate of Cut Too Slow	Dressing too slow	Increase the dressing rate to open the wheel face
Wheel Acting Too Soft (not holding size)	Improper dress	Use lighter dressing feed Possibly slow down traverse rate
Wheel Loading	Infrequent dress	Dress wheel more often

*Radiac Abrasives,
would like to thank you,
the dedicated end users
of our quality products.
We depend on you.*

MATERIAL & JOB

Acrylics	
Centerless	.C60-J5-V4
Cut-Off	.C60-O5-B20
Alnico	
Centerless	.CA54-Q8-B7595
Cylindrical	.WAA60-L8-V1
Surface	.RAA60-H2-V0S
Surface (Segments)	.HS30-G20-V
Surface (Cylinder)	.HS30-H20-V
Internal	.RAA60-K8-V8
Cut-Off	.A60-O5-B20F8
Aluminum	
Cylindrical	.C54-J8-V4
Surface	.C36-I8-V4
Surface (Segments)	.9A54-F800C-V0S
Surface (Cylinder)	.9A54-F800C-V0S
Internal	.C36-J5-V4
Weld Grinding	
Depressed Center T27	.C24-TB
Flared Cup T11	.C16-PB
Cut-Off (Reinf.)	.A24-Z-BLF2
Bearings	Consult Product Engineering
Bolts	
Cylindrical	.WAA60-M8-V1
Centerless	.WAA60-N8-V1
Brass	
Cylindrical	.C36-L8-V4
Centerless	.C36-M8-V4
Internal	.C46-K8-V4
Weld Grinding	
Depressed Center T27	.C24-TB
Flared Cup T11	.C16-PB
Broaches	
Sharpening	.WRA60-J5-V8
Bronze, Soft	Same As Brass
Bronze, Hard	
Cut-Off	.TA24-RBF8
Bushings	
Cylindrical	.WAA60-K8-V1
Centerless	.WAA60-L8-V1
Internal	.RAA60-K8-V8
Cams, Automotive/Diesel	
Roughing (Good)	.WAA60-M8-V1
Finishing (Good)	.WAA80-M8-V1
Roughing (Better)	.43A60-K8-V1
Finishing (Better)	.43A80K8-V1
Carbides	Same As Cemented Carbides
Carboly	Same As Cemented Carbides
Cast Iron	
Cylindrical	.C46-K8-V4
Centerless	.C46-L8-V4
Internal	.C46-K8-V4
Surface	.C36-I8-V4
Cyl. & Seg.	.9A30-G800-V0S
or	.HS30-G20V
Snagging	
9500 SFPM	.YB143-P5-B51F
12500 SFPM	.YB124-R5-B51F
Portable	.CA16-P5-B10
Cemented Carbides	
Roughing	
Straight Wheel	.GC60-J5-VL
Dish Wheel	.GC60-J5-VL
Plate Mounted	.GC60-J14-VL
Finishing	
Straight Wheel	.GC120-J5-VL
Plate Mounted	.GC120-J14-VL
Centerless	.GC80-M7-V4
Cemented Carbides Continued	
Cylindrical	
Roughing	.GC60-K5-V4
Finishing	.GC120-O5-V4
Internal	.GC80-L5-V4
Chromium Plating	
Commercial Finish	.RA80-K8-V8
Fine Finish	.RA120-J8-V8
Connecting Rods	
Internal	.RAA60-K8-V8
Surface, Segments	.GP30-H20-V
Surface, Cylinder	.97A46-H800-V
Chrome Alloy	
Cut-Off	.A46-TBF8
Surface	.97A46-I3-V0S
Internal	.RAA60-K8-V8
Crankshaft, Automotive	
Pin Bearing	.WAA54-M5-V1
Main Bearing	.WAA54-M5-V1

MATERIAL & JOB

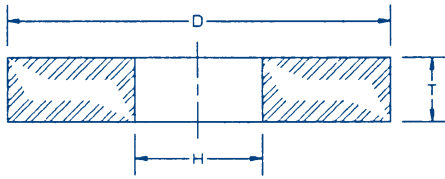
Crankshaft, Automotive continued	
Regrounding	.WAA54-M5-V1
Crankshaft, Diesel	
Pin Bearing	.WAA54-M5-V1
Main Bearing	.WAA54-M5-V1
Cutters, Molding	
Offhand	.WRA60-L5-V8
Drills	
Cut-Off	.A46-P5-B20
Small, Regrinding	.WRA80-L8-V8
Large, Regrinding	.WRA46-L8-V8
Flywheel	
Cast Iron	.Superabrasives/CWA36-J5-B35
Aluminum	.CWA36-H5-B35
Steel	.Superabrasives/CWA36-I5-B35
Steel	.Superabrasives/WA36-H5-V8
Gears, Hardened Steel	
Internal	.RAA60-K8-V8
Surface, Segments	.HS30-H20-V
Surface, Cylinder	.RAA46-H800-V0S
Surface, T-1	.RAA46-G800-V0S
Glass, Tubing	
Cylindrical	.C60-J5-V4
Glass, Tubing	
Internal	.C80-H5-V4
Gray Iron	See Malleable Iron - Unannealed
Lexan	See Acrylics
Machine Shop Grinding	
General Offhand	.A46-M5-V1
Gen. Seg. Grind	.GP30-G20-V
Malleable Iron - Annealed	
Snagging	
12500 SFPM Snagging	.YB124-R5-B51F
9500 SFPM	.YB124-Q5-B51F
Portable	.A16-P5-B10
Malleable Iron - Unannealed	
Snagging	
12500 SFPM Snagging	.YB123-R5-B51F
9500 SFPM	.YB123-Q5-B51F
Portable	.CA16-P5-B10
Meehanite	Same As Cast Iron
Monel Metal	
Cut-Off	.A24-ZX-BNF2
Snagging	.A24-P5-B10
Cylindrical	.C60-J8-V4
Ni Hard	
Surfacing (Segments)	.GP30-G20-V
Nitralloy	
Before Nitriding	.WAA60-K8-V1
After Nitriding	.WAA80-J8-V1
Pipe, Soft Steel	
Cut-Off	.TA30-RBF8
Pistons, (Aluminum and Cast Iron)	
Cylindrical	.C46-L8-V4
Centerless	.C46-M8-V4
Regrinding	.WAA46-J8-V1
Piston Pins, Centerless	
Roughing	.WAA60-L8-V1
Finishing	.20/40-220-KF221M
Plastics	See Acrylics
Plexiglass	See Acrylics
Polystyrene	See Acrylics
Ramet	Same As Cemented Carbides
Reamers	
Backing Off	.WRA46-J8-V8
Cylindrical	.WAA80-L8-V1
Rexalloy	See Stellite
Roller Bearing Cups	
Centerless	.A60-L5-V1
Cylindrical	.WAA60-L8-V8
Internal	.RAA54-K8-V8
Rollers for Bearings	
Centerless	.CA90-Q6-RB9
Rolls, Cast Iron	.C36-I5-B35
Shear Blades	
Cylinder	.97A30-G800-V0S
Segments	.GP30-H20-V
Side Gears, Auto	.WRA60-K8-V1
Spline Shafts	
Centerless	.A60-L5-V1
Cylindrical	.WAA60-L8-V1
Surfacing Splines	.WAA60-L8-V1

MATERIAL & JOB

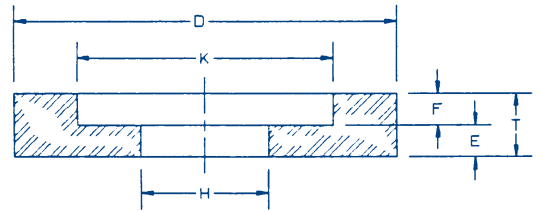
Steel Castings	
Snagging	
12500 SFPM	.YB143-R5-B51F
9500 SFPM	.A16-R5-B10
Portable	.A16-R5-B10
Steel, Hardened	
Centerless	.WAA60-L8-V1
Cylindrical	.WAA60-K8-V1
Surface, Segments	.HS30-H20-V
Surface, Cylinder	.RAA30-G800-V0S
Surface, T-1	.RAA46-G800-V0S
Internal	.RAA60-K8-V8
Cut-Off	.A46-P5-B20F8
Steel, Soft	
Centerless	.A60-L8-V1
Cylindrical	.A60-K8-V1
Surface, Segments	.GP30-H20-V
Surface, T-1	.97A46-H800-V0S
Internal	.RAA60-K8-V8
Cut-Off	.A46-P5-B20F8
Steel, Tool & High Speed	
Centerless	.WAA60-L8-V1
Cylindrical	.WAA60-J8-V1
Surface, Segments	.HS30-G20-V
Surface, Cylinder	.WA301-G8-V8
Surface, T-1	.WRA60-J8-V8
Steel, Stainless	
Centerless	
300 Series	.WAA60-K8-V1
400 Series	.WAA60-K8-V1
Cylindrical	.WAA60-K8-V1
Internal	.RAA60-K8-V8
Surface, Segments	.HS30-H20-V
Surface, Cylinder	.WRA30-G800-V0S
Surface, T-1	.RAA60-H800-V0S
Cut-Off	.A46-P5-B20F8
Stellite	
Cylindrical	.WAA60-L8-V8
Offhand	.WAA46-L8-V8
Surface, Segments	.HS30-G20-V
Surface, Cylinder	.RAA30-G800-V0S
Surface, T-1	.RAA60-H800-V0S
Cut-Off	.A46-P5-B20F8
Tool & Cutter	.WRA60-I8-V8
	or RA60-H800-V0S
Tantalum	Same As Steel, Tool and High Speed
Tangtung	Same As Steel, Tool and High Speed
Taps	
Grinding Relief	.WRA80-K8-V8
Fluting	
Small Taps	.XL902-S12-BFM2
Large Taps	.XL802-S12-BFM2
Threading	.XL1801-S12-BFM2
Shanks	
Cylindrical	.WAA60-K8-V1
Titanium Alloy	
Centerless	.CA54-Q6-RB9
Cylindrical	.C60-J8-V4
Portable	.C24-P5-B10
Surface	.C60-K800-V4
Tubes, Steel	
Centerless	.A60-L5-V1
Cut-Off	.A46-P5-B20F8
Valves, Automotive	
OEM	.WRA80-K-V8
Stellite/OEM	.WA120-I+6-V4
Titanium/Stellite/OEM (Best)	.GC100-J6-V4
Titanium/Stellite/OEM	.WA120-I+6-V28
Stems	
Roughing	.WAA80-L5-V1
Finishing	.WAA80-L5-V1
Valve Seats	
Stellite	
Roughing	.Ruby Coarse
Finishing	.White Fine, Ruby Fine,
	Also Gray Black Fine with light pressure
Cast Iron	
Roughing	.Ruby Coarse
Finishing	.Gray Black Fine
Finishing	.White Fine
Finishing	.Ruby Fine
Welds	
Depressed Center (Reinforced)	
Fast Cut	.A24-T-B
Long Life	.YNB24-R-B
Portable Straight and Cup Wheels	
9500 SFPM	.A16-P5-B10

Contact Application Engineering for Special Requirements

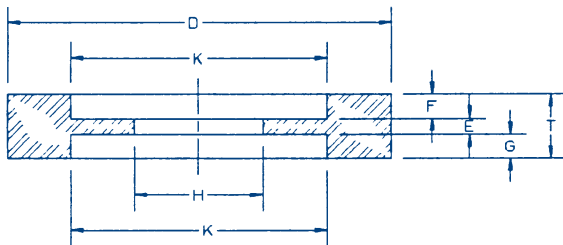
STANDARD WHEEL SHAPES



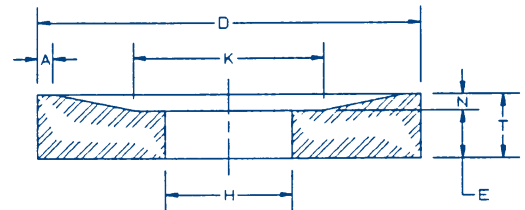
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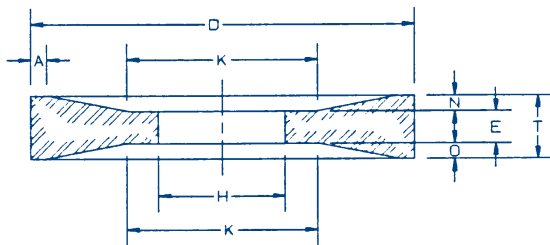
Type 5, Recessed 1 side



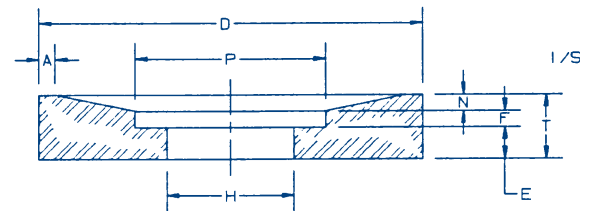
Type 7, Recessed 2 sides



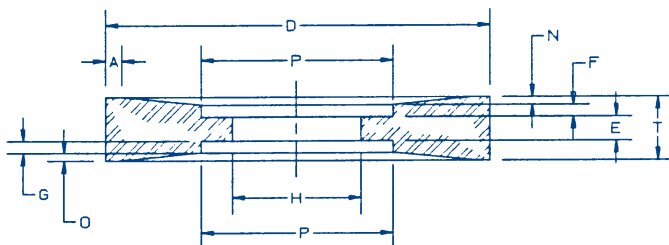
Type 20, Relieved 1 side



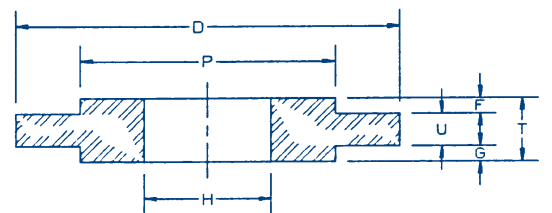
Type 21, Relieved 2 sides



Type 23, Relieved 1 side, Recessed 1 side



Type 26, Relieved 2 sides, Recessed 2 sides



Type 58, Raised Hub 2 sides



1-800-223-0457

WAREHOUSE LOCATIONS:

MIDWEST

Radiac Abrasives
1015 S. College Ave.
Salem, IL 62881
800-798-8765

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San Antonio, TX 78204
210-225-1141

WEST COAST

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Clackamas, OR 97015
503-657-6680

Precision Engine Parts
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Las Vegas, NV 89193
800-423-2202

ROCKY MOUNTAIN AREA

Rebuilders Supply
1440 Grove Street
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303-825-3744

PUERTO RICO AREA

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Cell: 809-201-3083

RADIAC SALES REPRESENTATIVES CAN BE REACHED AT:

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DIRECT LINES:

LORI MARIANI 630-566-9752
lmariani@usdw.com

JIM POLINSKI 630-566-9759
jpolinski@usdw.com

RICK SALISBURY . . 630-566-9782
rsalisbury@usdw.com

JAY MILLER 630-566-9774
jmiller@usdw.com

NICK MOISA 630-566-9755
nmoise@usdw.com

ESPAÑOL
AUTOMOTIVE MAIN
866-314-9414

MARIA ALARCON EXT 9763
malarcon@usdw.com

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