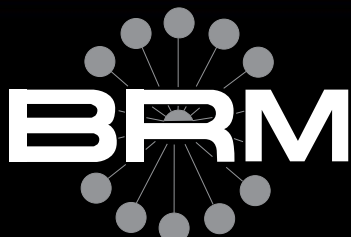
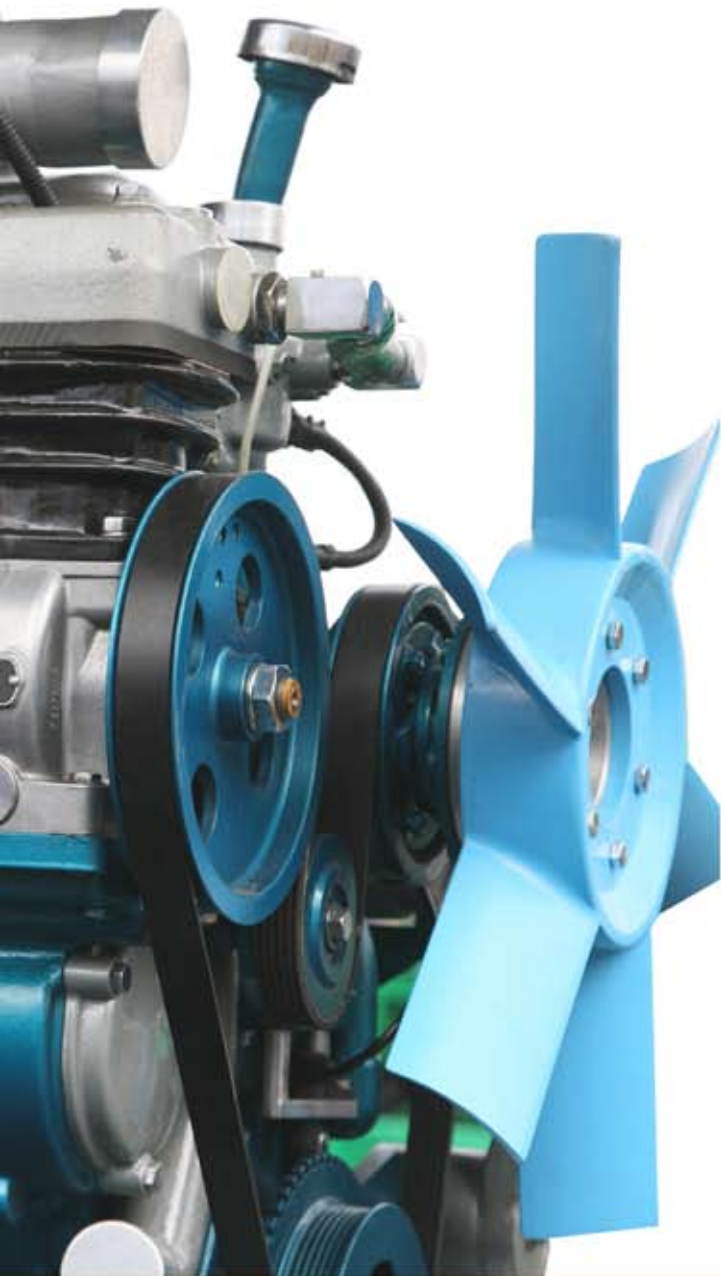


INNOVATORS IN BRUSH TECHNOLOGY

SPECIALTY DIESEL BRUSHES



BRUSH RESEARCH
MANUFACTURING

Brush Research Manufacturing is proud to offer one of the most complete lines of Specialty Automotive Brushes on the market today. This unique collection includes brushes for Cummins Group, Detroit Diesel, Caterpillar and International Harvester. Our custom diesel brushes assure a superior rebuild with a minimum of labor. BRM brushing tools set the standard for quality and long life.

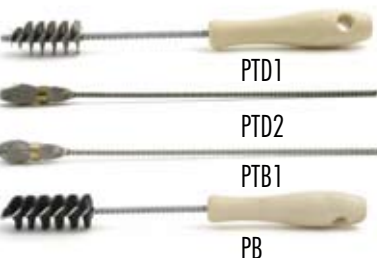
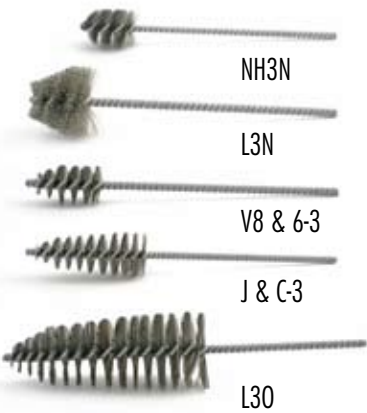
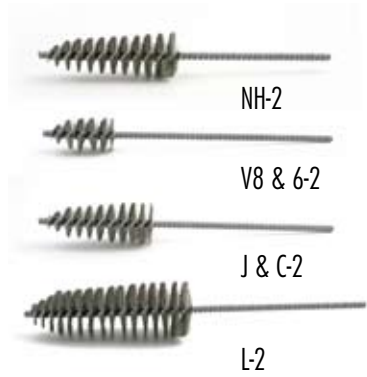
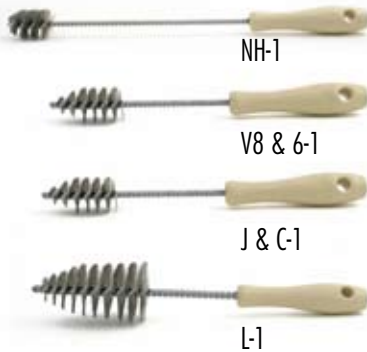
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Custom Brushes for Diesel

Specialty Diesel brushes are used to remove rust, carbon deposits and dirt and are designed for efficient, thorough cleaning. Our specialty brushes are designed for injector, copper cleaning, seat cleaning, injector cup and plunger bore applications. Surfaces are cleaned and polished to insure perfect seating and sealing. Specialty diesel brushes from BRM are a valuable, labor saving tool for diesel rebuilders and mechanics.



Cummins Brushes



Injector Brushes

Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
NH1	.005" SS	1.175	1 1/2"	14 1/2"
V861	.006" SS	1.150	2 1/8"	10 1/2"
JC1	.006" SS	1.200	2 1/8"	10 1/2"
L1	.006" SS	2.050	3 5/8"	12"

Stainless Steel wire with plastic handle to be used when changing injector while in truck. Removes rust, carbon deposits and dirt.

Copper Cleaning Brushes

Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
NH2	.006" SS	1.625	4 1/4"	10"
V862	.006" SS	1.125	2 1/8"	10"
JC2	.006" SS	1.350	3 3/8"	10"
L2	.006" SS	2.250	6 1/2"	12"

Stainless Steel wire cleans or polishes entire copper. Best used as a bench tool. Cut for power.

Seat Cleaning Brushes

Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
NH3N	.005" SS	1.175	1 1/2"	8 1/2"
L3N	.008" SS	2.125	1 3/4"	10"
V863	.010" CS	1.250	2 1/8"	10"
JC3	.012" CS	1.500	3 1/4"	10"
L3	.012" CS	2.500	6 1/2"	12"

Carbon Steel wire to be used as a seat brush to insure perfect seating of newly installed coppers. Cut for power.

Injector Cup and Plunger Bore Brushes

Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
PTD1	.005" SS	0.975	2"	10 1/2"
PTD2	.005" SS	0.312	1"	6 1/2"
PTB1	.005" SS	0.375	1 1/4"	6 1/2"
PB	6/12 Nylon	***	2 1/2"	10 1/2"

Clean injector cup retainers with .005 stainless steel wire. Brushes for injector cups are tapered style with a brass brindle. Medium-Soft 6-12 nylon available for *** all popular diameters to clean and brush plunger bores.

Diesel Overhaul Brushes

Specialty injector brushes are supplied with a handle and designed to be used when changing injectors while in the truck. Copper cleaning brushes, seat cleaning brushes and cavity seating brushes are supplied with a cut stem and designed to be run under power and are best used as a bench tool. Our overhaul selection includes brushes for oil line and gallery, valve guides and crankshaft oil holes. Efficient cleaning of critical surfaces reduces the time required for quality diesel engine overhaul and maintenance resulting in a satisfied customer. Custom requests for brushes not shown here are always welcome.

Detroit Diesel Brushes



Injector Brushes

Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
DD1 (149)	.006" SS	1.400	2 3/4"	10 1/2"
DD1 (53/71/92)	.006" SS	1.000	2 3/16"	10 1/2"

Stainless Steel wire with plastic handle to be used when changing injector while in truck.

Copper Cleaning and Polishing Brushes



Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
DD2 (149)	.006" SS	1.625	4 3/4"	10"
DD2(53/71/92)	.006" SS	1.200	3 3/4"	10"

Stainless Steel wire cleans or polishes entire copper. Best used as a bench tool. Cut for power.

Seat Cleaning Brushes



Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
DD3 (149)	.012" CS	1.675	5"	10"
DD3(53/71/92)	.012" CS	1.300	3 5/8"	10"
DD3N	.006" CS	1.750	1 5/8"	8 1/2"

Carbon Steel wire to be used as a seat brush to insure perfect seating of newly installed coppers. Cut for power.

Caterpillar Brushes

Injector Cavity Seating Brush



Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
CAT1	.005" SS	0.900	7/8"	10 1/2"
CAT2	.005" SS	0.625	5/8"	10 1/2"

For Direct Injection Nozzles Cleaning Pre-Combustion Chambers of 1693, 333, 342, 346, 348, 353

Injector Cavity Seating Brush



Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
SB1	.005" SS	1/4"	1/2"	10 1/2"
SB2	.005" SS	5/16"	5/8"	10 1/2"

To clean the shoulder/washer area. Our two most popular size small diameter end brushes made with .005 stainless steel wire with a brass bridle.

Diesel Engine Overhaul

International Harvester



Part Number	Wire Size	Major Dia.	Brush Part	Overall Length
FB5	.005" SS	1/2"	2 3/4"	10 1/2"
FB75	.005" SS	3/4"	2 3/16"	10 1/2"



Crankshaft Oil Holes

Part Number	Wire Size	Part Dia.	Brush Part	Overall Length
CSN219	6-12 Nylon	5/16"	2"	10"
CSN312	6-12 Nylon	7/32"	2"	10"

Also available in Stainless Steel wire (CSS219 and CSS312)

Valve Guide Brushes



Part Number	Material	Brush Dia.	Brush Part	Overall Length
VGC312	.008" CS	5/16"	2 1/2"	9 1/2"
VGC344	.008" CS	11/32"	2 1/2"	9 1/2"
VGC375	.008" CS	3/8"	2 1/2"	9 1/2"
VGC438	.008" CS	7/16"	2 1/2"	9 1/2"

New style brushes using a 7/32" shank crimped to the stem wire for added rigidity and strength. Designed for cleaning valve guides and other small holes. Carbon Steel is standard. Also available in nylon and stainless steel wire on request.

Oil Line, Gallery Brushes

You can't have a clean engine with just a hot tank and an air hose with water. You need something to take out the old metal chips, the grinding compounds the sludge and the dirt from the parts you can't see - the oil passageways. We use the finest-quality high-density 6-12 Nylon in our Nylon Brushes.

Part Number	Dia	X	Brush X Part	OAL	Description 6-12 Nylon
1	1/4	2	2	10	Small stiff brush for feed line holes
1a					Same as #1 with light fill and flexible stem
2	5/16	2 1/2	2	12	Stiff Brush for crankshaft holes & valve guides
2a					Same as #2 with light fill and flexible stem
3	3/8	2 1/2	2	12	Same as #2
4	5/8	3	3	12	For feed lines and main bearings
5	5/8	3	34		Same as #4 with extra length
6	3/4	3	12		For larger sizes of lifter bores
7	3/4	3	34		For main oil galleries
8	3/4	3	40		For main oil galleries
9	1 1/8	3	14		For lifter holes
38	3/8	3	34		For oil galleries
41	1/2	2 1/2	12		For valve guides
42	1/2	2 1/2	34		For main oil galleries
44	1/2	2 1/2	12		Same as #41 with light fill and flexible stem
46	1 1/4	4	12		For tapered pin fitter
47	11/32	2 1/2	12		For valve guides
48	13/32	2 1/2	12		For valve guides
49	7/16	2 1/2	12		For valve guides

Part Number	Dia	X	Brush X Part	OAL	Description Carbon Steel
11C	1/4	2	2	10	Same as #1 in Carbon Steel wire
13C	5/16	2 1/2	2	12	For cam bearing feed lines and valve guides
14C	3/8	2 1/2	2	12	For cam bearing feed lines and valve guides
15	5/8	3	3	12	For push rod holes
16	5/8	3	30		For oil galleries
6C	3/4	3	12		For larger size lifter holes
7C	3/4	3	34		For main oil galleries
8C	3/4	3	40		For main oil galleries
18	1 1/8	3	14		For lifter holes
38C	3/8	3	34		For oil galleries
44C	1/2	2 1/2	12		Same as #41, but in Carbon Steel wire
45	1/2	2 1/2	34		Same as #42, but in Carbon Steel wire
46C	1 1/4	4	12		For tapered pin fitter
47C	11/32	2 1/2	12		For valve guides
48C	13/32	2 1/2	12		For valve guides
49C	7/16	2 1/2	12		For valve guides

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