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DISCLAIMER

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This catalog contains parts information only. Before installing any part listed, consult the appropriate vehicle manufacturer's instructional manual for detailed installation instructions.

WARRANTY

Dura-Bond Bearing Company products are warranted to be free from defects of materials or workmanship for one year from the date of purchase. Dura-Bond Bearing Company's responsibility is limited to the replacement value of the product if Dura-Bond determines the product to be defective under normal use and service. Claims for labor or related component cost will not be considered. No other warranty, either expressed or implied, is made.

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[Quality Camshaft Bearings Since 1947]

Dura-Bond bimetal bearings are constructed of seamless steel tube with a thin layer of lead based babbitt material. Seamless construction makes installation easy, eliminating breakage and bearing surface interruptions.

Lead based babbitt provides ideal properties for nearly all engine applications. Babbitt's superior embedability, conformability, and anti-seizure characteristics have proven to reduce engine failures that harder bearing materials can cause.

The seamless, 100% machined surface design provides the tightest tolerances in the industry. The centerless ground OD, centerless bore ID results in wall variations of .0006 in., giving the customer increased system design flexibility. Discrete manufacturing lines can supply both high and low volumes economically. We can be a valued strategic partner with our design, development and manufacturing capabilities.

If your requirements range from prototypes to high volume, let Dura-Bond Bearing Company be part of the solution.

Dura-Bond Bearing Company · 3200 Arrowhead Dr., Carson City, NV 89706 · Tel (800) 227-8360 · Fax (775) 883-9497

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ENHANCED ENGINEERING SOLUTIONS



For the past 60 years our customers have come to expect our diverse, high level of service. They know that beyond the manufacture of component parts we are a valued partner in solving problems. From engineering design, to prototype development, sourcing and assembly work...they depend on us as their partner. Our team of Design, Materials, Application and Manufacturing Engineers are ready to be a part of your team in simultaneous engineering and integration.

Dura-Bond Provides the Rebuilder with Enhanced Engineering Solutions!

- Redesigned sets from O.E. to improve in the aftermarket (i.e. B-12B, CH-11B, CH-12B, CH-18A, F-47B and PD-28B)
- O.D. grooved to increase oil flow and optimize oil inlet locations
- Oversize O.D. Bearings for blue printing blocks
- Undersize I.D. sets for optimizing oil clearance
- Semi-Finished I.D. for line boring requirements



Race Proven. Time Tested.

The high performance all-round cam bearings offer more than double the fatigue strength of conventional bearings, withstand racing spring loads, and maintain the excellent surface characteristics of Babbitt.

Specific Contributions of the Design & Processes

Micro-Babbitt – A very thin layer of lining which reduces the microscopic deflections that occur to a bearing when loaded and thus increases fatigue life.

Grain-Controlled Babbitt – By cooling the Babbitt quickly in the casting process, very fine grain structure is achieved. By leaving the structure as cast, tensile strength is almost doubled over the standard bearing. This hard and high strength condition provides the “toughness” needed for racing applications.

Burnishing – Cold working the surface of the Babbitt eliminates micro-fissures that can lead to fatigue failure. The surface also exhibits a higher hardness.

Precision Machining – High Performance manufacturing tolerances are closer to control installed oil clearances, which reduce operating bearing pressure.



Fluoropolymer Composite Coated Bearings

This dry lubricant actually penetrates the surface where it has been applied. The primary advantage is that bearings with FLUOROPOLYMER Composite Coating retain engine oil on the surface, even under extreme heat and pressure conditions.

Being a lubricant itself, the coating provides secondary (back-up) lubrication in the event that momentary oil starvation occurs. This characteristic is especially important during start-up because oil does not reach all critical components immediately.

Over 2,000 hours of lab testing and a season of late model NASCAR testing proved the High Performance Bearing was up to the test. It's quality that stands the test of time. Just ask any high performance engine rebuilder. They'll know.

Dura-Bond Bearing - Proud sponsor of the Melling #92 Dodge NASCAR



CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
ACURA (Also see Honda)								
4 cyl	- 2156cc	2.2L	3.346" 85mm	1997	SOHC Honda (V-TEC) Eng. F22B1 Series			HA-3* (1/2 Shell)
5 cyl	- 2451cc	2.5L	3.346" 85mm	1992-98	SOHC Honda Eng. G25A1, G25A4 Series			HA-5* (1/2 Shell)
ALLIS CHALMERS								
4 cyl	116ci	1.9L	3.250" 82.6mm	1938-63	Allis Chalmers Eng. B,1B, B15 Tractor (Thru. Serial #64500), 60H, RC, TL6 Harvester, 66 Combine	A-1		
4 cyl	125ci	2.0L	3.375" 85.7mm	1957-63	Allis Chalmers Eng. B15 Tractor (From Serial #64501), B125, Roto Baler	A-1		
4 cyl	149ci	2.4L	3.500" 88.9mm	ALL	Allis Chalmers Eng. 60H, 148, BE, G149 Series; D Series: TRactor, H3 Crawler, I-40 Dozer, RT40 Forklift	A-6		
4 cyl	153ci	2.5L	3.438" 87.3mm	1956-69	Allis Chalmers Eng. 153 Series (Includes B153, BD153, D153, DA153, G153); AT40, F, FD, FL, FP, FT, T, TD, TG Series Forklift; HD Series Tractor	BU-2		
4 cyl	175ci	2.9L	3.563" 90.5mm	1960-70	Buda Diesel Eng. D175, DA175 Series; AT, F Series Forklift; I Series Tractor	BU-2		
4 cyl	182ci	3.0L	3.750" 95.3mm	1956-58	Buda Eng. 4B, 4BD, 4DA, 182, B182, BD182 Series; FT50, FT50-24 Series Forklift	BU-2		
4 cyl	200ci	3.3L	3.875" 98.4mm	ALL	Allis Chalmers Diesel/Turbo-Diesel Eng. 433, 433T, 2200, D2200, G2200 Series; 860 Harvester. 940, 7000, HD4 Series Tractor	A-3		
4 cyl	201ci	3.3L	4.000" 101.6mm	1958-70	Allis Chalmers Eng. 100, 100SP, G201, W, WC (After W136655), WD-F, W25, W201 Series Combine/Tractor	A-2		
4 cyl	226ci	3.7L	4.000" 101.6mm	1933-70	Allis Chalmers Eng. G, G226, W, WD45, W226 Series; 100SP, 170, D, M, TL, W Series Combine/Tractor	A-2		
6 cyl	230ci	3.8L	3.438" 87.3mm	1956-70	Buda Eng. 6B, 6DA, B230, BD230, D230, DA230, G230, W230, WD45D, WD45EX Series	BU-2		
6 cyl	262ci	4.3L	3.563" 90.5mm	1958-70	Buda Eng. B262, D262, D262T, DA262, G262, 6B262, 6D262, 6D262T, 6G262 Series	BU-2		
6 cyl	265ci	4.3L	3.750" 95.3mm	ALL	Allis Chalmer Eng. G2500 Series	A-4		
6 cyl	273ci	4.5L	3.750" 95.3mm	1956-60	Allis Chalmers Eng. 6D273, 6DA273, 6DAMR273, 6G273, D273, G273 Series; TL14DA Tractor	BU-2		
6 cyl	301ci	4.9L	3.875" 98.4mm	ALL	Allis Chalmers Eng. 649, 649T, 2800, 2900, D2800, D2900, G2800, G2900 Series; 180-200, 545, 860, 7000-8010, L3, M-MH3, TL Tractor, Combine, Grader	A-4		
6 cyl	426ci	7.0L	4.250" 108mm	ALL	Allis Chalmers Eng. 3400, 3400 MKII, 3500, 3500 MKII, 3700, 3750, D Series	A-5		
AMERICAN MOTORS								
4 cyl	150ci	2.5L	3.875" 98.5mm	1983-84	OHV AMC Eng. Vin U (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
4 cyl	151ci	2.5L	4.000" 101.6mm	1980-83	OHV GMC/Pontiac Eng. Vin B (.001 Under ID)	CH-16 CH-16W		
6 cyl	172ci	2.8L	3.125" 79.4mm	1949-52	AMC Eng.	N-6		
6 cyl	184ci	3.0L	3.125" 79.4mm	1950-54	Nash (L-Head) Eng.	N-6		
6 cyl	196ci	3.2L	3.125" 79.4mm	1953-65	OHV AMC (L-Head) Eng. Vin A, B, C	N-6		
6 cyl	199ci	3.3L	3.750" 95.3mm	1965-70	OHV Eng. Vin A, B, E, J, P (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		

* Denotes (OHC) Repair Bearing, Check "Aluminum Overhead Cam Accessories" Section For Tool Information

** Denotes Auxiliary / Balance Shaft Bearing.

"und" Denotes Undersized ID

CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
AMERICAN MOTORS (Cont.)								
6 cyl	232ci	3.8L	3.750" 95.3mm	1964-79	OHV (Hi-Torque) Eng. Vin B, C, E, F, G, L, M, P, Q, S, T, V, W (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
8 cyl	250ci	4.1L	3.500" 88.9mm	1956-61	OHV AMC Eng.	H-5		
6 cyl	258ci	4.2L	3.750" 95.3mm	1971-88	OHV Eng. Vin A, C (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
8 cyl	287ci	4.7L	3.750" 95.3mm	1963-66	OHV Eng. Vin H, N, T	H-5		
8 cyl	290ci	4.8L	3.750" 95.3mm	1966-69	OHV Eng. Vin C, D, H, M, N, U (+.010 OD)	N-9 N-9R1		
8 cyl	304ci	5.0L	3.750" 95.3mm	1970-79	OHV Eng. Vin H, I, M (+.010 OD)	N-9 N-9R1		
8 cyl	327ci	5.4L	4.000" 101.6mm	1957-66	OHV (Vigilante) Eng. Vin J, K, P, Q, U, W	H-5		
8 cyl	343ci	5.6L	4.080" 103.6mm	1967-69	OHV Eng. Vin J, K, Q, R, S, T, V, W, X, Z (+.010 OD)	N-9 N-9R1		
8 cyl	360ci	5.9L	4.080" 103.6mm	1970-78	OHV Eng. Vin H, N, P (+.010 OD)	N-9 N-9R1		
8 cyl	390ci	6.4L	4.165" 105.9mm	1968-70	OHV Eng. Vin W, X, Y (+.010 OD)	N-9 N-9R1		
8 cyl	401ci	6.6L	4.165" 105.9mm	1971-76	OHV Eng. Vin Z (+.010 OD)	N-9 N-9R1		
AUDI								
4 cyl	- 1471cc	1.5L	3.012" 76.5mm	1973-74	SOHC VW Eng. XV, XW, XY, XZ, ZD, ZE Series (Balance Shaft Set)	VWG-1**		
4 cyl	97ci 1588cc	1.6L	3.012" 76.5mm	1982-83	SOHC VW Diesel/Turbo-Diesel Eng. CR, CY, JK Series, Vin G, H (Balance Shaft Set)	VWG-1**		
4 cyl	97ci 1588cc	1.6L	3.130" 79.5mm	1975-80	SOHC VW Eng. YG, YH, YK, YM Series (Balance Shaft Set)	VWG-1**		
4 cyl	104.7ci 1715cc	1.7L	3.130" 79.5mm	1981-83	SOHC VW Eng. WT Series, Vin A (Balance Shaft Set)	VWG-1**		
5 cyl	- 1986cc	2.0L	3.012" 76.5mm	1979-85	SOHC VW Diesel/Turbo-Diesel Eng. CN, DE Series, Vin G, H			VWA-1* (1/2 Shell)
5 cyl	- 2144cc	2.2L	3.130" 79.5mm	1978-86	SOHC VW Eng. KH, WD, WE, WK, WU, WX Series (Includes Turbo), Vin A, B, C			VWA-1* (1/2 Shell)
5 cyl	- 2226cc	2.2L	3.189" 81mm	1984-97	SOHC & DOHC VW Eng. 3B, AAN, JT, KX, KZ, MC, NF Series, Vin A, B, C, D, E, P, R			VWA-1* (1/2 Shell)
5 cyl	- 2309cc	2.3L	3.248" 82.5mm	1987-92	SOHC & DOHC VW Eng. 7A, NF, NG Series, Vin B, C, D, E			VWA-1* (1/2 Shell)
AUSTIN								
4 cyl	52ci 848cc	0.8L	2.480" 63mm	1959-78	OHV Eng. 8, 85, A Series	BL-1		
4 cyl	58ci 948cc	0.9L	2.478" 62.9mm	1958-62	OHV Eng. 9AG, 9C, A Series	BL-1		
4 cyl	59ci 970cc	1.0L	2.795" 71mm	1963-65	OHV Eng.	BL-1		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
AUSTIN (Cont.)								
4 cyl	61ci 997cc	1.0L	2.441" 62mm	1961-65	OHV Eng. A Series	BL-1		
4 cyl	61ci 998cc	1.0L	2.542" 64.6mm	1961-78	OHV Eng. 9AG, A Series	BL-1		
4 cyl	65ci 1071cc	1.1L	2.795" 71mm	1963-65	OHV Eng.	BL-1		
4 cyl	- 1098cc	1.1L	2.542" 64.6mm	1961-78	OHV Eng. 10, A Series	BL-1		
4 cyl	91ci 1489cc	1.5L	2.874" 73mm	1954-61	OHV Eng. 14H, A5, A55, B Series	DA-2		
4 cyl	99ci 1622cc	1.6L	3.000" 76.2mm	1962-69	OHV Eng. A60 Series	DA-2		
4 cyl	- 1798cc	1.8L	3.160" 80.3mm	1964-80	OHV Eng.	DA-2		
BMW								
4 cyl	107ci 1766cc	1.8L	3.504" 89mm	1980-85	SOHC Eng. M10B18 Series			BMA-4* (Full Round)
4 cyl	121ci 1990cc	2.0L	3.504" 89mm	1966-79	SOHC Eng. 121, M10B20 Series			BMA-4* (Full Round)
6 cyl	152ci 2494cc	2.5L	3.307" 84mm	1987-91	SOHC Eng. M20B25 Series			BMA-3* (Full Round)
6 cyl	- 2693cc	2.7L	3.307" 84mm	1982-88	SOHC Eng. M20B27 Series			BMA-2* (Full Round)
6 cyl	- 2788cc	2.8L	3.386" 86mm	1968-81	SOHC Eng. 128, M30B28 Series			BMA-1* (Full Round)
6 cyl	- 2985cc	3.0L	3.504" 89mm	1971-78	SOHC Eng. M30B30 Series			BMA-1* (Full Round)
6 cyl	- 3210cc	3.2L	3.504" 89mm	1978-84	SOHC Eng. M30B32 Series			BMA-1* (Full Round)
6 cyl	- 3430cc	3.5L	3.622" 92mm	1985-93	SOHC Eng. M30B34 Series			BMA-1* (Full Round)
6 cyl	- 3453cc	3.5L	3.661" 93mm	1987-88	DOHC Eng. S38B35 Series			BMA-1* (Full Round)
BUDA								
4 cyl	153ci	2.5L	3.438" 87.3mm	ALL	Diesel Eng. 4B127, 4B153, 4BD153, 4D153, 4DA153, 4B157, 4B158, 4G153 Series	BU-2		
4 cyl	175ci	2.9L	3.563" 90.5mm	ALL	Diesel Eng. 4BD175, 4D175, 4DA175 Series	BU-2		
4 cyl	182ci	3.0L	3.750" 95.3mm	ALL	4B182, 4BD182, 4DA182 Series	BU-2		
6 cyl	230ci	3.8L	3.438" 87.33mm	ALL	6B230, 6BD230, 6D230, 6DA230, 6G230 Series	BU-2		
6 cyl	262ci	4.3L	3.563" 90.5mm	ALL	Diesel Eng. 6B262, 6D262, 6D262T, 6DA262, 6DD262, 6G262 Series	BU-2		
6 cyl	273ci	4.5L	3.750" 95.3mm	ALL	Diesel Eng. 6B273, 6BD273, 6D273, 6DA273 Series	BU-2		
CASE TRACTOR								
4 cyl	95ci	1.6L	2.750" 69.9mm	1936-40	FC Series	WA-3		
4 cyl	106ci	1.7L	3.000" 76.2mm	ALL	W106 Series	CA-3		

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CAMSHAFT BEARINGS

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
CASE TRACTOR (Cont.)								
4 cyl	123ci	2.0L	3.125" 79.4mm	1936-40	FK Series	WA-3		
4 cyl	124ci	2.0L	3.250" 82.6mm	1942-58	124, F124, VA124, VA, VAE Series	CA-3		
4 cyl	126ci	2.1L	3.125" 79.4mm	1955-61	126, G126 Series	CA-3		
4 cyl	148ci	2.4L	3.375" 85.7mm	1955-70	148, 148B, 148G, G148, G148B, G149 Series	CA-3		
4 cyl	159ci	2.6L	3.500" 88.9mm	1961-70	159, 159B, 159G, G159, G159B Series	CA-3		
4 cyl	164ci	2.7L	3.563" 90.5mm	1957-64	164, G164 Series	CA-3		
3 cyl	180ci	2.9L	4.016" 102mm	ALL	Cummins Diesel/Turbo-Diesel Eng. 3B, 3BT B Series (Used In No. 1 Position)	CU-12		
4 cyl	188ci	3.1L	3.813" 96.9mm	1977-On	188D, G188D Series (w/ Tach Drive)	CA-9		
4 cyl	188ci	3.1L	3.813" 96.9mm	1977-On	188D, G188D Series (Engines w/ 1.218" Length On No. 5 Positon, Without Tach Drive)	CA-5		
4 cyl	188ci	3.1L	3.813" 96.9mm	1963-70	188, 188B, 188S, G188 Series	CA-8		
4 cyl	188ci	3.1L	3.813" 96.9mm	1963-70	G188B Series	CA-4		
4 cyl	201ci	3.3L	3.938" 100mm	ALL	201 Series, 660 Combine	CA-8		
4 cyl	207ci	3.4L	4.000" 101.6mm	1977-On	Diesel Eng. 207, 207D, G-207D Series (w/ Tach Drive)	CA-9		
4 cyl	238ci	3.9L	4.016" 102mm	ALL	Cummins Diesel/Turbo-Diesel Eng. 4-390, 4T-390 B Series (Used In No. 1 Position)	CU-12		
4 cyl	251ci	4.1L	4.000" 101.6mm	1957-69	251, 251B, 251BG, 251D, A251, A251G, A251LP, A251S Series (Late Engs. w/ 2.250" Dia Journals)	CA-6		
4 cyl	267ci	4.4L	4.125" 104.8mm	1955-70	Diesel Eng. 267, 267B, 267BD, A267, A267D Series (Late Engs. w/ 2.250" Dia Journals)	CA-6		
4 cyl	284ci	4.7L	4.250" 108mm	1961-69	284, 284B, A284G, A284LP, A284S Series (Late Engs. w/ 2.250" Dia Journals)	CA-6		
4 cyl	301ci	5.0L	4.375" 111.1mm	1961-69	Diesel Eng. 301, 301B, 301BD, 301BG, A301, A301BD, A301D, A301DF Series (Late Engs. w/ 2.250" Dia Journals)	CA-6		
4 cyl	336ci	5.5L	4.625" 117.5mm	ALL	Diesel Eng. 336, 336B, 336BD, 336BDT Series (Late Engs. w/ 2.250" Dia Journals)	CA-6		
6 cyl	360ci	5.9L	4.016" 102mm	ALL	Cummins Diesel/Turbo-Diesel Eng. 6-590B, 6T-590 B Series (Used in No. 1 Position)	CU-12		
6 cyl	377ci	6.2L	4.000" 101.6mm	1953-66	377, 377A, 377BG, A377, A377D, A377G, A377LP, A377S Series (After Serial #2323001) (Late Engs. w/ 2.250" Dia Journals)	CA-7		
6 cyl	401ci	6.6L	4.125" 104.8mm	1961-69	Diesel/Turbo-Diesel Eng. 401, 401B, 401BD, 401BDT, 401D, A401, A401B, A401BD, A401D Series (Late Engs. w/ 2.250" Dia Journals)	CA-7		
6 cyl	451ci	7.4L	4.375" 111.1mm	1965-69	Diesel/Turbo-Diesel Eng. 451, 451B, 451BD, 451BDT, 451D, 451DT, A451BD, A451D Series (Late Engs. w/ 2.250" Dia Journals)	CA-7		
6 cyl	504ci	8.3L	4.625" 117.5mm	ALL	Diesel/Turbo-Diesel Eng. 504, 504B, 504BD, 504BDT, 504BDTI, 504D, 504DT, 504DTI, 504TC, A504BD, A504BDT Series	CA-7		

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CAMSHAFT BEARINGS

DISPLACEMENT					YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE	STD.			HI-PERF.	OHC	
CATERPILLAR									
4 cyl	350ci	5.7L	4.500" 114.3mm	ALL	Diesel Eng. 1670, D330 Series (No. 1 Position, OE#9M5477) (No. 2, 3 Position, OE#7M4046) (Balance Shaft Bearings: No. 1, 2, 5, 6 Position, OE#9M5239) (Balance Shaft Bearings: No. 3, 4 Position, OE#9M5238)	CAT-2-1 CAT-2-2 CAT-2-5 CAT-2-6			
6 cyl	403ci	6.6L	4.134" 105mm	ALL	Diesel Eng. 3116 Series	CAT-5			
4 cyl	425ci	7.0L	4.750" 120.7mm	ALL	Diesel Eng. 3304, D330 Series (No. 1 Position, OE#9M5477) (No. 2, 3 Position, OE#7M4046) (Balance Shaft Bearings: No. 1, 2, 5, 6 Position, OE#5S6419) (Balance Shaft Bearings: No. 3, 4 Position, OE#5S6420)	CAT-2-1 CAT-2-2 CAT-2-3 CAT-2-4			
8 cyl	522ci	8.5L	4.500" 114.3mm	ALL	Diesel Eng. 1140, 1145, 3145 Series	CAT-2			
6 cyl	525ci	8.6L	4.500" 114.3mm	ALL	Diesel Eng. D333, D333A, G333, 1673 Series (No. 1 Position, OE#9M5477) (No. 2, 3, 4, 5 Position, OE#7M4046) (Balance Shaft Bearings: No. 1, 2, 5, 6 Position, OE#9M5239) (Balance Shaft Bearings: No. 3, 4 Position, OE#9M5238)	CAT-2-1 CAT-2-2 CAT-2-5 CAT-2-6			
6 cyl	573ci	9.4L	4.500" 114.3mm	ALL	Diesel Eng. 1150, 3150 Series	CAT-2			
8 cyl	636ci	10.4L	4.500" 114.3mm	ALL	Diesel Eng. 1160, 3160, 3208, V150, V175, V200, V225 Series	CAT-2			
6 cyl	638ci	10.5L	4.750" 120.7mm	ALL	Diesel Eng. D333, D334, 1673, 1674, 3306 Series (Balance Shaft Set)	CAT-6 CAT-7**			
4 cyl	831ci	13.6L	5.750" 146.1mm	ALL	Diesel Eng. D339, D7700, D8800 Series (No. 1 Position, OE#4H9640, 8F8521) (No. 2 Position, OE#8F8523)	CAT-3-1 CAT-3-2			
6 cyl	1246ci	20.4L	5.750" 146.1mm	ALL	Diesel Eng. D342, D13000, G342 Series (No. 1 Position, OE#4H9640, 8F8521) (No. 2 Position, OE#8F8523)	CAT-3-1 CAT-3-2			
CHECKER MOTORS CORP.									
6 cyl	226ci	3.7L	3.312" 84.1mm	1947-64	Continental Eng.	K-1			
6 cyl	229ci	3.8L	3.736" 94.9mm	1980-82	OHV Chevrolet Eng. (.001 Under ID)	CH-17 CH-17X	CHP-17 or CHP-17T (Coated)		
6 cyl	230ci	3.8L	3.875" 98.4mm	1965-68	Chevrolet Eng.	CH-7			
6 cyl	250ci	4.1L	3.875" 98.4mm	1969-70	Chevrolet Eng. (Early Models)	CH-7			
6 cyl	250ci	4.1L	3.875" 98.4mm	1971-79	OHV Chevrolet Eng. (Late Models) (Special Oil Control Set w/ OD Groove)	CH-11 CH-11B			
8 cyl	267ci	4.4L	3.500" 88.9mm	1980-82	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)		
8 cyl	283ci	4.6L	3.875" 98.4mm	1965-66	Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)		
8 cyl	305ci	5.0L	3.736" 94.9mm	1977-82	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
CHECKER MOTORS CORP. (Cont.)								
8 cyl	307ci	5.0L	3.875" 98.4mm	1968	Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
8 cyl	327ci	5.4L	4.000" 101.6mm	1965-69	Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
8 cyl	350ci	5.7L	4.000" 101.6mm	1969-79	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
CHEVROLET (MARINE)								
4 cyl	181ci	3.0L	4.000" 101.6mm	1982	Marine/Industrial Eng.	CH-6		
CHRYSLER CORP. (DODGE, PLYMOUTH)								
4 cyl	- 1410cc	1.4L	2.913" 74mm	1979-84	SOHC Mitsubishi Eng. G12B Series, Vin 2, A, J			MIA-3* (Full Round)
4 cyl	90ci 1468cc	1.5L	2.972" 75.5mm	1985-95	SOHC Mitsubishi Eng. 4G15, G15B Series, Vin A, K, P, Q, X			MIA-3* (Full Round)
4 cyl	98ci 1597cc	1.6L	3.028" 76.9mm	1971-88	SOHC Mitsubishi Eng. G32B, G32B-T, 4G32 Series (Includes Turbo), Vin 3, B, F, K, Z (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	105ci	1.7L	3.130" 79.5mm	1978-83	SOHC VW Eng. Vin A, B (Balance Shaft Set)	VWG-1**		
4 cyl	122ci 1995cc	2.0L	3.307" 84mm	1974-98	SOHC (8 Valve) Mitsubishi Eng. 4G52, G52B Series, Vin 5, D, U (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
4 cyl	122ci 1997cc	2.0L	3.346" 85mm	1984-94	SOHC & DOHC Mitsubishi Eng. G63B, 4G63, 4G63-T Series (Includes Turbo), Vin 5, D, E, F, R, U, V (Balance Shaft Set)	MIG-3**		
4 cyl	122ci 1996cc	2.0L	3.445" 87.5mm	1995-05	SOHC (16 Valve) Chrysler Eng. ECB Series, Vin C, F			PDA-3* (Full Round)
4 cyl	135ci 2212cc	2.2L	3.445" 87.5mm	1981-94	SOHC Chrysler Eng. (Includes Turbo), Vin 8, A, B, C, D, E, F, P (.020 Oversize Bearing Set) (Balance Shaft Set)	PDG-26**		PDA-1* (1/2 Shell) PDA-2* (1/2 Shell)
4 cyl	143ci 2346cc	2.3L	3.587" 91.1mm	1983-85	SOHC Mitsubishi Turbo-Diesel Eng. 4D55-T Series, Vin 9, J (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
4 cyl	143.4ci 2351cc	2.4L	3.405" 86.5mm	1990-94	SOHC (8 Valve) Mitsubishi Eng. 4G64 Series, Vin G, W (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set)	MIG-3**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	153ci 2507cc	2.5L	3.445" 87.4mm	1986-95	SOHC Chrysler Eng. (Includes Turbo), Vin G, J, K, V (.020 Oversize Bearing Set) (Balance Shaft Set - Semi-Finished)	PDG-29S**		PDA-1* (1/2 Shell) PDA-2* (1/2 Shell)
4 cyl	156ci 2555cc	2.6L	3.587" 91.1mm	1978-89	SOHC Mitsubishi Eng. G54B, G54B-T Series (Includes Turbo), Vin 7, D, E, F, G, H, N, W (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
CHRYSLER CORP. (DODGE, PLYMOUTH) (Cont.)								
6 cyl	165.5ci	2.7L	-	1937-89	Chrysler Eng.	PD-3		
6 cyl	170ci	2.8L	3.400" 86.4mm	1960-69	OHV Chrysler Eng. Vin 6, A	PD-18		
6 cyl	181ci 2972cc	3.0L	3.587" 91.1mm	1987-05	SOHC & DOHC Mitsubishi Eng. 6G72, 6G72-T Series (Includes Turbo), Vin 3, B, C, H, J, K, S			MIA-5* (1/2 Shell)
6 cyl	198ci	3.2L	3.400" 86.4mm	1970-74	OHV Chrysler Eng. Vin A, B	PD-18		
6 cyl	201ci 3302cc	3.3L	3.661" 93mm	1990-08	OHV Chrysler Eng. Vin 3, G, H, J, R, S, T, U	PD-28		
					(Special Oil Control Set w/ OD Groove No. 2, 3 Position)	PD-28B		
6 cyl	217.8ci	3.6L	3.250" 82.6mm	1933-56	Dodge/Plymouth (L-Head) Eng.	PD-1		
6 cyl	218ci	3.6L	3.375" 85.7mm	1938-54	Dodge/Plymouth (L-Head) Eng.	PD-3		
6 cyl	225ci 3687cc	3.7L	3.400" 86.4mm	1960-78	OHV Chrysler Eng. Vin 6, B, C, D, E, X (Early Series w/ Forged Crankshaft)	PD-18		
6 cyl	225ci 3687cc	3.7L	3.400" 86.4mm	1979-87	OHV Chrysler Eng. Vin B, C, D, E, F, G, H, J, K, L, M, N, W (Late Series w/ Cast Crankshaft)	PD-21		
6 cyl	226ci 3704cc	3.7L	3.661" 93mm	2002-09	SOHC Chrysler Eng. Vin K (Balance Shaft Set)	PDG-30**		
6 cyl	228ci	3.7L	3.375" 85.7mm	1936-56	DeSoto (L-Head) Eng.	PD-3		
6 cyl	230ci	3.8L	3.250" 82.6mm	1934-59	Dodge (L-Head) Eng.	PD-1		
6 cyl	230ci	3.8L	3.780" 96mm	1991-09	OHV Chrysler Eng. Vin L, P	PD-28		
					(Special Oil Control Set w/ OD Groove No. 2, 3 Position)	PD-28B		
6 cyl	237ci	3.9L	3.438" 87.3mm	1937-52	DeSoto (L-Head) Eng.	PD-3		
6 cyl	239ci	3.9L	3.910" 99.3mm	1987-03	OHV Dodge Eng. Vin M, X	PD-27		
6 cyl	241.5ci	4.0L	3.375" 85.7mm	1937-41	Dodge (L-Head) Eng.	PD-3		
6 cyl	251ci	4.1L	3.438" 87.3mm	1942-68	Chrysler (L-Head) Eng. Vin 6	PD-3		
6 cyl	265ci	4.3L	3.438" 87.3mm	1952-68	Chrysler (L-Head) Eng.	PD-3		
8 cyl	273ci	4.5L	3.625" 92.1mm	1964-69	OHV Chrysler Eng. Vin D	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	277ci	4.5L	3.750" 95.3mm	1956-57	OHV Plymouth Eng.	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	287ci	4.7L	3.661" 93mm	2000-09	SOHC Chrysler Eng. Vin N, P			PDA-4* (1/2 Shell)
8 cyl	301ci	4.9L	3.625" 92.1mm	1955	OHV Chrysler Eng.	PD-8		
8 cyl	303ci	5.0L	3.813" 96.9mm	1956	OHV Plymouth Eng.	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	313ci	5.1L	3.875" 98.4mm	1957-66	OHV Plymouth Eng.	PD-16	PDP-16 or PDP-16T (Coated)	

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
CHRYSLER CORP. (DODGE, PLYMOUTH) (Cont.)								
8 cyl	318ci	5.2L	3.910" 99.3mm	1958-79	OHV Chrysler Eng. Vin 4, 8, E, F, G, H, P (.760" Length Center Bearing)	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	318ci	5.2L	3.910" 99.3mm	1980-03	OHV Chrysler Eng. Vin 2, 4, E, G, H, J, K, L, M, N, P, R, S, T, U, Y, Z	PD-25	PDP-25 or PDP-25T (Coated)	
8 cyl	326ci	5.3L	3.953" 100.4mm	1959	OHV Dodge Eng.	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	331ci	5.4L	3.813" 96.9mm	1951-56	OHV Chrysler Eng.	PD-8		
8 cyl	340ci	5.6L	4.040" 102.6mm	1968-73	OHV Chrysler Eng. Vin H, J, P	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	345ci 5654cc	5.7L	3.917" 99.6mm	2003-09	OHV Chrysler (Hemi) Eng. EZA, EZB Series. Vin 2, D	PD-31B		
8 cyl	350ci	5.7L	4.063" 103.2mm	1958	OHV Chrysler Eng. (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	354ci	5.8L	3.938" 100mm	1956-58	OHV Chrysler Eng.	PD-8		
6 cyl	359ci	5.9L	4.016" 102mm	1989-98	OHV Cummins Turbo-Diesel Eng. ETA, ETB Series, Vin 8, C, D	CU-12		
6 cyl	359ci	5.9L	4.016" 102mm	1998-07	OHV Cummins Turbo-Diesel Eng. ETC, ETH Series, Vin 6, 7, C, D	CU-14		
8 cyl	360ci	5.9L	4.000" 101.6mm	1971-78	OHV Chrysler Eng. Vin F, J, K, L, T, Y (.760" Length Center Bearing)	PD-16	PDP-16 or PDP-16T (Coated)	
8 cyl	360ci	5.9L	4.000" 101.6mm	1979-03	OHV Chrysler Eng. Vin 1, 5, F, J, K, L, S, T, U, W, Z	PD-25	PDP-25 or PDP-25T (Coated)	
8 cyl	361ci	5.9L	4.125" 104.8mm	1958-77	OHV Chrysler Eng. Vin F (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	370ci 6059cc	6.1L	4.055" 103mm	2005-09	OHV Chrysler (Hemi) Eng. ESF Series. Vin 3, W	PD-31B		
8 cyl	383ci	6.3L	4.250" 108mm	1959-71	OHV Chrysler Eng. Vin 8, G, H, J, L, N (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	392ci	6.4L	4.000" 101.6mm	1957-58	OHV Chrysler Eng.	PD-8		
8 cyl	400ci	6.6L	4.342" 110.2mm	1972-78	OHV Chrysler Eng. Vin J, M, N, P (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	413ci	6.8L	4.188" 106.4mm	1959-77	OHV Chrysler Eng. (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	426ci	7.0L	4.250" 108mm	1963-71	OHV Chrysler Eng. Vin H, J, R (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	

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CAMSHAFT BEARINGS

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
CHRYSLER CORP. (DODGE, PLYMOUTH) (Cont.)								
8 cyl	440ci	7.2L	4.320" 109.7mm	1966-79	OHV Chrysler Eng. Vin A, D, K, L, M, T, U, V (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
10 cyl	488ci 7990cc	8.0L	4.000" 101.6mm	1992-03	OHV Chrysler (Iron Block) Eng. Vin E, W	PD-30		
CHRYSLER (MARINE)								
4 cyl	121.2ci 1986cc	2.0L	3.500" 88.9mm	ALL	Volvo Eng. 115, 130 Series (Auxiliary / Balance Shaft Set)	VO-2**		
6 cyl	182ci 2980cc	3.0L	3.500" 88.9mm	ALL	Volvo Eng. 165, 170 Series	VO-3		
CONTINENTAL								
4 cyl	69ci	1.1L	2.500" 63.5mm	ALL	LY69, PY69, Y4069, Y69 Series	CO-3		
4 cyl	91ci	1.5L	2.875" 73mm	ALL	LY91, P410, PY91, Y4091, Y91 Series	CO-3		
4 cyl	112ci	1.8L	3.188" 80.98mm	ALL	BY112, BY4112, PY112, PY4112, Y112, Y4112 Series	CO-3		
4 cyl	120ci	2.0L	3.188" 80.98mm	ALL	Z120 Series	CA-3		
4 cyl	124ci	2.0L	3.000" 76.2mm	ALL	VAB124 Series	CA-3		
4 cyl	124ci	2.0L	3.000" 76.2mm	ALL	A4124, F124, F4124, LF124, PF124 Series	CO-8		
4 cyl	129ci	2.1L	3.250" 82.6mm	ALL	Z129 Series	CA-3		
4 cyl	134ci	2.2L	3.313" 84.1mm	ALL	Z134 Series	CA-3		
4 cyl	135ci	2.2L	3.125" 79.4mm	ALL	F135 Series	CO-8		
4 cyl	140ci	2.3L	3.188" 80.98mm	ALL	F140, F4140, LF140, PF140 Series	CO-8		
4 cyl	142ci	2.3L	3.000" 76.2mm	ALL	A4142, F4142 Series	CO-8		
4 cyl	145ci	2.4L	3.250" 82.6mm	ALL	FS145 Series	CO-8		
4 cyl	145ci	2.4L	3.375" 85.7mm	ALL	Z145 Series	CA-3		
4 cyl	162ci	2.6L	3.438" 87.3mm	ALL	F162, F4162, F4162 Super, LF162, PF162 Series	CO-8		
4 cyl	163ci	2.7L	3.438" 87.3mm	ALL	F163, F4163, PF163 Series	CO-8		
4 cyl	168ci	2.8L	3.000" 76.2mm	ALL	F168 Series	K-1		
6 cyl	170ci	2.8L	3.250" 82.6mm	ALL	D6170, DS6170, F170, F6170, PD170, PF170 Series	K-1		
6 cyl	184ci	3.0L	3.125" 79.4mm	ALL	D6184, DS6184 Series	K-1		
6 cyl	186ci	3.0L	3.000" 76.2mm	ALL	F186, F6186, PF186 Series	K-1		
4 cyl	193ci	3.2L	3.750" 95.3mm	ALL	D193 Series	CO-9		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
CONTINENTAL (Cont.)								
4 cyl	198ci	3.2L	3.438" 87.3mm	ALL	F198 Series	CO-8		
6 cyl	199ci	3.3L	3.250" 82.6mm	ALL	D6199, F199, F6199, PD199, PF199 Series	K-1		
6 cyl	202ci	3.3L	3.125" 79.4mm	ALL	D202, D6202, DS202, DS6202, OS202, PD202 Series	K-1		
6 cyl	209ci	3.4L	3.188" 80.98mm	ALL	F209, F6209, F6209 Dynatork, PF209 Series	K-1		
6 cyl	218ci	3.6L	3.250" 82.6mm	ALL	D6218, DS6218, F214, F218, F6218, FS218, PD218, PF218 Series	K-1		
6 cyl	226ci	3.7L	3.313" 84.1mm	ALL	6226, CF6226, F226, F6226, PF226 Series	K-1		
6 cyl	227ci	3.7L	3.313" 84.1mm	ALL	F227, F6227 Series	K-1		
6 cyl	242ci	4.0L	3.425" 87mm	ALL	F242, F6242 Series	K-1		
6 cyl	244ci	4.0L	3.438" 87.3mm	ALL	A244, A6244, F244, F6244, FS244 Series	K-1		
6 cyl	245ci	4.0L	3.438" 87.3mm	ALL	F245, F6245 Series	K-1		
6 cyl	253ci	4.2L	3.625" 92.1mm	ALL	M6253 Series	CO-7		
6 cyl	271ci	4.4L	3.625" 92.1mm	ALL	38B, 40B, K6271, M271, M6271 Series	CO-7		
6 cyl	290ci	4.8L	3.750" 95.3mm	ALL	K6290, M290, M6290 Series	CO-7		
6 cyl	330ci	5.4L	4.000" 101.6mm	ALL	40B, K6330, M330, M6300, M6330, M6338 Series	CO-7		
6 cyl	363ci	5.9L	4.000" 101.6mm	ALL	K6363, M363, M6363 Series	CO-7		
6 cyl	427ci	7.0L	4.313" 109.6mm	ALL	K6427 Series	CO-7		
CUMMINS								
3 cyl	180ci	2.9L	4.016" 102mm	ALL	Cummins Diesel/Turbo-Diesel Eng. 3B, 3BT, B Series (Position Number 1)	CU-12		
4 cyl	238ci	3.9L	4.016" 102mm	ALL	Cummins Diesel/Turbo-Diesel Eng. 4-390, 4B, 4B3.9M, 4BT, 4BT3.9, 4BT3.9M, 4BTA, 4BTA3.9M, 4T-390, B Series (Position Number 1)	CU-12		
6 cyl	352ci	5.8L	4.625" 117.5mm	ALL	Cummins Diesel Eng. V6-140 Phase 5 Series F, Series D4 & D5, V352 Phase 3, 3.5, 3.5D, 5, 5F	CU-11A		
6 cyl	359ci	5.9L	4.016" 102mm	1989-08	Cummins Diesel/Turbo-Diesel Eng. 6-590, 6B, 6B5.9M, 6BT, 6BT5.9, 6BT5.9M, 6BTA, 6BTA5.9, 6BTA5.9M, 6T-590, B Series (Position Number 1) (2.253" Hsg.) (2.332" Hsg.)	CU-12 CU-14		
6 cyl	378ci	6.2L	4.625" 117.5mm	ALL	Cummins Diesel Eng. V378, VT378 Phase 5 Series F, V6-155 Phase 5 Series F	CU-11A		
4 cyl	448ci	7.3L	4.875" 123.8mm	ALL	Cummins Diesel Eng. GNHC-4, H135, HR, HR-4, HR160, HRC-4, H Series (From Serial Number 120911)	CU-10		
6 cyl	464ci	7.6L	4.437" 112.7mm	ALL	Cummins Diesel/Turbo-Diesel Eng. C160-C240, C, CS, CT, 464 Series, GNH 180	CU-5A		
8 cyl	470ci	7.7L	4.625" 117.5mm	ALL	Cummins Diesel Eng. V8-185 Phases 3, 3.5, 5 Series D, 4, 5 Series F, V470 Phases 3.5 Series D, 4, 5 Series F (2.187" Hsg.)	CU-11		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
CUMMINS (Cont.)								
4 cyl	495ci	8.1L	5.125" 130.2mm	ALL	Cummins Diesel/Turbo-Diesel Eng. N495, N495C130, N495F, N495P130, N495PG130, NH-4, NHC-4, NT-4, NT-165, NT-180, NT-200, NT495, NTA495 Series	CU-10		
8 cyl	504ci	8.3L	4.625" 117.5mm	ALL	Cummins Diesel Eng. V8-210, V504, VT555 Phase 5 Series F (2.186" Housing Bore)	CU-11		
8 cyl	555ci	9.1L	4.625" 117.5mm	ALL	Cummins Diesel/Turbo-Diesel Eng. V555, V555C, VT225 Small Cam, VT555 Small Cam, VT555C Series (2.186" Housing Bore)	CU-11		
6 cyl	672ci	11.0L	4.875" 123.8mm	ALL	Cummins Diesel/Supercharged Diesel Eng. NH180, NH195, NHD180, NHH180, NHH195, NHH220 Series N, H, HR, HS, NH672 Small Cam Series	CU-5A		
6 cyl	672ci	11.0L	4.875" 123.8mm	1977-On	Cummins Diesel Eng. (2.500" Big Cam Series 3/32 (.0939) Wall)	CU-9		
6 cyl	743ci	12.2L	5.125" 130.2mm	ALL	Cummins Diesel/Turbocharged/Supercharged Diesel Eng. GNH220, H, HS, N, NH, NHC, NHCT, NHD, NHE, NHF NHHR, NHHT, NHR, NHS Series NS, NT, NTA, NTC, NTE, NTF, NTO Small Cam Series	CU-5A		
6 cyl	743ci	12.2L	5.125" 130.2mm	1977-On	Cummins Diesel/Turbocharged/Supercharged Diesel Eng. 230, 250, 290, 300, 350, GNH250, N14-330E, N14-330ESP, N14-350E, N14-370E, N14-370ESP, N14-410E, N14-435E, N14-435ESP, N14-460E, N14-485E, N14-525E Series (2.500" Big Cam Series, 3/32 (.0939) Wall)	CU-9		
6 cyl	855ci	14.0L	5.500" 139.7mm	ALL	Cummins Diesel/Turbo-Diesel Eng. H, HS, N, NH, NHC, NHCT, NHD, NHE, NHF, NHHR, NHHT, NHR, NHS, NT, NTA, NTC, NTE, NTF,NTO Series Power Torque 270, 300 & 330 Small Cam Series	CU-5A		
6 cyl	855ci	14.0L	5.500" 139.7mm	1977-On	Cummins Diesel/Turbo-Diesel Eng. (2.500" Big Cam Series, 3/32 (.0939) Wall)	CU-9		
8 cyl	903ci	14.8L	5.500" 139.7mm	ALL	Cummins Diesel/Turbo-Diesel Eng. Formula 903, V903, VT903 Series	CU-13		
6 cyl	927ci	15.2L	5.500" 139.7mm	ALL	Cummins Diesel Eng. N927, Super 250, Super 270, Super 300, Super 330 Series	CU-5A		
DETROIT DIESEL								
2 cyl	106ci	1.7L	3.875" 98.4mm	ALL	Detroit Supercharged Diesel Eng. 2-53, 2-53N Series (Cam Bearing & Balance Shaft Set) (+.010 OD, Cam Bearing & Balance Shaft Set)	DE-2** DE-2R1		
2 cyl	142ci	2.3L	4.250" 108mm	ALL	Detroit Diesel Eng. 2-71 Series, (For Engines After Serial # 2A-37623) (Cam Bearing & Balance Shaft Set)	DE-1		
3 cyl	159ci	2.6L	3.875" 98.4mm	ALL	Detroit Supercharged Diesel Eng. 3-53, 3-53N Series (Cam Bearing & Balance Shaft Set) (+.010 OD, Cam Bearing & Balance Shaft Set)	DE-2A** DE-2AR1		
4 cyl	212ci	3.5L	3.875" 98.4mm	ALL	Detroit Supercharged/Turbocharged Diesel Eng. 4-53, 4-53N, 4-53T Series (Cam Bearing & Balance Shaft Set)	DE-7**		
6 cyl	318ci	5.2L	3.875" 98.4mm	ALL	Detroit Supercharged Diesel Eng. 6V-53, 6V-53E-N, 6V53T, SE Series (Cam Bearing & Balance Shaft Set) (+.010 OD, Cam Bearing & Balance Shaft Set)	DE-5** DE-5R1**		
8 cyl	500ci	8.2L	4.252" 108mm	ALL	OHV Detroit Fuel Pincher Diesel/Turbo-Diesel Eng. 8.2, 8.2N, 8.2T Series	DE-4		
EAGLE (Also see AMERICAN MOTORS / CHRYSLER)								
4 cyl	90ci 1468cc	1.5L	2.972" 75.5mm	1988-96	SOHC Mitsubishi Eng. Vin A, K, X			MIA-3* (Full Round)
4 cyl	98ci 1597cc	1.6L	3.240" 82.3mm	1989-90	DOHC Mitsubishi Eng. Vin Y (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	122ci 1997cc	2.0L	3.346" 85mm	1989-98	SOHC & DOHC Mitsubishi Eng. G63B, EBG Series (Includes Turbo) Vin E, F, R, U, V (Balance Shaft Set)	MIG-3**		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
EAGLE (Also see AMERICAN MOTORS / CHRYSLER) (Cont.)								
4 cyl	- 2351cc	2.4L	3.405" 86.5mm	1992-96	SOHC Mitsubishi Eng. Vin G, W (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set)	MIG-3**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	150ci 2460cc	2.5L	3.875" 98.5mm	1988-89	OHV AMC Eng. Vin H, Z (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	201ci	3.3L	3.661" 93mm	1993-97	OHV Chrysler Eng. Vin T, U (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	PD-28 PD-28B		
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR)								
4 cyl	61ci 997cc	1.0L	3.189" 81mm	1959-67	OHV Ford Eng. 105E, 106E, 107E Series	F-28		
4 cyl	67ci 1098cc	1.1L	3.189" 81mm	1968-80	German Eng.	F-28		
4 cyl	73ci 1198cc	1.2L	3.189" 81mm	1961-68	British Eng. 113E, 114E, 123E, 308E Series	F-28		
4 cyl	79.2ci 1298cc	1.3L	3.189" 81mm	1966-82	German Eng. 2735E, 3014E, 711M Series	F-28		
4 cyl	82ci 1340cc	1.3L	3.189" 81mm	1961-64	British Eng. 109E, 123E, 124E Series	F-28		
4 cyl	91.3ci 1497cc	1.5L	3.543" 90mm	1959-72	OHV German Eng. 12M, 15M, 17M Series	F-42		
4 cyl	92ci 1498cc	1.5L	3.189" 81mm	1963-67	OHV Ford Eng. 116E, 118M, 120E, 122E, 3017E, 3034E Series	F-28		
4 cyl	96.5ci 1586cc	1.6L	3.071" 78mm	1970-77	Mazda Eng.	F-41		
4 cyl	97ci 1599cc	1.6L	3.465" 88mm	1970-84	OHV British Eng. (Auxiliary / Balance Shaft Set)	F-29 FG-29**		
4 cyl	98ci 1598cc	1.6L	3.071" 78mm	1987-94	SOHC & DOHC Mazda Eng. Vin 6, Z			MZA-1* (Full Round)
4 cyl	98ci 1598cc	1.6L	3.147" 79.9mm	1981-85	SOHC Ford Eng. HS Series (Includes Turbo), Vin 2, 4, 5, 7, 8			FA-2* (Full Round)
4 cyl	98ci 1598cc	1.6L	3.188" 80.98mm	1978-80	OHV Ford Eng. (Auxiliary / Balance Shaft Set)	F-28 FG-29**		
4 cyl	98ci 1598cc	1.6L	3.189" 81mm	1968-73	British Eng. 711M, 2737E, 3036E Series, Vin L, W	F-28		
4 cyl	104ci 1699cc	1.7L	3.543" 90mm	1962-75	OHV Ford Eng. PS5 Series	F-42		
4 cyl	110ci 1796cc	1.8L	3.071" 78mm	1972-79	SOHC Mazda Eng. VB, VC Series, Vin A, C	F-41		
4 cyl	112ci 1839cc	1.8L	3.268" 83mm	1991-96	DOHC Mazda Eng. BP Series, Vin 8			MZA-1* (Full Round)
4 cyl	116ci	1.9L	3.226" 82mm	1985-96	SOHC Ford Eng. Vin 9, J			FA-1* (Full Round)
4 cyl	122ci 1970cc	2.0L	3.150" 80mm	1979-82	SOHC Mazda Eng. MA, MB Series	F-41		
4 cyl	122ci 1989cc	2.0L	3.268" 83mm	1993-97	DOHC Mazda Eng. DE-FS Series, Vin A			MZA-2* (1/2 Shell)
4 cyl	122ci 1989cc	2.0L	3.386" 86mm	1984-87	SOHC Mazda Diesel Eng. Vin H			MZA-2* (1/2 Shell)

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
4 cyl	122ci 1989cc	2.0L	3.516" 89.4mm	1983-88	SOHC Ford Eng. Vin C (Special Oil Control Set w/ OD Groove) (Cam Bearing Set w/ .020 Oversize OD) (Auxiliary Shaft Set)	F-34 F-34B F-34S FG-34**		
4 cyl	122ci 1989cc	2.0L	3.578" 90.8mm	1971-74	OHC Eng. Vin X (Auxiliary Shaft Set)	F-29 FG-29**		
4 cyl	133ci 2184cc	2.2L	3.386" 86.1mm	1989-92	SOHC Mazda Eng. F2, F2-T Series (Includes Turbo), Vin C, L			MZA-2* (1/2 Shell)
4 cyl	140ci 2300cc	2.3L	3.680" 94mm	1984-94	OHV Ford (HSC) Eng. Vin R, S, X	F-46		
4 cyl	140ci 2302cc	2.3L	3.780" 96mm	1974-97	SOHC Ford Eng. WB Series (Includes Turbo), Vin 2, 6, A, B, M, R, T, W, X, Y (Special Oil Control Set w/ OD Groove) (Cam Bearing Set w/ .020 Oversize OD) (Auxiliary Shaft Set)	F-34 F-34B F-34S FG-34**		
4 cyl	143ci 2346cc	2.3L	3.587" 91.1mm	1985-87	SOHC Mitsubishi Turbo-Diesel Eng. 4D55-T Series, Vin E (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
6 cyl	144ci	2.4L	3.500" 88.9mm	1960-66	OHV Ford Eng. Vin D, S	F-32		
4 cyl	153ci	2.5L	3.680" 93.5mm	1986-91	OHV Ford (HSC) Eng. Vin D, N	F-46		
6 cyl	156ci 2551cc	2.6L	3.543" 90mm	1970-76	OHV German Eng. Vin U	F-31		
3 cyl	158ci 2590cc	2.6L	4.200" 107mm	1965-72	Ford Gas/Diesel Eng. 158 Series, Vin D, G	F-43		
6 cyl	170ci	2.8L	3.500" 88.9mm	1960-72	OHV Ford Eng. Vin F, U	F-32		
6 cyl	171ci 2792cc	2.8L	3.661" 93mm	1974-79	OHV Ford Eng. Vin Z	F-31		
6 cyl	171ci 2800cc	2.8L	3.661" 93mm	1983-86	OHV Ford Eng. Vin S (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	F-47 F-47B		
3 cyl	175ci	2.8L	4.200" 107mm	1965-72	Ford Diesel Eng. 175D Series	F-43		
6 cyl	177ci 2935cc	2.9L	3.661" 93mm	1988-92	OHV Ford Eng. Vin T, V (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	F-47B		
6 cyl	182ci 2960cc	3.0L	3.425" 87mm	1993-98	SOHC Nissan Eng. VG30E Series, Vin 1, W (Cam Bearing Set, Left Bank) (Cam Bearing Set, Right Bank)			NIA-3L* (Full Round) NIA-3R* (Full Round)
6 cyl	182ci 2982cc	3.0L	3.504" 89mm	1986-08	OHV Ford (Vulcan) Eng. Vin 1, 2, U, V (ID Groove No. 4 Position)	F-48 F-48A		
3 cyl	192ci 3146cc	3.1L	4.402" 112mm	1965-72	Ford Gas/Diesel Eng. BSD332 Series, Vin D, G	F-43		
6 cyl	200ci	3.3L	3.680" 93.5mm	1963-83	OHV Ford Eng. Vin B, T, X	F-32		
3 cyl	201ci 3294cc	3.3L	4.402" 112mm	1965-72	Ford Gas/Diesel Eng. 333H, BSD333 Series	F-43		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
6 cyl	215ci	3.5L	3.563" 90.5mm	1951-53	OHV Ford Eng. Vin A	F-7		
8 cyl	221ci	3.6L	3.063" 77.8mm	1936-48	Ford (L-Head) Eng.	F-1		
8 cyl	221ci	3.6L	3.500" 88.9mm	1962-63	OHV Ford Eng. Vin L	F-18	FP-18 or FP-18T (Coated)	
6 cyl	223ci	3.7L	3.625" 92.1mm	1954-64	OHV Ford Eng. Vin A, J, V (Engs w/ Cross Drilled Camshaft Journals) (Engs w/o Cross Drilled Camshaft Journals)	F-22 F-7		
6 cyl	232ci 3797cc	3.8L	3.811" 96.8mm	1982-87	OHV Ford Eng. Vin 3, 4, C	F-45		
6 cyl	232ci 3797cc	3.8L	3.811" 96.8mm	1988-04	OHV Ford Eng. (Includes Supercharged), Vin 3, 4, C, R (Auxiliary Shaft Set) (Cam Bearings & Aux. Shaft Kit)	F-52 FG-51** F-38		
4 cyl	233ci 3819cc	3.8L	4.200" 107mm	1965-72	Ford Gas/Diesel Eng. 56G Series	F-44		
8 cyl	239ci	3.9L	3.188" 80.98mm	1946-53	Ford/Mercury (L-Head) Eng. Vin B	F-1		
8 cyl	239ci	3.9L	3.500" 88.9mm	1954-55	OHV Ford Eng. Vin U (Cam Bearing w/ Grooved No. 3 Journal) (Cam w/ Cross-Drilled No. 3 Journal)	F-9A F-9B		
6 cyl	240ci	3.9L	4.000" 101.6mm	1965-74	OHV Ford Eng. Vin 1, A, B, E, J, V	F-23A		
6 cyl	245ci 4015cc	4.0L	3.953" 100.4mm	1990-00	OHV Ford Eng. Vin X (Cam Bearing Set w/ Special Wide No. 4 Position)	F-50 F-50A		
6 cyl	245ci 4015cc	4.0L	3.953" 100.4mm	1997-09	SOHC Ford Eng. Vin E, K (Auxiliary Shaft Set) (Balance Shaft Drive Gear Bushing)	FG-53** FG-1-1**		FA-6* (1/2 Shell)
6 cyl	250ci	4.1L	3.680" 93.5mm	1969-80	OHV Ford Eng. Vin C, L	F-32		
8 cyl	255ci	4.2L	3.188" 80.98mm	1949-53	Mercury (L-Head) Eng.	F-1		
8 cyl	255ci	4.2L	3.680" 93.5mm	1980-82	OHV Ford Eng. Vin D	F-18	FP-18 or FP-18T (Coated)	
4 cyl	256ci 4195cc	4.2L	4.400" 112mm	1968-81	Ford Gas/Diesel Eng.	F-44		
6 cyl	256ci 4196cc	4.2L	3.811" 96.8mm	1997-08	OHV Ford Eng. Vin 2 (Auxiliary Shaft Set) (Cam Bearings & Aux. Shaft Kit)	F-52 FG-51** F-38		
8 cyl	256ci	4.2L	3.625" 92.1mm	1954	OHV Mercury Eng. Vin P (Cam Bearing w/ Grooved No. 3 Journal) (Cam w/ Cross-Drilled No. 3 Journal)	F-9A F-9B		
8 cyl	260ci	4.3L	3.800" 96.5mm	1962-64	OHV Ford Eng. Vin F	F-18	FP-18 or FP-18T (Coated)	
6 cyl	262ci	4.3L	3.719" 94.5mm	1961-64	OHV Ford Eng. Vin B (Engs w/ Cross Drilled Camshaft Journals) (Engs w/o Cross Drilled Camshaft Journals)	F-22 F-7		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
8 cyl	272ci	4.5L	3.625" 92.1mm	1955-57	OHV Ford Eng. Vin B, M, U (Cam Bearing w/ Grooved No. 3 Journal) (Cam w/ Cross-Drilled No. 3 Journal)	F-9A F-9B		
8 cyl	281ci 4605cc	4.6L	3.551" 90.2mm	1991-09	SOHC Ford (Triton) Eng. Vin 6, 9, V, W, X (1 Cam Set Per Cylinder Head)			FA-3* (1/2 Shell)
8 cyl	281ci 4605cc	4.6L	3.551" 90.2mm	1993-96	DOHC Ford (Triton) Eng. Vin V (To Early 1996), (1 Cam Set Per Cylinder Head)			FA-4* (1/2 Shell)
8 cyl	281ci 4605cc	4.6L	3.551" 90.2mm	1996-05	DOHC Ford (Triton) Eng. Vin H, R, V, Y (From Late 1996), (1 Cam Set Per Cylinder Head)			FA-5* (1/2 Shell)
8 cyl	289ci	4.7L	4.000" 101.6mm	1963-68	OHV Ford Eng. Vin A, C, D, K, N	F-18	FP-18 or FP-18T (Coated)	
8 cyl	292ci	4.8L	3.750" 95.3mm	1955-65	OHV Ford Eng. Vin C, D, M, P, W (Cam Bearing w/ Grooved No. 3 Journal) (Cam w/ Cross-Drilled No. 3 Journal)	F-9A F-9B		
6 cyl	300ci	4.9L	4.000" 101.6mm	1965-85	OHV Ford Eng. Vin 9, B, C, E, K, Y (To Early 1985) (Special Oil Control Set w/ OD Groove)	F-23A F-23B		
6 cyl	300ci	4.9L	4.000" 101.6mm	1985-96	OHV Ford Eng. Vin 9, Y, Z (From Late 1985) (Special Oil Control Set w/ OD Groove)	F-49 F-49B		
8 cyl	302ci	5.0L	3.625" 92.1mm	1956-63	OHV Ford Eng.	F-12		
8 cyl	302ci	5.0L	4.000" 101.6mm	1968-01	OHV Ford Eng. Vin B, D, E, F, G, H, J, M, N, P, T, Y	F-18	FP-18 or FP-18T (Coated)	
8 cyl	302ci	5.0L	4.000" 101.6mm	ALL	SVO Ford (Performance) Eng. (2.204" Hsg., Stepped Cam) (+.010 OD) (R302 Block w/ 2.204" Hsg., Common Journal Size Cam)		351HP or 351HPT (Coated) 351HP-R1 351RHP or 351RHPT (Coated)	
8 cyl	312ci	5.1L	3.800" 96.5mm	1956-60	OHV Ford Eng. Vin D, E, F, L, P (Cam Grooved in #3 Journal)	F-9A		
8 cyl	330ci	5.4L	3.875" 98.4mm	1964-78	OHV Ford (M/D) Eng.	F-33	FP-33 or FP-33T (Coated)	
8 cyl	332ci	5.4L	3.800" 96.5mm	1956-64	OHV Ford Eng.	F-12		
8 cyl	332ci	5.4L	4.000" 101.6mm	1958-59	OHV Ford Eng. Vin B, G	F-33	FP-33 or FP-33T (Coated)	
8 cyl	351ci	5.8L	4.000" 101.6mm	1969-97	OHV Ford (Windsor) Eng. Vin C, G, H, M, R, W	F-18	FP-18 or FP-18T (Coated)	
8 cyl	351ci	5.8L	4.000" 101.6mm	1970-86	OHV Ford (Cleveland) Eng. Vin H, M, Q, R (70-74); OHV Ford (Modified) Eng. Vin G, H, (75-82)	F-26	FP-26 or FP-26T (Coated)	
8 cyl	351ci	5.8L	4.000" 101.6mm	ALL	SVO Ford (Performance) Eng. (2.204" Cam Housings) (+.010 OD) (R302 Block w/ 2.204" Hsg., Common Journal Size Cam)		351HP or 351HPT (Coated) 351HP-R1 351RHP or 351RHPT (Coated)	

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
8 cyl	352ci	5.8L	4.000" 101.6mm	1957-67	OHV Ford Eng. Vin D, H, R, X, Y	F-33	FP-33 or FP-33T (Coated)	
6 cyl	359ci	5.9L	4.016" 102.1mm	1993-99	Cummins Diesel/Turbo-Diesel Eng. FD1060 Series, Vin C	CU-12		
8 cyl	359ci	5.9L	4.050" 102.9mm	1973-78	OHV Ford Eng.	F-33	FP-33 or FP-33T (Coated)	
8 cyl	360ci	5.9L	4.050" 102.9mm	1968-77	OHV Ford Eng. Vin H, Y	F-33	FP-33 or FP-33T (Coated)	
8 cyl	361ci	5.9L	4.050" 102.9mm	1958-78	OHV Ford Eng.	F-33	FP-33 or FP-33T (Coated)	
8 cyl	365ci	6.0L	3.740" 95mm	2004-08	International (Power-Stroke)Turbo Diesel Eng. VT365 Series	IN-21		
8 cyl	368ci	6.0L	4.000" 101.6mm	1956-57	OHV Lincoln Eng.	F-11		
8 cyl	370ci	6.1L	4.046" 102.8mm	1979-91	OHV Ford Eng. Vin 7, C, H (+.005 OD) (+.010 OD) (+.020 OD)	F-30 F-30R1 F-30R2	FP-30 or FP-30T (Coated) FP-30R	
8 cyl	389ci	6.4L	4.050" 102.9mm	1975-78	OHV Ford Eng. Vin H, M	F-33	FP-33 or FP-33T (Coated)	
8 cyl	390ci	6.4L	4.050" 102.9mm	1961-77	OHV Ford Eng. Vin 9, H, M, P, Q, R, S, X, Y, Z	F-33	FP-33 or FP-33T (Coated)	
8 cyl	391ci	6.4L	4.050" 102.9mm	1964-78	OHV Ford Eng.	F-33	FP-33 or FP-33T (Coated)	
8 cyl	400ci	6.6L	4.000" 101.6mm	1971-82	OHV Ford Eng. Vin S, Z	F-26	FP-26 or FP-26T (Coated)	
6 cyl	401ci	6.6L	4.400" 111.8mm	1986-95	Ford (Brazilian) Turbo-Diesel Eng.	F-44		
6 cyl	401ci	6.6L	4.400" 111.8mm	1986-95	OHV Ford Diesel/Turbo-Diesel Eng. 401D, 401TD Series, Vin P	F-55		
8 cyl	401ci	6.6L	4.125" 104.8mm	1958-76	OHV Ford Eng.	F-16		
8 cyl	406ci	6.7L	4.130" 104.9mm	1962-63	OHV Ford Eng. Vin B, G	F-33	FP-33 or FP-33T (Coated)	
8 cyl	410ci	6.7L	4.050" 102.9mm	1966-67	OHV Mercury Eng. Vin M	F-33	FP-33 or FP-33T (Coated)	
8 cyl	420ci	6.9L	4.000" 101.6mm	1983-87	OHV IHC-Navistar Diesel Eng. Vin 1 (+.020 OD)	IN-17 IN-17R2		
8 cyl	427ci	7.0L	4.233" 107.5mm	1963-65	OHV Ford Eng.	F-33	FP-33 or FP-33T (Coated)	
8 cyl	427ci	7.0L	4.233" 107.5mm	1966-69	OHV (Side Oiler/Wedge-Head) Ford Eng. Vin R, W	F-24		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
8 cyl	428ci	7.0L	4.130" 104.9mm	1965-70	OHV Ford Eng. Vin P, Q, R	F-33	FP-33 or FP-33T (Coated)	
8 cyl	429ci	7.0L	4.360" 110.7mm	1968-98	OHV Ford Eng. Vin C, J, K, N, P, R, Z (+.005 OD) (+.010 OD) (+.020 OD)	F-30 F-30R1 F-30R2	FP-30 or FP-30T (Coated) FP-30R	
8 cyl	430ci	7.0L	4.300" 109.2mm	1958-65	OHV Ford Eng. Vin H, J, K, L, M, N	F-19		
8 cyl	445ci	7.3L	4.110" 104.4mm	1988-03	OHV (Direct/Indirect Injection) IHC-Navistar Diesel/Turbo-Diesel Eng. Vin C, F, K, M (+.020 OD)	IN-17 IN-17R2		
8 cyl	460ci	7.5L	4.360" 110.7mm	1968-98	OHV Ford Eng. Vin A, C, G, J, L (+.005 OD) (+.010 OD) (+.020 OD)	F-30 F-30R1 F-30R2	FP-30 or FP-30T (Coated) FP-30R	
8 cyl	462ci	7.6L	4.380" 111.3mm	1966-68	OHV Lincoln Eng. Vin 7, G	F-19		
6 cyl	464ci	7.6L	4.438" 111.3mm	ALL	OHV Cummins Diesel/Turbo-Diesel Eng.	CU-5A		
6 cyl	474ci	7.8L	4.400" 112mm	1986-95	OHV Ford Turbo-Diesel Eng. Vin A	F-55		
6 cyl	474ci	7.8L	4.400" 111.8mm	1987-95	Ford (Brazilian) Turbo-Diesel Eng.	F-44		
8 cyl	475ci	7.8L	4.500" 114.3mm	1973-79	OHV Ford Eng.	F-16		
8 cyl	477ci	7.8L	4.500" 114.3mm	1958-81	OHV Ford Eng.	F-16		
8 cyl	501ci	8.2L	4.252" 108mm	1980-87	OHV (Fuel Pincher) Detroit Diesel/Turbo-Diesel Eng. Vin N	DE-4		
8 cyl	522ci	8.5L	4.500" 114.3mm	1968-75	OHV Caterpillar Diesel Eng.	CAT-2		
6 cyl	525ci	8.6L	4.500" 114.3mm	1965-69	OHV Caterpillar Turbo-Diesel Eng. (No. 1 Position, OE#9M5744) (No. 2, 3, 4, 5 Position, OE#7M4046) (Balance Shaft Bearings: No. 1, 2, 5, 6 Position, OE#9M5239) (Balance Shaft Bearings: No. 3, 4 Position, OE#9M5238)	CAT-2-1 CAT-2-2 CAT-2-5 CAT-2-6		
8 cyl	534ci	8.8L	4.500" 114.3mm	1958-81	OHV Ford Eng.	F-16		
8 cyl	555ci	9.1L	4.625" 117.5mm	1973-79	OHV Cummins Diesel Eng. V55C, V555 Series (2.186" Housing Bore)	CU-11		
8 cyl	573ci	9.4L	4.500" 114.3mm	1968-75	OHV Caterpillar Diesel Eng. V200 Series	CAT-2		
8 cyl	636ci	10.4L	4.500" 114.3mm	1968-72	OHV Caterpillar Diesel Eng. V225 Series	CAT-2		
6 cyl	638ci	10.5L	4.750" 120.7mm	1988-89	OHV Caterpillar Turbo-Diesel Eng. (Balance Shaft Set)	CAT-6 CAT-7**		
6 cyl	672ci	11.0L	4.875" 123.8mm	1964-65	OHV Cummins Diesel Eng.	CU-5A		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
FORD MOTOR CO. (BRITISH-GERMAN, EDSEL, LINCOLN, MERCURY, MERKUR) (Cont.)								
6 cyl	743ci	12.2L	5.125" 130.2mm	1964-69	OHV Cummins Diesel Eng.	CU-5A		
6 cyl	855ci	14.0L	5.500" 139.7mm	1964-72	OHV Cummins Diesel Eng.	CU-5A		
6 cyl	855ci	14.0L	5.500" 139.7mm	1964-78	OHV Cummins Turbo-Diesel Eng.	CU-9		
6 cyl	927ci	15.2L	5.500" 139.7mm	1974-83	OHV Cummins Diesel Eng.	CU-5A		
FORD TRACTOR CO. (Also see FORD MOTOR CO.)								
3 cyl	158ci 2590cc	2.6L	4.200" 106.7mm	1965-90	Gas/Diesel/LPG Eng.	F-43		
3 cyl	175ci	2.9L	4.200" 106.7mm	1965-90	Gas/Diesel/LPG Eng.	F-43		
3 cyl	183ci 2999cc	3.0L	4.200" 106.7mm	1965-90	Diesel Eng.	F-43		
3 cyl	192ci 3146cc	3.1L	4.406" 112mm	1965-69	Gas/Diesel/LPG Eng.	F-43		
3 cyl	201ci 3294cc	3.3L	4.406" 112mm	1965-81	Gas/Diesel/LPG Eng.	F-43		
6 cyl	223ci	3.7L	3.625" 92.1mm	1961-66	Gas/LPG Eng.	F-7		
4 cyl	233ci 3819cc	3.8L	4.200" 106.7mm	1965-68	Gas/Diesel/LPG Eng.	F-44		
6 cyl	242ci	4.0L	3.625" 92.1mm	1961-66	Diesel Eng.	F-7		
4 cyl	256ci 4195cc	4.2L	4.406" 112mm	1968-90	Gas/Diesel/Turbo-Diesel Eng.	F-44		
6 cyl	401ci	6.6L	4.406" 112mm	1969-90	Diesel/Turbo-Diesel Eng.	F-44		
6 cyl	474ci	7.8L	4.400" 111.8mm	1987-97	(Brazilian) Turbocharged Diesel Eng.	F-44		
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN)								
4 cyl	79ci 1295cc	1.3L	2.913" 74mm	1992-01	SOHC Suzuki Eng. G13A Series, Vin 2, 3, 9			SA-1* (Full Round)
4 cyl	92ci 1471cc	1.5L	3.031" 77mm	1985-89	SOHC Isuzu Eng. 4XC1, 4XC1-T Series (Includes Turbo), Vin 7, 9, K (Auxiliary Shaft Set)	CHG-14**		
4 cyl	111ci 1816cc	1.8L	3.307" 84mm	1972-82	SOHC Isuzu Eng. G180Z Series, Vin B, N (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Auxiliary / Balance Shaft Set)	CHG-14**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	112ci 1835cc	1.8L	3.504" 89mm	1982	OHV Chevrolet Eng. Vin G (.002 Under ID)	CH-19 CH-19X2		
4 cyl	116ci 1901cc	1.9L	3.230" 82mm	1991-02	SOHC Saturn Eng. Vin 8, 9			GMA-1* (Full Round)
4 cyl	116ci 1901cc	1.9L	3.230" 82mm	1991-02	DOHC Saturn Eng. Vin 7			GMA-2* (1/2 Shell)
4 cyl	119ci 1949cc	1.9L	3.425" 87mm	1982-85	SOHC Isuzu Eng. G200Z Series, Vin A (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Auxiliary / Balance Shaft Set)	CHG-14**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
4 cyl	121ci 1989cc	2.0L	3.504" 89mm	1983-89	OHV Chevrolet Eng. Vin 1, B, P, Y (.002 Under ID)	CH-19 CH-19X2		
4 cyl	122ci 1999cc	2.0L	3.500" 89mm	1975-76	DOHC Chevrolet (Cosworth) Eng. Vin E, O	CH-13		
4 cyl	134ci	2.2L	3.386" 86mm	2000-09	DOHC GMC (Ecotec) Eng. L42, L61 Series. Vin 6, D, F (Balance Shaft Set)	CHG-24**		
4 cyl	134ci 2238cc	2.2L	3.465" 88mm	1981-82	OHV Isuzu Diesel Eng. C223 Series, Vin S	IZ-2		
4 cyl	134ci 2238cc	2.2L	3.465" 88mm	1983-85	OHV Isuzu Diesel Eng. C223 Series, Vin S	IZ-3		
4 cyl	134ci 2189cc	2.2L	3.500" 89mm	1990-03	OHV Chevrolet (Vortec) Eng. Vin 4, 5, G, H (.002 Under ID)	CH-19 CH-19X2		
4 cyl	140ci	2.3L	3.500" 88.9mm	1971-77	SOHC Chevrolet Eng. Vin A, B	CH-13		
4 cyl	151ci 2474cc	2.5L	4.000" 101.6mm	1977-93	OHV Pontiac Eng. Vin 1, 2, 5, 9, A, E, F, R, S, V (.001 Under ID)	CH-16 CH-16W		
4 cyl	151ci 2474cc	2.5L	4.000" 101.6mm	1985-91	OHV Pontiac Eng. Vin U	CH-20		
4 cyl	153ci	2.5L	3.875" 98.4mm	1962-70	OHV Chevrolet Eng. Vin AA, CA, OH	CH-6		
4 cyl	169ci 2770cc	2.8L	3.661" 93mm	2004-06	DOHC Chevrolet (Vortec) Eng. Vin 8 (Balance Shaft Set)	CHG-23**		
6 cyl	173ci 2835cc	2.8L	3.504" 89mm	1980-93	OHV Chevrolet Eng. Vin 1, 7, 9, B, L, R, S, W, X, Z (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
4 cyl	181ci	3.0L	4.000" 101.6mm	1982	OHV GMC Eng. (Marine & Industrial) (.001 Under ID)	CH-16 CH-16W		
6 cyl	181ci	3.0L	3.800" 96.5mm	1982-85	OHV Buick Eng. (1st Design w/ 14 Bolt Oil Pan), Vin E (Oil Control Set w/ Opt. Groove Design, #1 Position)	B-12 B-12B		
6 cyl	181ci	3.0L	3.800" 96.5mm	1985-88	OHV Buick Eng. (2nd Design w/ 20 Bolt Oil Pan), Vin L (+.025 OD)	B-13 B-13R	BP-13 or BP-13T (Coated)	
6 cyl	189ci 3136cc	3.1L	3.504" 89mm	1988-05	OHV Chevrolet Eng. (Includes Turbo), Vin D, J, M, T, V, W (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
6 cyl	194ci	3.2L	3.563" 90.5mm	1962-66	OHV Chevrolet Eng.	CH-7		
4 cyl	195ci	3.2L	4.063" 103.2mm	1961-62	OHV Pontiac Eng.	P-3	PP-3 or PP-3T (Coated)	
4 cyl	195ci	3.2L	4.063" 103.2mm	1963	OHV Pontiac Eng. (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
6 cyl	196ci	3.2L	3.500" 88.9mm	1978-79	OHV Buick Eng. Vin C (Oil Control Set w/ Opt. Groove Design, #1 Position)	B-12 B-12B		
6 cyl	198ci	3.2L	3.625" 92.1mm	1962-63	OHV Buick Eng.	B-6		
6 cyl	200ci	3.3L	3.500" 88.9mm	1978-79	OHV Chevrolet Eng. Vin M (.001 Under ID)	CH-17 CH-17X	CHP-17 or CHP-17T (Coated)	
6 cyl	204ci	3.3L	3.701" 94mm	1989-93	OHV Buick Eng. Vin N (+.025 OD)	B-13 B-13R	BP-13 or BP-13T (Coated)	
6 cyl	207ci 3393cc	3.4L	3.622" 92mm	1991-97	DOHC Chevrolet Eng. Vin X (Auxiliary Shaft Set)	CHG-22**		
6 cyl	207ci 3393cc	3.4L	3.622" 92mm	1993-09	OHV Chevrolet Eng. Vin 9, E, F, S (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
5 cyl	211ci 3460cc	3.5L	3.661" 93mm	2004-06	DOHC Chevrolet (Vortec) Eng. Vin 6 (Balance Shaft Set)	CHG-23**		
6 cyl	213ci	3.5L	3.700" 93.98mm	2004-08	OHV Chevrolet Eng. Vin 8, L	CH-24		
6 cyl	214ci 3473cc	3.5L	3.524" 89.5mm	1999-02	DOHC Oldsmobile Eng. Vin H (Balance Shaft Set)	OG-1**		
6 cyl	215ci	3.5L	3.750" 95.3mm	1964-65	OHV Pontiac Eng.	CH-7		
8 cyl	215ci	3.5L	3.500" 88.9mm	1961-63	OHV Buick Eng. (Includes Turbo)	B-11		
6 cyl	216ci	3.5L	3.500" 88.9mm	1937-53	OHV Chevrolet Eng.	CH-2		
6 cyl	224ci	3.7L	3.563" 90.5mm	1940-47	OHV Eng.	CH-2		
6 cyl	225ci	3.7L	3.750" 95.3mm	1964-67	OHV Buick Eng.	B-6		
6 cyl	228ci	3.7L	3.563" 90.5mm	1939-53	OHV GMC Eng.	CH-2		
6 cyl	229ci	3.8L	3.736" 95mm	1980-84	OHV Buick/Chevrolet Eng. Vin 9, K (.001 Under ID)	CH-17 CH-17X	CHP-17 or CHP-17T (Coated)	
6 cyl	230ci	3.8L	3.875" 98.4mm	1963-70	OHV Chevrolet Eng. Vin S	CH-7		
6 cyl	231ci	3.8L	3.800" 96.5mm	1975-85	OHV Buick Eng. (Includes Turbo), Vin 2, 3, 8, 9, A, C, G (1st Design w/ 14 Bolt Oil Pan) (Special Oil Control Set w/ OD Groove No. 1 Position)	B-12 B-12B		
6 cyl	231ci	3.8L	3.800" 96.5mm	1985-95	OHV Buick Eng. (Includes Supercharged), Vin 1, 3, 7, 9, A, B, C, L (2nd Design w/ 20 Bolt Oil Pan) (+.025 OD)	B-13 B-13R	BP-13 or BP-13T (Coated)	
6 cyl	231ci	3.8L	3.800" 96.5mm	1995-08	OHV Buick Eng. (Includes Supercharged), Vin 1, 2, 4, K (+.025 OD)	B-14 B-14R		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
6 cyl	235ci	3.9L	3.563" 90.5mm	1949-54	OHV Chevrolet Eng. (Early 1954 w/ 2.029" Diameter Number 1 Camshaft Journal, Small Journals)	CH-2		
6 cyl	235ci	3.9L	3.563" 90.5mm	1954-62	OHV Chevrolet Eng. (Late 1954 w/ 2.154" Diameter Number 1 Camshaft Journal, Large Journals)	CH-3		
6 cyl	236ci	3.9L	3.625" 92.1mm	1941-49	OHV GMC Eng.	CH-2		
6 cyl	237ci 3880cc	3.9L	3.898" 99mm	2006-08	OHV Chevrolet Eng. LGD, LZG Series, Vin 1, 3, R, W	CH-24		
6 cyl	248ci	4.1L	3.719" 94.5mm	1954-55	OHV GMC Eng.	CH-2		
6 cyl	250ci	4.1L	3.875" 98.4mm	1966-70	OHV Chevrolet Eng. Vin N, P, S	CH-7		
6 cyl	250ci	4.1L	3.875" 98.4mm	1971-84	OHV Chevrolet Eng. Vin C, D, L, N, Q, S (Special Oil Control Set w/ OD Groove)	CH-11 CH-11B		
8 cyl	250ci 4097cc	4.1L	3.465" 88mm	1982-88	OHV Cadillac Eng. Vin 7, 8 (Special Bearing Set w/ Wide No. 5 Position)	C-4 C-4A		
6 cyl	252ci	4.1L	3.965" 100.7mm	1980-84	OHV Buick Eng. Vin 4 (1st Design w/ 14 Bolt Oil Pan) (Special Oil Control Set w/ OD Groove No. 1 Position)	B-12 B-12B		
6 cyl	256ci	4.2L	3.781" 96mm	1940-46	OHV Eng.	CH-2		
6 cyl	260ci	4.3L	4.057" 103mm	1982-85	OHV Oldsmobile Diesel Eng. Vin T, V	O-8		
8 cyl	260ci	4.3L	3.500" 88.9mm	1975-76	OHV Oldsmobile Eng. Vin F (Special Oil Control Set w/ OD Groove)	O-6 O-6B		
8 cyl	260ci	4.3L	3.500" 88.9mm	1977-82	OHV Oldsmobile Gas/Diesel Eng. Vin 8, F, P	O-7		
6 cyl	261ci	4.3L	3.750" 95.3mm	1954	OHV Chevrolet Eng. (Early 1954 w/ 2.029" Diameter Number 1 Camshaft Journal, Small Journals)	CH-2		
6 cyl	261ci	4.3L	3.750" 95.3mm	1954-62	OHV Chevrolet Eng. (Late 1954 w/ 2.154" Diameter Number 1 Camshaft Journal, Large Journals)	CH-3		
6 cyl	262ci 4294cc	4.3L	4.000" 101.6mm	1985-09	OHV Chevrolet (Vortec) Eng. (Includes Turbo), Vin B, N, W, X, Z (Except Engines Stamped With Identification Number Located On Front Of Block Starting With T) (.001 Under ID) (Balance Shaft Rear Bearing, Includes Tool) (Cam Bearing & Balance Shaft Kit)	CH-17 CH-17X CHG-15A** CH-17G	CHP-17 or CHP-17T (Coated)	
6 cyl	262ci 4294cc	4.3L	4.000" 101.6mm	1992-08	OHV Chevrolet (Vortec) Eng. (Includes Turbo), (Engines Stamped With Identification Number Located On Front Of Block Starting With T) (.001 Under ID) (Balance Shaft Rear Bearing, Includes Tool) (Cam Bearing & Balance Shaft Kit)	CH-21 CH-21X CHG-15A** CH-21G	CHP-21 or CHP-21T (Coated)	

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	262ci	4.3L	3.670" 93.2mm	1975-76	OHV Chevrolet Eng. Vin G (+.010 Oversize, 2.030 Hsg. .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A CH-8W	CHP-8 or CHP-8T (Coated) CHP-8R1 or CHP-8R1T (Coated) CHP-8R2 or CHP-8R2T (Coated) CHP-8R3 or CHP-8R3T (Coated) CHP-8R4 or CHP-8R4T (Coated)	
8 cyl	265ci	4.3L	3.736" 93.2mm	1994-96	OHV Chevrolet (Vortec) Eng. Vin W (+.010 Oversize, 2.030 Hsg. .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A CH-8W	CHP-8 or CHP-8T (Coated) CHP-8R1 or CHP-8R1T (Coated) CHP-8R2 or CHP-8R2T (Coated) CHP-8R3 or CHP-8R3T (Coated) CHP-8R4 or CHP-8R4T (Coated)	
8 cyl	265ci	4.3L	3.750" 95.3mm	1955-57	OHV Chevrolet Eng.	CH-4	CHP-4 or CHP-4T (Coated)	
8 cyl	265ci	4.3L	3.750" 95.3mm	1980-81	OHV Pontiac Eng. Vin S (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	
8 cyl	267ci	4.4L	3.500" 88.9mm	1979-82	OHV Chevrolet Eng. Vin J (+.010 Oversize, 2.030 Hsg. .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A CH-8W	CHP-8 or CHP-8T (Coated) CHP-8R1 or CHP-8R1T (Coated) CHP-8R2 or CHP-8R2T (Coated) CHP-8R3 or CHP-8R3T (Coated) CHP-8R4 or CHP-8R4T (Coated)	
6 cyl	270ci	4.4L	3.781" 96mm	1939-62	OHV GMC Eng.	CH-2		
8 cyl	273ci 4474cc	4.5L	3.622" 92mm	1988-92	OHV Cadillac Eng. Vin 3, 5, 8 (Special Bearing Set w/ Wide No. 5 Position)	C-4 C-4A		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	283ci	4.6L	3.875" 98.4mm	1957-63	OHV Chevrolet Eng.	CH-4	CHP-4 or CHP-4T (Coated)	
8 cyl	283ci	4.6L	3.875" 98.4mm	1964-67	OHV Chevrolet Eng. (+.010 Oversize, 2.030 Hsg, .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A CH-8W	CHP-8 or CHP-8T (Coated) CHP-8R1 or CHP-8R1T (Coated) CHP-8R2 or CHP-8R2T (Coated) CHP-8R3 or CHP-8R3T (Coated) CHP-8R4 or CHP-8R4T (Coated)	
8 cyl	287ci	4.7L	3.750" 95.3mm	1955	OHV Pontiac Eng.	P-3	PP-3 or PP-3T (Coated)	
8 cyl	288ci	4.7L	3.750" 95.3mm	1955	OHV Pontiac Eng.	P-3	PP-3 or PP-3T (Coated)	
6 cyl	292ci	4.8L	3.875" 98.4mm	1963-70	OHV Chevrolet Eng. Vin S	CH-7		
6 cyl	292ci	4.8L	3.875" 98.4mm	1971-89	OHV Chevrolet Eng. Vin S, T (Special Oil Control Set w/ OD Groove)	CH-11 CH-11B		
8 cyl	294ci 4807cc	4.8L	3.780" 96mm	1999-08	OHV Chevrolet (Vortec) Eng. Vin C, V	CH-10	CHP-10 or CHP-10T (Coated)	
8 cyl	300ci 4884cc	4.9L	3.622" 92mm	1991-95	OHV Cadillac Eng. Vin B (Special Bearing Set w/ Wide No. 5 Position)	C-4 C-4A		
8 cyl	300ci	4.9L	3.750" 95.3mm	1964-67	OHV Buick Eng.	B-11		
8 cyl	301ci	4.9L	4.000" 101.6mm	1977-81	OHV Pontiac Eng. (Includes Turbo), Vin T, W, Y (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	
6 cyl	302ci	5.0L	4.000" 101.6mm	1952-59	OHV GMC Eng.	CH-2		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	302ci	5.0L	4.000" 101.6mm	1967-69	OHV Chevrolet Eng. Vin MO <			

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	325ci 5328cc	5.3L	3.780" 96mm	2003-09	OHV Chevrolet (Vortec) Eng. Vin 0, 3, 4, B, C, J, M, P, T, Z (2003 2nd Design; Positions 1 And 5 Housing Bore 2.3460"/2.3480")	CH-23	CHP-23 or CHP-23T (Coated)	
8 cyl	326ci	5.3L	3.719" 94.5mm	1963-67	OHV Pontiac Eng. (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	
8 cyl	327ci	5.4L	4.000" 101.6mm	1962-63	OHV Chevrolet Eng.	CH-4	CHP-4 or CHP-4T (Coated)	
8 cyl	327ci	5.4L	4.000" 101.6mm	1964-69	OHV Chevrolet Eng. Vin E, FB, HJ (+.010 Oversize, 2.030 Hsg, .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A <		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	350ci	5.7L	4.000" 101.6mm	1967-03	OHV Chevrolet (Vortec) Eng. Vin 4, 5, 6, 7, 8, A, B, E, G, H, J, K, L, M, N, P, R, T, V, W, X, Y (+.010 Oversize, 2.030 Hsg, .0795 Wall) (+.010 OD, 2.030" Hsg.) (+.020 OD, 2.040" Hsg.) (+.030 OD, 2.050" Hsg.) (+.040 OD, 2.060" Hsg.) (.001 Under ID)	CH-8 CH-4A CH-8W	CHP-8 or CHP-8T (Coated) CHP-8R1 or CHP-8R1T (Coated) CHP-8R2 or CHP-8R2T (Coated) CHP-8R3 or CHP-8R3T (Coated) CHP-8R4 or CHP-8R4T (Coated)	
8 cyl	350ci	5.7L	4.000" 101.6mm	1967-03	Chevrolet (Bowtie Bock) Eng. (2.000" Hsg Bores)		GMP-8 or GMP-8T (Coated)	
8 cyl	350ci	5.7L	4.000" 101.6mm	ALL	Chevrolet (Hi-Perf Block) Eng. (55mm/2.282" Camshaft Journal O.D.)		GMP-55 or GMP-55T (Coated)	
8 cyl	350ci	5.7L	4.057" 103mm	1968-76	OHV Oldsmobile Eng. Vin H, K, M, R (Special Oil Control Set w/ OD Groove)	O-6 O-6B		
8 cyl	350ci	5.7L	4.057" 103mm	1977-85	OHV Oldsmobile Eng. (Includes Diesel) Vin 6, 8, B, L, N, P, R, X, Z	O-7		
8 cyl	350ci	5.7L	4.057" 103mm	ALL	OHV Oldsmobile (Rocket Hi-Perf) Eng. (2.120" Hsg Bore, 1.95" Cam Journal)		GMP-1 or GMP-1T (Coated)	
6 cyl	351ci	5.8L	4.563" 115.9mm	1960-72	OHV GMC Eng. 351, 351C, 351E, 351M, D351 Series (Includes Diesel)	GM-5		
8 cyl	364ci -	6.0L	4.000" 101.6mm	1999-03	OHV Chevrolet (Vortec) Eng. Vin H, K, N, U, Y (2003 1st Design; Positions 1 and 5 Housing Bore 2.3260"/2.3280")	CH-10	CHP-10 or CHP-10T (Coated)	
8 cyl	364ci -	6.0L	4.000" 101.6mm	2003-09	OHV Chevrolet (Vortec) Eng. Vin H, K, N, U, Y (2003 2nd Design; Positions 1 and 5 Housing Bore 2.3460"/2.3480")	CH-23	CHP-23 or CHP-23T (Coated)	
8 cyl	364ci	6.0L	4.125" 104.8mm	1957-61	OHV Buick Eng.	B-8		
8 cyl	365ci	6.0L	4.000" 101.6mm	1956-58	OHV Cadillac Eng.	C-2		
8 cyl	366ci	6.0L	3.938" 100mm	1966	OHV Chevrolet Eng.	CH-9A		
8 cyl	366ci	6.0L	3.938" 100mm	1967-98	OHV Chevrolet Eng. L86, LS0 Series, Vin B, P (Special Oil Control Set w/ OD Groove) (+.010 OD, 2.150" Hsg.) (+.020 OD, 2.160" Hsg.)	CH-12 CH-12B	CHP-12 or CHP-12T (Coated) CHP-12R1 CHP-12R2	
8 cyl	368ci	6.0L	3.800" 96.5mm	1980-84	OHV Cadillac Eng. Vin 6, 9	C-3		
8 cyl	370ci	6.1L	4.063" 103.2mm	1958	OHV Pontiac Eng.	P-3	PP-3 or PP-3T (Coated)	
8 cyl	371ci	6.1L	4.000" 101.6mm	1957-60	OHV Oldsmobile Eng.	O-5		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	378ci 6199cc	6.2L	4.063" 103.2mm	2007-09	OHV Chevrolet (Vortec) Eng. L92 Series, Vin 8	CH-23	CHP-23 or CHP-23T (Coated)	
6 cyl	379ci	6.2L	4.563" 115.9mm	1973-74	OHV GMC Eng.	GM-5		
8 cyl	379ci 6211cc	6.2L	3.976" 101mm	1982-93	OHV Chevrolet Diesel Eng. Vin C, J (+.020 OD)	GM-7 GM-7R2		
8 cyl	389ci	6.4L	4.063" 103.2mm	1959-62	OHV Pontiac Eng.	P-3	PP-3 or PP-3T (Coated)	
8 cyl	389ci	6.4L	4.063" 103.2mm	1963-66	OHV Pontiac Eng. (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	
8 cyl	390ci	6.4L	4.000" 101.6mm	1959-62	OHV Cadillac Eng.	C-2		
8 cyl	390ci	6.4L	4.000" 101.6mm	1963	OHV Cadillac Eng.	C-3		
8 cyl	394ci	6.5L	4.125" 104.8mm	1959-64	OHV Oldsmobile Eng.	O-5		
8 cyl	395ci 6468cc	6.5L	4.055" 103mm	1992-02	OHV GMC Diesel/Turbo Diesel Eng. L65 Series, Vin F, P, S, Y, Z (+.020 OD)	GM-7 GM-7R2		
8 cyl	396ci	6.5L	4.094" 104mm	1965-66	OHV Chevrolet Eng.	CH-9A		
8 cyl	396ci	6.5L	4.094" 104mm	1967-71	OHV Chevrolet Eng. Vin E, Y (Special Oil Control Set w/ OD Groove) (+.010 OD, 2.150" Hsg.) (+.020 OD, 2.160" Hsg.)	CH-12 CH-12B	CHP-12 or CHP-12T (Coated) CHP-12R1 CHP-12R2	
8 cyl	400ci	6.6L	3.870" 98.4mm	1968-69	OHV Oldsmobile Eng. (Special Oil Control Set w/ OD Groove)	O-6 O-6B		
8 cyl	400ci	6.6L	3.870" 98.4mm	ALL	OHV Oldsmobile (Rocket Hi-Perf.) Eng. (2.186" Housing Bore)		GMP-1 or GMP-1T (Coated)	
8 cyl	400ci	6.6L	4.000" 101.6mm	1965-67	OHV Oldsmobile Eng. (Special Oil Control Set w/ OD Groove)	O-6 O-6B		
8 cyl	400ci	6.6L	4.000" 101.6mm	ALL	OHV Oldsmobile (Rocket Hi-Perf.) Eng. (2.186" Housing Bore)		GMP-1 or GMP-1T (Coated)	
8 cyl	400ci	6.6L	4.040" 102.6mm	1967-69	OHV Buick Eng.	B-9	BP-9 or BP-9T (Coated)	
8 cyl	400ci	6.6L	4.120" 104.6mm	1967-79	OHV Pontiac Eng. Vin N, P, R, S, T, X, Y, Z (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	400ci	6.6L	4.125" 104.8mm	1970-80	OHV Chevrolet Eng. Vin E, K, M, R, U, X 			

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DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
GENERAL MOTORS (BUICK, CADILLAC, CHEVROLET, GEO, GMC, OLDSMOBILE, PONTIAC, SATURN) (Cont.)								
8 cyl	429ci	7.0L	4.129" 104.9mm	1964-67	OHV Cadillac Eng. Vin 5, 6, 7	C-3		
8 cyl	430ci	7.0L	4.188" 106.4mm	1967-69	OHV Buick Eng.	B-9	BP-9 or BP-9T (Coated)	
6 cyl	432ci	7.1L	4.875" 123.8mm	1973-74	OHV GMC Eng.	GM-5		
8 cyl	454ci	7.4L	4.250" 108mm	1970-00	OHV Chevrolet Eng. Vin B, D, E, J, L, N, S, V, W, X, Y, Z (Special Oil Control Set w/ OD Groove) (+.010 OD, 2.150" Hsg.) (+.020 OD, 2.160" Hsg.)	CH-12 CH-12B	CHP-12 or CHP-12T (Coated) CHP-12R1 CHP-12R2	
8 cyl	455ci	7.5L	4.125" 104.8mm	1968-76	OHV Oldsmobile Eng. Vin R, S, T, U, V, W, X (Special Oil Control Set w/ OD Groove)	O-6 O-6B		
8 cyl	455ci	7.5L	4.151" 105.4mm	1970-76	OHV Pontiac Eng. Vin T, U, V, W, X, Y (+.010 OD)	P-4 P-4R1	PP-4 or PP-4T (Coated)	
8 cyl	455ci	7.5L	4.313" 109.6mm	1970-76	OHV Buick Eng. Vin P, R, T, U, V, W	B-9	BP-9 or BP-9T (Coated)	
8 cyl	472ci	7.7L	4.300" 109.2mm	1968-74	OHV Cadillac Eng. Vin 0, 1, 8, 9, R	C-3		
6 cyl	478ci	7.8L	5.125" 130.2mm	1962-75	OHV GMC Eng. 478M, D478, DH478 Series (Includes Diesel)	GM-5		
8 cyl	496ci	8.1L	4.252" 108mm	2001-07	OHV Chevrolet (Vortec 8100) Eng. L18 Series, Vin E, G (Special Oil Control Set w/ OD Groove) (+.010 OD, 2.150" Hsg.) (+.020 OD, 2.160" Hsg.)	CH-12 CH-12B	CHP-12 or CHP-12T (Coated) CHP-12R1 CHP-12R2	
8 cyl	500ci	8.2L	4.300" 109.2mm	1970-76	OHV Cadillac Eng. Vin 0, 1, S	C-3		
8 cyl	502ci	8.2L	4.466" 113.4mm	ALL	OHV Chevrolet (Bowtie Block) Eng. (Std. Hsg Bore) (Special Oil Control Set w/ OD Groove) (+.010 OD, 2.150" Hsg.) (+.020 OD, 2.160" Hsg.)	CH-12 CH-12B	CHP-12 or CHP-12T (Coated) CHP-12R1 CHP-12R2	
8 cyl	502ci	8.2L	4.466" 113.4mm	ALL	OHV Chevrolet (Bowtie Block) Eng. (2.120" Hsg Bore)		GMP-12 or GMP-12T (Coated)	
8 cyl	636ci	10.4L	4.500" 114.3mm	1975-79	GMC Diesel Eng. (HD Truck/Industrial)	CAT-2		
8 cyl	855ci	14.0L	5.500" 139.7mm	1970-87	GMC Diesel/Turbo Diesel Eng. 230, 250, 270, 270E, 290, 300, 350, 400 Series (HD Truck/Industrial)	CU-5A		
8 cyl	855ci	14.0L	5.500" 139.7mm	1977-87	(2.500" Big Cam Series, 3/32 (.0939") Wall)	CU-9		
HERCULES								
3 cyl	130ci 2127cc	2.1L	3.500" 88.9mm	ALL	DD130, GO130 Series	HE-7		
3 cyl	149ci 2435cc	2.4L	3.750" 95.3mm	ALL	DD149, D1500, G1500, GO149, GO1500 Series	HE-7		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
HERCULES (Cont.)								
4 cyl	163ci	2.7L	4.000" 101.6mm	ALL	G-1600, J4XL-D3 Series	HE-1		
4 cyl	164ci	2.7L	3.500" 88.9mm	ALL	JX4E2 Series	HE-1		
3 cyl	169ci	2.8L	4.000" 101.6mm	ALL	D1700, DD169, G1700, GO169 Series	HE-7		
4 cyl	173ci	2.8L	3.500" 88.9mm	ALL	DD173, GO173 Series	HE-8		
4 cyl	188ci	3.1L	3.750" 95.3mm	ALL	JX4C2, JX4C3, JX4C5, JX4E3 Series	HE-1		
6 cyl	191ci	3.1L	3.125" 79.4mm	ALL	QXA, QXA3, QXA5 Series	HE-5		
4 cyl	198ci	3.3L	3.750" 95.3mm	ALL	D2000, DD198, DOOB Series	HE-1		
4 cyl	199ci	3.3L	3.750" 95.3mm	ALL	DD198, D2000, D2120, G2000, G2120, GO198 Series	HE-8		
6 cyl	205ci	3.4L	3.250" 82.6mm	ALL	QXB, QXB3, QXB5 Series	HE-5		
4 cyl	214ci	3.5L	4.000" 101.6mm	ALL	JX4D, JX4D2, JX4D3, JX4D5, JX4E5 Series	HE-1		
6 cyl	222ci	3.6L	3.375" 85.7mm	ALL	QXC, QXC3, QXC5 Series	HE-5		
4 cyl	226ci	3.7L	4.000" 101.6mm	ALL	D2300, DD226, G2300, GO226 Series	HE-1		
6 cyl	228ci	3.7L	3.375" 85.7mm	ALL	JXA Series	HE-1		
6 cyl	230ci	3.8L	3.438" 87.3mm	ALL	QXD, QXD3, QXD5 Series	HE-5		
6 cyl	232ci	3.8L	3.406" 86.5mm	ALL	JX, JXF Series	HE-1		
6 cyl	237ci	3.9L	3.438" 87.3mm	ALL	QXLD, QXLD3, QXLD5 Series	HE-1		
6 cyl	245ci	4.0L	3.500" 88.9mm	ALL	JXE, JXG Series	HE-1		
6 cyl	260ci	4.3L	3.500" 88.9mm	ALL	DD260, G0260 Series	HE-8		
6 cyl	263ci	4.3L	3.625" 92.1mm	ALL	JXB Series	HE-1		
6 cyl	282ci	4.6L	3.750" 95.3mm	ALL	JXC, JXC3, JXCF Series	HE-1		
6 cyl	298ci	4.9L	3.750" 95.3mm	ALL	298, D298H, DD298, G298H, GO298 Series	HE-8		
6 cyl	298ci	4.9L	3.750" 95.3mm	ALL	3000, D300, D300T, D3000, G3000 Series	HE-8A		
6 cyl	320ci	5.2L	4.000" 101.6mm	ALL	JXD, JXDT Series	HE-1		
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	JXLD Series	HE-1		
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	339, 339H, D339, D339H, DD339, DD339H, G0339 Series	HE-8		
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	D3400, G3400 Series	HE-8A		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
HOLDEN								
6 cyl	138.06ci	-	3.125" 79.4mm	1971-73	Holden Eng. 138 Red (2250) Series	HO-1		
6 cyl	149.32ci	-	3.250" 82.6mm	1963-66	Holden Eng. 149 Red Series	HO-1		
6 cyl	161.03ci	-	3.375" 85.7mm	1966-71	Holden Eng. 161 Red (2650) Series	HO-1		
6 cyl	173.18ci	-	3.500" 88.9mm	1971-80	Holden Eng. 173 Blue/Black (2850), 173 Red (2850) Series	HO-1		
6 cyl	179.42ci	-	3.563" 90.5mm	1963-66	Holden Eng. 179 Red Series	HO-1		
6 cyl	185.77ci	-	3.625" 92.1mm	1966-71	Holden Eng. 186 Red Series	HO-1		
6 cyl	201.25ci	-	3.625" 92.1mm	1971-86	Holden Eng. 202 Blue/Black (3300), 202 Red (3300) Series	HO-1		
8 cyl	252.86ci	-	3.625" 92.1mm	1980-85	Holden Eng. 253 Blue (4.2) Series (+.002 OD, No. 5 Position)	HO-2 HO-2S		
8 cyl	307.88ci	-	4.000" 101.6mm	1969-80	Holden Eng. 308 Red Series (+.002 OD, No. 5 Position)	HO-2 HO-2S		
HONDA								
4 cyl	82ci 1342cc	1.3L	2.913" 74mm	1984-87	SOHC (16 Valve) Honda Eng. D13A1, D13A2, EV1, EV2 Series			HA-2* (1/2 Shell)
4 cyl	91ci 1488cc	1.5L	2.913" 74mm	1984-87	SOHC Honda Eng. D15A2, EW1 Series			HA-2* (1/2 Shell)
4 cyl	91ci 1493cc	1.5L	2.953" 75mm	1988-91	SOHC (16 Valve) Honda Eng. D15B1, D15B2, D15B7, D15Z1 Series (1.100" Camshaft Journal Diameter)			HA-3* (1/2 Shell)
4 cyl	97ci 1590cc	1.6L	2.953" 75mm	1992-95	SOHC (16 Valve) Honda (VTEC) Eng. D16Z6 Series			HA-4* (1/2 Shell)
4 cyl	- 1829cc	1.8L	3.150" 80.7mm	1983-87	SOHC Honda Eng. A18A1, A18A2, ES1, ES2, ES3, ET1, ET2 Series			HA-1* (1/2 Shell)
4 cyl	- 1955cc	2.0L	3.258" 82.7mm	1985-89	SOHC Honda Eng. A20A1, A20A2, A20A3, A20A4, BS1, BS2, BT1, BT2 Series			HA-1* (1/2 Shell)
4 cyl	131.6ci 2156cc	2.2L	3.346" 85mm	1990-97	SOHC Honda Eng. F22A1, F22A4, F22A6, F22B1, F22B2, F22B6 Series (1.100" Camshaft Journal Diameter)			HA-3* (1/2 Shell)
HYUNDAI								
4 cyl	89.6ci 1468cc	1.5L	2.972" 75.5mm	1986-94	SOHC (8 Valve) Mitsubishi Eng. 4G15, G4AJ, G4DJ Series, Vin J, K			MIA-3* (Full Round)
4 cyl	- 1596cc	1.6L	3.028" 76.9mm	1985-90	SOHC (8 Valve) Mitsubishi Eng. 4G32, G32B Series, Vin K (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	122ci 1997cc	2.0L	3.346" 85mm	1983-98	SOHC (8 Valve)/DOHC (16 Valve) Mitsubishi Eng. 4G63, G4CP, G63B Series (Includes Turbo), Vin F (Balance Shaft Set)	MIG-3**		
4 cyl	143.4ci 2351cc	2.4L	3.406" 86.5mm	1989-91	SOHC (8 Valve) Mitsubishi Eng. G4CS Series, Vin S (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set)	MIG-3**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
IHC (NAVISTAR) TRUCK								
4 cyl	73.1ci 1198cc	1.2L	2.578" 65.5mm	ALL	IHC Eng. A55, AM80 Series	DA-2		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
IHC (NAVISTAR) TRUCK (Cont.)								
4 cyl	91ci 1489cc	1.5L	2.874" 73mm	1957-63	IHC Eng. A55, AM80 Series	DA-2		
4 cyl	132ci	2.2L	3.250" 82.6mm	ALL	OHV IHC Eng. FC, FC132, FK132 Series	WA-3		
4 cyl	152ci	2.5L	3.875" 98.4mm	1961-71	OHV IHC Eng. 4-152, 4-152T, B-152 Series	IN-11		
6 cyl	175ci	2.9L	3.000" 76.2mm	ALL	IHC/Navistar (L-Head) Eng. GRD175, GRD175A, HD174 Series	J-1		
6 cyl	193ci	3.2L	3.250" 82.6mm	ALL	IHC/Navistar (L-Head) Eng.	J-1		
4 cyl	196ci	3.2L	4.125" 104.8mm	1967-80	OHV IHC/Navistar Eng. 4-196, 4-196E Series	IN-11		
6 cyl	198ci 3246cc	3.2L	3.268" 83mm	1976-80	OHV Nissan Diesel/Turbo Diesel Eng. 6-33, 6-33T, IN633, SD33 Series	DA-5		
6 cyl	214ci	3.5L	3.313" 84.2mm	1937-49	IHC (L-Head) Eng. HD3, HD4 Series	J-1		
6 cyl	220ci	3.6L	3.563" 90.5mm	1950-68	OHV IHC Eng. BD220, BG220, SD220, U220 Series	IN-14		
6 cyl	232ci	3.8L	3.750" 95.3mm	1969-71	OHV AMC Eng. 6-232 Series (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	233ci	3.8L	3.313" 84.2mm	ALL	IHC (L-Head) Eng. GRD233, GRD233A, HD232, HD232A Series	J-1		
6 cyl	240ci	3.9L	3.563" 90.5mm	1956-70	OHV IHC Eng. BD240, BG241, SD240 Series	IN-14		
6 cyl	241ci	3.9L	3.375" 85.7mm	1937-40	IHC Eng. BG241 Series	IN-14		
6 cyl	242ci	4.0L	3.375" 85.7mm	ALL	OHV IHC Eng.	J-1		
6 cyl	258ci	4.2L	3.750" 95.3mm	1972-74	OHV AMC Eng. 6-258 Series (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	259ci	4.3L	3.500" 88.9mm	ALL	OHV IHC Eng. FAB259 Series	J-1		
6 cyl	264ci	4.3L	3.688" 93.7mm	1955-69	OHV IHC Eng. BD264, BG264, BG265, SD264 Series	IN-14		
8 cyl	266ci	4.4L	3.625" 92.1mm	1959-70	OHV IHC Eng. V266 Series	IN-11		
6 cyl	301ci	4.9L	3.813" 96.9mm	1963-70	IHC Diesel/Turbo-Diesel Eng. D301, DT301 Series	IN-14		
8 cyl	304ci	5.0L	3.875" 98.4mm	1959-80	OHV IHC Eng. V304, V304E Series	IN-11		
6 cyl	318ci	5.2L	3.875" 98.4mm	1944-47	IHC Eng. RED318, RED318A Series	IN-3		
8 cyl	345ci	5.6L	3.875" 98.4mm	1961-82	OHV IHC Eng. V345, V345A, V345E Series	IN-11		
6 cyl	360ci	5.9L	3.875" 98.4mm	1987-94	IHC Diesel/Turbo-Diesel Eng. D360, DT360 Series	IN-19		
6 cyl	361ci	5.9L	4.125" 104.8mm	1938-49	IHC Diesel/Turbo-Dieses Eng. D361, DT361, FBB361, FBC361, RED361, RED361A Series	IN-3		
8 cyl	365ci	6.0L	3.740" 94.99mm	2002-07	International Turbo-Diesel Eng. VT365 Series, Vin AF	IN-21		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
IHC (NAVISTAR) TRUCK (Cont.)								
6 cyl	372ci	6.1L	4.375" 111.1mm	1954-69	IHC Eng. RD372, RED372 Series	IN-3		
8 cyl	392ci	6.4L	4.125" 104.8mm	1966-85	OHV IHC Eng. V392, V392E, UV392 Series.	IN-11		
8 cyl	400ci	6.6L	4.165" 105.8mm	1974	OHV AMC Eng. V400 Series (+.010 OD)	N-9 N-9R1		
6 cyl	401ci	6.6L	4.125" 104.8mm	1949-74	OHV IHC Eng. 1FBC401, RED401, RED401A, RED401B Series	IN-3		
8 cyl	401ci	6.6L	4.125" 104.8mm	1960-74	OHV IHC Eng. V401, VS401, UV401 Series	IN-10A		
8 cyl	404ci	6.6L	4.125" 104.8mm	1975-82	OHV IHC Eng. MV404 Series (+.020 OD)	IN-17 IN-17R2		
6 cyl	406ci	6.7L	4.375" 111.1mm	1954-74	IHC Eng. R406, RD406, RED406, U406 Series	IN-3		
6 cyl	414ci	6.8L	4.300" 109.2mm	ALL	IHC Diesel Eng. D414, DT414 Series	IN-19		
8 cyl	420ci	6.9L	4.000" 101.6mm	1982-88	Navistar Diesel Eng. D421 Series (+.020 OD)	IN-17 IN-17R2		
6 cyl	436ci	7.1L	4.300" 109.2mm	ALL	IHC Diesel/Turbo-Diesel Eng. D436, DT436, DT436B Series	IN-19		
8 cyl	444ci	7.3L	4.110" 104.4mm	1988-94	OHV IHC (IDI) Diesel/Turbo-Diesel Eng. (+.020 OD)	IN-17 IN-17R2		
8 cyl	446ci	7.3L	4.125" 104.8mm	1975-81	IHC Eng. MV446 Series (+.020 OD)	IN-17 IN-17R2		
6 cyl	450ci	7.4L	4.375" 111.1mm	1954-74	IHC Eng. RD450, RED450, RED450A, RED450B, RED450C, RED450D, RED450U Series	IN-3		
8 cyl	461ci	7.6L	4.125" 104.8mm	1960-73	IHC Gas/Diesel Eng. DV462, DV462B, UV461, V461, VS461 Series	IN-10A		
6 cyl	464ci	7.6L	4.437" 112.7mm	1968-71	OHV Cummins Diesel/Turbo-Diesel Eng. C160-C180 Series	CU-5A		
6 cyl	466ci	7.6L	4.300" 109.2mm	1975-00	IHC Diesel/Turbo-Diesel Eng. D466, DT466, DT466B, DT466C, DTA466C, DTI466B, DTI466C Series	IN-19		
8 cyl	478ci	7.8L	4.500" 114.3mm	1965-77	IHC Eng. V478, VS478 Series	IN-10A		
6 cyl	501ci	8.2L	4.500" 114.3mm	1960-74	IHC Eng. R501, RD501, RED501, U501 Series	IN-3		
8 cyl	522ci	8.6L	4.500" 114.3mm	1974	OHV Caterpillar Diesel Eng. 1140, 1145, 3145 Series	CAT-2		
8 cyl	537ci	8.8L	4.625" 117.5mm	1977-81	IHC Eng. V537, VS537 Series	IN-10A		
8 cyl	549ci	9.0L	4.500" 114.3mm	1961-79	IHC Diesel Eng. FTV549, FTVS549, V549, VS549, VT549, UV549 Series	IN-10A		
8 cyl	551ci	9.0L	4.510" 114.6mm	1980-88	IHC Diesel Eng. DV550, DV-B550, D551 Series	IN-10A		
8 cyl	573ci	9.4L	4.500" 114.3mm	1974	OHV Caterpillar Diesel Eng. 1150, 3150 Series	CAT-2		
8 cyl	605ci	9.9L	4.625" 117.5mm	ALL	IHC Eng. C605, V605 Series	IN-10A		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
IHC (NAVISTAR) TRUCK (Cont.)								
8 cyl	636ci	10.4L	4.500" 114.3mm	1973-81	OHV Caterpillar Diesel/Turbo-Diesel Eng. 1160, 3160, 3208, 3208T Series	CAT-2		
6 cyl	743ci	12.2L	5.125" 130.2mm	1968-71	OHV Cummins Diesel Eng. NH-NHE180, NHE195, NH220 Series (Small Cam Series)	CU-5A		
6 cyl	743ci	12.2L	5.125" 130.2mm	ALL	OHV Cummins Diesel Eng. HRF6B Series (2.500" Big Cam Series, 3/32 Wall)	CU-9		
6 cyl	855ci	14.0L	5.500" 139.7mm	1968-83	OHV Cummins Diesel Eng. NH-NHC230, NH-NHC250, NHCT-CT, NHCT270, NTA370, NTC270-NTC400, PT270 Series (Small Cam Series)	CU-5A		
6 cyl	855ci	14.0L	5.500" 139.7mm	1977-83	OHV Cummins Diesel Eng. NH-NHC230, NH-NHC250, NHCT-CT, NHCT270, NTA370, NTC270-NTC400, PT270 (2.500" Big Cam Series, 3/32 Wall)	CU-9		
6 cyl	927ci	15.2L	5.500" 139.7mm	1973-74	OHV Cummins Diesel Eng. N927, Super 250, Super 270, Super 300, Super 330 Series	CU-5A		
IHC TRACTOR & INDUSTRIAL								
4 cyl	69ci	1.1L	2.500" 63.5mm	ALL	Continental (L-Head) Eng. LY69, PY69, Y4069, Y69 Series	CO-3		
4 cyl	112ci	1.8L	3.187" 80.95mm	ALL	Continental (L-Head) Eng. Y112 Series	CO-3		
4 cyl	132ci	2.2L	3.250" 82.6mm	ALL	OHV IHC Eng. CK, FC, FC132, FG132, FK132, FL Series	WA-3		
4 cyl	144ci	2.4L	3.375" 85.7mm	ALL	IHC Gas/Diesel Eng. BC144, BD144, BD144C Series	IN-18		
4 cyl	152ci	2.5L	3.375" 85.7mm	ALL	IHC Eng. C152, U-4 Series	IN-15		
4 cyl	153ci	2.5L	3.375" 85.7mm	ALL	IHC Eng. UC153 Series (Early)	IN-15		
4 cyl	154ci	2.5L	3.500" 88.9mm	ALL	IHC Gas/Diesel Eng. BD154, BD154T Series	IN-18		
4 cyl	164ci	2.7L	3.500" 88.9mm	ALL	IHC Eng. C164, U164 Series	IN-15		
4 cyl	166ci	2.7L	3.688" 93.7mm	ALL	IHC Diesel Eng. D166 Series	IN-12		
4 cyl	169ci	2.8L	3.563" 90.5mm	ALL	IHC Eng. C169, U169 Series	IN-15		
6 cyl	174ci	2.8L	3.000" 76.2mm	ALL	IHC Eng. HD174 Series	IN-15		
4 cyl	175ci	2.8L	3.625" 92.1mm	ALL	IHC Eng. C175, U175 Series (Early)	IN-15		
4 cyl	175ci	2.9L	3.563" 90.5mm	ALL	IHC Eng. C175 Series (Late)	IN-15		
4 cyl	188ci	3.1L	3.688" 93.7mm	ALL	IHC Diesel Eng. D188 Series	IN-12		
4 cyl	193ci	3.2L	3.750" 95.3mm	ALL	Continental Diesel Eng. D193 Series	CO-9		
6 cyl	193ci	3.2L	3.250" 82.6mm	ALL	IHC Eng. 193 Series	J-1		
6 cyl	213ci	3.5L	3.313" 84.2mm	ALL	IHC Eng. HD213 Series	J-1		
6 cyl	214ci	3.5L	3.313" 84.2mm	ALL	IHC Eng. 214 Series	J-1		
6 cyl	220ci	3.6L	3.563" 90.5mm	ALL	IHC Eng. BD220, C220, UC220 Series	IN-14		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
IHC TRACTOR & INDUSTRIAL (Cont.)								
6 cyl	221ci	3.6L	3.563" 90.5mm	ALL	IHC Eng. C221, UC221 Series	IN-14		
6 cyl	232ci	3.8L	3.313" 84.2mm	ALL	IHC Eng. HD232 Series	J-1		
6 cyl	232ci	3.8L	3.750" 95.3mm	ALL	OHV AMC (Hi-Torque) Eng. C232 Series (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	233ci	3.8L	3.375" 95.3mm	ALL	IHC Eng. GRD233 Series	J-1		
6 cyl	236ci	3.9L	3.688" 93.7mm	ALL	IHC Diesel Eng. C236, D236, UD236 Series	IN-14		
4 cyl	248ci	4.1L	3.875" 98.4mm	ALL	IHC Eng. C248, U6 Series	IN-5		
6 cyl	263ci	4.3L	3.563" 90.5mm	ALL	IHC Eng. C263, U263, UC263 Series	IN-14		
4 cyl	264ci	4.3L	4.000" 101.6mm	ALL	IHC Gas/Diesel Eng. C264, D264, U264, UD264, UD264A Series	IN-5		
6 cyl	264ci	4.3L	3.688" 93.7mm	ALL	OHV IHC Eng. BD264 Series	IN-14		
4 cyl	281ci	4.6L	4.125" 104.8mm	ALL	IHC Gas/Diesel Eng. C281, D281, U281 Series	IN-5		
6 cyl	282ci	4.6L	3.688" 93.7mm	ALL	IHC Gas/Diesel Eng. C282, D282, D282H, DT282, UDT282 Series	IN-14		
6 cyl	291ci	4.8L	3.750" 95.3mm	ALL	IHC Eng. C291 Series	IN-14		
6 cyl	301ci	4.9L	3.813" 96.9mm	ALL	IHC Gas/Diesel Eng. C301, D301, DT301, UC301 Series	IN-14		
8 cyl	304ci	5.0L	3.875" 98.4mm	ALL	OHV IHC Eng. V304 Series	IN-11		
6 cyl	312ci	5.1L	3.875" 98.4mm	ALL	IHC Diesel Eng. D312, DT312, UD312 Series	IN-19		
8 cyl	345ci	5.6L	3.875" 98.4mm	ALL	OHV IHC Eng. V345 Series	IN-11		
6 cyl	360ci	5.9L	3.875" 98.4mm	ALL	IHC Diesel Eng. D360, DT360, UD360 Series	IN-19		
6 cyl	361ci	5.9L	4.125" 104.8mm	ALL	IHC Diesel/Turbo-Diesel Eng. D361, DT361, UD361 Series	IN-16		
6 cyl	372ci	6.1L	4.375" 111.1mm	ALL	IHC Eng. R372, RD372, RED372, U372, UR372 Series	IN-3		
8 cyl	392ci	6.4L	4.125" 104.8mm	ALL	OHV IHC Eng. V392 Series	IN-11		
6 cyl	406ci	6.7L	4.375" 111.1mm	ALL	IHC Eng. R406, RD406, RED406, U406 Series	IN-3		
6 cyl	407ci	6.7L	4.321" 109.7mm	ALL	IHC Diesel/Turbo-Diesel Eng. D407, DT407 Series	IN-16		
6 cyl	414ci	6.8L	4.300" 109.2mm	ALL	IHC Diesel Eng. D414, DT414, UD414 Series	IN-19		
6 cyl	436ci	7.1L	4.300" 109.2mm	ALL	IHC Diesel/Turbo-Diesel Eng. D436, DT436, DT436B Series	IN-19		
6 cyl	450ci	7.4L	4.375" 111.1mm	ALL	IHC Eng. R450, U450, UR450 Series	IN-3		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
IHC TRACTOR & INDUSTRIAL (Cont.)								
6 cyl	466ci	7.6L	4.300" 109.2mm	ALL	IHC Diesel/Turbo-Diesel Eng. D466, DT466, DT466B, DT466C, DTA466C, DTI466B, DTI466C, UD466 Series	IN-19		
6 cyl	501ci	8.2L	4.500" 114.3mm	ALL	IHC Eng. U501, UR501 Series	IN-3		
8 cyl	551ci	9.0L	4.510" 114.6mm	ALL	IHC Diesel Eng. DV550, DV551 Series	IN-10A		
8 cyl	605ci	9.9L	4.625" 117.5mm	ALL	IHC Eng. C605 Series	IN-10A		
8 cyl	743ci	12.2L	5.125" 130.2mm	ALL	OHV Cummins Diesel Eng. NRT, NTO Series (Small Cam Series)	CU-5A		
8 cyl	743ci	12.2L	5.125" 130.2mm	1977-On	OHV Cummins Diesel Eng. HRB Series (2.500" Big Cam Series, 3/32 Wall)	CU-9		
8 cyl	855ci	14.0L	5.500" 139.7mm	ALL	OHV Cummins Diesel Eng. NT, NTA, NTC, NTE, NTF, NTO Series (2.500" Big Cam Series, 3/32 Wall)	CU-5A		
8 cyl	855ci	14.0L	5.500" 139.7mm	1977-On	OHV Cummins Diesel Eng. NT, NTA, NTC, NTE, NTF, NTO Series	CU-9		
ISUZU (Also see GENERAL MOTORS)								
4 cyl	80.8ci 1325cc	1.3L	2.953" 75mm	1966-72	SOHC Isuzu Eng. G130 Series (Auxiliary Shaft Set)	CHG-14**		
4 cyl	89.7ci 1471cc	1.5L	3.031" 77mm	1969-70	SOHC Isuzu Eng. 4XC1, 4XC1T Series (Includes Turbo) (Auxiliary Shaft Set)	CHG-14**		
4 cyl	96.6ci 1584cc	1.6L	3.228" 82mm	1966-79	OHV Isuzu Eng. G161 Series (Auxiliary Shaft Set)	CHG-14**		
4 cyl	- 1817cc	1.8L	3.307" 84mm	1981-85	SOHC Isuzu Eng. G180, G180S, G180SS, G180Z Series, Vin B, N (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Auxiliary Shaft Set)	CHG-14**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 1949cc	1.9L	3.425" 87mm	1983-87	SOHC Isuzu Eng. G200, G200W, G200Z Series, Vin A (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Auxiliary Shaft Set)	CHG-14**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	119ci 1951cc	2.0L	3.385" 86mm	1968-79	OHV Isuzu Eng. G201 Series	IZ-2		
4 cyl	119ci 1951cc	2.0L	3.385" 86mm	1972-88	OHV Isuzu Diesel Eng. C190 Series	IZ-3		
4 cyl	134ci 2180cc	2.2L	3.504" 89mm	1996-00	OHV Chevrolet Eng. LN2 Series, Vin 4, 5 (.002 Under ID)	CH-19 CH-19X2		
4 cyl	- 2207cc	2.2L	3.268" 83mm	1964-79	OHV Isuzu Diesel Eng. C220, C221 Series	IZ-2		
4 cyl	- 2238cc	2.2L	3.465" 88mm	1981-82	OHV Isuzu Diesel Eng. C223 Series	IZ-2		
4 cyl	- 2238cc	2.2L	3.465" 88mm	1983-87	OHV/SOHC Isuzu Diesel/Turbo-Diesel Eng. C223, C223T, LQ7, LW7 Series, Vin S, U	IZ-3		
4 cyl	- 2254cc	2.3L	3.516" 89.3mm	1986-95	SOHC Isuzu Eng. 4ZD1, LW3 Series, Vin L (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	144.6ci 2369cc	2.4L	3.386" 86mm	1969-88	OHV Isuzu Diesel Eng. C240 Series	IZ-2		
4 cyl	- 2499cc	2.5L	3.661" 93mm	1985-90	OHV Isuzu Diesel Eng. 4JA1 Series	IZ-5		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
ISUZU (Also see GENERAL MOTORS) (Cont.)								
4 cyl	- 2559cc	2.6L	3.646" 92.6mm	1988-97	SOHC Isuzu Eng. 4ZE1, RLJ Series, Vin E (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 2772cc	2.8L	3.661" 93mm	1985-90	OHV Isuzu Diesel/Turbo-Diesel Eng. 4JB1, 4JB1T Series	IZ-5		
4 cyl	- 2775cc	2.8L	3.858" 98mm	1973-76	OHV Isuzu Diesel Eng. 4BA1 Series	IZ-6		
4 cyl	- 2775cc	2.8L	3.858" 98mm	1977-90	OHV Isuzu Diesel Eng. 4BA1 Series	IZ-7		
6 cyl	- 2827cc	2.8L	3.500" 88.9mm	1989-91	OHV Chevrolet Eng. LL2 Series (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
6 cyl	- 3137cc	3.1L	3.504" 89mm	1991-94	OHV Chevrolet Eng. CPC, LG6 Series (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
4 cyl	- 3268cc	3.3L	4.016" 102mm	1979-88	OHV Isuzu Diesel Eng. 4BC1, 4BC2 Series	IZ-7		
4 cyl	- 3595cc	3.6L	4.016" 102mm	1973-76	OHV Isuzu Diesel Eng. 4BB1 Series	IZ-6		
4 cyl	- 3595cc	3.6L	4.016" 102mm	1977-90	OHV Isuzu Diesel Eng. 4BB1 Series	IZ-7		
4 cyl	236ci 3856cc	3.9L	4.016" 102mm	1985-98	OHV Isuzu Diesel/Turbo-Diesel/Turbo-Intercooled Diesel Eng. 4BD1, 4BD1N, 4BD1T, 4BD2TC Series	IZ-7		
6 cyl	262ci 4294cc	4.3L	4.000" 101.6mm	1997-00	OHV Chevrolet (Vortec H.O.) Eng. LB4, LF6 Series, Vin X, W (Except Engines Stamped With Identification Numbers Located On Front Of Block Starting With T) (.001 Under ID) (Balance Shaft Rear Bearing, Includes Tool) (Cam Bearing & Balance Shaft Kit)	CH-17 CH-17X CHG-15A** CH-17G	CHP-17 or CHP-17T (Coated)	
6 cyl	262ci 4294cc	4.3L	4.000" 101.6mm	1997-00	OHV Chevrolet (Vortec H.O.) Eng. LB4, LF6 Series, Vin X, W (Engines Stamped With Identification Number On Front Of Block Starting With T) (.001 Under ID) (Balance Shaft Rear Bearing, Includes Tool) (Cam Bearing & Balance Shaft Kit)	CH-21 CH-21X CHG-15A** CH-21G	CHP-21 or CHP-21T (Coated)	
6 cyl	- 4978cc	5.0L	3.858" 98mm	1970-88	OHV Isuzu Diesel Eng. D500 Series	IZ-8		
6 cyl	- 5393cc	5.4L	4.016" 102mm	1972-90	OHV Isuzu Diesel Eng. 6BB1 Series	IZ-8		
8 cyl	350ci 5736cc	5.7L	4.000" 101.6mm	1992-02	OHV Chevrolet Eng. CPC Series, Vin A, R	CH-8	CHP-8 or CHP-8T (Coated)	
6 cyl	353ci 5785cc	5.8L	4.016" 102mm	1976-90	OHV Isuzu Diesel/Turbo-Diesel Eng. 6BD1, 6BD1T Series, Vin N	IZ-8		
6 cyl	- 6130cc	6.1L	4.016" 102mm	1979-90	OHV Isuzu Diesel Eng. 6BF1 Series	IZ-8		
6 cyl	396ci 6494cc	6.5L	4.134" 105mm	1984-94	OHV Isuzu Diesel Eng. 6BG1 Series	IZ-8		
JEEP (WILLYS) (Also see AMERICAN MOTORS & CHRYSLER)								
4 cyl	134ci	2.2L	3.125" 79.4mm	1941-71	Jeep/Willys (F-Head, Hurricane)/(L-Head, Lightning) Eng. Vin 4, F, J, R, T	J-1		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
JEEP (WILLYS) (Also see AMERICAN MOTORS & CHRYSLER) (Cont.)								
4 cyl	141.5ci	2.3L	3.875" 98.4mm	ALL	Jeep/Willys (L-Head) Eng.	F-25		
4 cyl	144.6ci 2369cc	2.4L	3.386" 86mm	1981-86	OHV Isuzu Diesel Eng. C240 Series	IZ-2		
4 cyl	150ci	2.5L	3.313" 84.1mm	1966-67	Continental Eng.	CO-3		
4 cyl	150ci	2.5L	3.875" 98.4mm	1983-02	OHV AMC Eng. Vin E, H, P, U (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
4 cyl	151ci	2.5L	4.000" 101.6mm	1980-83	OHV Pontiac Eng. Vin B (.001 Under ID)	CH-16 CH-16W		
6 cyl	173ci 2835cc	2.8L	3.504" 89mm	1984-86	OHV Chevrolet Eng. Vin W (Special Bearing Set w/ Wide No. 2, 3 Position) (Oversize OD - See Set Contents) (Oversize OD - See Set Contents)	CH-18 CH-18A CH-18RS CH-18R8		
6 cyl	225ci 3687cc	3.7L	3.750" 95.3mm	1966-71	OHV Buick Eng.	B-6		
6 cyl	226ci 3687cc	3.7L	3.313" 84.1mm	1947-63	OHV Continental (F-Head)/(L-Head) Eng. Vin T	K-1		
6 cyl	232ci	3.8L	3.750" 95.3mm	1964-78	OHV AMC (Hi-Torque) Eng. Vin E (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	242ci	4.0L	3.875" 98.4mm	1987-01	OHV AMC/Chrysler Eng. Vin L, M, S, V (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
6 cyl	242ci	4.0L	3.875" 98.4mm	2002-06	OHV Chrysler Eng. Vin S	N-10		
6 cyl	258ci	4.2L	3.750" 95.3mm	1971-90	OHV AMC Eng. Vin A, C, M, T (Special Oil Control Set w/ OD Groove No. 2, 3 Position)	N-7 N-7B		
8 cyl	304ci	5.0L	3.750" 95.3mm	1971-81	OHV AMC Eng. Vin H (+.010 OD)	N-9 N-9R1		
8 cyl	318ci	5.2L	3.910" 99.3mm	1993-98	OHV Chrysler Eng. Vin Y	PD-25	PDP-25 or PDP-25T (Coated)	
8 cyl	327ci	5.4L	4.000" 101.6mm	1965-68	OHV AMC (Vigilante) Eng. Vin E	H-5		
8 cyl	350ci	5.7L	3.800" 96.5mm	1968-71	OHV Buick Eng. Vin 9, K	B-9	BP-9 or BP-9T (Coated)	
8 cyl	360ci	5.9L	4.000" 101.6mm	1998	OHV Chrysler Eng. Vin Z	PD-25	PDP-25 or PDP-25T (Coated)	
8 cyl	360ci	5.9L	4.080" 103.6mm	1971-91	OHV AMC Eng. Vin 7, N, P (+.010 OD)	N-9 N-9R1		
8 cyl	401ci	6.6L	4.165" 105.8mm	1974-78	OHV AMC Eng. Vin Z (+.010 OD)	N-9 N-9R1		
JOHN DEERE								
2 cyl	100ci	1.6L	4.000" 101.6mm	ALL	John Deere Eng. 40, 320, 330, 435, M Series, Crawler-Tractor: 40-40U, M, MC, MCT, MI, MT Series	JD-5		

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** Denotes Auxiliary / Balance Shaft Bearing.

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
JOHN DEERE (Cont.)								
2 cyl	113ci	1.9L	4.250" 108mm	1956-60	John Deere Eng. 113 Series, Crawler-Tractor: 420, 430, 430c, 440 Series	JD-5		
4 cyl	115ci	1.9L	3.500" 88.9mm	1961-71	John Deere Eng. 1010, 115, JD115 Series, Combine-Tractor: EA, 115G, HA 115G, HB 115, 115G, GH, NA 115G	JD-1		
4 cyl	145ci	2.4L	3.625" 92.1mm	1961-71	John Deere Gas/Diesel Eng. 145, 2010 Series, Combine-Tractor: EA 145G, HA 145, 145G, HB145, 145G, HC 145G, L, TA 145G, L	JD-1		
4 cyl	155ci	2.5L	3.750" 95.3mm	ALL	John Deere Diesel Eng. 155, HA155D Series, Combine-Tractor, Power Unit: 45, 155	JD-1		
4 cyl	162ci	2.6L	3.438" 87.3mm	ALL	Continental Eng. F162 Series, Combine: No. 8	CO-8		
4 cyl	165ci	2.7L	3.875" 98.4mm	1961-71	John Deere Gas/Diesel Eng. 165, 2010 Series, Combine-Tractor: 40, 45, HA 165G, HB 165D, HB 165G	JD-1		
4 cyl	188ci	3.1L	3.750" 95.3mm	ALL	Hercules Eng. JX4C3 Series, Combine-Tractor: 45	HE-1		
4 cyl	198ci	3.3L	3.750" 95.3mm	ALL	OHV Hercules Eng. DD-198, DOOB, D2000 Series, Combine: No. 5, 10-12 Cut	HE-1		
4 cyl	201ci	3.3L	4.000" 101.6mm	ALL	John Deere Eng. 201, 3010 Series 201G Loader/Tractor: 500C, 510, JD500	JD-3		
4 cyl	202ci	3.3L	3.858" 98mm	1966-75	John Deere Gas/Diesel/LPG Eng. 202, 4-202D, 4-202G Series, 45, 3300, 4400 Series Combine; JD480A Series Forklift; 310, 401, 410 Series Loader; 499 Series Picker/ Stripper; 202 Series Power Unit; 400-2520 Series Tractor; 880, 2270, 2280 Series Windrower (Balance Shaft Set)	JDG-7**		
6 cyl	217ci	3.6L	3.625" 92.1mm	ALL	John Deere Eng. EA, HA217G & L, HB217L, HC217, G, L, HD217, G, L, HG217G, NA217G, NA217L, NB217G, NB217L, TA217G, L, N, 217 Gas Eng. & Power Unit. Combine: 55, 55R, 65, 67R, 90, 95, 95H, 95R Forage Harvester: 12 Series	JD-2		
4 cyl	219ci	3.6L	4.020" 102.1mm	1966-75	John Deere Diesel/Turbo-Diesel Eng. 4-219D, 4-219T Series, 3300, 4400 Series Combine; JD 310, 401, 410 Series Loader; 219 Series Power Unit; 440-2420 Series Tractor (Balance Shaft Set)	JDG-7**		
4 cyl	222ci	3.6L	3.375" 85.7mm	ALL	Hercules Eng. QXC Series, Combine: No. 5A, No. 9 Prairie, No.35 Hillside, 55, 55R, 65	HE-5		
4 cyl	225ci	3.7L	3.400" 86.4mm	1960-78	OHV Chrysler (Slant 6) Eng. (Early Series With Forged Crankshaft)	PD-18		
4 cyl	225ci	3.7L	3.400" 86.4mm	1979-87	OHV Chrysler (Slant 6) Eng. (Late Series With Cast Crankshaft)	PD-21		
4 cyl	226ci	3.7L	4.000" 101.6mm	ALL	Hercules Eng. DOOC, DD-G0226, D-G2300 Series, No. 5A, No.35 Hillside	HE-1		
4 cyl	227ci	3.7L	4.250" 108mm	ALL	John Deere Gas/LPG Eng. 3020, 4227G, 4227LP Series, Tractor: JD500, JD500B, JD510	JD-3		
6 cyl	230ci	3.8L	3.438" 87.3mm	ALL	Hercules Eng. QXD-3 Series Power Unit. Combine: No. 5A, No. 9 Prairie, No.35 Hillside, 55, 55R, 65	HE-5		
6 cyl	232ci	3.8L	3.875" 98.4mm	ALL	John Deere Diesel Eng. HA232D Series, Combine 95, 95H	JD-2		
4 cyl	239ci	3.9L	4.188" 106.4mm	1966-75	John Deere Diesel/Turbo-Diesel Eng. 4-239D, 4-239T, 4039, 4239D Series; 4239 Series Tractor (Balance Shaft Set)	JDG-7**		
4 cyl	241ci	3.9L	4.125" 104.8mm	ALL	John Deere Eng. 4241G Series; Loader: 500C, 510, 3010, 3020, JD500	JD-3		
6 cyl	248ci	4.1L	3.875" 98.4mm	ALL	John Deere Eng. BA248G, HA 248G, HB248G, L, NA 248G, 248 Series Power Unit/Diesel Eng. Combine: 95, 95H	JD-2		
4 cyl	254ci	4.2L	4.125" 104.8mm	ALL	John Deere Diesel Eng. 4254D Series; Loader: 500C, 510 Tractor: JD500A, 3010	JD-3		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
JOHN DEERE (Cont.)								
4 cyl	270ci	4.4L	4.250" 108mm	ALL	John Deere Diesel Eng. 4270D Series; Loader: JD500, JD500A, B, C, JD510 Series. Tractor: 3020 Series	JD-3		
4 cyl	276ci	4.5L	4.188" 106.4mm	ALL	John Deere Diesel/Turbo-Diesel Eng. 4045D, T, 276D, 4276D, 4276T, JD550 Series Crawler; 440C, 540, 555 Series Loader; 4276D, T Series Power Unit; 2630, 2640, JD440C, JD540 Series Tractor (Balance Shaft Set)	JDG-7**		
6 cyl	282ci	4.6L	3.750" 95.3mm	ALL	Hercules Eng. JXC, JXCT Series; No. 17, 12-20 Cut, No.36- 36A-36B-36H-36P all 12-20 Cut	HE-1		
6 cyl	302ci	4.9L	4.000" 101.6mm	ALL	John Deere Eng. Series 4010; Combine: 105, Wheel Tractor: 4000, 4010, 4020, 4230	JD-4		
6 cyl	329ci	5.4L	4.020" 102.1mm	ALL	John Deere Diesel/Turbo-Diesel Eng. HF329G, NB329 Series, 329DH-GH-GN- LN, 6329D, 6329G, 6329T	JD-4		
6 cyl	340ci	5.6L	4.250" 108mm	ALL	John Deere Gas/LPG Eng. 340, 341, HA341G, HG341G Series; Combine: 105, 105R; Tractor: JD600, 4020	JD-4		
6 cyl	359ci	5.9L	4.188" 106.4mm	ALL	John Deere Gas/Diesel Eng. 6359D, 6359G, Series; Tractor: 2940 Series	JD-4		
6 cyl	360ci	5.9L	4.250" 108mm	ALL	John Deere Gas/Diesel Eng. M21HA, 362GH-01, 02; 362GHA, 720, 730 Series	JD-4		
6 cyl	381ci	6.2L	4.125" 104.8mm	ALL	John Deere Diesel Eng. 6381D Series; Power Unit: 4010; Tractor: JD600-690, 4010 Series	JD-4		
6 cyl	404ci	6.6L	4.250" 108mm	ALL	John Deere Diesel Eng. M23HA, 404D, 404DH-01, 02; 404DHA, 6404D, DH, TH Series; Combine: 105-7700 Series Loader/Tractor: 4000-4520 Series; JD600-JD690A Series	JD-4		
6 cyl	466ci	7.6L	4.563" 115.9mm	ALL	John Deere Diesel/Turbo-Diesel Eng. 466, 6466A, 6466D, 6466T, 6466TA, 6466TH Series; Combine: 6602- 8820; Tractor: 790-4850 Series	JD-4		
6 cyl	531ci	8.7L	4.750" 120.7mm	ALL	John Deere Diesel/Turbo-Diesel Eng. 531, 6531D Series; Harvester: 5010-5460; Tractor: JD644C-JD772A	JD-4		
6 cyl	619ci	10.1L	5.125" 130.2mm	ALL	John Deere Diesel/Turbo (Intercooled) Diesel Eng. 619, 6619A, 6619TA Series; Tractor: JD850-890; 5440-8650	JD-4		
KOMATSU								
6 cyl	743ci	12.2L	5.125" 130.2mm	ALL	Cummins/Komatsu Diesel Eng. NH220 Series (Small Cam Series); Komatsu Machine Models D60, D65, D75, D80A-12, D85A-12	CU-5A		
6 cyl	855ci	14.0L	5.500" 139.7mm	ALL	Cummins/Komatsu Diesel Eng. NT855 Series (Small Cam Series); Komatsu Machine Models D80A-18, D85A-18, D95S-2	CU-5A		
LE ROI								
4 cyl	176ci	2.9L	3.750" 95.3mm	ALL	Le Roi (Early D Model) Eng. D176 Series	A-2		
4 cyl	201ci	3.3L	4.000" 101.6mm	ALL	Le Roi (Early D Model) Eng. D201 Series	A-2		
4 cyl	226ci	3.7L	4.000" 101.6mm	ALL	Le Roi (Early D Model) Eng. D226 Series	A-2		
6 cyl	382ci	6.2L	4.500" 114.3mm	ALL	Le Roi Eng. 60 G1 Series	A-2		
MACK TRUCK								
4 cyl	98ci	1.6L	3.125" 79.4mm	ALL	Continental Eng.	CO-8		
4 cyl	113ci	1.9L	3.000" 76.2mm	ALL	Continental Eng.	CO-8		
4 cyl	123ci	2.0L	3.125" 79.4mm	ALL	Continental Eng.	CO-8		
4 cyl	133ci	2.2L	3.250" 82.6mm	ALL	Continental Eng.	CO-8		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
MACK TRUCK (Cont.)								
4 cyl	140ci	2.3L	3.188" 80.98mm	ALL	Continental (L-Head) Eng.	CO-8		
4 cyl	145ci	2.4L	3.250" 82.6mm	ALL	Continental Eng.	CO-8		
6 cyl	209ci	3.4L	3.188" 80.98mm	1936-48	Continental Eng. EN-11 Series	K-1		
6 cyl	226ci	3.7L	3.313" 84.1mm	1939-42	Continental Eng. EN-12, EN226 Series	K-1		
6 cyl	253ci	4.1L	3.500" 88.9mm	1950-55	Continental Eng. EN-253, FO Series	CO-7		
6 cyl	271ci	4.4L	3.625" 92.1mm	ALL	Continental Eng. EN-271, FK, FM Series	CO-7		
6 cyl	290ci	4.8L	3.750" 95.3mm	ALL	Continental Eng. EN-290, FK, FM Series.	CO-7		
6 cyl	330ci	5.4L	4.000" 101.6mm	ALL	Continental Eng. EN-330, EN-331 Series	CO-7		
8 cyl	413ci	6.7L	4.188" 106.4mm	ALL	OHV Chrysler/Mack Eng. EN-414, EN414A Series (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
6 cyl	672ci	11.0L	4.875" 123.8mm	ALL	Cummins/Mack Eng. EN-END-ENDS672, END673, ENDT673 Series (Early Design, Slotted Bearings In Position 2 And 5) (Auxiliary Shaft Set)	MA-5 MAG-10**		
6 cyl	672ci	11.0L	4.875" 123.8mm	ALL	Cummins/Mack Eng. END673, END675, END676, ENDL-ENDLT, ENDT673 (Engs. After Serial# ENDT-673-62-63), END675, ENDT-ENDTB676, ENTAB675, ETAB673, ETAB675, ETAB676, ETAY-ETAZ673, ETB-ETC-ETS673, ETSZ676, ETSZB676, ETSZ677, ETSZB677, ETY-ETZ673, ETZB673 (Auxiliary Shaft Set)	MA-6 MAG-10**		
6 cyl	672ci	11.0L	4.875" 123.8mm	ALL	Cummins/Mack Eng. (Late Design After 4/84 With #7 Journal Of 2.440" Diameter) (Auxiliary Shaft Set)	MA-7 MAG-10**		
6 cyl	680ci	11.0L	4.875" 123.8mm	ALL	Mack Eng. E6, EM6 Series (Early Design, Slotted Bearings In Position 2 And 5) (Auxiliary Shaft Set)	MA-5 MAG-10**		
6 cyl	680ci	11.0L	4.875" 123.8mm	ALL	Mack Eng. (Early Design, Before 4/84 With #7 Journal of 2.250" Diameter, With 1.500" Groove Bearing on Position 2-6) (Auxiliary Shaft Set)	MA-6 MAG-10**		
6 cyl	680ci	11.0L	4.875" 123.8mm	ALL	Mack Eng. (Late Design After 4/84 With #7 Journal Of 2.440" Diameter) (Auxiliary Shaft Set)	MA-7 MAG-10**		
6 cyl	707ci	11.6L	5.000" 127mm	ALL	Mack Eng. END707, ENG-ENDD-ENDDL711, ENDL707, ENDL-ENDLT711, ENF707 Series (Early Design, Slotted Bearings In Position 2 And 5) (Auxiliary Shaft Set)	MA-5 MAG-10**		
6 cyl	707ci	11.6L	5.000" 127mm	ALL	Mack Eng. (Early Design, Before 4/84 With #7 Journal of 2.250" Diameter, With 1.500" Groove Bearing on Position 2-6) (Auxiliary Shaft Set)	MA-6 MAG-10**		
6 cyl	707ci	11.6L	5.000" 127mm	ALL	Mack Eng. (Late Design After 4/84 With #7 Journal Of 2.440" Diameter) (Auxiliary Shaft Set)	MA-7 MAG-10**		
6 cyl	761ci	12.5L	4.875" 123.8mm	ALL	Mack Eng. E7, E7-350, E7-400 Series	MA-8		
MAZDA								
4 cyl	71.3ci 1169cc	1.2L	2.756" 70mm	1968-73	OHV Mazda Eng. TA, TB Series	F-41		

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CAMSHAFT BEARINGS

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
MAZDA (Cont.)								
4 cyl	- 1290cc	1.3L	3.071" 78mm	1990-92	DOHC Mazda Eng. BJ Series (1 Cam Set Per Cylinder Head)			MZA-1* (Full Round)
4 cyl	90.6ci 1490cc	1.5L	3.071" 78mm	1966-74	SOHC Mazda Eng. UB Series	F-41		
4 cyl	96.8ci 1586cc	1.6L	3.071" 78mm	1970-77	SOHC Mazda Eng. NA Series	F-41		
4 cyl	- 1597cc	1.6L	3.071" 78mm	1986-94	SOHC Mazda Eng. B6, B6B Series			MZA-1* (Full Round)
4 cyl	- 1587cc	1.6L	3.189" 81mm	1982-88	SOHC Mazda Eng. F6 Series			MZA-2* (1/2 Shell)
4 cyl	- 1796cc	1.8L	3.071" 78mm	1970-78	SOHC Mazda Eng. VB Series	F-41		
4 cyl	107.9ci 1769cc	1.8L	3.150" 80mm	1973-88	SOHC Mazda Eng. VC Series	F-41		
4 cyl	- 1839cc	1.8L	3.268" 83mm	1990-94	SOHC Mazda Eng. BP, BP012 Series			MZA-1* (Full Round)
4 cyl	- 1789cc	1.8L	3.386" 86mm	1982-89	SOHC Mazda Eng. F8 Series			MZA-2* (1/2 Shell)
6 cyl	- 1845cc	1.8L	2.953" 75mm	1992-95	DOHC Mazda Eng. K8, K8ZE Series (1 Cam Set Per Cylinder Head)			MZA-1* (Full Round)
4 cyl	- 1970cc	2.0L	3.150" 80mm	1979-84	SOHC Mazda Eng. MA Series	F-41		
4 cyl	- 1998cc	2.0L	3.386" 86mm	1983-87	SOHC Mazda Eng. FE, FEH1, FEH5, FE-T Series (Includes Turbo)			MZA-2* (1/2 Shell)
4 cyl	- 2184cc	2.2L	3.386" 86mm	1987-93	SOHC Mazda Eng. F2, F2G, F2L, F2-T Series (Includes Turbo)			MZA-2* (1/2 Shell)
4 cyl	140ci 2302cc	2.3L	3.780" 96mm	1994-97	SOHC Ford Eng. 8A Series, Vin A (Special Oil Control Set w/ OD Groove) (Cam Bearing Set w/ .020 Oversize OD) (Auxiliary Shaft Set)	F-34 F-34B F-34S FG-34**		
4 cyl	- 2555cc	2.6L	3.587" 91.1mm	1987-88	SOHC (8 Valve) Mitsubishi Eng. AM1, G54B Series (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	 MIG-2** MIG-2-1R MIG-2E**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 2606cc	2.6L	3.622" 92mm	1989-94	SOHC (12 Valve) Mazda Eng. G6 Series (Balance Shaft Set)	 MZG-3**		MZA-4* (1/2 Shell)
6 cyl	183ci	3.0L	3.504" 89mm	1994-07	OHV (12 Valve) Ford (Vulcan) Eng. 8U Series, Vin U, V	F-48		
6 cyl	244ci 4016cc	4.0L	3.953" 100.4mm	1991-00	OHV Ford Eng. 8X, ZZL Series, Vin X	F-50 F-50A		
METROPOLITAN-NASH								
4 cyl	91ci 1489cc	1.5L	-	1956-62	Metropolitan-Nash Eng. Series 1-4	DA-2		
MG (BRITISH LEYLAND LTD.)								
4 cyl	67ci 1098cc	1.1L	2.539" 64.5mm	1962-67	OHV MG Eng. 10CC, 10CG, 10GR Series	BL-1		
4 cyl	78ci 1275cc	1.3L	2.780" 70.6mm	1967-74	OHV MG Eng. 12CC, 12CD, 12CE, 12CJ, 12G, 12H Series	BL-1		

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
MG (BRITISH LEYLAND LTD.) (Cont.)								
4 cyl	91ci 1489cc	1.5L	2.874" 73mm	1954-61	OHV MG Eng.	DA-2		
4 cyl	97ci 1588cc	1.6L	2.968" 75.4mm	1959-62	OHV MG Eng.	DA-2		
4 cyl	99ci 1622cc	1.6L	3.000" 76.2mm	1962-65	OHV MG Eng.	DA-2		
4 cyl	108.9ci 1798cc	1.8L	3.159" 80.3mm	1963-81	OHV MG Eng. 18G, 18GA, 18GB, 18GF, 18GH, 18GJ, 18GK, 18V Series	DA-2		
8 cyl	215.4ci 3528cc	3.5L	3.500" 88.9mm	1974-77	OHV Buick Eng. Vin 1	B-11		
MILITARY STANDARD								
4 cyl	124ci	2.0L	3.250" 82.6mm	ALL	J.I. Case (MOB) Eng. VAE Series	CA-3		
4 cyl	125ci	2.0L	3.250" 82.6mm	ALL	Waukesha Eng. 180GB Series	WA-4		
4 cyl	133ci	2.2L	3.250" 82.6mm	ALL	Waukesha Eng. FCB-4 Series	WA-4		
4 cyl	133ci	2.2L	3.250" 82.6mm	ALL	Hercules Eng. IXB-ER Series	WA-3		
4 cyl	134ci	2.2L	3.125" 79.4mm	ALL	Willys/Jeep (F-Head)/(L-Head) Eng.	J-1		
4 cyl	139ci	2.3L	3.438" 87.3mm	ALL	Waukesha Eng. 180GM Series	WA-4		
4 cyl	142ci	2.3L	3.875" 98.4mm	ALL	Ford (Mutt) Eng. M151 Series	F-25		
4 cyl	145ci	2.4L	3.250" 82.6mm	ALL	OHV Continental Eng. FS45, FS145 Series	CO-8		
4 cyl	152ci	2.5L	3.875" 98.4mm	ALL	IHC Eng. 4-152, 4-152T, B-152 Series	IN-11		
4 cyl	153ci	2.5L	3.438" 87.3mm	ALL	Buda Eng. 4MB-153 Series	BU-2		
3 cyl	159ci	2.6L	3.875" 98.4mm	ALL	Detroit Supercharged Diesel Eng. 3-53, 3-53N Series (Cam Bearing & Balance Shaft Set) (+.010 OD, Cam Bearing & Balance Shaft Set)	DE-2A** DE-2AR1		
4 cyl	162ci	2.7L	3.438" 87.3mm	ALL	Continental (L-Head) Eng. FS162 Series	CO-8		
6 cyl	186ci	3.1L	3.250" 82.6mm	ALL	Waukesha Eng. 185GB Series	WA-4		
6 cyl	209ci	3.4L	3.438" 87.3mm	ALL	Waukesha Eng. 185GM Series	WA-4		
6 cyl	217.8ci	3.6L	3.250" 82.6mm	ALL	Chrysler (L-Head) Eng.	PD-1		
6 cyl	218ci	3.6L	3.250" 82.6mm	ALL	Continental Eng. FS218 Series	K-1		
6 cyl	218ci	3.6L	3.375" 85.7mm	ALL	OHV Chrysler Eng. 905A Series	PD-3		
4 cyl	226ci	3.7L	4.000" 101.6mm	ALL	Hercules Eng. JX4LD-ER Series	HE-1		
6 cyl	230ci	3.8L	3.250" 82.6mm	ALL	OHV Chrysler Eng. IND-931 Series	PD-1		
6 cyl	230ci	3.8L	3.438" 87.3mm	ALL	Buda Eng. 6MB-230 Series	BU-2		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
MILITARY STANDARD (Cont.)								
6 cyl	237ci	3.9L	3.438" 87.3mm	ALL	Hercules Eng. QXLD-ER Series	BU-2		
8 cyl	239ci	3.9L	3.188" 80.98mm	ALL	Ford (Flathead)/(L-Head) Eng.	F-1		
6 cyl	244ci 3996cc	4.0L	3.438" 87.3mm	ALL	Continental Eng. 6-244-MS, 6-2444-S, FS244 Series	K-1		
6 cyl	251ci	4.1L	3.438" 87.3mm	ALL	Chrysler Eng. IND-908A, JXAL2-ER, U225 Series	PD-3		
8 cyl	283ci	4.6L	3.875" 98.4mm	ALL	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
6 cyl	302ci	5.0L	4.000" 101.6mm	ALL	OHV GMC Eng.	CH-2		
8 cyl	302ci	5.0L	4.000" 101.6mm	ALL	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	Hercules Eng. JXLD-ER Series	HE-1		
8 cyl	361ci	5.9L	4.125" 104.8mm	ALL	OHV Chrysler Eng. (+.010 OD)	PD-17	PDP-17 or PDP-17T (Coated) PDP-17R1	
8 cyl	534ci	8.8L	4.500" 114.3mm	ALL	OHV Ford Eng.	F-16		
MITSUBISHI								
4 cyl	- 1198cc	1.2L	2.685" 68.2mm	1984-88	SOHC Mitsubishi Eng. 4G16, G16B Series			MIA-3* (Full Round)
4 cyl	- 1244cc	1.2L	2.736" 69.5mm	1983-88	OHV Mitsubishi Eng. 4G11, G11B Series			MIA-3* (Full Round)
4 cyl	- 1298cc	1.3L	2.795" 71mm	1984-88	SOHC Mitsubishi Eng. 4G13, G13B Series			MIA-3* (Full Round)
4 cyl	86ci 1410cc	1.4L	2.913" 74mm	1983-88	SOHC Mitsubishi Eng. 4G12, G12B Series			MIA-3* (Full Round)
4 cyl	90ci 1468cc	1.5L	2.972" 75.5mm	1985-94	SOHC (8 Valve) Mitsubishi Eng. 4G15, G4AJ, G4DJ, G15B Series			MIA-3* (Full Round)
4 cyl	98ci 1597cc	1.6L	3.028" 76.9mm	1985-88	SOHC (8 Valve) Mitsubishi Turbo Eng. G32B-T Series, Vin F (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 1795cc	1.8L	3.173" 80.6mm	1983-88	SOHC (8 Valve) Mitsubishi Eng. G62B, G62B-T Series (Includes Turbo), Vin 4, G (Cam Bearing Set w/ Heavy Wall, +.020 OD)			MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 1855cc	1.9L	3.1890" 81mm	1973-78	SOHC Mitsubishi Eng. 4G51, G51B Series (Auxiliary Shaft Set)	MIG-2**		
4 cyl	- 1995cc	2.0L	3.307" 84mm	1973-88	SOHC Mitsubishi Eng. 4G52, G52B Series (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		MIA-4* (1/2 Shell)
4 cyl	122ci 1997cc	2.0L	3.346" 85mm	1983-93	SOHC (8 Valve) Mitsubishi Eng. 4G63, G63B Series, Vin 5, D, V (Balance Shaft Set)	MIG-3**		
4 cyl	122ci 1997cc	2.0L	3.346" 85mm	1989-99	DOHC (16 Valve) Mitsubishi Eng. 4G63, 4G63T, G63B, G63BT Series (Includes Turbo), Vin E, F, R, U (Balance Shaft Set)	MIG-3**		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
MITSUBISHI (Cont.)								
4 cyl	143ci 2346cc	2.3L	3.587" 91.1mm	1983-85	SOHC Mitsubishi Diesel/Turbo-Diesel Eng. 4D55, 4D55T Series, Vin 9, J (Auxiliary Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
4 cyl	- 2351cc	2.4L	3.406" 86.5mm	1985-94	SOHC (8 Valve) Mitsubishi Eng. 4G64, G64B Series, Vin G, L, W (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set)	MIG-3**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
4 cyl	- 2351cc	2.4L	3.406" 86.5mm	1993-05	SOHC/DOHC (16 Valve) Mitsubishi Eng. 4G64, G64B Series, Vin G (Balance Shaft Set)	MIG-3**		
4 cyl	- 2384cc	2.4L	3.465" 88mm	1975-81	OHV Mitsubishi Eng. 4G53 Series (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
4 cyl	- 2477cc	2.5L	3.587" 91.1mm	1985-88	OHV Mitsubishi Turbo Diesel Eng. 4D56 Series (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		
4 cyl	156ci 2555cc	2.6L	3.587" 91.1mm	1983-89	SOHC (8 Valve) Mitsubishi Eng. 4G54, G54B, G54T, G54B-T Series (Includes Turbo), Vin 7, E, H, N (Cam Bearing Set w/ Heavy Wall, +.020 OD) (Balance Shaft Set) (Balance Shaft Bearing w/ .173 Oversize OD) (Balance Shaft Elim)	MIG-2** MIG-2-1R MIG-2E**		MIA-1* (1/2 Shell) MIA-2* (1/2 Shell)
6 cyl	181ci 2972cc	3.0L	3.587" 91.1mm	1988-05	SOHC Mitsubishi Eng. 6G72, 6G72T Series (Includes Turbo), Vin F, H, L, P, S (1 Cam Set Per Cyl. Head)			MIA-5* (1/2 Shell)
MORRIS (BRITISH LEYLAND LTD.)								
4 cyl	67ci 1098cc	1.1L	2.542" 64.6mm	1963-71	Austin Eng.	BL-1		
4 cyl	73.3ci 1198cc	1.2L	2.539" 64.5mm	1954-61	Morris/British Leyland Eng.	DA-2		
4 cyl	91ci 1489cc	1.5L	2.874" 73mm	1954-62	Morris/British Leyland Eng.	DA-2		
4 cyl	91.6ci 1500cc	1.5	2.874" 73mm	1962	Morris/British Leyland Eng.	DA-2		
4 cyl	99ci 1622cc	1.6L	3.000" 76.2mm	1962-66	Morris/British Leyland Eng.	DA-2		
4 cyl	109.8ci 1798cc	1.8L	3.160" 80.3mm	1963-66	Morris/British Leyland Eng.	DA-2		
NISSAN (INFINITI, DATSUN)								
4 cyl	60.3ci 988cc	1.0L	2.874" 73mm	1965-74	OHV Nissan Eng. A10 Series	DA-1		
4 cyl	71.5ci 1171cc	1.2L	2.874" 73mm	1971-73	OHV Nissan Eng. A12 Series	DA-1		
4 cyl	72ci 1189cc	1.2L	2.874" 73mm	1961-65	OHV Nissan Eng. E1 Series	DA-2		
4 cyl	75.4ci 1237cc	1.2L	2.953" 75mm	1979-82	OHV Nissan Eng. A12A Series, Vin C	DA-1		
4 cyl	78.5ci 1288cc	1.3L	2.874" 73mm	1974	OHV Nissan Eng. A13 Series, Vin H	DA-1		
4 cyl	79ci 1299cc	1.3L	2.874" 73mm	1965-69	OHV Nissan Eng. J13 Series	DA-2		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
NISSAN (INFINITI, DATSUN) (Cont.)								
4 cyl	- 1270cc	1.3L	2.992" 76mm	1981-90	SOHC Nissan Eng. E13 Series			NIA-4* (Full Round)
4 cyl	85ci 1397cc	1.4L	2.992" 76mm	1975-82	OHV Nissan Eng. A14 Series, Vin H, P	DA-1		
4 cyl	90.5ci 1483cc	1.5L	3.071" 78mm	1971-90	OHV Nissan Eng. J15 Series	DA-2		
4 cyl	90.8ci 1488cc	1.5L	2.992" 76mm	1979-82	OHV Nissan Eng. A15 Series, Vin P	DA-1		
4 cyl	- 1488cc	1.5L	2.992" 76mm	1982-84	SOHC Nissan Eng. E15, E15S, E15T Series (Includes Turbo), Vin H, M			NIA-4* (Full Round)
4 cyl	90.8ci 1488cc	1.5L	3.071" 78mm	1960-65	OHV Datsun Eng. G15 Series	DA-3A		
4 cyl	- 1597cc	1.6L	2.992" 76mm	1983-88	SOHC (8 Valve) Nissan Eng. E16, E16I, E16S Series, Vin M, P			NIA-4* (Full Round)
4 cyl	- 1597cc	1.6L	2.992" 76mm	1989-90	SOHC (12 Valve) Nissan Eng. GA16I Series, Vin G			NIA-1* (Full Round)
4 cyl	95.6ci 1567cc	1.6L	3.071" 78mm	1972-82	OHV Nissan Eng. J16 Series	DA-2		
4 cyl	97.3ci 1595cc	1.6L	3.433" 87.2mm	1966-70	OHV Nissan Eng. R, R16 Series	DA-3A		
4 cyl	- 1751cc	1.8L	3.169" 80.5mm	1978-91	OHV Nissan Eng. J18 Series	DA-2		
4 cyl	- 1809cc	1.8L	3.268" 83mm	1984-87	SOHC (8 Valve) Nissan Turbo Eng. CA18ET Series, Vin C			NIA-5* (Full Round)
4 cyl	114.9ci 1883cc	1.9L	3.346" 85mm	1960-65	Nissan/Datsun Eng. H Series	DA-3A		
4 cyl	- 1952cc	2.0L	3.346" 85mm	1974-86	SOHC Nissan Eng. L20B, Z20, Z20E, Z20S Series, Vin F, H, P			NIA-6* (1/2 Shell)
4 cyl	120.9ci 1982cc	2.0L	3.433" 87.2mm	1967-92	OHV Nissan Eng. H20, U20 Series	DA-3A		
4 cyl	121.5ci 1991cc	2.0L	3.270" 83mm	1963-83	OHV Nissan Diesel Eng. SD20 Series	DA-3A		
4 cyl	122ci 1974cc	2.0L	3.327" 84.5mm	1982-89	SOHC Nissan Eng. CA20E, CA20S Series, Vin H, P			NIA-5* (Full Round)
4 cyl	- 2164cc	2.2L	3.268" 83mm	1963-88	OHV Nissan Diesel Eng. SD22 Series, Vin S	DA-3A		
4 cyl	- 2187cc	2.2L	3.425" 87mm	1981-83	SOHC Nissan Eng. Z22, Z22E, Z22S Series, Vin M, R			NIA-6* (1/2 Shell)
4 cyl	- 2289cc	2.3L	3.504" 89mm	1981-90	OHV Nissan Diesel Eng. SD23, TD23 Series	DA-3A		
4 cyl	- 2389cc	2.4L	3.504" 89mm	1983-89	SOHC (8 Valve) Nissan Eng. Z24, Z24I, Z24S Series, Vin N, S			NIA-6* (1/2 Shell)
4 cyl	- 2488cc	2.5L	3.504" 89mm	1983-86	OHV Nissan Diesel Eng. SD25 Series, Vin J	DA-3A		
4 cyl	152ci 2494cc	2.5L	3.504" 89mm	1986-90	Nissan Diesel Eng. TD25 Series	DA-3A		
4 cyl	163ci 2663cc	2.7L	3.780" 96mm	1986-90	OHV Nissan Diesel Eng. TD27 Series	DA-3A		
6 cyl	- 2960cc	3.0L	3.425" 87mm	1984-86	SOHC Nissan Eng. VG30, VG30E, VG30T Series (Includes Turbo), Vin C, H (Cam Bearing Set, Left Bank) (Cam Bearing Set, Right Bank)			NIA-2L* (Full Round) NIA-2R* (Full Round)

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
NISSAN (INFINITI, DATSUN) (Cont.)								
6 cyl	- 2960cc	3.0L	3.425" 87mm	1987-98	SOHC/DOHC Nissan Eng. VE30DE, VG30, VG30DE, VG30DETT, VG30E, VG30I, VG30T Series (Includes Turbo/Twin Turbo), Vin 1, A, C, E, H, R, Y (Cam Bearing Set, Left Bank) (Cam Bearing Set, Right Bank)			NIA-3L* (Full Round) NIA-2R* (Full Round)
6 cyl	198.1ci 3246cc	3.2L	3.268" 83mm	1966-90	OHV Nissan Diesel/Turbo-Diesel Eng. CN6-33, SD33, SD33T Series	DA-5		
NUFFIELD TRACTOR (Also see BRITISH LEYLAND LTD.)								
4 cyl	99ci 1622cc	1.6L	3.000" 76.2mm	1961-71	Gas/Diesel Eng. 154 Series	DA-2		
OLIVER TRACTOR & POWER UNITS								
4 cyl	91ci	1.5L	2.875" 73mm	ALL	Continental (L-Head) Eng. 91, PY91, Y4091 Series	CO-3		
4 cyl	129ci	2.1L	3.313" 84.1mm	1955-59	Oliver Gas/Diesel Eng. 166HC, 166HC Super, 550DSL, 550HC, 660DSL, 66OHC Series	WA-4		
4 cyl	140ci	2.3L	3.188" 80.98mm	ALL	Continental (L-Head) Eng. F140 Series	CO-8		
4 cyl	144ci	2.4L	3.500" 88.9mm	1955-62	Oliver Gas/Diesel Eng. 166HC, 166HC Super, 550DSL, 550HC, 660DSL, 66OHC Series	WA-4		
4 cyl	155ci	2.5L	3.625" 92.1mm	1959-70	Oliver Gas/Diesel Eng. 166HC, 166HC Super, 550DSL, 550HC, 660DSL, 66OHC Series	WA-4		
6 cyl	194ci	3.2L	3.313" 84.2mm	1955-59	Waukesha Eng. 177HC, 177LP Series	WA-4		
4 cyl	198ci	3.3L	3.750" 95.3mm	ALL	Hercules Diesel Eng. DD198, D2120 Series	HE-8		
4 cyl	205ci	3.4L	3.250" 82.6mm	ALL	Hercules Eng. QXB3 Series	HE-5		
6 cyl	209ci	3.4L	3.188" 80.98mm	ALL	Continental (L-Head) Eng. F209 Series	K-1		
6 cyl	216ci	3.5L	3.500" 88.9mm	1959-69	Waukesha Eng. 177HC, 177LP Series	WA-4		
6 cyl	226ci	3.7L	3.313" 84.1mm	ALL	OHV Continental (Flex) Eng. F226 Series	K-1		
6 cyl	228ci	3.7L	3.375" 85.7mm	ALL	Hercules Eng. JXA, JXC, JXD Series	HE-1		
6 cyl	231ci	3.8L	3.500" 88.9mm	1955-62	Waukesha Gas/Diesel Eng. 188HC, 188HC Super Series (Early, One Bearing)	WA-4		
6 cyl	231ci	3.8L	3.500" 88.9mm	1955-62	Waukesha Eng. 188HC, 188HC Super Series (Late, Four Bearings)	WA-7		
6 cyl	232ci	3.8L	3.625" 92.1mm	1955-70	Waukesha Gas/Diesel Eng. 1550, 1555, 177D, 177D Super, 177HC Series	WA-4		
6 cyl	244ci	4.0L	3.438" 87.3mm	ALL	Continental (L-Head) Eng. F244 Series	K-1		
6 cyl	251.6ci	4.1L	3.438" 87.3mm	ALL	Chrysler (L-Head) Eng. 430, 431, 525, 535, 545 Series	PD-3		
6 cyl	263ci	4.3L	3.625" 92.1mm	ALL	Hercules Eng. JXA, JXC, JXD Series	HE-1		
6 cyl	265ci	4.3L	3.750" 95.3mm	1955-59	Waukesha Eng. 188HC, 188HC Super, 188LP Series (Early, One Bearing)	WA-4		
6 cyl	265ci	4.3L	3.750" 95.3mm	1955-59	Waukesha Eng. 188HC, 188HC Super, 188LP Series (Late, Four Bearings)	WA-7		

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CAMSHAFT BEARINGS

DISPLACEMENT					YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE	STD.			HI-PERF.	OHC	
OLIVER TRACTOR & POWER UNITS (Cont.)									
6 cyl	283ci	4.6L	3.875" 98.4mm	ALL	Oliver/Waukesha Gas/Diesel Eng. 185GB, 185GM Series (Early, One Bearing)	WA-4			
6 cyl	283ci	4.6L	3.875" 98.4mm	ALL	Oliver/Waukesha Gas/Diesel Eng. 185GB, 185GM Series (Late, Four Bearing)	WA-7			
6 cyl	302ci	5.0L	4.000" 101.6mm	1955-59	Oliver/Waukesha Diesel Eng. 199D, 199D Super, 950D, 950DSL, 99D Series (Early, One Bearing)	WA-4			
6 cyl	302ci	5.0L	4.000" 101.6mm	1955-59	Oliver/Waukesha Gas/Diesel Eng. 99HC, 199HC Super, 950HC Series (Late, Four Bearing)	WA-7			
6 cyl	310ci	5.1L	3.875" 98.4mm	ALL	Oliver/Waukesha Gas/Diesel Eng. 185GB, 185GM Series (Early, One Bearing)	WA-4			
6 cyl	310ci	5.1L	3.875" 98.4mm	ALL	Oliver/Waukesha Gas/Diesel Eng. 185GB, 185GM Series (Late, Four Bearing)	WA-7			
6 cyl	320ci	5.2L	4.000" 101.6mm	ALL	Hercules Eng. JXA, JXC, JXD Series	HE-1			
6 cyl	322ci	5.3L	4.125" 104.8mm	1955-62	Oliver/Waukesha Diesel Eng. 199D, 199D Super, 950D, 950DSL, 99D Series	WA-4			
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	Hercules Eng. JXLD Series (1.057" Length On No. 1 And 4 Positions)	HE-8			
6 cyl	339ci	5.6L	4.000" 101.6mm	ALL	Hercules Eng. JXLD Series (1.125" Length On No. 1 And 4 Positions)	HE-1			
8 cyl	573ci	9.4L	4.500" 114.3mm	ALL	Caterpillar Eng. 3150 Series	CAT-2			
ONAN									
2 cyl	50ci 820cc	0.8L	3.250" 82.6mm	ALL	CCK, CCK-MSV-106F, CCKB, Super CCK Series	ON-1			
OPEL									
4 cyl	91.1ci 1491cc	1.5L	3.248" 82.5mm	1967-68	SOHC Opel Eng. 1.5, 1.5S Series (Triangle Mark On Left Side Of Head)	OP-3			
4 cyl	96.6ci 1584cc	1.6L	3.346" 85mm	1970-81	SOHC Opel Eng. 1.6S Series (Triangle Mark On Left Side Of Head)	OP-3			
4 cyl	103.4ci 1698cc	1.7L	3.465" 88mm	1965-81	SOHC Opel Eng. 1.7S Series (Triangle Mark On Left Side Of Head)	OP-3			
4 cyl	110ci 1796cc	1.8L	3.339" 84.8mm	1976-82	SOHC Opel Eng. 1.8E, N, S Series (Auxiliary Shaft Set)	CHG-14**			
4 cyl	115.8ci 1897cc	1.9L	3.661" 93mm	1965-75	SOHC Opel Eng. 1.9S Series, Vin N (Triangle Mark On Left Side Of Head, Three Bearing)	OP-3			
4 cyl	115.8ci 1897cc	1.9L	3.661" 93mm	1971-75	SOHC Opel Eng. 1.9S Series, Vin N (Four Bearing)	OP-5			
REO MOTOR TRUCK									
6 cyl	255ci	4.2L	3.625" 92.1mm	ALL	Reo Eng. OA110, OA123, OA130, OA145, OA255 Series	R-1			
6 cyl	292ci	4.8L	3.875" 98.4mm	ALL	Reo Eng. OA255 Series	R-1			
6 cyl	331ci	5.4L	4.125" 104.8mm	ALL	Reo Eng. OA331, OH160, OH170 Series	R-1			
6 cyl	362ci	5.9L	4.250" 108mm	ALL	Reo Eng. 6-186, OH185, OH186 Series	R-1			
6 cyl	400ci	6.6L	4.250" 108mm	ALL	Reo Eng. 6-190, 6-200, OH200 Series	R-1			
RILEY									
4 cyl	91ci 1489cc	1.5L	-	1958-63	Riley Eng.	DA-2			

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CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
RILEY (Cont.)								
4 cyl	99ci 1622cc	1.6L	-	1961-69	Riley Eng.	DA-2		
ROVER								
8 cyl	215ci 3528cc	3.5L	3.500" 88.9mm	1969-81	Rover Eng.	B-11		
SAAB								
4 cyl	- 1498cc	1.5L	3.701" 94mm	1962-67	Saab Eng. 95, 96 Series	F-42		
4 cyl	- 1698cc	1.7L	3.543" 90mm	1968-74	Saab Eng. 95, 96 Series	F-42		
STUDEBAKER								
6 cyl	194ci	3.2L	3.563" 90.5mm	1965-66	OHV Chevrolet Eng.	CH-7		
6 cyl	230ci	3.8L	3.875" 98.4mm	1966	OHV Chevrolet Eng.	CH-7		
8 cyl	283ci	4.7L	3.875" 98.4mm	1965-66	OHV Chevrolet Eng.	CH-8	CHP-8 or CHP-8T (Coated)	
SUZUKI								
4 cyl	81ci 1325cc	1.3L	2.913" 74mm	1985-95	SOHC (8 Valve) Subaru Eng. G13A Series			SA-1* (Full Round)
TOYOTA								
4 cyl	- 933cc	0.9L	2.835" 72mm	1970-86	OHV Toyota Eng. 2K Series	TO-3		
4 cyl	- 1077cc	1.1L	2.953" 75mm	1968-69	OHV Toyota Eng. KC Series	TO-3		
4 cyl	- 1166cc	1.2L	2.953" 75mm	1969-79	OHV Toyota Eng. 3KC Series, Vin K	TO-3		
4 cyl	- 1290cc	1.3L	2.953" 75mm	1981-84	OHV Toyota Eng. 4KC, 4KE Series, Vin K	TO-3		
4 cyl	85.9ci 1407cc	1.4L	3.149" 80mm	1970-79	OHV Toyota Eng. T, TJ, TU Series	TO-7		
4 cyl	- 1490cc	1.5L	3.071" 78mm	1964-71	OHV Toyota Eng. 2R Series	TO-2		
4 cyl	- 1468cc	1.5L	3.169" 80.5mm	1984-88	OHV Toyota Eng. 5K Series	TO-3		
4 cyl	- 1587cc	1.6L	3.169" 80.5mm	1965-85	OHV Toyota Eng. 4R, 9R, 12J Series (Export Series)	TO-2		
4 cyl	97ci 1588cc	1.6L	3.346" 85mm	1970-85	SOHC Toyota Eng. 2T, 2TC, 2TJ, 2TU, 12T, 12TJ, 12TU Series, Vin T	TO-7		
4 cyl	97.2ci 1591cc	1.6L	3.386" 86mm	1968-72	OHV Toyota Eng. 7R, 7RB Series	TO-8		
					(Auxiliary / Balance Shaft Set)	TOG-8**		
4 cyl	- 1626cc	1.6L	3.386" 86mm	1983-88	OHV Toyota Eng. 1Y Series	TO-12		
4 cyl	104.2ci 1707cc	1.7L	3.386" 86mm	1970-73	OHV Toyota Eng. 6R, 6RB Series	TO-8		
4 cyl	- 1770cc	1.8L	3.346" 85mm	1980-86	OHV Toyota Eng. 3T, 3TC, 3TEU, 3TU, 13TJ, 13TU Series, Vin T	TO-7		
4 cyl	- 1812cc	1.8L	3.386" 86mm	1983-88	OHV Toyota Eng. 2Y Series	TO-12		

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CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
TOYOTA (Cont.)								
4 cyl	110.8ci 1808cc	1.8L	3.484" 88.5mm	1971-79	OHV Toyota Eng. 16R, RB, RJ, RU Series (Auxiliary / Balance Shaft Set)	TO-8 TOG-8**		
4 cyl	113.4ci 1858cc	1.9L	3.386" 86mm	1969-71	SOHC Toyota Eng. 8R, 8RC Series (Auxiliary / Balance Shaft Set)	TO-8 TOG-8**		
4 cyl	- 1897cc	1.9L	3.465" 88mm	1961-70	OHV Toyota Eng. 3RB, 3RC Series	TO-11		
4 cyl	- 1998cc	2.0L	3.386" 86mm	1984-85	OHV (8 Valve) Toyota Eng. 3YEC Series, Vin Y	TO-12		
4 cyl	120.1ci 1968cc	2.0L	3.484" 88.5mm	1972-74	SOHC Toyota Eng. 18RC Series, Vin R (Auxiliary / Balance Shaft Set)	TO-8 TOG-8**		
4 cyl	121.7ci 1994cc	2.0L	3.465" 88mm	1967-88	OHV Toyota Eng. 5R Series	TO-11		
6 cyl	121.3ci 1988cc	2.0L	3.386" 86.1mm	1965-84	DOHC (24 Valve) Toyota Eng. 1M, 3M, M, MB, MC, MJ, MU Series	TO-8		
4 cyl	- 2164cc	2.2L	3.425" 87mm	1990-94	DOHC Toyota Eng. 5SFE Series (32 Tooth Gear), Vin S (Balance Shaft Set) (Balance Shaft Kit: Combines TOG-11 & TOG-11A)	TOG-11** TOG-11C**		
4 cyl	- 2164cc	2.2L	3.425" 87mm	1995-01	DOHC Toyota Eng. 5SFE Series (22 Tooth Gear), Vin G, S (Balance Shaft Set) (Balance Shaft Kit: Combines TOG-11 & TOG-11A)	TOG-11A** TOG-11C**		
4 cyl	- 2189cc	2.2L	3.484" 88.5mm	1975-80	SOHC Toyota Eng. 20R Series, Vin R (Auxiliary / Balance Shaft Set)	TOG-8**		TOA-1* (1/2 Shell)
4 cyl	- 2237cc	2.2L	3.583" 91mm	1986-90	OHV Toyota Eng. 4YEC Series, Vin Y	TO-12		
6 cyl	137.5ci 2253cc	2.3L	2.952" 74.9mm	1967-72	SOHC Toyota Eng. 2M Series (Auxiliary / Balance Shaft Set)	TO-8 TOG-9**		
4 cyl	- 2366cc	2.4L	3.622" 92mm	1981-95	SOHC Toyota Eng. 22R, 22RE, 22REC, 22RTEC Series (Includes Turbo), Vin R			TOA-1* (1/2 Shell)
6 cyl	- 2563cc	2.6L	3.150" 80mm	1971-80	SOHC Toyota Eng. 4M, 4ME Series, Vin M (Auxiliary / Balance Shaft Set)	TO-8 TOG-9**		
4 cyl	- 2694cc	2.7L	3.740" 95mm	1994-04	DOHC Toyota Eng. 3RZFE Series, Vin M, U (Auxiliary / Balance Shaft Set)	TOG-10**		
6 cyl	- 2759cc	2.8L	3.268" 83mm	1981-88	SOHC/DOHC Toyota Eng. 5ME, 5MGE Series, Vin M (Auxiliary / Balance Shaft Set)	TOG-9**		
4 cyl	- 2977cc	3.0L	3.740" 95mm	1986-90	OHV Toyota Diesel Eng. 11B, B Series	TO-15		
4 cyl	209ci 3431cc	3.4L	4.016" 102mm	1984-92	OHV Toyota Diesel/Turbo Diesel Eng. 3B, 13B, 13BT Series	TO-15		
4 cyl	- 3660cc	3.7L	4.016" 102mm	1988	OHV Toyota Diesel Eng. 14B, B Series	TO-15		
6 cyl	- 3878cc	3.9L	3.543" 90mm	1954-74	OHV Toyota Eng. F Series, Vin F	TO-10		
6 cyl	- 3956cc	4.0L	3.701" 94mm	1988-92	OHV Toyota Eng. 3F, 3FE Series, Vin F	TO-10		
6 cyl	- 4230cc	4.2L	3.701" 94mm	1975-87	OHV Toyota Eng. 2F Series, Vin F	TO-10		

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE			STD.	HI-PERF.	OHC
TRIUMPH								
8 cyl	- 3528cc	3.5L	3.500" 88.9mm	1980-81	Triumph Eng. Vin 5, V	B-11		
VOLKSWAGEN								
4 cyl	73ci 1192cc	1.2L	3.031" 77mm	1954-65	OHV VW Eng. 30 B.H.P, 34 B.H.P Series (Air Cooled)	VW-1		
4 cyl	- 1285cc	1.3L	3.031" 77mm	1966	OHV VW Eng. F Series (Air Cooled)	VW-1		
4 cyl	79.1ci 1297cc	1.3L	2.952" 75mm	1973-81	SOHC VW Eng. 1300ZF Series (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	88.8ci 1457cc	1.5L	3.130" 79.5mm	1978-80	SOHC VW Eng. EH, FX Series (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	89.75ci 1471cc	1.5L	3.012" 76.5mm	1974-80	SOHC VW Gas/Diesel Eng. CK, FC, FG, XR, XS, XV, XW, XY, XZ Series (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	- 1493cc	1.5L	3.268" 83mm	1965-69	OHV VW Eng. (Air Cooled)	VW-1		
4 cyl	97ci 1584cc	1.6L	3.366" 85.5mm	1966-80	OHV VW Eng. AD, AE, AF, AG, AH, AJ, AK, AL, AM, AS, B, C, P, T, U, X Series (Air Cooled), Vin 4	VW-1		
4 cyl	97ci 1588cc	1.6L	3.130" 79.5mm	1976-80	SOHC VW Eng. EE, EJ, FN, YG, YH, YK Series (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	97ci 1588cc	1.6L	3.130" 79.5mm	1981-92	SOHC VW Diesel/Turbo-Diesel Eng. 1V, CR, CS, CY, JK, MD, ME, MF Series, Vin G, H (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	104.6ci 1715cc	1.7L	3.130" 79.5mm	1981-84	SOHC VW Eng. EN, JF, WT Series (Auxiliary / Balance Shaft Set)	VWG-1**		
4 cyl	109ci 1780cc	1.8L	3.189" 81mm	1983-97	SOHC VW Eng. 2H, ABG, ACC, GX, HT, JH, JN, MZ, PF, PG, RD, RV, UM Series (Includes Supercharged), Vin A, B, C, E, K (Auxiliary / Balance Shaft Set)	VWG-1**		VWA-2* (1/2 Shell)
4 cyl	- 1780cc	1.8L	3.189" 81mm	1987-89	DOHC (16 Valve) VW Eng. PL Series (Auxiliary / Balance Shaft Set)	VWG-1**		
5 cyl	- 2144cc	2.1L	3.130" 79.5mm	1983-86	SOHC Audi Eng. KM, WE Series			VWA-1* (1/2 Shell)
5 cyl	- 2226cc	2.2L	3.189" 81mm	1985-88	SOHC Audi Eng. JT, KX Series			VWA-1* (1/2 Shell)
VOLVO								
4 cyl	109ci 1780cc	1.8L	3.313" 84.1mm	1961-68	OHV Volvo Eng. B18A, B18B, B18D Series (Auxiliary / Balance Shaft Set)	VO-2**		
4 cyl	- 1986cc	2.0L	3.500" 88.9mm	1969-75	OHV Volvo Eng. B20A, B20B, B20E, B20F Series (Auxiliary / Balance Shaft Set)	VO-2**		
4 cyl	- 2127cc	2.1L	3.622" 92mm	1974-85	SOHC Volvo Eng. B21A, B21E, B21F, B21FT Series (Includes Turbo), Vin 4, 41, 45 (1.265" Cam Housing w/ Cap & Saddle Design) (Auxiliary / Balance Shaft Set)	VO-2**		VOA-1* (1/2 Shell)
4 cyl	- 2316cc	2.3L	3.780" 96mm	1981-95	SOHC Volvo Eng. B23E, B23F, B23FT, B230F, B230FD, B230FS, B230FT Series (Includes Turbo), Vin 8, 88 (1.265" Cam Housing w/ Cap & Saddle Design)			VOA-1* (1/2 Shell)
6 cyl	- 2978cc	3.0L	3.500" 88.9mm	1969-75	OHV Volvo Eng. B30A, B30E, B30F Series	VO-3		
VOLVO-PENTA (MARINE)								
8 cyl	305ci 5012cc	5.0L	3.736" 95mm	ALL	OHV Chevrolet Eng. AQ200D, AQ225D, BB225A, BB225AV Series (Marine)	CH-8	CHP-8 or CHP-8T (Coated)	
8 cyl	350ci 5736cc	5.7L	4.000" 101.6mm	ALL	OHV Chevrolet Eng. AQ260A, AQ290D, BB260A, BB260AV Series (Marine)	CH-8	CHP-8 or CHP-8T (Coated)	

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CAMSHAFT BEARINGS

DISPLACEMENT				YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI./CC.	L	BORE			STD.	HI-PERF.	OHC
WAUKESHA								
4 cyl	113ci	1.9L	3.000" 76.2mm	ALL	Waukesha Eng. 132, F, FC, FCK, FCL, FCS, FCX, FK, FKJ, FKL, FL, FLJ, FLS, FS FWJ Series	WA-3		
4 cyl	121ci	2.0L	3.313" 84.2mm	ALL	Waukesha Eng. 160 Series	WA-4		
4 cyl	125ci	2.0L	3.250" 82.6mm	ALL	Waukesha Eng. 180GB Series (Military Standard)	WA-4		
4 cyl	129ci	2.1L	3.313" 84.2mm	ALL	Waukesha Gas/Diesel Eng. 180DAB, 180DAC, 180DL, 180DLB, 180DLC, 180DLCU, 180GA, 180GB, 180GK, 180GS, 180KL, 180SB Series	WA-4		
4 cyl	133ci	2.2L	3.250" 82.6mm	ALL	Waukesha Eng. 132, FC, FCB-4, FCL, FCS, FCX, FK, FL, FLJ, FLS, FS, FWJ Series (Military Standard)	WA-3		
4 cyl	139ci	2.3L	3.438" 87.3mm	ALL	Waukesha Eng. 180GM Series (Military Standard)	WA-4		
4 cyl	144ci	2.4L	3.500" 88.9mm	ALL	Waukesha Gas/Diesel Eng. 180D, 180DKB, 180DLC, 180DLCU, 180GA, 180GK, 180GL, 180GLB, 180GLC, 180GS, 180KL Series	WA-4		
4 cyl	155ci	2.5L	3.625" 92.1mm	ALL	Waukesha Gas/Diesel Eng. 180DKB, 180G, 180GKB, 180GKBC, 180GKBU, D155, D155D, D155G, D155GA, D176, D176G, G155, G176, VRD155, VRG155, VRG176 Series	WA-4		
4 cyl	176ci	2.9L	3.625" 92.1mm	ALL	Waukesha Eng. D176, D176G, G176, VRG176 Series	WA-4		
6 cyl	186ci	3.0L	3.250" 82.6mm	ALL	Waukesha Eng. 185GB, 185GM Series (Military Standard)	WA-4		
6 cyl	194ci	3.2L	3.313" 84.2mm	ALL	Waukesha Gas/Diesel Eng. 185DAB, 185DAC, 185DLB, 185DLC, 185DLCU, 185DSB, 185DY, 185GA, 185GB Series	WA-4		
6 cyl	209ci	3.4L	3.438" 87.3mm	ALL	Waukesha Eng. 209, 185GB, 185GM Series (Military Standard)	WA-4		
6 cyl	216ci	3.5L	3.500" 88.9mm	ALL	Waukesha Gas/Diesel Eng. 185GL, 185GLB, 185GM, 185GS, 185KL, 185DLC, 185DLCU Series	WA-4		
6 cyl	232ci	3.8L	3.625" 92.1mm	ALL	Waukesha Gas/Diesel Eng. F232G, VRD232, VRG232 Series	WA-4		
6 cyl	263ci	4.3L	3.625" 92.1mm	ALL	Waukesha Eng. B Series	WA-4		
6 cyl	265ci	4.3L	3.750" 95.3mm	ALL	Waukesha Gas/Diesel/LPG Eng. 190DKB, 190KL, 190DLA, 190DLB, 190DLC, 190DLK, 190DLCA, 190DLCR, 190DLCU, 190DSB, 190GL, 190GLB, 190GLBU, 190GLC, 190GS, F265G, VRG265 Series	WA-4		
6 cyl	283ci	4.6L	3.875" 98.4mm	ALL	Waukesha Gas/Diesel/LPG Eng. F283G, VRD283, VRG283, VRD310, VRG310 Series	WA-7		
6 cyl	299ci	4.9L	3.313" 84.2mm	ALL	Waukesha Eng. 185DAB, 185DAC, 185DLB Series	WA-4		
6 cyl	302ci	5.0L	4.000" 101.6mm	ALL	Waukesha Gas/Diesel Eng. 190GK, 190KL, 195DLC, 195DLCA, 195DLCU, 195GL, 197DLC, 197DLCA, 197DLCS Series	WA-4		
6 cyl	310ci	5.1L	3.875" 98.4mm	ALL	Waukesha Gas/Diesel/LPG Eng. F310G, VRD310, VRD310S, VRG310 Series (Includes Turbo)	WA-7		
6 cyl	320ci	5.2L	4.125" 104.8mm	ALL	Waukesha Eng. 195GK, 195GKA, 195GKU Series	WA-4		
6 cyl	330ci	5.3L	3.858" 98.4mm	ALL	Waukesha Eng. VRG330 CNG Series	WA-8		
6 cyl	330ci 5340cc	5.3L	3.875" 98.4mm	ALL	Waukesha Diesel/Turbocharged Diesel Eng. VRD330, VRD330S Series	WA-8		
6 cyl	468ci	7.6L	4.250" 108mm	ALL	Waukesha Eng. 140HL, 140HS Series	WA-10		
6 cyl	501ci	8.2L	4.500" 114.3mm	ALL	Waukesha Eng. V Series	WA-11		

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CAMSHAFT BEARINGS

DISPLACEMENT					YEAR	GENERAL APPLICATION DATA (ENGINE SERIES/MAKE/MODEL)	CAMSHAFT BEARING SET		
CYL.	CI/CC.	L	BORE	STD.			HI-PERF.	OHC	
WAUKESHA (Cont.)									
6 cyl	525ci	8.6L	4.500" 114.3mm	ALL	Waukesha Eng. 140GK, 140GS, 140GKB, 140HK Series	WA-10			
6 cyl	554ci	9.1L	4.625" 117.5mm	ALL	Waukesha Eng. 140GZ, 140GZB, 140GZC, 140GZU, F554G Series	WA-10			
6 cyl	638ci	10.5L	4.750" 120.7mm	ALL	Waukesha Eng. 145GS, 145HS Series	WA-11			
6cyl	779ci	12.8L	5.250" 133.4mm	ALL	Waukesha Eng. 145GK, 145GKB, 145GKU, 145HK Series	WA-11			
6 cyl	817ci	13.4L	5.375" 136.5mm	ALL	Waukesha Eng. 145GZ, 145GZB, 145GZU, F817G Series	WA-11			
6 cyl	1013ci	16.6L	5.750" 146.1mm	ALL	Waukesha Eng. 6WAL, 6WALH Series	WA-9			
6 cyl	1196ci	19.6L	6.250" 158.8mm	ALL	Waukesha Eng. 6WAK, 6WAKB, 6WAKC, 6WAKD, 6WAKDB, 6WAKDBS, 6WAKDS, 6WAKH, 6WAKM, F1197G, F1197GR Series	WA-9			
SPECIALTY AFTERMARKET BLOCKS									
8 cyl	-	-	-	ALL	Dart Eng. Little "M" Block (2.000" Hsg., OD Grove w/ 3 Hole, 120 Degree Spacing) (+.010 OD)		DT-1T (Coated) DT-1TR1 (Coated)		
8 cyl	-	-	-	ALL	Dart Eng. Big "M" Block (2.120" Hsg., OD Groove w/ 3 Hole, 120 Degree Spacing)		GMP-12LT (Coated)		
8 cyl	-	-	-	ALL	Dart Eng. Iron Eagle (2.120" Hsg., OD Grove w/ 3 Hole, 120 Degree Spacing)		GMP-2T (Coated)		
8 cyl	-	-	-	ALL	Dart Eng. Ford SVO Block (2.204" Hsg., OD Grove w/ 3 Hole, 120 Degree Spacing) (+.010 OD)		SBF-1T (Coated) SBF-1R1T (Coated)		
8 cyl	-	-	-	ALL	GMC Block (2.125" Cam Journal)		GMP-3 or GMP-3T (Coated)		
8 cyl	-	-	-	ALL	GMC LSX Block	GM-9	GMP-9 or GMP-9T (Coated)		
8 cyl	-	-	-	ALL	Rodeck Eng.		RDCP-1 or RDCP-1T (Coated)		

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
351HP	Ford - HP Cam Bearing Set (Stepped Cam)	351HP-1	1	2.2040	0.660	.0602
		351HP-2	2	2.2040	0.660	.0677
		351HP-3	3	2.2040	0.660	.0752
		351HP-4	4	2.2040	0.660	.0827
		351HP-5	5	2.2040	0.660	.0902
351HPT	Ford - HP Cam Bearing Set (Coated), (Stepped Cam)	351HP-1T	1	2.2040	0.660	.0602
		351HP-2T	2	2.2040	0.660	.0677
		351HP-3T	3	2.2040	0.660	.0752
		351HP-4T	4	2.2040	0.660	.0827
		351HP-5T	5	2.2040	0.660	.0902
351HP-R1	Ford - HP Cam Bearing Set w/ .010 Oversize OD (Stepped Cam)	351HP-1R1	1	2.2140	0.660	.0652
		351HP-2R1	2	2.2140	0.660	.0727
		351HP-3R1	3	2.2140	0.660	.0802
		351HP-4R1	4	2.2140	0.660	.0877
		351HP-5R1	5	2.2140	0.660	.0952
351RHP	Ford - HP Cam Bearing Set (2.081" Journals, No.1-5 Position)	351HP-1	1,2,3,4,5	2.2040	0.660	.0602
351RHPT	Ford - HP Cam Bearing Set (Coated) (2.081" Journals, No.1-5 Position)	351HP-1T	1,2,3,4,5	2.2040	0.660	.0602
A-1 .010 und	Allis Chalmers - Cam Bearing Set	A-1-1	1,2,3	1.8805	1.125	.0642
A-2	Allis Chalmers, Le Roi - Cam Bearing Set	A-2-1	1,2,3	2.0055	1.308	.0643
A-3	Allis Chalmers - Cam Bearing Set	A-3-1	1	2.2595	1.385	.0630
		A-3-2	2,3	2.2595	1.000	.0630
A-4	Allis Chalmers - Cam Bearing Set	A-3-1	1	2.2595	1.385	.0630
		A-3-2	2,3,4	2.2595	1.000	.0630
A-5	Allis Chalmers - Cam Bearing Set	A-3-1	1	2.2595	1.385	.0630
		A-3-2	2,3,4,5,6	2.2595	1.000	.0630
A-6	Allis Chalmers - Cam Bearing Set	A-1-1	1,3	1.8805	1.125	.0642
		A-6-1	2	1.8805	1.125	.0642
B-6 .010 und	American Mototrs, General Motors, Jeep - Cam Bearing Set	B-6-1	1	1.8865	0.750	.0642
		B-4-3	2	1.8565	0.750	.0643
		B-4-4	3	1.8265	0.750	.0643
		B-4-5	4	1.7965	0.750	.0643
B-8 .010 und .020 und	General Motors - Cam Bearing Set	B-4-1	1	1.9165	0.750	.0643
		B-6-1	2	1.8865	0.750	.0642
		B-4-3	3	1.8565	0.750	.0643
		B-4-4	4	1.8265	0.750	.0643
		B-4-5	5	1.7965	0.750	.0643
B-9 .010 und .020 und .030 und	General Motors, Jeep - Cam Bearing Set	B-11-1	1	1.9165	0.750	.0642
		B-9-2	2,3,4,5	1.9165	0.620	.0642
B-11 .010 und .020 und	General Motors, MG, Rover, Triumph - Cam Bearing Set	B-11-1	1	1.9165	0.750	.0642
		B-6-1	2	1.8865	0.750	.0642
		B-4-3	3	1.8565	0.750	.0643
		B-4-4	4	1.8265	0.750	.0643
		B-4-5	5	1.7965	0.750	.0643
B-12 .010 und .020 und	General Motors - Cam Bearing Set	B-11-1	1	1.9165	0.750	.0642
		B-9-2	2,3,4	1.9165	0.620	.0642
B-12B .010 und	General Motors - Special Oil Control Cam Bearing Set w/ OD Groove No.1 Position	B-11-1B	1	1.9165	0.750	.0642
		B-9-2	2,3,4	1.9165	0.620	.0642

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
B-13 .010 und	General Motors - Cam Bearing Set	B-13-1	1,4	1.9365	0.750	.0743
		B-9-2	2,3	1.9165	0.620	.0642
B-13R	General Motors - Cam Bearing Set w/ .025 Oversize OD	B-13-1R	1,4	1.9625	0.750	.0743
		B-9-2R	2,3	1.9625	0.620	.0642
B-14 .010 und .020 und	General Motors - Cam Bearing Set	B-14-1	1,4	1.9965	0.745	.0741
		B-14-2	2,3	1.9765	0.630	.0641
B-14R	General Motors - Cam Bearing Set w/ .025 Oversize OD	B-14-1R	1,4	2.0207	0.745	.0741
		B-14-2R	2,3	2.0207	0.630	.0641
BL-1	Austin, MG, Morris - Cam Bearing Set	BL-1-1	1	1.7960	1.125	.0644
		BL-1-2	2	1.7539	0.755	.0644
		BL-1-3	3	1.5039	0.533	.0644
BMA-1*	BMW - OHC Cam Bearing Set (Full Round)	BMA-1-1	1	1.8918	0.800	.0403
		BMA-1-2	2	1.8524	0.800	.0403
		BMA-1-3	3	1.8131	0.800	.0403
		BMA-1-4	4	1.4587	1.390	.0403
BMA-2*	BMW - OHC Cam Bearing Set (Full Round)	BMA-1-1	1	1.8918	0.800	.0403
		BMA-1-2	2	1.8524	0.800	.0403
		BMA-1-3	3	1.8131	0.800	.0403
		BMA-1-10	4	1.5772	0.800	.0403
BMA-3*	BMW - OHC Cam Bearing Set (Full Round)	BMA-1-1	1	1.8918	0.800	.0403
		BMA-1-5	2	1.8918	0.800	.0500
		BMA-1-2	3	1.8524	0.800	.0403
		BMA-1-6	4	1.8524	0.995	.0500
		BMA-1-3	5	1.8131	0.800	.0403
		BMA-1-7	6	1.8131	0.800	.0500
		BMA-1-10	7	1.5772	0.800	.0403
BMA-4*	BMW - OHC Cam Bearing Set (Full Round)	BMA-1-8	1	1.7741	1.115	.0403
		BMA-1-9	2	1.7340	1.085	.0400
		BMA-4-3	3	1.4587	1.000	.0398
BP-9	General Motors, Jeep - HP Cam Bearing Set	BP-11-1	1	1.9165	0.750	.0642
		BP-9-2	2,3,4,5	1.9165	0.620	.0642
BP-9T	General Motors, Jeep - HP Cam Bearing Set (Coated)	BP-11-1T	1	1.9165	0.750	.0642
		BP-9-2T	2,3,4,5	1.9165	0.620	.0642
BP-13	General Motors - HP Cam Bearing Set	BP-13-1	1,4	1.9365	0.750	.0743
		BP-9-2	2,3	1.9165	0.620	.0642
BP-13T	General Motors - HP Cam Bearing Set (Coated)	BP-13-1T	1,4	1.9365	0.750	.0743
		BP-9-2T	2,3	1.9165	0.620	.0642
BU-2 .010 und	Allis Chalmers, Buda, Military Standard - Cam Bearing Set	BU-1-1	1	2.1245	1.125	.0615
		BU-1-2	2,3	2.1245	0.875	.0615
		BU-1-3	4	1.3745	1.000	.0615
C-2 .010 und	General Motors - Cam Bearing Set	C-2-1	1,2,3,4	1.8797	0.750	.0641
		C-2-2	5	1.5682	0.875	.0642
C-3 .010 und .020 und .030 und	General Motors - Cam Bearing Set	C-3-1	1,2,3,4,5	1.8797	0.620	.0637
C-4 .010 und .030 und	General Motors - Cam Bearing Set	C-4-1	1	2.1687	0.591	.0652
		C-4-2	2	2.1487	0.591	.0652
		C-4-3	3	2.1287	0.591	.0652
		C-4-4	4	2.1087	0.591	.0652
		C-4-5	5	2.0887	0.591	.0652

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
C-4A	General Motors - Cam Bearing Set w/ Wide No. 5 Position	C-4-1 C-4-2 C-4-3 C-4-4 C-4-5A	1 2 3 4 5	2.1687 2.1487 2.1287 2.1087 2.0887	0.591 0.591 0.591 0.591 0.685	.0652 .0652 .0652 .0652 .0652
CA-3 .010 und	Case Tractor, Continental, Military Standard - Cam Bearing Set	CA-3-1 CA-3-2 CA-3-3	1 2 3	1.8805 1.8805 1.8805	1.312 0.718 1.187	.0642 .0642 .0642
CA-4 .010 und	Case Tractor - Cam Bearing Set	CA-4-1 CA-4-2	1,3 2	1.8805 1.8805	1.218 0.495	.0643 .0642
CA-5	Case Tractor - Cam Bearing Set	CA-4-1 CA-4-2 CA-5-3	1,5 2,4 3	1.8805 1.8805 1.8805	1.218 0.495 0.718	.0643 .0642 .0642
CA-6	Case Tractor - Cam Bearing Set	CA-6-1 CA-6-2 CA-6-3	1 2,3 4	2.3745 2.3745 2.3745	1.656 1.437 1.156	.0625 .0625 .0625
CA-7	Case Tractor - Cam Bearing Set	CA-6-1 CA-6-2 CA-6-3	1 2,3,4 5	2.3745 2.3745 2.3745	1.656 1.437 1.156	.0625 .0625 .0625
CA-8	Case Tractor - Cam Bearing Set	CA-4-1 CA-4-2	1,3 2,4	1.8805 1.8805	1.218 0.495	.0643 .0642
CA-9	Case Tractor - Cam Bearing Set	CA-4-1 CA-4-2 CA-9-1	1 2,3,4 5	1.8805 1.8805 1.8805	1.218 0.495 0.970	.0643 .0642 .0640
CAT-2	Caterpillar, Ford, General Motors, IHC, Oliver Tractor - Cam Bearing Set	CAT-1-2	1,2,3,4,5	2.6525	0.755	.0750
CAT-2-1	Caterpillar, Ford - Multi-Engine Application (Bearings Sold Separately)	CAT-2-1		2.5630	1.125	.1243
CAT-2-2	Caterpillar, Ford - Multi-Engine Application (Bearings Sold Separately)	CAT-2-2		2.5630	1.004	.1243
CAT-2-3	Caterpillar - Multi-Engine Application (Bearings Sold Separately)	CAT-2-3		2.2776	1.185	.0946
CAT-2-4	Caterpillar - Multi-Engine Application (Bearings Sold Separately)	CAT-2-4		2.2776	2.000	.0946
CAT-2-5	Caterpillar, Ford - Multi-Engine Application (Bearings Sold Separately)	CAT-2-5		2.1880	1.180	.1052
CAT-2-6	Caterpillar, Ford - Multi-Engine Application (Bearings Sold Separately)	CAT-2-6		2.1880	2.000	.1052
CAT-3-1	Caterpillar - Multi-Engine Application (Bearings Sold Separately)	CAT-3-1		2.8745	1.185	.1258
CAT-3-2	Caterpillar - Multi-Engine Application (Bearings Sold Separately)	CAT-3-2		2.8745	1.995	.1256
CAT-5	Caterpillar - Cam Bearing Set	CAT-5-0 CAT-5-1	1 2,3,4,5,6,7	2.7559 2.7165	1.340 0.750	.0945 .0748
CAT-6	Caterpillar - Cam Bearing Set	CAT-2-1 CAT-2-2	1 2,3,4,5	2.5630 2.5630	1.125 1.004	.1243 .1243
CAT-7**	Caterpillar - Balance Shaft Bearing Set	CAT-2-1 CAT-2-2	Center Front, Rear	2.5630 2.5630	1.125 1.004	.1243 .1243
CH-2 .010 und .020 und .030 und	General Motors, Military Standard - Cam Bearing Set	CH-2-1 CH-2-2 CH-2-3 CH-2-4	1 2 3 4	2.1599 2.0975 2.0350 1.9725	1.125 0.937 0.937 0.937	.0644 .0644 .0644 .0644

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
CH-3 .010 und .020 und .030 und	General Motors - Cam Bearing Set	CH-3-1 CH-3-2 CH-3-3 CH-3-4	1 2 3 4	2.2850 2.2225 2.1600 2.0975	1.125 0.937 0.937 0.937	.0641 .0641 .0641 .0642
CH-4 .010 und .020 und .030 und	General Motors - Cam Bearing Set	CH-4-1 CH-4-2 CH-4-3 CH-4-4	1 2 3,4 5	2.0200 2.0100 2.0000 2.0100	0.740 0.740 0.740 0.940	.0744 .0694 .0644 .0694
CH-4A	General Motors - Cam Bearing Set w/ .010 Oversize OD	CH-4-1S	1,2,3,4,5	2.0300	0.740	.0795
CH-5	General Motors - Cam Bearing Set	CH-5-1 CH-5-2 CH-5-3 CH-5-4	1 2 3,4 5	2.0200 2.0100 2.0000 2.0100	0.860 0.860 0.860 0.940	.0744 .0694 .0644 .0694
CH-6 .010 und	Chevrolet Marine, General Motors - Cam Bearing Set	CH-5-2 CH-5-3	3 1,2	2.0100 2.0000	0.860 0.860	.0694 .0644
CH-7 .010 und .020 und .030 und	Checker, General Motors, Studebaker - Cam Bearing Set	CH-5-2 CH-5-3	1,4 2,3	2.0100 2.0000	0.860 0.860	.0694 .0644
CH-8 .010 und .020 und .030 und	Checker, General Motors, Isuzu, Military Standard, Studebaker, Volvo-Penta - Cam Bearing Set	CH-4-1 CH-4-2 CH-4-3	1 2,5 3,4	2.0200 2.0100 2.0000	0.740 0.740 0.740	.0744 .0694 .0644
CH-8W	General Motors - Cam Bearing Set w/ .001 Under ID	CH-4-1W CH-4-2W CH-4-3W	1 2,5 3,4	2.0200 2.0100 2.0000	0.740 0.740 0.740	.0749 .0699 .0649
CH-9A .010 und	General Motors - Cam Bearing Set	CH-12-1 CH-12-2 CH-12-3 CH-9-4	1 2 3,4 5	2.1400 2.1300 2.1200 2.1300	0.860 0.980 0.980 0.980	.0941 .0891 .0841 .0894
CH-10 .010 und .020 und	General Motors - Cam Bearing Set	CH-10-1 CH-10-2 CH-10-3	1,5 2,4 3	2.3270 2.3171 2.3073	0.630 0.630 0.630	.0790 .0740 .0692
CH-11 .010 und .020 und .030 und	Checker, General Motors - Cam Bearing Set	CH-5-3	1,2,3,4	2.0000	0.860	.0644
CH-11B	Checker, General Motors - Special Oil Control Cam Bearing Set w/ OD Groove	CH-5-3B	1,2,3,4	2.0000	0.860	.0644
CH-12 .010 und .020 und .030 und	General Motors - Cam Bearing Set	CH-12-1 CH-12-2 CH-12-3	1 2,5 3,4	2.1400 2.1300 2.1200	0.860 0.980 0.980	.0941 .0891 .0841
CH-12B	General Motors - Special Oil Control Cam Bearing Set w/ OD Groove	CH-12-1B CH-12-2B CH-12-3B	1 2,5 3,4	2.1400 2.1300 2.1200	0.860 0.980 0.980	.0941 .0891 .0841
CH-13 .010 und	General Motors - Cam Bearing Set	CH-13-1 CH-13-2	1 2,3,4,5	2.4125 2.4125	0.680 0.680	.0643 .0643
CH-16 .010 und .020 und	American Motors, General Motors, Jeep - Cam Bearing Set	CH-5-3	1,2,3	2.0000	0.860	.0644
CH-16W	American Motors, General Motors, Jeep - Cam Bearing Set w/ .001 Under ID	CH-5-3W	1,2,3	2.0000	0.860	.0649

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
CH-17 .010 und .020 und	Checker, General Motors, Isuzu - Cam Bearing Set	CH-4-1	1	2.0200	0.740	.0744
		CH-4-2	2,4	2.0100	0.740	.0694
		CH-4-3	3	2.0000	0.740	.0644
CH-17X	Checker, General Motors, Isuzu - Cam Bearing Set w/ .001 Under ID	CH-4-1W	1	2.0200	0.740	.0749
		CH-4-2W	2,4	2.0100	0.740	.0699
		CH-4-3W	3	2.0000	0.740	.0649
CH-17G	General Motors, Isuzu - Cam Bearing & Balance Shaft Bearing Kit (Combines CH-17 & CHG-15A**)	CH-4-1	1	2.0200	0.740	.0744
		CH-4-2	2,4	2.0100	0.740	.0694
		CH-4-3	3	2.0000	0.740	.0644
		CHG-15-1	1	1.8740	0.835	.1860
		SH-1798T	(Tool)			
CH-18 .010 und .020 und	General Motors, Isuzu, Jeep - Cam Bearing Set	CH-18-1A	1	2.0100	0.625	.0691
		CH-18-2	2,3	1.9995	0.630	.0640
		CH-18-4	4	2.0095	0.625	.0691
CH-18A .010 und	General Motors, Isuzu, Jeep - Cam Bearing Set w/ Wide No. 2, 3 Position	CH-18-1A	1	2.0100	0.625	.0691
		CH-18-2A	2,3	1.9995	0.720	.0640
		CH-18-4	4	2.0095	0.625	.0691
CH-18R8	General Motors, Isuzu, Jeep - Cam Bearing Set w/ Oversize OD	CH-18-1R8	1	2.0900	0.625	.1091
		CH-18-2R8	2,3	2.0800	0.720	.1040
		CH-18-4R8	4	2.0900	0.625	.1091
CH-18RS	General Motors, Isuzu, Jeep - Cam Bearing Set w/ Oversize OD	CH-18-1R3	1	2.0400	0.625	.0848
		CH-18-2R2	2,3	2.0300	0.720	.0798
		CH-18-4R4	4	2.0400	0.625	.0847
CH-19 .010 und	General Motors, Isuzu - Cam Bearing Set	CH-19-1	1	2.0199	0.625	.0741
		CH-18-4	2,5	2.0095	0.625	.0691
		CH-18-2	3,4	1.9995	0.630	.0640
CH-19X2	General Motors, Isuzu - Cam Bearing Set w/ .002 Under ID	CH-19-1X2	1	2.0199	0.625	.0751
		CH-18-4X2	2,5	2.0095	0.625	.0701
		CH-18-2X2	3,4	1.9995	0.630	.0650
CH-20	General Motors - Cam Bearing Set	CH-20-1	1,2,3	2.0000	0.710	.0644
CH-21 .010 und .020 und	General Motors, Isuzu - Cam Bearing Set	CH-4-1	1,4	2.0200	0.740	.0744
		CH-4-2	3	2.0100	0.740	.0694
		CH-4-3	2	2.0000	0.740	.0644
CH-21G	General Motors, Isuzu - Cam Bearing & Balance Shaft Bearing Kit (Combines CH-21 & CHG-15A**)	CH-4-1	1,4	2.0200	0.740	.0744
		CH-4-2	3	2.0100	0.740	.0694
		CH-4-3	2	2.0000	0.740	.0644
		CHG-15-1	1	1.8740	0.835	.1860
		SH-1798T	(Tool)			
CH-21X	General Motors, Isuzu - Cam Bearing Set w/ .001 Under ID	CH-4-1W	1,4	2.0200	0.740	.0749
		CH-4-2W	3	2.0100	0.740	.0699
		CH-4-3W	2	2.0000	0.740	.0649
CH-23 .010 und .020 und	General Motors - Cam Bearing Set	CH-10-1	2,4	2.3270	0.630	.0790
		CH-23-1	1,5	2.3470	0.630	.0890
		CH-10-3	3	2.3073	0.630	.0692
CH-24	General Motors - Cam Bearing Set	CH-24-1	1	2.1766	0.905	.0747
		CH-24-2	2,3	2.1565	0.630	.0646
		CH-24-3	4	2.1766	0.620	.0747
CHG-14**	General Motors, Isuzu, Opel - Balance Shaft Bearing Set	AGB-14-1	1,2,3	1.8895	0.984	.0586
CHG-15A**	General Motors, Isuzu - Balance Shaft Bearing Set (Rear Bearing)	CHG-15-1	1	1.8740	0.835	.1860
		SH-1798T	(Tool)			
CHG-22**	General Motors - Auxiliary Shaft Bearing Set	CHG-22-1	1	2.0100	1.172	.0691
		CH-18-2	2,3	1.9995	0.630	.0640

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
CHG-23**	General Motors - Balance Shaft Bearing Set	CHG-23-1	Right Rear	1.6253	0.865	.0808
		CHG-23-2	Right Front	1.5969	0.865	.0808
		CHG-23-3	Left Front	1.8672	0.862	.0808
		CHG-23-4	Left Rear	1.8955	0.862	.0808
CHG-24**	General Motors - Balance Shaft Bearing Set	CHG-24-1	1,2 (2 pcs.)	1.6050	1.020	.0786
CHP-4	General Motors - HP Cam Bearing Set	CHP-4-1	1	2.0200	0.740	.0744
		CHP-4-2	2	2.0100	0.740	.0694
		CHP-4-3	3,4	2.0000	0.740	.0644
		CHP-4-4	5	2.0100	0.940	.0694
CHP-4T	General Motors - HP Cam Bearing Set (Coated)	CHP-4-1T	1	2.0200	0.740	.0744
		CHP-4-2T	2	2.0100	0.740	.0694
		CHP-4-3T	3,4	2.0000	0.740	.0644
		CHP-4-4T	5	2.0100	0.940	.0694
CHP-8	Checker, General Motors, Isuzu, Military Standard, Studebaker, Volvo-Penta - HP Cam Bearing Set	CHP-4-1	1	2.0200	0.740	.0744
		CHP-4-2	2,5	2.0100	0.740	.0694
		CHP-4-3	3,4	2.0000	0.740	.0644
CHP-8T	Checker, General Motors, Isuzu, Military Standard, Studebaker, Volvo-Penta - HP Cam Bearing Set (Coated)	CHP-4-1T	1	2.0200	0.740	.0744
		CHP-4-2T	2,5	2.0100	0.740	.0694
		CHP-4-3T	3,4	2.0000	0.740	.0644
CHP-8R1	General Motors - HP Cam Bearing Set w/ .010 Oversize OD	CHP-4-11	1,2,3,4,5	2.0300	0.740	.0744
CHP-8R1T	General Motors - HP Cam Bearing Set (Coated) w/ .010 Oversize OD	CHP-4-11T	1,2,3,4,5	2.0300	0.740	.0744
CHP-8R2	General Motors - HP Cam Bearing Set w/ .020 Oversize OD	CHP-4-12	1,2,3,4,5	2.0400	0.740	.0844
CHP-8R2T	General Motors - HP Cam Bearing Set (Coated) w/ .020 Oversize OD	CHP-4-12T	1,2,3,4,5	2.0400	0.740	.0844
CHP-8R3	General Motors - HP Cam Bearing Set w/ .030 Oversize OD	CHP-4-13	1,2,3,4,5	2.0500	0.740	.0894
CHP-8R3T	General Motors - HP Cam Bearing Set (Coated) w/ .030 Oversize OD	CHP-4-13T	1,2,3,4,5	2.0500	0.740	.0894
CHP-8R4	General Motors - HP Cam Bearing Set w/ .040 Oversize OD	CHP-4-14	1,2,3,4,5	2.0600	0.740	.0944
CHP-8R4T	General Motors - HP Cam Bearing Set (Coated) w/ .040 Oversize OD	CHP-4-14T	1,2,3,4,5	2.0600	0.740	.0944
CHP-10	General Motors - HP Cam Bearing Set	CHP-10-1	1,5	2.3270	0.630	.0790
		CHP-10-2	2,4	2.3171	0.630	.0740
		CHP-10-3	3	2.3073	0.630	.0692
CHP-10T	General Motors - HP Cam Bearing Set (Coated)	CHP-10-1T	1,5	2.3270	0.630	.0790
		CHP-10-2T	2,4	2.3171	0.630	.0740
		CHP-10-3T	3	2.3073	0.630	.0692
CHP-12	General Motors - HP Cam Bearing Set	CHP-12-1	1	2.1400	0.860	.0941
		CHP-12-2	2,5	2.1300	0.980	.0891
		CHP-12-3	3,4	2.1200	0.980	.0841
CHP-12T	General Motors - HP Cam Bearing Set (Coated)	CHP-12-1T	1	2.1400	0.860	.0941
		CHP-12-2T	2,5	2.1300	0.980	.0891
		CHP-12-3T	3,4	2.1200	0.980	.0841
CHP-12R1	General Motors - HP Cam Bearing Set w/ .010 Oversize OD	CHP-12-11	1	2.1500	0.860	.0991
		CHP-12-21	2,3,4,5	2.1500	0.980	.0991
CHP-12R2	General Motors - HP Cam Bearing Set w/ .020 Oversize OD	CHP-12-12	1	2.1600	0.860	.1041
		CHP-12-22	2,3,4,5	2.1600	0.980	.1041
CHP-17	Checker, General Motors, Isuzu - HP Cam Bearing Set	CHP-4-1	1	2.0200	0.740	.0744
		CHP-4-2	2,4	2.0100	0.740	.0694
		CHP-4-3	3	2.0000	0.740	.0644

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
CHP-17T	General Motors, Isuzu - HP Cam Bearing Set (Coated)	CHP-4-1T	1	2.0200	0.740	.0744
		CHP-4-2T	2,4	2.0100	0.740	.0694
		CHP-4-3T	3	2.0000	0.740	.0644
CHP-21	General Motors, Isuzu - HP Cam Bearing Set	CHP-4-1	1,4	2.0200	0.740	.0744
		CHP-4-2	3	2.0100	0.740	.0694
		CHP-4-3	2	2.0000	0.740	.0644
CHP-21T	General Motors, Isuzu - HP Cam Bearing Set (Coated)	CHP-4-1T	1,4	2.0200	0.740	.0744
		CHP-4-2T	3	2.0100	0.740	.0694
		CHP-4-3T	2	2.0000	0.740	.0644
CHP-23	General Motors - HP Cam Bearing Set	CHP-10-1	2,4	2.3270	0.630	.0790
		CHP-23-1	1,5	2.3470	0.630	.0890
		CHP-10-3	3	2.3073	0.630	.0692
CHP-23T	General Motors - HP Cam Bearing Set (Coated)	CHP-10-1T	2,4	2.3270	0.630	.0790
		CHP-23-1T	1,5	2.3470	0.630	.0890
		CHP-10-3T	3	2.3073	0.630	.0692
CO-3 .010 und .020 und .030 und	Continental, IHC, Jeep, Oliver Tractor - Cam Bearing Set	K-1-2	1	1.9375	0.937	.0630
		K-1-3	2	1.8810	1.620	.0628
		K-1-4	3	1.3748	1.156	.0628
CO-7	Continental, Mack - Cam Bearing Set	CO-7-1	1	2.3743	1.094	.0940
		CO-7-2	2	2.3120	1.000	.0940
		CO-7-3	3	2.2495	1.000	.0940
		CO-7-4	4	1.9370	1.250	.0940
CO-8 .010 und .020 und .030 und	Continental, John Deere, Mack, Military Standard, Oliver Tractor - Cam Bearing Set	K-1-1	1	2.0000	0.875	.0628
		K-1-3	2	1.8810	1.620	.0628
		K-1-4	3	1.3748	1.156	.0628
CO-9	Continental, IHC - Cam Bearing Set	CO-9-1	1	1.9375	1.323	.0626
		CO-9-2	2	1.8750	0.573	.0626
		CO-9-3	3	1.8125	1.135	.0626
CU-5A	Cummins, Ford, General Motors, IHC, Komatsu - Cam Bearing Set	CU-1-1	1	2.1290	2.250	.0644
		CU-5-2A	2,3,4,5,6,7	2.1250	1.685	.0644
CU-9	Cummins, Ford, General Motors, IHC - Cam Bearing Set	CU-9-1	1,2,4,6	2.6870	1.685	.0939
		CU-9-2	3,5	2.6870	2.185	.0939
		CU-8-1	7	2.6870	1.685	.0939
CU-10	Cummins - Cam Bearing Set	CU-1-1	1	2.1290	2.250	.0644
		CU-5-2A	2,3,4,5	2.1250	1.685	.0644
CU-11	Cummins, Ford - Cam Bearing Set	CU-11-1	1,5	2.1870	1.905	.0932
		CU-11-2	2,3,4	2.1870	0.905	.0932
CU-11A	Cummins - Cam Bearing Set	CU-11-1	1,4	2.1870	1.905	.0932
		CU-11-2	2,3	2.1870	0.905	.0932
CU-12	Case Tractor, Chrysler, Cummins, Ford - Cam Bearing Set	CU-12-1	1	2.2535	1.005	.0620
CU-13	Cummins - Cam Bearing Set	CU-13-1	1,5	2.6870	1.810	.0937
		CU-13-2	2,3,4	2.6870	1.070	.0937
CU-14	Chrysler, Cummins - Cam Bearing Set	CU-14-1	1	2.3323	1.005	.1010
DA-1	Nissan - Cam Bearing Set	DA-1-1	1	1.8509	0.930	.0625
		DA-1-2	2	1.8312	0.555	.0625
		DA-1-3	3	1.8115	0.555	.0625
		DA-1-4	4	1.7918	0.555	.0625
		DA-1-5	5	1.7495	0.555	.0625
DA-2 .010 und .020 und	Astin, Audi, IHC, Metropolitan-Nash, MG, Morris, Nissan, Nuffield Tractor, Riley - Cam Bearing Set	DA-2-1	1	1.9155	1.455	.0624
		DA-2-2	2	1.8555	1.070	.0624
		DA-2-3	3	1.7495	0.812	.0624

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"und" Denotes Undersized ID

BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
DA-3A	Nissan - Cam Bearing Set	DA-3-1	1	1.9155	0.945	.0625
		DA-3-2	2	1.8555	0.865	.0625
		DA-3-3A	3	1.7495	0.947	.0625
DA-5	IHC, Nissan - Cam Bearing Set	DA-3-1	1	1.9155	0.945	.0625
		DA-3-2	2,3	1.8555	0.865	.0625
		DA-3-3A	4	1.7495	0.947	.0625
DE-1	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set	DE-1-1	1,2,3,4,5	2.2505	1.545	.0925
DE-2	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set	DE-2-1	1,3 (4 pcs.)	2.3755	1.505	.0943
		DE-2-2	2 (1 pcs.)	2.3655	1.505	.0893
DE-2A	Detroit Diesel, Military Standard - Cam Bearing & Balance Shaft Bearing Set	DE-2-1	1,3 (4 pcs.)	2.3755	1.505	.0943
		DE-2-2	2 (2 pcs.)	2.3655	1.505	.0893
DE-2R1	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set w/ .010 Oversize OD	DE-2-1R1	1,3 (4 pcs.)	2.3855	1.505	.0993
		DE-2-2R1	2 (1 pcs.)	2.3755	1.505	.0943
DE-2AR1	Detroit Diesel, Military Standard - Cam Bearing & Balance Shaft Bearing Set w/ .010 Oversize OD	DE-2-1R1	1,3 (4 pcs.)	2.3855	1.505	.0993
		DE-2-2R1	2 (2 pcs.)	2.3755	1.505	.0943
DE-4	Detroit Diesel, Ford - Cam Bearing Set	DE-4-1	1,2,3,4,5	2.7216	0.710	.0774
DE-5	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set	DE-2-1	1,4	2.3755	1.505	.0943
		DE-2-2	2,3	2.3655	1.505	.0893
DE-5R1	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set w/ .010 Oversize OD	DE-2-1R1	1,4	2.3855	1.505	.0993
		DE-2-2R1	2,3	2.3755	1.505	.0943
DE-7	Detroit Diesel - Cam Bearing & Balance Shaft Bearing Set	DE-2-1	1,5 (4 pcs.)	2.3755	1.505	.0943
		DE-2-2	2,4 (2 pcs.)	2.3655	1.505	.0893
		DE-2-3	3 (3 pcs.)	2.3555	1.510	.0842
DT-1T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	DT-1-1T	1,2,3,4,5	2.0000	0.740	.0644
DT-1TR1	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated) w/ .010 Oversize OD	DT-11-1T	1,2,3,4,5	2.0010	0.740	.0694
F-1 .010 und .020 und .030 und	Ford, Military Standard - Cam Bearing Set	F-1-1	1,3	1.9280	1.600	.0648
		F-1-2	2	1.9280	1.312	.0648
F-7 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-22-1	1,2,4	2.0580	0.875	.0649
		F-7-2	3	2.0580	0.875	.0649
F-9A .010 und .020 und .030 und	Ford - Cam Bearing Set (Cams w/ Grooved No. 3 Journal)	F-9-1	1	2.0580	0.875	.0648
		F-9-3	2,3,4,5	2.0580	0.620	.0648
F-9B .010 und .020 und .030 und	Ford - Cam Bearing Set (Cams w/ Cross-Drilled No.3 Journal)	F-9-1	1	2.0580	0.875	.0648
		F-9-2B	2,3,4,5	2.0580	0.620	.0648
F-11 .020 und .030 und	Ford - Cam Bearing Set	F-8-1	1,5	2.2500	0.875	.0618
		F-11-2	2,3,4	2.2500	0.755	.0618
F-12 .010 und	Ford - Cam Bearing Set	F-12-1	1	2.6000	0.755	.0617
		F-11-2	2,3,4	2.2500	0.755	.0618
		F-8-1	5	2.2500	0.875	.0618
F-16 .010 und	Ford, Military Standard - Cam Bearing Set	F-16-1	1	2.6025	0.670	.0629
		F-16-2	2,3,4,5	2.4985	0.670	.0629

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
F-18 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-18-1 F-18-2 F-18-3 F-18-4 F-18-5	1 2 3 4 5	2.2040 2.1890 2.1740 2.1590 2.1440	0.660 0.660 0.660 0.660 0.660	.0602 .0602 .0602 .0602 .0602
F-19 .020 und .030 und	Ford - Cam Bearing Set	F-19-1 F-19-2 F-19-3 F-19-4 F-14-5	1 2 3 4 5	2.4480 2.4330 2.4180 2.4030 2.3880	0.710 0.710 0.710 0.710 0.710	.0609 .0609 .0609 .0609 .0610
F-22 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-22-1	1,2,3,4	2.0580	0.875	.0649
F-23A .010 und .020 und .030 und	Ford - Cam Bearing Set	F-23-1A	1,2,3,4	2.1445	0.860	.0624
F-23B	Ford - Special Oil Control Cam Bearing Set w/ OD Groove	F-23-1B	1,2,3,4	2.1445	0.860	.0624
F-24	Ford - Cam Bearing Set	F-33-1 F-24-2 F-24-3 F-24-4 F-24-5	1 2 3 4 5	2.3100 2.2950 2.2800 2.2650 2.2500	0.620 0.620 0.620 0.620 0.560	.0912 .0844 .0769 .0694 .0619
F-25	Jeep, Military Standard - Cam Bearing Set	F-25-1	1,2,3	2.1365	1.000	.0624
F-26 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-26-1 F-18-2 F-18-3 F-18-4 F-18-5	1 2 3 4 5	2.2500 2.1890 2.1740 2.1590 2.1440	0.660 0.660 0.660 0.660 0.660	.0616 .0602 .0602 .0602 .0602
F-28 .010 und .020 und	Ford - Cam Bearing Set	F-28-1 F-28-2 F-28-3	1 2 3	1.6890 1.6890 1.6890	0.790 0.685 0.790	.0633 .0633 .0633
F-29 .020 und	Ford - Cam Bearing Set	F-29-1 F-29-2 F-29-3A	1 2 3	1.7755 1.8785 1.8935	0.785 0.665 0.625	.0600 .0600 .0600
F-30 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-30-1	1,2,3,4,5	2.2500	0.580	.0620
F-30R1	Ford - Cam Bearing Set w/ .010 Oversize OD	F-30-1R1	1,2,3,4,5	2.2600	0.580	.0668
F-30R2	Ford - Cam Bearing Set w/ .020 Oversize OD	F-30-1R2	1,2,3,4,5	2.2700	0.580	.0718
F-31 .010 und	Ford - Cam Bearing Set	F-31-1 F-31-2 F-31-3 F-31-4	1 2 3 4	1.7734 1.7585 1.7435 1.7285	0.775 0.700 0.700 0.595	.0604 .0604 .0604 .0604
F-32 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-32-1 F-17-2 F-17-3 F-17-4	1 2 3 4	1.9785 1.9635 1.9485 1.9335	0.720 0.720 0.720 0.720	.0832 .0757 .0682 .0607

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SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
F-33 .010 und .020 und .030 und	Ford - Cam Bearing Set	F-33-1 F-15-2 F-15-3 F-15-4 F-15-5	1 2 3 4 5	2.3100 2.2950 2.2800 2.2650 2.2500	0.620 0.620 0.620 0.620 0.560	.0912 .0841 .0766 .0691 .0616
F-34 .010 und .030 und	Ford, Mazda - Cam Bearing Set	F-34-1	1,2,3,4	1.9011	0.693	.0638
F-34B .010 und	Ford - Special Oil Control Cam Bearing Set w/ OD Groove	F-34-1B	1,2,3,4	1.9011	0.693	.0638
F-34S	Ford, Mazda - Cam Bearing Set w/ .020 Oversize OD	F-34-1S	1,2,3,4	1.9203	0.693	.0738
F-38	Ford - Cam Bearing & Auxiliary Shaft Bearing Kit (Combines F-52 & FG-51**)	AGB-51-1 F-52-1 F-51-2	1,2 1,4 2,3	2.1920 2.1920 2.1770	0.635 0.635 0.555	.0694 .0694 .0619
F-38X	Ford - Cam Bearing & Auxiliary Shaft Bearing Kit w/ Special Wide No. 2, 3 Position (Combines F-52X & FG-51**)	AGB-51-1 F-52-1X F-51-2X	1,2 1,4 2,3	2.1920 2.1920 2.1770	0.635 0.635 0.595	.0694 .0688 .0613
F-41	Ford, Mazda - Cam Bearing Set	F-41-1 F-41-2	1 2,3	1.9299 1.9299	0.949 0.714	.0794 .0794
F-42	Ford, Saab - Cam Bearing Set	F-42-1 F-42-2 F-31-4	1 2 3	1.7585 1.7435 1.7285	0.775 0.700 0.595	.0604 .0604 .0604
F-43	Ford - Cam Bearing Set	F-43-1	1,2,3,4	2.5345	0.765	.0708
F-44	Ford - Cam Bearing Set	F-43-1	1,2,3,4,5	2.5345	0.765	.0708
F-45 .010 und	Ford - Cam Bearing Set	F-45-1 F-45-2	1,4 2,3	2.1920 2.1770	0.635 0.555	.0694 .0619
F-46 .010 und	Ford - Cam Bearing Set	F-46-1 F-46-2 F-46-3	1 2,3 4	2.2047 2.1890 2.2047	0.723 0.723 0.503	.0973 .0894 .0973
F-47 .010 und	Ford - Cam Bearing Set	F-47-1 F-47-2 F-47-3 F-47-4	1 2 3 4	1.8521 1.8371 1.8222 1.8072	0.780 0.700 0.700 0.595	.0605 .0605 .0605 .0605
F-47B .010 und	Ford - Special Oil Control Cam Bearing Set w/ OD Groove No. 2,3 Position	F-47-1 F-47-2B F-47-3B F-47-4	1 2 3 4	1.8521 1.8371 1.8222 1.8072	0.780 0.700 0.700 0.595	.0605 .0605 .0605 .0605
F-48 .010 und .030 und	Ford, Mazda - Cam Bearing Set	F-48-1 F-48-2 F-48-4	1 2,3 4	2.1536 2.1339 2.1536	0.955 0.537 0.537	.0719 .0620 .0719
F-48A .010 und	Ford - Cam Bearing Set w/ ID Groove No. 4 Position	F-48-1 F-48-2 F-48-4A	1 2,3 4	2.1536 2.1339 2.1536	0.955 0.537 0.537	.0719 .0620 .0719
F-49 .010 und	Ford - Cam Bearing Set	F-49-1 F-49-2	1,4 2,3	2.1590 2.1445	0.860 0.860	.0695 .0624
F-49B .010 und	Ford - Special Oil Control Cam Bearing Set w/ OD Groove	F-49-1B F-23-1B	1,4 2,3	2.1590 2.1445	0.860 0.860	.0695 .0624
F-50 .010 und	Ford, Mazda - Cam Bearing Set	F-50-1 F-50-2 F-50-3 F-50-4	1 2 3 4	2.0776 2.0626 2.0476 2.0327	0.775 0.700 0.700 0.585	.0617 .0614 .0614 .0615

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SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
F-50A .010 und .020 und .030 und	Ford, Mazda - Cam Bearing Set w/ Special Wide No. 4 Position	F-50-1	1	2.0776	0.775	.0617
		F-50-2	2	2.0626	0.700	.0614
		F-50-3	3	2.0476	0.700	.0614
		F-50-4A	4	2.0327	0.825	.0615
F-52 .010 und	Ford - Cam Bearing Set	F-52-1	1,4	2.1920	0.635	.0694
		F-51-2	2,3	2.1770	0.555	.0619
F-55	Ford - Cam Bearing Set	F-43-1	1,2,3,4,5,6,7	2.5345	0.765	.0708
FA-1*	Ford - OHC Cam Bearing Set (Full Round)	FA-1-1	1	1.9035	0.925	.0503
		FA-1-2	2	1.8985	0.925	.0478
		FA-1-3	3	1.8935	0.925	.0453
		FA-1-4	4	1.8885	0.925	.0428
		FA-1-5	5	1.8835	0.925	.0403
FA-2*	Ford - OHC Cam Bearing Set (Full Round)	FA-2-1	1	1.8435	0.845	.0403
		FA-2-2	2	1.8535	0.845	.0403
		FA-2-3	3	1.8635	0.845	.0403
		FA-2-4	4	1.8735	0.845	.0403
		FA-2-5	5	1.8835	0.845	.0403
FA-3* .010 und	Ford - OHC Cam Bearing Set (Half Shell) (One Set Per Head)	FA-3-2(U)	1,2,3,4,5,6	1.1469	0.570	.0422
		FA-3-1(L)	1,2,3,4,5,6	1.1469	0.570	.0422
FA-4*	Ford - OHC Cam Bearing Set (Half Shell) (One Set Per Head)	FA-4-3(U)	1,6,7,12	1.1469	0.570	.0420
		FA-4-4(U)	2,3,4,5,8,9,10,11	1.1469	0.455	.0420
		FA-3-2(L)	1,6,7,12	1.1469	0.570	.0422
		FA-4-1(L)	2,3,4,5	1.1469	0.455	.0420
		FA-4-2(L)	8,9,10,11	1.1469	0.455	.0420
FA-5*	Ford - OHC Cam Bearing Set (Half Shell) (One Set Per Head)	FA-4-3(U)	1,6,7,12	1.1469	0.570	.0420
		FA-4-4(U)	2,3,4,5,8,9,10,11	1.1469	0.455	.0420
		FA-5-1(L)	1,6,7,12	1.1469	0.570	.0422
		FA-4-1(L)	2,3,4,5	1.1469	0.455	.0420
		FA-4-2(L)	8,9,10,11	1.1469	0.455	.0420
FA-6*	Ford - OHC Cam Bearing Set (Half Shell)	FA-6-2(U)	1	1.1875	0.960	.0422
		FA-6-4(U)	2,3,4	1.1875	0.680	.0422
		FA-6-1(L)	1	1.1875	0.960	.0422
		FA-6-3(L)	2,3,4	1.1875	0.680	.0422
FG-1-1**	Ford - Balance Shaft Drive Gear Bushing (Bearings Sold Separately)	FG-1-1		2.1430	0.815	.0701
FG-29**	Ford - Balance Shaft Bearing Set	AGB-29-1	1	1.7750	0.500	.0606
FG-34**	Ford, Mazda - Balance Shaft Bearing Set	AGB-34-1	1	1.7975	0.500	.0714
		AGB-34-2	2	1.7775	0.500	.0614
FG-51** .010 und	Ford - Balance Shaft Bearing Set	AGB-51-1	1,2	2.1920	0.635	.0694
FG-53**	Ford - Auxiliary Shaft Bearing Set	FG-53-1	Front	1.8522	1.142	.0610
		FG-53-2	Rear	1.8072	0.905	.0610
FP-18	Ford - HP Cam Bearing Set	FP-18-1	1	2.2040	0.660	.0602
		FP-18-2	2	2.1890	0.660	.0602
		FP-18-3	3	2.1740	0.660	.0602
		FP-18-4	4	2.1590	0.660	.0602
		FP-18-5	5	2.1440	0.660	.0602
FP-18T	Ford - HP Cam Bearing Set (Coated)	FP-18-1T	1	2.2040	0.660	.0602
		FP-18-2T	2	2.1890	0.660	.0602
		FP-18-3T	3	2.1740	0.660	.0602
		FP-18-4T	4	2.1590	0.660	.0602
		FP-18-5T	5	2.1440	0.660	.0602

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SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
FP-26	Ford - HP Cam Bearing Set	FP-26-1	1	2.2500	0.660	.0616
		FP-18-2	2	2.1890	0.660	.0602
		FP-18-3	3	2.1740	0.660	.0602
		FP-18-4	4	2.1590	0.660	.0602
		FP-18-5	5	2.1440	0.660	.0602
FP-26T	Ford - HP Cam Bearing Set (Coated)	FP-26-1T	1	2.2500	0.660	.0616
		FP-18-2T	2	2.1890	0.660	.0602
		FP-18-3T	3	2.1740	0.660	.0602
		FP-18-4T	4	2.1590	0.660	.0602
		FP-18-5T	5	2.1440	0.660	.0602
FP-30	Ford - HP Cam Bearing Set	FP-30-1	1,2,3,4,5	2.2500	0.580	.0620
FP-30R	Ford - HP Cam Bearing Set w/ .005 Oversize OD	FP-30-1R	1,2,3,4,5	2.2550	0.580	.0645
FP-30T	Ford - HP Cam Bearing Set (Coated)	FP-30-1T	1,2,3,4,5	2.2500	0.580	.0620
FP-33	Ford - HP Cam Bearing Set	FP-33-1	1	1.7734	0.775	.0604
		FP-15-2	2	2.2950	0.620	.0841
		FP-15-3	3	2.2800	0.620	.0766
		FP-15-4	4	2.2650	0.620	.0691
		FP-15-5	5	2.2500	0.560	.0616
FP-33T	Ford - HP Cam Bearing Set (Coated)	FP-33-1T	1	1.7734	0.775	.0604
		FP-15-2T	2	2.2950	0.620	.0841
		FP-15-3T	3	2.2800	0.620	.0766
		FP-15-4T	4	2.2650	0.620	.0691
		FP-15-5T	5	2.2500	0.560	.0616
GM-5 .030 und	General Motors - Cam Bearing Set	GM-5-1	1	2.1875	1.680	.0641
		GM-5-2	2	2.1562	0.880	.0641
		GM-5-3	3	2.1250	0.880	.0641
		GM-5-4	4	1.9725	1.150	.0641
GM-7 .010 und	General Motors - Cam Bearing Set	GM-7-1	1	2.3280	0.895	.0798
		GM-7-2	2	2.3190	0.775	.0753
		GM-7-3	3	2.3090	0.775	.0703
		GM-7-4	4	2.2990	0.775	.0653
		GM-7-5	5	2.1420	0.775	.0655
GM-7R2	General Motors - Cam Bearing Set w/ .020 Oversize OD	GM-7-1R2	1	2.3480	0.895	.0898
		GM-7-2R2	2,3,4	2.3480	0.775	.0898
		GM-7-5	5	2.1420	0.775	.0655
GM-8	General Motors - Cam Bearing Set	GM-8-1	1	2.5598	1.120	.0790
		GM-8-2	2,3,4,5	2.5598	0.705	.0790
GM-9 .010 und .020 und	General Motors - Cam Bearing Set	CH-10-3	1,2,3,4,5	2.3088	0.630	.0700
GMA-1* .020 und	General Motors - OHC Cam Bearing Set (Full Round)	GMA-1-1	1	1.8607	0.817	.0550
		GMA-1-2	2,3,4,5	1.8607	0.661	.0550
GMA-2*	General Motors - OHC Cam Bearing Set (Half Shell)	GMA-2-1(U)	1,6	1.2655	0.665	.0617
		GMA-2-3(U)	2,3,4,5,7,8,9,10	1.2655	0.665	.0617
		GMA-2-2(L)	1,6	1.2655	0.665	.0617
		GMA-2-1(L)	2,3,4,5,7,8,9,10	1.2655	0.665	.0617
GMP-1	General Motors - HP Cam Bearing Set	GMP-1-1	1,2,3,4,5	2.1200	0.755	.0841
GMP-1T	General Motors - HP Cam Bearing Set (Coated)	GMP-1-1T	1,2,3,4,5	2.1200	0.755	.0841
GMP-2T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	GMP-2-1T	1,2,3,4,5	2.1200	0.755	.0841

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GMP-3	Specialty Aftermarket Blocks - HP Cam Bearing Set	GM2125-1	1	2.2500	0.855	.0620
		GM2125-4	2,3,4,5	2.2500	0.980	.0620
GMP-3T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	GM2125-1T	1	2.2500	0.855	.0620
		GM2125-4T	2,3,4,5	2.2500	0.980	.0620
GMP-8	General Motors - HP Cam Bearing Set	CHP-4-3	1,2,3,4,5	2.0000	0.740	.0644
GMP-8T	General Motors - HP Cam Bearing Set (Coated)	CHP-4-3T	1,2,3,4,5	2.0000	0.740	.0644
GMP-9	Specialty Aftermarket Blocks - HP Cam Bearing Set	CHP-10-3	1,2,3,4,5	2.3088	0.630	.0700
GMP-9T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	CHP-10-3T	1,2,3,4,5	2.3088	0.630	.0700
GMP-12	General Motors - HP Cam Bearing Set	CHP-12-3	1,2,3,4,5	2.1200	0.980	.0841
GMP-12T	General Motors - HP Cam Bearing Set (Coated)	CHP-12-3T	1,2,3,4,5	2.1200	0.980	.0841
GMP-12LT	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	CH-12-3LT	1,2,3,4,5	2.1200	0.980	.0841
GMP-55	General Motors - HP Cam Bearing Set	GMP-55-1	1,2,3,4,5	2.282	0.785	0.0569
GMP-55T	General Motors - HP Cam Bearing Set (Coated)	GMP-55-1T	1,2,3,4,5	2.282	0.785	0.0569
H-5	American Motors, Honda, Jeep - Cam Bearing Set	H-5-1	1	2.1560	0.750	.0620
		H-5-2	2	2.1460	0.750	.0620
		H-5-3	3	2.1360	0.750	.0620
		H-5-4	4	2.1260	0.750	.0620
		H-5-5	5	1.6260	1.060	.0620
HA-1*	Honda - OHC Cam Bearing Set (Half Shell)	HA-1-1(U)	1,2,3,4,5	1.2655	0.700	.0622
		HA-1-5(L)	1,2,3,4,5	1.2655	0.700	.0622
HA-2* .020 und	Honda - OHC Cam Bearing Set (Half Shell)	HA-1-2(U)	1	1.2655	0.830	.0618
		HA-1-4(U)	2,4,5	1.2655	0.700	.0622
		HA-1-4A(U)	3	1.2655	0.700	.0622
		HA-1-5(U)	6	1.2655	0.700	.0622
		HA-1-3(L)	1	1.2655	0.830	.0618
		HA-1-5(L)	2,3,4,5,6	1.2655	0.700	.0622
HA-3* .010 und .020 und	Acura, Honda - OHC Cam Bearing Set (Half Shell)	HA-3-2(U)	1	1.1875	0.735	.0422
		HA-3-4(U)	2,3,4,5,6	1.1875	0.535	.0422
		HA-3-1(L)	1	1.1875	0.735	.0422
		HA-3-3(L)	2,3,4,5,6	1.1875	0.535	.0422
HA-4*	Honda - OHC Cam Bearing Set (Half Shell)	HA-4-1(U)	1	1.2655	1.242	.0618
		HA-4-3(U)	2,3,4,5	1.2655	0.530	.0618
		HA-4-2(L)	1	1.2655	1.242	.0618
		HA-4-4(L)	2,3,4,5	1.2655	0.530	.0618
HA-5*	Acura, Honda - OHC Cam Bearing Set (Half Shell)	HA-5-2(U)	1	1.2655	0.788	.0618
		HA-3-4(U)	2,3,4,5,6,7	1.1875	0.535	.0422
		HA-5-1(L)	1	1.2655	0.788	.0618
		HA-3-3(L)	2,3,4,5,6,7	1.1875	0.535	.0422
HE-1	Hercules, John Deere, Military Standard, Oliver Tractor - Cam Bearing Set	HE-1-1	1,4	2.1875	1.125	.0660
		HE-1-2	2,3	2.1875	0.812	.0660
HE-5	Hercules, John Deere, Oliver Tractor - Cam Bearing Set	HE-5-1	1,4	1.8753	1.020	.0617
		HE-5-2	2,3	1.8753	0.550	.0617
HE-7	Hercules, Oliver Tractor - Cam Bearing Set	HE-7-1	1,3	2.1875	1.057	.0658
		HE-1-2	2	2.1875	0.812	.0660
HE-8	Hercules, Oliver Tractor - Cam Bearing Set	HE-7-1	1,4	2.1875	1.057	.0658
		HE-1-2	2,3	2.1875	0.812	.0660

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
HE-8A	Hercules - Cam Bearing Set	HE-7-1A	1,4	2.1862	1.057	.0653
		HE-1-2A	2,3	2.1862	0.812	.0653
HO-1	Holden - Cam Bearing Set	HO-1-1	1,2,3,4	1.8968	0.815	.0643
HO-2 .020 und	Holden - Cam Bearing Set	HO-2-1	1	2.0300	0.785	.0694
		HO-2-2	2	2.0200	0.785	.0644
		HO-2-3	3	2.0100	0.785	.0694
		HO-2-4	4	2.0000	0.785	.0644
		HO-2-5	5	1.7108	0.785	.0644
HO-2S .020 und	Holden - Cam Bearing Set w/ +.002 OD No. 5 Position	HO-2-1	1	2.0300	0.785	.0694
		HO-2-2	2	2.0200	0.785	.0644
		HO-2-3	3	2.0100	0.785	.0694
		HO-2-4	4	2.0000	0.785	.0644
		HO-2-5S	5	1.7128	0.785	.0644
IN-3	IHC - Cam Bearing Set	IN-3A-1	1	2.2408	1.125	.0647
		IN-8-2	2	2.2207	1.062	.0647
		IN-2-3	3	2.2008	1.062	.0645
		IN-2-4	4	1.6313	1.530	.0645
IN-5	IHC - Cam Bearing Set	IN-5-1	1	2.3748	1.438	.0644
		IN-5-2	2	2.2493	1.469	.0642
		IN-5-3	3	1.9993	1.063	.0643
IN-10A	IHC - Cam Bearing Set	IN-10-1A	1	2.4748	1.187	.0618
		IN-10-2	2	2.4438	1.000	.0625
		IN-10-3	3	2.4153	1.000	.0613
		IN-10-4A	4	2.3748	1.000	.0618
IN-11 .010 und .020 und .030 und	IHC, Military Standard - Cam Bearing Set	IN-11-1	1	2.2313	0.710	.0647
		IN-11-2	2	2.2213	0.645	.0647
		IN-11-3	3	2.2113	0.645	.0647
		IN-11-4	4	2.2013	0.645	.0647
		IN-11-5	5	2.1913	0.750	.0647
IN-12	IHC - Cam Bearing Set	IN-3A-1	1	2.2408	1.125	.0647
		IN-8-2	2	2.2207	1.062	.0647
		IN-8-3	3	2.2007	1.062	.0647
IN-14 .010 und .020 und .030 und	IHC - Cam Bearing Set	IN-3A-1	1	2.2408	1.125	.0647
		IN-8-2	2	2.2207	1.062	.0647
		IN-8-3	3	2.2007	1.062	.0647
		IN-8-4	4	1.6313	1.312	.0645
IN-15	IHC - Cam Bearing Set	IN-15-1	1	2.0618	1.000	.0643
		IN-15-2	2	1.9368	1.375	.0643
		IN-15-3	3	1.4993	1.000	.0643
IN-16	IHC - Cam Bearing Set	IN-16-1	1	2.5610	1.125	.0645
		IN-8-2	2	2.2207	1.062	.0647
		IN-16-3	3	2.2010	1.060	.0645
		IN-2-4	4	1.6313	1.530	.0645
IN-17 .010 und	Ford, IHC - Cam Bearing Set	IN-17-1	1	2.2313	0.785	.0647
		IN-17-2	2,3,4,5	2.2313	0.650	.0647
IN-17R2	Ford, IHC - Cam Bearing Set w/ .020 Oversize OD	IN-17-1S	1	2.2513	0.785	.0768
		IN-17-2S	2,3,4,5	2.2513	0.650	.0768
IN-18	IHC - Cam Bearing Set	IN-18-1	1	1.9430	1.095	.0645
		IN-18-2	2	1.7083	1.005	.0641
		IN-18-3	3	1.6303	0.790	.0641
IN-19	IHC - Cam Bearing Set	IN-19-1	1	2.5013	1.010	.1078
		IN-19-2	2	2.4813	0.709	.0980
		IN-19-3	3	2.4613	0.709	.0880
		IN-19-4	4	2.4413	0.710	.0780

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
IN-21	Ford, IHC - Cam Bearing Set	IN-21-1	1,2,3,4,5	2.5984	0.740	.0778
IZ-2	General Motors, Isuzu, Jeep - Cam Bearing Set	IZ-2-1	1	2.0479	0.984	.0790
		IZ-2-2	2	2.0480	0.984	.0790
		IZ-2-3	3	2.0480	0.984	.0790
IZ-3	General Motors, Isuzu - Cam Bearing Set	IZ-3-1	1	2.0486	0.866	.0797
		IZ-3-2	2	2.0486	0.866	.0797
		IZ-3-3	3	2.0486	0.866	.0797
IZ-5	Isuzu - Cam Bearing Set	IZ-5-1	2	2.1274	0.984	.0797
		IZ-5-2	2,3	2.1274	0.866	.0797
IZ-6	Isuzu - Cam Bearing Set	IZ-6-1	1	2.3637	0.787	.0785
		IZ-6-2	2,3,4	2.3637	0.787	.0785
IZ-7	Isuzu - Cam Bearing Set	IZ-6-1	1	2.3637	0.787	.0785
		IZ-6-2	2,3	2.3637	0.787	.0785
IZ-8	Isuzu - Cam Bearing Set	IZ-6-1	1	2.3637	0.787	.0785
		IZ-6-2	2,3,4,5,6	2.3637	0.787	.0785
J-1 .010 und .020 und .030 und	IHC, Jeep, Military Standard - Cam Bearing Set	J-1-1	1	2.3165	1.125	.0645
JD-1	John Deere - Cam Bearing Set	JD-1-1	1	1.9280	1.181	.0579
		JD-1-2	2,3	1.9280	0.938	.0579
JD-2	John Deere - Cam Bearing Set	JD-1-1	1	1.9280	1.181	.0579
		JD-1-2	2,3,4	1.9280	0.938	.0579
JD-3	John Deere - Cam Bearing Set	JD-3-1	1,2,3	2.5000	1.000	.0614
JD-4	John Deere - Cam Bearing Set	JD-3-1	1,2,3,4	2.5000	1.000	.0614
JD-5	John Deere - Cam Bearing Set	JD-5-1	1	1.9280	1.598	.0577
		JD-5-2	2	1.9280	1.220	.0577
JDG-7**	John Deere - Balance Shaft Bearing Set	JDG-7-1	1,2,3,4,5,6	1.6250	1.090	.0608
K-1 .010 und .020 und .030 und	Checker, Continental, Jeep, Mack, Military Standard, Oliver Tractor - Cam Bearing Set	K-1-1	1	2.0000	0.875	.0628
		K-1-2	2	1.9375	0.937	.0630
		K-1-3	3	1.8810	1.620	.0628
		K-1-4	4	1.3748	1.156	.0628
MA-5	Mack - Cam Bearing Set	MA-5-1	1	2.6235	1.385	.0910
		MA-5-2	2,5	2.6235	1.010	.0905
		MA-5-3	3,4,6	2.6235	1.010	.0910
		MA-5-4	7	2.6235	1.380	.1853
MA-6	Mack - Cam Bearing Set	MA-5-1	1	2.6235	1.385	.0910
		MA-5-3	2,3,4,5,6	2.6235	1.010	.0910
		MA-3A-1	7	2.6235	1.380	.1852
MA-7	Mack - Cam Bearing Set	MA-5-1	1	2.6235	1.385	.0910
		MA-5-3	2,3,4,5,6,7	2.6235	1.010	.0910
MA-8	Mack - Cam Bearing Set	MA-8-1	1	2.6235	1.385	.0905
		MA-5-3	2,3,4,5,6,7	2.6235	1.010	.0910
MAG-10**	Mack - Auxiliary Shaft Bearing Set	MAG-10-1	Front	2.3115	1.760	.1237
		MAG-10-2	Rear	2.2495	1.760	.1243
MIA-1* .010 und .020 und	Chrysler, Eagle, General Motors, Hyundai, Isuzu, Mazda, Mitsubishi - OHC Cam Bearing Set (Half Shell)	MIA-1-3(U)	1	1.4225	0.795	.0422
		MIA-1-1(U)	2,3,4,5	1.4225	0.795	.0422
		MIA-1-4(L)	1,2,3,4,5	1.4225	0.795	.0422
MIA-2* .020 und	Chrysler, Eagle, General Motors, Hyundai, Isuzu, Mazda, Mitsubishi - OHC Cam Bearing Set (Half Shell) w/ Heavy Wall .020 Oversize OD	MIA-1-7(U)	1	1.4971	0.793	.0792
		MIA-1-5(U)	2,3,4,5	1.4971	0.793	.0792
		MIA-1-6(L)	1,2,3,4,5	1.4971	0.793	.0792

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
MIA-3*	Chrysler, Eagle, Hyundai, Mitsubishi - OHC Cam Bearing Set (Full Round)	MIA-3-1	1,2,3	1.8918	0.685	.0403
MIA-4*	Mitsubishi - OHC Cam Bearing Set (Half Shell)	MIA-1-8(U)	1,5	1.4225	0.795	.0422
		MIA-1-1(U)	2,3,4	1.4225	0.795	.0422
		MIA-1-4(L)	1,2,3,4,5	1.4225	0.795	.0422
MIA-5*	Chrysler, Mitsubishi - OHC Cam Bearing Set (Half Shell) (One Set Per Head)	MIA-5-1(U)	1	1.4225	0.793	.0422
		MIA-5-2(U)	2	1.4225	0.710	.0422
		MIA-5-3(U)	3	1.4225	0.760	.0422
		MIA-5-8(U)	4	1.4225	0.980	.0422
		MIA-5-5(L)	1	1.4225	0.793	.0422
		MIA-5-6(L)	2	1.4225	0.710	.0422
		MIA-5-7(L)	3	1.4225	0.760	.0422
MIG-2** .010 und .020 und	Chrysler, Ford, Mazda, Mitsubishi - Auxiliary Shaft Bearing Set	MIG-2-1	1,2	1.8126	0.785	.0587
		MIG-2-2	3	1.0240	0.703	.0589
MIG-2E**	Chrysler, Ford, Mazda, Mitsubishi - Balance Shaft Eliminator	MIG-1-EL		1.8126	0.930	NA
		MIG-2-EL		0.6330	0.875	NA
MIG-2-1R**	Chrysler, Ford, Mazda, Mitsubishi - Balance Shaft Bearing w/ .173 Oversize OD (Bearings Sold Separately)	MIG-2-1R	1	1.9855	0.788	.1450
MIG-3**	Chrysler, Eagle, Mitsubishi - Balance Shaft Bearing Set	MIG-3-1	1	1.7721	0.745	.0590
		MIG-3-2	2,3	1.7328	0.825	.0592
MZA-1* .020 und	Ford, Mazda - OHC Cam Bearing Set (Full Round)	MZA-1-1	1	1.7931	0.730	.0403
		MZA-1-2	2	1.7931	0.730	.0403
		MZA-1-3	3	1.7931	0.730	.0403
MZA-2* .020 und	Ford, Mazda - OHC Cam Bearing Set (Half Shell)	MZA-2-3(U)	1,5	1.3439	0.830	.0422
		MZA-2-1(U)	2,3,4	1.3439	0.700	.0422
		MZA-2-2(L)	1,2,3,4,5	1.3439	0.830	.0422
MZA-4*	Mazda - OHC Cam Bearing Set (Half Shell)	MZA-4-1(U)	1,2,3,4,5	1.2655	0.700	.0422
		VHA-1-2(L)	1,2,3,4,5	1.2655	0.700	.0422
MZG-3** .010 und	Mazda - Balance Shaft Bearing Set	MZG-3-1	Front (2 pcs.)	1.8114	0.910	.0781
		MZG-3-2	Middle (2 pcs.)	1.7326	1.030	.0780
		MZG-3-3	Rear (2 pcs.)	0.9453	0.635	.0585
N-6	American Motors - Cam Bearing Set	N-6-1	1	1.9470	0.940	.0647
		N-5-2	2	1.9370	0.780	.0647
		N-5-3	3	1.9270	0.780	.0647
		N-5-4	4	1.9170	0.810	.0647
N-7 .010 und .020 und .030 und .040 und	American Motors, Eagle, IHC, Jeep - Cam Bearing Set	N-7-1	1	1.1560	0.690	.0620
		N-7-2	2	2.1460	0.690	.0620
		N-7-3	3	2.1360	0.690	.0620
		N-7-4	4	2.1260	0.690	.0620
N-7B	American Motors, Eagle, IHC, Jeep - Special Oil Control Cam Bearing Set w/ OD Groove No. 2, 3 Position	N-7-1	1	1.1560	0.690	.0620
		N-7-2B	2	2.1460	0.690	.0620
		N-7-3B	3	2.1360	0.690	.0620
		N-7-4	4	2.1260	0.690	.0620
N-9 .010 und .020 und .030 und	American Motors, IHC, Jeep - Cam Bearing Set	N-9-1	1	2.2460	0.920	.0620
		N-8-2	2	2.2160	0.625	.0620
		N-8-3	3	2.1860	0.625	.0620
		N-8-4	4	2.1560	0.625	.0620
		N-8-5	5	2.1260	0.625	.0620

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
N-9R1	American Motors, IHC, Jeep - Cam Bearing Set w/ .010 Oversize OD	N-9-11	1	2.2560	0.920	.0670
		N-8-21	2	2.2260	0.625	.0670
		N-8-31	3	2.1960	0.625	.0670
		N-8-41	4	2.1660	0.625	.0670
		N-8-51	5	2.1360	0.625	.0670
N-10	Jeep - Cam Bearing Set	N-10-1	1	2.1560	0.690	.0620
		N-7-2	2	2.1460	0.690	.0620
		N-7-3	3	2.1360	0.690	.0620
		N-7-4	4	2.1260	0.690	.0620
NIA-1*	Nissan - OHC Cam Bearing Set (Full Round)	NIA-1-1	1,2,3,4,5	1.7340	0.805	.0403
NIA-2L*	Nissan - OHC Cam Bearing Set (Full Round) (Left Bank)	NIA-2-1	1,2,3,4	1.9309	0.735	.0403
NIA-2R*	Nissan - OHC Cam Bearing Set (Full Round) (Right Bank)	NIA-2-1	1,2,3,4,5	1.9309	0.735	.0403
NIA-3L*	Ford, Nissan - OHC Cam Bearing Set (Full Round) (Left Bank)	NIA-2-1	1,2,3	1.9309	0.735	.0403
		NIA-3-2	4	1.7538	0.735	.0403
NIA-3R*	Ford, Nissan - OHC Cam Bearing Set (Full Round) (Right Bank)	NIA-3-1	1	1.9702	1.235	.0403
		NIA-2-1	2,3,4	1.9309	0.735	.0403
		NIA-3-2	5	1.7538	0.735	.0403
NIA-4* .020 und	Nissan - OHC Cam Bearing Set (Full Round)	NIA-1-1	1,2,4	1.7340	0.805	.0403
		NIA-1-2	3	1.7340	0.805	.0403
		NIA-1-3	5	1.7340	1.120	.0403
NIA-5*	Nissan - OHC Cam Bearing Set (Full Round)	NIA-4-1	1,2,3,5	1.8914	0.805	.0403
		NIA-4-2	4	1.8914	0.805	.0403
NIA-6* .020 und	Nissan - OHC Cam Bearing Set (Half Shell)	TOA-1-1(U)	1,2,3,4,5	1.3841	0.800	.0422
		TOA-1-2(L)	1,2,3,4,5	1.3841	0.800	.0422
O-5	General Motors - Cam Bearing Set	O-5-1	1,2,3,4,5	2.1288	0.688	.0641
O-6 .010 und	General Motors - Cam Bearing Set	O-6-1	1	2.1688	0.688	.0646
		O-6-2	2	2.1488	0.688	.0646
		O-6-3	3	2.1288	0.688	.0646
		O-6-4	4	2.1088	0.688	.0646
		O-6-5	5	2.0888	0.688	.0646
O-6B	General Motors - Special Oil Control Cam Bearing Set w/ OD Groove	O-6-1B	1	2.1688	0.688	.0646
		O-6-2B	2	2.1488	0.688	.0646
		O-6-3B	3	2.1288	0.688	.0646
		O-6-4B	4	2.1088	0.688	.0646
		O-6-5B	5	2.0888	0.688	.0646
O-7 .010 und	General Motors - Cam Bearing Set	O-7-1	1	2.1688	0.688	.0646
		O-6-2	2	2.1488	0.688	.0646
		O-6-3	3	2.1288	0.688	.0646
		O-6-4	4	2.1088	0.688	.0646
		O-6-5	5	2.0888	0.688	.0646
O-8	General Motors - Cam Bearing Set	O-7-1	1	2.1688	0.688	.0646
		O-6-2	2	2.1488	0.688	.0646
		O-6-3	3	2.1288	0.688	.0646
		O-6-4	4	2.1088	0.688	.0646
OG-1**	General Motors - Balance Shaft Bearing Set	OG-1-1	1,2	2.1408	0.740	.0695
ON-1	Onan - Cam Bearing Set	ON-1-1	1,2	1.5000	0.697	.0619
OP-3	Opel - Cam Bearing Set	OP-3-1	1	2.1069	0.950	.0889
		OP-3-2	2	2.0970	0.723	.0889
		OP-3-3	3	2.0773	0.723	.0840

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**Denotes Auxiliary / Balance Shaft Bearing

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
OP-5	Opel - Cam Bearing Set	OP-3-1	1	2.1069	0.950	.0889
		OP-3-2	2	2.0970	0.723	.0889
		OP-5-3	3	2.0872	0.723	.0865
		OP-3-3	4	2.0773	0.723	.0840
P-3 .010 und .020 und .030 und	General Motors - Cam Bearing Set	P-3-1	1	2.0307	1.060	.0644
		P-3-2	2,3,4,5	2.0307	0.680	.0644
P-4 .010 und .020 und .030 und	General Motors - Cam Bearing Set	P-3-2	1,2,3,4,5	2.0307	0.680	.0644
P-4R1	General Motors - Cam Bearing Set w/ .010 Oversize OD	P-3-21	1,2,3,4,5	2.0407	0.680	.0694
PD-1 .010 und .020 und	Chrysler, Military Standard - Cam Bearing Set	PD-1-1	1	2.1295	1.093	.0645
		PD-1-2	2	2.0990	0.875	.0649
		PD-1-3	3	2.0675	0.875	.0650
PD-3 .010 und .020 und .030 und	Chrysler, Military Standard, Oliver Tractor - Cam Bearing Set	PD-1-1	1	2.1295	1.093	.0645
		PD-3-2	2	2.0990	1.062	.0650
		PD-3-3	3	2.0675	1.062	.0650
PD-8 .010 und .020 und .030 und	Chrysler - Cam Bearing Set	PD-8-1	1	2.1300	0.938	.0647
		PD-8-2	2,3,4	2.1300	0.813	.0647
		PD-8-3	5	1.5675	0.875	.0647
PD-16 .010 und .020 und .030 und	Chrysler - Cam Bearing Set	PD-16-1	1	2.1300	0.875	.0645
		PD-9-2	2	2.1140	0.760	.0645
		PD-9-3	3	2.0990	0.760	.0645
		PD-9-4	4	2.0830	0.760	.0645
		PD-9-5	5	1.6925	0.940	.0645
PD-17 .010 und .020 und .030 und	Chrysler, Mack, Military Standard - Cam Bearing Set	PD-17-1	1	2.1300	0.750	.0645
		PD-12-2	2	2.1140	0.750	.0645
		PD-12-3	3	2.0990	0.669	.0645
		PD-12-4	4	2.0830	0.750	.0645
		PD-12-5	5	1.8800	0.750	.0645
PD-18 .010 und .020 und .030 und	Chrysler, John Deere - Cam Bearing Set	PD-18-1	1	2.1300	0.920	.0645
		PD-12-2	2	2.1140	0.750	.0645
		PD-13-3	3	2.0990	0.750	.0645
		PD-13-4	4	2.0830	0.750	.0645
PD-21 .010 und .020 und	Chrysler, John Deere - Cam Bearing Set	PD-21-1	1	2.1300	0.780	.0640
		PD-21-2	2	2.1140	0.625	.0640
		PD-21-3	3	2.0990	0.625	.0640
		PD-13-4	4	2.0830	0.750	.0645
PD-25 .010 und .020 und	Chrysler, Jeep - Cam Bearing Set	PD-16-1	1	2.1300	0.875	.0645
		PD-25-2	2	2.1140	0.625	.0645
		PD-25-3	3	2.0990	0.615	.0645
		PD-25-4	4	2.0830	0.615	.0645
		PD-9-5	5	1.6925	0.940	.0645
PD-27 .010 und	Chrysler - Cam Bearing Set	PD-16-1	1	2.1300	0.875	.0645
		PD-25-2	2	2.1140	0.625	.0645
		PD-25-4	3	2.0830	0.615	.0645
		PD-9-5	4	1.6925	0.940	.0645

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
PD-28 .010 und	Chrysler, Eagle - Cam Bearing Set	PD-28-1	1	2.1300	0.930	.0647
		PD-28-2	2	2.1140	0.610	.0653
		PD-28-3	3	2.0990	0.610	.0653
		PD-28-4	4	2.0830	0.610	.0647
PD-28B .010 und	Chrysler, Eagle - Special Oil Control Cam Bearing Set w/ OD Groove No. 2, 3 Position	PD-28-1	1	2.1300	0.930	.0647
		PD-28-2B	2	2.1140	0.610	.0653
		PD-28-3B	3	2.0990	0.610	.0653
		PD-28-4	4	2.0830	0.610	.0647
PD-30	Chrysler - Cam Bearing Set	PD-30-1	1	2.2235	0.885	.0650
		PD-30-2	2	2.2075	0.625	.0652
		PD-30-3	3	2.1915	0.625	.0650
		PD-30-4	4	2.1755	0.625	.0650
		PD-30-5	5	2.1595	0.625	.0650
		PD-30-6	6	2.0495	0.885	.0650
PD-31B	Chrysler - Cam Bearing Set	PD-31-1B	1	2.4231	0.665	.0650
		PD-31-2B	2	2.4073	0.587	.0650
		PD-31-3B	3	2.3916	0.587	.0650
		PD-31-4B	4	2.3758	0.587	.0650
		PD-31-5B	5	1.8499	0.587	.0650
PDA-1*	Chrysler - OHC Cam Bearing Set (Half Shell)	PDA-1-2(U)	1,2,3,4,5	1.4819	0.625	.0522
		PDA-1-1(L)	1,2,3,4,5	1.4819	0.625	.0522
PDA-2*	Chrysler - OHC Cam Bearing Set (Half Shell)	PDA-2-2(U)	1,2,3,4,5	1.4819	0.625	.0422
		PDA-2-1(L)	1,2,3,4,5	1.4819	0.625	.0422
PDA-3*	Chrysler - OHC Cam Bearing Set (Full Round)	PDA-3-1	1	1.0735	0.815	.0404
		PDA-3-2	2	1.7195	0.775	.0406
		PDA-3-3	3	1.7345	0.775	.0402
		PDA-3-4	4	1.7505	0.775	.0404
		PDA-3-5	5	1.7665	0.745	.0404
PDA-4*	Chrysler - OHC Cam Bearing Set (Half Shell)	PDA-4-2 (U)	1,2,3,4,5	1.1085	0.585	.0418
		PDA-4-1 (L)	1,2,3,4,5	1.1085	0.585	.0418
PDG-26**	Chrysler, Mitsubishi - Balance Shaft Bearing Set	PDG-26-1	1	1.8110	0.745	.0640
		PDG-26-2	2	0.9055	0.825	.0640
PDG-29S** .020 und	Chrysler - Balance Shaft Bearing Set (Semi-Finished)	PDG-29-1	Both	1.7866	0.865	.08 Semi
PDG-30**	Chrysler - Balance Shaft Bearing Set	PDG-30-1	1	2.3533	0.710	.0728
		PDG-30-2	2	1.2903	0.710	.0728
PDP-16	Chrysler - HP Cam Bearing Set	PDP-16-1	1	2.1300	0.875	.0645
		PDP-9-2	2	2.1140	0.760	.0645
		PDP-9-3	3	2.0990	0.760	.0645
		PDP-9-4	4	2.0830	0.760	.0645
		PDP-9-5	5	1.6925	0.940	.0645
PDP-16T	Chrysler - HP Cam Bearing Set (Coated)	PDP-16-1T	1	2.1300	0.875	.0645
		PDP-9-2T	2	2.1140	0.760	.0645
		PDP-9-3T	3	2.0990	0.760	.0645
		PDP-9-4T	4	2.0830	0.760	.0645
		PDP-9-5T	5	1.6925	0.940	.0645
PDP-17	Chrysler, Mack, Military Standard - HP Cam Bearing Set	PDP-17-1	1	2.1300	0.750	.0645
		PDP-12-2	2	2.1140	0.750	.0645
		PDP-12-3	3	2.0990	0.669	.0645
		PDP-12-4	4	2.0830	0.750	.0645
		PDP-12-5	5	1.8800	0.750	.0645

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
PDP-17R1	Chrysler, Mack, Military Standard - HP Cam Bearing Set w/ .010 Oversize OD	PDP-17-1R1	1	2.1400	0.750	.0695
		PDP-12-2R1	2	2.1240	0.750	.0695
		PDP-12-3R1	3	2.1090	0.669	.0695
		PDP-12-4R1	4	2.0930	0.750	.0695
		PDP-12-5R1	5	1.8900	0.750	.0695
PDP-17T	Chrysler, Mack, Military Standard - HP Cam Bearing Set (Coated)	PDP-17-1T	1	2.1300	0.750	.0645
		PDP-12-2T	2	2.1140	0.750	.0645
		PDP-12-3T	3	2.0990	0.669	.0645
		PDP-12-4T	4	2.0830	0.750	.0645
		PDP-12-5T	5	1.8800	0.750	.0645
PDP-25	Chrysler, Jeep - HP Cam Bearing Set	PDP-16-1	1	2.1300	0.875	.0645
		PDP-25-2	2	2.1140	0.625	.0645
		PDP-25-3	3	2.0990	0.615	.0645
		PDP-25-4	4	2.0830	0.615	.0645
		PDP-9-5	5	1.6925	0.940	.0645
PDP-25T	Chrysler, Jeep - HP Cam Bearing Set (Coated)	PDP-16-1T	1	2.1300	0.875	.0645
		PDP-25-2T	2	2.1140	0.625	.0645
		PDP-25-3T	3	2.0990	0.615	.0645
		PDP-25-4T	4	2.0830	0.615	.0645
		PDP-9-5T	5	1.6925	0.940	.0645
PP-3	General Motors - HP Cam Bearing Set	PP-3-1	1	2.0307	1.060	.0644
		PP-3-2	2,3,4,5	2.0307	0.680	.0644
PP-3T	General Motors - HP Cam Bearing Set (Coated)	PP-3-1T	1	2.0307	1.060	.0644
		PP-3-2T	2,3,4,5	2.0307	0.680	.0644
PP-4	General Motors - HP Cam Bearing Set	PP-3-2	1,2,3,4,5	2.0307	0.680	.0644
PP-4T	General Motors - HP Cam Bearing Set (Coated)	PP-3-2T	1,2,3,4,5	2.0307	0.680	.0644
R-1	Reo Motor Truck - Cam Bearing Set	R-1-1	1	2.5620	1.625	.0610
		R-1-2	2	2.4370	1.250	.0610
		R-1-3	3	2.3120	1.250	.0610
		R-1-4	4	1.7500	1.187	.0613
RDCP-1	Rodeck - HP Cam Bearing Set	CHP-4-3	1	2.0000	0.740	.0644
		CHP-5-3	2,3,4,5	2.0000	0.860	.0644
RDCP-1T	Rodeck - HP Cam Bearing Set (Coated)	CHP-4-3T	1	2.0000	0.740	.0644
		CHP-5-3T	2,3,4,5	2.0000	0.860	.0644
SA-1*	General Motors, Suzuki - OHC Cam Bearing Set (Full Round)	SA-1-1	1	1.8215	0.940	.0407
		SA-1-2	2	1.8295	0.485	.0407
		SA-1-3	3	1.8375	0.485	.0407
		SA-1-4	4	1.8455	0.485	.0407
		SA-1-5	5	1.8535	0.485	.0407
SBF-1T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated)	351-HPB-1T	1	2.2040	0.660	.0602
		351-HPB-2T	2	2.2040	0.660	.0677
		351-HPB-3T	3	2.2040	0.660	.0752
		351-HPB-4T	4	2.2040	0.660	.0827
		351-HPB-5T	5	2.2040	0.660	.0902
SBF-1R1T	Specialty Aftermarket Blocks - HP Cam Bearing Set (Coated) w/ .010 Oversize OD	351-HPB-1R1T	1	2.2140	0.660	.0652
		351-HPB-2R1T	2	2.2140	0.660	.0727
		351-HPB-3R1T	3	2.2140	0.660	.0802
		351-HPB-4R1T	4	2.2140	0.660	.0877
		351-HPB-5R1T	5	2.2140	0.660	.0952
TO-2	Toyota - Cam Bearing Set	TO-2-1	1	1.9685	1.095	.0685
		TO-2-2	2	1.9685	1.654	.0735
		TO-2-3	3	1.9685	0.985	.0785

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
TO-3	Toyota - Cam Bearing Set	TO-3-1	1	1.8895	0.715	.0929
		TO-3-2	2	1.8705	0.715	.0885
		TO-3-3	3	1.8510	0.715	.0835
		TO-3-4	4	1.8311	0.715	.0786
TO-7	Toyota - Cam Bearing Set	TO-7-1	1	1.9691	0.705	.0687
		TO-7-2	2	1.9593	0.625	.0687
		TO-7-3	3	1.9297	0.705	.0588
		TO-7-4	4	1.9400	0.625	.0687
		TO-7-5	5	1.9494	0.705	.0785
TO-8	Toyota - Cam Bearing Set	TO-8-1	1	1.4971	1.103	.0591
		TO-8-2	2,3,4	1.4971	0.793	.0591
TO-10	Toyota - Cam Bearing Set	TO-1-1	1	2.0475	1.143	.0785
		TO-1-2	2	1.9885	0.943	.0785
		TO-10-3	3	1.9295	0.943	.0785
		TO-1-4	4	1.8705	0.984	.0785
TO-11	Toyota - Cam Bearing Set	TO-5-1	1	1.9688	1.142	.0686
		TO-5-2	2	1.9688	0.790	.0735
		TO-11-3	3	1.9688	1.810	.0785
		TO-5-4	4	1.9688	0.750	.0835
		TO-5-5	5	1.9688	1.105	.0884
TO-12	Toyota - Cam Bearing Set	TO-12-1	1	1.9697	0.709	.0689
		TO-12-2	2	1.9598	0.630	.0689
		TO-12-3	3	1.9303	0.709	.0591
		TO-12-4	4	1.9402	0.630	.0689
		TO-12-5	5	1.9500	0.709	.0788
TO-15	Toyota - Cam Bearing Set	TO-15-1	1	2.2638	0.787	.0791
		TO-15-2	2	2.2539	0.787	.0791
		TO-15-3	3	2.2047	0.787	.0594
		TO-15-4	4	2.2047	0.787	.0644
		TO-15-5	5	2.2146	0.787	.0742
TOA-1*	Toyota - OHC Cam Bearing Set (Half Shell)	TOA-2-2(U)	1,2,3	1.3841	0.800	.0418
		TOA-2-1(L)	1,2,3	1.3841	0.800	.0418
TOG-8**	Toyota - Balance Shaft Bearing Set	TOG-8-1	1	1.9682	0.975	.0784
		TOG-8-2	2	1.7714	0.785	.0784
TOG-9**	Toyota - Auxiliary Shaft Bearing Set	TOG-9-1	1	1.7719	0.640	.0788
		TOG-9-2	2	1.4569	0.640	.0788
TOG-10**	Toyota - Balance Shaft Bearing Set	TOG-10-1	Front (2 pcs.)	1.6541	0.800	.0783
		TOG-10-2	Rear (2 pcs.)	1.6350	0.895	.0790
TOG-11** .005 und .010 und	Toyota - Balance Shaft Bearing Set	TOG-11-1	(4 pcs.)	1.2615	0.765	.0597
		TOG-11-2	(4 pcs.)	1.2615	0.765	.0597
		TOG-11-3	(4 pcs.)	1.2615	0.765	.0597
TOG-11A** .005 und .010 und	Toyota - Balance Shaft Bearing Set	TOG-11-1	(8 pcs.)	1.2615	0.765	.0597
		TOG-11-3	(4 pcs.)	1.2615	0.765	.0597
TOG-11C** .005 und .010 und	Toyota - Balance Shaft Bearing Kit (Combines TOG-11 & TOG-11A)	TOG-11-1	(8 pcs.)	1.2615	0.765	.0597
		TOG-11-2	(4 pcs.)	1.2615	0.765	.0597
		TOG-11-3	(4 pcs.)	1.2615	0.765	.0597
VO-2**	Chrysler Marine, Volvo - Balance Shaft Bearing Set	VO-2-1	1	1.9655	1.060	.0570
		VO-2-2	2	1.8081	1.025	.0570
		VO-2-3	3	1.5724	1.100	.0573
VO-3 .010 und	Chrysler Marine, Volvo - Cam Bearing Set	VO-2-1	1,2,3,4	1.9655	1.060	.0570
VOA-1*	Volvo - OHC Cam Bearing Set (Half Shell)	VHA-1-2(U)	1,2,3,4,5	1.2655	0.700	.0422
		VOA-1-1(L)	1,2,3,4,5	1.2655	0.700	.0422

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BEARING SET CONTENTS

SET NO.	ENGINE MFG. / DESCRIPTION	CONTENTS	POSITION	HOUSING BORE	LENGTH	MAX WALL
VW-1	Volkswagen - Cam Bearing Set	VW-1-1	1	1.0831	0.787	.0490
		VW-1-2	2	1.0831	0.906	.0490
		VW-1-3(U)	3	1.0831	1.102	.0490
		VW-1-3(L)	3	1.0831	1.102	.0490
VWA-1*	Audi - OHC Cam Bearing Set (Half Shell)	VWA-1-1(U)	1	1.3439	0.830	.0422
		VWA-1-2(U)	2,3	1.2655	0.830	.0422
		VWA-1-4(U)	4	1.2655	0.630	.0422
		MZA-2-3(L)	1	1.3439	0.830	.0422
		VWA-1-5(L)	2,3	1.2655	0.700	.0422
		VWA-1-3(L)	4	1.2655	0.630	.0422
VWA-2* .010 und .020 und	Volkswagen - OHC Cam Bearing Set (Half Shell)	VWA-2-2(U)	1,2,3,4,5	1.1085	0.680	.0422
		VWA-2-1(L)	1,2,3,4,5	1.1085	0.680	.0422
VWG-1**	Audi, Chrysler, Volkswagen - Auxiliary Shaft Bearing Set	VWG-1-1	1	1.8115	0.585	.0590
		VWG-1-2	2	1.7721	0.585	.0590
WA-3	Case Tractor, IHC, Military Standard, Waukesha - Cam Bearing Set	WA-3-1	1	2.2540	1.125	.0643
		WA-3-2	2	2.0040	1.312	.0645
		WA-3-3	3	1.6290	1.500	.0645
WA-4	Military Standard, Oliver Tractor, Waukesha - Cam Bearing Set	WA-1-1	1	1.8750	1.000	.0617
WA-7	Oliver Tractor, Waukesha - Cam Bearing Set	WA-1-1	1,2,3,4	1.8750	1.000	.0617
WA-8	Waukesha - Cam Bearing Set	WA-8-1	1	2.1250	1.067	.0605
		WA-8-2	2,3,4	2.1250	0.880	.0605
WA-9	Waukesha - Cam Bearing Set	WA-9-1	1	2.8750	1.880	.0645
		WA-9-2	2,3	2.8750	1.505	.0645
		WA-9-3	4	2.1870	2.255	.0643
WA-10	Waukesha - Cam Bearing Set	WA-2-1	1,2,3,4	2.2500	1.250	.0614
WA-11	Waukesha - Cam Bearing Set	WA-11-1	1,2,3,4	2.6250	1.500	.0618

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BEARING COMPONENT LISTING

CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
351HP-1	351HP, 351RHP	2.2040	0.660	.0602
351HP-1R1	351HP-R1	2.2140	0.660	.0652
351HP-1T	351HPT, 351RHPT	2.2040	0.660	.0602
351HP-2	351HP	2.2040	0.660	.0677
351HP-2R1	351HP-R1	2.2140	0.660	.0727
351HP-2T	351HPT	2.2040	0.660	.0677
351HP-3	351HP	2.2040	0.660	.0752
351HP-3R1	351HP-R1	2.2140	0.660	.0802
351HP-3T	351HPT	2.2040	0.660	.0752
351HP-4	351HP	2.2040	0.660	.0827
351HP-4R1	351HP-R1	2.2140	0.660	.0877
351HP-4T	351HPT	2.2040	0.660	.0827
351HP-5	351HP	2.2040	0.660	.0902
351HP-5R1	351HP-R1	2.2140	0.660	.0952
351HP-5T	351HPT	2.2040	0.660	.0902
351-HPB-1R1T	SBF-1R1T	2.2140	0.660	.0652
351-HPB-1T	SBF-1T	2.2040	0.660	.0602
351-HPB-2R1T	SBF-1R1T	2.2140	0.660	.0727
351-HPB-2T	SBF-1T	2.2040	0.660	.0677
351-HPB-3R1T	SBF-1R1T	2.2140	0.660	.0802
351-HPB-3T	SBF-1T	2.2040	0.660	.0752
351-HPB-4R1T	SBF-1R1T	2.2140	0.660	.0877
351-HPB-4T	SBF-1T	2.2040	0.660	.0827
351-HPB-5R1T	SBF-1R1T	2.2140	0.660	.0952
351-HPB-5T	SBF-1T	2.2040	0.660	.0902
A-1-1	A-1, A-6	1.8805	1.125	.0642
A-2-1	A-2	2.0055	1.308	.0643
A-3-1	A-3, A-4, A-5	2.2595	1.385	.0630
A-3-2	A-3, A-4, A-5	2.2595	1.000	.0630
A-6-1	A-6	1.8805	1.125	.0642
AGB-14-1	CHG-14**	1.8895	0.984	.0586
AGB-29-1	FG-29**	1.7750	0.500	.0606
AGB-34-1	FG-34**	1.7975	0.500	.0714
AGB-34-2	FG-34**	1.7775	0.500	.0614
AGB-51-1	F-38, F-38X, FG-51**	2.1920	0.635	.0694
B-4-1	B-8	1.9165	0.750	.0643
B-4-3	B-6, B-8, B-11	1.8565	0.750	.0643
B-4-4	B-6, B-8, B-11	1.8265	0.750	.0643
B-4-5	B-6, B-8, B-11	1.7965	0.750	.0643
B-6-1	B-6, B-8, B-11	1.8865	0.750	.0642
B-9-2	B-9, B-12, B-12B, B-13	1.9165	0.620	.0642
B-9-2R	B-13R	1.9625	0.620	.0642
B-11-1	B-9, B-11, B-12	1.9165	0.750	.0642
B-11-1B	B-12B	1.9165	0.750	.0642
B-13-1	B-13	1.9365	0.750	.0743
B-13-1R	B-13R	1.9625	0.750	.0743
B-14-1	B-14	1.9965	0.745	.0741
B-14-1R	B-14R	2.0207	0.745	.0741
B-14-2	B-14	1.9765	0.630	.0641
B-14-2R	B-14R	2.0207	0.630	.0641
BL-1-1	BL-1	1.7960	1.125	.0644
BL-1-2	BL-1	1.7539	0.755	.0644
BL-1-3	BL-1	1.5039	0.533	.0644
BMA-1-1	BMA-1*, BMA-2*, BMA-3*	1.8918	0.800	.0403
BMA-1-2	BMA-1*, BMA-2*, BMA-3*	1.8524	0.800	.0403

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
BMA-1-3	BMA-1*, BMA-2*, BMA-3*	1.8131	0.800	.0403
BMA-1-4	BMA-1*	1.4587	1.390	.0403
BMA-1-5	BMA-3*	1.8918	0.800	.0500
BMA-1-6	BMA-3*	1.8524	0.995	.0500
BMA-1-7	BMA-3*	1.8131	0.800	.0500
BMA-1-8	BMA-4*	1.7741	1.115	.0403
BMA-1-9	BMA-4*	1.7340	1.085	.0400
BMA-1-10	BMA-2*, BMA-3*	1.5772	0.800	.0403
BMA-4-3	BMA-4*	1.4587	1.000	.0398
BP-9-2	BP-9, BP-13	1.9165	0.620	.0642
BP-9-2T	BP-9T, BP-13T	1.9165	0.620	.0642
BP-11-1	BP-9	1.9165	0.750	.0642
BP-11-1T	BP-9T	1.9165	0.750	.0642
BP-13-1	BP-13	1.9365	0.750	.0743
BP-13-1T	BP-13T	1.9365	0.750	.0743
BU-1-1	BU-2	2.1245	1.125	.0615
BU-1-2	BU-2	2.1245	0.875	.0615
BU-1-3	BU-2	1.3745	1.000	.0615
C-2-1	C-2	1.8797	0.750	.0641
C-2-2	C-2	1.5682	0.875	.0642
C-3-1	C-3	1.8797	0.620	.0637
C-4-1	C-4, C-4A	2.1687	0.591	.0652
C-4-2	C-4, C-4A	2.1487	0.591	.0652
C-4-3	C-4, C-4A	2.1287	0.591	.0652
C-4-4	C-4, C-4A	2.1087	0.591	.0652
C-4-5	C-4	2.0887	0.591	.0652
C-4-5A	C-4A	2.0887	0.685	.0652
CA-3-1	CA-3	1.8805	1.312	.0642
CA-3-2	CA-3	1.8805	0.718	.0642
CA-3-3	CA-3	1.8805	1.187	.0642
CA-4-1	CA-4, CA-5, CA-8, CA-9	1.8805	1.218	.0643
CA-4-2	CA-4, CA-5, CA-8, CA-9	1.8805	0.495	.0642
CA-5-3	CA-5	1.8805	0.718	.0642
CA-6-1	CA-6, CA-7	2.3745	1.656	.0625
CA-6-2	CA-6, CA-7	2.3745	1.437	.0625
CA-6-3	CA-6, CA-7	2.3745	1.156	.0625
CA-9-1	CA-9	1.8805	0.970	.0640
CAT-1-2	CAT-2	2.6525	0.755	.0750
CAT-2-1	CAT-6, CAT-7	2.5630	1.125	.1243
CAT-2-2	CAT-6, CAT-7	2.5630	1.004	.1243
CAT-2-3	CAT-2-3	2.2776	1.185	.0946
CAT-2-4	CAT-2-4	2.2776	2.000	.0946
CAT-2-5	CAT-2-5	2.1880	1.180	.1052
CAT-2-6	CAT-2-6	2.1880	2.000	.1052
CAT-3-1	CAT-3-1	2.8745	1.185	.1258
CAT-3-2	CAT-3-2	2.8745	1.995	.1256
CAT-5-0	CAT-5	2.7559	1.340	.0945
CAT-5-1	CAT-5	2.7165	0.750	.0748
CH-2-1	CH-2	2.1599	1.125	.0644
CH-2-2	CH-2	2.0975	0.937	.0644
CH-2-3	CH-2	2.0350	0.937	.0644
CH-2-4	CH-2	1.9725	0.937	.0644
CH-3-1	CH-3	2.2850	1.125	.0641
CH-3-2	CH-3	2.2225	0.937	.0641
CH-3-3	CH-3	2.1600	0.937	.0641

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
CH-3-4	CH-3	2.0975	0.937	.0642
CH-4-1	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G	2.0200	0.740	.0744
CH-4-1S	CH-4A	2.0300	0.740	.0795
CH-4-1W	CH-8W, CH-17X, CH-21X	2.0200	0.740	.0749
CH-4-2	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G	2.0100	0.740	.0694
CH-4-2W	CH-8W, CH-17X, CH-21X	2.0100	0.740	.0699
CH-4-3	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G	2.0000	0.740	.0644
CH-4-3W	CH-8W, CH-17X, CH-21X	2.0000	0.740	.0649
CH-4-4	CH-4	2.0100	0.940	.0694
CH-5-1	CH-5	2.0200	0.860	.0744
CH-5-2	CH-5, CH-6, CH-7	2.0100	0.860	.0694
CH-5-3	CH-5, CH-6, CH-7, CH-11, CH-16	2.0000	0.860	.0644
CH-5-3B	CH-11B	2.0000	0.860	.0644
CH-5-3W	CH-16W	2.0000	0.860	.0649
CH-5-4	CH-5	2.0100	0.940	.0694
CH-9-4	CH-9A	2.1300	0.980	.0894
CH-10-1	CH-10, CH-23	2.3270	0.630	.0790
CH-10-2	CH-10	2.3171	0.630	.0740
CH-10-3	CH-10, CH-23, GM-9	2.3088	0.630	.0700
CH-12-1	CH-9A, CH-12	2.1400	0.860	.0941
CH-12-1B	CH-12B	2.1400	0.860	.0941
CH-12-2	CH-9A, CH-12	2.1300	0.980	.0891
CH-12-2B	CH-12B	2.1300	0.980	.0891
CH-12-3	CH-9A, CH-12	2.1200	0.980	.0841
CH-12-3B	CH-12B	2.1200	0.980	.0841
CH-12-3LT	GMP-12LT	2.1200	0.980	.0841
CH-13-1	CH-13	2.4125	0.680	.0643
CH-13-2	CH-13	2.4125	0.680	.0643
CH-18-1A	CH-18, CH-18A	2.0100	0.625	.0691
CH-18-1R3	CH-18RS	2.0400	0.625	.0848
CH-18-1R8	CH-18R8	2.0900	0.625	.1091
CH-18-2	CH-18, CH-19, CHG-22**	1.9995	0.630	.0640
CH-18-2A	CH-18A	1.9995	0.720	.0640
CH-18-2R2	CH-18RS	2.0300	0.720	.0798
CH-18-2R8	CH-18R8	2.0800	0.720	.1040
CH-18-2X2	CH-19X2	1.9995	0.630	.0650
CH-18-4	CH-18, CH-18A, CH-19	2.0095	0.625	.0691
CH-18-4R4	CH-18RS	2.0400	0.625	.0847
CH-18-4R8	CH-18R8	2.0900	0.625	.1091
CH-18-4X2	CH-19X2	2.0095	0.625	.0701
CH-19-1	CH-19	2.0199	0.625	.0741
CH-19-1X2	CH-19X2	2.0199	0.625	.0751
CH-20-1	CH-20	2.0000	0.710	.0644
CH-23-1	CH-23	2.3470	0.630	.0890
CH-24-1	CH-24	2.1766	0.905	.0747
CH-24-2	CH-24	2.1565	0.630	.0646
CH-24-3	CH-24	2.1766	0.620	.0747
CHG-15-1	CH-17G, CH-21G, CHG-15A**	1.8740	0.835	.1860
CHG-22-1	CHG-22**	2.0100	1.172	.0691
CHG-23-1	CHG-23**	1.6253	0.865	.0808
CHG-23-2	CHG-23**	1.5969	0.865	.0808
CHG-23-3	CHG-23**	1.8672	0.862	.0808
CHG-23-4	CHG-23**	1.8955	0.862	.0808
CHG-24-1	CHG-24**	1.6050	1.020	.0786
CHP-4-1	CHP-4, CHP-8, CHP-17, CHP-21	2.0200	0.740	.0744

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
CHP-4-1T	CHP-4T, CHP-8T, CHP-17T, CHP-21T	2.0200	0.740	.0744
CHP-4-2	CHP-4, CHP-8, CHP-17, CHP-21	2.0100	0.740	.0694
CHP-4-2T	CHP-4T, CHP-8T, CHP-17T, CHP-21T	2.0100	0.740	.0694
CHP-4-3	CHP-4, CHP-8, CHP-17, CHP-21, GMP-8, RDCP-1	2.0000	0.740	.0644
CHP-4-3T	CHP-4T, CHP-8T, CHP-17T, CHP-21T, GMP-8T, RDCP-1T	2.0000	0.740	.0644
CHP-4-4	CHP-4	2.0100	0.940	.0694
CHP-4-4T	CHP-4T	2.0100	0.940	.0694
CHP-4-11	CHP-8R1	2.0300	0.740	.0744
CHP-4-11T	CHP-8R1T	2.0300	0.740	.0744
CHP-4-12	CHP-8R2	2.0400	0.740	.0844
CHP-4-12T	CHP-8R2T	2.0400	0.740	.0844
CHP-4-13	CHP-8R3	2.0500	0.740	.0894
CHP-4-13T	CHP-8R3T	2.0500	0.740	.0894
CHP-4-14	CHP-8R4	2.0600	0.740	.0944
CHP-4-14T	CHP-8R4T	2.0600	0.740	.0944
CHP-5-3	RDCP-1	2.0000	0.860	.0644
CHP-5-3T	RDCP-1T	2.0000	0.860	.0644
CHP-10-1	CHP-10, CHP-23	2.3270	0.630	.0790
CHP-10-1T	CHP-10T, CHP-23T	2.3270	0.630	.0790
CHP-10-2	CHP-10	2.3171	0.630	.0740
CHP-10-2T	CHP-10T	2.3171	0.630	.0740
CHP-10-3	CHP-10, CHP-23, GMP-9	2.3088	0.630	.0700
CHP-10-3T	CHP-10T, CHP-23T, GMP-9T	2.3088	0.630	.0700
CHP-12-1	CHP-12	2.1400	0.860	.0941
CHP-12-1T	CHP-12T	2.1400	0.860	.0941
CHP-12-2	CHP-12	2.1300	0.980	.0891
CHP-12-2T	CHP-12T	2.1300	0.980	.0891
CHP-12-3	CHP-12, GMP-12	2.1200	0.980	.0841
CHP-12-3T	CHP-12T, GMP-12T	2.1200	0.980	.0841
CHP-12-11	CHP-12R1	2.1500	0.860	.0991
CHP-12-12	CHP-12R2	2.1600	0.860	.1041
CHP-12-21	CHP-12R1	2.1500	0.980	.0991
CHP-12-22	CHP-12R2	2.1600	0.980	.1041
CHP-23-1	CHP-23	2.3470	0.630	.0890
CHP-23-1T	CHP-23T	2.3470	0.630	.0890
CO-7-1	CO-7	2.3743	1.094	.0940
CO-7-2	CO-7	2.3120	1.000	.0940
CO-7-3	CO-7	2.2495	1.000	.0940
CO-7-4	CO-7	1.9370	1.250	.0940
CO-9-1	CO-9	1.9375	1.323	.0626
CO-9-2	CO-9	1.8750	0.573	.0626
CO-9-3	CO-9	1.8125	1.135	.0626
CU-1-1	CU-5A, CU-10	2.1290	2.250	.0644
CU-5-2A	CU-5A, CU-10	2.1250	1.685	.0644
CU-8-1	CU-9	2.6870	1.685	.0939
CU-9-1	CU-9	2.6870	1.685	.0939
CU-9-2	CU-9	2.6870	2.185	.0939
CU-11-1	CU-11, CU-11A	2.1870	1.905	.0932
CU-11-2	CU-11, CU-11A	2.1870	0.905	.0932
CU-12-1	CU-12	2.2535	1.005	.0620
CU-13-1	CU-13	2.6870	1.810	.0937
CU-13-2	CU-13	2.6870	1.070	.0937
CU-14-1	CU-14	2.3323	1.005	.1010
DA-1-1	DA-1	1.8509	0.930	.0625
DA-1-2	DA-1	1.8312	0.555	.0625

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DA-1-3	DA-1	1.8115	0.555	.0625
DA-1-4	DA-1	1.7918	0.555	.0625
DA-1-5	DA-1	1.7495	0.555	.0625
DA-2-1	DA-2	1.9155	1.455	.0624
DA-2-2	DA-2	1.8555	1.070	.0624
DA-2-3	DA-2	1.7495	0.812	.0624
DA-3-1	DA-3A, DA-5	1.9155	0.945	.0625
DA-3-2	DA-3A, DA-5	1.8555	0.865	.0625
DA-3-3A	DA-3A, DA-5	1.7495	0.947	.0625
DE-1-1	DE-1	2.2505	1.545	.0925
DE-2-1	DE-2, DE-2A, DE-5, DE-7	2.3755	1.505	.0943
DE-2-1R1	DE-2R1, DE-2AR1, DE-5R1	2.3855	1.505	.0993
DE-2-2	DE-2, DE-2A, DE-5, DE-7	2.3655	1.505	.0893
DE-2-2R1	DE-2R1, DE-2AR1, DE-5R1	2.3755	1.505	.0943
DE-2-3	DE-7	2.3555	1.510	.0842
DE-4-1	DE-4	2.7216	0.710	.0774
DT-1-1T	DT-1T	2.0000	0.740	.0644
DT-11-1T	DT-1TR1	2.0010	0.740	.0694
F-1-1	F-1	1.9280	1.600	.0648
F-1-2	F-1	1.9280	1.312	.0648
F-7-2	F-7	2.0580	0.875	.0649
F-8-1	F-11, F-12	2.2500	0.875	.0618
F-9-1	F-9A, F-9B	2.0580	0.875	.0648
F-9-2B	F-9B	2.0580	0.620	.0648
F-9-3	F-9A	2.0580	0.620	.0648
F-11-2	F-11, F-12	2.2500	0.755	.0618
F-12-1	F-12	2.6000	0.755	.0617
F-14-5	F-19	2.3880	0.710	.0610
F-15-2	F-33	2.2950	0.620	.0841
F-15-3	F-33	2.2800	0.620	.0766
F-15-4	F-33	2.2650	0.620	.0691
F-15-5	F-33	2.2500	0.560	.0616
F-16-1	F-16	2.6025	0.670	.0629
F-16-2	F-16	2.4985	0.670	.0629
F-17-2	F-32	1.9635	0.720	.0757
F-17-3	F-32	1.9485	0.720	.0682
F-17-4	F-32	1.9335	0.720	.0607
F-18-1	F-18	2.2040	0.660	.0602
F-18-2	F-18, F-26	2.1890	0.660	.0602
F-18-3	F-18, F-26	2.1740	0.660	.0602
F-18-4	F-18, F-26	2.1590	0.660	.0602
F-18-5	F-18, F-26	2.1440	0.660	.0602
F-19-1	F-19	2.4480	0.710	.0609
F-19-2	F-19	2.4330	0.710	.0609
F-19-3	F-19	2.4180	0.710	.0609
F-19-4	F-19	2.4030	0.710	.0609
F-22-1	F-7, F-22	2.0580	0.875	.0649
F-23-1A	F-23A	2.1445	0.860	.0624
F-23-1B	F-23B, F-49B	2.1445	0.860	.0624
F-24-2	F-24	2.2950	0.620	.0844
F-24-3	F-24	2.2800	0.620	.0769
F-24-4	F-24	2.2650	0.620	.0694
F-24-5	F-24	2.2500	0.560	.0619
F-25-1	F-25	2.1365	1.000	.0624
F-26-1	F-26	2.2500	0.660	.0616

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F-28-1	F-28	1.6890	0.790	.0633
F-28-2	F-28	1.6890	0.685	.0633
F-28-3	F-28	1.6890	0.790	.0633
F-29-1	F-29	1.7755	0.785	.0600
F-29-2	F-29	1.8785	0.665	.0600
F-29-3A	F-29	1.8935	0.625	.0600
F-30-1	F-30	2.2500	0.580	.0620
F-30-1R1	F-30R1	2.2600	0.580	.0668
F-30-1R2	F-30R2	2.2700	0.580	.0718
F-31-1	F-31	1.7734	0.775	.0604
F-31-2	F-31	1.7585	0.700	.0604
F-31-3	F-31	1.7435	0.700	.0604
F-31-4	F-31, F-42	1.7285	0.595	.0604
F-32-1	F-32	1.9785	0.720	.0832
F-33-1	F-24, F-33	2.3100	0.620	.0912
F-34-1	F-34	1.9011	0.693	.0638
F-34-1B	F-34B	1.9011	0.693	.0638
F-34-1S	F-34S	1.9203	0.693	.0738
F-41-1	F-41	1.9299	0.949	.0794
F-41-2	F-41	1.9299	0.714	.0794
F-42-1	F-42	1.7585	0.775	.0604
F-42-2	F-42	1.7435	0.700	.0604
F-43-1	F-43, F-44, F-55	2.5345	0.765	.0708
F-45-1	F-45	2.1920	0.635	.0694
F-45-2	F-45	2.1770	0.555	.0619
F-46-1	F-46	2.2047	0.723	.0973
F-46-2	F-46	2.1890	0.723	.0894
F-46-3	F-46	2.2047	0.503	.0973
F-47-1	F-47, F-47B	1.8521	0.780	.0605
F-47-2	F-47	1.8371	0.700	.0605
F-47-2B	F-47B	1.8371	0.700	.0605
F-47-3	F-47	1.8222	0.700	.0605
F-47-3B	F-47B	1.8222	0.700	.0605
F-47-4	F-47, F-47B	1.8072	0.595	.0605
F-48-1	F-48, F-48A	2.1536	0.955	.0719
F-48-2	F-48, F-48A	2.1339	0.537	.0620
F-48-4	F-48	2.1536	0.537	.0719
F-48-4A	F-48A	2.1536	0.537	.0719
F-49-1	F-49	2.1590	0.860	.0695
F-49-1B	F-49B	2.1590	0.860	.0695
F-49-2	F-49	2.1445	0.860	.0624
F-50-1	F-50, F-50A	2.0776	0.775	.0617
F-50-2	F-50, F-50A	2.0626	0.700	.0614
F-50-3	F-50, F-50A	2.0476	0.700	.0614
F-50-4	F-50	2.0327	0.585	.0615
F-50-4A	F-50A	2.0327	0.825	.0615
F-51-2	F-38, F-52	2.1770	0.555	.0619
F-51-2X	F-38X	2.1770	0.595	.0613
F-52-1	F-38, F-52	2.1920	0.635	.0694
F-52-1X	F-38X	2.1920	0.635	.0688
FA-1-1	FA-1*	1.9035	0.925	.0503
FA-1-2	FA-1*	1.8985	0.925	.0478
FA-1-3	FA-1*	1.8935	0.925	.0453
FA-1-4	FA-1*	1.8885	0.925	.0428
FA-1-5	FA-1*	1.8835	0.925	.0403

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
FA-2-1	FA-2*	1.8435	0.845	.0403
FA-2-2	FA-2*	1.8535	0.845	.0403
FA-2-3	FA-2*	1.8635	0.845	.0403
FA-2-4	FA-2*	1.8735	0.845	.0403
FA-2-5	FA-2*	1.8835	0.845	.0403
FA-3-1(L)	FA-3*	1.1469	0.570	.0422
FA-3-2(L)	FA-4*	1.1469	0.570	.0422
FA-3-2(U)	FA-3*	1.1469	0.570	.0422
FA-4-1(L)	FA-4*, FA-5*	1.1469	0.455	.0420
FA-4-2(L)	FA-4*, FA-5*	1.1469	0.455	.0420
FA-4-3(U)	FA-4*, FA-5*	1.1469	0.570	.0420
FA-4-4(U)	FA-4*, FA-5*	1.1469	0.455	.0420
FA-5-1(L)	FA-5*	1.1469	0.570	.0422
FA-6-1(L)	FA-6*	1.1875	0.960	.0422
FA-6-2(U)	FA-6*	1.1875	0.960	.0422
FA-6-3(L)	FA-6*	1.1875	0.680	.0422
FA-6-4(U)	FA-6*	1.1875	0.680	.0422
FG-1-1	FG-1-1**	2.1430	0.815	.0701
FG-53-1	FG-53**	1.8522	1.142	.0610
FG-53-2	FG-53**	1.8072	0.905	.0610
FP-15-2	FP-33	2.2950	0.620	.0841
FP-15-2T	FP-33T	2.2950	0.620	.0841
FP-15-3	FP-33	2.2800	0.620	.0766
FP-15-3T	FP-33T	2.2800	0.620	.0766
FP-15-4	FP-33	2.2650	0.620	.0691
FP-15-4T	FP-33T	2.2650	0.620	.0691
FP-15-5	FP-33	2.2500	0.560	.0616
FP-15-5T	FP-33T	2.2500	0.560	.0616
FP-18-1	FP-18	2.2040	0.660	.0602
FP-18-1T	FP-18T	2.2040	0.660	.0602
FP-18-2	FP-18, FP-26	2.1890	0.660	.0602
FP-18-2T	FP-18T, FP-26T	2.1890	0.660	.0602
FP-18-3	FP-18, FP-26	2.1740	0.660	.0602
FP-18-3T	FP-18T, FP-26T	2.1740	0.660	.0602
FP-18-4	FP-18, FP-26	2.1590	0.660	.0602
FP-18-4T	FP-18T, FP-26T	2.1590	0.660	.0602
FP-18-5	FP-18, FP-26	2.1440	0.660	.0602
FP-18-5T	FP-18T, FP-26T	2.1440	0.660	.0602
FP-26-1	FP-26	2.2500	0.660	.0616
FP-26-1T	FP-26T	2.2500	0.660	.0616
FP-30-1	FP-30	2.2500	0.580	.0620
FP-30-1R	FP-30R	2.2550	0.580	.0645
FP-30-1T	FP-30T	2.2500	0.580	.0620
FP-33-1	FP-33	1.7734	0.775	.0604
FP-33-1T	FP-33T	1.7734	0.775	.0604
GM-5-1	GM-5	2.1875	1.680	.0641
GM-5-2	GM-5	2.1562	0.880	.0641
GM-5-3	GM-5	2.1250	0.880	.0641
GM-5-4	GM-5	1.9725	1.150	.0641
GM-7-1	GM-7	2.3280	0.895	.0798
GM-7-1R2	GM-7R2	2.3480	0.895	.0898
GM-7-2	GM-7	2.3190	0.775	.0753
GM-7-2R2	GM-7R2	2.3480	0.775	.0898
GM-7-3	GM-7	2.3090	0.775	.0703
GM-7-4	GM-7	2.2990	0.775	.0653

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GM-7-5	GM-7, GM-7R2	2.1420	0.775	.0655
GM-8-1	GM-8	2.5598	1.120	.0790
GM-8-2	GM-8	2.5598	0.705	.0790
GM2125-1	GMP-3	2.2500	0.855	.0620
GM2125-1T	GMP-3T	2.2500	0.855	.0620
GM2125-4	GMP-3	2.2500	0.980	.0620
GM2125-4T	GMP-3T	2.2500	0.980	.0620
GMA-1-1	GMA-1*	1.8607	0.817	.0550
GMA-1-2	GMA-1*	1.8607	0.661	.0550
GMA-2-1(L)	GMA-2*	1.2655	0.665	.0617
GMA-2-1(U)	GMA-2*	1.2655	0.665	.0617
GMA-2-2(L)	GMA-2*	1.2655	0.665	.0617
GMA-2-3(U)	GMA-2*	1.2655	0.665	.0617
GMP-1-1	GMP-1	2.1200	0.755	.0841
GMP-1-1T	GMP-1T	2.1200	0.755	.0841
GMP-2-1T	GMP-2T	2.1200	0.755	.0841
GMP-55-1	GMP-55	2.2820	0.785	.0569
GMP-55-1T	GMP-55T	2.2820	0.785	.0569
H-5-1	H-5	2.1560	0.750	.0620
H-5-2	H-5	2.1460	0.750	.0620
H-5-3	H-5	2.1360	0.750	.0620
H-5-4	H-5	2.1260	0.750	.0620
H-5-5	H-5	1.6260	1.060	.0620
HA-1-1(U)	HA-1*	1.2655	0.700	.0622
HA-1-2(U)	HA-2*	1.2655	0.830	.0618
HA-1-3(L)	HA-2*	1.2655	0.830	.0618
HA-1-4(U)	HA-2*	1.2655	0.700	.0622
HA-1-4A(U)	HA-2*	1.2655	0.700	.0622
HA-1-5(L)	HA-1*, HA-2*	1.2655	0.700	.0622
HA-1-5(U)	HA-2*	1.2655	0.700	.0622
HA-3-1(L)	HA-3*	1.1875	0.735	.0422
HA-3-2(U)	HA-3*	1.1875	0.735	.0422
HA-3-3(L)	HA-3*, HA-5*	1.1875	0.535	.0422
HA-3-4(U)	HA-3*, HA-5*	1.1875	0.535	.0422
HA-4-1(U)	HA-4*	1.2655	1.242	.0618
HA-4-2(L)	HA-4*	1.2655	1.242	.0618
HA-4-3(U)	HA-4*	1.2655	0.530	.0618
HA-4-4(L)	HA-4*	1.2655	0.530	.0618
HA-5-1(L)	HA-5*	1.2655	0.788	.0618
HA-5-2(U)	HA-5*	1.2655	0.788	.0618
HE-1-1	HE-1	2.1875	1.125	.0660
HE-1-2	HE-1, HE-7, HE-8	2.1875	0.812	.0660
HE-1-2A	HE-8A	2.1862	0.812	.0653
HE-5-1	HE-5	1.8753	1.020	.0617
HE-5-2	HE-5	1.8753	0.550	.0617
HE-7-1	HE-7, HE-8	2.1875	1.057	.0658
HE-7-1A	HE-8A	2.1862	1.057	.0653
HO-1-1	HO-1	1.8968	0.815	.0643
HO-2-1	HO-2, HO-2S	2.0300	0.785	.0694
HO-2-2	HO-2, HO-2S	2.0200	0.785	.0644
HO-2-3	HO-2, HO-2S	2.0100	0.785	.0694
HO-2-4	HO-2, HO-2S	2.0000	0.785	.0644
HO-2-5	HO-2	1.7108	0.785	.0644
HO-2-5S	HO-2S	1.7128	0.785	.0644
IN-2-3	IN-3	2.2008	1.062	.0645

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
IN-2-4	IN-3, IN-16	1.6313	1.530	.0645
IN-3A-1	IN-3, IN-12, IN-14	2.2408	1.125	.0647
IN-5-1	IN-5	2.3748	1.438	.0644
IN-5-2	IN-5	2.2493	1.469	.0642
IN-5-3	IN-5	1.9993	1.063	.0643
IN-8-2	IN-3, IN-12, IN-14, IN-16	2.2207	1.062	.0647
IN-8-3	IN-12, IN-14	2.2007	1.062	.0647
IN-8-4	IN-14	1.6313	1.312	.0645
IN-10-1A	IN-10A	2.4748	1.187	.0618
IN-10-2	IN-10A	2.4438	1.000	.0625
IN-10-3	IN-10A	2.4153	1.000	.0613
IN-10-4A	IN-10A	2.3748	1.000	.0618
IN-11-1	IN-11	2.2313	0.710	.0647
IN-11-2	IN-11	2.2213	0.645	.0647
IN-11-3	IN-11	2.2113	0.645	.0647
IN-11-4	IN-11	2.2013	0.645	.0647
IN-11-5	IN-11	2.1913	0.750	.0647
IN-15-1	IN-15	2.0618	1.000	.0643
IN-15-2	IN-15	1.9368	1.375	.0643
IN-15-3	IN-15	1.4993	1.000	.0643
IN-16-1	IN-16	2.5610	1.125	.0645
IN-16-3	IN-16	2.2010	1.060	.0645
IN-17-1	IN-17	2.2313	0.785	.0647
IN-17-1S	IN-17R2	2.2513	0.785	.0768
IN-17-2	IN-17	2.2313	0.650	.0647
IN-17-2S	IN-17R2	2.2513	0.650	.0768
IN-18-1	IN-18	1.9430	1.095	.0645
IN-18-2	IN-18	1.7083	1.005	.0641
IN-18-3	IN-18	1.6303	0.790	.0641
IN-19-1	IN-19	2.5013	1.010	.1078
IN-19-2	IN-19	2.4813	0.709	.0980
IN-19-3	IN-19	2.4613	0.709	.0880
IN-19-4	IN-19	2.4413	0.710	.0780
IN-21-1	IN-21	2.5984	0.740	.0778
IZ-2-1	IZ-2	2.0479	0.984	.0790
IZ-2-2	IZ-2	2.0480	0.984	.0790
IZ-2-3	IZ-2	2.0480	0.984	.0790
IZ-3-1	IZ-3	2.0486	0.866	.0797
IZ-3-2	IZ-3	2.0486	0.866	.0797
IZ-3-3	IZ-3	2.0486	0.866	.0797
IZ-5-1	IZ-5	2.1274	0.984	.0797
IZ-5-2	IZ-5	2.1274	0.866	.0797
IZ-6-1	IZ-6, IZ-7, IZ-8	2.3637	0.787	.0785
IZ-6-2	IZ-6, IZ-7, IZ-8	2.3637	0.787	.0785
J-1-1	J-1	2.3165	1.125	.0645
JD-1-1	JD-1, JD-2	1.9280	1.181	.0579
JD-1-2	JD-1, JD-2	1.9280	0.938	.0579
JD-3-1	JD-3, JD-4	2.5000	1.000	.0614
JD-5-1	JD-5	1.9280	1.598	.0577
JD-5-2	JD-5	1.9280	1.220	.0577
JDG-7-1	JDG-7**	1.6250	1.090	.0608
K-1-1	CO-8, K-1	2.0000	0.875	.0628
K-1-2	CO-3, K-1	1.9375	0.937	.0630
K-1-3	CO-3, CO-8, K-1	1.8810	1.620	.0628
K-1-4	CO-3, CO-8, K-1	1.3748	1.156	.0628

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
MA-3A-1	MA-6	2.6235	1.380	.1852
MA-5-1	MA-5, MA-6, MA-7	2.6235	1.385	.0910
MA-5-2	MA-5	2.6235	1.010	.0905
MA-5-3	MA-5, MA-6, MA-7, MA-8	2.6235	1.010	.0910
MA-5-4	MA-5	2.6235	1.380	.1853
MA-8-1	MA-8	2.6235	1.385	.0905
MAG-10-1	MAG-10**	2.3115	1.760	.1237
MAG-10-2	MAG-10**	2.2495	1.760	.1243
MIA-1-1(U)	MIA-1*, MIA-4*	1.4225	0.795	.0422
MIA-1-3(U)	MIA-1*	1.4225	0.795	.0422
MIA-1-4(L)	MIA-1*, MIA-4*	1.4225	0.795	.0422
MIA-1-5(U)	MIA-2*	1.4971	0.793	.0792
MIA-1-6(L)	MIA-2*	1.4971	0.793	.0792
MIA-1-7(U)	MIA-2*	1.4971	0.793	.0792
MIA-1-8(U)	MIA-4*	1.4225	0.795	.0422
MIA-3-1	MIA-3*	1.8918	0.685	.0403
MIA-5-1(U)	MIA-5*	1.4225	0.793	.0422
MIA-5-2(U)	MIA-5*	1.4225	0.710	.0422
MIA-5-3(U)	MIA-5*	1.4225	0.760	.0422
MIA-5-5(L)	MIA-5*	1.4225	0.793	.0422
MIA-5-6(L)	MIA-5*	1.4225	0.710	.0422
MIA-5-7(L)	MIA-5*	1.4225	0.760	.0422
MIA-5-8(U)	MIA-5*	1.4225	0.980	.0422
MIA-5-9(L)	MIA-5*	1.4225	0.980	.0422
MIG-1-EL	MIG-2E**	1.8126	0.930	NA
MIG-2-1	MIG-2**	1.8126	0.785	.0587
MIG-2-1R	MIG-2-1R**	1.9855	0.788	.1450
MIG-2-2	MIG-2**	1.0240	0.703	.0589
MIG-2-EL	MIG-2E**	0.6330	0.875	NA
MIG-3-1	MIG-3**	1.7721	0.745	.0590
MIG-3-2	MIG-3**	1.7328	0.825	.0592
MZA-1-1	MZA-1*	1.7931	0.730	.0403
MZA-1-2	MZA-1*	1.7931	0.730	.0403
MZA-1-3	MZA-1*	1.7931	0.730	.0403
MZA-2-1(U)	MZA-2*	1.3439	0.700	.0422
MZA-2-2(L)	MZA-2*	1.3439	0.830	.0422
MZA-2-3(L)	VWA-1*	1.3439	0.830	.0422
MZA-2-3(U)	MZA-2*	1.3439	0.830	.0422
MZA-4-1(U)	MZA-4*	1.2655	0.700	.0422
MZG-3-1	MZG-3**	1.8114	0.910	.0781
MZG-3-2	MZG-3**	1.7326	1.030	.0780
MZG-3-3	MZG-3**	0.9453	0.635	.0585
N-5-2	N-6	1.9370	0.780	.0647
N-5-3	N-6	1.9270	0.780	.0647
N-5-4	N-6	1.9170	0.810	.0647
N-6-1	N-6	1.9470	0.940	.0647
N-7-1	N-7, N-7B	1.1560	0.690	.0620
N-7-2	N-7, N-10	2.1460	0.690	.0620
N-7-2B	N-7B	2.1460	0.690	.0620
N-7-3	N-7, N-10	2.1360	0.690	.0620
N-7-3B	N-7B	2.1360	0.690	.0620
N-7-4	N-7, N-7B, N-10	2.1260	0.690	.0620
N-8-2	N-9	2.2160	0.625	.0620
N-8-3	N-9	2.1860	0.625	.0620
N-8-4	N-9	2.1560	0.625	.0620

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N-8-5	N-9	2.1260	0.625	.0620
N-8-21	N-9R1	2.2260	0.625	.0670
N-8-31	N-9R1	2.1960	0.625	.0670
N-8-41	N-9R1	2.1660	0.625	.0670
N-8-51	N-9R1	2.1360	0.625	.0670
N-9-1	N-9	2.2460	0.920	.0620
N-9-11	N-9R1	2.2560	0.920	.0670
N-10-1	N-10	2.1560	0.690	.0620
NIA-1-1	NIA-1*, NIA-4*	1.7340	0.805	.0403
NIA-1-2	NIA-4*	1.7340	0.805	.0403
NIA-1-3	NIA-4*	1.7340	1.120	.0403
NIA-2-1	NIA-2L*, NIA-2R*, NIA-3L*, NIA-3R*	1.9309	0.735	.0403
NIA-3-1	NIA-3R*	1.9702	1.235	.0403
NIA-3-2	NIA-3L*, NIA-3R*	1.7538	0.735	.0403
NIA-4-1	NIA-5*	1.8914	0.805	.0403
NIA-4-2	NIA-5*	1.8914	0.805	.0403
O-5-1	O-5	2.1288	0.688	.0641
O-6-1	O-6	2.1688	0.688	.0646
O-6-1B	O-6B	2.1688	0.688	.0646
O-6-2	O-6, O-7, O-8	2.1488	0.688	.0646
O-6-2B	O-6B	2.1488	0.688	.0646
O-6-3	O-6, O-7, O-8	2.1288	0.688	.0646
O-6-3B	O-6B	2.1288	0.688	.0646
O-6-4	O-6, O-7, O-8	2.1088	0.688	.0646
O-6-4B	O-6B	2.1088	0.688	.0646
O-6-5	O-6, O-7	2.0888	0.688	.0646
O-6-5B	O-6B	2.0888	0.688	.0646
O-7-1	O-7, O-8	2.1688	0.688	.0646
OG-1-1	OG-1**	2.1408	0.740	.0695
ON-1-1	ON-1	1.5000	0.697	.0619
OP-3-1	OP-3, OP-5	2.1069	0.950	.0889
OP-3-2	OP-3, OP-5	2.0970	0.723	.0889
OP-3-3	OP-3, OP-5	2.0773	0.723	.0840
OP-5-3	OP-5	2.0872	0.723	.0865
P-3-1	P-3	2.0307	1.060	.0644
P-3-2	P-3, P-4	2.0307	0.680	.0644
P-3-21	P-4R1	2.0407	0.680	.0694
PD-1-1	PD-1, PD-3	2.1295	1.093	.0645
PD-1-2	PD-1	2.0990	0.875	.0649
PD-1-3	PD-1	2.0675	0.875	.0650
PD-3-2	PD-3	2.0990	1.062	.0650
PD-3-3	PD-3	2.0675	1.062	.0650
PD-8-1	PD-8	2.1300	0.938	.0647
PD-8-2	PD-8	2.1300	0.813	.0647
PD-8-3	PD-8	1.5675	0.875	.0647
PD-9-2	PD-16	2.1140	0.760	.0645
PD-9-3	PD-16	2.0990	0.760	.0645
PD-9-4	PD-16	2.0830	0.760	.0645
PD-9-5	PD-16, PD-25, PD-27	1.6925	0.940	.0645
PD-12-2	PD-17, PD-18	2.1140	0.750	.0645
PD-12-3	PD-17	2.0990	0.669	.0645
PD-12-4	PD-17	2.0830	0.750	.0645
PD-12-5	PD-17	1.8800	0.750	.0645
PD-13-3	PD-18	2.0990	0.750	.0645
PD-13-4	PD-18, PD-21	2.0830	0.750	.0645

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
PD-16-1	PD-16, PD-25, PD-27	2.1300	0.875	.0645
PD-17-1	PD-17	2.1300	0.750	.0645
PD-18-1	PD-18	2.1300	0.920	.0645
PD-21-1	PD-21	2.1300	0.780	.0640
PD-21-2	PD-21	2.1140	0.625	.0640
PD-21-3	PD-21	2.0990	0.625	.0640
PD-25-2	PD-25, PD-27	2.1140	0.625	.0645
PD-25-3	PD-25	2.0990	0.615	.0645
PD-25-4	PD-25, PD-27	2.0830	0.615	.0645
PD-28-1	PD-28, PD-28B	2.1300	0.930	.0647
PD-28-2	PD-28	2.1140	0.610	.0653
PD-28-2B	PD-28B	2.1140	0.610	.0653
PD-28-3	PD-28	2.0990	0.610	.0653
PD-28-3B	PD-28B	2.0990	0.610	.0653
PD-28-4	PD-28, PD-28B	2.0830	0.610	.0647
PD-30-1	PD-30	2.2235	0.885	.0650
PD-30-2	PD-30	2.2075	0.625	.0652
PD-30-3	PD-30	2.1915	0.625	.0650
PD-30-4	PD-30	2.1755	0.625	.0650
PD-30-5	PD-30	2.1595	0.625	.0650
PD-30-6	PD-30	2.0495	0.885	.0650
PD-31-1B	PD-31B	2.4231	0.665	.0650
PD-31-2B	PD-31B	2.4073	0.587	.0650
PD-31-3B	PD-31B	2.3916	0.587	.0650
PD-31-4B	PD-31B	2.3758	0.587	.0650
PD-31-5B	PD-31B	1.8499	0.587	.0650
PDA-1-1(L)	PDA-1*	1.4819	0.625	.0522
PDA-1-2(U)	PDA-1*	1.4819	0.625	.0522
PDA-2-1(L)	PDA-2*	1.4819	0.625	.0422
PDA-2-2(U)	PDA-2*	1.4819	0.625	.0422
PDA-3-1	PDA-3*	1.0735	0.815	.0404
PDA-3-2	PDA-3*	1.7195	0.775	.0406
PDA-3-3	PDA-3*	1.7345	0.775	.0402
PDA-3-4	PDA-3*	1.7505	0.775	.0404
PDA-3-5	PDA-3*	1.7665	0.745	.0404
PDA-4-1 (L)	PDA-4*	1.1085	0.585	.0418
PDA-4-2 (U)	PDA-4*	1.1085	0.585	.0418
PDG-26-1	PDG-26**	1.8110	0.745	.0640
PDG-26-2	PDG-26**	0.9055	0.825	.0640
PDG-29-1	PDG-29S**	1.7866	0.865	.08 Semi
PDG-30-1	PDG-30**	2.3533	0.710	.0728
PDG-30-2	PDG-30**	1.2903	0.710	.0728
PDP-9-2	PDP-16	2.1140	0.760	.0645
PDP-9-2T	PDP-16T	2.1140	0.760	.0645
PDP-9-3	PDP-16	2.0990	0.760	.0645
PDP-9-3T	PDP-16T	2.0990	0.760	.0645
PDP-9-4	PDP-16	2.0830	0.760	.0645
PDP-9-4T	PDP-16T	2.0830	0.760	.0645
PDP-9-5	PDP-16, PDP-25	1.6925	0.940	.0645
PDP-9-5T	PDP-16T, PDP-25T	1.6925	0.940	.0645
PDP-12-2	PDP-17	2.1140	0.750	.0645
PDP-12-2R1	PDP-17R1	2.1240	0.750	.0695
PDP-12-2T	PDP-17T	2.1140	0.750	.0645
PDP-12-3	PDP-17	2.0990	0.669	.0645
PDP-12-3R1	PDP-17R1	2.1090	0.669	.0695

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
PDP-12-3T	PDP-17T	2.0990	0.669	.0645
PDP-12-4	PDP-17	2.0830	0.750	.0645
PDP-12-4R1	PDP-17R1	2.0930	0.750	.0695
PDP-12-4T	PDP-17T	2.0830	0.750	.0645
PDP-12-5	PDP-17	1.8800	0.750	.0645
PDP-12-5R1	PDP-17R1	1.8900	0.750	.0695
PDP-12-5T	PDP-17T	1.8800	0.750	.0645
PDP-16-1	PDP-16, PDP-25	2.1300	0.875	.0645
PDP-16-1T	PDP-16T, PDP-25T	2.1300	0.875	.0645
PDP-17-1	PDP-17	2.1300	0.750	.0645
PDP-17-1R1	PDP-17R1	2.1400	0.750	.0695
PDP-17-1T	PDP-17T	2.1300	0.750	.0645
PDP-25-2	PDP-25	2.1140	0.625	.0645
PDP-25-2T	PDP-25T	2.1140	0.625	.0645
PDP-25-3	PDP-25	2.0990	0.615	.0645
PDP-25-3T	PDP-25T	2.0990	0.615	.0645
PDP-25-4	PDP-25	2.0830	0.615	.0645
PDP-25-4T	PDP-25T	2.0830	0.615	.0645
PP-3-1	PP-3	2.0307	1.060	.0644
PP-3-1T	PP-3T	2.0307	1.060	.0644
PP-3-2	PP-3, PP-4	2.0307	0.680	.0644
PP-3-2T	PP-3T, PP-4T	2.0307	0.680	.0644
R-1-1	R-1	2.5620	1.625	.0610
R-1-2	R-1	2.4370	1.250	.0610
R-1-3	R-1	2.3120	1.250	.0610
R-1-4	R-1	1.7500	1.187	.0613
SA-1-1	SA-1*	1.8215	0.940	.0407
SA-1-2	SA-1*	1.8295	0.485	.0407
SA-1-3	SA-1*	1.8375	0.485	.0407
SA-1-4	SA-1*	1.8455	0.485	.0407
SA-1-5	SA-1*	1.8535	0.485	.0407
SH-1798T	CH-17G, CH-21G, CHG-15A**	NA	NA	NA
TO-1-1	TO-10	2.0475	1.143	.0785
TO-1-2	TO-10	1.9885	0.943	.0785
TO-1-4	TO-10	1.8705	0.984	.0785
TO-2-1	TO-2	1.9685	1.095	.0685
TO-2-2	TO-2	1.9685	1.654	.0735
TO-2-3	TO-2	1.9685	0.985	.0785
TO-3-1	TO-3	1.8895	0.715	.0929
TO-3-2	TO-3	1.8705	0.715	.0885
TO-3-3	TO-3	1.8510	0.715	.0835
TO-3-4	TO-3	1.8311	0.715	.0786
TO-5-1	TO-11	1.9688	1.142	.0686
TO-5-2	TO-11	1.9688	0.790	.0735
TO-5-4	TO-11	1.9688	0.750	.0835
TO-5-5	TO-11	1.9688	1.105	.0884
TO-7-1	TO-7	1.9691	0.705	.0687
TO-7-2	TO-7	1.9593	0.625	.0687
TO-7-3	TO-7	1.9297	0.705	.0588
TO-7-4	TO-7	1.9400	0.625	.0687
TO-7-5	TO-7	1.9494	0.705	.0785
TO-8-1	TO-8	1.4971	1.103	.0591
TO-8-2	TO-8	1.4971	0.793	.0591
TO-10-3	TO-10	1.9295	0.943	.0785
TO-11-3	TO-11	1.9688	1.810	.0785

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CONTENTS	IN SET(S)	HOUSING BORE	LENGTH	MAX WALL
TO-12-1	TO-12	1.9697	0.709	.0689
TO-12-2	TO-12	1.9598	0.630	.0689
TO-12-3	TO-12	1.9303	0.709	.0591
TO-12-4	TO-12	1.9402	0.630	.0689
TO-12-5	TO-12	1.9500	0.709	.0788
TO-15-1	TO-15	2.2638	0.787	.0791
TO-15-2	TO-15	2.2539	0.787	.0791
TO-15-3	TO-15	2.2047	0.787	.0594
TO-15-4	TO-15	2.2047	0.787	.0644
TO-15-5	TO-15	2.2146	0.787	.0742
TOA-1-1(U)	NIA-6*	1.3841	0.800	.0422
TOA-1-2(L)	NIA-6*	1.3841	0.800	.0422
TOA-2-1(L)	TOA-1*	1.3841	0.800	.0418
TOA-2-2(U)	TOA-1*	1.3841	0.800	.0418
TOG-8-1	TOG-8**	1.9682	0.975	.0784
TOG-8-2	TOG-8**	1.7714	0.785	.0784
TOG-9-1	TOG-9**	1.7719	0.640	.0788
TOG-9-2	TOG-9**	1.4569	0.640	.0788
TOG-10-1	TOG-10**	1.6541	0.800	.0783
TOG-10-2	TOG-10**	1.6350	0.895	.0790
TOG-11-1	TOG-11**, TOG-11A**, TOG-11C**	1.2615	0.765	.0597
TOG-11-2	TOG-11**, TOG-11C**	1.2615	0.765	.0597
TOG-11-3	TOG-11**, TOG-11A**, TOG-11C**	1.2615	0.765	.0597
VHA-1-2(L)	MZA-4*	1.2655	0.700	.0422
VHA-1-2(U)	VOA-1*	1.2655	0.700	.0422
VO-2-1	VO-2**, VO-3	1.9655	1.060	.0570
VO-2-2	VO-2**	1.8081	1.025	.0570
VO-2-3	VO-2**	1.5724	1.100	.0573
VOA-1-1(L)	VOA-1*	1.2655	0.700	.0422
VW-1-1	VW-1	1.0831	0.787	.0490
VW-1-2	VW-1	1.0831	0.906	.0490
VW-1-3(L)	VW-1	1.0831	1.102	.0490
VW-1-3(U)	VW-1	1.0831	1.102	.0490
VWA-1-1(U)	VWA-1*	1.3439	0.830	.0422
VWA-1-2(U)	VWA-1*	1.2655	0.830	.0422
VWA-1-3(L)	VWA-1*	1.2655	0.630	.0422
VWA-1-4(U)	VWA-1*	1.2655	0.630	.0422
VWA-1-5(L)	VWA-1*	1.2655	0.700	.0422
VWA-2-1(L)	VWA-2*	1.1085	0.680	.0422
VWA-2-2(U)	VWA-2*	1.1085	0.680	.0422
VWG-1-1	VWG-1**	1.8115	0.585	.0590
VWG-1-2	VWG-1**	1.7721	0.585	.0590
WA-1-1	WA-4, WA-7	1.8750	1.000	.0617
WA-2-1	WA-10	2.2500	1.250	.0614
WA-3-1	WA-3	2.2540	1.125	.0643
WA-3-2	WA-3	2.0040	1.312	.0645
WA-3-3	WA-3	1.6290	1.500	.0645
WA-8-1	WA-8	2.1250	1.067	.0605
WA-8-2	WA-8	2.1250	0.880	.0605
WA-9-1	WA-9	2.8750	1.880	.0645
WA-9-2	WA-9	2.8750	1.505	.0645
WA-9-3	WA-9	2.1870	2.255	.0643
WA-11-1	WA-11	2.6250	1.500	.0618

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
0.6330	0.875	NA	MIG-2-EL	MIG-2E**
0.9055	0.825	.0640	PDG-26-2	PDG-26**
0.9453	0.635	.0585	MZG-3-3	MZG-3**
1.0240	0.703	.0589	MIG-2-2	MIG-2**
1.0735	0.815	.0404	PDA-3-1	PDA-3*
1.0831	0.787	.0490	VW-1-1	VW-1
1.0831	0.906	.0490	VW-1-2	VW-1
1.0831	1.102	.0490	VW-1-3(L)	VW-1
1.0831	1.102	.0490	VW-1-3(U)	VW-1
1.1085	0.585	.0418	PDA-4-1 (L)	PDA-4*
1.1085	0.585	.0418	PDA-4-2 (U)	PDA-4*
1.1085	0.680	.0422	VWA-2-1(L)	VWA-2*
1.1085	0.680	.0422	VWA-2-2(U)	VWA-2*
1.1469	0.455	.0420	FA-4-1(L)	FA-4*, FA-5*
1.1469	0.455	.0420	FA-4-2(L)	FA-4*, FA-5*
1.1469	0.570	.0422	FA-3-1(L)	FA-3*
1.1469	0.570	.0422	FA-3-2(U)	FA-3*
1.1469	0.455	.0420	FA-4-4(U)	FA-4*, FA-5*
1.1469	0.570	.0420	FA-4-3(U)	FA-4*, FA-5*
1.1469	0.570	.0422	FA-3-2(L)	FA-4*
1.1469	0.570	.0422	FA-5-1(L)	FA-5*
1.1560	0.690	.0620	N-7-1	N-7, N-7B
1.1875	0.535	.0422	HA-3-3(L)	HA-3*, HA-5*
1.1875	0.535	.0422	HA-3-4(U)	HA-3*, HA-5*
1.1875	0.680	.0422	FA-6-3(L)	FA-6*
1.1875	0.680	.0422	FA-6-4(U)	FA-6*
1.1875	0.735	.0422	HA-3-1(L)	HA-3*
1.1875	0.735	.0422	HA-3-2(U)	HA-3*
1.1875	0.960	.0422	FA-6-1(L)	FA-6*
1.1875	0.960	.0422	FA-6-2(U)	FA-6*
1.2615	0.765	.0597	TOG-11-1	TOG-11**, TOG-11A**, TOG-11C**
1.2615	0.765	.0597	TOG-11-2	TOG-11**, TOG-11C**
1.2615	0.765	.0597	TOG-11-3	TOG-11**, TOG-11A**, TOG-11C**
1.2655	0.530	.0618	HA-4-3(U)	HA-4*
1.2655	0.530	.0618	HA-4-4(L)	HA-4*
1.2655	0.630	.0422	VWA-1-3(L)	VWA-1*
1.2655	0.630	.0422	VWA-1-4(U)	VWA-1*
1.2655	0.665	.0617	GMA-2-1(L)	GMA-2*
1.2655	0.665	.0617	GMA-2-1(U)	GMA-2*
1.2655	0.665	.0617	GMA-2-2(L)	GMA-2*
1.2655	0.665	.0617	GMA-2-3(U)	GMA-2*
1.2655	0.700	.0422	MZA-4-1(U)	MZA-4*
1.2655	0.700	.0422	VHA-1-2(L)	MZA-4*
1.2655	0.700	.0422	VHA-1-2(U)	VOA-1*
1.2655	0.700	.0422	VOA-1-1(L)	VOA-1*
1.2655	0.700	.0422	VWA-1-5(L)	VWA-1*
1.2655	0.700	.0622	HA-1-1(U)	HA-1*
1.2655	0.700	.0622	HA-1-4(U)	HA-2*
1.2655	0.700	.0622	HA-1-4A(U)	HA-2*
1.2655	0.700	.0622	HA-1-5(L)	HA-1*, HA-2*
1.2655	0.700	.0622	HA-1-5(U)	HA-2*
1.2655	0.788	.0618	HA-5-1(L)	HA-5*
1.2655	0.788	.0618	HA-5-2(U)	HA-5*
1.2655	0.830	.0422	VWA-1-2(U)	VWA-1*
1.2655	0.830	.0618	HA-1-2(U)	HA-2*

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
1.2655	0.830	.0618	HA-1-3(L)	HA-2*
1.2655	1.242	.0618	HA-4-1(U)	HA-4*
1.2655	1.242	.0618	HA-4-2(L)	HA-4*
1.2903	0.710	.0728	PDG-30-2	PDG-30**
1.3439	0.700	.0422	MZA-2-1(U)	MZA-2*
1.3439	0.830	.0422	MZA-2-2(L)	MZA-2*
1.3439	0.830	.0422	MZA-2-3(L)	VWA-1*
1.3439	0.830	.0422	MZA-2-3(U)	MZA-2*
1.3439	0.830	.0422	VWA-1-1(U)	VWA-1*
1.3745	1.000	.0615	BU-1-3	BU-2
1.3748	1.156	.0628	K-1-4	CO-3, CO-8, K-1
1.3841	0.800	.0418	TOA-2-1(L)	TOA-1*
1.3841	0.800	.0418	TOA-2-2(U)	TOA-1*
1.3841	0.800	.0422	TOA-1-1(U)	NIA-6*
1.3841	0.800	.0422	TOA-1-2(L)	NIA-6*
1.4225	0.710	.0422	MIA-5-2(U)	MIA-5*
1.4225	0.710	.0422	MIA-5-6(L)	MIA-5*
1.4225	0.760	.0422	MIA-5-3(U)	MIA-5*
1.4225	0.760	.0422	MIA-5-7(L)	MIA-5*
1.4225	0.793	.0422	MIA-5-1(U)	MIA-5*
1.4225	0.793	.0422	MIA-5-5(L)	MIA-5*
1.4225	0.795	.0422	MIA-1-1(U)	MIA-1*, MIA-4*
1.4225	0.795	.0422	MIA-1-3(U)	MIA-1*
1.4225	0.795	.0422	MIA-1-4(L)	MIA-1*, MIA-4*
1.4225	0.795	.0422	MIA-1-8(U)	MIA-4*
1.4225	0.980	.0422	MIA-5-8(U)	MIA-5*
1.4225	0.980	.0422	MIA-5-9(L)	MIA-5*
1.4569	0.640	.0788	TOG-9-2	TOG-9**
1.4587	1.000	.0398	BMA-4-3	BMA-4*
1.4587	1.390	.0403	BMA-1-4	BMA-1*
1.4819	0.625	.0422	PDA-2-1(L)	PDA-2*
1.4819	0.625	.0422	PDA-2-2(U)	PDA-2*
1.4819	0.625	.0522	PDA-1-1(L)	PDA-1*
1.4819	0.625	.0522	PDA-1-2(U)	PDA-1*
1.4971	0.793	.0591	TO-8-2	TO-8
1.4971	0.793	.0792	MIA-1-5(U)	MIA-2*
1.4971	0.793	.0792	MIA-1-6(L)	MIA-2*
1.4971	0.793	.0792	MIA-1-7(U)	MIA-2*
1.4971	1.103	.0591	TO-8-1	TO-8
1.4993	1.000	.0643	IN-15-3	IN-15
1.5000	0.697	.0619	ON-1-1	ON-1
1.5039	0.533	.0644	BL-1-3	BL-1
1.5675	0.875	.0647	PD-8-3	PD-8
1.5682	0.875	.0642	C-2-2	C-2
1.5724	1.100	.0573	VO-2-3	VO-2**
1.5772	0.800	.0403	BMA-1-10	BMA-2*, BMA-3*
1.5969	0.865	.0808	CHG-23-2	CHG-23**
1.6050	1.020	.0786	CHG-24-1	CHG-24**
1.6250	1.090	.0608	JDG-7-1	JDG-7**
1.6253	0.865	.0808	CHG-23-1	CHG-23**
1.6260	1.060	.0620	H-5-5	H-5
1.6290	1.500	.0645	WA-3-3	WA-3
1.6303	0.790	.0641	IN-18-3	IN-18
1.6313	1.312	.0645	IN-8-4	IN-14
1.6313	1.530	.0645	IN-2-4	IN-3, IN-16

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BEARING COMPONENT PROGRESSIVE LISTING BY HOUSING BORE

HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
1.6350	0.895	.0790	TOG-10-2	TOG-10**
1.6541	0.800	.0783	TOG-10-1	TOG-10**
1.6890	0.685	.0633	F-28-2	F-28
1.6890	0.790	.0633	F-28-1	F-28
1.6890	0.790	.0633	F-28-3	F-28
1.6925	0.940	.0645	PD-9-5	PD-16, PD-25, PD-27
1.6925	0.940	.0645	PDP-9-5	PDP-16, PDP-25
1.6925	0.940	.0645	PDP-9-5T	PDP-16T, PDP-25T
1.7083	1.005	.0641	IN-18-2	IN-18
1.7108	0.785	.0644	HO-2-5	HO-2
1.7128	0.785	.0644	HO-2-5S	HO-2S
1.7195	0.775	.0406	PDA-3-2	PDA-3*
1.7285	0.595	.0604	F-31-4	F-31, F-42
1.7326	1.030	.0780	MZG-3-2	MZG-3**
1.7328	0.825	.0592	MIG-3-2	MIG-3**
1.7340	0.805	.0403	NIA-1-1	NIA-1*, NIA-4*
1.7340	0.805	.0403	NIA-1-2	NIA-4*
1.7340	1.085	.0400	BMA-1-9	BMA-4*
1.7340	1.120	.0403	NIA-1-3	NIA-4*
1.7345	0.775	.0402	PDA-3-3	PDA-3*
1.7435	0.700	.0604	F-31-3	F-31
1.7435	0.700	.0604	F-42-2	F-42
1.7495	0.555	.0625	DA-1-5	DA-1
1.7495	0.812	.0624	DA-2-3	DA-2
1.7495	0.947	.0625	DA-3-3A	DA-3A, DA-5
1.7500	1.187	.0613	R-1-4	R-1
1.7505	0.775	.0404	PDA-3-4	PDA-3*
1.7538	0.735	.0403	NIA-3-2	NIA-3L*, NIA-3R*
1.7539	0.755	.0644	BL-1-2	BL-1
1.7585	0.700	.0604	F-31-2	F-31
1.7585	0.775	.0604	F-42-1	F-42
1.7665	0.745	.0404	PDA-3-5	PDA-3*
1.7714	0.785	.0784	TOG-8-2	TOG-8**
1.7719	0.640	.0788	TOG-9-1	TOG-9**
1.7721	0.585	.0590	VWG-1-2	VWG-1**
1.7721	0.745	.0590	MIG-3-1	MIG-3**
1.7734	0.775	.0604	F-31-1	F-31
1.7734	0.775	.0604	FP-33-1	FP-33
1.7734	0.775	.0604	FP-33-1T	FP-33T
1.7741	1.115	.0403	BMA-1-8	BMA-4*
1.7750	0.500	.0606	AGB-29-1	FG-29**
1.7755	0.785	.0600	F-29-1	F-29
1.7775	0.500	.0614	AGB-34-2	FG-34**
1.7866	0.865	.08 Semi	PDG-29-1	PDG-29S**
1.7918	0.555	.0625	DA-1-4	DA-1
1.7931	0.730	.0403	MZA-1-1	MZA-1*
1.7931	0.730	.0403	MZA-1-2	MZA-1*
1.7931	0.730	.0403	MZA-1-3	MZA-1*
1.7960	1.125	.0644	BL-1-1	BL-1
1.7965	0.750	.0643	B-4-5	B-6, B-8, B-11
1.7975	0.500	.0714	AGB-34-1	FG-34**
1.8072	0.595	.0605	F-47-4	F-47, F-47B
1.8072	0.905	.0610	FG-53-2	FG-53**
1.8081	1.025	.0570	VO-2-2	VO-2**
1.8110	0.745	.0640	PDG-26-1	PDG-26**

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1.8114	0.910	.0781	MZG-3-1	MZG-3**
1.8115	0.555	.0625	DA-1-3	DA-1
1.8115	0.585	.0590	VWG-1-1	VWG-1**
1.8125	1.135	.0626	CO-9-3	CO-9
1.8126	0.785	.0587	MIG-2-1	MIG-2**
1.8126	0.930	NA	MIG-1-EL	MIG-2E**
1.8131	0.800	.0403	BMA-1-3	BMA-1*, BMA-2*, BMA-3*
1.8131	0.800	.0500	BMA-1-7	BMA-3*
1.8215	0.940	.0407	SA-1-1	SA-1*
1.8222	0.700	.0605	F-47-3	F-47
1.8222	0.700	.0605	F-47-3B	F-47B
1.8265	0.750	.0643	B-4-4	B-6, B-8, B-11
1.8295	0.485	.0407	SA-1-2	SA-1*
1.8311	0.715	.0786	TO-3-4	TO-3
1.8312	0.555	.0625	DA-1-2	DA-1
1.8371	0.700	.0605	F-47-2	F-47
1.8371	0.700	.0605	F-47-2B	F-47B
1.8375	0.485	.0407	SA-1-3	SA-1*
1.8435	0.845	.0403	FA-2-1	FA-2*
1.8455	0.485	.0407	SA-1-4	SA-1*
1.8499	0.587	.0650	PD-31-5B	PD-31B
1.8509	0.930	.0625	DA-1-1	DA-1
1.8510	0.715	.0835	TO-3-3	TO-3
1.8521	0.780	.0605	F-47-1	F-47, F-47B
1.8522	1.142	.0610	FG-53-1	FG-53**
1.8524	0.800	.0403	BMA-1-2	BMA-1*, BMA-2*, BMA-3*
1.8524	0.995	.0500	BMA-1-6	BMA-3*
1.8535	0.485	.0407	SA-1-5	SA-1*
1.8535	0.845	.0403	FA-2-2	FA-2*
1.8555	0.865	.0625	DA-3-2	DA-3A, DA-5
1.8555	1.070	.0624	DA-2-2	DA-2
1.8565	0.750	.0643	B-4-3	B-6, B-8, B-11
1.8607	0.661	.0550	GMA-1-2	GMA-1*
1.8607	0.817	.0550	GMA-1-1	GMA-1*
1.8635	0.845	.0403	FA-2-3	FA-2*
1.8672	0.862	.0808	CHG-23-3	CHG-23**
1.8705	0.715	.0885	TO-3-2	TO-3
1.8705	0.984	.0785	TO-1-4	TO-10
1.8735	0.845	.0403	FA-2-4	FA-2*
1.8740	0.835	.1860	CHG-15-1	CH-17G, CH-21G, CHG-15A**
1.8750	0.573	.0626	CO-9-2	CO-9
1.8750	1.000	.0617	WA-1-1	WA-4, WA-7
1.8753	0.550	.0617	HE-5-2	HE-5
1.8753	1.020	.0617	HE-5-1	HE-5
1.8785	0.665	.0600	F-29-2	F-29
1.8797	0.620	.0637	C-3-1	C-3
1.8797	0.750	.0641	C-2-1	C-2
1.8800	0.750	.0645	PD-12-5	PD-17
1.8800	0.750	.0645	PDP-12-5	PDP-17
1.8800	0.750	.0645	PDP-12-5T	PDP-17T
1.8805	0.495	.0642	CA-4-2	CA-4, CA-5, CA-8, CA-9
1.8805	0.718	.0642	CA-3-2	CA-3
1.8805	0.718	.0642	CA-5-3	CA-5
1.8805	0.970	.0640	CA-9-1	CA-9
1.8805	1.125	.0642	A-1-1	A-1, A-6

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1.8805	1.125	.0642	A-6-1	A-6
1.8805	1.187	.0642	CA-3-3	CA-3
1.8805	1.218	.0643	CA-4-1	CA-4, CA-5, CA-8, CA-9
1.8805	1.312	.0642	CA-3-1	CA-3
1.8810	1.620	.0628	K-1-3	CO-3, CO-8, K-1
1.8835	0.845	.0403	FA-2-5	FA-2*
1.8835	0.925	.0403	FA-1-5	FA-1*
1.8865	0.750	.0642	B-6-1	B-6, B-8, B-11
1.8885	0.925	.0428	FA-1-4	FA-1*
1.8895	0.715	.0929	TO-3-1	TO-3
1.8895	0.984	.0586	AGB-14-1	CHG-14**
1.8900	0.750	.0695	PDP-12-5R1	PDP-17R1
1.8914	0.805	.0403	NIA-4-1	NIA-5*
1.8914	0.805	.0403	NIA-4-2	NIA-5*
1.8918	0.685	.0403	MIA-3-1	MIA-3*
1.8918	0.800	.0403	BMA-1-1	BMA-1*, BMA-2*, BMA-3*
1.8918	0.800	.0500	BMA-1-5	BMA-3*
1.8935	0.625	.0600	F-29-3A	F-29
1.8935	0.925	.0453	FA-1-3	FA-1*
1.8955	0.862	.0808	CHG-23-4	CHG-23**
1.8968	0.815	.0643	HO-1-1	HO-1
1.8985	0.925	.0478	FA-1-2	FA-1*
1.9011	0.693	.0638	F-34-1	F-34
1.9011	0.693	.0638	F-34-1B	F-34B
1.9035	0.925	.0503	FA-1-1	FA-1*
1.9155	0.945	.0625	DA-3-1	DA-3A, DA-5
1.9155	1.455	.0624	DA-2-1	DA-2
1.9165	0.620	.0642	B-9-2	B-9, B-12, B-12B, B-13
1.9165	0.620	.0642	BP-9-2	BP-9, BP-13
1.9165	0.620	.0642	BP-9-2T	BP-9T, BP-13T
1.9165	0.750	.0642	B-11-1	B-9, B-11, B-12
1.9165	0.750	.0642	B-11-1B	B-12B
1.9165	0.750	.0642	BP-11-1	BP-9
1.9165	0.750	.0642	BP-11-1T	BP-9T
1.9165	0.750	.0643	B-4-1	B-8
1.9170	0.810	.0647	N-5-4	N-6
1.9203	0.693	.0738	F-34-1S	F-34S
1.9270	0.780	.0647	N-5-3	N-6
1.9280	0.938	.0579	JD-1-2	JD-1, JD-2
1.9280	1.181	.0579	JD-1-1	JD-1, JD-2
1.9280	1.220	.0577	JD-5-2	JD-5
1.9280	1.312	.0648	F-1-2	F-1
1.9280	1.598	.0577	JD-5-1	JD-5
1.9280	1.600	.0648	F-1-1	F-1
1.9295	0.943	.0785	TO-10-3	TO-10
1.9297	0.705	.0588	TO-7-3	TO-7
1.9299	0.714	.0794	F-41-2	F-41
1.9299	0.949	.0794	F-41-1	F-41
1.9303	0.709	.0591	TO-12-3	TO-12
1.9309	0.735	.0403	NIA-2-1	NIA-2L*, NIA-2R*, NIA-3L*, NIA-3R*
1.9335	0.720	.0607	F-17-4	F-32
1.9365	0.750	.0743	B-13-1	B-13
1.9365	0.750	.0743	BP-13-1	BP-13
1.9365	0.750	.0743	BP-13-1T	BP-13T
1.9368	1.375	.0643	IN-15-2	IN-15

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
1.9370	0.780	.0647	N-5-2	N-6
1.9370	1.250	.0940	CO-7-4	CO-7
1.9375	0.937	.0630	K-1-2	CO-3, K-1
1.9375	1.323	.0626	CO-9-1	CO-9
1.9400	0.625	.0687	TO-7-4	TO-7
1.9402	0.630	.0689	TO-12-4	TO-12
1.9430	1.095	.0645	IN-18-1	IN-18
1.9470	0.940	.0647	N-6-1	N-6
1.9485	0.720	.0682	F-17-3	F-32
1.9494	0.705	.0785	TO-7-5	TO-7
1.9500	0.709	.0788	TO-12-5	TO-12
1.9593	0.625	.0687	TO-7-2	TO-7
1.9598	0.630	.0689	TO-12-2	TO-12
1.9625	0.620	.0642	B-9-2R	B-13R
1.9625	0.750	.0743	B-13-1R	B-13R
1.9635	0.720	.0757	F-17-2	F-32
1.9655	1.060	.0570	VO-2-1	VO-2**, VO-3
1.9682	0.975	.0784	TOG-8-1	TOG-8**
1.9685	0.985	.0785	TO-2-3	TO-2
1.9685	1.095	.0685	TO-2-1	TO-2
1.9685	1.654	.0735	TO-2-2	TO-2
1.9688	0.750	.0835	TO-5-4	TO-11
1.9688	0.790	.0735	TO-5-2	TO-11
1.9688	1.105	.0884	TO-5-5	TO-11
1.9688	1.142	.0686	TO-5-1	TO-11
1.9688	1.810	.0785	TO-11-3	TO-11
1.9691	0.705	.0687	TO-7-1	TO-7
1.9697	0.709	.0689	TO-12-1	TO-12
1.9702	1.235	.0403	NIA-3-1	NIA-3R*
1.9725	0.937	.0644	CH-2-4	CH-2
1.9725	1.150	.0641	GM-5-4	GM-5
1.9765	0.630	.0641	B-14-2	B-14
1.9785	0.720	.0832	F-32-1	F-32
1.9855	0.788	.1450	MIG-2-1R	MIG-2-1R**
1.9885	0.943	.0785	TO-1-2	TO-10
1.9965	0.745	.0741	B-14-1	B-14
1.9993	1.063	.0643	IN-5-3	IN-5
1.9995	0.630	.0640	CH-18-2	CH-18, CH-19, CHG-22**
1.9995	0.630	.0650	CH-18-2X2	CH-19X2
1.9995	0.720	.0640	CH-18-2A	CH-18A
2.0000	0.710	.0644	CH-20-1	CH-20
2.0000	0.740	.0644	CH-4-3	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G
2.0000	0.740	.0644	CHP-4-3	CHP-4, CHP-8, CHP-17, CHP-21, GMP-8, RDCP-1
2.0000	0.740	.0644	CHP-4-3T	CHP-4T, CHP-8T, CHP-17T, CHP-21T, GMP-8T, RDCP-1T
2.0000	0.740	.0644	DT-1-1T	DT-1T
2.0000	0.740	.0649	CH-4-3W	CH-8W, CH-17X, CH-21X
2.0000	0.785	.0644	HO-2-4	HO-2, HO-2S
2.0000	0.860	.0644	CH-5-3	CH-5, CH-6, CH-7, CH-11, CH-16
2.0000	0.860	.0644	CH-5-3B	CH-11B
2.0000	0.860	.0644	CHP-5-3	RDCP-1
2.0000	0.860	.0644	CHP-5-3T	RDCP-1T
2.0000	0.860	.0649	CH-5-3W	CH-16W
2.0000	0.875	.0628	K-1-1	CO-8, K-1
2.0010	0.740	.0694	DT-11-1T	DT-1TR1
2.0040	1.312	.0645	WA-3-2	WA-3

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2.0055	1.308	.0643	A-2-1	A-2
2.0095	0.625	.0691	CH-18-4	CH-18, CH-18A, CH-19
2.0095	0.625	.0701	CH-18-4X2	CH-19X2
2.0100	0.625	.0691	CH-18-1A	CH-18, CH-18A
2.0100	0.740	.0694	CH-4-2	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G
2.0100	0.740	.0694	CHP-4-2	CHP-4, CHP-8, CHP-17, CHP-21
2.0100	0.740	.0694	CHP-4-2T	CHP-4T, CHP-8T, CHP-17T, CHP-21T
2.0100	0.740	.0699	CH-4-2W	CH-8W, CH-17X, CH-21X
2.0100	0.785	.0694	HO-2-3	HO-2, HO-2S
2.0100	0.860	.0694	CH-5-2	CH-5, CH-6, CH-7
2.0100	0.940	.0694	CH-4-4	CH-4
2.0100	0.940	.0694	CH-5-4	CH-5
2.0100	0.940	.0694	CHP-4-4	CHP-4
2.0100	0.940	.0694	CHP-4-4T	CHP-4T
2.0100	1.172	.0691	CHG-22-1	CHG-22**
2.0199	0.625	.0741	CH-19-1	CH-19
2.0199	0.625	.0751	CH-19-1X2	CH-19X2
2.0200	0.740	.0744	CH-4-1	CH-4, CH-8, CH-17, CH-17G, CH-21, CH-21G
2.0200	0.740	.0744	CHP-4-1	CHP-4, CHP-8, CHP-17, CHP-21
2.0200	0.740	.0744	CHP-4-1T	CHP-4T, CHP-8T, CHP-17T, CHP-21T
2.0200	0.740	.0749	CH-4-1W	CH-8W, CH-17X, CH-21X
2.0200	0.785	.0644	HO-2-2	HO-2, HO-2S
2.0200	0.860	.0744	CH-5-1	CH-5
2.0207	0.630	.0641	B-14-2R	B-14R
2.0207	0.745	.0741	B-14-1R	B-14R
2.0300	0.720	.0798	CH-18-2R2	CH-18RS
2.0300	0.740	.0744	CHP-4-11	CHP-8R1
2.0300	0.740	.0744	CHP-4-11T	CHP-8R1T
2.0300	0.740	.0795	CH-4-1S	CH-4A
2.0300	0.785	.0694	HO-2-1	HO-2, HO-2S
2.0307	0.680	.0644	P-3-2	P-3, P-4
2.0307	0.680	.0644	PP-3-2	PP-3, PP-4
2.0307	0.680	.0644	PP-3-2T	PP-3T, PP-4T
2.0307	1.060	.0644	P-3-1	P-3
2.0307	1.060	.0644	PP-3-1	PP-3
2.0307	1.060	.0644	PP-3-1T	PP-3T
2.0327	0.585	.0615	F-50-4	F-50
2.0327	0.825	.0615	F-50-4A	F-50A
2.0350	0.937	.0644	CH-2-3	CH-2
2.0400	0.625	.0847	CH-18-4R4	CH-18RS
2.0400	0.625	.0848	CH-18-1R3	CH-18RS
2.0400	0.740	.0844	CHP-4-12	CHP-8R2
2.0400	0.740	.0844	CHP-4-12T	CHP-8R2T
2.0407	0.680	.0694	P-3-21	P-4R1
2.0475	1.143	.0785	TO-1-1	TO-10
2.0476	0.700	.0614	F-50-3	F-50, F-50A
2.0479	0.984	.0790	IZ-2-1	IZ-2
2.0480	0.984	.0790	IZ-2-2	IZ-2
2.0480	0.984	.0790	IZ-2-3	IZ-2
2.0486	0.866	.0797	IZ-3-1	IZ-3
2.0486	0.866	.0797	IZ-3-2	IZ-3
2.0486	0.866	.0797	IZ-3-3	IZ-3
2.0495	0.885	.0650	PD-30-6	PD-30
2.0500	0.740	.0894	CHP-4-13	CHP-8R3
2.0500	0.740	.0894	CHP-4-13T	CHP-8R3T

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
2.0580	0.620	.0648	F-9-2B	F-9B
2.0580	0.620	.0648	F-9-3	F-9A
2.0580	0.875	.0648	F-9-1	F-9A, F-9B
2.0580	0.875	.0649	F-7-2	F-7
2.0580	0.875	.0649	F-22-1	F-7, F-22
2.0600	0.740	.0944	CHP-4-14	CHP-8R4
2.0600	0.740	.0944	CHP-4-14T	CHP-8R4T
2.0618	1.000	.0643	IN-15-1	IN-15
2.0626	0.700	.0614	F-50-2	F-50, F-50A
2.0675	0.875	.0650	PD-1-3	PD-1
2.0675	1.062	.0650	PD-3-3	PD-3
2.0773	0.723	.0840	OP-3-3	OP-3, OP-5
2.0776	0.775	.0617	F-50-1	F-50, F-50A
2.0800	0.720	.1040	CH-18-2R8	CH-18R8
2.0830	0.610	.0647	PD-28-4	PD-28, PD-28B
2.0830	0.615	.0645	PD-25-4	PD-25, PD-27
2.0830	0.615	.0645	PDP-25-4	PDP-25
2.0830	0.615	.0645	PDP-25-4T	PDP-25T
2.0830	0.750	.0645	PD-12-4	PD-17
2.0830	0.750	.0645	PD-13-4	PD-18, PD-21
2.0830	0.750	.0645	PDP-12-4	PDP-17
2.0830	0.750	.0645	PDP-12-4T	PDP-17T
2.0830	0.760	.0645	PD-9-4	PD-16
2.0830	0.760	.0645	PDP-9-4	PDP-16
2.0830	0.760	.0645	PDP-9-4T	PDP-16T
2.0872	0.723	.0865	OP-5-3	OP-5
2.0887	0.591	.0652	C-4-5	C-4
2.0887	0.685	.0652	C-4-5A	C-4A
2.0888	0.688	.0646	O-6-5	O-6, O-7
2.0888	0.688	.0646	O-6-5B	O-6B
2.0900	0.625	.1091	CH-18-1R8	CH-18R8
2.0900	0.625	.1091	CH-18-4R8	CH-18R8
2.0930	0.750	.0695	PDP-12-4R1	PDP-17R1
2.0970	0.723	.0889	OP-3-2	OP-3, OP-5
2.0975	0.937	.0642	CH-3-4	CH-3
2.0975	0.937	.0644	CH-2-2	CH-2
2.0990	0.610	.0653	PD-28-3	PD-28
2.0990	0.610	.0653	PD-28-3B	PD-28B
2.0990	0.615	.0645	PD-25-3	PD-25
2.0990	0.615	.0645	PDP-25-3	PDP-25
2.0990	0.615	.0645	PDP-25-3T	PDP-25T
2.0990	0.625	.0640	PD-21-3	PD-21
2.0990	0.669	.0645	PD-12-3	PD-17
2.0990	0.669	.0645	PDP-12-3	PDP-17
2.0990	0.669	.0645	PDP-12-3T	PDP-17T
2.0990	0.750	.0645	PD-13-3	PD-18
2.0990	0.760	.0645	PD-9-3	PD-16
2.0990	0.760	.0645	PDP-9-3	PDP-16
2.0990	0.760	.0645	PDP-9-3T	PDP-16T
2.0990	0.875	.0649	PD-1-2	PD-1
2.0990	1.062	.0650	PD-3-2	PD-3
2.1069	0.950	.0889	OP-3-1	OP-3, OP-5
2.1087	0.591	.0652	C-4-4	C-4, C-4A
2.1088	0.688	.0646	O-6-4	O-6, O-7, O-8
2.1088	0.688	.0646	O-6-4B	O-6B

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
2.1090	0.669	.0695	PDP-12-3R1	PDP-17R1
2.1140	0.610	.0653	PD-28-2	PD-28
2.1140	0.610	.0653	PD-28-2B	PD-28B
2.1140	0.625	.0640	PD-21-2	PD-21
2.1140	0.625	.0645	PD-25-2	PD-25, PD-27
2.1140	0.625	.0645	PDP-25-2	PDP-25
2.1140	0.625	.0645	PDP-25-2T	PDP-25T
2.1140	0.750	.0645	PD-12-2	PD-17, PD-18
2.1140	0.750	.0645	PDP-12-2	PDP-17
2.1140	0.750	.0645	PDP-12-2T	PDP-17T
2.1140	0.760	.0645	PD-9-2	PD-16
2.1140	0.760	.0645	PDP-9-2	PDP-16
2.1140	0.760	.0645	PDP-9-2T	PDP-16T
2.1200	0.755	.0841	GMP-1-1	GMP-1
2.1200	0.755	.0841	GMP-1-1T	GMP-1T
2.1200	0.755	.0841	GMP-2-1T	GMP-2T
2.1200	0.980	.0841	CH-12-3	CH-9A, CH-12
2.1200	0.980	.0841	CH-12-3B	CH-12B
2.1200	0.980	.0841	CH-12-3LT	GMP-12LT
2.1200	0.980	.0841	CHP-12-3	CHP-12, GMP-12
2.1200	0.980	.0841	CHP-12-3T	CHP-12T, GMP-12T
2.1240	0.750	.0695	PDP-12-2R1	PDP-17R1
2.1245	0.875	.0615	BU-1-2	BU-2
2.1245	1.125	.0615	BU-1-1	BU-2
2.1250	0.880	.0605	WA-8-2	WA-8
2.1250	0.880	.0641	GM-5-3	GM-5
2.1250	1.067	.0605	WA-8-1	WA-8
2.1250	1.685	.0644	CU-5-2A	CU-5A, CU-10
2.1260	0.625	.0620	N-8-5	N-9
2.1260	0.690	.0620	N-7-4	N-7, N-7B, N-10
2.1260	0.750	.0620	H-5-4	H-5
2.1274	0.866	.0797	IZ-5-2	IZ-5
2.1274	0.984	.0797	IZ-5-1	IZ-5
2.1287	0.591	.0652	C-4-3	C-4, C-4A
2.1288	0.688	.0641	O-5-1	O-5
2.1288	0.688	.0646	O-6-3	O-6, O-7, O-8
2.1288	0.688	.0646	O-6-3B	O-6B
2.1290	2.250	.0644	CU-1-1	CU-5A, CU-10
2.1295	1.093	.0645	PD-1-1	PD-1, PD-3
2.1300	0.750	.0645	PD-17-1	PD-17
2.1300	0.750	.0645	PDP-17-1	PDP-17
2.1300	0.750	.0645	PDP-17-1T	PDP-17T
2.1300	0.780	.0640	PD-21-1	PD-21
2.1300	0.813	.0647	PD-8-2	PD-8
2.1300	0.875	.0645	PD-16-1	PD-16, PD-25, PD-27
2.1300	0.875	.0645	PDP-16-1	PDP-16, PDP-25
2.1300	0.875	.0645	PDP-16-1T	PDP-16T, PDP-25T
2.1300	0.920	.0645	PD-18-1	PD-18
2.1300	0.930	.0647	PD-28-1	PD-28, PD-28B
2.1300	0.938	.0647	PD-8-1	PD-8
2.1300	0.980	.0891	CH-12-2	CH-9A, CH-12
2.1300	0.980	.0891	CH-12-2B	CH-12B
2.1300	0.980	.0891	CHP-12-2	CHP-12
2.1300	0.980	.0891	CHP-12-2T	CHP-12T
2.1300	0.980	.0894	CH-9-4	CH-9A

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2.1339	0.537	.0620	F-48-2	F-48, F-48A
2.1360	0.625	.0670	N-8-51	N-9R1
2.1360	0.690	.0620	N-7-3	N-7, N-10
2.1360	0.690	.0620	N-7-3B	N-7B
2.1360	0.750	.0620	H-5-3	H-5
2.1365	1.000	.0624	F-25-1	F-25
2.1400	0.750	.0695	PDP-17-1R1	PDP-17R1
2.1400	0.860	.0941	CH-12-1	CH-9A, CH-12
2.1400	0.860	.0941	CH-12-1B	CH-12B
2.1400	0.860	.0941	CHP-12-1	CHP-12
2.1400	0.860	.0941	CHP-12-1T	CHP-12T
2.1408	0.740	.0695	OG-1-1	OG-1**
2.1420	0.775	.0655	GM-7-5	GM-7, GM-7R2
2.1430	0.815	.0701	FG-1-1	FG-1-1**
2.1440	0.660	.0602	F-18-5	F-18, F-26
2.1440	0.660	.0602	FP-18-5	FP-18, FP-26
2.1440	0.660	.0602	FP-18-5T	FP-18T, FP-26T
2.1445	0.860	.0624	F-23-1A	F-23A
2.1445	0.860	.0624	F-23-1B	F-23B, F-49B
2.1445	0.860	.0624	F-49-2	F-49
2.1460	0.690	.0620	N-7-2	N-7, N-10
2.1460	0.690	.0620	N-7-2B	N-7B
2.1460	0.750	.0620	H-5-2	H-5
2.1487	0.591	.0652	C-4-2	C-4, C-4A
2.1488	0.688	.0646	O-6-2	O-6, O-7, O-8
2.1488	0.688	.0646	O-6-2B	O-6B
2.1500	0.860	.0991	CHP-12-11	CHP-12R1
2.1500	0.980	.0991	CHP-12-21	CHP-12R1
2.1536	0.537	.0719	F-48-4	F-48
2.1536	0.955	.0719	F-48-1	F-48, F-48A
2.1536	0.537	.0719	F-48-4A	F-48A
2.1560	0.625	.0620	N-8-4	N-9
2.1560	0.690	.0620	N-10-1	N-10
2.1560	0.750	.0620	H-5-1	H-5
2.1562	0.880	.0641	GM-5-2	GM-5
2.1565	0.630	.0646	CH-24-2	CH-24
2.1590	0.660	.0602	F-18-4	F-18, F-26
2.1590	0.660	.0602	FP-18-4	FP-18, FP-26
2.1590	0.660	.0602	FP-18-4T	FP-18T, FP-26T
2.1590	0.860	.0695	F-49-1	F-49
2.1590	0.860	.0695	F-49-1B	F-49B
2.1595	0.625	.0650	PD-30-5	PD-30
2.1599	1.125	.0644	CH-2-1	CH-2
2.1600	0.860	.1041	CHP-12-12	CHP-12R2
2.1600	0.937	.0641	CH-3-3	CH-3
2.1600	0.980	.1041	CHP-12-22	CHP-12R2
2.1660	0.625	.0670	N-8-41	N-9R1
2.1687	0.591	.0652	C-4-1	C-4, C-4A
2.1688	0.688	.0646	O-6-1	O-6
2.1688	0.688	.0646	O-6-1B	O-6B
2.1688	0.688	.0646	O-7-1	O-7, O-8
2.1740	0.660	.0602	F-18-3	F-18, F-26
2.1740	0.660	.0602	FP-18-3	FP-18, FP-26
2.1740	0.660	.0602	FP-18-3T	FP-18T, FP-26T
2.1755	0.625	.0650	PD-30-4	PD-30

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
2.1766	0.620	.0747	CH-24-3	CH-24
2.1766	0.905	.0747	CH-24-1	CH-24
2.1770	0.555	.0619	F-45-2	F-45
2.1770	0.555	.0619	F-51-2	F-38, F-52
2.1770	0.595	.0613	F-51-2X	F-38X
2.1860	0.625	.0620	N-8-3	N-9
2.1862	0.812	.0653	HE-1-2A	HE-8A
2.1862	1.057	.0653	HE-7-1A	HE-8A
2.1870	0.905	.0932	CU-11-2	CU-11, CU-11A
2.1870	1.905	.0932	CU-11-1	CU-11, CU-11A
2.1870	2.255	.0643	WA-9-3	WA-9
2.1875	0.812	.0660	HE-1-2	HE-1, HE-7, HE-8
2.1875	1.057	.0658	HE-7-1	HE-7, HE-8
2.1875	1.125	.0660	HE-1-1	HE-1
2.1875	1.680	.0641	GM-5-1	GM-5
2.1880	1.180	.1052	CAT-2-5	CAT-2-5
2.1880	2.000	.1052	CAT-2-6	CAT-2-6
2.1890	0.660	.0602	F-18-2	F-18, F-26
2.1890	0.660	.0602	FP-18-2	FP-18, FP-26
2.1890	0.660	.0602	FP-18-2T	FP-18T, FP-26T
2.1890	0.723	.0894	F-46-2	F-46
2.1913	0.750	.0647	IN-11-5	IN-11
2.1915	0.625	.0650	PD-30-3	PD-30
2.1920	0.635	.0688	F-52-1X	F-38X
2.1920	0.635	.0694	AGB-51-1	F-38, F-38X, FG-51**
2.1920	0.635	.0694	F-45-1	F-45
2.1920	0.635	.0694	F-52-1	F-38, F-52
2.1960	0.625	.0670	N-8-31	N-9R1
2.2007	1.062	.0647	IN-8-3	IN-12, IN-14
2.2008	1.062	.0645	IN-2-3	IN-3
2.2010	1.060	.0645	IN-16-3	IN-16
2.2013	0.645	.0647	IN-11-4	IN-11
2.2040	0.660	.0602	351HP-1	351HP, 351RHP
2.2040	0.660	.0602	351HP-1T	351HPT, 351RHPT
2.2040	0.660	.0602	351-HPB-1T	SBF-1T
2.2040	0.660	.0602	F-18-1	F-18
2.2040	0.660	.0602	FP-18-1	FP-18
2.2040	0.660	.0602	FP-18-1T	FP-18T
2.2040	0.660	.0677	351HP-2	351HP
2.2040	0.660	.0677	351HP-2T	351HPT
2.2040	0.660	.0677	351-HPB-2T	SBF-1T
2.2040	0.660	.0752	351HP-3	351HP
2.2040	0.660	.0752	351HP-3T	351HPT
2.2040	0.660	.0752	351-HPB-3T	SBF-1T
2.2040	0.660	.0827	351HP-4	351HP
2.2040	0.660	.0827	351HP-4T	351HPT
2.2040	0.660	.0827	351-HPB-4T	SBF-1T
2.2040	0.660	.0902	351HP-5	351HP
2.2040	0.660	.0902	351HP-5T	351HPT
2.2040	0.660	.0902	351-HPB-5T	SBF-1T
2.2047	0.503	.0973	F-46-3	F-46
2.2047	0.723	.0973	F-46-1	F-46
2.2047	0.787	.0594	TO-15-3	TO-15
2.2047	0.787	.0644	TO-15-4	TO-15
2.2075	0.625	.0652	PD-30-2	PD-30

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HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
2.2113	0.645	.0647	IN-11-3	IN-11
2.2140	0.660	.0652	351HP-1R1	351HP-R1
2.2140	0.660	.0652	351-HPB-1R1T	SBF-1R1T
2.2140	0.660	.0727	351HP-2R1	351HP-R1
2.2140	0.660	.0727	351-HPB-2R1T	SBF-1R1T
2.2140	0.660	.0802	351HP-3R1	351HP-R1
2.2140	0.660	.0802	351-HPB-3R1T	SBF-1R1T
2.2140	0.660	.0877	351HP-4R1	351HP-R1
2.2140	0.660	.0877	351-HPB-4R1T	SBF-1R1T
2.2140	0.660	.0952	351HP-5R1	351HP-R1
2.2140	0.660	.0952	351-HPB-5R1T	SBF-1R1T
2.2146	0.787	.0742	TO-15-5	TO-15
2.2160	0.625	.0620	N-8-2	N-9
2.2207	1.062	.0647	IN-8-2	IN-3, IN-12, IN-14, IN-16
2.2213	0.645	.0647	IN-11-2	IN-11
2.2225	0.937	.0641	CH-3-2	CH-3
2.2235	0.885	.0650	PD-30-1	PD-30
2.2260	0.625	.0670	N-8-21	N-9R1
2.2313	0.650	.0647	IN-17-2	IN-17
2.2313	0.710	.0647	IN-11-1	IN-11
2.2313	0.785	.0647	IN-17-1	IN-17
2.2408	1.125	.0647	IN-3A-1	IN-3, IN-12, IN-14
2.2460	0.920	.0620	N-9-1	N-9
2.2493	1.469	.0642	IN-5-2	IN-5
2.2495	1.000	.0940	CO-7-3	CO-7
2.2495	1.760	.1243	MAG-10-2	MAG-10**
2.2500	0.560	.0616	F-15-5	F-33
2.2500	0.560	.0616	FP-15-5	FP-33
2.2500	0.560	.0616	FP-15-5T	FP-33T
2.2500	0.560	.0619	F-24-5	F-24
2.2500	0.580	.0620	F-30-1	F-30
2.2500	0.580	.0620	FP-30-1	FP-30
2.2500	0.580	.0620	FP-30-1T	FP-30T
2.2500	0.660	.0616	F-26-1	F-26
2.2500	0.660	.0616	FP-26-1	FP-26
2.2500	0.660	.0616	FP-26-1T	FP-26T
2.2500	0.755	.0618	F-11-2	F-11, F-12
2.2500	0.855	.0620	GM2125-1	GMP-3
2.2500	0.855	.0620	GM2125-1T	GMP-3T
2.2500	0.875	.0618	F-8-1	F-11, F-12
2.2500	0.980	.0620	GM2125-4	GMP-3
2.2500	0.980	.0620	GM2125-4T	GMP-3T
2.2500	1.250	.0614	WA-2-1	WA-10
2.2505	1.545	.0925	DE-1-1	DE-1
2.2513	0.650	.0768	IN-17-2S	IN-17R2
2.2513	0.785	.0768	IN-17-1S	IN-17R2
2.2535	1.005	.0620	CU-12-1	CU-12
2.2539	0.787	.0791	TO-15-2	TO-15
2.2540	1.125	.0643	WA-3-1	WA-3
2.2550	0.580	.0645	FP-30-1R	FP-30R
2.2560	0.920	.0670	N-9-11	N-9R1
2.2595	1.000	.0630	A-3-2	A-3, A-4, A-5
2.2595	1.385	.0630	A-3-1	A-3, A-4, A-5
2.2600	0.580	.0668	F-30-1R1	F-30R1
2.2638	0.787	.0791	TO-15-1	TO-15

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2.2650	0.620	.0691	F-15-4	F-33
2.2650	0.620	.0691	FP-15-4	FP-33
2.2650	0.620	.0691	FP-15-4T	FP-33T
2.2650	0.620	.0694	F-24-4	F-24
2.2700	0.580	.0718	F-30-1R2	F-30R2
2.2776	1.185	.0946	CAT-2-3	CAT-2-3
2.2776	2.000	.0946	CAT-2-4	CAT-2-4
2.2800	0.620	.0766	F-15-3	F-33
2.2800	0.620	.0766	FP-15-3	FP-33
2.2800	0.620	.0766	FP-15-3T	FP-33T
2.2800	0.620	.0769	F-24-3	F-24
2.2820	0.785	.0569	GMP-55-1	GMP-55
2.2820	0.785	.0569	GMP-55-1T	GMP-55T
2.2850	1.125	.0641	CH-3-1	CH-3
2.2950	0.620	.0841	F-15-2	F-33
2.2950	0.620	.0841	FP-15-2	FP-33
2.2950	0.620	.0841	FP-15-2T	FP-33T
2.2950	0.620	.0844	F-24-2	F-24
2.2990	0.775	.0653	GM-7-4	GM-7
2.3088	0.630	.0700	CH-10-3	CH-10, CH-23, GM-9
2.3088	0.630	.0700	CHP-10-3	CHP-10, CHP-23, GMP-9
2.3088	0.630	.0700	CHP-10-3T	CHP-10T, CHP-23T, GMP-9T
2.3090	0.775	.0703	GM-7-3	GM-7
2.3100	0.620	.0912	F-33-1	F-24, F-33
2.3115	1.760	.1237	MAG-10-1	MAG-10**
2.3120	1.000	.0940	CO-7-2	CO-7
2.3120	1.250	.0610	R-1-3	R-1
2.3165	1.125	.0645	J-1-1	J-1
2.3171	0.630	.0740	CH-10-2	CH-10
2.3171	0.630	.0740	CHP-10-2	CHP-10
2.3171	0.630	.0740	CHP-10-2T	CHP-10T
2.3190	0.775	.0753	GM-7-2	GM-7
2.3270	0.630	.0790	CH-10-1	CH-10, CH-23
2.3270	0.630	.0790	CHP-10-1	CHP-10, CHP-23
2.3270	0.630	.0790	CHP-10-1T	CHP-10T, CHP-23T
2.3280	0.895	.0798	GM-7-1	GM-7
2.3323	1.005	.1010	CU-14-1	CU-14
2.3470	0.630	.0890	CH-23-1	CH-23
2.3470	0.630	.0890	CHP-23-1	CHP-23
2.3470	0.630	.0890	CHP-23-1T	CHP-23T
2.3480	0.775	.0898	GM-7-2R2	GM-7R2
2.3480	0.895	.0898	GM-7-1R2	GM-7R2
2.3533	0.710	.0728	PDG-30-1	PDG-30**
2.3555	1.510	.0842	DE-2-3	DE-7
2.3637	0.787	.0785	IZ-6-1	IZ-6, IZ-7, IZ-8
2.3637	0.787	.0785	IZ-6-2	IZ-6, IZ-7, IZ-8
2.3655	1.505	.0893	DE-2-2	DE-2, DE-2A, DE-5, DE-7
2.3743	1.094	.0940	CO-7-1	CO-7
2.3745	1.156	.0625	CA-6-3	CA-6, CA-7
2.3745	1.437	.0625	CA-6-2	CA-6, CA-7
2.3745	1.656	.0625	CA-6-1	CA-6, CA-7
2.3748	1.000	.0618	IN-10-4A	IN-10A
2.3748	1.438	.0644	IN-5-1	IN-5
2.3755	1.505	.0943	DE-2-1	DE-2, DE-2A, DE-5, DE-7
2.3755	1.505	.0943	DE-2-2R1	DE-2R1, DE-2AR1, DE-5R1

*Denotes (OHC) Repair Bearing. Check "Aluminum Overhead Cam Accessories" Section For Tool Information

**Denotes Auxiliary / Balance Shaft Bearing

"und" Denotes Undersized ID

BEARING COMPONENT PROGRESSIVE LISTING BY HOUSING BORE

HOUSING BORE	LENGTH	MAX WALL	CONTENTS	IN SET(S)
2.3758	0.587	.0650	PD-31-4B	PD-31B
2.3855	1.505	.0993	DE-2-1R1	DE-2R1, DE-2AR1, DE-5R1
2.3880	0.710	.0610	F-14-5	F-19
2.3916	0.587	.0650	PD-31-3B	PD-31B
2.4030	0.710	.0609	F-19-4	F-19
2.4073	0.587	.0650	PD-31-2B	PD-31B
2.4125	0.680	.0643	CH-13-1	CH-13
2.4125	0.680	.0643	CH-13-2	CH-13
2.4153	1.000	.0613	IN-10-3	IN-10A
2.4180	0.710	.0609	F-19-3	F-19
2.4231	0.665	.0650	PD-31-1B	PD-31B
2.4330	0.710	.0609	F-19-2	F-19
2.4370	1.250	.0610	R-1-2	R-1
2.4413	0.710	.0780	IN-19-4	IN-19
2.4438	1.000	.0625	IN-10-2	IN-10A
2.4480	0.710	.0609	F-19-1	F-19
2.4613	0.709	.0880	IN-19-3	IN-19
2.4748	1.187	.0618	IN-10-1A	IN-10A
2.4813	0.709	.0980	IN-19-2	IN-19
2.4985	0.670	.0629	F-16-2	F-16
2.5000	1.000	.0614	JD-3-1	JD-3, JD-4
2.5013	1.010	.1078	IN-19-1	IN-19
2.5345	0.765	.0708	F-43-1	F-43, F-44, F-55
2.5598	0.705	.0790	GM-8-2	GM-8
2.5598	1.120	.0790	GM-8-1	GM-8
2.5610	1.125	.0645	IN-16-1	IN-16
2.5620	1.625	.0610	R-1-1	R-1
2.5630	1.004	.1243	CAT-2-2	CAT-6, CAT-7
2.5630	1.125	.1243	CAT-2-1	CAT-6, CAT-7
2.5984	0.740	.0778	IN-21-1	IN-21
2.6000	0.755	.0617	F-12-1	F-12
2.6025	0.670	.0629	F-16-1	F-16
2.6235	1.010	.0905	MA-5-2	MA-5
2.6235	1.010	.0910	MA-5-3	MA-5, MA-6, MA-7, MA-8
2.6235	1.380	.1852	MA-3A-1	MA-6
2.6235	1.380	.1853	MA-5-4	MA-5
2.6235	1.385	.0905	MA-8-1	MA-8
2.6235	1.385	.0910	MA-5-1	MA-5, MA-6, MA-7
2.6250	1.500	.0618	WA-11-1	WA-11
2.6525	0.755	.0750	CAT-1-2	CAT-2
2.6870	1.070	.0937	CU-13-2	CU-13
2.6870	1.685	.0939	CU-8-1	CU-9
2.6870	1.685	.0939	CU-9-1	CU-9
2.6870	1.810	.0937	CU-13-1	CU-13
2.6870	2.185	.0939	CU-9-2	CU-9
2.7165	0.750	.0748	CAT-5-1	CAT-5
2.7216	0.710	.0774	DE-4-1	DE-4
2.7559	1.340	.0945	CAT-5-0	CAT-5
2.8745	1.185	.1258	CAT-3-1	CAT-3-1
2.8745	1.995	.1256	CAT-3-2	CAT-3-2
2.8750	1.505	.0645	WA-9-2	WA-9
2.8750	1.880	.0645	WA-9-1	WA-9
NA	NA	NA	SH-1798T	CH-17G, CH-21G, CHG-15A**

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**Denotes Auxiliary / Balance Shaft Bearing

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SPECIALTY BEARING COMPONENT PROGRESSIVE LISTING BY HOUSING BORE

COMPONENT	MINIMUM HOUSING BORE	LENGTH	MAX. WALL	CAM JOURNAL DIAMETER	COMMENTS
19502L	1.9990	0.740	.0644	1.8692	OD Groove, 3 Oil Holes
19502LT	1.9990	0.740	.0644	1.8692	OD Groove, 3 Oil Holes
BRO-5-3	1.9990	0.860	.0644	1.8692	1 Oil Hole, 1 Pin Hole
19500L	2.1190	0.775	.0841	1.9498	
19501L	2.1190	0.755	.0841	1.9498	OD Groove, 3 Oil Holes
19501LT	2.1190	0.755	.0841	1.9498	OD Groove, 3 Oil Holes
CH-12-3L	2.1190	0.980	.0841	1.9498	OD Groove, 3 Oil Holes
GMP-2-1	2.1190	0.765	.0743	1.9498	
19500LR1	2.1290	0.755	.0891	1.9498	
19501LR1	2.1290	0.755	.0891	1.9498	OD Groove, 3 Oil Holes
CH-12-3LR1	2.1290	0.980	.0891	1.9498	OD Groove, 3 Oil Holes
19500LR2	2.1390	0.755	.0941	1.9498	
19501LR2	2.1390	0.755	.0941	1.9498	OD Groove, 3 Oil Holes
CH-12-3LR2	2.1390	0.980	.0941	1.9498	OD Groove, 3 Oil Holes
19501LR3	2.1490	0.755	.0991	1.9498	OD Groove, 3 Oil Holes
CH-12-3LR3	2.1490	0.980	.0991	1.9498	OD Groove, 3 Oil Holes
GM2125-2	2.2495	0.630	.0620	2.1245	
GM2125-3	2.2495	0.530	.0620	2.1245	
GM2125-11	2.2595	0.855	.0670	2.1245	
GM2125-21	2.2595	0.630	.0670	2.1245	
GM2125-31	2.2595	0.530	.0670	2.1245	
GM2125-41	2.2595	0.980	.0670	2.1245	
GM2125-12	2.2695	0.855	.0720	2.1245	
GM2125-22	2.2695	0.630	.0720	2.1245	
GM2125-32	2.2695	0.530	.0720	2.1245	
GM2125-42	2.2695	0.980	.0720	2.1245	
19500L14	2.2795	0.755	.1644	1.9497	
GM2125-13	2.2795	0.855	.0770	2.1245	
GM2125-43	2.2795	0.980	.0770	2.1245	
GM2132-1	2.2814	0.925	.0739	2.1326	No Oil Hole
GM2132-2	2.2814	1.075	.0739	2.1326	No Oil Hole
60215-P	2.2830	0.775	.0569	2.1663	OD Groove, 3 Oil Holes
GM-55-1	2.2830	0.785	.0575	2.1665	OD Groove, 3 Oil Holes
BRG60115	2.2980	1.000	.0653	2.1664	OD Groove, 3 Oil Holes
GM2300-1	2.2980	0.775	.0653	2.1664	OD Groove, 3 Oil Holes
GM2300-1T	2.2980	0.775	.0653	2.1664	OD Groove, 3 Oil Holes
GM2300-1R1	2.3080	0.775	.0703	2.1663	OD Groove, 3 Oil Holes
GM2300-1R2	2.3180	0.775	.0753	2.1663	OD Groove, 3 Oil Holes
GM2319-1	2.3180	0.775	.0753	2.1664	OD Groove, 3 Oil Holes
PN2250-1	2.4790	0.750	.0575	2.3630	OD Groove, No Oil Hole
GM-60-1	2.4791	0.750	.0572	2.3620	OD Groove, 3 Oil Holes
GM-60-1A	2.4791	0.750	.0577	2.3620	OD Groove, 3 Oil Holes
GM-60-1W	2.4791	0.750	.0567	2.3620	OD Groove, 3 Oil Holes
CN-1-1	2.5020	0.780	.0704	2.3622	60mm

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CONVERSION SIZE CHART

INCHES			MILLIMETERS		
(FRACTION)	(DECIMAL)	(MM)	(FRACTION)	(DECIMAL)	(MM)
1/64	0.0156	0.3969	33/64	0.5156	13.0969
1/32	0.0313	0.7938	17/32	0.5313	13.4938
3/64	0.0469	1.1906	35/64	0.5469	13.8906
1/16	0.0625	1.5875	9/16	0.5625	14.2875
5/64	0.0781	1.9844	37/64	0.5781	14.6844
3/32	0.0938	2.3813	19/32	0.5938	15.0813
7/64	0.1094	2.7781	39/64	0.6094	15.4781
1/8	0.1250	3.1750	5/8	0.6250	15.8750
9/64	0.1406	3.5719	41/64	0.6406	16.2719
5/32	0.1563	3.9688	21/32	0.6563	16.6688
11/64	0.1719	4.3656	43/64	0.6719	17.0656
3/16	0.1875	4.7625	11/16	0.6875	17.4625
13/64	0.2031	5.1594	45/64	0.7031	17.8594
7/32	0.2188	5.5563	23/32	0.7188	18.2563
15/64	0.2344	5.9531	47/64	0.7344	18.6531
1/4	0.2500	6.3500	3/4	0.7500	19.0500
17/64	0.2656	6.7469	49/64	0.7656	19.4469
9/32	0.2813	7.1438	25/32	0.7813	19.8438
19/64	0.2969	7.5406	51/64	0.7969	20.2406
5/16	0.3125	7.9375	13/16	0.8125	20.6375
21/64	0.3218	8.3344	53/64	0.8281	21.0344
11/32	0.3438	8.7313	27/32	0.8438	21.4313
23/64	0.3594	9.1281	55/64	0.8594	21.8281
3/8	0.3750	9.5250	7/8	0.8750	22.2250
25/64	0.3906	9.9219	57/64	0.8906	22.6219
13/32	0.4063	10.3188	29/32	0.9063	23.0188
27/64	0.4219	10.7156	59/64	0.9219	23.4156
7/16	0.4375	11.1125	15/16	0.9375	23.8125
29/64	0.4531	11.5094	61/64	0.9531	24.2094
15/32	0.4688	11.9063	31/32	0.9688	24.6063
31/64	0.4844	12.3031	63/64	0.9844	25.0031
1/2	0.5000	12.7000	1	1.0000	25.4000

CONVERSION FORMULA

INCHES X 25.4 = MM

MM / 25.4 = INCHES

BEARING COMPETITIVE INTERCHANGES

ACL - DURA-BOND BEARING SETS							
ACL	DURA-BOND	ACL	DURA-BOND	ACL	DURA-BOND	ACL	DURA-BOND
10SC6005S	GMA-2	4C1002S	F-47	4C654S	F-31	5C369S	F-16
1BS1400S	CHG-15A	4C1031BS	B-12B	4C690S	CA-8	5C4146	DA-1
1C069S	J-1	4C1031S	B-12	4C703S	F-32	5C426S	IN-11
1C1094S	FG-29	4C1089S	CH-17	4C718S	CH-11	5C510S	F-18
1C330S	WA-4	4C1102S	CH-18	4C777BS	F-34B	5C514S	HO-2
1C4096	BL-1	4C1102SW	CH-18A	4C777S	F-34	5C530S	C-3
2BS1403S	PDG-29S	4C1114S	PD-27	4C7936	VO-3	5C559S	F-9A
2BS1445S	FG-51	4C1115S	PD-21	4C7979	TO-10	5C6003S	FA-1
2BS8078	TOG-9	4C1197S	F-45	4C8066	TO-3	5C6004S	GMA-1
2BS8286	TOG-8	4C1246C	BP-13	4C8076	TO-8	5C615S	CH-9A
2C026S	PDG-26	4C1246S	B-13	4C874S	PD-18	5C616S	CH-12
2C1095S	FG-34	4C1247S	O-8	5C004AS	CH-4A	5C638S	O-6
2C1209S	VWG-1	4C1251S	F-46	5C1000S	CH-10	5C643S	F-24
2C6002S	FG-53	4C1254BS	F-49B	5C1001S	CHP-23	5C653S	F-44
3BS8387	MIG-3	4C1254S	F-49	5C1004S	PDA-3	5C671S	N-9
3C021S	F-1	4C1351S	CH-21	5C1088S	O-7	5C679S	B-11
3C023S	PD-1	4C1405BS	PD-28B	5C1092S	IN-17	5C680S	B-9
3C056S	CO-8	4C1405S	PD-28	5C1111S	F-30	5C710C	FP-26
3C1030S	CH-16	4C1441AS	F-50A	5C1112S	PD-25	5C710S	F-26
3C1190S	CHG-14	4C1441S	F-50	5C1191S	CA-9	5C716S	CH-13
3C1305S	CH-20	4C1447S	F-52	5C1195S	CH-19	5C781S	F-33
3C191S	CO-3	4C1812S	B-14	5C1199S	GM-7	5C7969	TO-11
3C400S	CH-6	4C190S	K-1	5C1300S	C-4	5C8045	TO-12
3C4018	DA-2	4C209S	CH-2	5C1300SW	C-4A	5C8186	TO-7
3C4036	DA-3A	4C220S	IN-14	5C1319S	F-9B	5C8217	TO-15
3C502S	CA-3	4C383S	CH-3	5C1321S	FP-18	5C875S	PD-16
3C507S	IN-18	4C399S	CH-7	5C1763S	351RHP	5C876S	PD-17
3C6007	VO-2	4C4036S	DA-5	5C277S	C-2	5SC6006	MZA-4
3C711S	F-28	4C506S	B-6	5C287S	CH-4	5SC761	MIA-1
3C733S	F-29	4C533S	F-22	5C290S	CH-8	6BS8033	MZG-3
3C8127	IZ-3	4C534S	F-7	5C291S	P-3	6C1100S	FA-3
3C8276S	F-41	4C549BS	N-7B	5C292S	P-4	6C1200S	FA-4
3C8288S	MIG-2	4C549S	N-7	5C324S	O-5	6C1201S	FA-5
4BS8000	TOG-10	4C567BS	F-23B	5C3346C	GMP-8	6C1300S	PD-30
4C048AS	F-48A	4C567S	F-23A	5C3349C	CHP-8	6C8454	IZ-8
4C048S	F-48	4C6001S	CHG-22	5C343S	F-12		
4C1002BS	F-47B	4C652S	F-43	5C361S	B-8		

MAHLE / CLEVITE - DURA-BOND BEARING SETS							
CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND
SH1030S	CH-16	SH1193S	OP-5	SH1354S	O-6	SH1394S	CU-11
SH1060S	TO-10	SH1197S	F-45	SH1355S	O-7	SH1395S	CU-11A
SH1065S	TO-11	SH1208S	DE-4	SH1356S	O-8	SH1396S	TO-12
SH1066S	F-41	SH1209S	VWG-1	SH1360S	B-11	SH1401S	CHP-8R2
SH1092S	IN-17	SH1245S	CAT-2	SH1361S	B-9	SH1403S	PDG-29S
SH1094S	FG-29	SH1251S	F-46	SH1364S	CH-18	SH1405S	PD-28
SH1095S	FG-34	SH1254S	F-49	SH1365S	CH-19	SH1429S	MIG-2
SH1111S	F-30	SH1305S	CH-20	SH1366S	GM-7	SH142S	WA-11
SH1112S	PD-25	SH1321S	FP-18	SH1371S	C-4	SH1441S	F-50
SH1114S	PD-27	SH1326S	PDG-26	SH1382S	CU-13	SH1447S	F-52
SH1115S	PD-21	SH1329S	WA-8	SH1385S	B-12	SH1448S	B-13
SH116S	IN-5	SH1350S	CH-17	SH1386S	F-31	SH1450S	MA-8
SH1190S	CHG-14	SH1351S	CH-21	SH1390S	F-47	SH1457S	IZ-3
SH1191S	CA-9	SH1352S	CH-4A	SH1392S	CHP-8	SH1463S	IZ-5

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

MAHLE / CLEVITE - DURA-BOND BEARING SETS (Cont.)							
CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND
SH1469S	MIG-3	SH510S	F-18	SH796S	OP-3	SH-1335	F-48-2
SH1481S	TO-15	SH-527S	DE-1	SH84S	BL-1	SH-1336	F-48-4
SH1526S	FG-51	SH529S	N-6	SH874S	PD-18	SH-134	VW-1-2
SH1529S	CU-9	SH530S	C-3	SH875S	PD-16	SH-1362-80	CH-18-1R8
SH1780S	CHG-22	SH531S	JD-5	SH876S	PD-17	SH-1363-80	CH-18-2R8
SH1789S	F-48	SH533S	F-22	SH905S	IZ-8	SH-1364	CH-18-2A
SH-1796S	GMP-8	SH534S	F-7	SH907S	IZ-2	SH-1364-80	CH-18-4R8
SH1798S	CHG-15A	SH538S	IN-16	SH952S	DA-5	SH-1371	C-4-1
SH1812S	B-14	SH549S	N-7	SH978S	TO-2	SH-1372	C-4-2
SH1814S	CH-10	SH558S	IN-12	SH993S	MA-6	SH-1373	C-4-3
SH-1816S	GM-9	SH559S	F-9A	SH994S	IN-19	SH-1374	C-4-4
SH186S	CO-7	SH559S	F-9B	INDIVIDUAL CAMSHAFT BEARINGS		SH-1375	C-4-5
SH190S	K-1	SH561S	HE-7			SH-1377	CU-8-1
SH191S	CO-3	SH562S	HE-8	SH-1001	BL-1-1	SH-1378	CU-9-2
SH1977S	FG-53	SH563S	MAG-10	SH-1002	BL-1-2	SH-1386	F-31-1
SH198S	HE-1	SH567S	F-23A	SH-1003	BL-1-3	SH-1387	F-31-2
SH1990S	PD-31B	SH568S	CU-5A	SH-1062	TO-10-3	SH-1388	F-31-3
SH1995S	CH-23	SH56S	CO-8	SH-1063	TO-1-4	SH-1389	F-31-4
SH1997S	PDG-30	SH590S	F-42	SH-1065	TO-11-3	SH-1390	F-47-1
SH209S	CH-2	SH614S	WA-7	SH-1067	F-41-1	SH-1393	F-47-4
SH2121S	CH-24	SH615S	CH-9A	SH-1092	IN-17-1	SH-1394	CU-11-1
SH21S	F-1	SH616S	CH-12	SH-1093	IN-17-2	SH-1395	CU-11-2
SH220S	IN-14	SH-617S	GMP-12	SH-1094	AGB-29-1	SH-1396	TO-12-1
SH23S	PD-1	SH628S	A-5	SH-1095	AGB-34-1	SH-1397	TO-12-2
SH277S	C-2	SH629S	A-4	SH-1096	AGB-34-2	SH-1398	TO-12-3
SH287S	CH-4	SH643S	F-24	SH-1104	CH-18-4	SH-1399	TO-12-4
SH290S	CH-8	SH671S	N-9	SH-1112	PD-25-2	SH-1400	TO-12-5
SH291S	P-3	SH676S	MA-7	SH-1113	PD-25-3	SH-1403	PDG-29-1
SH292S	P-4	SH681S	IN-10A	SH-1114	PD-25-4	SH-1404	CU-12-1
SH313S	PD-8	SH690S	CA-8	SH-1115	PD-21-1	SH-1405	PD-28-1
SH322S	HE-5	SH699S	DE-2	SH-1116	PD-21-2	SH-1406	PD-28-2
SH330S	WA-4	SH69S	J-1	SH-1117	PD-21-3	SH-1407	PD-28-3
SH343S	F-12	SH700S	DE-7	SH-116	IN-5-1	SH-1408	PD-28-4
SH344S	F-11	SH701S	DE-5	SH-117	IN-5-2	SH-1429	MIG-2-1
SH354S	IN-15	SH703S	F-32	SH-118	IN-5-3	SH-1441	F-50-1
SH361S	B-8	SH704S	CA-6	SH-1190	AGB-14-1	SH-1442	F-50-2
SH369S	F-16	SH705S	CA-7	SH-1191	CA-9-1	SH-1443	F-50-3
SH37S	PD-3	SH710S	F-26	SH-1197	F-45-1	SH-1444	F-50-4
SH383S	CH-3	SH711S	F-28	SH-1198	F-45-2	SH-1446	F-51-2
SH384S	A-1	SH716S	CH-13	SH-1209	VWG-1-1	SH-1450	MA-8-1
SH385S	A-2	SH718S	CH-11	SH-1210	VWG-1-2	SH-1463	IZ-5-1
SH386S	BU-2	SH720S	TO-3	SH-1245	CAT-1-2	SH-1464	IZ-5-2
SH398S	CH-5	SH725S	TO-7	SH-1251	F-46-1	SH-1526	AGB-51-1
SH399S	CH-7	SH730S	TO-8	SH-1252	F-46-2	SH-1529	CU-9-1
SH400S	CH-6	SH732S	F-25	SH-1253	F-46-3	SH-1789	F-48-4A
SH426S	IN-11	SH733S	F-29	SH-1254	F-49-1	SH-1798	CHG-15-1
SH439S	WA-9	SH735S	VW-1	SH-1256	PDG-26-2	SH-1814	CH-10-1
SH464S	F-19	SH767S	DA-1	SH-1269	TOG-8-1	SH-1815	CH-10-2
SH481S	DA-2	SH772S	DA-3A	SH-1270	TOG-8-2	SH-1816	CH-10-3
SH493S	IN-3	SH777S	F-34B	SH-128	F-29-1	SH-186	CO-7-1
SH500S	JD-1	SH-777S	F-34	SH-129	F-29-2	SH-187	CO-7-2
SH501S	JD-2	SH781S	F-33	SH-130	F-29-3A	SH-188	CO-7-3
SH502S	CA-3	SH785S	JD-4	SH-1305	CH-20-1	SH-189	CO-7-4
SH506S	B-6	SH786S	JD-3	SH-133	VW-1-1	SH-191	K-1-2
SH507S	IN-18	SH791S	VO-2	SH-1334	F-48-1	SH-197	HE-1-1

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

MAHLE / CLEVITE - DURA-BOND INDIVIDUAL BEARINGS (Cont.)							
CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND
SH-1977	FG-53-1	SH-324	O-5-1	SH-424	PD-13-3	SH-643	F-24-2
SH-1978	FG-53-2	SH-326	PD-9-2	SH-425	PD-13-4	SH-644	F-24-3
SH-198	HE-1-2	SH-327	PD-9-3	SH-426	IN-11-1	SH-645	F-24-4
SH-1980	N-10-1	SH-328	PD-9-4	SH-427	IN-11-2	SH-646	F-24-5
SH-1981	CU-14-1	SH-329	PD-9-5	SH-428	IN-11-3	SH-652	F-43-1
SH-1995	CH-23-1	SH-33	CH-2-1	SH-429	IN-11-4	SH-671	N-9-1
SH-1997	PDG-30-1	SH-330	WA-1-1	SH-430	IN-11-5	SH-672	N-8-2
SH-1998	PDG-30-2	SH-331	WA-3-1	SH-455	IN-8-3	SH-673	N-8-3
SH-2012	DT-1-1T	SH-332	WA-3-2	SH-464	F-19-1	SH-674	N-8-4
SH-2013	CH-12-3LT	SH-333	WA-3-3	SH-465	F-19-2	SH-675	N-8-5
SH-2014	GMP-2-1T	SH-338	H-5-1	SH-466	F-19-3	SH-676	MA-5-3
SH-2015	351-HPB-1T	SH-339	H-5-2	SH-467	F-19-4	SH-681	IN-10-1A
SH-2016	351-HPB-2T	SH-34	CH-2-2	SH-470	N-5-2	SH-682	IN-10-4A
SH-2017	351-HPB-3T	SH-340	H-5-3	SH-471	N-5-3	SH-689	CA-4-1
SH-2018	351-HPB-4T	SH-341	H-5-4	SH-472	N-5-4	SH-69	J-1-1
SH-2019	351-HPB-5T	SH-342	H-5-5	SH-493	IN-3A-1	SH-703	F-32-1
SH-2020L	PDA-4-1	SH-343	F-12-1	SH-500	JD-1-1	SH-704	CA-6-1
SH-2020U	PDA-4-2	SH-344	F-11-2	SH-501	JD-1-2	SH-705	CA-6-2
SH-209	CH-2-4	SH-35	CH-2-3	SH-502	CA-3-1	SH-706	CA-6-3
SH-21	F-1-1	SH-351	IN-10-2	SH-503	CA-3-2	SH-710	F-26-1
SH-2121	CH-24-1	SH-352	IN-10-3	SH-504	CA-3-3	SH-711	F-28-1
SH-2122	CH-24-2	SH-354	IN-15-1	SH-506	B-6-1	SH-712	F-28-2
SH-2123	CH-24-3	SH-355	IN-15-2	SH-507	IN-18-1	SH-713	F-28-3
SH-22	F-1-2	SH-356	IN-15-3	SH-508	IN-18-2	SH-716	CH-13-1
SH-220	IN-8-2	SH-357	MA-3A-1	SH-509	IN-18-3	SH-717	CH-13-2
SH-221	IN-2-3	SH-361	B-4-1	SH-510	F-18-1	SH-720	TO-3-1
SH-222	IN-2-4	SH-363	B-4-3	SH-511	F-18-2	SH-721	TO-3-2
SH-224	IN-8-4	SH-364	B-4-4	SH-512	F-18-3	SH-722	TO-3-3
SH-23	PD-1-1	SH-365	B-4-5	SH-513	F-18-4	SH-723	TO-3-4
SH-24	PD-1-2	SH-369	F-16-1	SH-514	F-18-5	SH-725	TO-7-1
SH-249	F-7-2	SH-37	PD-3-2	SH-518	CA-4-2	SH-726	TO-7-2
SH-25	PD-1-3	SH-370	F-16-2	SH-529	N-6-1	SH-727	TO-7-3
SH-250	F-8-1	SH-375	F-14-5	SH-530	C-3-1	SH-728	TO-7-4
SH-252	R-1-1	SH-377	F-15-2	SH-531	JD-5-1	SH-729	TO-7-5
SH-253	R-1-2	SH-378	F-15-3	SH-532	JD-5-2	SH-730	TO-8-1
SH-254	R-1-3	SH-379	F-15-4	SH-533	F-22-1	SH-731	TO-8-2
SH-255	R-1-4	SH-38	PD-3-3	SH-538	IN-16-1	SH-732	F-25-1
SH-263	CH-3-1	SH-380	F-15-5	SH-539	IN-16-3	SH-759	TO-5-1
SH-264	CH-3-2	SH-383	CH-3-4	SH-549	N-7-1	SH-760	TO-5-2
SH-265	CH-3-3	SH-384	A-1-1	SH-550	N-7-2	SH-762	TO-5-4
SH-277	C-2-1	SH-385	A-2-1	SH-551	N-7-3	SH-763	TO-5-5
SH-278	C-2-2	SH-386	BU-1-1	SH-552	N-7-4	SH-767	DA-1-1
SH-285	F-9-1	SH-387	BU-1-2	SH-559	F-9-2B	SH-768	DA-1-2
SH-287	CH-4-3	SH-388	BU-1-3	SH-56	K-1-3	SH-769	DA-1-3
SH-288	CH-4-2	SH-398	CH-5-1	SH-560	MA-5-1	SH-770	DA-1-4
SH-289	CH-4-4	SH-399	CH-5-2	SH-561	HE-7-1	SH-771	DA-1-5
SH-290	CH-4-1	SH-400	CH-5-3	SH-567	F-23-1A	SH-772	DA-3-1
SH-291	P-3-1	SH-401	CH-5-4	SH-568	CU-5-2A	SH-774	DA-3-3A
SH-292	P-3-2	SH-403	PD-12-2	SH-57	K-1-4	SH-777	F-34-1
SH-313	PD-8-1	SH-404	PD-12-3	SH-615	CH-12-1	SH-781	F-33-1
SH-314	PD-8-2	SH-405	PD-12-4	SH-616	CH-12-2	SH-786	JD-3-1
SH-315	PD-8-3	SH-406	PD-12-5	SH-617	CH-12-3	SH-796	VO-2-1
SH-318	CU-1-1	SH-412	F-17-2	SH-618	CH-9-4	SH-797	VO-2-2
SH-322	HE-5-1	SH-413	F-17-3	SH-628	A-3-1	SH-798	VO-2-3
SH-323	HE-5-2	SH-414	F-17-4	SH-629	A-3-2	SH-813	OP-3-1

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

MAHLE / CLEVITE - DURA-BOND INDIVIDUAL BEARINGS (Cont.)							
CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND	CLEVITE	DURA-BOND
SH-814	OP-3-2	SH-875	PD-16-1	SH-909	IZ-2-3	SH-994	IN-19-1
SH-815	OP-5-3	SH-876	PD-17-1	SH-978	TO-2-1	SH-995	IN-19-2
SH-816	OP-3-3	SH-907	IZ-2-1	SH-979	TO-2-2	SH-996	IN-19-3
SH-874	PD-18-1	SH-908	IZ-2-2	SH-980	TO-2-3		

ENGINE TECH - DURA-BOND BEARING SETS							
ENGINE TECH	DURA-BOND	ENGINE TECH	DURA-BOND	ENGINE TECH	DURA-BOND	ENGINE TECH	DURA-BOND
CC1061	F-41	CC411	CH-12	CC443	F-32	CC456	F-34B
CC1407	TO-12	CC412	B-12B	CC444	F-31	CC470	PD-16
CC400	CH-8	CC413	C-4A	CC445G	F-23B	CC471	PD-18
CC401	CH-19	CC414	CH-4	CC446G	F-49B	CC472	PD-21
CC402	CH-16	CC415	CH-21	CC447	F-45	CC473	PD-27
CC403	CH-20	CC416	P-4	CC448	F-26	CC474	PD-25
CC404B	CH-18A	CC417	C-3	CC449	F-33	CC475	PD-28
CC405	CH-7	CC418	O-6	CC450	F-30	CC476	PD-17
CC406	CH-11	CC419	B-9	CC451	F-48	CC480	N-7
CC407	CH-17	CC420	GM-7	CC452	F-52	CC481	N-9
CC408	B-12	CC440	F-18	CC453	F-47B	CC482	IN-11
CC409	B-13	CC441	F-34	CC454	F-50A	CC483	IN-17
CC410	O-7	CC442	F-46	CC455	FG-51		

FEDERAL-MOGUL - DURA-BOND BEARING SETS							
F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND
1005M	F-1	1203M	CH-7	1275M	WA-7	1459M	F-28
1010M	PD-1	1204M	F-18	1307M	DA-2	1460M	FG-34
1011M	PD-3	1205M	B-6	1401M	N-9	1461M	CH-16
1017M	A-2	1209M	IN-14	1402M	IN-16	1462M	B-12
1088M	K-1	1211M	DE-2	1403M	F-26	1463M	CH-17
1090M	HE-1	1213M	DE-5	1404M	CH-12	1463M1	CH-17X
1091M	J-1	1214M	A-6	1406M	MA-5	1466M	O-7
1093M	CO-3	1216M	C-3	1409M	MA-7	1467M	IN-17
1094M	CH-2	1218M	IN-11	1412M	F-29	1470M	IN-19
1106M	IN-5	1220M	P-4	1414M	F-30	1473M	PD-21
1115M	C-2	1222M	F-22	1417M	MAG-10	1474M	CO-9
1119M	A-1	1223M	F-9B	1421M	B-11	1475M	JD-5
1133M	F-7	1226M	HE-8	1422M	B-9	1477M	F-43
1136M	WA-3	1227M	CA-3	1424M	A-4	1478M	F-44
1137M	WA-4	1228M	IN-15	1426M	CA-6	1479M	IN-10A
1142M	HE-5	1229M	IN-3	1427M	CA-7	1481M	ON-1
1145M	CH-4	1230M	IN-12	1428M	A-5	1484M	PD-25
1146M	P-3	1234M	O-6	1438M	CAT-2	1485M	CH-19
1149M	PD-8	1235M	CH-8	1439M	F-32	1486M	DE-4
1151M	BU-2	1235M1	CH-8W	1441M	F-31	1487M	PDG-26
1158M	CO-8	1244M	N-7	1442M	F-41	1488M	CU-9
1159M	F-12	1246M	CU-5A	1443M	F-34	1489M	O-8
1160M	F-9A	1251M	JD-1	1444M	CHG-14	1490M	JDG-7
1164M	O-5	1253M	CA-5	1445M	F-33	1491M	CA-8
1170M	CH-3	1255M	CH-9A	1447M	F-25	1492M	CH-18
1176M	H-5	1259M	JD-3	1449M	CU-13	1493M	F-45
1177M	CH-5	1260M	JD-4	1450M	F-23A	1494M	F-46
1179M	F-16	1267M	F-24	1451M	PD-16	1496M	GM-7
1198M	GM-5	1269M	B-8	1453M	PD-17	1497M	CA-9
1202M	CH-6	1274M	MA-6	1454M	PD-18	1543M	BL-1

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

FEDERAL-MOGUL - DURA-BOND BEARING SETS (Cont.)							
F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND
1557M	CH-11	1860M	MIA-3	1401-DR	FA-1-1	2048-DR	PD-8-3
1561M	VO-2	1861M	HA-1	1402-DR	FA-1-2	2054-DR	F-9-3
1565M	TO-3	1862M	HA-2	1403-DR	FA-1-3	2101-DR	B-4-1
1566M	TO-2	1863M	MZA-2	1404-DR	FA-1-4	2103-DR	B-4-3
1569M	TO-8	1865M	NIA-6	1404-DRI	FA-1-5	2103-DRI	B-4-4
1570M	DA-3A	1871M	VOA-1	1419-DR	CH-2-4	2104-DR	B-4-5
1591M	IN-18	1886M	F-52	1421-DR	HE-5-1	2106-DR	IN-15-1
1592M	DA-1	1888M	CH-10	1422-DR	HE-5-2	2107-DR	IN-15-2
1672M	TO-11	1889M	B-14	1496-DRL	HA-1-5	2108-DR	IN-15-3
1697M	VO-3	1891M	WA-8	1497-DRU	HA-1-1	2132-DR	PD-9-2
1713M	VW-1	1894M	PD-28B	1557-DR	P-3-1	2133-DR	PD-9-4
1726M	VWG-1	1895M	PDG-30	1558-DR	O-5-1	2133-DRI	PD-9-3
1729M	TOG-8	1896M	PD-30	1559-DR	P-3-2	2134-DR	PD-9-5
1731M	FG-29	1898M	CH-23	1561-DR	C-2-1	2136-DR	PD-30-1
1735M	TO-10	1920M	PD-31B	1563-DR	C-2-2	2137-DR	PD-30-2
1737M	OP-5	2100M	CHP-8	1577-DR	IN-8-2	2138-DR	PD-30-3
1738M	DA-5	2101M	CHP-12	1578-DR	IN-8-3	2139-DR	PD-30-4
1746M	IZ-3	2102M	FP-18	1579-DR	IN-8-4	2140-DR	PD-30-5
1750M	CH-4A	2103M	FP-26	1616-DR	BU-1-1	2141-DR	PD-30-6
1752M	CU-11A	2104M	FP-30	1617-DR	BU-1-2	2154-DR	CH-3-4
1753M	CU-11	2105M	GMP-1	1618-DR	BU-1-3	2197-DR	IN-10-2
1755M	B-13	2106M	GMP-8	1741-DR	R-1-1	2198-DR	IN-10-3
1756M	CH-20	2107M	GMP-12	1742-DR	R-1-2	2207-DR	JD-5-2
1757M	C-4	2108M	351HP	1743-DR	R-1-3	2231-DR	H-5-1
1771M	TO-12	2110M	PDP-16	1744-DR	R-1-4	2232-DR	H-5-2
1777M	F-48	2111M	PDP-17	1832-DR	F-7-2	2233-DR	H-5-3
1781M	F-49	2112M	PDP-25T	1833-DR	F-22-1	2233-DRI	H-5-4
1782M	B-12B	3204DR	CHG-15A	1836-DR	F-8-1	2234-DR	H-5-5
1784M	F-55	INDIVIDUAL CAMSHAFT BEARINGS		1838-DR	F-12-1	2286-DR	CH-5-1
1790M	PD-27			1839-DR	F-11-2	2287-DR	CH-5-2
1792MSEMI	PDG-29S	1058-DRL	MZA-2-3	1841-DRI	PD-16-1	2288-DR	CH-5-3
1793M	F-47	1059-DRL	MZA-2-2	1846-DR	NIA-2-1	2289-DR	CH-5-4
1794M	TO-7	1059-DRU	MZA-2-1	1847-DR	NIA-3-1	2301-DRA	F-33-1
1804M	IZ-8	1091-DRL	HA-1-3	1848-DR	NIA-3-2	2302-DR	F-15-2
1805M	MIG-2	1091-DRU	HA-1-2	1852-DR	MA-3A-1	2303-DR	F-15-3
1807M	FG-51	1092-DRU	HA-1-4	1866-DR	WA-1-1	2303-DRI	F-15-4
1809M	PD-28	1093-DRU	HA-1-4A	1921-DR	PD-28-1	2304-DR	F-15-5
1810M	MIG-3	1101-DR	IN-5-1	1922-DR	PD-28-2	2309-DR	F-14-5
1828M	CHG-22	1102-DR	IN-5-2	1922-DRB	PD-28-2B	2316-DR	F-16-1
1838M	F-47B	1103-DR	IN-5-3	1923-DR	PD-28-3	2317-DR	F-16-2
1839M	NIA-4	1121-DR	BMA-1-1	1923-DRB	PD-28-3B	2321-DRI	PD-17-1
1840M	PDA-1	1122-DR	BMA-1-2	1924-DR	PD-28-4	2322-DR	PD-12-2
1841M	VWA-2	1123-DR	BMA-1-3	1951-DR	CH-3-1	2322-DRA	PD-21-2
1842M	F-34B	1124-DR	BMA-1-4	1952-DR	CH-3-2	2323-DR	PD-12-3
1843M	F-48A	1206-DR	K-1-1	1953-DR	CH-3-3	2323-DRI	PD-12-4
1844M	F-50	1207-DR	K-1-2	1961-DR	CU-1-1	2324-DR	PD-12-5
1845M	351RHP	1208-DR	K-1-3	1962-DRI	CU-5-2A	2376-DRA	PD-21-1
1847M	FA-2	1209-DR	K-1-4	2003-DR	F-9-1	2376-DRI	PD-18-1
1848M	FA-1	1221-DR	F-48-1	2004-DRI	F-9-2B	2378-DR	PD-13-3
1855M	CH-21	1221-DRA	F-48-1	2021-DR	CH-4-1	2378-DRA	PD-21-3
1855M1	CH-21X	1222-DR	F-48-2	2022-DR	CH-4-2	2379-DR	PD-13-4
1856M	MZA-1	1222-DRA	F-48-2	2023-DR	CH-4-3	2381-DRA	F-32-1
1857M	NIA-1	1223-DRA	F-48-4A	2024-DR	CH-4-4	2381-DRB	F-46-1
1858M	MIA-1	1246-DR	NIA-4-1	2046-DR	PD-8-1	2382-DR	F-17-2
1859M	TOA-1	1247-DR	NIA-4-2	2047-DR	PD-8-2	2382-DRA	F-46-2

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

FEDERAL-MOGUL - DURA-BOND INDIVIDUAL BEARINGS (Cont.)							
F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND
2383-DR	F-17-3	3046-DR	O-6-1	3453-DR	PD-25-4	3982-DR	TO-12-2
2383-DRA	F-46-3	3046-DRI	O-7-1	3456-DR	CH-13-1	3983-DR	TO-12-3
2384-DR	F-17-4	3047-DR	O-6-2	3457-DR	CH-13-2	3984-DR	TO-12-4
2401-DR	GM-5-1	3048-DR	O-6-3	3466-DR	A-3-1	3986-DR	TO-12-5
2402-DR	GM-5-2	3048-DRI	O-6-4	3467-DR	A-3-2	3996-DRI	F-52-1
2403-DR	GM-5-3	3049-DR	O-6-5	3489-DR	MIA-3-1	3997-DRB	F-51-2
2404-DR	GM-5-4	3056-DRI	F-31-1	3506-DR	CU-11-1	4176-DR	MZA-1-1
2411-DR	IN-11-1	3057-DRA	F-47-2	3507-DR	CU-11-2	4177-DR	MZA-1-2
2412-DR	IN-11-2	3057-DRI	F-31-2	3516-DR	CAT-3-1	4178-DR	MZA-1-3
2413-DR	IN-11-3	3058-DRA	F-47-3	3517-DR	CAT-3-2	4206-DR	CU-12-1
2413-DRI	IN-11-4	3058-DRI	F-31-3	3547-DR	F-34-1	4226-DR	NIA-1-1
2414-DR	IN-11-5	3059-DRI	F-31-4	3547-DRA	F-34-1B	4227-DR	NIA-1-2
2421-DR	IN-3A-1	3081-DR	CA-4-1	3548-DR	AGB-34-1	4228-DR	NIA-1-3
2431-DRI	CA-6-1	3082-DR	CA-4-2	3549-DR	AGB-34-2	4231-DRL	PDA-1-1
2432-DRI	CA-6-2	3083-DR	CA-5-3	3571-DR	AGB-14-1	4231-DRU	PDA-1-2
2433-DR	CA-6-3	3086-DR	CA-9-1	3586-DR	F-19-1	4291-DR	F-50-1
2502-DR	B-6-1	3106-DR	F-43-1	3591-DR	CU-13-1	4292-DR	F-50-2
2521-DR	A-6-1	3126-DR	JD-3-1	3592-DR	CU-13-2	4293-DR	F-50-3
2526-DR	N-6-1	3151-DRA	F-23-1A	3596-DR	IN-10-1A	4294-DR	F-50-4
2527-DR	N-5-2	3152-DR	F-49-1	3597-DR	IN-10-4A	4366-DRU	VVA-1-1
2528-DR	N-5-3	3153-DR	F-49-2	3671-DR	JDG-7-1	4367-DRL	VVA-1-5
2529-DR	N-5-4	3181-DR	ON-1-1	3731-DR	IN-17-1	4367-DRU	VVA-1-2
2531-DR	CAT-2-1	3191-DRI	CH-12-1	3732-DR	IN-17-2	4368-DRL	VVA-1-3
2532-DR	CAT-2-2	3192-DRI	CH-12-2	3766-DRI	CH-18-1A	4368-DRU	VVA-1-4
2533-DRI	CAT-2-3	3193-DRI	CH-12-3	3767-DR	CH-18-2	4509-DR	CH-23-1
2534-DRI	CAT-2-4	3194-DR	CH-9-4	3768-DR	CH-18-4	4511-DR	CH-10-1
2556-DR	CH-20-1	3204-DR	CHG-15-1	3796-DR	CH-19-1	4512-DR	CH-10-2
2587-DR	F-19-2	3216-DR	F-24-2	3801-DR	PDG-26-1	4513-DR	CH-10-3
2588-DR	F-19-3	3217-DR	F-24-3	3802-DR	PDG-26-2	4962-DR	PD-31-1B
2588-DRI	F-19-4	3218-DR	F-24-4	3803-DR	PDG-29-1	4963-DR	PD-31-2B
2596-DR	JD-1-1	3219-DR	F-24-5	3806-DR	FA-2-1	4964-DR	PD-31-3B
2597-DR	JD-1-2	3311-DRI	N-9-1	3808-DR	FA-2-3	4966-DR	PD-31-4B
2601-DR	F-18-1	3312-DR	N-8-2	3809-DR	FA-2-4	4967-DR	PD-31-5B
2601-DRI	F-26-1	3313-DR	N-8-3	3809-DRI	FA-2-5	60151-DR	IN-18-1
2602-DR	F-18-2	3313-DRI	N-8-4	3826-DR	CU-9-1	60152-DR	IN-18-2
2603-DR	F-18-3	3314-DR	N-8-5	3827-DR	CU-9-2	60153-DR	IN-18-3
2603-DRI	F-18-4	3321-DRI	B-11-1	3828-DR	CU-8-1	65326-DR	VO-2-1
2604-DR	F-18-5	3322-DR	B-9-2	3831-DR	F-45-1	65327-DR	VO-2-2
2631-DR	MA-5-1	3322-DRI	B-14-2	3832-DR	F-45-2	65328-DR	VO-2-3
2632-DR	MA-5-2	3323-DR	B-13-1	3834-DR	AGB-51-1	65896-DRA	OP-3-1
2636-DR	CA-3-1	3323-DRI	B-14-1	3861-DR	GM-7-1	65897-DRA	OP-3-2
2637-DR	CA-3-2	3324-DR	B-11-1B	3862-DR	GM-7-2	65898-DRA	OP-3-3
2638-DR	CA-3-3	3336-DR	IN-16-1	3863-DR	GM-7-3	65899-DR	OP-5-3
2686-DR	N-7-1	3338-DR	IN-16-3	3864-DR	GM-7-4	66621-DRL	VOA-1-1
2687-DR	N-7-2	3357-DRC	F-47-2B	3866-DR	GM-7-5	66621-DRU	VHA-1-2
2688-DR	N-7-3	3358-DRC	F-47-3B	3871-DR	C-4-1	67016-DR	DA-3-1
2689-DR	N-7-4	3359-DRC	F-47-4	3872-DR	C-4-2	67017-DR	DA-3-2
2786-DRA	F-28-1	3361-DRI	F-30-1	3873-DR	C-4-3	67018-DR	DA-3-3A
2787-DRA	F-28-2	3366-DR	F-29-1	3874-DR	C-4-4	67021-DR	DA-2-1
2788-DRA	F-28-3	3367-DR	F-29-2	3876-DR	C-4-5	67022-DR	DA-2-2
2926-DR	CO-9-1	3368-DRA	F-29-3A	3961-DRL	TOA-2-1	67023-DR	DA-2-3
2927-DR	CO-9-2	3369-DR	AGB-29-1	3961-DRU	TOA-2-2	67031-DR	TO-5-1
2928-DR	CO-9-3	3426-DR	CH-4-1S	3962-DRL	TOA-1-2	67032-DR	TO-5-2
2941-DR	C-3-1	3451-DR	PD-25-2	3962-DRU	TOA-1-1	67034-DR	TO-5-4
3031-DR	HE-7-1	3452-DR	PD-25-3	3981-DR	TO-12-1	67034-DRI	TO-5-5

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

FEDERAL-MOGUL - DURA-BOND INDIVIDUAL BEARINGS (Cont.)							
F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND	F-M	DURA-BOND
67036-DR	TO-1-1	67327-DR	IZ-3-2	7114-DR	FP-18-4	9216-DR	J-1-1
67037-DR	TO-1-2	67328-DR	IZ-3-3	7115-DR	FP-18-5	9386-DR	HE-1-1
67038-DRI	TO-10-3	67381-DRL	MIA-1-4	7116-DR	FP-30-1	9387-DR	HE-1-2
67039-DR	TO-1-4	67381-DRU	MIA-1-3	7117-DR	GMP-1-1	9391-DR	A-2-1
67041-DR	TO-2-1	67382-DRU	MIA-1-1	7118-DR	FP-18-1	9561-DR	PD-3-2
67042-DR	TO-2-2	68096-DR	VWG-1-1	7120-DR	PDP-16-1	9563-DR	PD-3-3
67043-DR	TO-2-3	68097-DR	VWG-1-2	7121-DR	PDP-9-2	9626-DR	WA-3-1
67271-DR	TO-3-1	68311-DR	IZ-6-1	7122-DR	PDP-9-3	9627-DR	WA-3-2
67272-DR	TO-3-2	68312-DR	IZ-6-2	7123-DR	PDP-9-4	9628-DR	WA-3-3
67273-DR	TO-3-3	68313-DR	MIG-2-2	7124-DR	PDP-9-5	9696-DR	CH-2-1
67274-DR	TO-3-4	68314-DR	MIG-2-1	7125-DR	PDP-25-2	9697-DR	CH-2-2
67276-DR	TO-7-1	7100-DR	351HP-1	7126-DR	PDP-25-3	9698-DR	CH-2-3
67277-DR	TO-7-2	7101-DR	351HP-2	7127-DR	PDP-25-4	9746-DR	A-1-1
67278-DR	TO-7-3	7102-DR	351HP-3	7128-DR	PDP-17-1	9906-DR	CO-7-1
67279-DR	TO-7-4	7103-DR	351HP-4	7129-DR	PDP-12-2	9907-DR	CO-7-2
67279-DRI	TO-7-5	7104-DR	351HP-5	7130-DR	PDP-12-3	9908-DR	CO-7-3
67283-DR	TOG-8-1	7105-DR	CHP-4-1	7131-DR	PDP-12-4	9909-DR	CO-7-4
67284-DR	TOG-8-2	7106-DR	CHP-4-2	7132-DR	PDP-12-5	FP100670	CU-1-1
67293-DR	TO-11-3	7107-DR	CHP-4-3	8778-DR	IN-2-3	FP3031037	CU-11-2
67321-DR	DA-1-1	7108-DR	CHP-12-1	8779-DR	IN-2-4	FP3278345	CU-11-1
67322-DR	DA-1-2	7109-DR	CHP-12-2	9021-DR	F-1-1	FP5194609	DE-1-1
67323-DR	DA-1-3	7110-DR	CHP-12-3	9023-DR	F-1-2	FP7M4046	CAT-2-2
67324-DR	DA-1-4	7111-DR	FP-26-1	9076-DR	PD-1-1	FP9N5246	CAT-1-2
67324-DRI	DA-1-5	7112-DR	FP-18-2	9207-DR	PD-1-2	FP9Y2991	CAT-2-3
67326-DR	IZ-3-1	7113-DR	FP-18-3	9208-DR	PD-1-3	FP9Y2992	CAT-2-4

KING BEARING - DURA-BOND BEARING SETS							
KING	DURA-BOND	KING	DURA-BOND	KING	DURA-BOND	KING	DURA-BOND
CBS324	O-5	CS402BB	CH-7	CS435BB	CH-21	CS517HP	FP-30
CS101BB	J-1	CS405BB	CH-11	CS4401BB	B-14	CS524BB	CH-12
CS111BB	FG-29	CS410BB	F-31	CS4402BB	F-49B	CS524GMP	GMP-12
CS228BB	PDG-26	CS412BB	TO-3	CS4403BB	F-50A	CS524HP	CHP-12
CS230BB	VWG-1	CS414BB	CH-17	CS4404BB	CH-9A	CS524HPT	CHP-12T
CS231BB	FG-51	CS415BB	B-12	CS4405BB	F-1	CS525BB	C-4A
CS232BB	FG-53	CS416BB	PD-21	CS4406BB	F-48A	CS526BB	N-9
CS304BB	DA-2	CS417BB	F-34	CS4407BB	GM-5	CS527BB	PD-25
CS305BB	DA-3A	CS417BBX	F-34B	CS4409BB	F-50	CS528BB	CH-19
CS325BB	CH-16	CS418BB	F-32	CS504BB	TO-7	CS529BB	DA-1
CS326BB	CH-20	CS419BB	F-23A	CS507BB	CH-8	CS530BB	IN-11
CS327BB	MIG-2	CS420BB	B-12B	CS507HP	CHP-8	CS531BB	CH-13
CS328BB	FG-34	CS421BB	B-13	CS507HPT	CHP-8T	CS532BB	IN-17
CS329BB	CHG-14	CS422BB	N-7	CS508BB	B-9	CS533BB	PD-17
CS3301BB	TOA-1	CS423BB	F-46	CS509BB	O-6	CS533HP	PDP-17
CS3302BB	CO-3	CS424BB	F-47B	CS510BB	O-7	CS534BB	CH-4
CS3303BB	CH-6	CS425BB	F-48	CS511BB	P-4	CS534HPT	CHP-4T
CS3304BB	CA-3	CS426BB	F-45	CS512BB	PD-16	CS535BB	C-4
CS330BB	F-41	CS427BB	F-49	CS512HP	PDP-16	CS536BB	GM-7
CS331BB	F-29	CS428BB	CH-18A	CS514BB	F-18	CS537BB	C-3
CS332BB	F-28	CS429BB	CH-18	CS514HP	FP-18	CS538BB	P-3
CS333BB	PD-1	CS430BB	PD-27	CS514HPT	FP-18T	CS539BB	F-9A
CS334BB	CO-8	CS431BB	PD-28	CS515BB	F-33	CS540BB	F-16
CS351HP	351HP	CS432BB	F-52	CS516BB	F-26	CS542BB	CH-5
CS351HPT	351HPT	CS433BB	K-1	CS516HP	FP-26	CS5501BB	CH-4A
CS401BB	PD-18	CS434BB	CH-3	CS517BB	F-30	CS5503BB	CH-10

Reference interchange only. Check manufacture specifications prior to installation.

BEARING COMPETITIVE INTERCHANGES

KING BEARING - DURA-BOND BEARING SETS (Cont.)					
KING	DURA-BOND	KING	DURA-BOND	KING	DURA-BOND
CS5504HPT	DT-1T				
CS5505HPT	GMP-2T				
CS5506HPT	GMP-12LT				
CS5507BB	PDA-4				
CS5509BB	C-2				
CS5510BB	CH-23				
CS604BB	FA-3				
CS6601BB	PD-30				
CSGMP8	GMP-8				

Reference interchange only. Check manufacture specifications prior to installation.

Dura-Bond®

Cam Bearing Tool

Here's the fast, simple, economical cam tool that eliminates hundreds of separate, costly driving plugs with four expanding mandrels. The Dura-Bond Cam Bearing Tool adjusts instantly to undersize cam bearings; lets you put them in and take them out of any engine. Be smart, Do it all—fast—with one tool from Dura-Bond.



CT-1 KIT

Part No.	Description	Part No.	Description
1-B	5" Driver	8-NS	2.250 Mandrel Sleeve
3-B	36" Driver	5-M	1.370 Mandrel
1-C	Guide Cone	6-M	1.682 Mandrel
3-E	17/32 Expander	7-M	1.875 Mandrel
4-E	15/8 Expander	8-M	2.250 Mandrel
1-S	Replacement Thread Stud for Expanders	5-W	1.370 Metal Washer
5-NS	1.370 Mandrel Sleeve	6-W	1.682 Metal Washer
6-NS	1.682 Mandrel Sleeve	7-W	1.875 Metal Washer
7-NS	1.875 Mandrel Sleeve	8-W	2.2500 Metal Washer

1 Replacement Bar Cap only for 24" and 36" Drivers

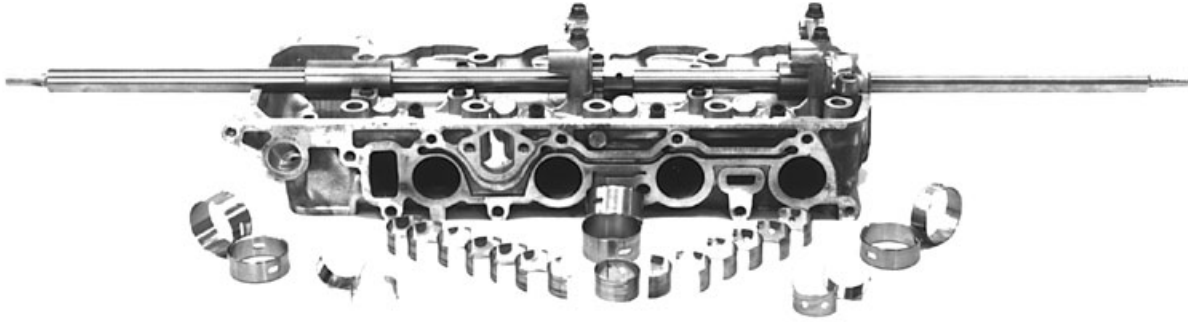
Optional (not included with kit):

2-B 24" Driver

THE REVOLUTIONARY NEW WAY TO REBUILD ALUMINUM HEADS with the

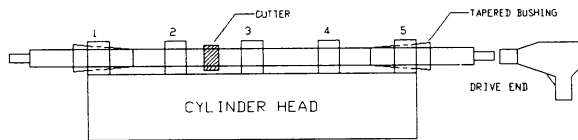
Dura-Bond® Boring System

O.H.C. Cutter System & Bearings for Aluminum Cylinder Heads



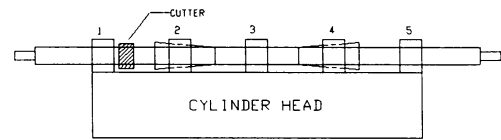
Features: Tapered bushings provide self alignment • No lengthy set up time • Bar is driven by a 1/2" electric or air drill motor • "No chatter." Cutters cut and ream to a factory finish in one operation.

Our **Quick Bore System** enables you to bore a complete cylinder head and install new repair bearings in approximately 25 minutes rather than 45 minutes or longer required by other systems.



FIRST BORING PASS

RECOMMENDED BUSHING PLACEMENT IN THIS CONFIGURATION TO BORE #2, #3, AND #4.



SECOND BORING PASS

RECOMMENDED BUSHING PLACEMENT IN THIS CONFIGURATION TO BORE OUTER HOUSINGS. UTILIZE RING BUSHINGS TO SUPPORT DRIVE BAR BUSHINGS.

- Cylinder heads that are warped extensively should be straightened before line boring.
- Extra long Drive Bar allows cutting of Multi-Housings.
- Electric drill with 1/2" chuck is used to drive the bar (500 - 600 RPM).
- Tapered bushings (.005 Taper) provide self alignment and eliminate hours of set up time and expensive fixtures. Use ring bushings around drive bar bushings to mount in bored housings.
- Cutters are designed to cut and ream in one operation. New three angle cutter design requires only light pressure to feed cutter through bore and because there is no chatter, cutter leaves a factory finish.
- Our system enables a complete cylinder head to be bored and five new bearings installed in under 20 minutes rather than 45 minutes or longer required by other systems.*
- Cutter locks on Drive Bar with two set screws.
- Push cutter through one time. **DO NOT REAM TWICE. DO NOT PULL CUTTER BACK THROUGH FINISHED BORED HOUSING.**
- Use a constant flow of penetrating oil when cutting. This is a must to wash away cutting chips and achieve a finish necessary to install the bearing set.
- If cutter binds or stops in bore loosen the cap, do not reverse cutter rotation, this will cause breakage of carbide. Lightly work out by hand or tap straight back on bar with mallet.

Refer to our data sheet for bearing, application, cutter, and bushing sizes.

*As tested and time studied at Dura-Bond Bearing Company.

ALUMINUM OVERHEAD CAM (OHC) ACCESSORIES

DURA-BOND QUICK BORE: BARS, BUSHINGS, AND CUTTERS

SET NO.	ENGINE MFG.	CONTENTS	POSITION	TOOLS		
				CUTTER	BUSHING / QTY	BAR
BMA-1* (Full Round)	BMW	BMA-1-1	1	DBC18918	DBB18119 / 1	DB 78 (7/8")
		BMA-1-2	2	DBC18524	DBB18524 / 1	
		BMA-1-3	3	DBC18131	DBB18131 / 1	
		BMA-1-4	4	DBC14587	DBB13788 / 1	
BMA-2* (Full Round)	BMW	BMA-1-1	1	DBC18918	DBB18119 / 1	DB 78 (7/8")
		BMA-1-2	2	DBC18524	DBB18524 / 1	
		BMA-1-3	3	DBC18131	DBB18131 / 1	
		BMA-1-10	4	DBC15772	DBB14969 / 1	
BMA-3* (Full Round)	BMW	BMA-1-1	1	DBC18918	DBB18119 / 1	DB 78 (7/8")
		BMA-1-5	2	DBC18524	DBB18524 / 1	
		BMA-1-2	3			
		BMA-1-6	4	DBC18131	DBB18131 / 1	
		BMA-1-3	5			
		BMA-1-7	6	DBC15772	DBB14969 / 1	
		BMA-1-10	7			
BMA-4* (Full Round)	BMW	BMA-1-8	1	DBC17741	DBB16937 / 1	DB 78 (7/8")
		BMA-1-9	2	DBC17340	DBB17340 / 1	
		BMA-4-3	3	DBC14587	DBB13787 / 1 DBB14587 / 1	
FA-1* (Full Round)	FORD	FA-1-1	1	DBC19035	DBB18870 / 1	DB 78 (7/8")
		FA-1-2	2	DBC18985	DBB18020 / 1	
		FA-1-3	3	DBC18935	DBB22055 / 1	
		FA-1-4	4	DBC18885		
		FA-1-5	5	DBC18835		
FA-2* (Full Round)	FORD	FA-2-1	1	DBC18435	DBB22055 / 1	DB 78 (7/8")
		FA-2-2	2	DBC18535	DBB1792 / 1	
		FA-2-3	3	DBC18635	DBB1883 / 1	
		FA-2-4	4	DBC18735	DBB18025 / 1	
		FA-2-5	5	DBC18835		
FA-3* (Half Shell) .010 und	FORD	FA-3-1 (L) FA-3-2 (U)	1,2,3,4,5,6 1,2,3,4,5,6	DBC11474	DBB1063 / 2	DB 58 (5/8")
FA-4* (Half Shell)	FORD	FA-3-2 (L) FA-4-1 (L) FA-4-2 (L) FA-4-3 (U) FA-4-4 (U)	1,6,7,12 2,3,4,5 8,9,10,11 1,6,7,12 2,3,4,5,8,9,10,11	DBC11474	DBB1063 / 2	DB 58 (5/8")
FA-5* (Half Shell)	FORD	FA-5-1 (L) FA-4-1 (L) FA-4-2 (L) FA-4-3 (U) FA-4-4 (U)	1,6,7,12 2,3,4,5 8,9,10,11 1,6,7,12 2,3,4,5,8,9,10,11	DBC11474	DBB1063 / 2	DB 58 (5/8")
FA-6* (Half Shell)	FORD	FA-6-2 (U) FA-6-4 (U) FA-6-1 (L) FA-6-3 (L)	1 2,3,4 1 2,3,4	DBC11875	DBB11003 / 2	DB 58 (5/8")
GMA-1* (Full Round) .020 und	GENERAL MOTORS	GMA-1-1 GMA-1-2	1 2,3,4,5	(LINE BORE MACHINING REQUIRED)		
GMA-2* (Half Shell)	GENERAL MOTORS	GMA-2-1 (U) GMA-2-3 (U) GMA-2-2 (L) GMA-2-1 (L)	1,6 2,3,4,5,7,8, 9,10 1,6 2,3,4,5,7,8,9,10	DBC12655	DBB11415 / 2	DB 78 (7/8")

*Denotes (OHC) Repair Bearing, Check "Aluminum Overhead Cam Accessories" Section For Tool Information

**Denotes Auxiliary / Balance Shaft Bearing

"und" Denotes Undersized ID

ALUMINUM OVERHEAD CAM (OHC) ACCESSORIES

DURA-BOND QUICK BORE: BARS, BUSHINGS, AND CUTTERS

SET NO.	ENGINE MFG.	CONTENTS	POSITION	TOOLS		
				CUTTER	BUSHING / QTY	BAR
HA-1* (Half Shell)	HONDA	HA-1-1 (U) HA-1-5 (L)	1,2,3,4,5 1,2,3,4,5	DBC12655	DBB11415 / 2	DB 78 (7/8")
HA-2* (Half Shell) .020 und	HONDA	HA-1-2 (U) HA-1-4 (U) HA-1-4A (U) HA-1-5 (U) HA-1-3 (L) HA-1-5 (L)	1 2,4,5 3 6 1 2,3,4,5,6	DBC12655	DBB11415 / 2	DB 78 (7/8")
HA-3* (Half Shell) .010 und .020 und	HONDA	HA-3-2 (U) HA-3-4 (U) HA-3-1 (L) HA-3-3 (L)	1 2,3,4,5,6 1 2,3,4,5,6	DBC11855	DBB1102 / 2	DB 58 (5/8")
HA-4* (Half Shell)	HONDA	HA-4-1 (U) HA-4-3 (U) HA-4-2 (L) HA-4-4 (L)	1 2,3,4,5 1 2,3,4,5	DBC12655	DBB11415 / 2	DB 78 (7/8")
HA-5* (Half Shell)	HONDA	HA-5-2 (U) HA-3-4 (U) HA-5-1 (L) HA-3-3 (L)	1 2,3,4,5,6,7 1 2,3,4,5,6,7	DBC12655 DBC11855	DBB11415 / 2 DBB1102 / 2	DB 78 (7/8") DB 58 (5/8")
MIA-1* (Half Shell) .010 und .020 und	HYUNDAI ISUZU MITSUBISHI	MIA-1-3 (U) MIA-1-1 (U) MIA-1-4 (L)	1 2,3,4,5 1,2,3,4,5	DBC14225	DBB13385 / 2	DB 78 (7/8")
MIA-2* (Half Shell) .020 und	HYUNDAI ISUZU MITSUBISHI	MIA-1-7 (U) MIA-1-5 (U) MIA-1-6 (L)	1 2,3,4,5 1,2,3,4,5	DBC14971	DBB13385 / 2	DB 78 (7/8")
MIA-3* (Full Round)	HYUNDAI MITSUBISHI	MIA-3-1	1,2,3	DBC18918	DBB18118 / 2	DB 78 (7/8")
MIA-4* (Half Shell)	MITSUBISHI	MIA-1-8 (U) MIA-1-1 (U) MIA-1-4 (L)	1,5 2,3,4 1,2,3,4,5	DBC14225	DBB13385 / 2	DB 78 (7/8")
MIA-5* (Half Shell)	MITSUBISHI	MIA-5-1 (U) MIA-5-2 (U) MIA-5-3 (U) MIA-5-8 (U) MIA-5-5 (L) MIA-5-6 (L) MIA-5-7 (L) MIA-5-9 (L)	1 2 3 4 1 2 3 4	DBC14225	DBB13385 / 2	DB 78 (7/8")
MZA-1* (Full Round) .020 und	MAZDA	MZA-1-1 MZA-1-2 MZA-1-3	1 2 3	DBC17931	DBB17131 / 2	DB 78 (7/8")
MZA-2* (Half Shell) .020 und	MAZDA	MZA-2-3 (U) MZA-2-1 (U)	1,5 2,3,4	DBC13439	DBB12599 / 2	DB 78 (7/8")
MZA-4* (Half Shell)	MAZDA	MZA-4-1 (U) VHA-1-2 (L)	1,2,3,4,5 1,2,3,4,5	DBC12655	DBB11815 / 2	DB 78 (7/8")
NIA-1* (Full Round)	NISSAN	NIA-1-1	1,2,3,4,5	DBC17340	DBB16540 / 2	DB 78 (7/8")

*Denotes (OHC) Repair Bearing, Check "Aluminum Overhead Cam Accessories" Section For Tool Information

**Denotes Auxiliary / Balance Shaft Bearing

"und" Denotes Undersized ID

ALUMINUM OVERHEAD CAM (OHC) ACCESSORIES

DURA-BOND QUICK BORE: BARS, BUSHINGS, AND CUTTERS

SET NO.	ENGINE MFG.	CONTENTS	POSITION	TOOLS		
				CUTTER	BUSHING / QTY	BAR
NIA-2L* (Full Round)	NISSAN	NIA-2-1	1,2,3,4	DBC19309	DBB18509 / 2	DB 78 (7/8")
NIA-2R* (Full Round)	NISSAN	NIA-2-1	1,2,3,4,5	DBC19309	DBB18509 / 2	DB 78 (7/8")
NIA-3L* (Full Round)	NISSAN	NIA-2-1 NIA-3-2	1,2,3 4	DBC19309 DBC17538	DBB18509 / 2 DBB16737 / 1	DB 78 (7/8")
NIA-3R* (Full Round)	NISSAN	NIA-3-1 NIA-2-1 NIA-3-2	1 2,3,4 5	DBC19702 DBC19309 DBC17538	DBB18903 / 1 DBB18509 / 2 DBB16737 / 1	DB 78 (7/8")
NIA-4* (Full Round) .020 und	NISSAN	NIA-1-1 NIA-1-2 NIA-1-3	1,2,4 3 5	DBC17340	DBB16540 / 2	DB 78 (7/8")
NIA-5* (Full Round)	NISSAN	NIA-4-1 NIA-4-2	1,2,3,5 4	DBC18914	DBB18113 / 2	DB 78 (7/8")
NIA-6* (Half Shell) .020 und	NISSAN	TOA-1-1 (U) TOA-1-2 (L)	1,2,3,4,5 1,2,3,4,5	DBC13841	DBB13001 / 2	DB 78 (7/8")
PDA-1* (Half Shell)	CHRYSLER	PDA-1-2 (U) PDA-1-1 (L)	1,2,3,4,5 1,2,3,4,5	DBC14819	DBB13779 / 2	DB 78 (7/8")
PDA-2* (Half Shell)	CHRYSLER	PDA-2-2 (U) PDA-2-1 (L)	1,2,3,4,5 1,2,3,4,5	DBC14819	DBB13979 / 2	DB 78 (7/8")
PDA-3* (Full Round)	CHRYSLER	PDA-3-1 PDA-3-2 PDA-3-3 PDA-3-4 PDA-3-5	1 2 3 4 5	(LINE BORE MACHINING REQUIRED)		
PDA-4* (Half Shell)	CHRYSLER	PDA-4-2 (U) PDA-4-1 (L)	1,2,3,4,5 1,2,3,4,5	DBC11085	DBB10225 / 2	DB 58 (5/8")
SA-1* (Full Round)	SUZUKI	SA-1-1 SA-1-2 SA-1-3 SA-1-4 SA-1-5	1 2 3 4 5	(LINE BORE MACHINING REQUIRED)		
TOA-1* (Half Shell)	TOYOTA	TOA-2-2 (U) TOA-2-1 (L)	1,2,3 1,2,3	DBC13841	DBB13001 / 2	DB 78 (7/8")
VOA-1* (Half Shell)	VOLVO	VHA-1-2 (U) VOA-1-1 (L)	1,2,3,4,5 1,2,3,4,5	DBC12655	DBB11815 / 2	DB 78 (7/8")
VWA-1* (Half Shell)	AUDI	VWA-1-1 (U) VWA-1-2 (U) VWA-1-4 (U) MZA-2-3 (L) VWA-1-5 (L) VWA-1-3 (L)	1 2,3 4 1 2,3 4	DBC13439 DBC12655	DBB12599 / 1 DBB11815 / 2	DB 78 (7/8")

*Denotes (OHC) Repair Bearing, Check "Aluminum Overhead Cam Accessories" Section For Tool Information

**Denotes Auxiliary / Balance Shaft Bearing

"und" Denotes Undersized ID

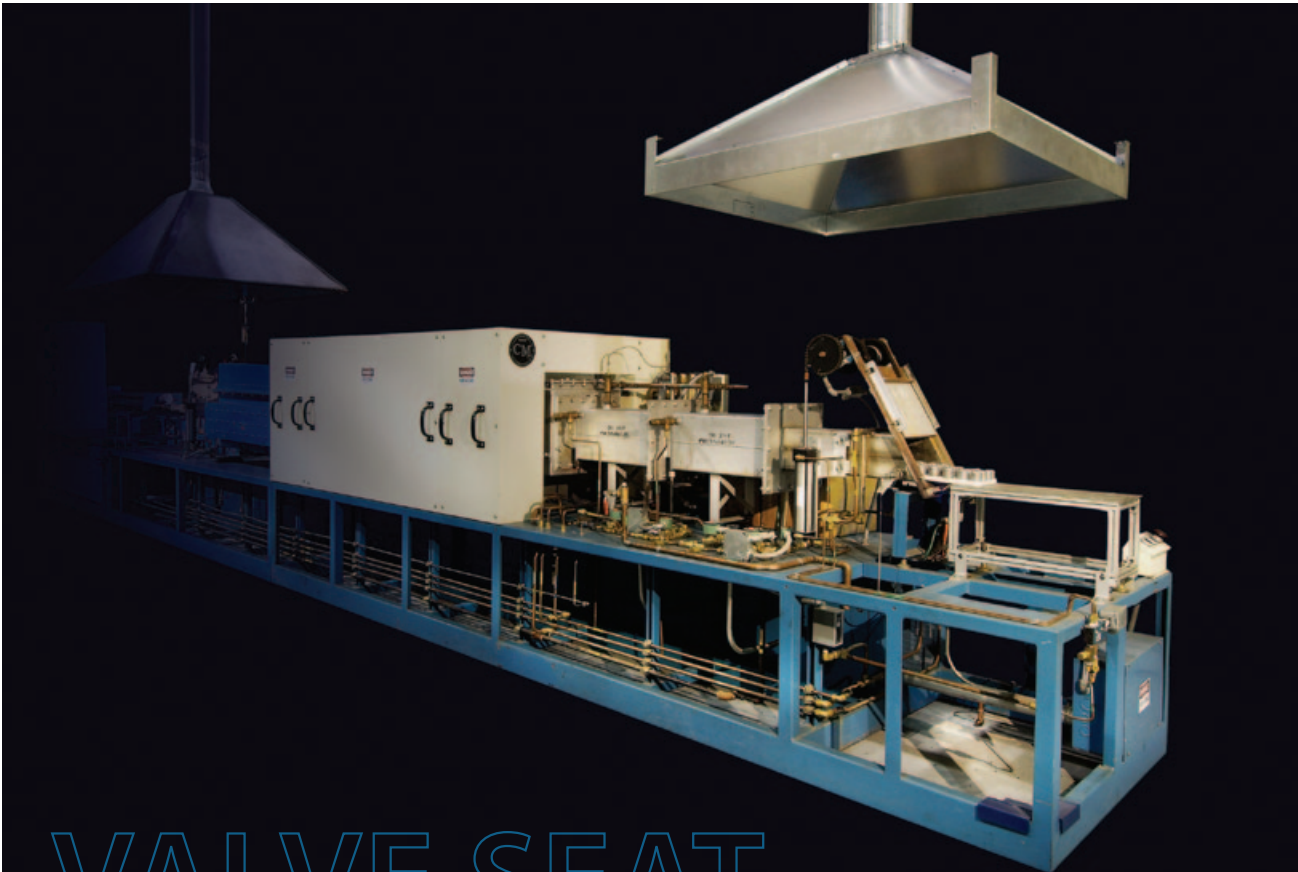
ALUMINUM OVERHEAD CAM (OHC) ACCESSORIES **DURA-BOND QUICK BORE: BARS, BUSHINGS, AND CUTTERS**

SET NO.	ENGINE MFG.	CONTENTS	POSITION	TOOLS		
				CUTTER	BUSHING / QTY	BAR
VWA-2* (Half Shell) .010 und .020 und	VOLKSWAGEN	VWA-2-1 (U) VWA-2-2 (L)	1,2,3,4,5 1,2,3,4,5	DBC11085	DBB10225 / 2	DB 58 (5/8")

*Denotes (OHC) Repair Bearing, Check "Aluminum Overhead Cam Accessories" Section For Tool Information

**Denotes Auxiliary / Balance Shaft Bearing

"und" Denotes Undersized ID



VALVE SEAT TECHNOLOGY Has Changed.

Modern engines put much higher levels of thermal and mechanical stress on valve seat inserts. To handle the more severe conditions within this new generation of engines, the OEM is equipping them with high tech sintered valve seats. The normal cast chrome and other alloy iron seats will not adequately withstand the demands of this new engine environment.

Dura-Bond's patented material and processing of these powder metal valve seats offer excellent machinability, along with low wear and high heat resistance. These inserts have finely dispersed tungsten carbide residing in a matrix of tempered tool steel and special alloy iron particles to provide all the properties an application requires. Special compositions and processing have been developed to perform in the most extreme duty applications. Complete in-house capabilities, from development and tooling to testing, reduces lead time and cost.

If your requirements range from prototypes to high volume, let Dura-Bond Bearing Company be part of the solution.



Dura-Bond Bearing Company · 3200 Arrowhead Dr., Carson City, NV 89706 · Tel (800) 227-8360 · Fax (775) 883-9497
BE SURE TO VISIT US ONLINE AT WWW.DURA-BONDBEARING.COM



30000 (GOLD) SERIES VALVE SEAT INSERTS

DESCRIPTION and APPLICATION

Superior Machinability

The 30000 (Gold) series is the newest and most machinable of our valve seat materials. It is a sintered valve seat insert which offers a blend of finely dispersed tungsten carbide residing in a matrix of tempered tool steel and special alloy iron particles. The superior machinability is the result of adding our proprietary ingredients and solid dry lubricants to this blend, and by using our special processing techniques during manufacture.

Designed for Unleaded Fuels

This very machinable exhaust seat material is designed for unleaded fuels. The 30000 (Gold) series is intended for the light to medium duty range. (For the heavy duty or extreme duty range we recommend our 70000 (Diamond) series valve seat inserts.)

New Powder Metal Technology

Dura-Bond/Snyder has taken full advantage of the new powder metal technology to produce a "hard" valve seat which will machine almost like cast iron. The greatly enlarged picture (the 4 black squares are .0015" across) tells the story.

- Powder metal technology allows us to place a special high grade alloy iron (with its natural, tool lubricating graphite rich properties) within a tempered tool steel matrix.
- Because of our special processing, we are able to get very fine, spheroidalized, tungsten carbide particles to evenly disperse within the tool steel.
- These spheroidalized (round shaped) carbides are easier to machine because the tool bit can wedge in-between, with less cutting force and less friction.
- The smaller these "balls" of carbide, the easier it is on your cutting tool, because it will not be hitting any big irregular shaped "iceberg chunks" of carbide.

CHEMICAL COMPOSITION

Tungsten	3.8
Molybdenum	3.5
Chromium	2.0
Vanadium	1.0
Carbon	0.9
Cobalt	0.3
Nickel	0.4
Manganese	0.3
Silicon	0.2
Copper	0.1
(proprietary)	4.5
Iron	rem.

PHYSICAL PROPERTIES

Apparent hardness	20 HRC (approx.)
Micro hardness	20-43 HRC
Thermal expansion	.0000075"/F (at 1000° F)

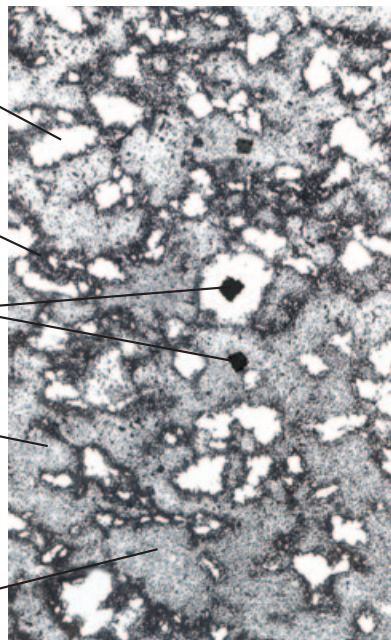
Special alloy iron
(large white area)

Simi steel
(darker outline)

Micro hardness
penetrator

Tool steel matrix

Tungsten carbides
(small white dots
within tool steel
matrix)



Dura-Bond reserves the right to revise composition and specifications without notice.



70000 (Diamond) 90000*(Platinum) SERIES VALVE SEAT INSERTS

DESCRIPTION and APPLICATION

This is a sintered, high speed (tungsten carbide) tool steel, valve seat insert. This material has special additives blended into the matrix which impart high temperature lubrication properties to the valve seat. These lubrication properties are "built-in" throughout, and are not affected by extreme heat or machining. These solid lubricants enable this material to be used in "dry" fuel applications such as propane, LPG, and natural gas. They prevent the "micro-welding" of the valve seat material to the valve face, therefore eliminating the primary cause of valve seat erosion. They also improve the machinability. Your tools last longer and you can cut faster.

Because of the special high temperature sintering and post heat treat processing, this valve seat material has cermet style metal alloy oxides. This gives it superior wear resistance to both pounding and abrasive wear at elevated temperatures. These** are called "cer-met" style because they are similar to **ceramic** (they do not soften at elevated temperature), but retain the machinability of **metal**. It is this high tech, new generation processing that allows us to achieve such high, hot hardness without having to put in massive amounts of expensive alloys, which would be required, to achieve equal performance. Normal foundry techniques do not allow this type of structure. You get superior wear resistance and high hot hardness at a very favorable price.

This valve seat insert is, therefore, used in engines using diesel, unleaded gasoline, and propane. We have been setting new longevity records in propane and natural gas applications using this seat.

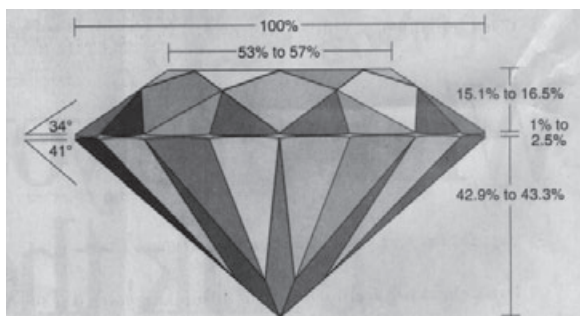
The micro structure of this valve seat insert is a very fine evenly dispersed mixture of spheroidal refractory alloy carbides, cermet style metal alloy oxides and solid lubricant residing in a tempered martensitic matrix.

CHEMICAL COMPOSITION

	70000	90000*
Tungsten	5.3	6.5
Molybdenum	4.4	6.0
Chromium	3.5	4.0
Vanadium	1.5	2.0
Carbon	0.8	0.9
Cobalt	0.4	0.4
Nickel	0.3	0.4
Manganese	0.3	0.3
Silicon	0.2	0.2
Copper	0.1	0.1
(proprietary)	3.5	3.5
Iron	rem.	rem.

PHYSICAL PROPERTIES

	70000	90000*
Apparent hardness	30 HRC (approx.)	35 HRC (approx.)
Micro Hardness	25-43 HRC	35-43 HRC
Thermal expansion (at 1000° F)	.0000078"/degree F	.0000078"/degree F



**Metal Alloy Oxides

* 90000 series available for extreme duty applications, special order only.

Dura-Bond reserves the right to revise composition and specifications without notice.

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
30015	70015		1.5050	1.215	1.275	.280	45°
30024	70024		1.5050	1.250	1.390	.240	45°
30030	70030		1.8190	1.490	1.600	.305	45°
30031	70031		1.5070	1.180	1.318	.305	45°
30043	70043		1.5270	1.200		.250	45°
30045	70045		1.5050	1.100	1.225	.316	45°
30105	70105		1.5050	1.140	1.250	.325	45°
30127	70127		1.7570	1.385	1.559	.380	45°
30138	70138		1.8820	1.505	1.689	.380	45°
30141	70141		1.9440	1.575	1.719	.380	45°
30148	70148		1.5070	1.210	1.333	.345	45°
30165	70165		1.7570	1.410	1.560	.315	45°
30190	70190		1.6940	1.385	1.520	.305	45°
30204	70204		1.5070	1.239		.225	45°
30205	70205		1.2570	1.022		.225	45°
30230	70230		1.2570	0.905	1.000	.230	45°
30238	70238		1.3820	1.102	1.160	.260	45°
30297	70297		1.9800	1.694		.250	45°
30503	70503		1.5680	1.312	1.390	.250	45°
30506	70506		1.6300	1.375	1.460	.250	45°
30509	70509		1.8800	1.562		.250	45°
30530	70530		1.8180	1.500	1.625	.219	45°
30537	70537		2.1300	1.875		.250	45°
30541	70541		1.5680	1.312	1.390	.219	45°
30542	70542		1.8170	1.562	1.655	.365	45°
30556	70556		1.4440	1.250		.219	45°
30557	70557		2.1300	1.812		.250	45°
30558	70558		1.3800	1.125		.219	45°
30559	70559		1.6925	1.344		.313	45°
30560	70560		1.9440	1.688		.250	45°
30562	70562		1.3190	1.085		.305	45°
30563	70563		1.3190	1.045		.316	45°
30640	70640		1.5680	1.250		.219	45°
30642	70642		1.6300	1.334		.313	45°
30643	70643	90643	1.5680	1.312		.219	45°
30643+5	70643+5		1.5730	1.312		.219	45°
30643+10	70643+10		1.5780	1.312		.219	45°
30644	70644		1.5680	1.312		.250	45°
30644+5	70644+5		1.5730	1.312		.250	45°
30644+10	70644+10		1.5780	1.313		.250	45°
30645	70645		1.5680	1.250		.250	45°
30646	70646		1.6300	1.375		.250	45°
30647	70647		1.5680	1.250		.313	45°
30648	70648		1.6300	1.375		.219	45°
30648+5	70648+5		1.6350	1.375		.219	45°
30649	70649	90649	1.6300	1.313		.219	45°
30650	70650		1.6300	1.313		.250	45°
30651	70651		1.6300	1.313		.313	45°
30652	70652		1.7550	1.375		.219	45°
30653	70653		1.7550	1.375		.250	45°
30654	70654	90653	1.7550	1.375		.313	45°
30655	70655		1.7550	1.438		.219	45°
30656	70656		1.7550	1.438		.250	45°
30657	70657		1.7550	1.438		.313	45°
30658	70658		1.7550	1.500		.219	45°
30658+5	70658+5	90659	1.7600	1.500		.219	45°
30659	70659		1.7550	1.500		.250	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
30660	70660	90664	1.7550	1.500		.313	45°
30661	70661		1.6300	1.250		.219	45°
30662	70662		1.6300	1.250		.250	45°
30663	70663		1.6300	1.250		.313	45°
30664	70664		1.6920	1.438		.219	45°
30664+5	70664+5		1.6970	1.438		.219	45°
30667	70667	90667	1.8180	1.563		.219	45°
30668	70668		1.8180	1.500		.219	45°
30670	70670		1.6920	1.406		.250	45°
30671	70671		1.8180	1.563		.250	45°
30672	70672		1.8180	1.500		.250	45°
30673	70673		1.6920	1.438		.250	45°
30674	70674		1.6920	1.312		.219	45°
30675	70675		1.6920	1.312		.250	45°
30676	70676		1.6920	1.312		.313	45°
30677	70677		1.6920	1.375		.219	45°
30678	70678	90680	1.6920	1.375		.250	45°
30679	70679		1.6920	1.375		.313	45°
30680	70680		1.8180	1.468		.313	45°
30681	70681		1.8810	1.625		.219	45°
30682	70682		1.8810	1.625		.250	45°
30683	70683		1.8810	1.625		.281	45°
30684	70684		1.8810	1.625		.313	45°
30685	70685		1.8810	1.625		.375	45°
30686	70686		1.8810	1.625		.453	45°
30687	70687		1.8810	1.594		.250	45°
30688	70688		1.8810	1.594	1.344	.313	45°
30689	70689		1.8810	1.594		.328	45°
30690	70690		2.0060	1.750		.188	45°
30691	70691		2.0060	1.750		.219	45°
30692	70692		2.0060	1.750		.250	45°
30693	70693		2.0060	1.750		.281	45°
30694	70694		2.0060	1.750		.313	45°
30695	70695		2.0060	1.750		.375	45°
30696	70696		2.0060	1.750		.438	45°
30697	70697		2.0060	1.750		.453	45°
30698	70698		2.0060	1.688		.219	45°
30699	70699		2.0060	1.688		.250	45°
30700	70700		2.0060	1.688		.282	45°
30700+5	70700+5		2.0110	1.688		.282	45°
30700+10	70700+10		2.0160	1.688		.282	45°
30701	70701		2.0060	1.688		.313	45°
30702	70702		2.0060	1.688		.375	45°
30703	70703		2.0060	1.688		.438	45°
30704	70704		2.0060	1.688		.234	45°
30705	70705		1.5050	1.215		.219	45°
30706	70706		1.5050	1.125		.188	45°
30707	70707		1.5050	1.125		.219	45°
30708	70708		1.5050	1.125		.250	45°
30709	70709		1.5050	1.125		.313	45°
30710	70710		1.5050	1.250		.188	45°
30711	70711		1.5050	1.250		.219	45°
30712	70712		1.5050	1.250		.250	45°
30713	70713		1.5050	1.250		.282	45°
30714	70714		1.5050	1.250		.313	45°
30715	70715		1.5050	1.250		.375	45°
30716	70716		1.5050	1.215		.310	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
30717	70717	90725 90725+5	1.5050	1.215		.318	45°
30718	70718		1.5050	1.215		.345	45°
30719	70719		1.5680	1.250		.317	45°
30720	70720		1.6920	1.375		.285	45°
30721	70721		1.5050	1.215		.305	45°
30722	70722		1.5050	1.215		.250	45°
30723	70723		2.0060	1.625		.219	45°
30724	70724		2.0060	1.625		.250	45°
30725	70725		2.0060	1.625		.281	45°
30725+5	70725+5		2.0110	1.625		.281	45°
30725+10	70725+10		2.0160	1.625		.281	45°
30726	70726		2.0060	1.625		.297	45°
30727	70727		2.0060	1.625		.313	45°
30728	70728		2.0060	1.625		.344	45°
30729	70729		2.0060	1.625		.375	45°
30730	70730		2.0060	1.625		.438	45°
30731	70731		1.5680	1.312		.313	45°
30732	70732		1.6300	1.375		.313	45°
30733	70733		1.6920	1.438		.313	45°
30734	70734		1.3170	1.046		.227	45°
30735	70735		1.3170	1.046		.219	45°
30736	70736		1.3170	1.046		.250	45°
30737	70737		1.3170	1.046		.313	45°
30738	70738		1.4850	1.260		.237	45°
30739	70739		1.3050	1.048		.227	45°
30740	70740		1.5680	1.250		.281	45°
30741	70741		1.8180	1.500		.281	45°
30754	70754		1.1300	0.875		.219	45°
30764	70764		1.2550	1.000		.250	45°
30775	70775		1.3190	1.062		.188	45°
30779	70779		1.3190	1.042		.238	45°
30786	70786		1.3800	1.063		.188	45°
30787	70787		1.3800	1.063		.313	45°
30788	70788		1.3800	1.063		.250	45°
30790	70790		1.3800	1.125		.188	45°
30791	70791	90791	1.3800	1.125		.250	45°
30792	70792		1.3800	1.125		.375	45°
30801	70801		1.4425	1.126		.219	45°
30802	70802		1.4425	1.125		.250	45°
30803	70803		1.4425	1.125		.313	45°
30806	70806		1.4440	1.105		.322	45°
30809	70809		1.4440	1.135	1.250	.316	45°
30818	70818		1.4440	1.200		.297	45°
30822	70822		1.5050	1.188		.250	45°
30823	70823		1.5050	1.188		.218	45°
30824	70824	90860	1.5070	1.175		.236	45°
30838	70838		1.5680	1.313		.219	30°
30839	70839		1.5680	1.188		.313	45°
30840	70840		1.5680	1.313		.188	45°
30841	70841		1.5680	1.375		.218	45°
30853	70853		1.6300	1.250		.375	45°
30854	70854		1.6300	1.313		.395	45°
30855	70855		1.6245	1.322		.375	45°
30857	70857		1.6300	1.348		.218	45°
30860	70860		1.6320	1.329		.280	45°
30864	70864		1.6450	1.375		.250	45°
30868	70868		1.6690	1.372	1.429	.272	37°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
30869	70869	90907	1.7570	1.372	1.429	.281	53°
30871	70871		1.6920	1.375		.375	45°
30872	70872		1.6920	1.438		.156	45°
30873	70873		1.6920	1.438		.188	45°
30881	70881		1.6940	1.450		.297	45°
30889	70889		1.7550	1.313		.250	45°
30891	70891		1.7550	1.438	1.610	.203	45°
30903	70903		1.8170	1.375		.313	45°
30904	70904		1.8180	1.438		.250	45°
30905	70905		1.8170	1.438		.313	45°
30907	70907		1.8180	1.500		.312	45°
30919	70919		1.8800	1.500		.250	45°
30920	70920		1.8810	1.500		.313	45°
30923	70923		1.8800	1.562		.312	45°
30932	70932		1.9430	1.563		.250	45°
30933	70933		1.9430	1.563		.219	45°
30935	70935		1.9430	1.688		.188	45°
30936	70936		1.9430	1.688		.219	45°
30952	70952		2.0050	1.813		.219	45°
30963	70963		2.0680	1.812		.250	45°
30964	70964		2.0680	1.813	1.875	.250	45°
30974	70974		2.1300	1.875		.219	45°
30984	70984		2.1935	1.875		.281	45°
30989	70989		2.2555	1.938		.188	45°
30991	70991		2.3180	2.000		.250	45°
30994	70994		2.3820	2.000		.281	45°
31000	71000		1.8180	1.563		.313	45°
31002	71002		0.9890	0.787		.236	45°
31003	71003		1.0512	0.787		.224	45°
31004	71004		1.1858	0.984		.248	45°
31005	71005		1.1870	0.984		.248	45°
31006	71006		1.2854	1.004		.315	45°
31007	71007		1.2854	1.024		.335	45°
31008	71008	91008	1.3051	1.102		.276	45°
31009	71009	91010	1.3268	1.063		.315	45°
31010	71010		1.3268	1.126		.250	45°
31011	71011		1.3484	1.126		.250	45°
31012	71012		1.4016	1.142		.315	45°
31013	71013		1.4421	1.126		.315	45°
31014	71014		1.4823	1.220		.276	45°
31015	71015		1.4843	1.220		.315	45°
31016	71016		1.5335	1.221		.335	45°
31017	71017		1.5827	1.339		.295	45°
31018	71018		1.5984	1.339		.276	45°
31019	71019		1.6386	1.339		.315	45°
31020	71020		1.6417	1.339		.250	45°
31021	71021		1.7028	1.417		.315	45°
31030	71030		1.4425	1.188		.219	45°
31031	71031		1.4425	1.219		.219	45°
31032	71032		1.5045	1.188		.313	45°
31033	71033		1.5670	1.344		.219	45°
31034	71034		1.8820	1.575	1.692	.317	45°
31035	71035		1.3634	0.984		.394	45°
31036	71036		1.5248	1.183		.394	45°
31037	71037		1.0437	0.827		.189	45°
31038	71038		1.4961	1.181		.276	45°
31039	71039		1.6142	1.339		.295	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
31042	71042		1.6920	1.375	1.500	.188	45°
31043	71043		1.2550	1.028		.227	45°
31044	71044		1.4750	1.240		.227	0°
31045	71045		1.7560	1.438		.188	45°
31046	71046		1.6310	1.375		.188	45°
31047	71047		1.0690	0.790		.260	45°
31048	71048		1.1320	0.825		.285	45°
31049	71049		1.1819	0.925		.244	45°
31050	71050		1.1940	0.934		.260	45°
31051	71051		1.2008	0.984		.256	45°
31052	71052		1.2550	1.055		.250	45°
31054	71054		1.2570	0.910		.285	45°
31056	71056		1.3175	1.000		.250	45°
31058	71058		1.3190	0.975		.280	45°
31060	71060		1.3484	1.063		.315	45°
31061	71061		1.3661	1.114		.295	45°
31062	71062		1.3799	1.063		.253	45°
31063	71063		1.3820	1.000		.410	45°
31064	71064		1.3820	1.000		.280	45°
31065	71065		1.3878	1.102		.315	45°
31066	71066		1.4220	1.152		.315	45°
31067	71067		1.4440	1.230		.250	45°
31068	71068		1.4567	1.102		.354	45°
31069	71069		1.4567	1.181		.315	45°
31070	71070		1.4646	1.181		.276	45°
31071	71071		1.4764	1.220		.335	45°
31072	71072		1.5043	1.125		.253	45°
31073	71073		1.5051	1.220		.315	45°
31074	71074		1.5070	1.100		.315	45°
31075	71075		1.5472	1.260		.315	45°
31076	71076		1.5551	1.299		.335	45°
31077	71077		1.5673	1.250		.253	45°
31078	71078		1.5690	1.230		.310	45°
31079	71079		1.5690	1.180		.305	45°
31080	71080		1.5690	1.300		.256	45°
31081	71081		1.5823	1.180		.413	45°
31082	71082		1.6614	1.319		.413	45°
31083	71083		1.6940	1.300		.360	45°
31084	71084		1.7059	1.384		.354	45°
31085	71085		1.7059	1.384		.250	45°
31086	71086		1.7421	1.457		.315	45°
31087	71087		1.7863	1.406		.288	45°
31088	71088		1.7969	1.418		.390	45°
31089	71089		1.8170	1.484		.250	45°
31090	71090		1.8303	1.437		.375	45°
31091	71091		1.8800	1.500		.375	45°
31092	71092		1.8820	1.600		.252	45°
31093	71093		2.1098	1.697		.402	45°
31096	71096		1.0681	0.871		.254	45°
31097	71097		1.1299	0.871		.191	45°
31098	71098		1.1933	0.871		.254	45°
31099	71099		1.1933	0.933		.254	45°
31100	71100		1.2559	0.996		.254	45°
31101	71101		1.3181	1.059		.254	45°
31102	71102		1.3807	1.059		.254	45°
31103	71103		1.3807	1.121		.254	45°
31104	71104		1.5681	1.183		.254	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31105	71105	91150	1.2559	0.933	1.500	.254	45°
31106	71106		1.3181	0.996		.254	45°
31107	71107		1.4433	1.059		.254	45°
31108	71108		1.5059	1.183		.254	45°
31109	71109		1.5059	1.246		.254	45°
31110	71110		1.7333	1.335		.372	45°
31111	71111		1.4405	1.186		.313	45°
31112	71112		1.5657	1.186		.376	45°
31113	71113		1.4577	1.098		.352	45°
31114	71114		1.3776	1.124		.313	45°
31116	71116		1.6920	1.406		.305	45°
31117	71117		1.7550	1.438		.302	45°
31118	71118		1.9460	1.688		.379	45°
31121	71121		1.4252	1.220		.295	45°
31123	71123		1.3071	1.083		.276	45°
31124	71124		2.1300	1.813		.313	45°
31125	71125		1.3800	1.062		.219	45°
31128	71128		1.7550	1.250		.250	45°
31129	71129		1.7570	1.375		.375	45°
31131	71131		1.8170	1.500		.375	45°
31134	71134		1.9430	1.625		.312	45°
31135	71135		2.1940	1.812		.250	45°
31136	71136		1.2992	0.984		.177	45°
31137	71137		1.8190	1.405		.315	45°
31139	71139		1.3820	1.100		.300	45°
31140	71140		1.5690	1.255		.320	45°
31141	71141		2.1654	1.732		.472	45°
31142	71142		1.0690	0.781		.250	45°
31143	71143		1.1310	0.750		.250	45°
31144	71144		1.1940	0.875		.250	45°
31145	71145		1.1940	0.938		.250	45°
31146	71146		1.1940	0.905		.257	45°
31147	71147		1.2560	1.000		.219	45°
31148	71148		1.2560	1.000		.313	45°
31149	71149		1.2560	0.906		.313	45°
31150	71150		1.2560	1.000		.250	45°
31151	71151		1.2560	0.875		.250	45°
31152	71152		1.2560	0.938		.188	45°
31153	71153		1.3190	1.063		.313	45°
31154	71154		1.3190	1.000		.250	45°
31155	71155		1.3190	1.000		.313	45°
31156	71156		1.3810	0.938		.313	45°
31157	71157		1.3810	1.125		.266	45°
31159	71159		1.4440	1.188		.219	45°
31160	71160		1.4440	1.250		.313	45°
31161	71161		1.4440	1.188		.250	45°
31162	71162		1.5060	1.188		.313	45°
31163	71163		1.5690	1.125		.313	45°
31164	71164		1.6310	1.344		.313	45°
31165	71165		1.7560	1.313		.313	45°
31166	71166		1.9440	1.500		.313	45°
31167	71167		0.9449	0.709		.256	45°
31168	71168		1.1024	0.787		.315	45°
31169	71169		1.1417	0.827		.335	45°
31170	71170		1.1811	0.866		.335	45°
31171	71171		1.2205	0.906		.335	45°
31172	71172		1.2598	0.945		.335	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
31173	71173	91186	1.2992	0.984		.335	45°
31174	71174		1.3386	1.024		.335	45°
31175	71175		1.3780	1.024		.354	45°
31176	71176		1.4173	1.063		.354	45°
31178	71178		1.4961	1.142		.354	45°
31179	71179		1.5354	1.181		.354	45°
31180	71180		1.5354	1.220		.335	45°
31181	71181		1.5748	1.181		.374	45°
31182	71182		1.6142	1.220		.335	45°
31183	71183		1.6535	1.260		.374	45°
31184	71184		1.6535	1.299		.335	45°
31185	71185		1.6929	1.339		.325	45°
31186	71186		1.6929	1.299		.335	45°
31187	71187		1.7323	1.339		.374	45°
31188	71188		1.8110	1.398		.394	45°
31189	71189		1.8890	1.476		.394	45°
31190	71190		1.9291	1.516		.394	45°
31191	71191		1.9291	1.654		.315	45°
31192	71192		1.9685	1.535		.394	45°
31193	71193		2.0079	1.575		.413	45°
31194	71194	91195	2.0472	1.614		.413	45°
31195	71195		2.0866	1.654		.413	45°
31196	71196		1.6250	1.313		.250	45°
31197	71197		1.5630	1.250		.250	45°
31198	71198		1.5000	1.188		.250	45°
31199	71199		1.5685	1.255	1.372	.319	45°
31204	71204		1.5060	1.220	1.328	.310	45°
31205	71205		1.5060	1.175	1.235	.236	45°
31207	71207		1.5060	1.180	1.280	.214	45°
31209	71209		1.7560	1.594		.278	45°
31210	71210		1.5685	1.265		.280	45°
31211	71211		1.8185	1.656		.307	45°
31213	71213		1.6935	1.390		.305	45°
31214	71214		1.5060	1.210		.345	45°
31215	71215		1.7560	1.445	1.617	.310	45°
31217	71217		1.8810	1.575		.317	45°
31218	71218		1.6310	1.298		.317	45°
31221	71221		1.7560	1.437		.302	45°
31222	71222		1.5685	1.220		.344	45°
31223	71223		1.6310	1.320		.300	45°
31225	71225		1.4425	1.126		.188	45°
31226	71226		1.6460	1.312		.350	45°
31227	71227		1.7717	1.358		.394	45°
31227+5	71227+5		1.7770	1.358		.394	45°
31228	71228		1.8504	1.437		.394	45°
31228+5	71228+5		1.8555	1.437		.394	45°
31230	71230		1.7840	1.469		.290	45°
31232	71232		1.7550	1.312		.395	45°
31233	71233		1.6310	1.280	1.450	.219	45°
31234	71234		1.6310	1.438		.219	45°
31235	71235		1.5060	1.255		.318	45°
31236	71236		1.6320	1.298	1.422	.317	45°
31237	71237		1.8195	1.490	1.628	.307	45°
31238	71238		1.8810	1.563		.219	45°
31239	71239		1.8195	1.530	1.710	.307	45°
31240	71240		2.1310	1.813		.219	45°
31241	71241		1.5060	1.200	1.240	.315	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31242	71242		1.9435	1.750		.219	45°
31243	71243		1.8195	1.405	1.632	.315	45°
31244	71244		1.5060	1.230		.278	45°
31246	71246		1.7560	1.410	1.560	.315	45°
31247	71247		1.5060	1.179	1.307	.293	45°
31248	71248		1.3810	1.188		.219	45°
31249	71249		2.0685	1.750		.219	45°
31250	71250		1.9435	1.573	1.719	.379	45°
31251	71251		1.5685	1.290	1.345	.324	45°
31252	71252		2.2560	1.875		.281	45°
31253	71253		1.5685	1.188		.313	60°
31255	71255		1.5060	1.313		.219	45°
31256	71256		1.8820	1.575	1.732	.317	45°
31257	71257		1.7810	1.476		.311	45°
31258	71258		1.5060	1.180	1.345	.307	45°
31259	71259		1.5685	1.255	1.392	.319	45°
31260	71260		2.0685	1.813	1.895	.250	45°
31261	71261		2.2560	1.938		.219	45°
31262	71262		1.9435	1.625		.219	45°
31263	71263		1.3670	1.108	1.344*	.245	45°
31264	71264		1.4040	1.138	1.386*	.254	45°
31265	71265		1.7570	1.400		.420	45°
31266	71266		1.8490	1.563	1.662	.365	45°
31267	71267		1.5680	1.313		.280	45°
31268	71268		1.8560	1.635		.280	45°
31269	71269		1.8180	1.438		.219	45°
31270	71270		1.6920	1.312		.375	45°
31271	71271		2.1600	1.800		.300	45°
31272	71272		1.6560	1.313		.375	45°
31273	71273		1.3386	1.063		.394	45°
31274	71274		1.3976	1.142		.394	45°
31275	71275		1.4567	1.220		.394	45°
31276	71276		1.4961	1.220		.394	45°
31277	71277		1.4016	1.142		.374	45°
31278	71278		1.5827	1.319		.374	45°
31279	71279		1.6560	1.350	1.626*	.375	45°
31280	71280		2.0060	1.563		.313	45°
31281	71281		1.9435	1.573		.379	45°
31282	71282		2.1930	1.937		.250	45°
31283	71283		1.8175	1.625		.219	45°
31284	71284		1.8195	1.440	1.515	.315	45°
31285	71285		1.8195	1.500	1.555	.278	45°
31286	71286		1.5695	1.265	1.320	.280	45°
31287	71287		1.5695	1.219		.317	45°
31288	71288		1.6945	1.390	1.480	.305	45°
31289	71289		1.3170	1.063		.219	45°
31290	71290		1.5045	1.313		.188	45°
31291	71291		1.5070	1.210	1.276	.345	45°
31292	71292		1.5695	1.220	1.356	.344	45°
31293	71293		1.3189	1.063		.354	45°
31294	71294		1.3976	1.161		.374	45°
31295	71295		1.5591	1.319		.374	45°
31296	71296		1.5748	1.319		.354	45°
31297	71297		2.0500	1.575		.340	45°
31305	71305		1.4777	1.213		.154	45°
31306	71306		1.3387	1.102		.177	45°
31307	71307		1.8190	1.496		.157	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
31308	71308	91348	1.6694	1.339		.177	45°
31309	71309		1.7460	1.406		.375	45°
31310	71310		2.1050	1.765		.375	45°
31311	71311		1.2598	0.945		.354	45°
31312	71312		1.3610	1.100	1.220	.306	45°
31313	71313		1.2670	0.982	1.065	.320	45°
31314	71314		1.5067	1.210	1.263	.344	45°
31315	71315		1.4772	1.232		.335	45°
31316	71316		1.8820	1.575		.320	45°
31317	71317		1.7570	1.457		.312	45°
31318	71318		1.5700	1.243		.354	45°
31319	71319		1.8200	1.435	1.505	.314	45°
31320	71320		1.3190	1.123		.300	45°
31322	71322		1.9460	1.525		.425	45°
31323	71323		1.6340	1.260	1.340	.394	45°
31324	71324		1.9450	1.570	1.685	.380	45°
31326	71326		1.5060	1.195		.315	45°
31327	71327		1.8190	1.440	1.508	.316	45°
31328	71328		1.5690	1.245		.352	45°
31329	71329		1.4440	1.100		.315	45°
31330	71330		2.1300	1.812		.375	45°
31331	71331		1.7000	1.413		.375	45°
31332	71332		1.6320	1.250		.312	45°
31333	71333		1.2560	0.910	1.070	.281	45°
31334	71334		1.2560	0.910	1.070	.288	45°
31335	71335		2.2500	1.820	2.193*	.375	53°
31336	71336		1.6594	1.315	1.472*	.205	0°
31337	71337		1.4008	1.200		.220	45°
31338	71338		2.1339	1.693		.339	45°
31339	71339		1.8567	1.457		.339	45°
31340	71340		1.3190	0.977		.300	45°
31341	71341		2.0276	1.726		.217	45°
31342	71342		1.5043	1.188		.313	45°
31343	71343		1.5043	1.250		.281	45°
31344	71344		1.5669	1.250		.313	45°
31345	71345		1.1850	0.984		.248	45°
31346	71346		0.9882	0.787		.236	45°
31347	71347		1.2724	1.024		.236	45°
31348	71348		1.2992	1.024		.256	45°
31349	71349		0.9902	0.787		.236	45°
31350	71350		1.0559	0.807		.224	45°
31351	71351		2.1701	1.751		.336	45°
31352	71352		1.1921	0.875		.250	45°
31353	71353		1.4791	1.187		.313	45°
31354	71354		1.2252	0.910		.283	45°
31355	71355		1.8161	1.505		.280	45°
31356	71356		1.3504	1.063		.315	45°
31357	71357		0.9252	0.709		.236	45°
31358	71358		1.1661	0.809		.280	45°
31359	71359		1.2551	1.000		.250	45°
31360	71360		1.2854	0.984		.236	45°
31361	71361		1.3433	1.025		.299	45°
31362	71362		1.3701	1.142		.283	45°
31363	71363		1.3803	1.093		.250	45°
31364	71364		1.4421	1.125		.354	45°
31365	71365		1.4685	1.142		.315	45°
31366	71366		1.5008	1.148		.283	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31367	71367	91410	1.5051	1.122		.343	45°
31368	71368		1.5157	1.220		.343	45°
31369	71369		1.5354	1.181		.276	45°
31370	71370		1.5354	1.299		.315	45°
31371	71371		1.6000	1.282		.299	45°
31372	71372		1.6260	1.320		.375	45°
31373	71373		1.6772	1.417		.315	45°
31374	71374		1.6921	1.312		.315	45°
31375	71375		1.7323	1.417		.276	45°
31376	71376		1.8150	1.392		.297	45°
31377	71377		1.8661	1.535		.315	45°
31378	71378		1.8740	1.435		.382	45°
31379	71379		1.4803	1.287		.283	45°
31380	71380		1.4421	1.125		.250	45°
31381	71381		1.7559	1.378		.295	45°
31382	71382		1.0472	0.827		.236	45°
31383	71383		1.0689	0.787		.236	45°
31384	71384		1.2441	1.024		.236	45°
31385	71385		1.3425	1.083		.236	45°
31386	71386		1.4764	1.240		.335	45°
31387	71387		1.4862	1.220		.335	45°
31388	71388		1.5157	1.220		.335	45°
31389	71389		1.5256	1.220		.335	45°
31390	71390		1.6831	1.469		.295	45°
31391	71391		1.6929	1.385		.315	45°
31392	71392		1.7618	1.457		.335	45°
31393	71393		1.7717	1.457		.335	45°
31394	71394		1.8819	1.575		.315	45°
31395	71395		1.0551	0.827		.244	45°
31396	71396		1.1083	0.866		.256	45°
31397	71397		1.3228	1.082		.287	45°
31398	71398		1.0335	0.827		.177	45°
31399	71399		1.4114	1.181		.244	45°
31400	71400		1.4803	1.200		.276	45°
31401	71401		2.0673	1.693		.354	45°
31402	71402		1.4421	1.188		.250	45°
31403	71403		1.2827	1.063		.236	45°
31404	71404		1.7815	1.496		.315	45°
31405	71405		1.0492	0.827		.217	45°
31406	71406		1.6929	1.350		.315	45°
31407	71407		1.4429	1.130		.315	45°
31408	71408		1.3780	1.102		.197	45°
31409	71409		1.2480	1.024		.256	45°
31410	71410		1.1496	0.906		.256	45°
31411	71411		1.1811	0.945		.335	45°
31412	71412		1.4236	1.152		.250	45°
31413	71413		1.6201	1.374		.256	45°
31414	71414		1.2303	0.984		.315	45°
31415	71415		2.0079	1.575		.217	45°
31416	71416		1.5410	1.327		.256	45°
31417	71417		2.1339	1.752		.287	45°
31418	71418		1.5846	1.358		.287	45°
31419	71419		1.5059	1.280		.295	45°
31420	71420		1.4272	1.142		.315	45°
31421	71421		1.6634	1.378		.315	45°
31422	71422		1.5630	1.299		.339	45°
31423	71423		1.4055	1.181		.339	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
31424	71424	91435	2.0906	1.693		.394	45°
31425	71425		1.2992	0.905		.315	45°
31426	71426		1.5413	1.366		.232	45°
31427	71427		1.7874	1.409		.297	45°
31428	71428		1.1024	0.807		.256	45°
31429	71429		1.0898	0.874		.250	45°
31430	71430		2.0906	1.693		.354	45°
31431	71431		1.1516	0.874		.250	45°
31432	71432		1.5209	1.220		.285	45°
31433	71433		1.8358	1.496		.285	45°
31434	71434		1.2407	0.941		.335	45°
31435	71435		1.1933	0.929		.256	45°
31436	71436		1.1870	0.945		.354	45°
31437	71437		1.6220	1.319		.260	45°
31438	71438		1.3307	1.126		.250	45°
31439	71439		1.4449	1.142		.315	45°
31440	71440		1.4449	1.220		.295	45°
31441	71441		2.1102	1.693		.394	45°
31442	71442		1.5630	1.299		.354	45°
31443	71443		1.4055	1.181		.354	45°
31444	71444		1.1732	0.945		.236	45°
31445	71445		1.1870	0.984		.200	45°
31446	71446		0.9843	0.787		.276	45°
31447	71447		2.1102	1.693		.354	45°
31448	71448		1.2205	0.984		.237	45°
31449	71449	91449	1.3445	1.102		.236	45°
31450	71450	91450	1.2736	0.906	1.024	.248	45°
31454	71454	91455	2.1200	1.812		.375	45°
31455	71455		1.6300	1.312		.188	45°
31456	71456		2.3500	1.970	2.290*	.375	53°
31457	71457		2.2900	1.900	2.236*	.375	53°
31459	71459		1.8175	1.438		.375	45°
31467	71467		1.7570	1.323	1.490	.280	45°
31470	71470		2.2555	1.875		.313	45°
31471	71471		1.9430	1.625		.375	45°
31472	71472		1.7815	1.535		.295	45°
31473	71473		2.1300	1.906		.234	45°
31475	71475		2.0902	1.697		.382	45°
31476	71476		2.3657	2.011		.350	45°
31478	71478		1.6565	1.246	1.546*	.375	55°
31479	71479		1.4055	1.079	1.329	.300	45°
31482	71482		1.6300	1.406		.250	45°
31484	71484		1.5070	1.203	1.294	.280	45°
31485	71485		1.5070	1.250		.344	45°
31486	71486		1.5670	1.375		.250	45°
31488	71488		1.6300	1.313		.281	45°
31489	71489		1.6300	1.344		.250	45°
31490	71490		1.6925	1.406		.313	45°
31491	71491		1.6925	1.500		.250	45°
31493	71493		1.6945	1.344		.375	45°
31494	71494		1.7570	1.531		.312	45°
31495	71495		1.8820	1.640		.280	45°
31496	71496		1.9430	1.563		.313	45°
31497	71497		1.9430	1.625		.250	45°
31498	71498		2.1305	1.906		.250	45°
31501	71501		1.5060	1.195		.360	45°
31502	71502		1.2820	0.975		.250	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31503	71503	91709	1.7140	1.313	1.524	.313	45°
31504	71504		2.1370	1.700		.400	45°
31600	71600		1.0045	0.750		.188	45°
31602	71602		1.0695	0.870		.195	45°
31604	71604		1.1320	0.854		.237	45°
31608	71608		1.1610	0.910		.222	30°
31608+5	71608+5		1.1660	0.910		.222	30°
31609	71609		1.1920	1.000		.188	45°
31610	71610		1.1920	1.000		.219	45°
31612	71612		1.2570	0.930		.325	45°
31613	71613		1.2570	0.970		.270	45°
31616	71616		1.2570	1.000		.305	45°
31617	71617		1.2570	1.028		.257	45°
31619	71619		1.2570	1.010		.257	45°
31620	71620		1.2570	1.023		.273	45°
31621	71621		1.2620	0.975		.250	30°
31623	71623		1.3190	1.020		.258	45°
31624	71624		1.3195	1.044		.273	45°
31628	71628		1.3195	1.060		.275	45°
31630	71630		1.3195	1.065		.285	45°
31633	71633		1.3480	1.087		.200	45°
31633+5	71633+5		1.3530	1.087		.200	45°
31635	71635		1.3820	1.120		.325	45°
31643	71643		1.4440	1.140		.305	45°
31645	71645		1.4440	1.180		.255	45°
31646	71646		1.4440	1.181		.280	45°
31649	71649		1.4445	1.162		.310	45°
31650	71650		1.4445	1.162		.230	45°
31656	71656		1.4445	1.140		.237	45°
31658	71658		1.4445	1.142		.336	45°
31659	71659		1.4445	1.150		.257	45°
31665	71665		1.4860	1.270		.290	30°
31666	71666		1.5070	1.180		.300	45°
31670	71670		1.5160	1.250		.250	45°
31671	71671		1.5365	1.255		.359	45°
31674	71674		1.5695	1.180		.316	45°
31676	71676		1.5695	1.246		.230	45°
31679	71679		1.6090	1.400		.250	45°
31681+5	71681+5		1.6340	1.348		.365	45°
31683	71683		1.6300	1.188		.375	45°
31687	71687		1.6320	1.380		.257	45°
31690	71690		1.6320	1.333		.237	45°
31696+5	71696+5		1.6600	1.367		.312	45°
31697	71697		1.6570	1.312		.395	45°
31698	71698		1.6710	1.367		.311	45°
31701	71701		1.6900	1.250		.375	45°
31701+5	71701+5		1.6950	1.250		.375	45°
31702	71702		1.6905	1.438		.181	30°
31703	71703		1.6905	1.438		.200	30°
31707	71707		1.6945	1.375		.295	45°
31709	71709		1.7220	1.357		.265	45°
31715	71715		1.7570	1.468		.276	45°
31722	71722		1.7825	1.490		.340	30°
31724	71724		1.8140	1.600		.315	45°
31726	71726		1.8170	1.540		.365	30°
31731	71731		1.8315	1.555		.280	30°
31734	71734		1.8530	1.498		.273	30°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31739	71739	91808	1.8800	1.563	1.339	.438	30°
31741	71741		1.8820	1.575		.290	45°
31743	71743		1.9000	1.645		.250	45°
31744	71744		1.9000	1.650		.300	45°
31746	71746		1.9120	1.625		.281	45°
31748	71748		1.9425	1.578		.203	45°
31749	71749		1.9430	1.625		.281	45°
31751	71751		1.9520	1.660		.345	45°
31753	71753		1.9690	1.535		.413	45°
31756	71756		2.0010	1.712		.385	30°
31756+10	71756+10		2.0110	1.712		.385	30°
31764	71764		2.0150	1.828		.188	45°
31765	71765		2.0180	1.594		.281	45°
31766	71766		2.0485	1.781		.344	30°
31767	71767		2.0680	1.625		.281	45°
31768	71768		2.0680	1.688		.281	45°
31769	71769		2.0680	1.750		.281	45°
31770	71770		2.0680	1.813		.188	45°
31776	71776		2.1305	1.750		.250	45°
31777	71777		2.1305	1.750		.219	45°
31779	71779		2.1305	1.813		.188	45°
31782	71782		2.1500	1.859		.292	30°
31783	71783		2.1654	1.732		.433	45°
31783+5	71783+5		2.1700	1.732		.433	45°
31787	71787		2.2550	1.875		.375	45°
31800	71800		1.2835	1.083		.354	45°
31801	71801		1.7913	1.440		.374	45°
31802	71802		1.5650	1.299		.335	45°
31803	71803		1.5827	1.368		.272	45°
31804	71804		1.0984	0.906		.256	45°
31805	71805		1.3839	1.181		.291	45°
31807	71807		1.1102	0.890		.236	45°
31808	71808	1.2602	0.984	.315	45°		
31809	71809	1.3701	1.142	.256	45°		
31810	71810	1.6614	1.398	.315	45°		
31811	71811	1.6811	1.398	.335	45°		
31812	71812	1.1122	0.890	.236	45°		
31813	71813	1.6201	1.398	.256	45°		
31814	71814	1.7205	1.457	.335	45°		
31815	71815	2.3819	2.000	.394	45°		
31816	71816	2.0508	1.575	.364	45°		
31822	71822	1.4626	1.217	1.610*	.307	45°	
31823	71823	1.4961	1.260		.335	45°	
31824	71824	1.3780	1.102		.335	45°	
31825	71825	1.8045	1.375	1.610*	.375	45°	
31827	71827	91827	1.8125		1.540	.365	60°
31828	71828	91828	1.6875		1.410	.365	20°
31829	71829	91829	2.0060	1.630	.280	0°	
31830	71830	2.1400	1.812		.375	45°	
31838	71838	1.4010	1.125		.266	45°	
31839	71839	1.4210	1.125		.266	45°	
31840	71840	1.5260	1.250		.250	45°	
31841	71841	1.6090	1.313		.219	45°	
31843	71843	1.8120	1.450		.197	30°	
31843+10	71843+10	1.8220	1.450		.197	30°	
31845	71845	91845	2.3810	2.030	.323	60°	
31846	71846	1.6870	1.438	1.546	.365	45°	

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
31851	71851		1.5669	1.313		.177	45°
31852	71852		1.6535	1.313		.250	45°
31853	71853		1.5059	1.181		.157	45°
31854	71854		1.4803	1.181		.281	45°
31856	71856		1.6937	1.394		.305	45°
31857	71857		1.7035	1.394		.315	45°
31858	71858		1.4764	1.236		.335	45°
31859	71859		1.6299	1.398		.197	45°
31860	71860		1.9232	1.634		.177	45°
31862	71862		1.7524	1.437		.157	45°
31863	71863		1.7559	1.476		.281	45°
31864	71864		1.4862	1.219		.344	45°
31866	71866		1.4425	1.189		.217	45°
31868	71868		1.1945	0.935		.235	45°
31870	71870		1.5670	1.250		.188	45°
31871	71871		0.9840	0.669		.355	45°
31872	71872		1.0240	0.709		.355	45°
31873	71873		1.0630	0.748		.355	45°
31874	71874		1.1020	0.787		.355	45°
31875	71875		1.1420	0.827		.375	45°
31876	71876		1.1810	0.866		.375	45°
31878	71878		1.2600	0.945		.375	45°
31881	71881		1.3780	1.024		.394	45°
31882	71882		1.4170	1.063		.394	45°
31883	71883		1.4570	1.102		.394	45°
31884	71884		1.4960	1.142		.394	45°
31885	71885		1.5350	1.181		.394	45°
31886	71886		1.5750	1.181		.414	45°
31887	71887		1.6140	1.220		.414	45°
31888	71888		1.6540	1.260		.414	45°
31889	71889		1.6930	1.299		.414	45°
31891	71891		1.7720	1.358		.434	45°
31892	71892		1.8110	1.398		.434	45°
31893	71893		1.8500	1.437		.434	45°
31894	71894		1.8900	1.476		.434	45°
31895	71895		1.9290	1.516		.434	45°
31896	71896		1.9690	1.535		.453	45°
31897	71897		2.1320	1.690		.450	45°
31898	71898		1.9450	1.500		.450	45°
31899	71899		2.0070	1.562		.450	45°
31900	71900		1.7570	1.375		.450	45°
31901	71901		1.3020	0.975		.250	45°
31902	71902		1.2620	0.975		.250	45°
31903	71903		1.4840	1.125		.219	45°
31904	71904		1.5890	1.250		.250	45°
31905	71905		1.6090	1.250		.250	45°
31906	71906		1.5060	1.000		.406	45°
31907	71907		1.7420	1.487		.268	45°
31908	71908		1.4630	1.220		.354	45°
31909	71909		1.5060	1.205		.322	45°
31910	71910		1.8180	1.520		.300	45°
31913	71913		1.8917	1.575		.315	45°
31914	71914	91914	1.2795	1.063		.217	45°
31915	71915	91915	1.0827	0.866		.236	45°
31916	71916		1.6920	1.439	1.515	.365	45°
31918	71918		1.4016	1.126		.158	45°
31920	71920		1.7330	1.375		.375	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
31921	71921		1.8800	1.625	1.740	.187	60°
31922	71922		1.6925	1.375	1.500	.312	45°
31923	71923		1.9620	1.595	1.775	.365	60°
31924	71924		1.6285	1.348	1.524	.365	45°
31925	71925		1.7330	1.455	1.620	.365	45°
31928	71928		2.1940	1.906		.250	45°
31929	71929		1.7330	1.375		.312	45°
31930	71930		1.8800	1.562	1.740	.187	45°
31930+10	71930+10		1.8900	1.562	1.740	.187	45°
31931	71931		1.6535	1.299		.374	45°
31933	71933	91933	1.8060	1.417		.292	45°
31934	71934	91934	2.0350	1.610		.325	45°
31935	71935		2.1700	1.812		.375	45°
31937	71937		1.2047	0.945		.226	45°
31939	71939		2.0315	1.571		.374	45°
31940	71940		1.5020	1.221		.303	45°
31941	71941		1.2820	0.975		.250	45°
31942	71942		1.5060	1.000		.406	45°
31943	71943	91943	2.0250	1.670		.282	0°
31945	71945		1.9181	1.703		.197	45°
31946	71946		1.6220	1.344		.197	45°
31947	71947		1.6930	1.437	1.625*	.250	30°
31951	71951		1.8180	1.520		.334	45°
31952	71952	91952	2.0350	1.670		.282	0°
31954	71954		1.8180	1.414		.334	45°
31955	71955		1.8800	1.625	1.775	.219	45°
31955+5	71955+5		1.8850	1.625	1.775	.219	45°
31956	71956		1.8850	1.625		.219	45°
31957	71957		2.0060	1.688	1.900*	.219	30°
31958	71958		2.0680	1.688	1.900*	.229	30°
31959	71959	91959	2.0150	1.670		.282	0°
31960	71960		1.6920	1.372	1.492	.281	53°
31961	71961		1.8180	1.520		.177	45°
31963	71963		1.3190	1.123	1.255	.236	45°
31976	71976		1.3170	1.063	1.265*	.219	30°
31977	71977		1.5200	1.116	1.340	.333	45°
31978	71978		1.9970	1.646	1.815	.296	45°
31979	71979		1.6500	1.408	1.580*	.375	45°
31980	71980	91980	2.0650	1.610		.325	45°
31981	71981		2.3500	1.970		.375	45°
31982	71982		2.2000	1.835	1.990*	.312	45°
31983	71983		2.2560	1.938		.375	45°
31984	71984		1.9150	1.554		.250	45°
31985	71985		2.1320	1.810		.312	45°
31988	71988		2.0060	1.600		.375	45°
31989	71989	91989	1.6600	1.350		.375	45°
31990	71990		2.1310	1.810		.375	45°
31991	71991		1.7814	1.535		.226	45°
31992	71992		1.5285	1.250		.265	45°
31993	71993		1.5285	1.149		.265	45°
31994	71994		1.7648	1.511		.265	45°
31995	71995	91995	2.2590	1.960		.250	45°
31996	71996		1.6450	1.406		.187	45°
31997	71997		1.6310	1.375		.219	45°
31998	71998		2.4000	1.900	2.242*	.375	45°
31999	71999		2.0300	1.600	1.878*	.375	45°
32000	72000		1.4550	1.079	1.329	.375	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
32001	72001		1.4571	1.260		.240	45°
32002	72002		1.7863	1.500		.288	45°
32003	72003		2.1300	1.906		.177	45°
32004	72004		2.0270	1.772		.177	45°
32007	72007		2.4500	1.980	2.265*	.375	45°
32008	72008		1.8179	1.500		.256	45°
32009	72009		1.5649	1.272		.256	45°
32010	72010	92010	1.6285	1.359	1.504	.248	60°
32011	72011	92011	1.8195	1.570		.284	60°
32013	72013		2.2870	1.949		.238	45°
32014	72014		2.1955	1.750		.350	45°
32015	72015		1.6955	1.312		.350	45°
32016	72016		2.1605	1.747		.352	45°
32016+10	72016+10		2.1705	1.747		.352	45°
32016+20	72016+20		2.1805	1.747		.352	45°
32016+30	72016+30		2.1905	1.747		.352	45°
32017	72017		2.0005	1.602		.377	45°
32017+10	72017+10		2.0105	1.602		.377	45°
32017+20	72017+20		2.0205	1.602		.377	45°
32017+30	72017+30		2.0305	1.602		.377	45°
32017+40	72017+40		2.0405	1.602		.377	45°
32017+50	72017+50		2.0505	1.602		.377	45°
32018	72018		2.4505	2.000		.377	45°
32019	72019		1.5650	1.290	1.345	.324	45°
32020	72020		1.8780	1.575		.305	45°
32021	72021		2.0680	1.750		.250	45°
32022	72022	92022	2.1600	1.750		.375	45°
32023	72023	92023	2.1600	1.810		.375	45°
32024	72024		2.1310	1.845		.312	45°
32025	72025		1.6500	1.385		.375	45°
32026	72026		1.8810	1.594		.375	45°
32027	72027	92027	1.0722	0.864		.276	45°
32028	72028	92028	1.2593	1.061		.276	45°
32029	72029	92029	2.3810	2.000		.323	60°
32030	72030	92030	2.3810	2.030		.323	60°
32031	72031		2.0906	1.693	1.990	.374	70°
32032	72032	92032	1.3638	1.166		.276	45°
32033	72033	92033	1.2063	0.989		.276	45°
32034	72034	92034	2.0441	1.732		.406	45°
32035	72035	92035	1.5953	1.181		.394	45°
32036	72036	92036	1.1953	1.012		.236	45°
32037	72037	92037	1.0142	0.828		.236	45°
32038	72038		1.3190	1.024		.313	45°
32039	72039		1.1811	1.024		.374	45°
32040	72040	92040	1.9685	1.693		.295	45°
32041	72041		2.1701	1.751		.336	80°
32042	72042	92042	1.2677	0.906	1.024	.248	45°
32043	72043		1.1280	0.906		.303	45°
32044	72044		2.1701	1.751		.336	80°
32045	72045		1.9055	1.482		.181	60°
32047	72047	92047	1.1358	0.925		.217	45°
32048	72048	92048	2.0709	1.752		.236	45°
32049	72049	92049	1.6260	1.319		.236	45°
32050	72050	92050	1.8307	1.575		.276	45°
32051	72051	92051	1.4803	1.181		.260	45°
32052	72052	92052	1.5953	1.319		.394	45°
32066	72066		0.9547	0.709		.276	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL	ID	ID TOP	DEPTH	SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
32067	72067		2.1600	1.810		.350	45°
32068	72068		2.1600	1.880		.350	45°
32069	72069		1.6500	1.340		.350	45°
32069+10	72069+10		1.6600	1.340		.350	45°
32070	72070		1.6500	1.280		.350	45°
32070+10	72070+10		1.6600	1.280		.350	45°
32071	72071		2.1000	1.818		.431	45°
32072	72072		1.6000	1.300		.409	45°
32074	72074	92074	1.6339	1.378		.315	45°
32075	72075	92075	1.3583	1.142		.295	45°
32076	72076		1.6500	1.280	1.500*	.350	45°
32077	72077		1.5040	1.175	1.400*	.300	45°
32084	72084		2.1370	1.810		.400	45°
32085	72085	92085	1.3750	1.100	1.200	.227	60°
32086	72086		1.2250	0.825		.350	45°
32087	72087		2.2000	1.830	1.983	.312	45°
32091	72091		1.6500	1.390	1.489	.400	45°
32092	72092		2.1000	1.815	1.914	.400	45°
32093	72093		2.2000	1.720	1.863	.312	45°
32094	72094		1.2400	0.825		.350	45°
32097	72097		2.1300	1.850	1.975	.250	60°
32098	72098		1.5060	1.250	1.358	.312	45°
32099	72099	92099	1.6421	1.375		.218	45°
32100	72100	92100	1.4650	1.181		.218	45°
32101	72101	92101	1.7327	1.417		.238	45°
32102	72102	92102	1.4965	1.181		.238	45°
32103	72103	92103	1.7425	1.457		.250	45°
32104	72104	92104	1.5161	1.260		.250	45°
32105	72105	92105	1.4138	1.220		.238	45°
32106	72106	92106	1.2169	0.984		.250	45°
32108	72108	92108	2.3120	1.937		.312	45°
32109	72109	92109	1.7550	1.468		.312	45°
32110	72110		1.5065	1.220		.350	45°
32111	72111		1.8180	1.438		.312	45°
32112	72112		1.6929	1.313		.312	45°
32113	72113		1.5680	1.250		.343	45°
32114	72114		1.8805	1.500		.294	45°
32115	72115		1.9420	1.563		.375	45°
32116	72116		1.5070	1.250		.319	45°
32117	72117		1.7750	1.487		.312	20°
32118	72118		2.3180	2.000		.375	45°
32118+10	72118+10		2.3280	2.000		.375	45°
32119	72119		1.8800	1.594		.375	45°
32119+10	72119+10		1.8900	1.594		.375	45°
32120	72120		2.1700	1.752	1.825*	.327	62.5°
32121	72121		1.7205	1.378		.318	45°
32122	72122		1.6805	1.378		.310	45°
32124	72124	92124	1.6023	1.398		.315	45°
32125	72125	92125	1.3268	1.142		.295	45°
32126	72126		1.5400	1.240		.275	45°
32127	72127		1.9730	1.646		.287	45°
32128	72128		1.3450	1.083		.236	45°
32129	72129		1.6470	1.300		.325	45°
32131	72131		0.9500	0.765		.250	45°
32132	72132		1.3450	1.050		.290	45°
32133	72133		1.5400	1.300		.315	45°
32134	72134		2.0060	1.688		.215	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
32135	72135		1.8180	1.438		.188	45°
32138	72138		1.6500	1.340		.425	45°
32139	72139		2.1300	1.812	2.030	.437	45°
32140	72140		2.1300	1.812	2.000	.437	45°
32141	72141		2.0680	1.812	1.900	.281	45°
32142	72142		1.6920	1.312	1.550	.437	45°
32143	72143		1.6310	1.312	1.500	.312	45°
32146	72146		1.2854	0.925		.315	45°
32147	72147		2.0680	1.750		.435	45°
32148	72148		1.6090	1.313		.414	45°
32149	72149		1.3800	1.102		.355	45°
32150	72150		1.6922	1.358	1.592	.191	0°
32151	72151		1.8820	1.565	1.815*	.257	37°
32152	72152		1.5060	1.225	1.467*	.280	45°
32153	72153		2.1300	1.724	1.932	.437	45°
32154	72154		2.0680	1.724	1.806	.281	45°
32155	72155		2.1300	1.724	1.887	.437	45°
32156	72156	92156	2.2560	1.960		.250	60°
32157	72157	92157	1.8185	1.500		.312	60°
32158	72158	92165	1.7600	1.250		.375	45°
32163	72163		2.0000	1.580		.375	45°
32164	72164		1.6500	1.350		.375	45°
32165	72165		1.6960	1.350	1.580*	.305	45°
32166	72166		1.6920	1.221	1.421	.437	45°
32167	72167		1.6310	1.221	1.370	.437	45°
32169	72169		2.1300	1.700		.437	45°
32170	72170		1.6300	1.250		.437	45°
32171	72171		2.1360	1.652	1.978*	.310	52°
32172	72172		2.1360	1.705	1.978*	.295	60°
32173	72173		1.6370	1.437		.350	45°
32174	72174		1.4830	1.260		.350	45°
32175	72175		1.8800	1.562	1.812	.187	60°
32177	72177		1.3190	1.063		.250	45°
32178	72178		1.6600	1.412		.256	45°
32181	72181		1.3800	1.125		.300	45°
32183	72183		1.3920	1.141		.318	45°
32184	72184		2.1700	1.813	2.072	.400	45°
32185	72185		1.7000	1.300	1.566	.400	45°
32186	72186		2.1250	1.800		.437	45°
32187	72187		1.6500	1.367		.380	45°
32188	72188		2.0485	1.765	1.809	.250	45°
32189	72189		1.6050	1.310	1.428	.250	45°
32190	72190		2.0100	1.600		.400	45°
32191	72191		2.0670	1.750		.315	45°
32192	72192		1.6300	1.300		.315	45°
32195	72195		1.2992	1.063		.217	45°
32196	72196		1.9570	1.665		.280	45°
32197	72197		1.4100	1.142		.275	45°
32198	72198		1.1700	0.906		.275	45°
32199	72199		1.7570	1.380	1.717*	.400	58°
32205	72205		1.9570	1.750		.280	45°
32208	72208		2.0600	1.562		.450	45°
32209	72209		2.1640	1.750		.450	45°
32211	72211		1.2050	0.945		.295	45°
32212	72212		2.0680	1.770	2.016*	.250	45°
32213	72213		1.6300	1.323	1.580*	.240	45°
32214	72214		1.8161	1.496		.276	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
32215	72215		1.7374	1.417		.354	45°
32216	72216		2.1340	1.693		.394	45°
32217	72217	92217	1.8540	1.499	1.619*	.273	60°
32218	72218	92218	1.7210	1.360	1.565*	.264	45°
32221	72221		1.8976	1.457		.284	45°
32222	72222	92222	1.3248	1.157		.260	45°
32223	72223		2.0675	1.748	2.026*	.392	45°
32223+06	72223+06		2.1275	1.748	2.026*	.392	45°
32224	72224		1.6300	1.321	1.549*	.393	60°
32224+06	72224+06		1.6900	1.321	1.549*	.393	60°
32225	72225		1.8820	1.575		.250	45°
32226	72226		1.2402	1.016		.276	45°
32227	72227		1.0240	0.770		.275	45°
32229	72229		1.8250	1.560	1.671*	.272	58.5°
32230	72230		1.8110	1.555	1.703*	.333	45°
32231	72231		2.1260	1.755		.311	45°
32232	72232		1.8545	1.576	1.788*	.230	45°
32234	72234		2.1700	1.810		.350	45°
32235	72235		2.1800	1.810		.350	45°
32238	72238		1.8134	1.567	1.714*	.282	44°
32239	72239		1.4665	1.181	1.350*	.282	44°
32240	72240		1.7421	1.480	1.642*	.282	44°
32241	72241		1.9620	1.597	1.597*	.365	R .178
32242	72242		1.7320	1.457	1.457*	.365	R .212
32243	72243		1.4960	1.140		.390	45°
32244	72244		1.5350	1.180		.390	45°
32245	72245		1.7600	1.409		.377	45°
32246	72246		2.2590	1.960	2.135*	.250	45°
32247	72247		1.9530	1.500		.287	45°
32248	72248		1.2700	1.055		.300	45°
32249	72249		1.0900	0.870		.300	45°
32250	72250		1.1614	0.906		.275	45°
32253	72253	92253	1.8185	1.500		.512	60°
32255	72255	92255	1.1921	0.787		.315	45°
32256	72256	92256	1.3386	0.945		.335	45°
32257	72257	92257	1.4429	1.024		.335	45°
32258	72258	92258	1.5051	1.102		.335	45°
32259	72259	92259	1.6000	1.181		.315	45°
32260	72260	92260	1.7362	1.280		.315	45°
32261	72261	92261	1.8898	1.417		.335	45°
32262	72262	92262	1.2402	0.965		.315	45°
32263	72263	92263	1.5157	1.240		.295	45°
32265	72265		1.3615	1.142		.220	60°
32266	72266		1.1640	0.925		.220	45°
32267	72267		1.2645	1.056		.220	60°
32268	72268		1.1270	0.920		.220	45°
32269	72269		2.0669	1.750		.413	45°
32270	72270		1.6260	1.319		.413	45°
32271	72271		1.6142	1.260		.413	45°
32272	72272		2.3120	1.937		.220	45°
32273	72273		1.7550	1.468		.220	45°
32274	72274		1.6920	1.292	1.465	.339	30°
32275	72275		1.9340	1.620	1.765	.319	27°
32276	72276		2.1940	1.812		.375	45°
32277	72277	92277	2.0210	1.586	1.586*	.282	90°
32278	72278		1.2531	1.079		.335	45°
32279	72279		1.1886	0.949		.319	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE
30000	70000	90000					
32280	72280	92282 92283	1.5000	1.273		.180	60°
32281	72281		1.2840	1.078		.160	45°
32282	72282		1.9685	1.500		.335	45°
32283	72283		1.0236	0.709		.276	45°
32284	72284	92290	1.6700	1.350		.400	45°
32285	72285		1.6800	1.350		.400	45°
32287	72287		1.6344	1.375		.256	45°
32290	72290		1.1024	0.709		.236	45°
39006	79006		1.1024	0.866		.394	45°
39007	79007		1.1220	0.866		.394	45°
39008	79008		1.1417	0.906		.394	45°
39009	79009		1.1614	0.906		.394	45°
39010	79010		1.1811	0.906		.394	45°
39011	79011		1.1811	0.787		.394	45°
39012	79012		1.2008	0.906		.394	45°
39013	79013		1.2205	0.945		.394	45°
39014	79014		1.2205	0.827		.394	45°
39015	79015		1.2402	0.945		.394	45°
39016	79016		1.2598	0.984		.394	45°
39017	79017		1.2598	0.866		.394	45°
39018	79018		1.2795	0.984		.394	45°
39019	79019		1.2992	1.023		.394	45°
39020	79020		1.2992	0.906		.394	45°
39021	79021		1.3189	1.023		.394	45°
39023	79023		1.3386	0.945		.394	45°
39024	79024		1.3583	1.063		.394	45°
39025	79025		1.3780	1.102		.394	45°
39026	79026		1.3780	0.984		.394	45°
39027	79027		1.3976	1.102		.394	45°
39028	79028		1.4173	1.142		.394	45°
39029	79029		1.4173	1.024		.394	45°
39030	79030		1.4370	1.141		.394	45°
39031	79031		1.4567	1.181		.394	45°
39033	79033		1.4764	1.181		.394	45°
39035	79035		1.4961	1.102		.394	45°
39036	79036		1.5157	1.220		.394	45°
39037	79037		1.5354	1.260		.394	45°
39038	79038		1.5354	1.141		.394	45°
39039	79039		1.5551	1.260		.394	45°
39040	79040		1.5748	1.260		.394	45°
39041	79041		1.5748	1.141		.394	45°
39042	79042		1.5945	1.260		.394	45°
39043	79043	99043	1.6142	1.299		.394	45°
39044	79044	99044	1.6142	1.181		.394	45°
39045	79045	99046 99047	1.6339	1.299		.394	45°
39046	79046		1.6535	1.338		.394	45°
39047	79047		1.6535	1.220		.394	45°
39048	79048	99052	1.6732	1.338		.394	45°
39049	79049		1.6929	1.378		.394	45°
39050	79050		1.6929	1.260		.394	45°
39051	79051	99057	1.7126	1.378		.394	45°
39052	79052		1.7323	1.417		.394	45°
39053	79053		1.7323	1.299		.394	45°
39055	79055		1.7520	1.417		.433	45°
39056	79056	99057	1.7520	1.181		.394	45°
39057	79057		1.7717	1.457		.472	45°
39058	79058		1.7717	1.339		.472	45°

* Special ID Features

VALVE SEAT NUMERICAL LISTING BY PART NUMBER

PART NUMBER SERIES			ACTUAL		ID TOP		SEAT
30000	70000	90000	OD	ID	TAPER	DEPTH	ANGLE
39059	79059	99082	1.7913	1.457		.472	45°
39060	79060		1.8110	1.496		.472	45°
39061	79061		1.8110	1.339		.472	45°
39062	79062		1.8307	1.496		.472	45°
39063	79063		1.8504	1.535		.472	45°
39065	79065		1.8504	1.417		.472	45°
39066	79066		1.8701	1.535		.472	45°
39067	79067		1.8898	1.575		.472	45°
39068	79068		1.8898	1.496		.433	45°
39069	79069		1.8898	1.457		.472	45°
39070	79070		1.7126	1.417		.394	45°
39071	79071		1.7520	1.417		.394	45°
39072	79072		1.2992	0.984		.315	45°
39073	79073		1.3386	1.102		.315	45°
39074	79074		1.3780	1.102		.315	45°
39075	79075		1.4173	1.181		.315	45°
39076	79076		1.4961	1.181		.315	45°
39077	79077		1.5354	1.181		.315	45°
39078	79078		1.5748	1.299		.315	45°
39079	79079		1.6142	1.260		.315	45°
39080	79080		1.6535	1.299		.315	45°
39081	79081		1.6929	1.378		.315	45°
39082	79082		1.7323	1.417		.315	45°
39083	79083		1.7717	1.417		.315	45°
39084	79084		1.8110	1.496		.315	45°

SPECIALTY SEATS							
31964	71964		1.755/1.956	1.557	1.812*	.312	30°
31964+10	71964+10		1.765/1.956	1.557	1.812*	.312	30°

* Special ID Features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
0.9252	0.709		.236	45°	31357	71357	
0.9449	0.709		.256	45°	31167	71167	
0.9500	0.765		.250	45°	32131	72131	
0.9547	0.709		.276	45°	32066	72066	
0.9840	0.669		.355	45°	31871	71871	
0.9843	0.787		.276	45°	31446	71446	
0.9882	0.787		.236	45°	31346	71346	
0.9890	0.787		.236	45°	31002	71002	
0.9902	0.787		.236	45°	31349	71349	
1.0045	0.750		.188	45°	31600	71600	
1.0142	0.828		.236	45°	32037	72037	92037
1.0236	0.709		.276	45°	32283	72283	92283
1.0240	0.709		.355	45°	31872	71872	
1.0240	0.770		.275	45°	32227	72227	
1.0335	0.827		.177	45°	31398	71398	
1.0437	0.827		.189	45°	31037	71037	
1.0472	0.827		.236	45°	31382	71382	
1.0492	0.827		.217	45°	31405	71405	
1.0512	0.787		.224	45°	31003	71003	
1.0551	0.827		.244	45°	31395	71395	
1.0559	0.807		.224	45°	31350	71350	
1.0630	0.748		.355	45°	31873	71873	
1.0681	0.871		.254	45°	31096	71096	
1.0689	0.787		.236	45°	31383	71383	
1.0690	0.781		.250	45°	31142	71142	
1.0690	0.790		.260	45°	31047	71047	
1.0695	0.870		.195	45°	31602	71602	
1.0722	0.864		.276	45°	32027	72027	92027
1.0827	0.866		.236	45°	31915	71915	91915
1.0898	0.874		.250	45°	31429	71429	
1.0900	0.870		.300	45°	32249	72249	
1.0984	0.906		.256	45°	31804	71804	
1.1020	0.787		.355	45°	31874	71874	
1.1024	0.709		.236	45°	32290	72290	92290
1.1024	0.787		.315	45°	31168	71168	
1.1024	0.807		.256	45°	31428	71428	
1.1024	0.866		.394	45°	39006	79006	
1.1083	0.866		.256	45°	31396	71396	
1.1102	0.890		.236	45°	31807	71807	
1.1122	0.890		.236	45°	31812	71812	
1.1220	0.866		.394	45°	39007	79007	
1.1270	0.920		.220	45°	32268	72268	
1.1280	0.906		.303	45°	32043	72043	
1.1299	0.871		.191	45°	31097	71097	
1.1300	0.875		.219	45°	30754	70754	
1.1310	0.750		.250	45°	31143	71143	
1.1320	0.825		.285	45°	31048	71048	
1.1320	0.854		.237	45°	31604	71604	
1.1358	0.925		.217	45°	32047	72047	92047
1.1417	0.827		.335	45°	31169	71169	
1.1417	0.906		.394	45°	39008	79008	
1.1420	0.827		.375	45°	31875	71875	
1.1496	0.906		.256	45°	31410	71410	91410
1.1516	0.874		.250	45°	31431	71431	
1.1610	0.910		.222	30°	31608	71608	
1.1614	0.906		.275	45°	32250	72250	
1.1614	0.906		.394	45°	39009	79009	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.1640	0.925		.220	45°	32266	72266	
1.1660	0.910		.222	30°	31608+5	71608+5	
1.1661	0.809		.280	45°	31358	71358	
1.1700	0.906		.275	45°	32198	72198	
1.1732	0.945		.236	45°	31444	71444	
1.1810	0.866		.375	45°	31876	71876	
1.1811	0.787		.394	45°	39011	79011	
1.1811	0.866		.335	45°	31170	71170	
1.1811	0.906		.394	45°	39010	79010	
1.1811	0.945		.335	45°	31411	71411	
1.1811	1.024		.374	45°	32039	72039	
1.1819	0.925		.244	45°	31049	71049	
1.1850	0.984		.248	45°	31345	71345	
1.1858	0.984		.248	45°	31004	71004	
1.1870	0.945		.354	45°	31436	71436	
1.1870	0.984		.200	45°	31445	71445	
1.1870	0.984		.248	45°	31005	71005	
1.1886	0.949		.319	45°	32279	72279	
1.1920	1.000		.188	45°	31609	71609	
1.1920	1.000		.219	45°	31610	71610	
1.1921	0.787		.315	45°	32255	72255	92255
1.1921	0.875		.250	45°	31352	71352	
1.1933	0.871		.254	45°	31098	71098	
1.1933	0.929		.256	45°	31435	71435	91435
1.1933	0.933		.254	45°	31099	71099	
1.1940	0.875		.250	45°	31144	71144	
1.1940	0.905		.257	45°	31146	71146	
1.1940	0.934		.260	45°	31050	71050	
1.1940	0.938		.250	45°	31145	71145	
1.1945	0.935		.235	45°	31868	71868	
1.1953	1.012		.236	45°	32036	72036	92036
1.2008	0.906		.394	45°	39012	79012	
1.2008	0.984		.256	45°	31051	71051	
1.2047	0.945		.226	45°	31937	71937	
1.2050	0.945		.295	45°	32211	72211	
1.2063	0.989		.276	45°	32033	72033	92033
1.2169	0.984		.250	45°	32106	72106	92106
1.2205	0.827		.394	45°	39014	79014	
1.2205	0.906		.335	45°	31171	71171	
1.2205	0.945		.394	45°	39013	79013	
1.2205	0.984		.237	45°	31448	71448	
1.2250	0.825		.350	45°	32086	72086	
1.2252	0.910		.283	45°	31354	71354	
1.2303	0.984		.315	45°	31414	71414	
1.2400	0.825		.350	45°	32094	72094	
1.2402	0.945		.394	45°	39015	79015	
1.2402	0.965		.315	45°	32262	72262	92262
1.2402	1.016		.276	45°	32226	72226	
1.2407	0.941		.335	45°	31434	71434	
1.2441	1.024		.236	45°	31384	71384	
1.2480	1.024		.256	45°	31409	71409	
1.2531	1.079		.335	45°	32278	72278	
1.2550	1.000		.250	45°	30764	70764	
1.2550	1.028		.227	45°	31043	71043	
1.2550	1.055		.250	45°	31052	71052	
1.2551	1.000		.250	45°	31359	71359	
1.2559	0.933		.254	45°	31105	71105	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.2559	0.996		.254	45°	31100	71100	
1.2560	0.875		.250	45°	31151	71151	
1.2560	0.906		.313	45°	31149	71149	
1.2560	0.910	1.070	.281	45°	31333	71333	
1.2560	0.910	1.070	.288	45°	31334	71334	
1.2560	0.938		.188	45°	31152	71152	
1.2560	1.000		.219	45°	31147	71147	
1.2560	1.000		.250	45°	31150	71150	91150
1.2560	1.000		.313	45°	31148	71148	
1.2570	0.905	1.000	.230	45°	30230	70230	
1.2570	0.910		.285	45°	31054	71054	
1.2570	0.930		.325	45°	31612	71612	
1.2570	0.970		.270	45°	31613	71613	
1.2570	1.000		.305	45°	31616	71616	
1.2570	1.010		.257	45°	31619	71619	
1.2570	1.022		.225	45°	30205	70205	
1.2570	1.023		.273	45°	31620	71620	
1.2570	1.028		.257	45°	31617	71617	
1.2593	1.061		.276	45°	32028	72028	92028
1.2598	0.866		.394	45°	39017	79017	
1.2598	0.945		.335	45°	31172	71172	
1.2598	0.945		.354	45°	31311	71311	
1.2598	0.984		.394	45°	39016	79016	
1.2600	0.945		.375	45°	31878	71878	
1.2602	0.984		.315	45°	31808	71808	91808
1.2620	0.975		.250	30°	31621	71621	
1.2620	0.975		.250	45°	31902	71902	
1.2645	1.056		.220	60°	32267	72267	
1.2670	0.982	1.065	.320	45°	31313	71313	
1.2677	0.906	1.024	.248	45°	32042	72042	92042
1.2700	1.055		.300	45°	32248	72248	
1.2724	1.024		.236	45°	31347	71347	
1.2736	0.906	1.024	.248	45°	31450	71450	91450
1.2795	0.984		.394	45°	39018	79018	
1.2795	1.063		.217	45°	31914	71914	91914
1.2820	0.975		.250	45°	31502	71502	
1.2820	0.975		.250	45°	31941	71941	
1.2827	1.063		.236	45°	31403	71403	
1.2835	1.083		.354	45°	31800	71800	
1.2840	1.078		.160	45°	32281	72281	
1.2854	0.925		.315	45°	32146	72146	
1.2854	0.984		.236	45°	31360	71360	
1.2854	1.004		.315	45°	31006	71006	
1.2854	1.024		.335	45°	31007	71007	
1.2992	0.905		.315	45°	31425	71425	
1.2992	0.906		.394	45°	39020	79020	
1.2992	0.984		.177	45°	31136	71136	
1.2992	0.984		.315	45°	39072	79072	
1.2992	0.984		.335	45°	31173	71173	
1.2992	1.023		.394	45°	39019	79019	
1.2992	1.024		.256	45°	31348	71348	91348
1.2992	1.063		.217	45°	32195	72195	
1.3020	0.975		.250	45°	31901	71901	
1.3050	1.048		.227	45°	30739	70739	
1.3051	1.102		.276	45°	31008	71008	91008
1.3071	1.083		.276	45°	31123	71123	
1.3170	1.046		.219	45°	30735	70735	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.3170	1.046	1.265*	.227	45°	30734	70734	
1.3170	1.046		.250	45°	30736	70736	
1.3170	1.046		.313	45°	30737	70737	
1.3170	1.063		.219	45°	31289	71289	
1.3170	1.063		.219	30°	31976	71976	
1.3175	1.000		.250	45°	31056	71056	
1.3181	0.996		.254	45°	31106	71106	
1.3181	1.059		.254	45°	31101	71101	
1.3189	1.023		.394	45°	39021	79021	
1.3189	1.063		.354	45°	31293	71293	
1.3190	0.975		.280	45°	31058	71058	
1.3190	0.977		.300	45°	31340	71340	
1.3190	1.000		.250	45°	31154	71154	
1.3190	1.000		.313	45°	31155	71155	
1.3190	1.020		.258	45°	31623	71623	
1.3190	1.024		.313	45°	32038	72038	
1.3190	1.042		.238	45°	30779	70779	
1.3190	1.045		.316	45°	30563	70563	
1.3190	1.062		.188	45°	30775	70775	
1.3190	1.063		.250	45°	32177	72177	
1.3190	1.063	1.255	.313	45°	31153	71153	
1.3190	1.085		.305	45°	30562	70562	
1.3190	1.123		.236	45°	31963	71963	
1.3190	1.123		.300	45°	31320	71320	
1.3195	1.044		.273	45°	31624	71624	
1.3195	1.060		.275	45°	31628	71628	
1.3195	1.065		.285	45°	31630	71630	
1.3228	1.082		.287	45°	31397	71397	
1.3248	1.157		.260	45°	32222	72222	92222
1.3268	1.063		.315	45°	31009	71009	91010
1.3268	1.126		.250	45°	31010	71010	
1.3268	1.142		.295	45°	32125	72125	92125
1.3307	1.126		.250	45°	31438	71438	92256
1.3386	0.945		.335	45°	32256	72256	
1.3386	0.945		.394	45°	39023	79023	91449
1.3386	1.024		.335	45°	31174	71174	
1.3386	1.063		.394	45°	31273	71273	
1.3386	1.102		.315	45°	39073	79073	
1.3387	1.102		.177	45°	31306	71306	
1.3425	1.083		.236	45°	31385	71385	
1.3433	1.025		.299	45°	31361	71361	
1.3445	1.102		.236	45°	31449	71449	
1.3450	1.050		.290	45°	32132	72132	
1.3450	1.083		.236	45°	32128	72128	
1.3480	1.087	1.220	.200	45°	31633	71633	92075
1.3484	1.063		.315	45°	31060	71060	
1.3484	1.126		.250	45°	31011	71011	
1.3504	1.063		.315	45°	31356	71356	
1.3530	1.087		.200	45°	31633+5	71633+5	
1.3583	1.063		.394	45°	39024	79024	
1.3583	1.142		.295	45°	32075	72075	
1.3610	1.100		.306	45°	31312	71312	
1.3615	1.142		.220	60°	32265	72265	
1.3634	0.984		.394	45°	31035	71035	
1.3638	1.166	1.344*	.276	45°	32032	72032	92032
1.3661	1.114		.295	45°	31061	71061	
1.3670	1.108		.245	45°	31263	71263	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.3701	1.142	1.200	.256	45°	31809	71809	92085
1.3701	1.142		.283	45°	31362	71362	
1.3750	1.100		.227	60°	32085	72085	
1.3776	1.124		.313	45°	31114	71114	
1.3780	0.984		.394	45°	39026	79026	
1.3780	1.024		.354	45°	31175	71175	
1.3780	1.024		.394	45°	31881	71881	
1.3780	1.102		.197	45°	31408	71408	
1.3780	1.102		.315	45°	39074	79074	
1.3780	1.102		.335	45°	31824	71824	
1.3780	1.102		.394	45°	39025	79025	
1.3799	1.063		.253	45°	31062	71062	
1.3800	1.062		.219	45°	31125	71125	
1.3800	1.063		.188	45°	30786	70786	
1.3800	1.063		.250	45°	30788	70788	
1.3800	1.063		.313	45°	30787	70787	
1.3800	1.102		.355	45°	32149	72149	
1.3800	1.125		.188	45°	30790	70790	
1.3800	1.125		.219	45°	30558	70558	
1.3800	1.125		.250	45°	30791	70791	90791
1.3800	1.125		.300	45°	32181	72181	
1.3800	1.125		.375	45°	30792	70792	
1.3803	1.093		.250	45°	31363	71363	
1.3807	1.059		.254	45°	31102	71102	
1.3807	1.121		.254	45°	31103	71103	
1.3810	0.938		.313	45°	31156	71156	
1.3810	1.125		.266	45°	31157	71157	
1.3810	1.188		.219	45°	31248	71248	
1.3820	1.000		.280	45°	31064	71064	
1.3820	1.000		.410	45°	31063	71063	
1.3820	1.100	1.160	.300	45°	31139	71139	
1.3820	1.102		.260	45°	30238	70238	
1.3820	1.120		.325	45°	31635	71635	
1.3839	1.181		.291	45°	31805	71805	
1.3878	1.102		.315	45°	31065	71065	
1.3920	1.141		.318	45°	32183	72183	
1.3976	1.102		.394	45°	39027	79027	
1.3976	1.142		.394	45°	31274	71274	
1.3976	1.161		.374	45°	31294	71294	
1.4008	1.200		.220	45°	31337	71337	
1.4010	1.125	1.386* 1.329	.266	45°	31838	71838	92105
1.4016	1.126		.158	45°	31918	71918	
1.4016	1.142		.315	45°	31012	71012	
1.4016	1.142		.374	45°	31277	71277	
1.4040	1.138		.254	45°	31264	71264	
1.4055	1.079		.300	45°	31479	71479	
1.4055	1.181		.339	45°	31423	71423	
1.4055	1.181		.354	45°	31443	71443	
1.4100	1.142		.275	45°	32197	72197	
1.4114	1.181		.244	45°	31399	71399	
1.4138	1.220		.238	45°	32105	72105	
1.4170	1.063		.394	45°	31882	71882	
1.4173	1.024		.394	45°	39029	79029	
1.4173	1.063		.354	45°	31176	71176	
1.4173	1.142		.394	45°	39028	79028	
1.4173	1.181		.315	45°	39075	79075	
1.4210	1.125		.266	45°	31839	71839	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.4220	1.152	1.250	.315	45°	31066	71066	92257
1.4236	1.152		.250	45°	31412	71412	
1.4252	1.220		.295	45°	31121	71121	
1.4272	1.142		.315	45°	31420	71420	
1.4370	1.141		.394	45°	39030	79030	
1.4405	1.186		.313	45°	31111	71111	
1.4421	1.125		.250	45°	31380	71380	
1.4421	1.125		.354	45°	31364	71364	
1.4421	1.126		.315	45°	31013	71013	
1.4421	1.188		.250	45°	31402	71402	
1.4425	1.125		.250	45°	30802	70802	
1.4425	1.125		.313	45°	30803	70803	
1.4425	1.126		.188	45°	31225	71225	
1.4425	1.126		.219	45°	30801	70801	
1.4425	1.188		.219	45°	31030	71030	
1.4425	1.189		.217	45°	31866	71866	
1.4425	1.219		.219	45°	31031	71031	
1.4429	1.024		.335	45°	32257	72257	
1.4429	1.130		.315	45°	31407	71407	
1.4433	1.059		.254	45°	31107	71107	
1.4440	1.100		.315	45°	31329	71329	
1.4440	1.105		.322	45°	30806	70806	
1.4440	1.135		.316	45°	30809	70809	
1.4440	1.140		.305	45°	31643	71643	
1.4440	1.180		.255	45°	31645	71645	
1.4440	1.181		.280	45°	31646	71646	
1.4440	1.188		.219	45°	31159	71159	
1.4440	1.188		.250	45°	31161	71161	
1.4440	1.200		.297	45°	30818	70818	
1.4440	1.230		.250	45°	31067	71067	
1.4440	1.250		.219	45°	30556	70556	
1.4440	1.250		.313	45°	31160	71160	
1.4445	1.140		.237	45°	31656	71656	
1.4445	1.142		.336	45°	31658	71658	
1.4445	1.150		.257	45°	31659	71659	
1.4445	1.162		.230	45°	31650	71650	
1.4445	1.162		.310	45°	31649	71649	
1.4449	1.142		.315	45°	31439	71439	
1.4449	1.220		.295	45°	31440	71440	
1.4550	1.079	1.329	.375	45°	32000	72000	92100
1.4567	1.102		.354	45°	31068	71068	
1.4567	1.181		.315	45°	31069	71069	
1.4567	1.181		.394	45°	39031	79031	
1.4567	1.220		.394	45°	31275	71275	
1.4570	1.102		.394	45°	31883	71883	
1.4571	1.260		.240	45°	32001	72001	
1.4577	1.098		.352	45°	31113	71113	
1.4626	1.217	1.339	.307	45°	31822	71822	
1.4630	1.220		.354	45°	31908	71908	
1.4646	1.181		.276	45°	31070	71070	
1.4650	1.181		.218	45°	32100	72100	
1.4665	1.181	1.350*	.282	44°	32239	72239	
1.4685	1.142		.315	45°	31365	71365	
1.4750	1.240		.227	0°	31044	71044	
1.4764	1.181		.394	45°	39033	79033	
1.4764	1.220		.335	45°	31071	71071	
1.4764	1.236		.335	45°	31858	71858	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.4764	1.240		.335	45°	31386	71386	92051
1.4772	1.232		.335	45°	31315	71315	
1.4777	1.213		.154	45°	31305	71305	
1.4791	1.187		.313	45°	31353	71353	
1.4803	1.181		.260	45°	32051	72051	
1.4803	1.181		.281	45°	31854	71854	
1.4803	1.200		.276	45°	31400	71400	
1.4803	1.287		.283	45°	31379	71379	
1.4823	1.220		.276	45°	31014	71014	
1.4830	1.260		.350	45°	32174	72174	
1.4840	1.125		.219	45°	31903	71903	
1.4843	1.220		.315	45°	31015	71015	
1.4850	1.260		.237	45°	30738	70738	
1.4860	1.270		.290	30°	31665	71665	
1.4862	1.219		.344	45°	31864	71864	
1.4862	1.220		.335	45°	31387	71387	92102
1.4960	1.140		.390	45°	32243	72243	
1.4960	1.142		.394	45°	31884	71884	
1.4961	1.102		.394	45°	39035	79035	
1.4961	1.142		.354	45°	31178	71178	
1.4961	1.181		.276	45°	31038	71038	
1.4961	1.181		.315	45°	39076	79076	
1.4961	1.220		.394	45°	31276	71276	
1.4961	1.260		.335	45°	31823	71823	
1.4965	1.181		.238	45°	32102	72102	
1.5000	1.188		.250	45°	31198	71198	
1.5000	1.273		.180	60°	32280	72280	
1.5008	1.148		.283	45°	31366	71366	
1.5020	1.221		.303	45°	31940	71940	
1.5040	1.175	1.400*	.300	45°	32077	72077	
1.5043	1.125		.253	45°	31072	71072	
1.5043	1.188		.313	45°	31342	71342	
1.5043	1.250		.281	45°	31343	71343	
1.5045	1.188		.313	45°	31032	71032	
1.5045	1.313		.188	45°	31290	71290	
1.5050	1.100	1.225	.316	45°	30045	70045	
1.5050	1.125		.188	45°	30706	70706	
1.5050	1.125		.219	45°	30707	70707	
1.5050	1.125		.250	45°	30708	70708	
1.5050	1.125		.313	45°	30709	70709	
1.5050	1.140	1.250	.325	45°	30105	70105	
1.5050	1.188		.218	45°	30823	70823	
1.5050	1.188		.250	45°	30822	70822	
1.5050	1.215	1.344	.219	45°	30705	70705	
1.5050	1.215		.250	45°	30722	70722	
1.5050	1.215	1.275	.280	45°	30015	70015	
1.5050	1.215		.305	45°	30721	70721	
1.5050	1.215		.310	45°	30716	70716	
1.5050	1.215		.318	45°	30717	70717	
1.5050	1.215		.345	45°	30718	70718	
1.5050	1.250		.188	45°	30710	70710	
1.5050	1.250		.219	45°	30711	70711	
1.5050	1.250	1.390	.240	45°	30024	70024	
1.5050	1.250		.250	45°	30712	70712	
1.5050	1.250		.282	45°	30713	70713	
1.5050	1.250		.313	45°	30714	70714	
1.5050	1.250		.375	45°	30715	70715	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.5051	1.102		.335	45°	32258	72258	92258
1.5051	1.122		.343	45°	31367	71367	
1.5051	1.220		.315	45°	31073	71073	
1.5059	1.181		.157	45°	31853	71853	
1.5059	1.183		.254	45°	31108	71108	
1.5059	1.246		.254	45°	31109	71109	
1.5059	1.280		.295	45°	31419	71419	
1.5060	1.000		.406	45°	31906	71906	
1.5060	1.000		.406	45°	31942	71942	
1.5060	1.175	1.235	.236	45°	31205	71205	
1.5060	1.179	1.307	.293	45°	31247	71247	
1.5060	1.180	1.280	.214	45°	31207	71207	
1.5060	1.180	1.345	.307	45°	31258	71258	
1.5060	1.188		.313	45°	31162	71162	
1.5060	1.195		.315	45°	31326	71326	
1.5060	1.195		.360	45°	31501	71501	
1.5060	1.200	1.240	.315	45°	31241	71241	
1.5060	1.205		.322	45°	31909	71909	
1.5060	1.210		.345	45°	31214	71214	
1.5060	1.220	1.328	.310	45°	31204	71204	
1.5060	1.225	1.467*	.280	45°	32152	72152	
1.5060	1.230		.278	45°	31244	71244	
1.5060	1.250	1.358	.312	45°	32098	72098	
1.5060	1.255		.318	45°	31235	71235	
1.5060	1.313		.219	45°	31255	71255	
1.5065	1.220		.350	45°	32110	72110	
1.5067	1.210	1.263	.344	45°	31314	71314	
1.5070	1.100		.315	45°	31074	71074	
1.5070	1.175		.236	45°	30824	70824	
1.5070	1.180		.300	45°	31666	71666	
1.5070	1.180	1.318	.305	45°	30031	70031	
1.5070	1.203	1.294	.280	45°	31484	71484	
1.5070	1.210	1.333	.345	45°	30148	70148	
1.5070	1.210	1.276	.345	45°	31291	71291	
1.5070	1.239		.225	45°	30204	70204	
1.5070	1.250		.319	45°	32116	72116	
1.5070	1.250		.344	45°	31485	71485	
1.5157	1.220		.335	45°	31388	71388	92263
1.5157	1.220		.343	45°	31368	71368	
1.5157	1.220		.394	45°	39036	79036	
1.5157	1.240		.295	45°	32263	72263	92104
1.5160	1.250		.250	45°	31670	71670	
1.5161	1.260		.250	45°	32104	72104	
1.5200	1.116	1.340	.333	45°	31977	71977	
1.5209	1.220		.285	45°	31432	71432	
1.5248	1.183		.394	45°	31036	71036	
1.5256	1.220		.335	45°	31389	71389	
1.5260	1.250		.250	45°	31840	71840	
1.5270	1.200		.250	45°	30043	70043	
1.5285	1.149		.265	45°	31993	71993	
1.5285	1.250		.265	45°	31992	71992	
1.5335	1.221		.335	45°	31016	71016	
1.5350	1.180		.390	45°	32244	72244	
1.5350	1.181		.394	45°	31885	71885	
1.5354	1.141		.394	45°	39038	79038	
1.5354	1.181		.276	45°	31369	71369	
1.5354	1.181		.315	45°	39077	79077	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.5354	1.181		.354	45°	31179	71179	
1.5354	1.220		.335	45°	31180	71180	
1.5354	1.260		.394	45°	39037	79037	
1.5354	1.299		.315	45°	31370	71370	
1.5365	1.255		.359	45°	31671	71671	
1.5400	1.240		.275	45°	32126	72126	
1.5400	1.300		.315	45°	32133	72133	
1.5410	1.327		.256	45°	31416	71416	
1.5413	1.366		.232	45°	31426	71426	
1.5472	1.260		.315	45°	31075	71075	
1.5551	1.260		.394	45°	39039	79039	
1.5551	1.299		.335	45°	31076	71076	
1.5591	1.319		.374	45°	31295	71295	
1.5630	1.250		.250	45°	31197	71197	
1.5630	1.299		.339	45°	31422	71422	
1.5630	1.299		.354	45°	31442	71442	
1.5649	1.272		.256	45°	32009	72009	
1.5650	1.290	1.345	.324	45°	32019	72019	
1.5650	1.299		.335	45°	31802	71802	
1.5657	1.186		.376	45°	31112	71112	
1.5669	1.250		.313	45°	31344	71344	
1.5669	1.313		.177	45°	31851	71851	
1.5670	1.250		.188	45°	31870	71870	
1.5670	1.344		.219	45°	31033	71033	
1.5670	1.375		.250	45°	31486	71486	
1.5673	1.250		.253	45°	31077	71077	
1.5680	1.188		.313	45°	30839	70839	
1.5680	1.250		.219	45°	30640	70640	
1.5680	1.250		.250	45°	30645	70645	
1.5680	1.250		.281	45°	30740	70740	
1.5680	1.250		.313	45°	30647	70647	
1.5680	1.250		.317	45°	30719	70719	
1.5680	1.250		.343	45°	32113	72113	
1.5680	1.312	1.390	.219	45°	30541	70541	
1.5680	1.312		.219	45°	30643	70643	90643
1.5680	1.312	1.390	.250	45°	30503	70503	
1.5680	1.312		.250	45°	30644	70644	
1.5680	1.312		.313	45°	30731	70731	
1.5680	1.313		.188	45°	30840	70840	
1.5680	1.313		.219	30°	30838	70838	
1.5680	1.313		.280	45°	31267	71267	
1.5680	1.375		.218	45°	30841	70841	
1.5681	1.183		.254	45°	31104	71104	
1.5685	1.188		.313	60°	31253	71253	
1.5685	1.220		.344	45°	31222	71222	
1.5685	1.255	1.372	.319	45°	31199	71199	
1.5685	1.255	1.392	.319	45°	31259	71259	
1.5685	1.265		.280	45°	31210	71210	
1.5685	1.290	1.345	.324	45°	31251	71251	
1.5690	1.125		.313	45°	31163	71163	
1.5690	1.180		.305	45°	31079	71079	
1.5690	1.230		.310	45°	31078	71078	
1.5690	1.245		.352	45°	31328	71328	
1.5690	1.255		.320	45°	31140	71140	
1.5690	1.300		.256	45°	31080	71080	
1.5695	1.180		.316	45°	31674	71674	
1.5695	1.219		.317	45°	31287	71287	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.5695	1.220	1.356	.344	45°	31292	71292	
1.5695	1.246		.230	45°	31676	71676	
1.5695	1.265	1.320	.280	45°	31286	71286	
1.5700	1.243		.354	45°	31318	71318	
1.5730	1.312		.219	45°	30643+5	70643+5	
1.5730	1.312		.250	45°	30644+5	70644+5	
1.5748	1.141		.394	45°	39041	79041	
1.5748	1.181		.374	45°	31181	71181	
1.5748	1.260		.394	45°	39040	79040	
1.5748	1.299		.315	45°	39078	79078	
1.5748	1.319		.354	45°	31296	71296	
1.5750	1.181		.414	45°	31886	71886	
1.5780	1.312		.219	45°	30643+10	70643+10	
1.5780	1.313		.250	45°	30644+10	70644+10	
1.5823	1.180		.413	45°	31081	71081	
1.5827	1.319		.374	45°	31278	71278	
1.5827	1.339		.295	45°	31017	71017	
1.5827	1.368		.272	45°	31803	71803	
1.5846	1.358		.287	45°	31418	71418	
1.5890	1.250		.250	45°	31904	71904	
1.5945	1.260		.394	45°	39042	79042	
1.5953	1.181		.394	45°	32035	72035	92035
1.5953	1.319		.394	45°	32052	72052	92052
1.5984	1.339		.276	45°	31018	71018	
1.6000	1.181		.315	45°	32259	72259	92259
1.6000	1.282		.299	45°	31371	71371	
1.6000	1.300		.409	45°	32072	72072	
1.6023	1.398		.315	45°	32124	72124	92124
1.6050	1.310	1.428	.250	45°	32189	72189	
1.6090	1.250		.250	45°	31905	71905	
1.6090	1.313		.219	45°	31841	71841	
1.6090	1.313		.414	45°	32148	72148	
1.6090	1.400		.250	45°	31679	71679	
1.6140	1.220		.414	45°	31887	71887	
1.6142	1.181		.394	45°	39044	79044	99044
1.6142	1.220		.335	45°	31182	71182	
1.6142	1.260		.315	45°	39079	79079	
1.6142	1.260		.413	45°	32271	72271	
1.6142	1.299		.394	45°	39043	79043	99043
1.6142	1.339		.295	45°	31039	71039	
1.6201	1.374		.256	45°	31413	71413	
1.6201	1.398		.256	45°	31813	71813	
1.6220	1.319		.260	45°	31437	71437	
1.6220	1.344		.197	45°	31946	71946	
1.6245	1.322		.375	45°	30855	70855	
1.6250	1.313		.250	45°	31196	71196	
1.6260	1.319		.236	45°	32049	72049	92049
1.6260	1.319		.413	45°	32270	72270	
1.6260	1.320		.375	45°	31372	71372	
1.6285	1.348	1.524	.365	45°	31924	71924	
1.6285	1.359	1.504	.248	60°	32010	72010	92010
1.6299	1.398		.197	45°	31859	71859	
1.6300	1.188		.375	45°	31683	71683	
1.6300	1.250		.219	45°	30661	70661	
1.6300	1.250		.250	45°	30662	70662	
1.6300	1.250		.313	45°	30663	70663	
1.6300	1.250		.375	45°	30853	70853	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.6300	1.250		.437	45°	32170	72170	
1.6300	1.300		.315	45°	32192	72192	
1.6300	1.312		.188	45°	31455	71455	91455
1.6300	1.313		.219	45°	30649	70649	90649
1.6300	1.313		.250	45°	30650	70650	
1.6300	1.313		.281	45°	31488	71488	
1.6300	1.313		.313	45°	30651	70651	
1.6300	1.313		.395	45°	30854	70854	
1.6300	1.321	1.549*	.393	60°	32224	72224	
1.6300	1.323	1.580*	.240	45°	32213	72213	
1.6300	1.334		.313	45°	30642	70642	
1.6300	1.344		.250	45°	31489	71489	
1.6300	1.348		.218	45°	30857	70857	
1.6300	1.375		.219	45°	30648	70648	
1.6300	1.375	1.460	.250	45°	30506	70506	
1.6300	1.375		.250	45°	30646	70646	
1.6300	1.375		.313	45°	30732	70732	
1.6300	1.406		.250	45°	31482	71482	
1.6310	1.221	1.370	.437	45°	32167	72167	
1.6310	1.280	1.450	.219	45°	31233	71233	
1.6310	1.298		.317	45°	31218	71218	
1.6310	1.312	1.500	.312	45°	32143	72143	
1.6310	1.320		.300	45°	31223	71223	
1.6310	1.344		.313	45°	31164	71164	
1.6310	1.375		.188	45°	31046	71046	
1.6310	1.375		.219	45°	31997	71997	
1.6310	1.438		.219	45°	31234	71234	
1.6320	1.250		.312	45°	31332	71332	
1.6320	1.298	1.422	.317	45°	31236	71236	
1.6320	1.329		.280	45°	30860	70860	90860
1.6320	1.333		.237	45°	31690	71690	
1.6320	1.380		.257	45°	31687	71687	
1.6339	1.299		.394	45°	39045	79045	
1.6339	1.378		.315	45°	32074	72074	92074
1.6340	1.260	1.340	.394	45°	31323	71323	
1.6340	1.348	1.524	.365	45°	31681+5	71681+5	
1.6344	1.375		.256	45°	32287	72287	
1.6350	1.375		.219	45°	30648+5	70648+5	
1.6370	1.437		.350	45°	32173	72173	
1.6386	1.339		.315	45°	31019	71019	
1.6417	1.339		.250	45°	31020	71020	
1.6421	1.375		.218	45°	32099	72099	92099
1.6450	1.375		.250	45°	30864	70864	
1.6450	1.406		.187	45°	31996	71996	
1.6460	1.312		.350	45°	31226	71226	
1.6470	1.300		.325	45°	32129	72129	
1.6500	1.280		.350	45°	32070	72070	
1.6500	1.280	1.500*	.350	45°	32076	72076	
1.6500	1.340		.350	45°	32069	72069	
1.6500	1.340		.425	45°	32138	72138	
1.6500	1.350		.375	45°	32164	72164	
1.6500	1.367		.380	45°	32187	72187	
1.6500	1.385		.375	45°	32025	72025	
1.6500	1.390	1.489	.400	45°	32091	72091	
1.6500	1.408	1.580*	.375	45°	31979	71979	
1.6535	1.220		.394	45°	39047	79047	99047
1.6535	1.260		.374	45°	31183	71183	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.6535	1.299		.315	45°	39080	79080	99046
1.6535	1.299		.335	45°	31184	71184	
1.6535	1.299		.374	45°	31931	71931	
1.6535	1.313		.250	45°	31852	71852	
1.6535	1.338		.394	45°	39046	79046	
1.6540	1.260		.414	45°	31888	71888	
1.6560	1.313		.375	45°	31272	71272	
1.6560	1.350	1.626*	.375	45°	31279	71279	
1.6565	1.246	1.546*	.375	55°	31478	71478	
1.6570	1.312		.395	45°	31697	71697	
1.6594	1.315	1.472*	.205	0°	31336	71336	91989
1.6600	1.280		.350	45°	32070+10	72070+10	
1.6600	1.340		.350	45°	32069+10	72069+10	
1.6600	1.350		.375	45°	31989	71989	
1.6600	1.367		.312	45°	31696+5	71696+5	
1.6600	1.412		.256	45°	32178	72178	
1.6614	1.319		.413	45°	31082	71082	
1.6614	1.398		.315	45°	31810	71810	
1.6634	1.378		.315	45°	31421	71421	
1.6690	1.372	1.429	.272	37°	30868	70868	
1.6694	1.339		.177	45°	31308	71308	91828
1.6700	1.350		.400	45°	32284	72284	
1.6710	1.367		.311	45°	31698	71698	
1.6732	1.338		.394	45°	39048	79048	
1.6772	1.417		.315	45°	31373	71373	
1.6800	1.350		.400	45°	32285	72285	
1.6805	1.378		.310	45°	32122	72122	
1.6811	1.398		.335	45°	31811	71811	
1.6831	1.469		.295	45°	31390	71390	
1.6870	1.438	1.546	.365	45°	31846	71846	
1.6875	1.410		.365	20°	31828	71828	90664
1.6900	1.250		.375	45°	31701	71701	
1.6900	1.321	1.549*	.393	60°	32224+06	72224+06	
1.6905	1.438		.181	30°	31702	71702	
1.6905	1.438		.200	30°	31703	71703	
1.6920	1.221	1.421	.437	45°	32166	72166	
1.6920	1.292	1.465	.339	30°	32274	72274	
1.6920	1.312		.219	45°	30674	70674	
1.6920	1.312		.250	45°	30675	70675	
1.6920	1.312		.313	45°	30676	70676	
1.6920	1.312		.375	45°	31270	71270	90664
1.6920	1.312	1.550	.437	45°	32142	72142	
1.6920	1.372	1.492	.281	53°	31960	71960	
1.6920	1.375		.188	45°	31042	71042	
1.6920	1.375		.219	45°	30677	70677	
1.6920	1.375		.250	45°	30678	70678	
1.6920	1.375		.285	45°	30720	70720	
1.6920	1.375		.313	45°	30679	70679	
1.6920	1.375		.375	45°	30871	70871	
1.6920	1.406		.250	45°	30670	70670	
1.6920	1.406		.305	45°	31116	71116	90664
1.6920	1.438		.156	45°	30872	70872	
1.6920	1.438		.188	45°	30873	70873	
1.6920	1.438		.219	45°	30664	70664	
1.6920	1.438		.250	45°	30673	70673	
1.6920	1.438		.313	45°	30733	70733	
1.6920	1.439	1.515	.365	45°	31916	71916	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.6921	1.312		.315	45°	31374	71374	
1.6922	1.358	1.592	.191	0°	32150	72150	
1.6925	1.344		.313	45°	30559	70559	
1.6925	1.375	1.500	.312	45°	31922	71922	
1.6925	1.406		.313	45°	31490	71490	
1.6925	1.500		.250	45°	31491	71491	
1.6929	1.260		.394	45°	39050	79050	
1.6929	1.299		.335	45°	31186	71186	91186
1.6929	1.313		.312	45°	32112	72112	
1.6929	1.339		.325	45°	31185	71185	
1.6929	1.350		.315	45°	31406	71406	
1.6929	1.378		.315	45°	39081	79081	
1.6929	1.378		.394	45°	39049	79049	
1.6929	1.385		.315	45°	31391	71391	
1.6930	1.299		.414	45°	31889	71889	
1.6930	1.437	1.625*	.250	30°	31947	71947	
1.6935	1.390		.305	45°	31213	71213	
1.6937	1.394		.305	45°	31856	71856	
1.6940	1.300		.360	45°	31083	71083	
1.6940	1.385	1.520	.305	45°	30190	70190	
1.6940	1.450		.297	45°	30881	70881	
1.6945	1.344		.375	45°	31493	71493	
1.6945	1.375		.295	45°	31707	71707	
1.6945	1.390	1.480	.305	45°	31288	71288	
1.6950	1.250		.375	45°	31701+5	71701+5	
1.6955	1.312		.350	45°	32015	72015	
1.6960	1.350	1.580*	.305	45°	32165	72165	92165
1.6970	1.438		.219	45°	30664+5	70664+5	
1.7000	1.300	1.566	.400	45°	32185	72185	
1.7000	1.413		.375	45°	31331	71331	
1.7028	1.417		.315	45°	31021	71021	
1.7035	1.394		.315	45°	31857	71857	
1.7059	1.384		.250	45°	31085	71085	
1.7059	1.384		.354	45°	31084	71084	
1.7126	1.378		.394	45°	39051	79051	
1.7126	1.417		.394	45°	39070	79070	
1.7140	1.313		.313	45°	31503	71503	
1.7205	1.378		.318	45°	32121	72121	
1.7205	1.457		.335	45°	31814	71814	
1.7210	1.360	1.565*	.264	45°	32218	72218	92218
1.7220	1.357		.265	45°	31709	71709	91709
1.7320	1.457	1.457*	.365	R .212	32242	72242	
1.7323	1.299		.394	45°	39053	79053	
1.7323	1.339		.374	45°	31187	71187	
1.7323	1.417		.276	45°	31375	71375	
1.7323	1.417		.315	45°	39082	79082	99082
1.7323	1.417		.394	45°	39052	79052	99052
1.7327	1.417		.238	45°	32101	72101	92101
1.7330	1.375		.312	45°	31929	71929	
1.7330	1.375		.375	45°	31920	71920	
1.7330	1.455	1.620	.365	45°	31925	71925	
1.7333	1.335		.372	45°	31110	71110	
1.7362	1.280		.315	45°	32260	72260	92260
1.7374	1.417		.354	45°	32215	72215	
1.7420	1.487		.268	45°	31907	71907	
1.7421	1.457		.315	45°	31086	71086	
1.7421	1.480	1.642*	.282	44°	32240	72240	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.7425	1.457		.250	45°	32103	72103	92103
1.7460	1.406		.375	45°	31309	71309	
1.7520	1.181		.394	45°	39056	79056	
1.7520	1.417		.394	45°	39071	79071	
1.7520	1.417		.433	45°	39055	79055	
1.7524	1.437		.157	45°	31862	71862	
1.7550	1.250		.250	45°	31128	71128	
1.7550	1.312		.395	45°	31232	71232	
1.7550	1.313		.250	45°	30889	70889	
1.7550	1.375		.219	45°	30652	70652	
1.7550	1.375		.250	45°	30653	70653	90653
1.7550	1.375		.313	45°	30654	70654	
1.7550	1.438	1.610	.203	45°	30891	70891	
1.7550	1.438		.219	45°	30655	70655	
1.7550	1.438		.250	45°	30656	70656	
1.7550	1.438	1.500	.302	45°	31117	71117	
1.7550	1.438		.313	45°	30657	70657	
1.7550	1.468		.220	45°	32273	72273	
1.7550	1.468		.312	45°	32109	72109	92109
1.7550	1.500		.219	45°	30658	70658	
1.7550	1.500		.250	45°	30659	70659	90659
1.7550	1.500		.313	45°	30660	70660	
1.7559	1.378		.295	45°	31381	71381	
1.7559	1.476		.281	45°	31863	71863	
1.7560	1.313		.313	45°	31165	71165	
1.7560	1.410	1.560	.315	45°	31246	71246	
1.7560	1.437		.302	45°	31221	71221	
1.7560	1.438	1.500	.188	45°	31045	71045	
1.7560	1.445	1.617	.310	45°	31215	71215	
1.7560	1.594		.278	45°	31209	71209	
1.7570	1.323	1.490	.280	45°	31467	71467	
1.7570	1.372	1.429	.281	53°	30869	70869	
1.7570	1.375		.375	45°	31129	71129	
1.7570	1.375		.450	45°	31900	71900	
1.7570	1.380	1.717*	.400	58°	32199	72199	
1.7570	1.385	1.559	.380	45°	30127	70127	
1.7570	1.400		.420	45°	31265	71265	
1.7570	1.410	1.560	.315	45°	30165	70165	
1.7570	1.457		.312	45°	31317	71317	
1.7570	1.468		.276	45°	31715	71715	
1.7570	1.531		.312	45°	31494	71494	
1.7600	1.250		.375	45°	32158	72158	
1.7600	1.409		.377	45°	32245	72245	
1.7600	1.500		.219	45°	30658+5	70658+5	
1.7618	1.457		.335	45°	31392	71392	
1.7648	1.511		.265	45°	31994	71994	
1.7717	1.339		.472	45°	39058	79058	
1.7717	1.358		.394	45°	31227	71227	
1.7717	1.417		.315	45°	39083	79083	
1.7717	1.457		.335	45°	31393	71393	
1.7717	1.457		.472	45°	39057	79057	99057
1.7720	1.358		.434	45°	31891	71891	
1.7750	1.487		.312	20°	32117	72117	
1.7770	1.358		.394	45°	31227+5	71227+5	
1.7810	1.476		.311	45°	31257	71257	
1.7814	1.535		.226	45°	31991	71991	
1.7815	1.496		.315	45°	31404	71404	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.7815	1.535		.295	45°	31472	71472	
1.7825	1.490		.340	30°	31722	71722	
1.7840	1.469		.290	45°	31230	71230	
1.7863	1.406		.288	45°	31087	71087	
1.7863	1.500		.288	45°	32002	72002	
1.7874	1.409		.297	45°	31427	71427	
1.7913	1.440		.374	45°	31801	71801	
1.7913	1.457		.472	45°	39059	79059	
1.7969	1.418		.390	45°	31088	71088	
1.8045	1.375	1.610*	.375	45°	31825	71825	
1.8060	1.417		.292	45°	31933	71933	91933
1.8110	1.339		.472	45°	39061	79061	
1.8110	1.398		.394	45°	31188	71188	
1.8110	1.398		.434	45°	31892	71892	
1.8110	1.496		.315	45°	39084	79084	
1.8110	1.496		.472	45°	39060	79060	
1.8110	1.555	1.703*	.333	45°	32230	72230	
1.8120	1.450		.197	30°	31843	71843	
1.8125	1.540		.365	60°	31827	71827	91827
1.8134	1.567	1.714*	.282	44°	32238	72238	
1.8140	1.600		.315	45°	31724	71724	
1.8150	1.392		.297	45°	31376	71376	
1.8161	1.496		.276	45°	32214	72214	
1.8161	1.505		.280	45°	31355	71355	
1.8170	1.375		.313	45°	30903	70903	
1.8170	1.438		.313	45°	30905	70905	
1.8170	1.484		.250	45°	31089	71089	
1.8170	1.500		.375	45°	31131	71131	
1.8170	1.540		.365	30°	31726	71726	
1.8170	1.562	1.655	.365	45°	30542	70542	
1.8175	1.438		.375	45°	31459	71459	
1.8175	1.625		.219	45°	31283	71283	
1.8179	1.500		.256	45°	32008	72008	
1.8180	1.414		.334	45°	31954	71954	
1.8180	1.438		.188	45°	32135	72135	
1.8180	1.438		.219	45°	31269	71269	
1.8180	1.438		.250	45°	30904	70904	
1.8180	1.438		.312	45°	32111	72111	
1.8180	1.468		.313	45°	30680	70680	90680
1.8180	1.500	1.625	.219	45°	30530	70530	
1.8180	1.500		.219	45°	30668	70668	
1.8180	1.500		.250	45°	30672	70672	
1.8180	1.500		.281	45°	30741	70741	
1.8180	1.500		.312	45°	30907	70907	90907
1.8180	1.520		.177	45°	31961	71961	
1.8180	1.520		.300	45°	31910	71910	
1.8180	1.520		.334	45°	31951	71951	
1.8180	1.563		.219	45°	30667	70667	90667
1.8180	1.563		.250	45°	30671	70671	
1.8180	1.563		.313	45°	31000	71000	
1.8185	1.500		.312	60°	32157	72157	92157
1.8185	1.500		.512	60°	32253	72253	92253
1.8185	1.656		.307	45°	31211	71211	
1.8190	1.405		.315	45°	31137	71137	
1.8190	1.440	1.508	.316	45°	31327	71327	
1.8190	1.490	1.600	.305	45°	30030	70030	
1.8190	1.496		.157	45°	31307	71307	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.8195	1.405	1.632	.315	45°	31243	71243	92011
1.8195	1.440	1.515	.315	45°	31284	71284	
1.8195	1.490	1.628	.307	45°	31237	71237	
1.8195	1.500	1.555	.278	45°	31285	71285	
1.8195	1.530	1.710	.307	45°	31239	71239	
1.8195	1.570		.284	60°	32011	72011	
1.8200	1.435	1.505	.314	45°	31319	71319	
1.8220	1.450		.197	30°	31843+10	71843+10	
1.8250	1.560	1.671*	.272	58.5°	32229	72229	
1.8303	1.437		.375	45°	31090	71090	92050
1.8307	1.496		.472	45°	39062	79062	
1.8307	1.575		.276	45°	32050	72050	
1.8315	1.555		.280	30°	31731	71731	
1.8358	1.496		.285	45°	31433	71433	
1.8490	1.563	1.662	.365	45°	31266	71266	
1.8500	1.437		.434	45°	31893	71893	
1.8504	1.417		.472	45°	39065	79065	
1.8504	1.437		.394	45°	31228	71228	
1.8504	1.535		.472	45°	39063	79063	
1.8530	1.498		.273	30°	31734	71734	92217
1.8540	1.499	1.619*	.273	60°	32217	72217	
1.8545	1.576	1.788*	.230	45°	32232	72232	
1.8555	1.437		.394	45°	31228+5	71228+5	
1.8560	1.635		.280	45°	31268	71268	
1.8567	1.457		.339	45°	31339	71339	
1.8661	1.535		.315	45°	31377	71377	
1.8701	1.535		.472	45°	39066	79066	
1.8740	1.435		.382	45°	31378	71378	
1.8780	1.575		.305	45°	32020	72020	
1.8800	1.500		.250	45°	30919	70919	
1.8800	1.500		.375	45°	31091	71091	
1.8800	1.562	1.740	.187	45°	31930	71930	
1.8800	1.562	1.812	.187	60°	32175	72175	
1.8800	1.562		.250	45°	30509	70509	
1.8800	1.562		.312	45°	30923	70923	
1.8800	1.563		.438	30°	31739	71739	
1.8800	1.594		.375	45°	32119	72119	
1.8800	1.625	1.740	.187	60°	31921	71921	
1.8800	1.625	1.775	.219	45°	31955	71955	
1.8805	1.500		.294	45°	32114	72114	
1.8810	1.500		.313	45°	30920	70920	
1.8810	1.563		.219	45°	31238	71238	
1.8810	1.575		.317	45°	31217	71217	
1.8810	1.594		.250	45°	30687	70687	
1.8810	1.594		.313	45°	30688	70688	
1.8810	1.594		.328	45°	30689	70689	
1.8810	1.594		.375	45°	32026	72026	
1.8810	1.625		.219	45°	30681	70681	
1.8810	1.625		.250	45°	30682	70682	
1.8810	1.625		.281	45°	30683	70683	
1.8810	1.625		.313	45°	30684	70684	
1.8810	1.625		.375	45°	30685	70685	
1.8810	1.625		.453	45°	30686	70686	
1.8819	1.575		.315	45°	31394	71394	
1.8820	1.505	1.689	.380	45°	30138	70138	
1.8820	1.565	1.815*	.257	37°	32151	72151	
1.8820	1.575		.250	45°	32225	72225	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.8820	1.575		.290	45°	31741	71741	
1.8820	1.575	1.692	.317	45°	31034	71034	
1.8820	1.575	1.732	.317	45°	31256	71256	
1.8820	1.575		.320	45°	31316	71316	
1.8820	1.600		.252	45°	31092	71092	
1.8820	1.640		.280	45°	31495	71495	
1.8850	1.625	1.775	.219	45°	31955+5	71955+5	
1.8850	1.625		.219	45°	31956	71956	
1.8890	1.476		.394	45°	31189	71189	
1.8898	1.417		.335	45°	32261	72261	92261
1.8898	1.457		.472	45°	39069	79069	
1.8898	1.496		.433	45°	39068	79068	
1.8898	1.575		.472	45°	39067	79067	
1.8900	1.476		.434	45°	31894	71894	
1.8900	1.562	1.740	.187	45°	31930+10	71930+10	
1.8900	1.594		.375	45°	32119+10	72119+10	
1.8917	1.575		.315	45°	31913	71913	
1.8976	1.457		.284	45°	32221	72221	
1.9000	1.645		.250	45°	31743	71743	
1.9000	1.650		.300	45°	31744	71744	
1.9055	1.482		.181	60°	32045	72045	
1.9120	1.625		.281	45°	31746	71746	
1.9150	1.554		.250	45°	31984	71984	
1.9181	1.703		.197	45°	31945	71945	
1.9232	1.634		.177	45°	31860	71860	
1.9290	1.516		.434	45°	31895	71895	
1.9291	1.516		.394	45°	31190	71190	
1.9291	1.654		.315	45°	31191	71191	
1.9340	1.620	1.765	.319	27°	32275	72275	
1.9420	1.563		.375	45°	32115	72115	
1.9425	1.578		.203	45°	31748	71748	
1.9430	1.563		.219	45°	30933	70933	
1.9430	1.563		.250	45°	30932	70932	
1.9430	1.563		.313	45°	31496	71496	
1.9430	1.625		.250	45°	31497	71497	
1.9430	1.625		.281	45°	31749	71749	
1.9430	1.625		.312	45°	31134	71134	
1.9430	1.625		.375	45°	31471	71471	
1.9430	1.688		.188	45°	30935	70935	
1.9430	1.688		.219	45°	30936	70936	
1.9435	1.573	1.719	.379	45°	31250	71250	
1.9435	1.573		.379	45°	31281	71281	
1.9435	1.625		.219	45°	31262	71262	
1.9435	1.750		.219	45°	31242	71242	
1.9440	1.500		.313	45°	31166	71166	
1.9440	1.575	1.719	.380	45°	30141	70141	
1.9440	1.688		.250	45°	30560	70560	
1.9450	1.500		.450	45°	31898	71898	
1.9450	1.570	1.685	.380	45°	31324	71324	
1.9460	1.525		.425	45°	31322	71322	
1.9460	1.688		.379	45°	31118	71118	
1.9520	1.660		.345	45°	31751	71751	
1.9530	1.500		.287	45°	32247	72247	
1.9570	1.665		.280	45°	32196	72196	
1.9570	1.750		.280	45°	32205	72205	
1.9620	1.595	1.775	.365	60°	31923	71923	
1.9620	1.597	1.597*	.365	R .178	32241	72241	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.9685	1.500	1.815	.335	45°	32282	72282	92282
1.9685	1.535		.394	45°	31192	71192	
1.9685	1.693		.295	45°	32040	72040	92040
1.9690	1.535		.413	45°	31753	71753	
1.9690	1.535		.453	45°	31896	71896	
1.9730	1.646		.287	45°	32127	72127	
1.9800	1.694		.250	45°	30297	70297	
1.9970	1.646		.296	45°	31978	71978	
2.0000	1.580		.375	45°	32163	72163	
2.0005	1.602		.377	45°	32017	72017	
2.0010	1.712		.385	30°	31756	71756	
2.0050	1.813		.219	45°	30952	70952	
2.0060	1.563		.313	45°	31280	71280	
2.0060	1.600		.375	45°	31988	71988	
2.0060	1.625		.219	45°	30723	70723	
2.0060	1.625		.250	45°	30724	70724	
2.0060	1.625		.281	45°	30725	70725	90725
2.0060	1.625		.297	45°	30726	70726	
2.0060	1.625		.313	45°	30727	70727	
2.0060	1.625		.344	45°	30728	70728	
2.0060	1.625		.375	45°	30729	70729	
2.0060	1.625		.438	45°	30730	70730	
2.0060	1.630		.280	0°	31829	71829	91829
2.0060	1.688	1.900*	.215	45°	32134	72134	
2.0060	1.688		.219	45°	30698	70698	
2.0060	1.688		.219	30°	31957	71957	
2.0060	1.688		.234	45°	30704	70704	
2.0060	1.688		.250	45°	30699	70699	
2.0060	1.688		.282	45°	30700	70700	
2.0060	1.688		.313	45°	30701	70701	
2.0060	1.688		.375	45°	30702	70702	
2.0060	1.688		.438	45°	30703	70703	
2.0060	1.750		.188	45°	30690	70690	
2.0060	1.750		.219	45°	30691	70691	
2.0060	1.750		.250	45°	30692	70692	
2.0060	1.750		.281	45°	30693	70693	
2.0060	1.750		.313	45°	30694	70694	
2.0060	1.750		.375	45°	30695	70695	
2.0060	1.750		.438	45°	30696	70696	
2.0060	1.750		.453	45°	30697	70697	
2.0070	1.562		.450	45°	31899	71899	
2.0079	1.575		.217	45°	31415	71415	
2.0079	1.575		.413	45°	31193	71193	
2.0100	1.600		.400	45°	32190	72190	
2.0105	1.602	1.586*	.377	45°	32017+10	72017+10	
2.0110	1.625		.281	45°	30725+5	70725+5	90725+5
2.0110	1.688		.282	45°	30700+5	70700+5	
2.0110	1.712		.385	30°	31756+10	71756+10	
2.0150	1.670		.282	0°	31959	71959	91959
2.0150	1.828		.188	45°	31764	71764	
2.0160	1.625		.281	45°	30725+10	70725+10	
2.0160	1.688		.282	45°	30700+10	70700+10	
2.0180	1.594		.281	45°	31765	71765	
2.0205	1.602		.377	45°	32017+20	72017+20	
2.0210	1.586		.282	90°	32277	72277	92277
2.0250	1.670		.282	0°	31943	71943	91943
2.0270	1.772		.177	45°	32004	72004	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
2.0276	1.726		.217	45°	31341	71341	
2.0300	1.600	1.878*	.375	45°	31999	71999	
2.0305	1.602		.377	45°	32017+30	72017+30	
2.0315	1.571		.374	45°	31939	71939	
2.0350	1.610		.325	45°	31934	71934	91934
2.0350	1.670		.282	0°	31952	71952	91952
2.0405	1.602		.377	45°	32017+40	72017+40	
2.0441	1.732		.406	45°	32034	72034	92034
2.0472	1.614		.413	45°	31194	71194	
2.0485	1.765	1.809	.250	45°	32188	72188	
2.0485	1.781		.344	30°	31766	71766	
2.0500	1.575		.340	45°	31297	71297	
2.0505	1.602		.377	45°	32017+50	72017+50	
2.0508	1.575		.364	45°	31816	71816	
2.0600	1.562		.450	45°	32208	72208	
2.0650	1.610		.325	45°	31980	71980	91980
2.0669	1.750		.413	45°	32269	72269	
2.0670	1.750		.315	45°	32191	72191	
2.0673	1.693		.354	45°	31401	71401	
2.0675	1.748	2.026*	.392	45°	32223	72223	
2.0680	1.625		.281	45°	31767	71767	
2.0680	1.688	1.900*	.229	30°	31958	71958	
2.0680	1.688		.281	45°	31768	71768	
2.0680	1.724	1.806	.281	45°	32154	72154	
2.0680	1.750		.250	45°	32021	72021	
2.0680	1.750		.281	45°	31769	71769	
2.0680	1.750		.435	45°	32147	72147	
2.0680	1.770	2.016*	.250	45°	32212	72212	
2.0680	1.812		.250	45°	30963	70963	
2.0680	1.812	1.900	.281	45°	32141	72141	
2.0680	1.813		.188	45°	31770	71770	
2.0680	1.813	1.875	.250	45°	30964	70964	
2.0685	1.750		.219	45°	31249	71249	
2.0685	1.813	1.895	.250	45°	31260	71260	
2.0709	1.752		.236	45°	32048	72048	92048
2.0866	1.654		.413	45°	31195	71195	91195
2.0902	1.697		.382	45°	31475	71475	
2.0906	1.693		.354	45°	31430	71430	
2.0906	1.693	1.990	.374	70°	32031	72031	
2.0906	1.693		.394	45°	31424	71424	
2.1000	1.815	1.914	.400	45°	32092	72092	
2.1000	1.818		.431	45°	32071	72071	
2.1050	1.765		.375	45°	31310	71310	
2.1098	1.697		.402	45°	31093	71093	
2.1102	1.693		.354	45°	31447	71447	
2.1102	1.693		.394	45°	31441	71441	
2.1200	1.812		.375	45°	31454	71454	
2.1250	1.800		.437	45°	32186	72186	
2.1260	1.755		.311	45°	32231	72231	
2.1275	1.748	2.026*	.392	45°	32223+06	72223+06	
2.1300	1.700		.437	45°	32169	72169	
2.1300	1.724	1.932	.437	45°	32153	72153	
2.1300	1.724	1.887	.437	45°	32155	72155	
2.1300	1.812		.250	45°	30557	70557	
2.1300	1.812		.375	45°	31330	71330	
2.1300	1.812	2.030	.437	45°	32139	72139	
2.1300	1.812	2.000	.437	45°	32140	72140	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
2.1300	1.813	1.975	.313	45°	31124	71124	92022
2.1300	1.850		.250	60°	32097	72097	
2.1300	1.875		.219	45°	30974	70974	
2.1300	1.875		.250	45°	30537	70537	
2.1300	1.906		.177	45°	32003	72003	
2.1300	1.906		.234	45°	31473	71473	
2.1305	1.750		.219	45°	31777	71777	
2.1305	1.750		.250	45°	31776	71776	
2.1305	1.813		.188	45°	31779	71779	
2.1305	1.906		.250	45°	31498	71498	
2.1310	1.810		.375	45°	31990	71990	
2.1310	1.813		.219	45°	31240	71240	
2.1310	1.845		.312	45°	32024	72024	
2.1320	1.690		.450	45°	31897	71897	
2.1320	1.810		.312	45°	31985	71985	
2.1339	1.693	.339	45°	31338	71338		
2.1339	1.752	.287	45°	31417	71417		
2.1340	1.693	.394	45°	32216	72216		
2.1360	1.652	1.978*	.310	52°	32171	72171	
2.1360	1.705	1.978*	.295	60°	32172	72172	
2.1370	1.700	.400	45°	31504	71504		
2.1370	1.810	.400	45°	32084	72084		
2.1400	1.812	.375	45°	31830	71830		
2.1500	1.859	.292	30°	31782	71782		
2.1600	1.750	.375	45°	32022	72022		
2.1600	1.800	.300	45°	31271	71271		
2.1600	1.810	.350	45°	32067	72067		
2.1600	1.810	.375	45°	32023	72023		
2.1600	1.880	.350	45°	32068	72068		
2.1605	1.747	.352	45°	32016	72016		
2.1640	1.750	.450	45°	32209	72209		
2.1654	1.732	.433	45°	31783	71783		
2.1654	1.732	.472	45°	31141	71141		
2.1700	1.732	.433	45°	31783+5	71783+5		
2.1700	1.752	1.825*	.327	62.5°	32120	72120	
2.1700	1.810		.350	45°	32234	72234	
2.1700	1.812		.375	45°	31935	71935	
2.1700	1.813	2.072	.400	45°	32184	72184	
2.1701	1.751		.336	45°	31351	71351	
2.1701	1.751		.336	80°	32041	72041	
2.1701	1.751		.336	80°	32044	72044	
2.1705	1.747		.352	45°	32016+10	72016+10	
2.1800	1.810		.350	45°	32235	72235	
2.1805	1.747		.352	45°	32016+20	72016+20	
2.1905	1.747		.352	45°	32016+30	72016+30	
2.1930	1.937		.250	45°	31282	71282	
2.1935	1.875		.281	45°	30984	70984	
2.1940	1.812		.250	45°	31135	71135	
2.1940	1.812		.375	45°	32276	72276	
2.1940	1.906		.250	45°	31928	71928	
2.1955	1.750		.350	45°	32014	72014	
2.2000	1.720	1.863	.312	45°	32093	72093	
2.2000	1.830	1.983	.312	45°	32087	72087	
2.2000	1.835	1.990*	.312	45°	31982	71982	
2.2500	1.820	2.193*	.375	53°	31335	71335	
2.2550	1.875		.375	45°	31787	71787	
2.2555	1.875		.313	45°	31470	71470	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL OD	ID	ID TOP TAPER	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
2.2555	1.938		.188	45°	30989	70989	
2.2560	1.875		.281	45°	31252	71252	
2.2560	1.938		.219	45°	31261	71261	
2.2560	1.938		.375	45°	31983	71983	
2.2560	1.960		.250	60°	32156	72156	92156
2.2590	1.960		.250	45°	31995	71995	91995
2.2590	1.960	2.135*	.250	45°	32246	72246	
2.2870	1.949		.238	45°	32013	72013	
2.2900	1.900	2.236*	.375	53°	31457	71457	
2.3120	1.937		.220	45°	32272	72272	
2.3120	1.937		.312	45°	32108	72108	92108
2.3180	2.000		.250	45°	30991	70991	
2.3180	2.000		.375	45°	32118	72118	
2.3280	2.000		.375	45°	32118+10	72118+10	
2.3500	1.970	2.290*	.375	53°	31456	71456	
2.3500	1.970		.375	45°	31981	71981	
2.3657	2.011		.350	45°	31476	71476	
2.3810	2.000		.323	60°	32029	72029	92029
2.3810	2.030		.323	60°	31845	71845	91845
2.3810	2.030		.323	60°	32030	72030	92030
2.3819	2.000		.394	45°	31815	71815	
2.3820	2.000		.281	45°	30994	70994	
2.4000	1.900	2.242*	.375	45°	31998	71998	
2.4500	1.980	2.265*	.375	45°	32007	72007	
2.4505	2.000		.377	45°	32018	72018	

SPECIALTY SEATS							
1.755/1.956	1.557	1.812*	.312	30°	31964	71964	
1.765/1.956	1.557	1.812*	.312	30°	31964+10	71964+10	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
0.669		0.9840	.355	45°	31871	71871	
0.709		0.9252	.236	45°	31357	71357	
0.709		0.9449	.256	45°	31167	71167	
0.709		0.9547	.276	45°	32066	72066	
0.709		1.0236	.276	45°	32283	72283	92283
0.709		1.0240	.355	45°	31872	71872	
0.709		1.1024	.236	45°	32290	72290	92290
0.748		1.0630	.355	45°	31873	71873	
0.750		1.0045	.188	45°	31600	71600	
0.750		1.1310	.250	45°	31143	71143	
0.765		0.9500	.250	45°	32131	72131	
0.770		1.0240	.275	45°	32227	72227	
0.781		1.0690	.250	45°	31142	71142	
0.787		0.9843	.276	45°	31446	71446	
0.787		0.9882	.236	45°	31346	71346	
0.787		0.9890	.236	45°	31002	71002	
0.787		0.9902	.236	45°	31349	71349	
0.787		1.0512	.224	45°	31003	71003	
0.787		1.0689	.236	45°	31383	71383	
0.787		1.1020	.355	45°	31874	71874	
0.787		1.1024	.315	45°	31168	71168	
0.787		1.1811	.394	45°	39011	79011	
0.787		1.1921	.315	45°	32255	72255	92255
0.790		1.0690	.260	45°	31047	71047	
0.807		1.0559	.224	45°	31350	71350	
0.807		1.1024	.256	45°	31428	71428	
0.809		1.1661	.280	45°	31358	71358	
0.825		1.1320	.285	45°	31048	71048	
0.825		1.2250	.350	45°	32086	72086	
0.825		1.2400	.350	45°	32094	72094	
0.827		1.0335	.177	45°	31398	71398	
0.827		1.0437	.189	45°	31037	71037	
0.827		1.0472	.236	45°	31382	71382	
0.827		1.0492	.217	45°	31405	71405	
0.827		1.0551	.244	45°	31395	71395	
0.827		1.1417	.335	45°	31169	71169	
0.827		1.1420	.375	45°	31875	71875	
0.827		1.2205	.394	45°	39014	79014	
0.828		1.0142	.236	45°	32037	72037	92037
0.854		1.1320	.237	45°	31604	71604	
0.864		1.0722	.276	45°	32027	72027	92027
0.866		1.0827	.236	45°	31915	71915	91915
0.866		1.1024	.394	45°	39006	79006	
0.866		1.1083	.256	45°	31396	71396	
0.866		1.1220	.394	45°	39007	79007	
0.866		1.1810	.375	45°	31876	71876	
0.866		1.1811	.335	45°	31170	71170	
0.866		1.2598	.394	45°	39017	79017	
0.870		1.0695	.195	45°	31602	71602	
0.870		1.0900	.300	45°	32249	72249	
0.871		1.0681	.254	45°	31096	71096	
0.871		1.1299	.191	45°	31097	71097	
0.871		1.1933	.254	45°	31098	71098	
0.874		1.0898	.250	45°	31429	71429	
0.874		1.1516	.250	45°	31431	71431	
0.875		1.1300	.219	45°	30754	70754	
0.875		1.1921	.250	45°	31352	71352	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
0.875	1.000	1.1940	.250	45°	31144	71144	91410
0.875		1.2560	.250	45°	31151	71151	
0.890		1.1102	.236	45°	31807	71807	
0.890		1.1122	.236	45°	31812	71812	
0.905		1.1940	.257	45°	31146	71146	
0.905		1.2570	.230	45°	30230	70230	
0.905		1.2992	.315	45°	31425	71425	
0.906		1.0984	.256	45°	31804	71804	
0.906		1.1280	.303	45°	32043	72043	
0.906		1.1417	.394	45°	39008	79008	
0.906		1.1496	.256	45°	31410	71410	
0.906		1.1614	.275	45°	32250	72250	
0.906		1.1614	.394	45°	39009	79009	
0.906		1.1700	.275	45°	32198	72198	
0.906		1.1811	.394	45°	39010	79010	
0.906	1.024	1.2008	.394	45°	39012	79012	92042
0.906		1.2205	.335	45°	31171	71171	
0.906		1.2560	.313	45°	31149	71149	
0.906	1.024	1.2677	.248	45°	32042	72042	91450
0.906	1.024	1.2736	.248	45°	31450	71450	
0.906		1.2992	.394	45°	39020	79020	
0.910	1.070	1.1610	.222	30°	31608	71608	92047
0.910		1.1660	.222	30°	31608+5	71608+5	
0.910		1.2252	.283	45°	31354	71354	
0.910		1.2560	.281	45°	31333	71333	
0.910		1.2560	.288	45°	31334	71334	
0.910		1.2570	.285	45°	31054	71054	
0.920		1.1270	.220	45°	32268	72268	
0.925		1.1358	.217	45°	32047	72047	
0.925		1.1640	.220	45°	32266	72266	
0.925		1.1819	.244	45°	31049	71049	
0.925	1.070	1.2854	.315	45°	32146	72146	91435
0.929		1.1933	.256	45°	31435	71435	
0.930		1.2570	.325	45°	31612	71612	
0.933		1.1933	.254	45°	31099	71099	
0.933		1.2559	.254	45°	31105	71105	
0.934	1.070	1.1940	.260	45°	31050	71050	92256
0.935		1.1945	.235	45°	31868	71868	
0.938		1.1940	.250	45°	31145	71145	
0.938		1.2560	.188	45°	31152	71152	
0.938		1.3810	.313	45°	31156	71156	
0.941		1.2407	.335	45°	31434	71434	
0.945		1.1732	.236	45°	31444	71444	
0.945		1.1811	.335	45°	31411	71411	
0.945		1.1870	.354	45°	31436	71436	
0.945		1.2047	.226	45°	31937	71937	
0.945	1.070	1.2050	.295	45°	32211	72211	92262
0.945		1.2205	.394	45°	39013	79013	
0.945		1.2402	.394	45°	39015	79015	
0.945		1.2598	.335	45°	31172	71172	
0.945		1.2598	.354	45°	31311	71311	
0.945		1.2600	.375	45°	31878	71878	
0.945		1.3386	.335	45°	32256	72256	
0.945		1.3386	.394	45°	39023	79023	
0.949		1.1886	.319	45°	32279	72279	
0.965		1.2402	.315	45°	32262	72262	
0.970		1.2570	.270	45°	31613	71613	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
0.975	1.065	1.2620	.250	30°	31621	71621	
0.975		1.2620	.250	45°	31902	71902	
0.975		1.2820	.250	45°	31502	71502	
0.975		1.2820	.250	45°	31941	71941	
0.975		1.3020	.250	45°	31901	71901	
0.975		1.3190	.280	45°	31058	71058	
0.977		1.3190	.300	45°	31340	71340	
0.982		1.2670	.320	45°	31313	71313	
0.984		1.1850	.248	45°	31345	71345	
0.984		1.1858	.248	45°	31004	71004	
0.984		1.1870	.200	45°	31445	71445	
0.984		1.1870	.248	45°	31005	71005	
0.984		1.2008	.256	45°	31051	71051	
0.984		1.2169	.250	45°	32106	72106	92106
0.984		1.2205	.237	45°	31448	71448	
0.984		1.2303	.315	45°	31414	71414	
0.984		1.2598	.394	45°	39016	79016	
0.984		1.2602	.315	45°	31808	71808	91808
0.984		1.2795	.394	45°	39018	79018	
0.984		1.2854	.236	45°	31360	71360	
0.984		1.2992	.177	45°	31136	71136	
0.984		1.2992	.315	45°	39072	79072	
0.984		1.2992	.335	45°	31173	71173	
0.984		1.3634	.394	45°	31035	71035	
0.984		1.3780	.394	45°	39026	79026	
0.989		1.2063	.276	45°	32033	72033	92033
0.996		1.2559	.254	45°	31100	71100	
0.996		1.3181	.254	45°	31106	71106	
1.000		1.1920	.188	45°	31609	71609	
1.000		1.1920	.219	45°	31610	71610	
1.000		1.2550	.250	45°	30764	70764	
1.000		1.2551	.250	45°	31359	71359	
1.000		1.2560	.219	45°	31147	71147	
1.000		1.2560	.250	45°	31150	71150	91150
1.000		1.2560	.313	45°	31148	71148	
1.000		1.2570	.305	45°	31616	71616	
1.000		1.3175	.250	45°	31056	71056	
1.000		1.3190	.250	45°	31154	71154	
1.000		1.3190	.313	45°	31155	71155	
1.000		1.3820	.280	45°	31064	71064	
1.000		1.3820	.410	45°	31063	71063	
1.000		1.5060	.406	45°	31906	71906	
1.000		1.5060	.406	45°	31942	71942	
1.004		1.2854	.315	45°	31006	71006	
1.010		1.2570	.257	45°	31619	71619	
1.012		1.1953	.236	45°	32036	72036	92036
1.016		1.2402	.276	45°	32226	72226	
1.020		1.3190	.258	45°	31623	71623	
1.022		1.2570	.225	45°	30205	70205	
1.023		1.2570	.273	45°	31620	71620	
1.023		1.2992	.394	45°	39019	79019	
1.023		1.3189	.394	45°	39021	79021	
1.024		1.1811	.374	45°	32039	72039	
1.024		1.2441	.236	45°	31384	71384	
1.024		1.2480	.256	45°	31409	71409	
1.024		1.2724	.236	45°	31347	71347	
1.024		1.2854	.335	45°	31007	71007	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.024	1.265*	1.2992	.256	45°	31348	71348	91348
1.024		1.3190	.313	45°	32038	72038	
1.024		1.3386	.335	45°	31174	71174	
1.024		1.3780	.354	45°	31175	71175	
1.024		1.3780	.394	45°	31881	71881	
1.024		1.4173	.394	45°	39029	79029	
1.024		1.4429	.335	45°	32257	72257	92257
1.025		1.3433	.299	45°	31361	71361	
1.028		1.2550	.227	45°	31043	71043	
1.028		1.2570	.257	45°	31617	71617	
1.042		1.3190	.238	45°	30779	70779	
1.044		1.3195	.273	45°	31624	71624	
1.045		1.3190	.316	45°	30563	70563	
1.046		1.3170	.219	45°	30735	70735	
1.046		1.3170	.227	45°	30734	70734	
1.046		1.3170	.250	45°	30736	70736	
1.046		1.3170	.313	45°	30737	70737	
1.048		1.3050	.227	45°	30739	70739	
1.050		1.3450	.290	45°	32132	72132	
1.055		1.2550	.250	45°	31052	71052	
1.055		1.2700	.300	45°	32248	72248	
1.056		1.2645	.220	60°	32267	72267	
1.059		1.3181	.254	45°	31101	71101	
1.059		1.3807	.254	45°	31102	71102	
1.059		1.4433	.254	45°	31107	71107	
1.060		1.3195	.275	45°	31628	71628	
1.061		1.2593	.276	45°	32028	72028	92028
1.062		1.3190	.188	45°	30775	70775	
1.062		1.3800	.219	45°	31125	71125	
1.063		1.2795	.217	45°	31914	71914	91914
1.063		1.2827	.236	45°	31403	71403	
1.063		1.2992	.217	45°	32195	72195	
1.063		1.3170	.219	45°	31289	71289	
1.063		1.3170	.219	30°	31976	71976	
1.063		1.3189	.354	45°	31293	71293	
1.063		1.3190	.250	45°	32177	72177	
1.063		1.3190	.313	45°	31153	71153	
1.063		1.3268	.315	45°	31009	71009	
1.063		1.3386	.394	45°	31273	71273	
1.063		1.3484	.315	45°	31060	71060	
1.063		1.3504	.315	45°	31356	71356	
1.063		1.3583	.394	45°	39024	79024	
1.063		1.3799	.253	45°	31062	71062	
1.063		1.3800	.188	45°	30786	70786	
1.063		1.3800	.250	45°	30788	70788	
1.063		1.3800	.313	45°	30787	70787	
1.063		1.4170	.394	45°	31882	71882	
1.063		1.4173	.354	45°	31176	71176	
1.065		1.3195	.285	45°	31630	71630	
1.078		1.2840	.160	45°	32281	72281	
1.079		1.2531	.335	45°	32278	72278	
1.079	1.329	1.4055	.300	45°	31479	71479	
1.079	1.329	1.4550	.375	45°	32000	72000	
1.082		1.3228	.287	45°	31397	71397	
1.083		1.2835	.354	45°	31800	71800	
1.083		1.3071	.276	45°	31123	71123	
1.083		1.3425	.236	45°	31385	71385	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.083		1.3450	.236	45°	32128	72128	
1.085		1.3190	.305	45°	30562	70562	
1.087		1.3480	.200	45°	31633	71633	
1.087		1.3530	.200	45°	31633+5	71633+5	
1.093		1.3803	.250	45°	31363	71363	
1.098		1.4577	.352	45°	31113	71113	
1.100	1.220	1.3610	.306	45°	31312	71312	
1.100	1.200	1.3750	.227	60°	32085	72085	92085
1.100		1.3820	.300	45°	31139	71139	
1.100		1.4440	.315	45°	31329	71329	
1.100	1.225	1.5050	.316	45°	30045	70045	
1.100		1.5070	.315	45°	31074	71074	
1.102		1.3051	.276	45°	31008	71008	91008
1.102		1.3386	.315	45°	39073	79073	
1.102		1.3387	.177	45°	31306	71306	
1.102		1.3445	.236	45°	31449	71449	91449
1.102		1.3780	.197	45°	31408	71408	
1.102		1.3780	.315	45°	39074	79074	
1.102		1.3780	.335	45°	31824	71824	
1.102		1.3780	.394	45°	39025	79025	
1.102		1.3800	.355	45°	32149	72149	
1.102	1.160	1.3820	.260	45°	30238	70238	
1.102		1.3878	.315	45°	31065	71065	
1.102		1.3976	.394	45°	39027	79027	
1.102		1.4567	.354	45°	31068	71068	
1.102		1.4570	.394	45°	31883	71883	
1.102		1.4961	.394	45°	39035	79035	
1.102		1.5051	.335	45°	32258	72258	92258
1.105		1.4440	.322	45°	30806	70806	
1.108	1.344*	1.3670	.245	45°	31263	71263	
1.114		1.3661	.295	45°	31061	71061	
1.116	1.340	1.5200	.333	45°	31977	71977	
1.120		1.3820	.325	45°	31635	71635	
1.121		1.3807	.254	45°	31103	71103	
1.122		1.5051	.343	45°	31367	71367	
1.123	1.255	1.3190	.236	45°	31963	71963	
1.123		1.3190	.300	45°	31320	71320	
1.124		1.3776	.313	45°	31114	71114	
1.125		1.3800	.188	45°	30790	70790	
1.125		1.3800	.219	45°	30558	70558	
1.125		1.3800	.250	45°	30791	70791	90791
1.125		1.3800	.300	45°	32181	72181	
1.125		1.3800	.375	45°	30792	70792	
1.125		1.3810	.266	45°	31157	71157	
1.125		1.4010	.266	45°	31838	71838	
1.125		1.4210	.266	45°	31839	71839	
1.125		1.4421	.250	45°	31380	71380	
1.125		1.4421	.354	45°	31364	71364	
1.125		1.4425	.250	45°	30802	70802	
1.125		1.4425	.313	45°	30803	70803	
1.125		1.4840	.219	45°	31903	71903	
1.125		1.5043	.253	45°	31072	71072	
1.125		1.5050	.188	45°	30706	70706	
1.125		1.5050	.219	45°	30707	70707	
1.125		1.5050	.250	45°	30708	70708	
1.125		1.5050	.313	45°	30709	70709	
1.125		1.5690	.313	45°	31163	71163	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.126		1.3268	.250	45°	31010	71010	91010
1.126		1.3307	.250	45°	31438	71438	
1.126		1.3484	.250	45°	31011	71011	
1.126		1.4016	.158	45°	31918	71918	
1.126		1.4421	.315	45°	31013	71013	
1.126		1.4425	.188	45°	31225	71225	
1.126		1.4425	.219	45°	30801	70801	
1.130		1.4429	.315	45°	31407	71407	
1.135	1.250	1.4440	.316	45°	30809	70809	
1.138	1.386*	1.4040	.254	45°	31264	71264	
1.140		1.4440	.305	45°	31643	71643	92125 92075
1.140		1.4445	.237	45°	31656	71656	
1.140		1.4960	.390	45°	32243	72243	
1.140	1.250	1.5050	.325	45°	30105	70105	
1.141		1.3920	.318	45°	32183	72183	
1.141		1.4370	.394	45°	39030	79030	
1.141		1.5354	.394	45°	39038	79038	
1.141		1.5748	.394	45°	39041	79041	
1.142		1.3268	.295	45°	32125	72125	
1.142		1.3583	.295	45°	32075	72075	
1.142		1.3615	.220	60°	32265	72265	92222
1.142		1.3701	.256	45°	31809	71809	
1.142		1.3701	.283	45°	31362	71362	
1.142		1.3976	.394	45°	31274	71274	
1.142		1.4016	.315	45°	31012	71012	
1.142		1.4016	.374	45°	31277	71277	
1.142		1.4100	.275	45°	32197	72197	
1.142		1.4173	.394	45°	39028	79028	
1.142		1.4272	.315	45°	31420	71420	
1.142		1.4445	.336	45°	31658	71658	92032
1.142		1.4449	.315	45°	31439	71439	
1.142		1.4685	.315	45°	31365	71365	
1.142		1.4960	.394	45°	31884	71884	
1.142		1.4961	.354	45°	31178	71178	
1.148		1.5008	.283	45°	31366	71366	
1.149		1.5285	.265	45°	31993	71993	
1.150		1.4445	.257	45°	31659	71659	
1.152		1.4220	.315	45°	31066	71066	
1.152		1.4236	.250	45°	31412	71412	92222
1.157		1.3248	.260	45°	32222	72222	
1.161		1.3976	.374	45°	31294	71294	
1.162		1.4445	.230	45°	31650	71650	
1.162		1.4445	.310	45°	31649	71649	
1.166		1.3638	.276	45°	32032	72032	
1.175	1.400*	1.5040	.300	45°	32077	72077	
1.175	1.235	1.5060	.236	45°	31205	71205	
1.175		1.5070	.236	45°	30824	70824	
1.179	1.307	1.5060	.293	45°	31247	71247	92032
1.180		1.4440	.255	45°	31645	71645	
1.180	1.280	1.5060	.214	45°	31207	71207	
1.180	1.345	1.5060	.307	45°	31258	71258	
1.180		1.5070	.300	45°	31666	71666	
1.180	1.318	1.5070	.305	45°	30031	70031	
1.180		1.5350	.390	45°	32244	72244	
1.180		1.5690	.305	45°	31079	71079	
1.180		1.5695	.316	45°	31674	71674	
1.180		1.5823	.413	45°	31081	71081	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.181	1.350*	1.3839	.291	45°	31805	71805	92100
1.181		1.4055	.339	45°	31423	71423	
1.181		1.4055	.354	45°	31443	71443	
1.181		1.4114	.244	45°	31399	71399	
1.181		1.4173	.315	45°	39075	79075	
1.181		1.4440	.280	45°	31646	71646	
1.181		1.4567	.315	45°	31069	71069	
1.181		1.4567	.394	45°	39031	79031	
1.181		1.4646	.276	45°	31070	71070	
1.181		1.4650	.218	45°	32100	72100	
1.181		1.4665	.282	44°	32239	72239	
1.181		1.4764	.394	45°	39033	79033	92051
1.181		1.4803	.260	45°	32051	72051	
1.181		1.4803	.281	45°	31854	71854	
1.181		1.4961	.276	45°	31038	71038	
1.181		1.4961	.315	45°	39076	79076	92102
1.181		1.4965	.238	45°	32102	72102	
1.181		1.5059	.157	45°	31853	71853	
1.181		1.5350	.394	45°	31885	71885	
1.181		1.5354	.276	45°	31369	71369	92035 92259 99044
1.181		1.5354	.315	45°	39077	79077	
1.181		1.5354	.354	45°	31179	71179	
1.181		1.5748	.374	45°	31181	71181	
1.181		1.5750	.414	45°	31886	71886	
1.181		1.5953	.394	45°	32035	72035	
1.181		1.6000	.315	45°	32259	72259	
1.181		1.6142	.394	45°	39044	79044	
1.181		1.7520	.394	45°	39056	79056	
1.183		1.5059	.254	45°	31108	71108	
1.183		1.5248	.394	45°	31036	71036	
1.183		1.5681	.254	45°	31104	71104	
1.186		1.4405	.313	45°	31111	71111	
1.186		1.5657	.376	45°	31112	71112	
1.187		1.4791	.313	45°	31353	71353	
1.188	1.3810	.219	45°	31248	71248		
1.188	1.4421	.250	45°	31402	71402		
1.188	1.4425	.219	45°	31030	71030		
1.188	1.4440	.219	45°	31159	71159		
1.188	1.4440	.250	45°	31161	71161		
1.188	1.5000	.250	45°	31198	71198		
1.188	1.5043	.313	45°	31342	71342		
1.188	1.5045	.313	45°	31032	71032		
1.188	1.5050	.218	45°	30823	70823		
1.188	1.5050	.250	45°	30822	70822		
1.188	1.5060	.313	45°	31162	71162		
1.188	1.5680	.313	45°	30839	70839		
1.188	1.5685	.313	60°	31253	71253		
1.188	1.6300	.375	45°	31683	71683		
1.189	1.4425	.217	45°	31866	71866		
1.195	1.5060	.315	45°	31326	71326		
1.195	1.5060	.360	45°	31501	71501		
1.200	1.240	1.4008	.220	45°	31337	71337	
1.200		1.4440	.297	45°	30818	70818	
1.200		1.4803	.276	45°	31400	71400	
1.200		1.5060	.315	45°	31241	71241	
1.200	1.5270	.250	45°	30043	70043		
1.203	1.294	1.5070	.280	45°	31484	71484	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.205		1.5060	.322	45°	31909	71909	92105
1.210		1.5060	.345	45°	31214	71214	
1.210	1.263	1.5067	.344	45°	31314	71314	
1.210	1.333	1.5070	.345	45°	30148	70148	
1.210	1.276	1.5070	.345	45°	31291	71291	
1.213		1.4777	.154	45°	31305	71305	
1.215	1.344	1.5050	.219	45°	30705	70705	
1.215		1.5050	.250	45°	30722	70722	
1.215	1.275	1.5050	.280	45°	30015	70015	
1.215		1.5050	.305	45°	30721	70721	
1.215		1.5050	.310	45°	30716	70716	
1.215		1.5050	.318	45°	30717	70717	
1.215		1.5050	.345	45°	30718	70718	
1.217	1.339	1.4626	.307	45°	31822	71822	
1.219		1.4425	.219	45°	31031	71031	
1.219		1.4862	.344	45°	31864	71864	
1.219		1.5695	.317	45°	31287	71287	
1.220		1.4138	.238	45°	32105	72105	
1.220		1.4252	.295	45°	31121	71121	
1.220		1.4449	.295	45°	31440	71440	
1.220		1.4567	.394	45°	31275	71275	
1.220		1.4630	.354	45°	31908	71908	
1.220		1.4764	.335	45°	31071	71071	
1.220		1.4823	.276	45°	31014	71014	
1.220		1.4843	.315	45°	31015	71015	
1.220		1.4862	.335	45°	31387	71387	
1.220		1.4961	.394	45°	31276	71276	
1.220	1.328	1.5051	.315	45°	31073	71073	
1.220		1.5060	.310	45°	31204	71204	
1.220		1.5065	.350	45°	32110	72110	
1.220		1.5157	.335	45°	31388	71388	
1.220		1.5157	.343	45°	31368	71368	
1.220		1.5157	.394	45°	39036	79036	
1.220		1.5209	.285	45°	31432	71432	
1.220		1.5256	.335	45°	31389	71389	
1.220		1.5354	.335	45°	31180	71180	
1.220	1.356	1.5685	.344	45°	31222	71222	
1.220		1.5695	.344	45°	31292	71292	
1.220		1.6140	.414	45°	31887	71887	99047
1.220		1.6142	.335	45°	31182	71182	
1.220		1.6535	.394	45°	39047	79047	
1.221		1.5020	.303	45°	31940	71940	
1.221		1.5335	.335	45°	31016	71016	
1.221	1.370	1.6310	.437	45°	32167	72167	
1.221	1.421	1.6920	.437	45°	32166	72166	
1.225	1.467*	1.5060	.280	45°	32152	72152	
1.230		1.4440	.250	45°	31067	71067	
1.230		1.5060	.278	45°	31244	71244	
1.230		1.5690	.310	45°	31078	71078	92263
1.232		1.4772	.335	45°	31315	71315	
1.236		1.4764	.335	45°	31858	71858	
1.239		1.5070	.225	45°	30204	70204	
1.240		1.4750	.227	0°	31044	71044	
1.240		1.4764	.335	45°	31386	71386	
1.240		1.5157	.295	45°	32263	72263	
1.240		1.5400	.275	45°	32126	72126	
1.243		1.5700	.354	45°	31318	71318	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.245	1.546*	1.5690	.352	45°	31328	71328	92104
1.246		1.5059	.254	45°	31109	71109	
1.246		1.5695	.230	45°	31676	71676	
1.246		1.6565	.375	55°	31478	71478	
1.250		1.4440	.219	45°	30556	70556	
1.250	1.390	1.4440	.313	45°	31160	71160	
1.250		1.5043	.281	45°	31343	71343	
1.250		1.5050	.188	45°	30710	70710	
1.250		1.5050	.219	45°	30711	70711	
1.250		1.5050	.240	45°	30024	70024	
1.250	1.358	1.5050	.250	45°	30712	70712	
1.250		1.5050	.282	45°	30713	70713	
1.250		1.5050	.313	45°	30714	70714	
1.250		1.5050	.375	45°	30715	70715	
1.250		1.5060	.312	45°	32098	72098	
1.250		1.5070	.319	45°	32116	72116	
1.250		1.5070	.344	45°	31485	71485	
1.250		1.5160	.250	45°	31670	71670	
1.250		1.5260	.250	45°	31840	71840	
1.250		1.5285	.265	45°	31992	71992	
1.250		1.5630	.250	45°	31197	71197	
1.250		1.5669	.313	45°	31344	71344	
1.250		1.5670	.188	45°	31870	71870	
1.250		1.5673	.253	45°	31077	71077	
1.250		1.5680	.219	45°	30640	70640	
1.250		1.5680	.250	45°	30645	70645	
1.250		1.5680	.281	45°	30740	70740	
1.250		1.5680	.313	45°	30647	70647	
1.250		1.5680	.317	45°	30719	70719	
1.250		1.5680	.343	45°	32113	72113	
1.250		1.5890	.250	45°	31904	71904	
1.250		1.6090	.250	45°	31905	71905	
1.250		1.6300	.219	45°	30661	70661	
1.250		1.6300	.250	45°	30662	70662	
1.250		1.6300	.313	45°	30663	70663	
1.250		1.6300	.375	45°	30853	70853	
1.250		1.6300	.437	45°	32170	72170	
1.250		1.6320	.312	45°	31332	71332	
1.250		1.6900	.375	45°	31701	71701	
1.250		1.6950	.375	45°	31701+5	71701+5	
1.250		1.7550	.250	45°	31128	71128	
1.250		1.7600	.375	45°	32158	72158	
1.255		1.5060	.318	45°	31235	71235	
1.255		1.5365	.359	45°	31671	71671	
1.255		1.5685	.319	45°	31199	71199	
1.255		1.5685	.319	45°	31259	71259	
1.255		1.5690	.320	45°	31140	71140	
1.260		1.4571	.240	45°	32001	72001	
1.260		1.4830	.350	45°	32174	72174	
1.260		1.4850	.237	45°	30738	70738	
1.260		1.4961	.335	45°	31823	71823	
1.260		1.5161	.250	45°	32104	72104	
1.260		1.5354	.394	45°	39037	79037	
1.260		1.5472	.315	45°	31075	71075	
1.260		1.5551	.394	45°	39039	79039	
1.260		1.5748	.394	45°	39040	79040	
1.260		1.5945	.394	45°	39042	79042	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.260		1.6142	.315	45°	39079	79079	
1.260		1.6142	.413	45°	32271	72271	
1.260	1.340	1.6340	.394	45°	31323	71323	
1.260		1.6535	.374	45°	31183	71183	
1.260		1.6540	.414	45°	31888	71888	
1.260		1.6929	.394	45°	39050	79050	
1.265		1.5685	.280	45°	31210	71210	
1.265	1.320	1.5695	.280	45°	31286	71286	
1.270		1.4860	.290	30°	31665	71665	
1.272		1.5649	.256	45°	32009	72009	
1.273		1.5000	.180	60°	32280	72280	
1.280		1.5059	.295	45°	31419	71419	
1.280	1.450	1.6310	.219	45°	31233	71233	
1.280		1.6500	.350	45°	32070	72070	
1.280	1.500*	1.6500	.350	45°	32076	72076	
1.280		1.6600	.350	45°	32070+10	72070+10	
1.280		1.7362	.315	45°	32260	72260	92260
1.282		1.6000	.299	45°	31371	71371	
1.287		1.4803	.283	45°	31379	71379	
1.290	1.345	1.5650	.324	45°	32019	72019	
1.290	1.345	1.5685	.324	45°	31251	71251	
1.292	1.465	1.6920	.339	30°	32274	72274	
1.298		1.6310	.317	45°	31218	71218	
1.298	1.422	1.6320	.317	45°	31236	71236	
1.299		1.5354	.315	45°	31370	71370	
1.299		1.5551	.335	45°	31076	71076	
1.299		1.5630	.339	45°	31422	71422	
1.299		1.5630	.354	45°	31442	71442	
1.299		1.5650	.335	45°	31802	71802	
1.299		1.5748	.315	45°	39078	79078	
1.299		1.6142	.394	45°	39043	79043	99043
1.299		1.6339	.394	45°	39045	79045	
1.299		1.6535	.315	45°	39080	79080	
1.299		1.6535	.335	45°	31184	71184	
1.299		1.6535	.374	45°	31931	71931	
1.299		1.6929	.335	45°	31186	71186	91186
1.299		1.6930	.414	45°	31889	71889	
1.299		1.7323	.394	45°	39053	79053	
1.300		1.5400	.315	45°	32133	72133	
1.300		1.5690	.256	45°	31080	71080	
1.300		1.6000	.409	45°	32072	72072	
1.300		1.6300	.315	45°	32192	72192	
1.300		1.6470	.325	45°	32129	72129	
1.300		1.6940	.360	45°	31083	71083	
1.300	1.566	1.7000	.400	45°	32185	72185	
1.310	1.428	1.6050	.250	45°	32189	72189	
1.312	1.390	1.5680	.219	45°	30541	70541	
1.312		1.5680	.219	45°	30643	70643	90643
1.312	1.390	1.5680	.250	45°	30503	70503	
1.312		1.5680	.250	45°	30644	70644	
1.312		1.5680	.313	45°	30731	70731	
1.312		1.5730	.219	45°	30643+5	70643+5	
1.312		1.5730	.250	45°	30644+5	70644+5	
1.312		1.5780	.219	45°	30643+10	70643+10	
1.312		1.6300	.188	45°	31455	71455	91455
1.312	1.500	1.6310	.312	45°	32143	72143	
1.312		1.6460	.350	45°	31226	71226	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.312	1.550	1.6570	.395	45°	31697	71697	90649
1.312		1.6920	.219	45°	30674	70674	
1.312		1.6920	.250	45°	30675	70675	
1.312		1.6920	.313	45°	30676	70676	
1.312		1.6920	.375	45°	31270	71270	
1.312		1.6920	.437	45°	32142	72142	
1.312		1.6921	.315	45°	31374	71374	
1.312		1.6955	.350	45°	32015	72015	
1.312		1.7550	.395	45°	31232	71232	
1.313		1.5045	.188	45°	31290	71290	
1.313		1.5060	.219	45°	31255	71255	
1.313		1.5669	.177	45°	31851	71851	
1.313		1.5680	.188	45°	30840	70840	
1.313		1.5680	.219	30°	30838	70838	
1.313		1.5680	.280	45°	31267	71267	
1.313		1.5780	.250	45°	30644+10	70644+10	
1.313		1.6090	.219	45°	31841	71841	
1.313		1.6090	.414	45°	32148	72148	
1.313		1.6250	.250	45°	31196	71196	
1.313		1.6300	.219	45°	30649	70649	
1.313	1.472*	1.6300	.250	45°	30650	70650	92052
1.313		1.6300	.281	45°	31488	71488	
1.313		1.6300	.313	45°	30651	70651	
1.313		1.6300	.395	45°	30854	70854	
1.313		1.6535	.250	45°	31852	71852	
1.313		1.6560	.375	45°	31272	71272	
1.313		1.6929	.312	45°	32112	72112	
1.313		1.7140	.313	45°	31503	71503	
1.313		1.7550	.250	45°	30889	70889	
1.313		1.7560	.313	45°	31165	71165	
1.315		1.6594	.205	0°	31336	71336	
1.319		1.5591	.374	45°	31295	71295	
1.319		1.5748	.354	45°	31296	71296	
1.319		1.5827	.374	45°	31278	71278	
1.319		1.5953	.394	45°	32052	72052	
1.319		1.6220	.260	45°	31437	71437	
1.319		1.6260	.236	45°	32049	72049	92049
1.319		1.6260	.413	45°	32270	72270	
1.319		1.6614	.413	45°	31082	71082	90860
1.320		1.6260	.375	45°	31372	71372	
1.320	1.549*	1.6310	.300	45°	31223	71223	99046
1.321		1.6300	.393	60°	32224	72224	
1.321	1.549*	1.6900	.393	60°	32224+06	72224+06	90860
1.322	1.580*	1.6245	.375	45°	30855	70855	
1.323		1.6300	.240	45°	32213	72213	90860
1.323	1.490	1.7570	.280	45°	31467	71467	
1.327	1.490	1.5410	.256	45°	31416	71416	90860
1.329		1.6320	.280	45°	30860	70860	
1.333	1.490	1.6320	.237	45°	31690	71690	90860
1.334		1.6300	.313	45°	30642	70642	
1.335	1.490	1.7333	.372	45°	31110	71110	99046
1.338		1.6535	.394	45°	39046	79046	
1.338	1.490	1.6732	.394	45°	39048	79048	99046
1.339		1.5827	.295	45°	31017	71017	
1.339	1.490	1.5984	.276	45°	31018	71018	99046
1.339		1.6142	.295	45°	31039	71039	
1.339	1.490	1.6386	.315	45°	31019	71019	99046

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.339		1.6417	.250	45°	31020	71020	
1.339		1.6694	.177	45°	31308	71308	
1.339		1.6929	.325	45°	31185	71185	
1.339		1.7323	.374	45°	31187	71187	
1.339		1.7717	.472	45°	39058	79058	
1.339		1.8110	.472	45°	39061	79061	
1.340		1.6500	.350	45°	32069	72069	
1.340		1.6500	.425	45°	32138	72138	
1.340		1.6600	.350	45°	32069+10	72069+10	
1.344		1.5670	.219	45°	31033	71033	
1.344		1.6220	.197	45°	31946	71946	
1.344		1.6300	.250	45°	31489	71489	
1.344		1.6310	.313	45°	31164	71164	
1.344		1.6925	.313	45°	30559	70559	
1.344		1.6945	.375	45°	31493	71493	
1.348	1.524	1.6285	.365	45°	31924	71924	
1.348		1.6300	.218	45°	30857	70857	
1.348	1.524	1.6340	.365	45°	31681+5	71681+5	
1.350		1.6500	.375	45°	32164	72164	
1.350	1.626*	1.6560	.375	45°	31279	71279	
1.350		1.6600	.375	45°	31989	71989	91989
1.350		1.6700	.400	45°	32284	72284	
1.350		1.6800	.400	45°	32285	72285	
1.350		1.6929	.315	45°	31406	71406	
1.350	1.580*	1.6960	.305	45°	32165	72165	92165
1.357		1.7220	.265	45°	31709	71709	91709
1.358		1.5846	.287	45°	31418	71418	
1.358	1.592	1.6922	.191	0°	32150	72150	
1.358		1.7717	.394	45°	31227	71227	
1.358		1.7720	.434	45°	31891	71891	
1.358		1.7770	.394	45°	31227+5	71227+5	
1.359	1.504	1.6285	.248	60°	32010	72010	92010
1.360	1.565*	1.7210	.264	45°	32218	72218	92218
1.366		1.5413	.232	45°	31426	71426	
1.367		1.6500	.380	45°	32187	72187	
1.367		1.6600	.312	45°	31696+5	71696+5	
1.367		1.6710	.311	45°	31698	71698	
1.368		1.5827	.272	45°	31803	71803	
1.372	1.429	1.6690	.272	37°	30868	70868	
1.372	1.492	1.6920	.281	53°	31960	71960	
1.372	1.429	1.7570	.281	53°	30869	70869	
1.374		1.6201	.256	45°	31413	71413	
1.375		1.5670	.250	45°	31486	71486	
1.375		1.5680	.218	45°	30841	70841	
1.375		1.6300	.219	45°	30648	70648	
1.375	1.460	1.6300	.250	45°	30506	70506	
1.375		1.6300	.250	45°	30646	70646	
1.375		1.6300	.313	45°	30732	70732	
1.375		1.6310	.188	45°	31046	71046	
1.375		1.6310	.219	45°	31997	71997	
1.375		1.6344	.256	45°	32287	72287	
1.375		1.6350	.219	45°	30648+5	70648+5	
1.375		1.6421	.218	45°	32099	72099	92099
1.375		1.6450	.250	45°	30864	70864	
1.375		1.6920	.188	45°	31042	71042	
1.375		1.6920	.219	45°	30677	70677	
1.375		1.6920	.250	45°	30678	70678	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.375	1.500	1.6920	.285	45°	30720	70720	90653
1.375		1.6920	.313	45°	30679	70679	
1.375		1.6920	.375	45°	30871	70871	
1.375		1.6925	.312	45°	31922	71922	
1.375		1.6945	.295	45°	31707	71707	
1.375		1.7330	.312	45°	31929	71929	
1.375		1.7330	.375	45°	31920	71920	
1.375		1.7550	.219	45°	30652	70652	
1.375		1.7550	.250	45°	30653	70653	
1.375		1.7550	.313	45°	30654	70654	
1.375	1.610*	1.7570	.375	45°	31129	71129	92074
1.375		1.7570	.450	45°	31900	71900	
1.375		1.8045	.375	45°	31825	71825	
1.375		1.8170	.313	45°	30903	70903	
1.378		1.6339	.315	45°	32074	72074	
1.378		1.6634	.315	45°	31421	71421	
1.378		1.6805	.310	45°	32122	72122	
1.378		1.6929	.315	45°	39081	79081	
1.378		1.6929	.394	45°	39049	79049	
1.378		1.7126	.394	45°	39051	79051	
1.378	1.717*	1.7205	.318	45°	32121	72121	92124
1.378		1.7559	.295	45°	31381	71381	
1.380		1.6320	.257	45°	31687	71687	
1.380		1.7570	.400	58°	32199	72199	
1.384		1.7059	.250	45°	31085	71085	
1.384		1.7059	.354	45°	31084	71084	
1.385		1.6500	.375	45°	32025	72025	
1.385		1.6929	.315	45°	31391	71391	
1.385	1.520	1.6940	.305	45°	30190	70190	
1.385	1.559	1.7570	.380	45°	30127	70127	
1.390	1.489	1.6500	.400	45°	32091	72091	92124
1.390	1.480	1.6935	.305	45°	31213	71213	
1.390		1.6945	.305	45°	31288	71288	
1.392		1.8150	.297	45°	31376	71376	
1.394		1.6937	.305	45°	31856	71856	
1.394		1.7035	.315	45°	31857	71857	
1.398		1.6023	.315	45°	32124	72124	
1.398		1.6201	.256	45°	31813	71813	
1.398		1.6299	.197	45°	31859	71859	
1.398		1.6614	.315	45°	31810	71810	
1.398		1.6811	.335	45°	31811	71811	
1.398	1.632	1.8110	.394	45°	31188	71188	92124
1.398		1.8110	.434	45°	31892	71892	
1.400		1.6090	.250	45°	31679	71679	
1.400		1.7570	.420	45°	31265	71265	
1.405		1.8190	.315	45°	31137	71137	
1.405		1.8195	.315	45°	31243	71243	
1.406		1.6300	.250	45°	31482	71482	
1.406		1.6450	.187	45°	31996	71996	
1.406		1.6920	.250	45°	30670	70670	
1.406		1.6920	.305	45°	31116	71116	
1.406	1.580*	1.6925	.313	45°	31490	71490	92124
1.406		1.7460	.375	45°	31309	71309	
1.406		1.7863	.288	45°	31087	71087	
1.408		1.6500	.375	45°	31979	71979	
1.409		1.7600	.377	45°	32245	72245	
1.409		1.7874	.297	45°	31427	71427	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.410		1.6875	.365	20°	31828	71828	91828
1.410	1.560	1.7560	.315	45°	31246	71246	
1.410	1.560	1.7570	.315	45°	30165	70165	
1.412		1.6600	.256	45°	32178	72178	
1.413		1.7000	.375	45°	31331	71331	
1.414		1.8180	.334	45°	31954	71954	
1.417		1.6772	.315	45°	31373	71373	
1.417		1.7028	.315	45°	31021	71021	
1.417		1.7126	.394	45°	39070	79070	
1.417		1.7323	.276	45°	31375	71375	
1.417		1.7323	.315	45°	39082	79082	99082
1.417		1.7323	.394	45°	39052	79052	99052
1.417		1.7327	.238	45°	32101	72101	92101
1.417		1.7374	.354	45°	32215	72215	
1.417		1.7520	.394	45°	39071	79071	
1.417		1.7520	.433	45°	39055	79055	
1.417		1.7717	.315	45°	39083	79083	
1.417		1.8060	.292	45°	31933	71933	91933
1.417		1.8504	.472	45°	39065	79065	
1.417		1.8898	.335	45°	32261	72261	92261
1.418		1.7969	.390	45°	31088	71088	
1.435	1.505	1.8200	.314	45°	31319	71319	
1.435		1.8740	.382	45°	31378	71378	
1.437		1.6370	.350	45°	32173	72173	
1.437	1.625*	1.6930	.250	30°	31947	71947	
1.437		1.7524	.157	45°	31862	71862	
1.437		1.7560	.302	45°	31221	71221	
1.437		1.8303	.375	45°	31090	71090	
1.437		1.8500	.434	45°	31893	71893	
1.437		1.8504	.394	45°	31228	71228	
1.437		1.8555	.394	45°	31228+5	71228+5	
1.438		1.6310	.219	45°	31234	71234	
1.438	1.546	1.6870	.365	45°	31846	71846	
1.438		1.6905	.181	30°	31702	71702	
1.438		1.6905	.200	30°	31703	71703	
1.438		1.6920	.156	45°	30872	70872	
1.438		1.6920	.188	45°	30873	70873	
1.438		1.6920	.219	45°	30664	70664	90664
1.438		1.6920	.250	45°	30673	70673	
1.438		1.6920	.313	45°	30733	70733	
1.438		1.6970	.219	45°	30664+5	70664+5	
1.438	1.610	1.7550	.203	45°	30891	70891	
1.438		1.7550	.219	45°	30655	70655	
1.438		1.7550	.250	45°	30656	70656	
1.438	1.500	1.7550	.302	45°	31117	71117	
1.438		1.7550	.313	45°	30657	70657	
1.438	1.500	1.7560	.188	45°	31045	71045	
1.438		1.8170	.313	45°	30905	70905	
1.438		1.8175	.375	45°	31459	71459	
1.438		1.8180	.188	45°	32135	72135	
1.438		1.8180	.219	45°	31269	71269	
1.438		1.8180	.250	45°	30904	70904	
1.438		1.8180	.312	45°	32111	72111	
1.439	1.515	1.6920	.365	45°	31916	71916	
1.440		1.7913	.374	45°	31801	71801	
1.440	1.508	1.8190	.316	45°	31327	71327	
1.440	1.515	1.8195	.315	45°	31284	71284	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.445	1.617	1.7560	.310	45°	31215	71215	
1.450		1.6940	.297	45°	30881	70881	
1.450		1.8120	.197	30°	31843	71843	
1.450		1.8220	.197	30°	31843+10	71843+10	
1.455	1.620	1.7330	.365	45°	31925	71925	
1.457		1.7205	.335	45°	31814	71814	
1.457	1.457*	1.7320	.365	R .212	32242	72242	92103
1.457		1.7421	.315	45°	31086	71086	
1.457		1.7425	.250	45°	32103	72103	
1.457		1.7570	.312	45°	31317	71317	
1.457		1.7618	.335	45°	31392	71392	
1.457		1.7717	.335	45°	31393	71393	
1.457		1.7717	.472	45°	39057	79057	
1.457		1.7913	.472	45°	39059	79059	
1.457		1.8567	.339	45°	31339	71339	
1.457		1.8898	.472	45°	39069	79069	
1.457		1.8976	.284	45°	32221	72221	
1.468		1.7550	.220	45°	32273	72273	
1.468		1.7550	.312	45°	32109	72109	
1.468		1.7570	.276	45°	31715	71715	
1.468		1.8180	.313	45°	30680	70680	
1.469		1.6831	.295	45°	31390	71390	
1.469		1.7840	.290	45°	31230	71230	
1.476		1.7559	.281	45°	31863	71863	
1.476		1.7810	.311	45°	31257	71257	
1.476		1.8890	.394	45°	31189	71189	
1.476		1.8900	.434	45°	31894	71894	
1.480	1.642*	1.7421	.282	44°	32240	72240	92109
1.482		1.9055	.181	60°	32045	72045	
1.484		1.8170	.250	45°	31089	71089	
1.487		1.7420	.268	45°	31907	71907	
1.487		1.7750	.312	20°	32117	72117	
1.490		1.7825	.340	30°	31722	71722	
1.490		1.8190	.305	45°	30030	70030	
1.490		1.8195	.307	45°	31237	71237	
1.496	1.628	1.7815	.315	45°	31404	71404	90680
1.496		1.8110	.315	45°	39084	79084	
1.496		1.8110	.472	45°	39060	79060	
1.496		1.8161	.276	45°	32214	72214	
1.496		1.8190	.157	45°	31307	71307	
1.496		1.8307	.472	45°	39062	79062	
1.496		1.8358	.285	45°	31433	71433	
1.496		1.8898	.433	45°	39068	79068	
1.498		1.8530	.273	30°	31734	71734	
1.499		1.8540	.273	60°	32217	72217	
1.500		1.6925	.250	45°	31491	71491	
1.500		1.7550	.219	45°	30658	70658	
1.500	1.619*	1.7550	.250	45°	30659	70659	90659
1.500		1.7550	.313	45°	30660	70660	
1.500		1.7600	.219	45°	30658+5	70658+5	
1.500		1.7863	.288	45°	32002	72002	
1.500		1.8170	.375	45°	31131	71131	
1.500		1.8179	.256	45°	32008	72008	
1.500		1.8180	.219	45°	30530	70530	
1.500		1.8180	.219	45°	30668	70668	
1.500		1.8180	.250	45°	30672	70672	
1.500		1.8180	.281	45°	30741	70741	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.500	1.555	1.8180	.312	45°	30907	70907	90907
1.500		1.8185	.312	60°	32157	72157	92157
1.500		1.8185	.512	60°	32253	72253	92253
1.500		1.8195	.278	45°	31285	71285	
1.500		1.8800	.250	45°	30919	70919	
1.500		1.8800	.375	45°	31091	71091	
1.500		1.8805	.294	45°	32114	72114	
1.500		1.8810	.313	45°	30920	70920	
1.500		1.9440	.313	45°	31166	71166	
1.500		1.9450	.450	45°	31898	71898	
1.500	1.689	1.9530	.287	45°	32247	72247	
1.500		1.9685	.335	45°	32282	72282	92282
1.505		1.8161	.280	45°	31355	71355	
1.505		1.8820	.380	45°	30138	70138	
1.511		1.7648	.265	45°	31994	71994	
1.516		1.9290	.434	45°	31895	71895	
1.516		1.9291	.394	45°	31190	71190	
1.520		1.8180	.177	45°	31961	71961	
1.520		1.8180	.300	45°	31910	71910	
1.520		1.8180	.334	45°	31951	71951	
1.525	1.710	1.9460	.425	45°	31322	71322	
1.530		1.8195	.307	45°	31239	71239	
1.531		1.7570	.312	45°	31494	71494	
1.535		1.7814	.226	45°	31991	71991	
1.535		1.7815	.295	45°	31472	71472	
1.535		1.8504	.472	45°	39063	79063	
1.535		1.8661	.315	45°	31377	71377	
1.535		1.8701	.472	45°	39066	79066	
1.535		1.9685	.394	45°	31192	71192	
1.535		1.9690	.413	45°	31753	71753	
1.535	1.703*	1.9690	.453	45°	31896	71896	
1.540		1.8125	.365	60°	31827	71827	91827
1.540		1.8170	.365	30°	31726	71726	
1.554		1.9150	.250	45°	31984	71984	
1.555		1.8110	.333	45°	32230	72230	
1.555		1.8315	.280	30°	31731	71731	
1.560		1.8250	.272	58.5°	32229	72229	
1.562		1.8170	.365	45°	30542	70542	
1.562		1.740	.187	45°	31930	71930	
1.562		1.812	.187	60°	32175	72175	
1.562	1.740	1.8800	.250	45°	30509	70509	
1.562		1.8800	.312	45°	30923	70923	
1.562		1.8900	.187	45°	31930+10	71930+10	
1.562		2.0070	.450	45°	31899	71899	
1.562		2.0600	.450	45°	32208	72208	
1.563		1.8180	.219	45°	30667	70667	90667
1.563		1.8180	.250	45°	30671	70671	
1.563		1.8180	.313	45°	31000	71000	
1.563		1.8490	.365	45°	31266	71266	
1.563		1.8800	.438	30°	31739	71739	
1.563	1.662	1.8810	.219	45°	31238	71238	
1.563		1.9420	.375	45°	32115	72115	
1.563		1.9430	.219	45°	30933	70933	
1.563		1.9430	.250	45°	30932	70932	
1.563		1.9430	.313	45°	31496	71496	
1.563		2.0060	.313	45°	31280	71280	
1.565		1.815*	.257	37°	32151	72151	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.567	1.714*	1.8134	.282	44°	32238	72238	92011
1.570		1.8195	.284	60°	32011	72011	
1.570	1.685	1.9450	.380	45°	31324	71324	
1.571		2.0315	.374	45°	31939	71939	92050
1.573	1.719	1.9435	.379	45°	31250	71250	
1.573		1.9435	.379	45°	31281	71281	
1.575		1.8307	.276	45°	32050	72050	
1.575		1.8780	.305	45°	32020	72020	
1.575		1.8810	.317	45°	31217	71217	
1.575		1.8819	.315	45°	31394	71394	
1.575		1.8820	.250	45°	32225	72225	
1.575		1.8820	.290	45°	31741	71741	
1.575	1.692	1.8820	.317	45°	31034	71034	
1.575	1.732	1.8820	.317	45°	31256	71256	
1.575		1.8820	.320	45°	31316	71316	
1.575		1.8898	.472	45°	39067	79067	
1.575		1.8917	.315	45°	31913	71913	
1.575	1.719	1.9440	.380	45°	30141	70141	
1.575		2.0079	.217	45°	31415	71415	92277
1.575		2.0079	.413	45°	31193	71193	
1.575		2.0500	.340	45°	31297	71297	
1.575		2.0508	.364	45°	31816	71816	
1.576	1.788*	1.8545	.230	45°	32232	72232	
1.578		1.9425	.203	45°	31748	71748	
1.580		2.0000	.375	45°	32163	72163	
1.586	1.586*	2.0210	.282	90°	32277	72277	
1.594		1.7560	.278	45°	31209	71209	
1.594		1.8800	.375	45°	32119	72119	
1.594		1.8810	.250	45°	30687	70687	
1.594		1.8810	.313	45°	30688	70688	
1.594		1.8810	.328	45°	30689	70689	
1.594		1.8810	.375	45°	32026	72026	
1.594		1.8900	.375	45°	32119+10	72119+10	
1.594		2.0180	.281	45°	31765	71765	91934 91980
1.595	1.775	1.9620	.365	60°	31923	71923	
1.597	1.597*	1.9620	.365	R .178	32241	72241	
1.600		1.8140	.315	45°	31724	71724	
1.600		1.8820	.252	45°	31092	71092	
1.600		2.0060	.375	45°	31988	71988	
1.600		2.0100	.400	45°	32190	72190	
1.600	1.878*	2.0300	.375	45°	31999	71999	
1.602		2.0005	.377	45°	32017	72017	
1.602		2.0105	.377	45°	32017+10	72017+10	
1.602		2.0205	.377	45°	32017+20	72017+20	
1.602		2.0305	.377	45°	32017+30	72017+30	
1.602		2.0405	.377	45°	32017+40	72017+40	
1.602		2.0505	.377	45°	32017+50	72017+50	
1.610		2.0350	.325	45°	31934	71934	
1.610		2.0650	.325	45°	31980	71980	
1.614		2.0472	.413	45°	31194	71194	91934 91980
1.620	1.765	1.9340	.319	27°	32275	72275	
1.625		1.8175	.219	45°	31283	71283	
1.625	1.740	1.8800	.187	60°	31921	71921	
1.625	1.775	1.8800	.219	45°	31955	71955	
1.625		1.8810	.219	45°	30681	70681	
1.625		1.8810	.250	45°	30682	70682	
1.625		1.8810	.281	45°	30683	70683	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES			
					30000	70000	90000	
1.625	1.775	1.8810	.313	45°	30684	70684	90725	
1.625		1.8810	.375	45°	30685	70685		
1.625		1.8810	.453	45°	30686	70686		
1.625		1.8850	.219	45°	31955+5	71955+5		
1.625		1.8850	.219	45°	31956	71956		
1.625		1.9120	.281	45°	31746	71746		
1.625		1.9430	.250	45°	31497	71497		
1.625		1.9430	.281	45°	31749	71749		
1.625		1.9430	.312	45°	31134	71134		
1.625		1.9430	.375	45°	31471	71471		
1.625		1.9435	.219	45°	31262	71262		
1.625		2.0060	.219	45°	30723	70723		
1.625		2.0060	.250	45°	30724	70724		
1.625		2.0060	.281	45°	30725	70725		
1.625		2.0060	.297	45°	30726	70726		
1.625		2.0060	.313	45°	30727	70727		
1.625		2.0060	.344	45°	30728	70728		
1.625		2.0060	.375	45°	30729	70729		
1.625		2.0060	.438	45°	30730	70730		
1.625	1.815	2.0110	.281	45°	30725+5	70725+5	90725+5	
1.625		2.0160	.281	45°	30725+10	70725+10		
1.625		2.0680	.281	45°	31767	71767	91829	
1.630		2.0060	.280	0°	31829	71829		
1.634		1.9232	.177	45°	31860	71860		
1.635		1.8560	.280	45°	31268	71268		
1.640		1.8820	.280	45°	31495	71495		
1.645		1.9000	.250	45°	31743	71743		
1.646		1.9730	.287	45°	32127	72127		
1.646		1.9970	.296	45°	31978	71978		
1.650		1.9000	.300	45°	31744	71744		
1.652		2.1360	.310	52°	32171	72171		
1.654		1.9291	.315	45°	31191	71191		
1.654		2.0866	.413	45°	31195	71195		91195
1.656		1.8185	.307	45°	31211	71211		
1.660		1.9520	.345	45°	31751	71751		
1.665		1.9570	.280	45°	32196	72196		
1.670		2.0150	.282	0°	31959	71959		91959
1.670		2.0250	.282	0°	31943	71943		91943
1.670	2.0350	.282	0°	31952	71952	91952		
1.688	1.900*	1.9430	.188	45°	30935	70935		
1.688		1.9430	.219	45°	30936	70936		
1.688		1.9440	.250	45°	30560	70560		
1.688		1.9460	.379	45°	31118	71118		
1.688		2.0060	.215	45°	32134	72134		
1.688		2.0060	.219	45°	30698	70698		
1.688		2.0060	.219	30°	31957	71957		
1.688		2.0060	.234	45°	30704	70704		
1.688		2.0060	.250	45°	30699	70699		
1.688		2.0060	.282	45°	30700	70700		
1.688		2.0060	.313	45°	30701	70701		
1.688		2.0060	.375	45°	30702	70702		
1.688		2.0060	.438	45°	30703	70703		
1.688		2.0110	.282	45°	30700+5	70700+5		
1.688		2.0160	.282	45°	30700+10	70700+10		
1.688		2.0680	.229	30°	31958	71958		
1.688		2.0680	.281	45°	31768	71768		
1.690		2.1320	.450	45°	31897	71897		

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.693	1.990	1.9685	.295	45°	32040	72040	92040
1.693		2.0673	.354	45°	31401	71401	
1.693		2.0906	.354	45°	31430	71430	
1.693		2.0906	.374	70°	32031	72031	
1.693		2.0906	.394	45°	31424	71424	
1.693		2.1102	.354	45°	31447	71447	
1.693		2.1102	.394	45°	31441	71441	
1.693		2.1339	.339	45°	31338	71338	
1.693		2.1340	.394	45°	32216	72216	
1.694		1.9800	.250	45°	30297	70297	
1.697		2.0902	.382	45°	31475	71475	
1.697		2.1098	.402	45°	31093	71093	
1.700		2.1300	.437	45°	32169	72169	
1.700		2.1370	.400	45°	31504	71504	
1.703	1.978*	1.9181	.197	45°	31945	71945	92034
1.705		2.1360	.295	60°	32172	72172	
1.712		2.0010	.385	30°	31756	71756	
1.712		2.0110	.385	30°	31756+10	71756+10	
1.720	1.863	2.2000	.312	45°	32093	72093	
1.724	1.806	2.0680	.281	45°	32154	72154	
1.724	1.932	2.1300	.437	45°	32153	72153	
1.724	1.887	2.1300	.437	45°	32155	72155	
1.726	2.026*	2.0276	.217	45°	31341	71341	
1.732		2.0441	.406	45°	32034	72034	
1.732		2.1654	.433	45°	31783	71783	
1.732		2.1654	.472	45°	31141	71141	
1.732		2.1700	.433	45°	31783+5	71783+5	
1.747		2.1605	.352	45°	32016	72016	
1.747		2.1705	.352	45°	32016+10	72016+10	
1.747		2.1805	.352	45°	32016+20	72016+20	
1.747		2.1905	.352	45°	32016+30	72016+30	
1.748		2.0675	.392	45°	32223	72223	
1.748	2.026*	2.1275	.392	45°	32223+06	72223+06	
1.750	2.026*	1.9435	.219	45°	31242	71242	
1.750		1.9570	.280	45°	32205	72205	
1.750		2.0060	.188	45°	30690	70690	
1.750		2.0060	.219	45°	30691	70691	
1.750		2.0060	.250	45°	30692	70692	
1.750		2.0060	.281	45°	30693	70693	
1.750		2.0060	.313	45°	30694	70694	
1.750		2.0060	.375	45°	30695	70695	
1.750		2.0060	.438	45°	30696	70696	
1.750		2.0060	.453	45°	30697	70697	
1.750		2.0669	.413	45°	32269	72269	
1.750		2.0670	.315	45°	32191	72191	
1.750		2.0680	.250	45°	32021	72021	
1.750		2.0680	.281	45°	31769	71769	
1.750		2.0680	.435	45°	32147	72147	
1.750		2.0685	.219	45°	31249	71249	
1.750		2.1305	.219	45°	31777	71777	
1.750		2.1305	.250	45°	31776	71776	
1.750		2.1600	.375	45°	32022	72022	92022
1.750		2.1640	.450	45°	32209	72209	
1.750		2.1955	.350	45°	32014	72014	
1.751		2.1701	.336	45°	31351	71351	
1.751		2.1701	.336	80°	32041	72041	
1.751		2.1701	.336	80°	32044	72044	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.752		2.0709	.236	45°	32048	72048	92048
1.752		2.1339	.287	45°	31417	71417	
1.752	1.825*	2.1700	.327	62.5°	32120	72120	
1.755		2.1260	.311	45°	32231	72231	
1.765	1.809	2.0485	.250	45°	32188	72188	
1.765		2.1050	.375	45°	31310	71310	
1.770	2.016*	2.0680	.250	45°	32212	72212	
1.772		2.0270	.177	45°	32004	72004	
1.781		2.0485	.344	30°	31766	71766	
1.800		2.1250	.437	45°	32186	72186	
1.800		2.1600	.300	45°	31271	71271	92023
1.810		2.1310	.375	45°	31990	71990	
1.810		2.1320	.312	45°	31985	71985	
1.810		2.1370	.400	45°	32084	72084	
1.810		2.1600	.350	45°	32067	72067	
1.810		2.1600	.375	45°	32023	72023	
1.810		2.1700	.350	45°	32234	72234	
1.810		2.1800	.350	45°	32235	72235	
1.812		2.0680	.250	45°	30963	70963	
1.812	1.900	2.0680	.281	45°	32141	72141	
1.812		2.1200	.375	45°	31454	71454	
1.812		2.1300	.250	45°	30557	70557	
1.812		2.1300	.375	45°	31330	71330	
1.812	2.030	2.1300	.437	45°	32139	72139	
1.812	2.000	2.1300	.437	45°	32140	72140	
1.812		2.1400	.375	45°	31830	71830	
1.812		2.1700	.375	45°	31935	71935	
1.812		2.1940	.250	45°	31135	71135	
1.812		2.1940	.375	45°	32276	72276	
1.813		2.0050	.219	45°	30952	70952	92023
1.813		2.0680	.188	45°	31770	71770	
1.813	1.875	2.0680	.250	45°	30964	70964	
1.813	1.895	2.0685	.250	45°	31260	71260	
1.813		2.1300	.313	45°	31124	71124	
1.813		2.1305	.188	45°	31779	71779	
1.813		2.1310	.219	45°	31240	71240	
1.813	2.072	2.1700	.400	45°	32184	72184	
1.815	1.914	2.1000	.400	45°	32092	72092	
1.818		2.1000	.431	45°	32071	72071	
1.820	2.193*	2.2500	.375	53°	31335	71335	
1.828		2.0150	.188	45°	31764	71764	
1.830	1.983	2.2000	.312	45°	32087	72087	
1.835	1.990*	2.2000	.312	45°	31982	71982	
1.845		2.1310	.312	45°	32024	72024	
1.850	1.975	2.1300	.250	60°	32097	72097	
1.859		2.1500	.292	30°	31782	71782	
1.875		2.1300	.219	45°	30974	70974	
1.875		2.1300	.250	45°	30537	70537	
1.875		2.1935	.281	45°	30984	70984	
1.875		2.2550	.375	45°	31787	71787	92023
1.875		2.2555	.313	45°	31470	71470	
1.875		2.2560	.281	45°	31252	71252	
1.880		2.1600	.350	45°	32068	72068	
1.900	2.236*	2.2900	.375	53°	31457	71457	
1.900	2.242*	2.4000	.375	45°	31998	71998	
1.906		2.1300	.177	45°	32003	72003	
1.906		2.1300	.234	45°	31473	71473	

* Special ID features

VALVE SEAT PROGRESSIVE LISTING BY INSIDE DIAMETER

ID	ID TOP TAPER	ACTUAL OD	DEPTH	SEAT ANGLE	PART NUMBER SERIES		
					30000	70000	90000
1.906		2.1305	.250	45°	31498	71498	
1.906		2.1940	.250	45°	31928	71928	
1.937		2.1930	.250	45°	31282	71282	
1.937		2.3120	.220	45°	32272	72272	
1.937		2.3120	.312	45°	32108	72108	92108
1.938		2.2555	.188	45°	30989	70989	
1.938		2.2560	.219	45°	31261	71261	
1.938		2.2560	.375	45°	31983	71983	
1.949		2.2870	.238	45°	32013	72013	
1.960		2.2560	.250	60°	32156	72156	92156
1.960		2.2590	.250	45°	31995	71995	91995
1.960	2.135*	2.2590	.250	45°	32246	72246	
1.970	2.290*	2.3500	.375	53°	31456	71456	
1.970		2.3500	.375	45°	31981	71981	
1.980	2.265*	2.4500	.375	45°	32007	72007	
2.000		2.3180	.250	45°	30991	70991	
2.000		2.3180	.375	45°	32118	72118	
2.000		2.3280	.375	45°	32118+10	72118+10	
2.000		2.3810	.323	60°	32029	72029	92029
2.000		2.3819	.394	45°	31815	71815	
2.000		2.3820	.281	45°	30994	70994	
2.000		2.4505	.377	45°	32018	72018	
2.011		2.3657	.350	45°	31476	71476	
2.030		2.3810	.323	60°	31845	71845	91845
2.030		2.3810	.323	60°	32030	72030	92030

SPECIALTY SEATS							
1.557	1.812*	1.755/1.956	.312	30°	31964	71964	
1.557	1.812*	1.765/1.956	.312	30°	31964+10	71964+10	

* Special ID features

UNIVERSAL VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

DECIMAL

METRIC

PART NUMBER SERIES			ACTUAL	ID	DEPTH	SEAT
30000	70000	90000	OD			ANGLE

39006	79006		1.1024	0.866	.394	45°
39007	79007		1.1220	0.866	.394	45°
39008	79008		1.1417	0.906	.394	45°
39009	79009		1.1614	0.906	.394	45°
39011	79011		1.1811	0.787	.394	45°
39010	79010		1.1811	0.906	.394	45°
39012	79012		1.2008	0.906	.394	45°
39014	79014		1.2205	0.827	.394	45°
39013	79013		1.2205	0.945	.394	45°
39015	79015		1.2402	0.945	.394	45°
39017	79017		1.2598	0.866	.394	45°
39016	79016		1.2598	0.984	.394	45°
39018	79018		1.2795	0.984	.394	45°
39020	79020		1.2992	0.906	.394	45°
39019	79019		1.2992	1.023	.394	45°
39021	79021		1.3189	1.023	.394	45°
39023	79023		1.3386	0.945	.394	45°
39024	79024		1.3583	1.063	.394	45°
39026	79026		1.3780	0.984	.394	45°
39025	79025		1.3780	1.102	.394	45°
39027	79027		1.3976	1.102	.394	45°
39029	79029		1.4173	1.024	.394	45°
39028	79028		1.4173	1.142	.394	45°
39030	79030		1.4370	1.141	.394	45°
39031	79031		1.4567	1.181	.394	45°
39033	79033		1.4764	1.181	.394	45°
39035	79035		1.4961	1.102	.394	45°
39036	79036		1.5157	1.220	.394	45°
39038	79038		1.5354	1.141	.394	45°
39037	79037		1.5354	1.260	.394	45°
39039	79039		1.5551	1.260	.394	45°
39041	79041		1.5748	1.141	.394	45°
39040	79040		1.5748	1.260	.394	45°
39042	79042		1.5945	1.260	.394	45°
39044	79044	99044	1.6142	1.181	.394	45°
39043	79043	99043	1.6142	1.299	.394	45°
39045	79045		1.6339	1.299	.394	45°
39047	79047	99047	1.6535	1.220	.394	45°
39046	79046	99046	1.6535	1.338	.394	45°
39048	79048		1.6732	1.338	.394	45°
39050	79050		1.6929	1.260	.394	45°
39049	79049		1.6929	1.378	.394	45°
39051	79051		1.7126	1.378	.394	45°
39070	79070		1.7126	1.417	.394	45°
39053	79053		1.7323	1.299	.394	45°
39052	79052	99052	1.7323	1.417	.394	45°
39056	79056		1.7520	1.181	.394	45°
39071	79071		1.7520	1.417	.394	45°
39055	79055		1.7520	1.417	.433	45°
39058	79058		1.7717	1.339	.472	45°
39057	79057	99057	1.7717	1.457	.472	45°
39059	79059		1.7913	1.457	.472	45°
39061	79061		1.8110	1.339	.472	45°
39060	79060		1.8110	1.496	.472	45°
39062	79062		1.8307	1.496	.472	45°
39065	79065		1.8504	1.417	.472	45°
39063	79063		1.8504	1.535	.472	45°
39066	79066		1.8701	1.535	.472	45°
39069	79069		1.8898	1.457	.472	45°
39068	79068		1.8898	1.496	.433	45°
39067	79067		1.8898	1.575	.472	45°

PART NUMBER SERIES			ACTUAL	ID	DEPTH	SEAT
30000	70000	90000	OD			ANGLE

39006	79006		28.00	22.00	10.00	45°
39007	79007		28.50	22.00	10.00	45°
39008	79008		29.00	23.00	10.00	45°
39009	79009		29.50	23.00	10.00	45°
39011	79011		30.00	20.00	10.00	45°
39010	79010		30.00	23.00	10.00	45°
39012	79012		30.50	23.00	10.00	45°
39014	79014		31.00	21.00	10.00	45°
39013	79013		31.00	24.00	10.00	45°
39015	79015		31.50	24.00	10.00	45°
39017	79017		32.00	22.00	10.00	45°
39016	79016		32.00	25.00	10.00	45°
39018	79018		32.50	25.00	10.00	45°
39020	79020		33.00	23.00	10.00	45°
39019	79019		33.00	26.00	10.00	45°
39021	79021		33.50	26.00	10.00	45°
39023	79023		34.00	24.00	10.00	45°
39024	79024		34.50	27.00	10.00	45°
39026	79026		35.00	25.00	10.00	45°
39025	79025		35.00	28.00	10.00	45°
39027	79027		35.50	28.00	10.00	45°
39029	79029		36.00	26.00	10.00	45°
39028	79028		36.00	29.00	10.00	45°
39030	79030		36.50	29.00	10.00	45°
39031	79031		37.00	30.00	10.00	45°
39033	79033		37.50	30.00	10.00	45°
39035	79035		38.00	28.00	10.00	45°
39036	79036		38.50	31.00	10.00	45°
39038	79038		39.00	29.00	10.00	45°
39037	79037		39.00	32.00	10.00	45°
39039	79039		39.50	32.00	10.00	45°
39041	79041		40.00	29.00	10.00	45°
39040	79040		40.00	32.00	10.00	45°
39042	79042		40.50	32.00	10.00	45°
39044	79044	99044	41.00	30.00	10.00	45°
39043	79043	99043	41.00	33.00	10.00	45°
39045	79045		41.50	33.00	10.00	45°
39047	79047	99047	42.00	31.00	10.00	45°
39046	79046	99046	42.00	34.00	10.00	45°
39048	79048		42.50	34.00	10.00	45°
39050	79050		43.00	32.00	10.00	45°
39049	79049		43.00	35.00	10.00	45°
39051	79051		43.50	35.00	10.00	45°
39070	79070		43.50	36.00	10.00	45°
39053	79053		44.00	33.00	10.00	45°
39052	79052	99052	44.00	36.00	10.00	45°
39056	79056		44.50	30.00	10.00	45°
39071	79071		44.50	36.00	10.00	45°
39055	79055		44.50	36.00	11.00	45°
39058	79058		45.00	34.00	12.00	45°
39057	79057	99057	45.00	37.00	12.00	45°
39059	79059		45.50	37.00	12.00	45°
39061	79061		46.00	34.00	12.00	45°
39060	79060		46.00	38.00	12.00	45°
39062	79062		46.50	38.00	12.00	45°
39065	79065		47.00	36.00	12.00	45°
39063	79063		47.00	39.00	12.00	45°
39066	79066		47.50	39.00	12.00	45°
39069	79069		48.00	37.00	12.00	45°
39068	79068		48.00	38.00	11.00	45°
39067	79067		48.00	40.00	12.00	45°

METRIC VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

PART NUMBER SERIES			ACTUAL	ID	DEPTH	SEAT
30000	70000	90000	OD	ID	DEPTH	ANGLE
31357	71357	91915	23.50	18.0	6.0	45°
31167	71167		24.00	18.0	6.5	45°
31446	71446		25.00	20.0	7.0	45°
31346	71346		25.10	20.0	6.0	45°
31002	71002		25.12	20.0	6.0	45°
31349	71349		25.15	20.0	6.0	45°
31398	71398		26.25	21.0	4.5	45°
31382	71382		26.60	21.0	6.0	45°
31405	71405		26.65	21.0	5.5	45°
31383	71383		27.15	20.0	6.0	45°
31915	71915		27.50	22.0	6.0	45°
31804	71804		27.90	23.0	6.5	45°
31168	71168		28.00	20.0	8.0	45°
31428	71428		28.00	20.5	6.5	45°
39006	79006		28.00	22.0	10.0	45°
31396	71396	91410	28.15	22.0	6.5	45°
39007	79007		28.50	22.0	10.0	45°
31169	71169		29.00	21.0	8.5	45°
39008	79008		29.00	23.0	10.0	45°
31410	71410		29.20	23.0	6.5	45°
39009	79009		29.50	23.0	10.0	45°
31444	71444		29.80	24.0	6.0	45°
39011	79011		30.00	20.0	10.0	45°
31170	71170		30.00	22.0	8.5	45°
39010	79010		30.00	23.0	10.0	45°
31411	71411		30.00	24.0	8.5	45°
31436	71436		30.15	24.0	9.0	45°
39012	79012		30.50	23.0	10.0	45°
31051	71051		30.50	25.0	6.5	45°
39014	79014	91808	31.00	21.0	10.0	45°
31171	71171		31.00	23.0	8.5	45°
39013	79013		31.00	24.0	10.0	45°
31448	71448		31.00	25.0	6.0	45°
31414	71414		31.25	25.0	8.0	45°
39015	79015		31.50	24.0	10.0	45°
31384	71384		31.60	26.0	6.0	45°
31409	71409		31.70	26.0	6.5	45°
39017	79017		32.00	22.0	10.0	45°
31172	71172		32.00	24.0	8.5	45°
31311	71311		32.00	24.0	9.0	45°
39016	79016		32.00	25.0	10.0	45°
31808	71808		32.01	25.0	8.0	45°
31347	71347		32.32	26.0	6.0	45°
39018	79018	91914	32.50	25.0	10.0	45°
31914	71914		32.50	27.0	5.5	45°
31403	71403		32.58	27.0	6.0	45°
31800	71800		32.60	27.5	9.0	45°
31360	71360		32.65	25.0	6.0	45°
31006	71006		32.65	25.5	8.0	45°
31007	71007		32.65	26.0	8.5	45°
31425	71425		33.00	23.0	8.0	45°
39020	79020		33.00	23.0	10.0	45°
31136	71136		33.00	25.0	4.5	45°
31173	71173		33.00	25.0	8.5	45°
31348	71348		33.00	26.0	6.5	45°
39019	79019		33.00	26.0	10.0	45°
31008	71008	91008	33.15	28.0	7.0	45°
31123	71123		33.20	27.5	7.0	45°
39021	79021		33.50	26.0	10.0	45°
31293	71293		33.50	27.0	9.0	45°
31009	71009		33.70	27.0	8.0	45°
39023	79023		34.00	24.0	10.0	45°
31174	71174		34.00	26.0	8.5	45°
31273	71273	91449	34.00	27.0	10.0	45°
31306	71306		34.00	28.0	4.5	45°
31385	71385		34.10	27.5	6.0	45°
31449	71449		34.15	28.0	6.0	45°
31060	71060		34.25	27.0	8.0	45°
31356	71356		34.30	27.0	8.0	45°
39024	79024		34.50	27.0	10.0	45°
31035	71035		34.63	25.0	10.0	45°
31809	71809		34.80	29.0	6.5	45°
39026	79026		35.00	25.0	10.0	45°
31175	71175		35.00	26.0	9.0	45°
31408	71408		35.00	28.0	5.0	45°
31824	71824		35.00	28.0	8.5	45°
39025	79025		35.00	28.0	10.0	45°
31065	71065		35.25	28.0	8.0	45°
39027	79027	91070	35.50	28.0	10.0	45°
31274	71274		35.50	29.0	10.0	45°
31294	71294		35.50	29.5	9.5	45°
31012	71012		35.60	29.0	8.0	45°
31277	71277		35.60	29.0	9.5	45°
31443	71443		35.70	30.0	9.0	45°
39029	79029		36.00	26.0	10.0	45°
31176	71176		36.00	27.0	9.0	45°
39028	79028		36.00	29.0	10.0	45°
31121	71121		36.20	31.0	7.5	45°
31420	71420		36.25	29.0	8.0	45°
39030	79030		36.50	29.0	10.0	45°
31439	71439		36.70	29.0	8.0	45°
31440	71440		36.70	31.0	7.5	45°
31068	71068		37.00	28.0	9.0	45°
31069	71069	91070	37.00	30.0	8.0	45°
39031	79031		37.00	30.0	10.0	45°
31275	71275		37.00	31.0	10.0	45°
31908	71908		37.16	31.0	9.0	45°
31070	71070		37.20	30.0	7.0	45°
31365	71365		37.30	29.0	8.0	45°
39033	79033		37.50	30.0	10.0	45°
31071	71071		37.50	31.0	8.5	45°
31386	71386		37.50	31.5	8.5	45°
31014	71014		37.65	31.0	7.0	45°
31015	71015		37.70	31.0	8.0	45°
31387	71387		37.75	31.0	8.5	45°
39035	79035		38.00	28.0	10.0	45°
31178	71178		38.00	29.0	9.0	45°
31038	71038		38.00	30.0	7.0	45°
31276	71276	91070	38.00	31.0	10.0	45°
31823	71823		38.00	32.0	8.5	45°
31073	71073		38.23	31.0	8.0	45°
31419	71419		38.25	32.5	7.5	45°
31388	71388		38.50	31.0	8.5	45°
39036	79036		38.50	31.0	10.0	45°
31389	71389		38.75	31.0	8.5	45°
31016	71016		38.95	31.0	8.5	45°
39038	79038		39.00	29.0	10.0	45°
31369	71369		39.00	30.0	7.0	45°
31179	71179		39.00	30.0	9.0	45°
31180	71180		39.00	31.0	8.5	45°
39037	79037		39.00	32.0	10.0	45°
31370	71370		39.00	33.0	8.0	45°
31075	71075		39.30	32.0	8.0	45°
39039	79039	91070	39.50	32.0	10.0	45°
31076	71076		39.50	33.0	8.5	45°
31295	71295	91070	39.60	33.5	9.5	45°

METRIC VALVE SEAT PROGRESSIVE LISTING BY OUTSIDE DIAMETER

PART NUMBER SERIES			ACTUAL	ID	DEPTH	SEAT
30000	70000	90000	OD	ID	DEPTH	ANGLE

31442	71442		39.70	33.0	9.0	45°
31802	71802		39.75	33.0	8.5	45°
39041	79041		40.00	29.0	10.0	45°
31181	71181		40.00	30.0	9.5	45°
39040	79040		40.00	32.0	10.0	45°
31296	71296		40.00	33.5	9.0	45°
31278	71278		40.20	33.5	9.5	45°
31017	71017		40.20	34.0	7.5	45°
39042	79042		40.50	32.0	10.0	45°
31018	71018		40.60	34.0	7.0	45°
39044	79044	99044	41.00	30.0	10.0	45°
31182	71182		41.00	31.0	8.5	45°
39043	79043	99043	41.00	33.0	10.0	45°
31039	71039		41.00	34.0	7.5	45°
31813	71813		41.15	35.5	6.5	45°
31323	71323		41.50	32.0	10.0	45°
39045	79045		41.50	33.0	10.0	45°
31019	71019		41.62	34.0	8.0	45°
39047	79047	99047	42.00	31.0	10.0	45°
31183	71183		42.00	32.0	9.5	45°
31184	71184		42.00	33.0	8.5	45°
39046	79046	99046	42.00	34.0	10.0	45°
31082	71082		42.20	33.5	10.5	45°
31810	71810		42.20	35.5	8.0	45°
31421	71421		42.25	35.0	8.0	45°
31308	71308		42.40	34.0	4.5	45°
39048	79048		42.50	34.0	10.0	45°
31373	71373		42.60	36.0	8.0	45°
31811	71811		42.70	35.5	8.5	45°
39050	79050		43.00	32.0	10.0	45°
31186	71186	91186	43.00	33.0	8.5	45°
39049	79049		43.00	35.0	10.0	45°
31391	71391		43.00	35.2	8.0	45°
31021	71021		43.25	36.0	8.0	45°
39051	79051		43.50	35.0	10.0	45°
39070	79070		43.50	36.0	10.0	45°
31814	71814		43.70	37.0	8.5	45°
39053	79053		44.00	33.0	10.0	45°
31187	71187		44.00	34.0	9.5	45°
31375	71375		44.00	36.0	7.0	45°
39052	79052	99052	44.00	36.0	10.0	45°
31110	71110		44.03	34.0	9.5	45°
31086	71086		44.25	37.0	8.0	45°
39056	79056		44.50	30.0	10.0	45°
39071	79071		44.50	36.0	10.0	45°
39055	79055		44.50	36.0	11.0	45°
31381	71381		44.60	35.0	7.5	45°
31392	71392		44.75	37.0	8.5	45°
39058	79058		45.00	34.0	12.0	45°
31227	71227		45.00	34.5	10.0	45°
31393	71393		45.00	37.0	8.5	45°
39057	79057	99057	45.00	37.0	12.0	45°
31227+5	71227+5		45.14	34.5	10.0	45°
31404	71404		45.25	38.0	8.0	45°
31472	71472		45.25	39.0	7.5	45°
31801	71801		45.50	36.6	9.5	45°
39059	79059		45.50	37.0	12.0	45°
39061	79061		46.00	34.0	12.0	45°
31188	71188		46.00	35.5	10.0	45°
39060	79060		46.00	38.0	12.0	45°
31307	71307		46.20	38.0	4.0	45°
39062	79062		46.50	38.0	12.0	45°
39065	79065		47.00	36.0	12.0	45°

PART NUMBER SERIES			ACTUAL	ID	DEPTH	SEAT
30000	70000	90000	OD	ID	DEPTH	ANGLE

31228	71228		47.00	36.5	10.0	45°
39063	79063		47.00	39.0	12.0	45°
31228+5	71228+5		47.13	36.5	10.0	45°
31377	71377		47.40	39.0	8.0	45°
39066	79066		47.50	39.0	12.0	45°
31394	71394		47.80	40.0	8.0	45°
39069	79069		48.00	37.0	12.0	45°
31189	71189		48.00	37.5	10.0	45°
39068	79068		48.00	38.0	11.0	45°
39067	79067		48.00	40.0	12.0	45°
31913	71913		48.05	40.0	8.0	45°
31190	71190		49.00	38.5	10.0	45°
31191	71191		49.00	42.0	8.0	45°
31192	71192		50.00	39.0	10.0	45°
31753	71753		50.01	39.0	10.5	45°
31415	71415		51.00	40.0	5.5	45°
31193	71193		51.00	40.0	10.5	45°
31194	71194		52.00	41.0	10.5	45°
31401	71401		52.51	43.0	9.0	45°
31195	71195	91195	53.00	42.0	10.5	45°
31430	71430		53.10	43.0	9.0	45°
31424	71424		53.10	43.0	10.0	45°
31447	71447		53.60	43.0	9.0	45°
31441	71441		53.60	43.0	10.0	45°
31783	71783		55.00	44.0	11.0	45°
31141	71141		55.00	44.0	12.0	45°
31783+5	71783+5		55.12	44.0	11.0	45°

CONVERSION FORMULA

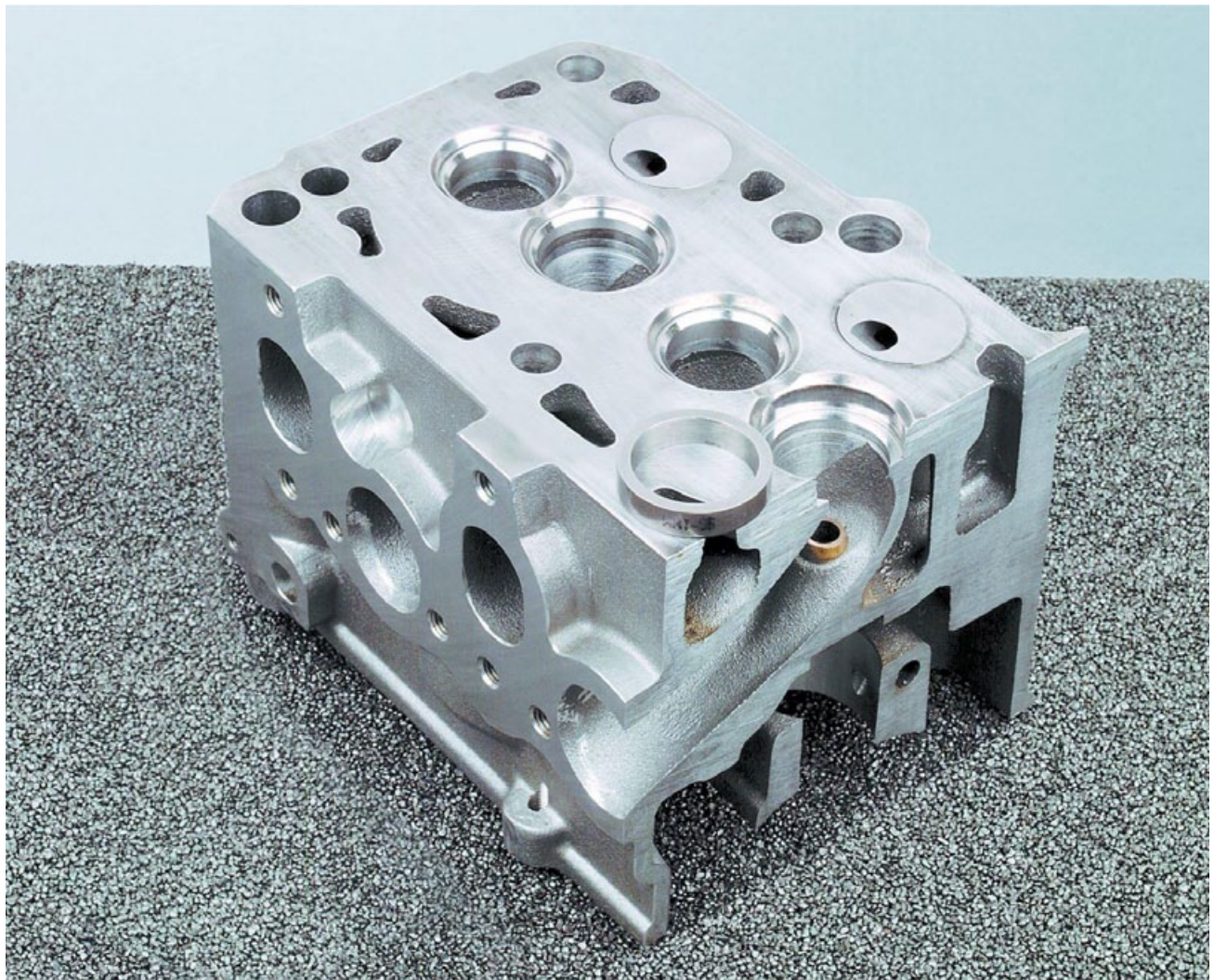
INCHES X 25.4 = MM

MM / 25.4 = INCHES

Dura-Bond®

Valve seat inserts

Technical Information and
Installation Instructions



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Chapter 1: Introduction

1.1 Valve seat installation

Valve seat installation and refitting is only one of many operations necessary for the professional rebuilding or reconditioning of a cylinder head. Successful cylinder head remanufacturing requires that these reconditioning operations be done in the correct sequence.

Valve seat installation and refitting can only be successfully accomplished after the following operations have been completed.

- Through cleaning, inspection and any failure analysis
- Measure and record each assembled valve stem height and valve head protrusion
- Straightening of the cylinder head and milling/grinding of the firing deck and all other mating surfaces
- All valve guides must be renewed or refitted and be within original factory specifications

The cylinder head must be dimen-

sionally and geometrically within original factory specifications. The cylinder head thickness, valve guide clearances, concentricity, and perpendicularity must be correct. There should be no warping, twisting, or any type of misalignment of any part of the cylinder head. Sometimes you may lightly touch up the valve face and valve seat mating surface without putting the valve geometry out of factory specification but most of the modern multi-valve aluminum cylinder heads will require new inserts be installed to maintain correct valve train geometry.

Only new valves or valves which have been reconditioned and are within original factory specification must be used. All valve springs must be inspected and must meet all original factory specifications or be replaced.

As it relates to valve seats, there are three types of cylinder heads:

- Cast iron cylinder heads with removable valve seat inserts
- Cast iron cylinder heads with integral hardened valve seat areas
- Aluminum cylinder heads with removable valve seat inserts

You must replace the old valve seat insert or refit the integral hardened valve seat area with a new valve seat insert if:

- The cylinder head required straightening before resurfacing.
- Any welding had to be done on the cylinder head.
- The cylinder head is aluminum and was cleaned in a heating oven.
- The valve seating (mating) surface has receded beyond factory specifications.
- The valve seating (mating) surface is too wide and recutting or regrinding would lower the seat beyond factory specifications.
- The integral seat of a cast iron head has been ground before. (The depth of the hardened cylinder head material used for the seating area will be too shallow to allow a second grinding)
- There is any evidence that the valve seat insert is loose in the counter bore pocket, or does not have adequate interference fit.
- There is any evidence of corrosion of the cylinder head material around the outside diameter of the valve seat insert.
- There is any evidence that the seat has any cracking, burning, pitting or fissures.
- The fuel type being used is going to be changed. This will require a higher duty range valve seat for better durability.

1.2 Machining practices

Although many factors contribute to the successful machining of valve seats. Here are several key conditions that are required to achieve good results.

- By far the most important is to have properly sharpened tools and properly dressed grinding stones.
- Keep your tooling setup as "short and tight" as possible to assure rigidity (Picture 1). The less deflection in the tooling the more accurate the dimensions of the cut and the greater concentricity.
- Keep your clamping arms and fixtures in good repair for correct gripping.
- Make sure not to distort or put a twist into the cylinder head when clamping to a fixed rail cylinder head holding fixture (Picture 2).
- Use the correct size pilots, which must be straight.
- Use the correct spindle speeds and feeds.

Picture 1



Picture 2

Chapter 2: Cutting valve seat inserts and counter bores

2.1 Removal of valve seats and cutting of seat pocket counter bores

Replacing valve seats in heads with removable seat inserts can be done in several ways, but the method we recommend is to use a cutter slightly smaller than the outside diameter of the existing valve seat insert and cut the old seat out (Picture 3). Stop cutting just as the old seat insert begins to rotate. The thin wall of the old valve seat insert can now be easily removed (Picture 4).

Some machinist will install a new insert in the existing seat pocket without recutting the counter bore. Although this method can be used on some large cast iron cylinder heads which are thick walled, it is not a recommended procedure for most automotive or "light pattern" cylinder heads. It is much better to cut a new seat insert counter bore for better valve life and valve

seat insert retention in the cylinder head (Picture 5). This will also insure concentricity and perpendicularity with the valve guide and will provide a fresh metal surface for better heat transfer (see our recommended interference fit chart for the correct outside diameter).



Picture 3 - Cutting valve seat inserts



Picture 4 - Removing the thin wall of the old valve seat insert



Picture 5 - Cutting the counter bore

When machining the seat pocket counter bore in a **cast iron cylinder head** we recommend a cutting

speed of **100 to 250 RPM** with no cutting oil. When cutting a seat pocket counter bore in **aluminum**

cylinder heads we recommend using a cutting oil and a spindle speed of **400 to 600 RPM**.

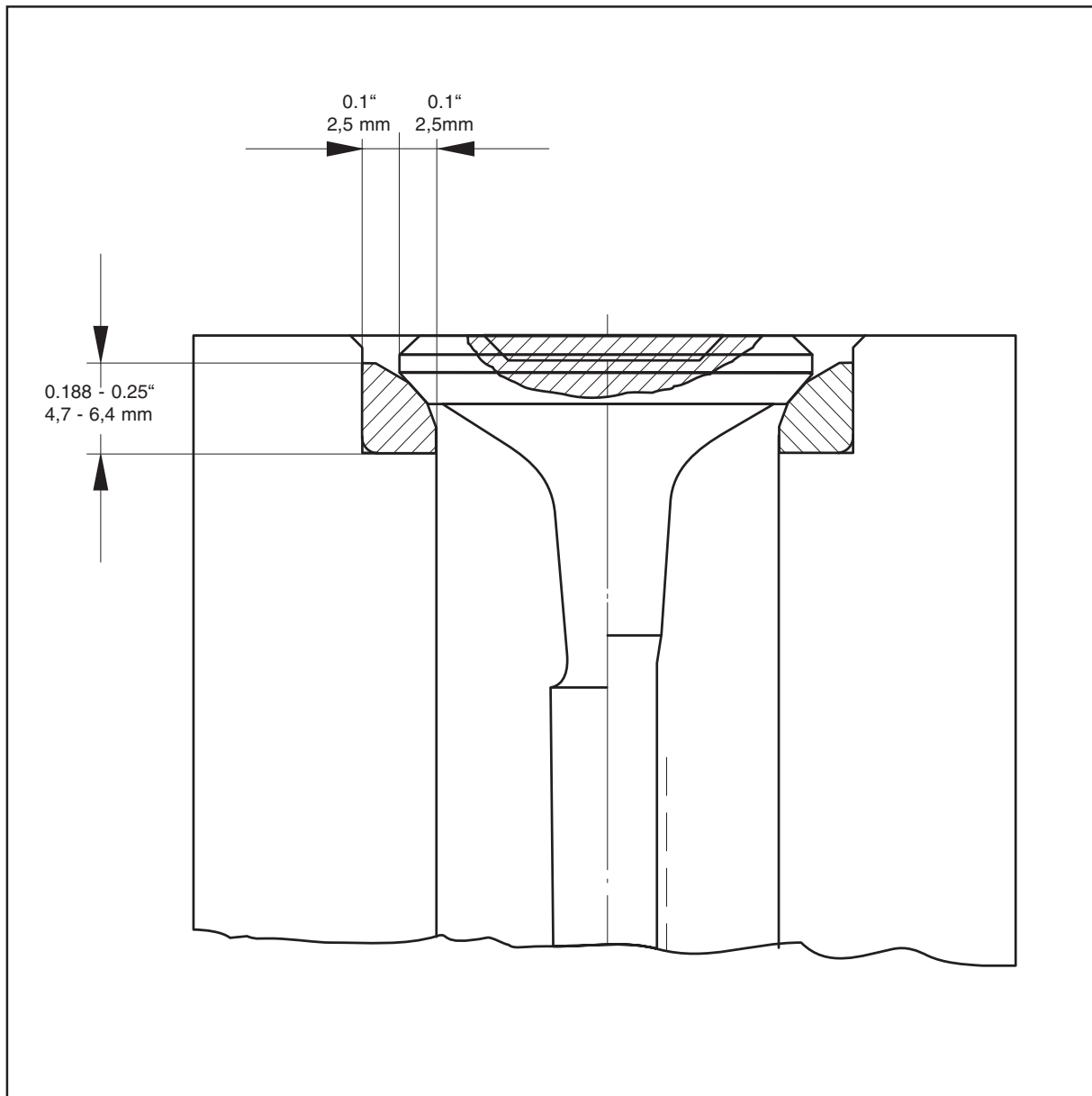
DuraBond recommends the following press fittings:

Outer diameter valve seats inserts		Material cylinder head cast iron		Material cylinder head aluminium	
[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
0.7874 - 1.1811	20 - 30	0.0031	0,08	0.0047	0,12
1.1811 - 1.5748	30 - 40	0.0043	0,11	0.0059	0,15
1.5748 - 1.9685	40 - 50	0.0051	0,13	0.0071	0,18
1.9685 - 2.3622	50 - 60	0.0063	0,16	0.0079	0,20
2.3622 - 2.7559	60 - 70	0.0071	0,18	0.0087	0,22

Replacing valve seats in cylinder heads with integral seats will require a new seat pocket counter bore to be cut. The approximate outside dia-

meter for the replacement seat is .100" (2,5 mm) larger than the valve head diameter. The inside diameter of the replacement seat is approximate-

ly .100" (2,5 mm) smaller than the valve head diameter. The depth is usually .188" to .250" (4,7 – 6,4 mm). These sizes are guidelines only.



Many of the newer cylinders do not have the room to install seats with OD's larger than the OD of the valve (see our recommended interference fit chart for the correct outside diameter).

All counter bores must be concentric with the valve guide, have a straight wall, flat bottom and be within .0005" (0,013 mm) of correct size and be round.

Chapter 3: Installation

3.1 Inserting the valve seats

Before pressing in the new valve seat insert please be sure:

- Verify that the valve seat dimensional measurements are correct
- Verify the counter bore measurements are correct
- Make sure there are no chips or debris in the counter bore
- Use a seat installation tool to insure that the valve seat is inserted squarely into the counter bore pocket (Picture 6).
- Use a flat and square seat driver tool whose size is just slightly smaller than the outside diameter of the valve seat insert (Picture 7).
- Use a correct size pilot for the valve guide, when using this valve seat driving tool.

For Dura-Bond valve seat inserts:

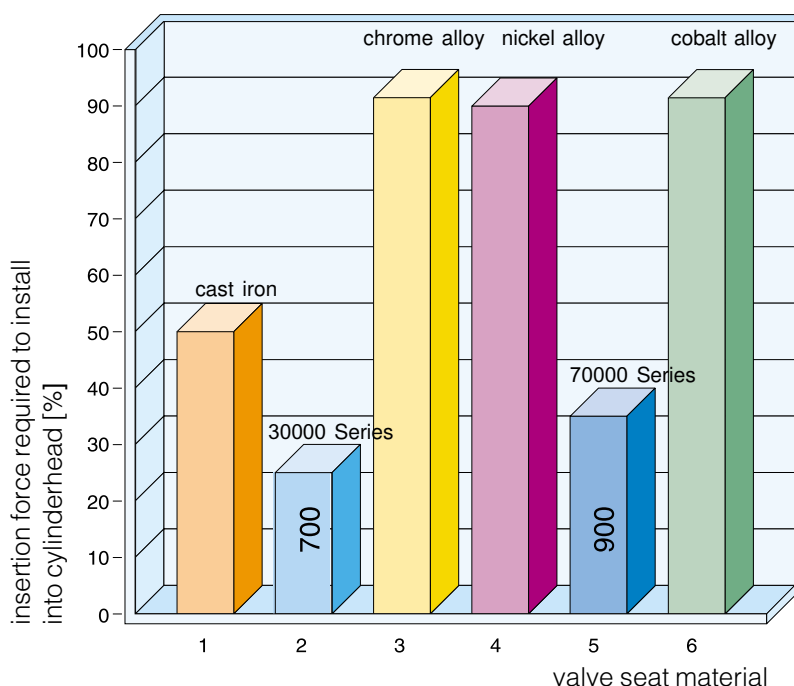
- Insert the valve seat with the radius side down.
- Because of the smooth radius on the bottom outside edge and the compressive “spring action” of the material, shrinking of the seat using liquid nitrogen and heating the cylinder head is not necessary prior to insertion the cylinder head.

Picture 7



Picture 6

Less force required - less chance of damaging seat counter bore.



3.2 Cutting the seating surface

Check the engine specification manual for the correct assembled valve height, valve protrusion, seat angles, seat widths and any other special seat requirements. These factory specifications are important to maintain the correct valve lash,

compression ratios, clearances between valves and pistons, and the general overall valve train geometry. Machining and assembling the cylinder head to the original manufacturer's specifications is critical for the correct operation of the engine.

3.3 Using a cutting machine (Picture 8)

- Select a cutter profile matching the original factory valve seat. The top and bottom relief angles, and the seating surface width and angle must match the design called for by the original engine manufacture for the valve train geometry to be correct.
- Select the type and grade of carbide best suited for the hardness of the valve seat being machined.
- Make sure that the tool is sharp and has the correct rake angles and relief angles.
- A 5-degree cutting rake angle with an 11-degree relief or clearance angle is generally found to be best for valve seats up to 1.250" (31,8 mm) in diameter.
- A 3-degree cutting rake angle with a 7-degree relief or clearance angle is generally found to be best for cutting valve seats larger than 1.250" (31,8 mm) in diameter.
- Select the correct spindle speed for the type of seat being cut.
- A spindle speed of 150 to 450 RPM is generally a good speed for cutting the valve seat insert less than 1.500" (38,0 mm) in diameter.
- A spindle speed of 100 to 250 RPM works best for seats larger than 1.500" (38,0 mm) in diameter.
- **Dura-Bond finds that most people who have the drill press style of machine, like the 50 - 100 RPM**
- Set the cutter bit to the correct size for the valve being used according to the factory repair manual.
- Cut the seat depth to match the correct assembled valve height.

Outer Diameter valve seat insert [inch]	[mm]	Tool		RPM [1/min]
		relief angle	cutting angle	
< 1.250	< 31,8	11 °	5 °	150 - 450
> 1.250	> 31,8	7 °	3 °	150 - 450
< 1.500	< 38,0	7 °	3 °	150 - 450
> 1.500	> 38,0	7 °	3 °	100 - 250



Picture 8

3.4 Using a grinding machine

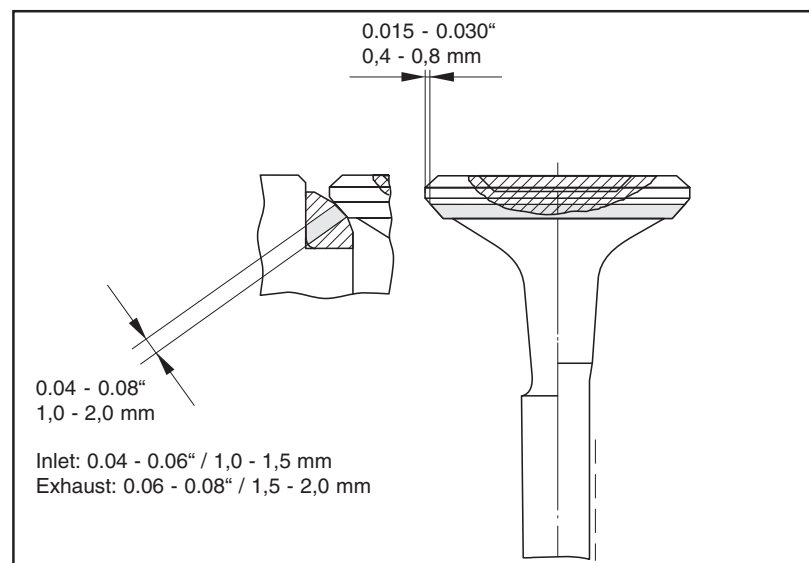
- Select the correct size of stone for the valve being used.
- Select the correct type of stone for the hardness level of valve seat.
- Dress the stones as needed to the angles specified in the repair manual.
- Grind the seating angle first
- Grind the top relief angle to adjust seat height
- Grind the bottom relief to adjust the seat width.

Adjustments to these grinds will be necessary to achieve the correct assembled valve height and seat width.

In general, if no factory specifications are available, remember to keep the valve face and valve seat contact area to the outer limits of the valve head diameter. Depending on the valve head diameter this contact area will be .015" to .030" (0,4 – 0,8 mm) in from the outside diameter of the valve head. If the seating contact area is too close to the valve stem you will impede the gas flows and build up heat on the exhaust side and possibly restricted power due to less air and fuel getting into the combustion chamber on the intake side. You will get better heat transfer away from the exhaust valve and into the

water jacket if you keep the contact area to the outside diameter of the valve head. But you must not take it to the extreme outside diameter or you will "burn" the valve and seat prematurely, because there will be too much heat concentrated at the very edge of the valve.

Also, in general, for valve seats in the 1.375" to 2.125" (35,0 – 54,0 mm) diameter range, if no specific factory specifications are available, a general guideline is to make the valve face to valve seat contact area width between .040"-.060" (1,0 – 1,5 mm) for the intake and .060"-.080" (1,5 – 2,0 mm) for the exhaust. For valve seats smaller than 1.250" (31,8 mm) the seat widths will be reduced by one half the values listed above. For engines using LPG, the exhaust seating width should be .100" (2,5 mm).



Wider seating widths will give a greater area of surface contact which will give better cooling rates but the larger contact area will reduce the pounds per square inch sealing pressure, so too large of a contact area will cause seats to

"burn" due to gas leakage. Too thin an area will cause high mechanical abrasion forces and high operating temperatures and will "wear" the seating area faster than normal.

3.5 Checking the final product

- Check the sealing by using a vacuum check
- Check the seating position by using Prussian blue on the valve and seat
- Check for the correct assembled valve stem height and valve head protrusion

Chapter 4: Dura-Bond® Valve Seat Inserts

4.1 Valve seat inserts

Materials

Modern engines put much higher levels of thermal and mechanical stress on valve seat inserts. To handle the more severe conditions within these new generations of engines, the OE-Manufacture is equipping them with high tech sintered valve seat inserts. The normal cast iron valve seat will not adequately withstand the demands of this new engine environment.

This is the reason why Dura-Bond offers high tech sintered valve seats in two specifications to be used for the complete range of today's engines and the engines of the past and of the future.

4.2 30000 / 70000 Series

• 30000 (Gold) Series High Machinability

This sintered insert offers a blend of finely dispersed tungsten carbide residing in a matrix of tempered tool steel and special alloy iron particles. With this blend, the 30000 series represents a superb combination of good hardness and good

machinability. The machinability is comparable to cast iron, and this 30000 series shows good wear and heat resistance.

This very machinable material is designed for naturally aspirated and turbocharged engines in the light to upper duty range.

• 70000 (Diamond) Series High Temperature Resistance

This specification has very high heat resistance which will remain even at very high temperatures. The sintered insert is made out of a high speed tool steel (tungsten carbide). This insert also has ceramic like characteristics, which give it very high temperature resistance. It has special additives blended into the matrix which impart high temperature lubricant properties to the valve seat. This solid lubricant enables this material to be used in dry fuel applications, such as propane, LPG and natural gas. They prevent the microwelding of the valve seat material to the valve face.

This eliminates the primary cause of valve seat erosion and failure. This very high heat and wear resistant seat is designed for propane, LPG and natural gas engines, as well as for high performance engines, heavy duty and extremely duty applications.

4.3 Overview

	30000 Series (High Machinability)	70000 Series (High Temperature Resistance)
Fuel type	petrol (unleaded), diesel	propane, LPG, natural gas, petrol (unleaded), diesel
Cylinder head Material	aluminium, cast iron	aluminium, cast iron
Applications	turbocharged engines, aspirated engines, lower to upper duty range	heavy and extreme duty range high performance engines, all gas engines (propane, LPG)

Dimensional specifications must be evaluated in order to assure correct selection of valve seat whenever engine parts are being selected. Heavy duty or extreme service applications should be considered to

assure that the individual engine rebuilder's standards are met and are the responsibility of rebuilder to determine suitability.

Dura-Bond

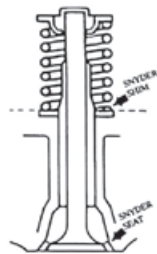
VALVE SPRING BOOSTER SHIMS

Available in both case hardened High Performance and regular series



All Dura-Bond shims meet or exceed OEM specifications.

Only prime quality cold rolled steel is used.



Avoid loss of power due to weak spring tension —

INSTALL BOOSTER SHIMS

Refacing valves and the grinding of valve seats causes loss of metal. This loss of metal results in the loss of proper spring pressure. To restore the proper spring tension, one must replace the lost material by installing a Valve Spring Booster Shim under the valve spring.



1000 SERIES



.015"

3000 SERIES



.030"

6000 SERIES



.060"

Cupped Shims are necessary when the spring base pad area is too shallow to hold the regular shim and the spring in the proper position.

3000 SERIES CUPPED SHIM



.030"

6000 SERIES CUPPED SHIM



.060"

part number	thickness	application
3110-C	.030"	American motors, Chrysler, DeSoto, Dodge, Dodge Truck, Ford, Lincoln, Mercury, Plymouth, Hercules, John Deere
6110-C	.060"	
3153-C	.030"	Chevrolet (remachined pad), Chrysler (remachined pad), Ford (remachined pad), Oldsmobile (remachined pad)
6153-C	.060"	
3160-C	.030"	American Motors, Chevrolet, Ford, Lincoln, Mercury, Pontiac, Minneapolis-Moline
6160-C	.060"	
3060-C	.030"	Allis Chalmers, Chrysler, General Motors, International Tractor, John Deere, Mazda, Mercury Marine
6060-C	.060"	

STANDARD REBUILDERS PACK: 500 Pieces per Box • Cupped, Industrial, or HP • 250 Pieces per Box

STANDARD PACKAGE: 100 Pieces per Box • Cupped, Industrial, or HP • 50 Pieces per Box

DESIGN FEATURES

Both sides are flat and without serrations or marks of any kind.

- All OEM specifications call for non-serrated shims.
- Non-serrated shims do not damage the spring pad area on today's aluminum cylinder heads.
- Non-serrated shims lay flat so as not to set up any harmonics in the spring.
- Non-serrated shims lay flat so as not to introduce any lateral loads on the spring, valve or guide.

VALVE SPRING BOOSTER SHIMS

NUMERICAL LISTING BY PART NUMBER

		PART NUMBER SERIES				ACTUAL	
.015 THICKNESS		.030 THICKNESS		.060 THICKNESS		O.D.	I.D.
1003	(C204S)	3003	(B204S)	6003	(A204S)	0.760	0.578
1005	(C204)	3005	(B204)	6005	(A204)	0.796	0.515
1010	(C202)	3010	(B202)	6010	(A202)	0.915	0.643
1012	-	3012	-	6012	-	0.960	0.515
1015	-	3015	-	6015	-	0.960	0.625
1020	(C101)	3020	(B101)	6020	(A101)	1.000	0.688
1022	-	3022	-	6022	-	1.000	0.515
1025	(C104)	3025	(B104)	6025	(A104)	1.002	0.766
1030	(C106)	3030	(B106)	6030	(A106)	1.100	0.721
1040	(C300)	3040	(B300)	6040	(A300)	1.124	0.721
1043	(C408)	3043	(B408)	6043	(A408)	1.140	0.570
-	-	3045-I	(B407)	6045-I	(A407)	1.162	0.825
1048	-	3048	-	6048	-	1.215	0.515
1050	(C105)	3050	(B105)	6050	(A105)	1.215	0.876
1052	-	3052	-	6052	-	1.247	0.518
1055	(C107)	3055	(B107)	6055	(A107)	1.250	0.625
1060	(C203)	3060	(B203)	6060	(A203)	1.246	0.814
-	-	3060-C	(B505)	6060-C	(A505)	1.399	0.819
1065	(C107S)	3065	(B107S)	6065	(A107S)	1.250	0.688
1070	(C201)	3070	(B201)	6070	(A201)	1.247	0.877
1080	(C302)	3080	(B302)	6080	(A302)	1.311	0.766
1085	-	3085	-	6085	-	1.311	0.840
1087	-	3087	-	6087	-	1.311	0.890
1090	(C100)	3090	(B100)	6090	(A100)	1.311	0.955
1095	-	3095	-	6095	-	1.330	0.600
1100	(C200)	3100	(B200)	6100	(A200)	1.356	0.642
1110	(C102)	3110	(B102)	6110	(A102)	1.358	1.000
-	-	3110-C	(B502)	6110-C	(A502)	1.544	1.025
1120	(C301)	3120	(B301)	6120	(A301)	1.375	0.766
1125	-	3125	-	6125	-	1.375	1.000
1127	-	3127	-	6127	-	1.384	1.018
-	-	3130-I	(B403)	6130-I	(A403)	1.374	0.782
1135	(C306)	3135	(B306)	6135	(A306)	1.438	0.645
1140	(C305)	3140	(B305)	6140	(A305)	1.438	0.766
1145	(C109)	3145	(B109)	6145	(A109)	1.438	1.059
1150	(C303)	3150	(B303)	6150	(A303)	1.476	0.705
1152	(C602)	3152	(B602)	6152	(A602)	1.477	0.765
1153	(C306S)	3153	(B306S)	6153	(A306S)	1.500	0.645
-	-	3153-C	(B506)	6153-C	(A506)	1.633	0.645
1156-I	(C404)	3156-I	(B404)	6156-I	(A404)	1.502	0.874
1160	(C103)	3160	(B103)	6160	(A103)	1.500	1.030
-	-	3160-C	(B503)	6160-C	(A503)	1.633	1.055
1170	(C304)	3170	(B304)	6170	(A304)	1.503	1.155
-	-	3180-I	(B401)	6180-I	(A401)	1.604	0.820
1185-S-HP	(C601)	3185-S-HP	(B601)	6185-S-HP	(A601)	1.634	0.643
-	-	3190-I	(B402)	6190-I	(A402)	1.689	1.280
-	-	3200-I	(B400)	6200-I	(A400)	1.751	0.818
-	-	3210-I	(B405)	6210-I	(A405)	1.750	0.890
-	-	3220-I	(B406)	6220-I	(A406)	1.751	1.328

Most of the shims shown in this catalog are available in case hardened ("hp") series.
Use the same part number - just add "hp" to the end.

VALVE SPRING BOOSTER SHIMS

PROGRESSIVE LISTING BY OUTSIDE DIAMETER

ACTUAL O.D.	I.D.	PART NUMBER SERIES					
		.015 Thickness		.030 Thickness		.060 Thickness	
0.760	0.578	1003	(C204S)	3003	(B204S)	6003	(A204S)
0.796	0.515	1005	(C204)	3005	(B204)	6005	(A204)
0.915	0.643	1010	(C202)	3010	(B202)	6010	(A202)
0.960	0.515	1012	-	3012	-	6012	-
0.960	0.625	1015	-	3015	-	6015	-
1.000	0.515	1022	-	3022	-	6022	-
1.000	0.688	1020	(C101)	3020	(B101)	6020	(A101)
1.002	0.766	1025	(C104)	3025	(B104)	6025	(A104)
1.100	0.721	1030	(C106)	3030	(B106)	6030	(A106)
1.124	0.721	1040	(C300)	3040	(B300)	6040	(A300)
1.140	0.570	1043	(C408)	3043	(B408)	6043	(A408)
1.162	0.825	-	-	3045-I	(B407)	6045-I	(A407)
1.215	0.515	1048	-	3048	-	6048	-
1.215	0.876	1050	(C105)	3050	(B105)	6050	(A105)
1.246	0.814	1060	(C203)	3060	(B203)	6060	(A203)
1.247	0.518	1052	-	3052	-	6052	-
1.247	0.877	1070	(C201)	3070	(B201)	6070	(A201)
1.250	0.625	1055	(C107)	3055	(B107)	6055	(A107)
1.250	0.688	1065	(C107S)	3065	(B107S)	6065	(A107S)
1.311	0.766	1080	(C302)	3080	(B302)	6080	(A302)
1.311	0.840	1085	-	3085	-	6085	-
1.311	0.890	1087	-	3087	-	6087	-
1.311	0.955	1090	(C100)	3090	(B100)	6090	(A100)
1.330	0.600	1095	-	3095	-	6095	-
1.356	0.642	1100	(C200)	3100	(B200)	6100	(A200)
1.358	1.000	1110	(C102)	3110	(B102)	6110	(A102)
1.374	0.782	-	-	3130-I	(B403)	6130-I	(A403)
1.375	0.766	1120	(C301)	3120	(B301)	6120	(A301)
1.375	1.000	1125	-	3125	-	6125	-
1.384	1.018	1127	-	3127	-	6127	-
1.399	0.819	-	-	3060-C	(B505)	6060-C	(A505)
1.438	0.645	1135	(C306)	3135	(B306)	6135	(A306)
1.438	0.766	1140	(C305)	3140	(B305)	6140	(A305)
1.438	1.059	1145	-	3145	-	6145	-
1.476	0.705	1150	(C303)	3150	(B303)	6150	(A303)
1.477	0.765	1152	(C602)	3152	(B602)	6152	(A602)
1.500	0.645	1153	(C306S)	3153	(B306S)	6153	(A306S)
1.500	1.030	1160	(C103)	3160	(B103)	6160	(A103)
1.502	0.874	1156-I	(C404)	3156-I	(B404)	6156-I	(A404)
1.503	1.155	1170	(C304)	3170	(B304)	6170	(A304)
1.544	1.025	-	-	3110-C	(B502)	6110-C	(A502)
1.604	0.820	-	-	3180-I	(B401)	6180-I	(A401)
1.633	0.645	-	-	3153-C	(B506)	6153-C	(A506)
1.633	1.055	-	-	3160-C	(B503)	6160-C	(A503)
1.634	0.643	1185-S-HP	(C601)	3185-S-HP	(B601)	6185-S-HP	(A601)
1.689	1.280	-	-	3190-I	(B402)	6190-I	(A402)
1.750	0.890	-	-	3210-I	(B405)	6210-I	(A405)
1.751	0.818	-	-	3200-I	(B400)	6200-I	(A400)
1.751	1.328	-	-	3220-I	(B406)	6220-I	(A406)

Most of the shims shown in this catalog are available in case hardened ("hp") series.
Use the same part number - just add "hp" to the end.

VALVE SPRING BOOSTER SHIMS

PROGRESSIVE LISTING BY INSIDE DIAMETER

I.D.	ACTUAL O.D.	PART NUMBER SERIES			
		.015 Thickness		.030 Thickness	
					.060 Thickness
0.515	0.796	1005	(C204)	3005	(B204)
0.515	0.960	1012	-	3012	-
0.515	1.000	1022	-	3022	-
0.515	1.215	1048	-	3048	-
0.518	1.247	1052	-	3052	-
0.570	1.140	1043	(C408)	3043	(B408)
0.578	0.760	1003	(C204S)	3003	(B204S)
0.600	1.330	1095	-	3095	-
0.625	0.960	1015	-	3015	-
0.625	1.250	1055	(C107)	3055	(B107)
0.642	1.356	1100	(C200)	3100	(B200)
0.643	0.915	1010	(C202)	3010	(B202)
0.643	1.634	1185-S-HP	(C601)	3185-S-HP	(B601)
0.645	1.438	1135	(C306)	3135	(B306)
0.645	1.500	1153	(C306S)	3153	(B306S)
0.645	1.633	-	-	3153-C	(B506)
0.688	1.000	1020	(C101)	3020	(B101)
0.688	1.250	1065	(C107S)	3065	(B107S)
0.705	1.476	1150	(C303)	3150	(B303)
0.721	1.100	1030	(C106)	3030	(B106)
0.721	1.124	1040	(C300)	3040	(B300)
0.765	1.477	1152	(C602)	3152	(B602)
0.766	1.002	1025	(C104)	3025	(B104)
0.766	1.311	1080	(C302)	3080	(B302)
0.766	1.375	1120	(C301)	3120	(B301)
0.766	1.438	1140	(C305)	3140	(B305)
0.782	1.374	-	-	3130-I	(B403)
0.814	1.246	1060	(C203)	3060	(B203)
0.818	1.751	-	-	3200-I	(B400)
0.819	1.399	-	-	3060-C	(B505)
0.820	1.604	-	-	3180-I	(B401)
0.825	1.162	-	-	3045-I	(B407)
0.840	1.311	1085	-	3085	-
0.874	1.502	1156-I	(C404)	3156-I	(B404)
0.876	1.215	1050	(C105)	3050	(B105)
0.877	1.247	1070	(C201)	3070	(B201)
0.890	1.311	1087	-	3087	-
0.890	1.750	-	-	3210-I	(B405)
0.955	1.311	1090	(C100)	3090	(B100)
1.000	1.358	1110	(C102)	3110	(B102)
1.000	1.375	1125	-	3125	-
1.018	1.384	1127	-	3127	-
1.025	1.544	-	-	3110-C	(B502)
1.030	1.500	1160	(C103)	3160	(B103)
1.055	1.633	-	-	3160-C	(B503)
1.059	1.438	1145	(C109)	3145	(B109)
1.155	1.503	1170	(C304)	3170	(B304)
1.280	1.689	-	-	3190-I	(B402)
1.328	1.751	-	-	3220-I	(B406)
				6005	(A204)
				6012	-
				6022	-
				6048	-
				6052	-
				6043	(A408)
				6003	(A204S)
				6095	-
				6015	-
				6055	(A107)
				6100	(A200)
				6010	(A202)
				6185-S-HP	(A601)
				6135	(A306)
				6153	(A306S)
				6153-C	(A506)
				6020	(A101)
				6065	(A107S)
				6150	(A303)
				6030	(A106)
				6040	(A300)
				6152	(A602)
				6025	(A104)
				6080	(A302)
				6120	(A301)
				6140	(A305)
				6130-I	(A403)
				6060	(A203)
				6200-I	(A400)
				6060-C	(A505)
				6180-I	(A401)
				6045-I	(A407)
				6085	-
				6156-I	(A404)
				6050	(A105)
				6070	(A201)
				6087	-
				6210-I	(A405)
				6090	(A100)
				6110	(A102)
				6125	-
				6127	-
				6110-C	(A502)
				6160	(A103)
				6160-C	(A503)
				6145	(A109)
				6170	(A304)
				6190-I	(A402)
				6220-I	(A406)

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Use the same part number - just add "hp" to the end.

Dura-Bond®

Engine Hardware & Engine Hardware Finishing Kits

FINISHING KITS®

ENGINE HARDWARE



Dura-Bond now has a line of engine hardware available.

The engine tear down and cleaning process can lead to broken, bent, distorted, or lost service parts. These items can be troubling to any engine rebuilder, especially when they are difficult to obtain. That is why Dura-Bond offers many of the hard to find OEM service parts you need at substantially lower prices.

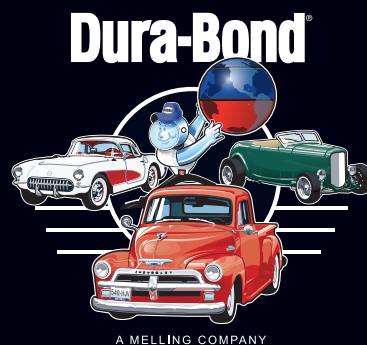
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ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
AMC					
CAM BOLTS & WASHERS					
AB-030-P	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Bolt	1/2-20 x 1-1/4 Hex		
AW-011-P	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Washer	2-1/6 x 1/2 x 3/16 Washer		
HEAD DOWELS					
AD-258	2.5L (150ci), 4.0L (242ci), 4.2L (258ci), 5.0L (304ci), 5.9L (360ci), 5.6L (390ci 1970 Only), 6.6L (401ci)	Hollow Dowel	0.6250	0.523	0.500
AD-927-P	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Solid Dowel	0.3125	Solid	0.565
AD-0112	1966-69 (290ci), (343ci), (390ci) w/1970-Later Heads	Stepped Hollow Dowel	0.6250 / 0.5620	0.450	0.500
OIL FILTER PIN					
AD-007-P	(199ci-258ci)	Roll Pin	1/4 x 1-1/2		
OIL PUMP DOWELS					
AD-148	3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Hollow Dowel	0.5615	0.454	0.812
TRANSMISSION DOWELS					
AD-148	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci), (290ci), (304ci), (343ci), (360ci), (390ci), (401ci)	Hollow Dowel	0.5615	0.454	0.812
WOODRUFF KEYS					
AK-002-P	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Woodruff Key	3/16 x 3/4		
AK-010-P	3.3L (199ci), 3.8L (232ci), 4.0L (242ci), 4.2L (258ci)	Woodruff Key	3/16 x 7/8		
CATERPILLAR					
VALVE SPRING SPACER					
SP-7488	Caterpillar 3304, 3306 Series	Spacer	1.3750	0.675	1.083
CHRYSLER					
CAM BOLTS & WASHERS					
AB-012-P	(273ci-360ci) "LA" V8	Bolt	7/16-14 x 1-1/4 Hex		
AW-002-P	(273ci-360ci) "LA" V8	Cupped Washer	1-1/2 x 7/16 x 5/16 Washer		
AW-005-P	5.2L (318ci), 5.9L (360ci) w/Rller Cam	Cupped Washer	1-1/2 x 7/16 x 7/16 Washer		
AW-006-P	5.2L (318ci), 5.9L (360ci) w/Roller Cam, (361ci-440ci) V8	Tapered (Bellville) Washer	1-1/2 x 7/16 x 1/8 Washer		
AB-040-P	(361ci-440ci) V8	Bolt	7/16-14 x 1 Hex		
AB-042-P	(361ci-440ci) V8	Bolt	3/8-16 x 3/4 Hex		
CAM CHAIN OIL TABS					
AS-001-P	(273ci-360ci) "LA" V8	Chain Oil Tab	N/A	N/A	N/A
CAM SPROCKET DOWELS					
AD-402	2.2L, 2.5L Mitsubishi SOHC Vin A-E, J, K.	Solid Dowel	0.2318	Solid	0.630
CAM TRAY BOLTS					
AB-005-P	5.2L (318ci), 5.9L (360ci) w/Roller Cam	Bolt	5/16-18 x 5/8 Flanged Hex		
DISTRIBUTOR TOWER SHAFT BUSHINGS					
AD-584	(318ci-440ci) "LA" V8	Distributor Tower Shaft Bushing	N/A	N/A	N/A
HEAD DOWELS					
AD-111	2.0L, 2.4L, 2.6L Includes Mitsubishi Eng.	Hollow Dowel	0.6300	0.500	0.505
AD-402	2.2L, 2.5L Mitsubishi SOHC Vin A-E, J, K.	Solid Dowel	0.2318	Solid	0.630
AD-849	2.4L, 2.6L G54B 2.7L Includes Mitsubishi Eng.	Hollow Dowel	0.6310	0.500	0.485
AD-856	3.3L (202ci)	Hollow Dowel	0.5913	0.452	0.488
AD-927-P	(273ci-360ci) "LA" V8	Solid Dowel	0.3125	Solid	0.565
AD-1284-P	(361ci-440ci) V8	Solid Dowel	0.2466	Solid	0.630

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
CHRYSLER (Cont'd)					
SPRING RETAINERS					
SR-318	5.2L (318ci), 5.9L (360ci) (Early)	Spring Retainer	Valve Stem Diameter .370 / .373		
SR-570	4.7L (287ci)	Spring Retainer	Valve Stem Diameter .2734 / .2723		
SR-626	5.2L (318ci), 5.9L (360ci) (Late)	Spring Retainer	Valve Stem Diameter .311 / .312		
THRUST PLATE BOLTS					
AB-001-P	(318ci-360ci) "LA" V8	Cam Thrust Plate Bolt	5/16-18 x 3/4 Hex		
TIMING COVER DOWELS					
AD-1284-P	(361ci-440ci) V8	Solid Dowel	0.2466	Solid	0.630
TRANSMISSION DOWELS					
AD-849	2.4L, 2.6L G54B 2.7L Includes Mitsubishi Eng.	Hollow Dowel	0.6310	0.500	0.485
AD-021	2.4L, 2.7L, 3.3L Includes Mitsubishi Eng.	Hollow Dowel	11mm	8.5mm	8.3mm
AD-270	2.7L	Hollow Dowel	0.5510	0.410	0.485
AD-532	3.9L V6, (318ci-440ci) "LA" V8	Solid Dowel	0.4960	Solid	0.740
WOODRUFF KEYS					
AK-002-P	(273ci-360ci) "LA" V8	Woodruff Key	3/16 x 3/4		
AK-005-P	(273ci-440ci) "LA" V8	Woodruff Key	3/16 x 1-13/16		
FORD					
CAM BOLTS & WASHERS					
AB-032-P	3.8L (232ci)	Bolt & Washer	10mm-1.5 x 34mm Hex, 35mm Integral Washer		
AB-009-P	(221ci-351ci) Windsor V8, (370ci-460ci) "Lima" V8	Bolt	3/8-16 x 1-1/2 Hex		
AW-001-P	(221ci-351ci) Windsor V8, (370ci-460ci) "Lima" V8	Washer	1-1/4 x 3/8 x 1/4 Washer		
AB-013-P	(332ci-428ci) "FE" V8	Bolt	7/16-14 x 1-3/4 Hex		
AW-003-P	(332ci-428ci) "FE" V8	Washer	1-1/4 x 7/16 x 1/4 Washer		
AB-014-P	(460ci) V8 w/Fuel Injection	Bolt	3/8-16 x 1-3/8 Hex		
CAM ECCENTRIC					
AE-001-P	(255ci-351ci) Windsor V8 (1968-later), 351M, 400M, (460ci) V8	Cam Eccentric - Inner	N/A	N/A	N/A
AE-002-P	(255ci-351ci) Windsor V8 (1968-later), 351M, 400M, (460ci) V8, (332ci-428ci) "FE" V8	Cam Eccentric - Outer	N/A	N/A	N/A
AE-003-P	5.0L (302ci), 5.8L (351ci) w/Fuel Injection	Cam Eccentric (FI)	N/A	N/A	N/A
AE-004-P	(332ci-428ci) "FE" V8	Cam Eccentric - Inner	N/A	N/A	N/A
CAM SPROCKET DOWELS					
AD-005-P	(302ci) 351W w/Two Piece Eccentric, 351C/M, 400M, (429ci, 460ci)	Solid Dowel	0.3115	Solid	1.125
AD-004-P	(221ci-351ci) Windsor V8 w/One Piece Eccentric	Solid Dowel	0.3115	Solid	1.375
AD-006-P	(332ci-428ci) "FE" V8	Solid Dowel	0.3090	Solid	1.500
CAM TRAY BOLTS					
AB-011-P	5.0L (302ci), 5.8L (351ci) w/Roller Cam	Cam Tray Bolt	1/4-20 x 1/2 Place Bolt, Hex		
COOLANT TUBES					
TC-1	4.6L, 5.4L	Coolant Tube (O-Ring)	0.8750	0.437	1.915
TC-2	4.6L, 5.4L	Coolant Tube (Slip-Fit)	0.9800	0.500	2.438
FLYWHEEL DOWELS					
AD-6397	4.6L, 5.0L (302ci)	Stepped Solid Dowel	0.2485 / 0.3140	Solid	0.700

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
FORD (Cont'd)					
HEAD DOWELS					
AD-849	1.8L (110ci), 2.0L (121ci) Courier Eng.	Hollow Dowel	0.6310	0.500	0.485
AD-300	2.3L	Hollow Dowel	0.5555	0.468	0.470
AD-600	3.0L	Hollow Dowel	0.6050	0.475	0.550
AD-011-P	3.8L (232ci)	Hollow Dowel (Split)	17mm	15mm	19mm
AD-008-P	4.9L (300ci), 3.6L (221ci), 4.2L (255ci), 4.3L (260ci), 4.5L (272ci), 4.7L (289ci), 5.0L (302ci), 5.8L (351ci), 6.6L (400ci)	Hollow Dowel	0.6745	0.552	0.435
AD-008A-P	(332ci-428ci) "FE" V8, (370ci-460ci) "Lima" V8	Hollow Dowel (Split)	0.7400	0.625	0.445
MANIFOLD DOWELS					
AD-025-P	(400ci) 351C, 351M	Solid Dowel	0.2500	Solid	0.500
OIL PUMP DOWELS					
AD-230	2.0L, 2.3L Escort, Pinto	Hollow Dowel	0.7200	0.615	0.395
OIL GALLEY PLUGS					
AP-001-P	4.9L (300ci)	Oil Galley Plug	1/16-27 x 1/4 Internal Hex		
PEDESTAL SHIMS					
S-100	(302ci, 351ci) W, C, M, 400ci, (370ci-429ci-460ci) w/Pedestal Mount Rocker Arms	Pedestal Shim	.020" Thickness		
SPACER					
SP-6265	4.6L	Spacer	1.8500	1.446	0.441
AS-002	4.9L (300ci)	Spacer	1.5160	1.255	0.194
SPRING RETAINERS					
SR-536	2.8L, 2.9L, 4.0L	Spring Retainer	N/A	N/A	N/A
SR-502	4.7L (289ci) Hi Perf.	Spring Retainer	N/A	N/A	N/A
TENSIONER BOLTS					
AB-034-P	3.8L (232ci)	Bolt	6mm-1.0 x 14mm Hex		
THRUST PLATE BOLTS					
AB-033-P	3.8L (232ci)	Cam Thrust Plate Bolt	6mm-1.0 x 19mm Flat Head Torx		
AB-033-P	3.8L (232ci)	Balance Shaft Thrust Plate Bolt	6mm-1.0 x 19mm Flat Head Torx		
AB-010-P	4.7L (289ci), 5.0L (302ci), 5.8L (351ci)	Cam Thrust Plate Bolt	1/4-20 x 5/8 Hex		
AB-001-P	4.9L (300ci)	Cam Thrust Plate Bolt	5/16-18 x 3/4 Hex		
AB-015-P	(332ci-428ci) "FE" V8	Cam Thrust Plate Bolt	7/16-14 x 5/8 Hex		
AB-011-P	7.5L (460ci)	Cam Thrust Plate Bolt	1/4-20 x 1/2 Place Bolt, Hex		
TIMING COVER DOWELS					
AD-015	2.3L	Hollow Dowel	0.3140	0.261	0.455
AD-520	3.8L (232ci), 4.2L	Hollow Dowel	0.4881	0.400	0.670
AD-967	4.7L (289ci), 5.0L (302ci), 5.8L (351ci)	Hollow Dowel	0.4820	0.385	0.550
TRANSMISSION DOWELS					
AD-E7RY	2.0L	Hollow Dowel	0.5010	0.406	0.650
AD-521	3.0L, 3.8L (232ci), 4.2L (255ci)	Hollow Dowel	0.6074	0.510	0.800
AD-397	3.8L (232ci), 4.2L (255ci), 4.7L (289ci), 4.9L (300ci), 5.0L (302ci), 5.8L (351ci), 5.9L (360ci), 6.7L (390ci), 6.6L (400ci), 7.5L (460ci)	Solid Dowel Pin	0.5000	Solid	1.000
WATER PUMP DOWELS					
FD-1-1	2.8L (171ci)	Hollow Dowel	0.9395	0.834	0.572

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
FORD (Cont'd)					
WOODRUFF KEYS					
AK-003-P	3.8L (232ci), 4.7L (289ci), 5.0L (302ci), 5.8L (351ci)	Woodruff Key	3/16 x 1-13/32		
AK-004-P	4.7L (289ci), 4.9L (300ci), 5.0L (302ci), 5.8L (351ci)	Woodruff Key	3/16 x 1-3/4		
AK-002-P	4.9L (300ci)	Woodruff Key	3/16 x 3/4		
AK-006-P	(332ci-428ci) "FE" V8	Woodruff Key	3/16 x 1-13/32		
AK-007-P	351C, 351M, (400ci), 7.5L (460ci)	Woodruff Key	3/16 x 1-3/4		
AK-008-P	7.5L (460ci)	Woodruff Key	1/4 x 7/8		
GENERAL MOTORS					
BALANCE SHAFT GEAR BOLTS & WASHERS					
AB-026-P	4.3L (262ci)	Bolt	3/8-16 x 1-1/4 Bolt, Hex		
AW-007-P	4.3L (262ci)	Flat Washer	3/8 Washer		
AW-006-P	4.3L (262ci)	Tapered Washer	1-1/2 x 7/16 x 1/8 Washer		
BYPASS VALVES					
AV-001-P	4.3L (262ci)	Bypass Valve	N/A	N/A	N/A
CAM BOLTS & WASHERS					
AB-007-P	4.3L (262ci)	Bolt	5/16-18 x 1-3/8 Cap Screw, Hex		
AB-019-P	4.3L (262ci)	Bolt	5/16-18 x 1-1/2 Hex		
AW-009-P	4.3L (262ci)	Washer	5/16 Star Washer		
AB-001-P	(262ci-400ci) Small Block V8, (366ci-454ci) Big Block V8	Bolt	5/16-18 x 3/4 Hex		
AB-031-P	(265ci-455ci) Pontiac V8	Bolt	1/2-20 x 1 Hex		
AW-010-P	(265ci-455ci) Pontiac V8	Washer	1-3/8 x 1/2 x 3/16 Washer		
CAM BOX DOWELS					
AD-022	3.4L (207ci)	Hollow Dowel	0.4350	0.343	0.500
CAM BOX DOWELS					
AD-024	2.2L Ecotech	Hollow Dowel	0.3937	0.328	0.627
CAM LOCK PLATE					
AW-013-P	All Other GM V6 / V8 Hi Perf.	Cam Lock Plate	N/A	N/A	N/A
CAM SPACER					
SP-230	3.8L (230ci)	Cam Spacer	1.5050	1.288	0.139
CAM TRAY BOLTS					
AB-005-P	4.3L (262ci), 5.0L (305ci), 5.7L (350ci) w/Roller Cam	Bolt	5/16-18 x 5/8 Flanged Hex		
CRANK PINS					
AD-679	(262ci-400ci) Small Block V8, (366ci-454ci) Big Block V8	Solid Dowel	0.4386	Solid	0.813
CRANKSHAFT INSERTS					
AD-699	2.5L w/Automatic Trans.	Crankshaft Insert	1.4985	0.830	0.924
FLAT LIFTER PLUG BOLTS					
AB-027-P	5.7L (350ci)	Bolt	15/16-18 x 1/2 Hex		
FUEL PUMP BOLTS & WASHERS					
AB-021-P	(262ci-400ci) Small Block V8	Bolt	3/8-16 x 5/8 Hex		
AW-007-P	(262ci-400ci) Small Block V8	Flat Washer	3/8 Washer		

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
GENERAL MOTORS (Cont'd)					
HEAD DOWELS					
AD-189	Geo 1.3L, 1.6L, Suzuki G13, G16 Eng.	Hollow Dowel	0.5113	0.406	0.700
AD-050	2.3L (138ci), 2.4L (146ci)	Hollow Dowel	0.5562	0.500	0.745
AD-927-P	(262ci-400ci) Small Block V8, (265ci-455ci) Pontiac V8	Solid Dowel	0.3125	Solid	0.565
AD-352	4.6L Cadillac Northstar	Hollow Dowel	0.6165	0.500	1.100
AD-326	4.8L, 5.3L, 6.0L	Hollow Dowel	0.6420	0.516	0.500
AD-8081-P	(366ci-454ci) Big Block V8	Hollow Dowel	0.6400	0.500	0.500
AD-347	Geo, Suzuki Eng.	Hollow Dowel	0.3900	0.281	0.272
OIL DIPSTICK PLUGS					
AP-013	5.0L (305ci), 5.7L (350ci) Marine	Oil Dipstick Plug	N/A	N/A	N/A
AP-014	4.3L (262ci)	Oil Dipstick Plug	N/A	N/A	N/A
OIL FILTER ADAPTER BOLTS					
AB-039-P	All Other GM V6 / V8 Hi Perf.	Bolt	5/16-18 x 1-1/16		
OIL GALLEY PLUGS					
AP-003-P	4.3L (262ci)	Oil Galley Plug	3/8-18 x .46 Internal Hex, w/Sealant		
CB-001-P	4.3L (262ci), 5.7L (350ci), 6.6L (400ci)	Oil Galley Rear Main Plug	12MM Check Ball		
AP-002-P	(262ci-400ci) Small Block V8	Oil Galley Plug	1/4-18 x .33 Internal Hex, w/Sealant		
OIL PAN BOLTS					
AB-020-P	4.3L (262ci)	Oil Pan Bolt (Aluminum Pan)	5/16-18 x 7/8 Frame Bolt, Hex		
AB-016-P	4.3L (262ci)	Oil Pan Bolt (Steel Pan)	1/4-20 x 3/4 Frame Bolt, Hex		
AB-023-P	(262ci-400ci) Small Block V8	Oil Pan Bolt	5/16-18 x 5/8 Sims Bolt, Hex		
AB-010-P	(262ci-400ci) Small Block V8	Oil Pan Bolt (With Rails)	1/4-20 x 5/8 Hex		
AB-024-P	(262ci-400ci) Small Block V8	Oil Pan Bolt (Without Rails)	1/4-20 x 1/2 Sims Bolt, Hex		
AB-016-P	(262ci-400ci) Small Block V8	Oil Pan Bolt (Steel Pan w/ Rails)	1/4-20 x 3/4 Frame Bolt, Hex		
OIL PAN DRAIN PLUG WASHERS					
AW-008-P	(262ci-400ci) Small Block V8	Nylon Washer	1/2 x .900 x .078 Washer		
OIL PAN STUDS & NUTS					
ST-002-P	4.3L (262ci)	Oil Pan Stud (Aluminum Pan)	Stud 5/16-18 x 2-1/2		
ST-001-P	(262ci-400ci) Small Block V8	Oil Pan Stud (Steel Pan)	Stud 5/16-18 x 1-9/16 Torx		
AN-002-P	(262ci-400ci) Small Block V8	Oil Pan Stud Nut	5/16 Flange Nut, Hex		
OIL PUMP BOLTS					
AB-022-P	(262ci-400ci) Small Block V8	Oil Pump Bolt (Short Version)	7/16-14 x 2 Bolt, Hex		
AB-018-P	(262ci-400ci) Small Block V8	Oil Pump Bolt (Long Version)	7/16-14 x 2-1/4 Bolt, Hex		
OIL PUMP DOWELS					
AD-SS	1.3L	Hollow Dowel	0.3546	0.266	0.390
AD-250	4.1L (250ci), 4.8L (292ci)	Hollow Dowel	0.7600	0.640	0.635
AD-1284-P	(262ci-400ci) Small Block V8, (366ci-454ci) Big Block V8	Solid Dowel	0.2466	Solid	0.630
OIL PUMP DRIVE ROD BUSHINGS					
AD-842	2.5L	Drive Rod Bushing	0.7570	0.491	1.160
OIL PUMP SLEEVES					
AD-010-P	4.3L (262ci), 4.6L (283ci), 5.3L (327ci), 5.7L (350ci), 6.6L (400ci)	Nylon Sleeve	0.6120	0.466	0.600

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
GENERAL MOTORS (Cont'd)					
PEDESTAL SHIMS					
S-220-10-P	2.2L (134ci)	Pedestal Shim	.010" Thickness		
S-220-20-P	2.2L (134ci)	Pedestal Shim	.020" Thickness		
S-006-10-P	3.1L (189ci), 3.4L (207ci)	Pedestal Shim	.010" Thickness		
S-006-20-P	3.1L (189ci), 3.4L (207ci)	Pedestal Shim	.020" Thickness		
S-006-30-P	3.1L (189ci), 3.4L (207ci)	Pedestal Shim	.030" Thickness		
REAR MAIN DOWELS					
AD-SS	2.2L	Hollow Dowel	0.3546	0.266	0.390
ROTATOR ELIMINATORS					
RE200	7.4L (454ci) Also LPG	Rotator Eliminator	1.7400	0.640	0.350
RE200I	7.4L (454ci) Also LPG	Rotator Eliminator	1.7400	0.640	0.180
RE250	7.4L (454ci) Also LPG	Rotator Eliminator	1.7400	0.640	0.250
RE200HP	7.4L (454ci) Hi Perf.	Rotator Eliminator (Cupped)	1.7400	0.640	0.300
SPRING RETAINERS					
SR-220	2.2L (134ci)	Spring Retainer	N/A	N/A	N/A
SR-500	5.7L (350ci) Hi Perf.	Spring Retainer	N/A	N/A	N/A
SEAL HOUSING BOLTS					
AB-002-P	4.3L (262ci), 5.0L (305ci), 5.7L (350ci)	Bolt	1/4-20 x 1-3/4 Machine Screw, Torx		
AB-003-P	4.3L (262ci), 5.0L (305ci), 5.7L (350ci)	Bolt	1/4-20 x 7/8 Machine Screw, Torx		
SEAL HOUSING DOWELS					
AD-003-P	4.3L (262ci), 5.0L (305ci), 5.7L (350ci)	Hollow Dowel	0.4445	0.297	0.562
THRUST PLATE BOLTS					
AB-004-P	4.3L (262ci)	Balance Shaft Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx		
AB-006-P	4.3L (262ci)	Cam Thrust Plate Bolt	1/4-20 x 5/8 Machine Screw, Torx		
AB-004-P	4.3L (262ci), 5.0L (305ci), 5.7L (350ci) w/Roller Cam	Cam Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx		
AB-004-P	5.0L (305ci), 5.7L (350ci) w/Roller Cam	Water Pump Shaft Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx		
AB-001-P	(265ci-455ci) Pontiac V8	Cam Thrust Plate Bolt	5/16-18 x 3/4 Hex		
TIMING COVER BOLTS					
AB-017-P	(262ci-400ci) Small Block V8	Timing Cover Bolt (Steel Cover)	1/4-20 x 1/2 Frame Bolt, Hex		
TIMING COVER DOWELS					
AD-016-P	2.2L (134ci)	Solid Dowel	0.2326	Solid	0.645
AD-1284-P	(262ci-400ci) Small Block V8, (366ci-454ci) Big Block V8	Solid Dowel	0.2466	Solid	0.630
AD-012-P	6.2L, 6.5L Diesel	Solid Dowel	9mm	Solid	22mm
TIMING GEAR OILER					
TC-4	2.5L (151ci), 3.8L (230ci), 4.1L (250ci), 4.8L (292ci)	Timing Gear Oiler (Press in Type)	N/A	N/A	N/A
TIMING STUDS & NUTS					
ST-045-P	4.3L (262ci)	Timing Stud	5/16-18 x 1-3/4		
AN-001-P	4.3L (262ci)	Timing Stud Nut	5/16-18 Top Lock Nut, Hex		
TRANSMISSION DOWELS					
AD-076	2.5L, 2.8L, 3.0L, 3.1L, 3.8L	Hollow Dowel	0.7275	0.500	0.750
AD-009-P	All Other GM V6 / V8	Solid Dowel	0.6210	Solid	1.150
AD-023	All Other GM V6 / V8 Hi Perf.	Solid Dowel	0.6210	Solid	1.550

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
GENERAL MOTORS (Cont'd)					
WOODRUFF KEYS					
AK-003-P	4.3L (262ci)	Woodruff Key	3/16 x 1-13/32		
AK-002-P	(262ci-400ci) Small Block V8, (366ci-454ci) Big Block V8 (265ci-455ci) Pontiac V8	Woodruff Key	3/16 x 3/4		
AK-001-P	(262ci-400ci) Small Block V8, (265ci-455ci) Pontiac V8	Woodruff Key	3/16 x 1-3/8		
AK-032-P	4.8L, 5.3L, 6.0L Gen III	Woodruff Key	3/16 x 1-31/64		
ISUZU					
HEAD DOWELS					
AD-002	2.3L	Hollow Dowel	0.5825	0.500	0.355
AD-021	Isuzu	Hollow Dowel	11mm	8.5mm	8.3mm
JEEP					
MANIFOLD DOWELS					
AD-242	4.0L	Solid Dowel	0.4250	Solid	0.685
MAZDA					
REAR MAIN DOWELS					
AD-SS	2.2L	Hollow Dowel	0.3546	0.266	0.390
MITSUBISHI					
CAM SPROCKET DOWELS					
AD-402	SOHC 2.2L, 2.5L Vin A-E, J, K.	Solid Dowel	0.2318	Solid	0.630
HEAD DOWELS					
AD-111	2.0L, 2.4L, 2.6L	Hollow Dowel	0.6300	0.500	0.505
AD-402	2.2L, 2.5L SOHC Vin A-E, J, K.	Solid Dowel	0.2318	Solid	0.630
AD-849	2.4L, 2.6L G54B 2.7L	Hollow Dowel	0.6310	0.500	0.485
AD-856	3.3L (202ci) Chrysler	Hollow Dowel	0.5913	0.452	0.488
TRANSMISSION DOWELS					
AD-849	2.4L, 2.6L G54B 2.7L	Hollow Dowel	0.6310	0.500	0.485
AD-021	2.4L, 2.7L, 3.3L	Hollow Dowel	11mm	8.5mm	8.3mm
NISSAN					
CAM TOWER DOWELS					
AD-100	Nissan	Hollow Dowel	0.4320	0.336	0.432
HEAD DOWELS					
AD-M00	1.6L, E16 Eng.	Hollow Dowel	0.5320	0.469	0.442
AD-400	1.6L (L16), 1.8L (L18), 2.0L (L20 & Z20), 2.2L (9Z22), 2.4L (L24 & Z24), 2.6L (L26), 2.8L (L28) L, Z Series	Hollow Dowel	0.5540	0.437	0.412
AD-V00	3.0L VG30 Eng.	Solid Dowel Pin	0.3750	Solid	0.570
SATURN					
HEAD DOWELS					
AD-634	1.9L	Hollow Dowel	0.5155	0.437	0.665
TRANSMISSION DOWELS					
AD-635	1.9L	Hollow Dowel	0.6080	0.500	0.905
SUZUKI					
HEAD DOWELS					
AD-189	1.3L, 1.6L G13, G16 Eng.	Hollow Dowel	0.5113	0.406	0.700
AD-347	Suzuki	Hollow Dowel	0.3900	0.281	0.272

ENGINE HARDWARE

PART NO.	MAKE & APPLICATION	PRODUCT TYPE	DIMENSION		
			O.D.	I.D.	LENGTH
SUZUKI (Cont'd)					
OIL PUMP DOWELS					
AD-SS	1.3L	Hollow Dowel	0.3546	0.266	0.390
REAR MAIN DOWELS					
AD-SS	1.3L	Hollow Dowel	0.3546	0.266	0.390
TOYOTA					
CAM TOWER DOWELS					
AD-021	1.8L, 2.0L, 2.2L, 18R, 20R, 22R Blocks	Hollow Dowel	11mm	8.5mm	8.3mm
HEAD DOWELS					
AD-017	1.6L (1587cc) SOHC 4AC Eng.	Hollow Dowel	0.5113	0.422	0.470
AD-8120-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Solid Dowel	0.3150	Solid	0.705
AD-001	3.0L (2958cc) SOHC 3VZE Eng.	Hollow Dowel	0.6290	0.453	0.785
OIL GALLEY PLUGS					
AP-004-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Oil Galley Plug	1/8-28 x .56 External Hex, w/Sealant		
AP-005-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Oil Galley Plug	1/4-19 x .39 Internal Hex, w/Sealant		
AP-006-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Oil Galley Plug	3/8-19 x .39 Internal Hex, w/Sealant		
REAR MAIN DOWELS					
AD-021	1.8L, 2.0L, 2.2L, 18R, 20R, 22R Blocks	Hollow Dowel	11mm	8.5mm	8.3mm
ROCKER ASSEMBLY DOWELS					
AD-020	2.4L (2366cc) SOHC Toyota 22RE, REC Eng.	Hollow Dowel	0.6095	0.484	0.636
TENSIONER BOLTS & WASHERS					
AW-012-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Lock Washer	8mm Lock Washer		
TIMING COVER DOWELS					
AD-021	1.8L, 2.0L, 2.2L, 2.4L, 18R, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Hollow Dowel	11mm	8.5mm	8.3mm
TRANSMISSION DOWELS					
AD-0113	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Solid Dowel	10mm	Solid	22mm
WATER PLUGS					
AP-006-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Water Plug	3/8-19 x .39 Internal Hex, w/Sealant		
WATER PUMP DOWELS					
AD-021	1.8L, 2.0L, 2.2L, 18R, 20R, 22R Blocks	Hollow Dowel	11mm	8.5mm	8.3mm
WOODRUFF KEYS					
AK-011-P	2.4L, 20R, 22R, 22RE, 22REC, 22RTEC Blocks	Woodruff Key	5mm x 18mm		
WAUKESHA					
SPRING RETAINERS					
SR-014	VGF F18/H24GL/GLD LCR/HCR, L36/P48GL/GLD HCR	Spring Retainer	N/A	N/A	N/A

ENGINE HARDWARE COMPONENT LISTING

Bolt - Specifications

Size		Numerical	
PART #	DIMENSION	PART #	DIMENSION
AB-017-P	1/4-20 x 1/2 Frame Bolt, Hex	AB-001-P	5/16-18 x 3/4 Hex
AB-004-P	1/4-20 x 1/2 Machine Screw, Torx	AB-002-P	1/4-20 x 1-3/4 Machine Screw, Torx
AB-011-P	1/4-20 x 1/2 Place Bolt, Hex	AB-003-P	1/4-20 x 7/8 Machine Screw, Torx
AB-024-P	1/4-20 x 1/2 Sims Bolt, Hex	AB-004-P	1/4-20 x 1/2 Machine Screw, Torx
AB-010-P	1/4-20 x 5/8 Hex	AB-005-P	5/16-18 x 5/8 Flanged Hex
AB-006-P	1/4-20 x 5/8 Machine Screw, Torx	AB-006-P	1/4-20 x 5/8 Machine Screw, Torx
AB-016-P	1/4-20 x 3/4 Frame Bolt, Hex	AB-007-P	5/16-18 x 1-3/8 Cap Screw, Hex
AB-003-P	1/4-20 x 7/8 Machine Screw, Torx	AB-009-P	3/8-16 x 1-1/2 Hex
AB-002-P	1/4-20 x 1-3/4 Machine Screw, Torx	AB-010-P	1/4-20 x 5/8 Hex
AB-005-P	5/16-18 x 5/8 Flanged Hex	AB-011-P	1/4-20 x 1/2 Place Bolt, Hex
AB-023-P	5/16-18 x 5/8 Sims Bolt, Hex	AB-012-P	7/16-14 x 1-1/4 Hex
AB-001-P	5/16-18 x 3/4 Hex	AB-013-P	7/16-14 x 1-3/4 Hex
AB-020-P	5/16-18 x 7/8 Frame Bolt, Hex	AB-014-P	3/8-16 x 1-3/8 Hex
AB-039-P	5/16-18 x 1-1/16	AB-015-P	7/16-14 x 5/8 Hex
AB-007-P	5/16-18 x 1-3/8 Cap Screw, Hex	AB-016-P	1/4-20 x 3/4 Frame Bolt, Hex
AB-019-P	5/16-18 x 1-1/2 Hex	AB-017-P	1/4-20 x 1/2 Frame Bolt, Hex
AB-042-P	3/8-16 x 3/4 Hex	AB-018-P	7/16-14 x 2-1/4 Bolt, Hex
AB-021-P	3/8-16 x 5/8 Hex	AB-019-P	5/16-18 x 1-1/2 Hex
AB-026-P	3/8-16 x 1-1/4 Bolt, Hex	AB-020-P	5/16-18 x 7/8 Frame Bolt, Hex
AB-014-P	3/8-16 x 1-3/8 Hex	AB-021-P	3/8-16 x 5/8 Hex
AB-009-P	3/8-16 x 1-1/2 Hex	AB-022-P	7/16-14 x 2 Bolt, Hex
AB-015-P	7/16-14 x 5/8 Hex	AB-023-P	5/16-18 x 5/8 Sims Bolt, Hex
AB-040-P	7/16-14 x 1 Hex	AB-024-P	1/4-20 x 1/2 Sims Bolt, Hex
AB-012-P	7/16-14 x 1-1/4 Hex	AB-026-P	3/8-16 x 1-1/4 Bolt, Hex
AB-013-P	7/16-14 x 1-3/4 Hex	AB-027-P	15/16-18 x 1/2 Hex
AB-022-P	7/16-14 x 2 Bolt, Hex	AB-030-P	1/2-20 x 1-1/4 Hex
AB-018-P	7/16-14 x 2-1/4 Bolt, Hex	AB-031-P	1/2-20 x 1 Hex
AB-031-P	1/2-20 x 1 Hex	AB-032-P	10mm-1.5 x 34mm Hex, 35mm Integral Washer
AB-030-P	1/2-20 x 1-1/4 Hex	AB-033-P	6mm-1.0 x 19mm Flat Head Torx
AB-027-P	15/16-18 x 1/2 Hex	AB-034-P	6mm-1.0 x 14mm Hex
AB-034-P	6mm-1.0 x 14mm Hex	AB-039-P	5/16-18 x 1-1/16
AB-033-P	6mm-1.0 x 19mm Flat Head Torx	AB-040-P	7/16-14 x 1 Hex
AB-032-P	10mm-1.5 x 34mm Hex, 35mm Integral Washer	AB-042-P	3/8-16 x 3/4 Hex

Dowel Pin - Specifications

Size				Numerical			
PART #	O.D.	I.D.	LENGTH	PART #	O.D.	I.D.	LENGTH
AD-402	0.2318	Solid	0.630	AD-001	0.6290	0.453	0.785
AD-016-P	0.2326	Solid	0.645	AD-002	0.5825	0.500	0.355
AD-1284-P	0.2466	Solid	0.630	AD-003-P	0.4445	0.297	0.562
AD-6397	0.2485 / 0.3140	Solid	0.700	AD-004-P	0.3115	Solid	1.375
AD-025-P	0.2500	Solid	0.500	AD-005-P	0.3115	Solid	1.125
AD-006-P	0.3090	Solid	1.500	AD-006-P	0.3090	Solid	1.500
AD-005-P	0.3115	Solid	1.125	AD-008-P	0.6745	0.552	0.435
AD-004-P	0.3115	Solid	1.375	AD-008A-P	0.7400	0.625	0.445
AD-927-P	0.3125	Solid	0.565	AD-009-P	0.6210	Solid	1.150
AD-015	0.3140	0.261	0.455	AD-010-P	0.6120	0.466	0.600
AD-8120-P	0.3150	Solid	0.705	AD-011-P	17mm	15mm	19mm
AD-SS	0.3546	0.266	0.390	AD-0112	0.6250 / 0.5620	0.450	0.500
AD-V00	0.3750	Solid	0.570	AD-0113	10mm	Solid	22mm
AD-347	0.3900	0.281	0.272	AD-012-P	9mm	Solid	22mm
AD-024	0.3937	0.328	0.627	AD-015	0.3140	0.261	0.455
AD-242	0.4250	Solid	0.685	AD-016-P	0.2326	Solid	0.645
AD-100	0.4320	0.336	0.432	AD-017	0.5113	0.422	0.470

ENGINE HARDWARE COMPONENT LISTING

Dowel Pin - Specifications (Cont'd)

Size				Numerical			
PART #	O.D.	I.D.	LENGTH	PART #	O.D.	I.D.	LENGTH
AD-022	0.4350	0.343	0.500	AD-020	0.6095	0.484	0.636
AD-679	0.4386	Solid	0.813	AD-021	11mm	8.5mm	8.3mm
AD-003-P	0.4445	0.297	0.562	AD-022	0.4350	0.343	0.500
AD-967	0.4820	0.385	0.550	AD-023	0.6210	Solid	1.550
AD-520	0.4881	0.400	0.670	AD-024	0.3937	0.328	0.627
AD-532	0.4960	Solid	0.740	AD-025-P	0.2500	Solid	0.500
AD-397	0.5000	Solid	1.000	AD-050	0.5562	0.500	0.745
AD-E7RY	0.5010	0.406	0.650	AD-076	0.7275	0.500	0.750
AD-189	0.5113	0.406	0.700	AD-100	0.4320	0.336	0.432
AD-017	0.5113	0.422	0.470	AD-111	0.6300	0.500	0.505
AD-634	0.5155	0.437	0.665	AD-148	0.5615	0.454	0.812
AD-M00	0.5320	0.469	0.442	AD-189	0.5113	0.406	0.700
AD-270	0.5510	0.410	0.485	AD-230	0.7200	0.615	0.395
AD-400	0.5540	0.437	0.412	AD-242	0.4250	Solid	0.685
AD-300	0.5555	0.468	0.470	AD-250	0.7600	0.640	0.635
AD-050	0.5562	0.500	0.745	AD-258	0.6250	0.523	0.500
AD-148	0.5615	0.454	0.812	AD-270	0.5510	0.410	0.485
AD-002	0.5825	0.500	0.355	AD-300	0.5555	0.468	0.470
AD-856	0.5913	0.452	0.488	AD-326	0.6420	0.516	0.500
AD-600	0.6050	0.475	0.550	AD-347	0.3900	0.281	0.272
AD-521	0.6074	0.510	0.800	AD-352	0.6165	0.500	1.100
AD-635	0.6080	0.500	0.905	AD-397	0.5000	Solid	1.000
AD-020	0.6095	0.484	0.636	AD-400	0.5540	0.437	0.412
AD-010-P	0.6120	0.466	0.600	AD-402	0.2318	Solid	0.630
AD-352	0.6165	0.500	1.100	AD-520	0.4881	0.400	0.670
AD-009-P	0.6210	Solid	1.150	AD-521	0.6074	0.510	0.800
AD-023	0.6210	Solid	1.550	AD-532	0.4960	Solid	0.740
AD-258	0.6250	0.523	0.500	AD-600	0.6050	0.475	0.550
AD-0112	0.6250 / 0.5620	0.450	0.500	AD-634	0.5155	0.437	0.665
AD-001	0.6290	0.453	0.785	AD-635	0.6080	0.500	0.905
AD-111	0.6300	0.500	0.505	AD-6397	0.2485 / 0.3140	Solid	0.700
AD-849	0.6310	0.500	0.485	AD-679	0.4386	Solid	0.813
AD-8081-P	0.6400	0.500	0.500	AD-699	1.4985	0.830	0.924
AD-326	0.6420	0.516	0.500	AD-842	0.7570	0.491	1.160
AD-008-P	0.6745	0.552	0.435	AD-849	0.6310	0.500	0.485
AD-230	0.7200	0.615	0.395	AD-856	0.5913	0.452	0.488
AD-076	0.7275	0.500	0.750	AD-927-P	0.3125	Solid	0.565
AD-008A-P	0.7400	0.625	0.445	AD-967	0.4820	0.385	0.550
AD-842	0.7570	0.491	1.160	AD-1284-P	0.2466	Solid	0.630
AD-250	0.7600	0.640	0.635	AD-8081-P	0.6400	0.500	0.500
FD-1-1	0.9395	0.834	0.572	AD-8120-P	0.3150	Solid	0.705
AD-699	1.4985	0.830	0.924	AD-E7RY	0.5010	0.406	0.650
AD-012-P	9mm	Solid	22mm	AD-M00	0.5320	0.469	0.442
AD-0113	10mm	Solid	22mm	AD-SS	0.3546	0.266	0.390
AD-021	11mm	8.5mm	8.3mm	AD-V00	0.3750	Solid	0.570
AD-011-P	17mm	15mm	19mm	FD-1-1	0.9395	0.834	0.572

ENGINE HARDWARE COMPONENT LISTING

Pipe Plug - Specifications

Size		Numerical	
PART #	DIMENSION	PART #	DIMENSION
AP-001-P	1/16-27 x 1/4 Internal Hex	AP-001-P	1/16-27 x 1/4 Internal Hex
AP-004-P	1/8-28 x .56 External Hex, w/Sealant	AP-002-P	1/4-18 x .33 Internal Hex, w/Sealant
AP-002-P	1/4-18 x .33 Internal Hex, w/Sealant	AP-003-P	3/8-18 x .46 Internal Hex, w/Sealant
AP-017-P	1/4-18 x .33 Internal Hex	AP-004-P	1/8-28 x .56 External Hex, w/Sealant
AP-016-P	1/4-18 x .37 Internal Hex	AP-005-P	1/4-19 x .39 Internal Hex, w/Sealant
AP-005-P	1/4-19 x .39 Internal Hex, w/Sealant	AP-006-P	3/8-19 x .39 Internal Hex, w/Sealant
AP-003-P	3/8-18 x .46 Internal Hex, w/Sealant	AP-016-P	1/4-18 x .37 Internal Hex
AP-006-P	3/8-19 x .39 Internal Hex, w/Sealant	AP-017-P	1/4-18 x .33 Internal Hex

Washer - Specifications

Size		Numerical	
PART #	DIMENSION	PART #	DIMENSION
AW-009-P	5/16 Star Washer	AW-001-P	1-1/4 x 3/8 x 1/4 Washer
AW-007-P	3/8 Washer	AW-002-P	1-1/2 x 7/16 x 5/16 Washer
AW-008-P	1/2 x .900 x .078 Nylon Washer	AW-003-P	1-1/4 x 7/16 x 1/4 Washer
AW-001-P	1-1/4 x 3/8 x 1/4 Washer	AW-005-P	1-1/2 x 7/16 x 7/16 Washer
AW-003-P	1-1/4 x 7/16 x 1/4 Washer	AW-006-P	1-1/2 x 7/16 x 1/8 Washer
AW-010-P	1-3/8 x 1/2 x 3/16 Washer	AW-007-P	3/8 Washer
AW-006-P	1-1/2 x 7/16 x 1/8 Washer	AW-008-P	1/2 x .900 x .078 Nylon Washer
AW-002-P	1-1/2 x 7/16 x 5/16 Washer	AW-009-P	5/16 Star Washer
AW-005-P	1-1/2 x 7/16 x 7/16 Washer	AW-010-P	1-3/8 x 1/2 x 3/16 Washer
AW-011-P	2-1/6 x 1/2 x 3/16 Washer	AW-011-P	2-1/6 x 1/2 x 3/16 Washer
AW-012-P	8mm Lock Washer	AW-012-P	8mm Lock Washer

ENGINE HARDWARE COMPONENT LISTING

Woodruff Key - Specifications

Size			Numerical		
PART #	WIDTH X LENGTH	PIONEER #	PART #	WIDTH X LENGTH	PIONEER #
AK-024-P	3/32 x 1/2	PK-2	AK-001-P	3/16 x 1-3/8	PK-126
AK-019-P	3/32 x 5/8	PK-4	AK-002-P	3/16 x 3/4	PK-9
AK-017-P	1/8 x 3/4	PK-7	AK-003-P	3/16 x 1-13/32	PK-131
AK-015-P	5/32 x 5/8	PK-6	AK-004-P	3/16 x 1-3/4	PK-130
AK-018-P	5/32 x 3/4	PK-8	AK-005-P	3/16 x 1-13/16	PK-178, 192
AK-025-P	5/32 x 7/8	PK-10	AK-006-P	3/16 x 1-13/32	PK-134
AK-031-P	3/16 x 19/32	PK-187	AK-007-P	3/16 x 1-3/4	PK-135
AK-002-P	3/16 x 3/4	PK-9	AK-008-P	1/4 x 55/64	PK-174
AK-010-P	3/16 x 7/8	PK-11	AK-010-P	3/16 x 7/8	PK-11
AK-026-P	3/16 x 1	PK-13	AK-011-P	5mm x 18mm	NA
AK-028-P	3/16 x 1-3/64	PK-179	AK-012-P	15/64 x 23/32	PK-171
AK-001-P	3/16 x 1-3/8	PK-126	AK-013-P	5/16 x 1-7/64	PK-175
AK-003-P	3/16 x 1-13/32	PK-131	AK-014-P	1/4 x 1-3/8	PK-127
AK-006-P	3/16 x 1-13/32	PK-134	AK-015-P	5/32 x 5/8	PK-6
AK-032-P	3/16 x 1-31/64	NA	AK-016-P	5/16 x 31/32	PK-173
AK-004-P	3/16 x 1-3/4	PK-130	AK-017-P	1/8 x 3/4	PK-7
AK-007-P	3/16 x 1-3/4	PK-135	AK-018-P	5/32 x 3/4	PK-8
AK-005-P	3/16 x 1-13/16	PK-178, 192	AK-019-P	3/32 x 5/8	PK-4
AK-029-P	13/64 x 39/64	PK-188	AK-020-P	1/4 x 1-1/4	PK-21
AK-030-P	13/64 x 45/64	PK-189	AK-021-P	3/8 x 2-1/8	PK-29
AK-012-P	15/64 x 23/32	PK-171	AK-022-P	1/4 x 3/4	PK-91
AK-022-P	1/4 x 3/4	PK-91	AK-023-P	5/16 x 1-1/4	PK-D
AK-008-P	1/4 x 55/64	PK-174	AK-024-P	3/32 x 1/2	PK-2
AK-027-P	1/4 x 1	PK-15	AK-025-P	5/32 x 7/8	PK-10
AK-020-P	1/4 x 1-1/4	PK-21	AK-026-P	3/16 x 1	PK-13
AK-014-P	1/4 x 1-3/8	PK-127	AK-027-P	1/4 x 1	PK-15
AK-016-P	5/16 x 31/32	PK-173	AK-028-P	3/16 x 1-3/64	PK-179
AK-013-P	5/16 x 1-7/64	PK-175	AK-029-P	13/64 x 39/64	PK-188
AK-023-P	5/16 x 1-1/4	PK-D	AK-030-P	13/64 x 45/64	PK-189
AK-021-P	3/8 x 2-1/8	PK-29	AK-031-P	3/16 x 19/32	PK-187
AK-011-P	5mm x 18mm	NA	AK-032-P	3/16 x 1-31/64	NA

Does This Look Familiar?



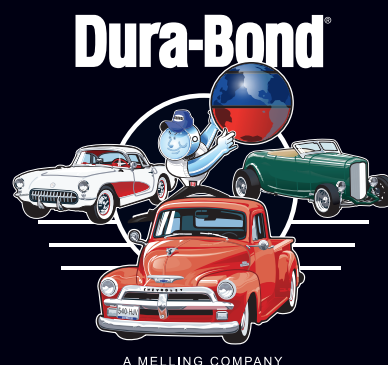
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Save time and money with the new line of Dura-Bond engine hardware finishing kits.

Most rebuilders know the time and expense of trying to reclaim service parts. A recent study revealed that an average rebuilder could spend up to 15-20 minutes per engine searching for a reclaimed service part. That is why Dura-Bond has introduced a new line of engine hardware finishing kits. These kits include all of the necessary hardware and components needed to complete a rebuild such as dowel pins, cam bolts, seal housing components, woodruff keys, cam eccentrics, by-pass valves, etc. The engine hardware finishing kits allow rebuilders an easy way to inventory and recoup lost costs on these components. All this adds up to saving time and money.



- No need for expensive OEM parts or the time to reclaim used parts
- Easy to inventory
- Maximize lost costs and profits on these components by adding one part number into the bill of materials
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ENGINE HARDWARE FINISHING KITS

KIT NO.	YEAR	MAKE & APPLICATION	CONTENTS	QTY.	DESCRIPTION	DIMENSION					
						O.D.	I.D.	LENGTH			
AMC											
FKA-1	1964-1996	(199ci-258ci) AMC I6	AD-927-P	2	Head Dowel	0.3125	Solid	0.565			
			AB-030-P	1	Cam Bolt	1/2-20 x 1-1/4 Hex					
			AW-011-P	1	Cam Bolt Washer	2-1/6 x 1/2 x 3/16 Washer					
			AK-002-P	2	Woodruff Key	3/16 x 3/4					
			AK-010-P	1	Woodruff Key	3/16 x 7/8					
			AD-007-P	1	Oil Filter Pin (Roll Pin)	1/4 x 1-1/2					
			Optional parts not included in kit.								
			AD-148	2	Transmission Dowel	0.5615	0.454	0.812			
			CHRYSLER								
			FKP-1	1964-2005	(273ci-360ci) Dodge/Chrysler/ Plymouth SB V8	AD-927-P	4	Head Dowel	0.3125	Solid	0.565
AB-012-P	1	Cam Bolt				7/16-14 x 1-1/4 Hex					
AW-002-P	1	Cam Bolt Washer (Cupped)				1-1/2 x 7/16 x 5/16 Washer					
AK-005-P	1	Woodruff Key				3/16 x 1-13/16					
AK-002-P	1	Cam Key				3/16 x 3/4					
AB-001-P	3	Cam Thrust Plate Bolt				5/16-18 x 3/4 Hex					
AS-001-P	1	Chain Oil Tab				N/A	N/A	N/A			
AD-584	1	Distributor Tower Shaft Bushing				N/A	N/A	N/A			
ROLLER BLOCK											
AB-005-P	3	Cam Tray Bolt				5/16-18 x 5/8 Flanged Hex					
AW-006-P	1	Cam Bolt Washer (Tapered)				1-1/2 x 7/16 x 1/8 Washer					
AW-005-P	1	Cam Bolt Washer (Cupped)				1-1/2 x 7/16 x 7/16 Washer					
Optional parts not included in kit.											
AD-532	2	Transmission Dowel				0.4960	Solid	0.740			
FKP-2		(361ci-440ci) Dodge/Chrysler/ Plymouth SB V8				AD-1284-P	4	Head Dowel	0.2466	Solid	0.630
						AD-1284-P	2	Timing Cover	0.2466	Solid	0.630
			AB-040-P	1	Cam Bolt	7/16-14 x 1 Hex					
			AW-006-P	1	Cam Bolt Washer (Tapered)	1-1/2 x 7/16 x 1/8 Washer					
			AD-584	1	Distributor Tower Shaft Bushing	N/A	N/A	N/A			
			AK-005-P	1	Woodruff Key	3/16 x 1-13/16					
			Optional parts not included in kit.								
			AD-532	2	Transmission Dowel	0.4960	Solid	0.740			
			FKP-2HP		(361ci-440ci) Dodge/Chrysler/ Plymouth SB V8 (High Performance)	AD-1284-P	4	Head Dowel	0.2466	Solid	0.630
						AD-1284-P	2	Timing Cover	0.2466	Solid	0.630
AB-040-P	1	Cam Bolt				7/16-14 x 1 Hex					
AW-006-P	1	Cam Bolt Washer (Tapered)				1-1/2 x 7/16 x 1/8 Washer					
AB-042-P	3	Cam Bolt				3/8-16 x 3/4 Hex					
AD-584	1	Distributor Tower Shaft Bushing				N/A	N/A	N/A			
AK-005-P	1	Woodruff Key				3/16 x 1-13/16					
AD-532	2	Transmission Dowel				0.4960	Solid	0.740			
FORD											
FKF-5	1989-1993	3.8L (232ci) Ford V6				AD-011-P	4	Head Dowel (Split)	17mm	15mm	19mm
			AD-520	2	Timing Cover Dowel	0.4881	0.400	0.670			
			AB-032-P	1	Cam Bolt & Washer	10mm-1.5 x 34mm Hex, 35mm Integral Washer					
			AB-033-P	2	Cam Thrust Plate Bolt	6mm-1.0 x 19mm Flat Head Torx					
			AB-034-P	3	Tensioner Bolt	6mm-1.0 x 14mm Hex					
			AK-003-P	1	Woodruff Key	3/16 x 1-13/32					
			BALANCE SHAFT								
			AB-033-P	2	Balance Shaft Thrust Plate Bolt	6mm-1.0 x 19mm Flat Head Torx					
			Optional parts not included in kit.								
			AD-397	2	Transmission Dowel RWD	0.5000	Solid	1.000			
			AD-521	2	Transmission Dowel FWD	0.6074	0.510	0.800			
			FKF-4	1965-1996	(240ci, 300ci) Ford I6	AD-008-P	2	Head Dowel	0.6745	0.552	0.435
						AB-001-P	2	Cam Thrust Plate Bolt	5/16-18 x 3/4 Hex		
AK-004-P	1	Woodruff Key				3/16 x 1-3/4					
AK-002-P	1	Cam Key				3/16 x 3/4					
AS-002	1	Spacer				1.5160	1.255	0.194			
AP-001-P	1	Oil Galley Plug				1/16-27 x 1/4 Internal Hex					
Optional parts not included in kit.											
AD-397	2	Transmission Dowel				0.5000	Solid	1.000			

ENGINE HARDWARE FINISHING KITS

KIT NO.	YEAR	MAKE & APPLICATION	CONTENTS	QTY.	DESCRIPTION	DIMENSION					
						O.D.	I.D.	LENGTH			
FORD (Cont'd)											
FKF-1	1962-1985	(255ci-351ci) Ford SB V8 (Windsor)	AD-008-P	4	Head Dowel	0.6745	0.552	0.435			
			AD-967-P	2	Timing Cover Dowel	0.4820	0.385	0.550			
			AB-009-P	1	Cam Bolt	3/8-16 x 1-1/2 Hex					
			AW-001-P	1	Cam Bolt Washer	1-1/4 x 3/8 x 1/4 Washer					
			AB-010-P	2	Cam Thrust Plate Bolt	1/4-20 x 5/8 Hex					
			AK-003-P	1	Woodruff Key	3/16 x 1-13/32					
			AK-004-P	1	Woodruff Key	3/16 x 1-3/4					
			AE-001-P	1	Cam Eccentric - Inner	N/A	N/A	N/A			
			AE-002-P	1	Cam Eccentric - Outer	N/A	N/A	N/A			
			AD-005-P	1	Cam Sprocket Dowel	0.3115	Solid	1.125			
			Optional parts not included in kit.								
			AD-397	2	Transmission Dowel	0.5000	Solid	1.000			
			FKF-1A	1986-2000	5.0L, 5.8L Ford SB V8	AD-008-P	4	Head Dowel	0.6745	0.552	0.435
						AD-967-P	2	Timing Cover Dowel	0.4820	0.385	0.550
AB-009-P	1	Cam Bolt				3/8-16 x 1-1/2 Hex					
AW-001-P	1	Cam Bolt Washer				1-1/4 x 3/8 x 1/4 Washer					
AB-010-P	2	Cam Thrust Plate Bolt				1/4-20 x 5/8 Hex					
AK-003-P	1	Woodruff Key				3/16 x 1-13/32					
AK-004-P	1	Woodruff Key				3/16 x 1-3/4					
AE-003-P	1	Cam Eccentric				N/A	N/A	N/A			
AD-004-P	1	Cam Sprocket Dowel				0.3115	Solid	1.375			
ROLLER BLOCK											
AB-011-P	2	Cam Tray Bolt				1/4-20 x 1/2 Place Bolt, Hex					
Optional parts not included in kit.											
AD-397	2	Transmission Dowel				0.5000	Solid	1.000			
FKF-2	1958-1976	(332ci-428ci) Ford FE V8				AD-008A-P	4	Head Dowel (Split)	0.7400	0.625	0.445
			AB-013-P	1	Cam Bolt	7/16-14 x 1-3/4 Hex					
			AW-003-P	1	Cam Bolt Washer	1-1/4 x 7/16 x 1/4 Washer					
			AB-015-P	2	Cam Thrust Plate Bolt	7/16-14 x 5/8 Hex					
			AK-006-P	1	Woodruff Key	3/16 x 1-13/32					
			AE-004-P	1	Cam Eccentric - Inner	N/A	N/A	N/A			
			AE-002-P	1	Cam Eccentric - Outer	N/A	N/A	N/A			
			AD-006-P	1	Cam Sprocket Dowel	0.3090	Solid	1.500			
			Optional parts not included in kit.								
			AD-397	2	Transmission Dowel	0.5000	Solid	1.000			
			FKF-6	1970-1982	(351ci, 400ci) Ford (Cleveland/Modified)	AD-008-P	4	Head Dowel	0.6745	0.552	0.435
						AD-967-P	2	Timing Cover Dowel	0.4820	0.385	0.550
						AB-009-P	1	Cam Bolt	3/8-16 x 1-1/2 Hex		
						AW-001-P	1	Cam Bolt Washer	1-1/4 x 3/8 x 1/4 Washer		
AB-010-P	2	Cam Thrust Plate Bolt				1/4-20 x 5/8 Hex					
AK-007-P	1	Woodruff Key				3/16 x 1-3/4					
AE-001-P	1	Cam Eccentric - Inner				N/A	N/A	N/A			
AE-002-P	1	Cam Eccentric - Outer				N/A	N/A	N/A			
AD-005-P	1	Cam Sprocket Dowel				0.3115	Solid	1.125			
AD-025-P	2	Manifold Dowel				0.2500	Solid	0.500			
Optional parts not included in kit.											
AD-397	2	Transmission Dowel				0.5000	Solid	1.000			
FKF-3	1968-1987	(370ci-460ci) Ford BB V8				AD-008A-P	4	Head Dowel (Split)	0.7400	0.625	0.445
						AB-009-P	1	Cam Bolt	3/8-16 x 1-1/2 Hex		
			AW-001-P	1	Cam Bolt Washer	1-1/4 x 3/8 x 1/4 Washer					
			AB-011-P	2	Cam Thrust Plate Bolt	1/4-20 x 1/2 Place Bolt, Hex					
			AK-007-P	1	Woodruff Key	3/16 x 1-3/4					
			AK-008-P	1	Woodruff Key	1/4 x 7/8					
			AE-001-P	1	Cam Eccentric - Inner	N/A	N/A	N/A			
			AE-002-P	1	Cam Eccentric - Outer	N/A	N/A	N/A			
			AD-005-P	1	Cam Sprocket Dowel	0.3115	Solid	1.125			
			Optional parts not included in kit.								
			AD-397	2	Transmission Dowel	0.5000	Solid	1.000			

ENGINE HARDWARE FINISHING KITS

KIT NO.	YEAR	MAKE & APPLICATION	CONTENTS	QTY.	DESCRIPTION	DIMENSION					
						O.D.	I.D.	LENGTH			
FORD (Cont'd)											
FKF-3A	1988-1997	7.5L (460ci) Ford BB V8	AD-008A-P	4	Head Dowel (Split)	0.7400	0.625	0.445			
			AB-014-P	1	Cam Bolt	3/8-16 x 1-3/8 Hex					
			AW-001-P	1	Cam Bolt Washer	1-1/4 x 3/8 x 1/4 Washer					
			AB-011-P	2	Cam Thrust Plate Bolt	1/4-20 x 1/2 Place Bolt, Hex					
			AK-007-P	1	Woodruff Key	3/16 x 1-3/4					
			AK-008-P	1	Woodruff Key	1/4 x 7/8					
			AD-005-P	1	Cam Sprocket Dowel	0.3115	Solid	1.125			
			Optional parts not included in kit.								
			AD-397	2	Transmission Dowel	0.5000	Solid	1.000			
			GENERAL MOTORS								
FKC-2	1985-1986	4.3L (262ci) Chevy V6	AD-927-P	4	Head Dowel	0.3125	Solid	0.565			
			AD-1284-P	2	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630			
			AB-001-P	3	Cam Bolt	5/16-18 x 3/4 Hex					
			AK-003-P	1	Woodruff Key	3/16 x 1-13/32					
			AK-002-P	2	Woodruff Key	3/16 x 3/4					
			AV-001-P	1	Bypass Valve	N/A	N/A	N/A			
			Optional parts not included in kit.								
			AD-009-P	2	Transmission Dowel	0.6210	Solid	1.150			
			FKC-2A	1987-1994	4.3L (262ci) Chevy V6	AD-927-P	4	Head Dowel	0.3125	Solid	0.565
						AD-1284-P	2	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630
AB-001-P	3	Cam Bolt				5/16-18 x 3/4 Hex					
AK-003-P	1	Woodruff Key				3/16 x 1-13/32					
AK-002-P	2	Woodruff Key				3/16 x 3/4					
AV-001-P	1	Bypass Valve				N/A	N/A	N/A			
AB-004-P	2	Cam Thrust Plate Bolt				1/4-20 x 1/2 Machine Screw, Torx					
SEAL HOUSING											
AD-003-P	1	Seal Housing Dowel				0.4445	0.297	0.562			
AB-002-P	2	Seal Housing Bolt				1/4-20 x 1-3/4 Machine Screw, Torx					
AB-003-P	2	Seal Housing Bolt				1/4-20 x 7/8 Machine Screw, Torx					
ROLLER BLOCK											
AB-005-P	2	Cam Tray Bolt				5/16-18 x 5/8 Flanged Hex					
Optional parts not included in kit.											
AD-009-P	2	Transmission Dowel				0.6210	Solid	1.150			
FKC-2B	1992-2001	4.3L (262ci) Chevy V6 w/Balance Shaft	AD-927-P	4	Head Dowel	0.3125	Solid	0.565			
			AD-1284-P	2	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630			
			AK-003-P	1	Woodruff Key	3/16 x 1-13/32					
			AK-002-P	2	Woodruff Key	3/16 x 3/4					
			AV-001-P	1	Bypass Valve	N/A	N/A	N/A			
			AB-006-P	2	Cam Thrust Plate Bolt	1/4-20 x 5/8 Machine Screw, Torx					
			SEAL HOUSING								
			AD-003-P	1	Seal Housing Dowel	0.4445	0.297	0.562			
			AB-002-P	2	Seal Housing Bolt	1/4-20 x 1-3/4 Machine Screw, Torx					
			AB-003-P	2	Seal Housing Bolt	1/4-20 x 7/8 Machine Screw, Torx					
			BALANCE SHAFT								
			AB-004-P	2	Balance Shaft Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx					
			AB-007-P	2	Cam Bolt	5/16-18 x 1-3/8 Cap Screw, Hex					
			ST-045-P	1	Timing Stud	5/16-18 x 1-3/4					
			AN-001-P	1	Timing Stud Nut	5/16-18 Top Lock Nut, Hex					
			ROLLER BLOCK								
			AB-005-P	4	Cam Tray Bolt	5/16-18 x 5/8 Flanged Hex					
			Optional parts not included in kit.								
AD-009-P	2	Transmission Dowel	0.6210	Solid	1.150						
FKC-1	1957-1986	(262ci-400ci) Chevy SB V8	AD-927-P	4	Head Dowel	0.3125	Solid	0.565			
			AD-1284-P	2	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630			
			AB-001-P	3	Cam Bolt	5/16-18 x 3/4 Hex					
			AK-001-P	1	Woodruff Key	3/16 x 1-3/8					
			AK-002-P	2	Woodruff Key	3/16 x 3/4					
			Optional parts not included in kit.								
			AD-009-P	2	Transmission Dowel	0.6210	Solid	1.150			

ENGINE HARDWARE FINISHING KITS

KIT NO.	YEAR	MAKE & APPLICATION	CONTENTS	QTY.	DESCRIPTION	DIMENSION		
						O.D.	I.D.	LENGTH
GENERAL MOTORS (Cont'd)								
FKC-1HP	1957-1986	(262ci-400ci) GM SB V8 (High Performance)	AD-927-P	4	Head Dowel	0.3125	Solid	0.565
			AD-1284-P	4	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630
			AB-001-P	3	Cam Bolt	5/16-18 x 3/4 Hex		
			AW-013-P	1	Cam Lock Plate	N/A	N/A	N/A
			AB-039-P	2	Oil Filter Adapter Bolts	5/16-18 x 1-1/16		
			AK-001-P	1	Woodruff Key	3/16 x 1-3/8		
			AK-002-P	2	Woodruff Key	3/16 x 3/4		
			AD-023	2	Transmission Dowel	0.6210	Solid	1.550
			FKC-4	1955-1981	(265ci-455ci) Pontiac V8	AD-927-P	4	Head Dowel
AB-031-P	1	Cam Bolt				1/2-20 x 1 Hex		
AW-010-P	1	Cam Bolt Washer				1-3/8 x 1/2 x 3/16 Washer		
AB-001-P	2	Cam Thrust Plate Bolt				5/16-18 x 3/4 Hex		
AK-002-P	1	Woodruff Key				3/16 x 3/4		
AK-001-P	1	Woodruff Key				3/16 x 1-3/8		
Optional parts not included in kit.								
AD-009-P	2	Transmission Dowel				0.6210	Solid	1.150
FKC-1A	1987-2005	5.0L, 5.7L (305ci, 350ci) Chevy SB V8				AD-927-P	4	Head Dowel
			AD-1284-P	2	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630
			AB-001-P	3	Cam Bolt	5/16-18 x 3/4 Hex		
			AK-002-P	2	Woodruff Key	3/16 x 3/4		
			SEAL HOUSING					
			AD-003-P	1	Seal Housing Dowel	0.4445	0.297	0.562
			AB-002-P	2	Seal Housing Bolt	1/4-20 x 1-3/4 Machine Screw, Torx		
			AB-003-P	2	Seal Housing Bolt	1/4-20 x 7/8 Machine Screw, Torx		
			ROLLER BLOCK					
			AB-004-P	2	Cam Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx		
			AB-004-P	2	Water Pump Shaft Thrust Plate Bolt	1/4-20 x 1/2 Machine Screw, Torx		
			AB-005-P	3	Cam Tray Bolt	5/16-18 x 5/8 Flanged Hex		
			Optional parts not included in kit.					
			AD-009-P	2	Transmission Dowel	0.6210	Solid	1.150
			FKC-3	1967-1991	(366ci-454ci) Chevy BB V8	AD-8081-P	4	Head Dowel
AD-1284-P	2	Timing Cover / Oil Pump Dowel				0.2466	Solid	0.630
AB-001-P	3	Cam Bolt				5/16-18 x 3/4 Hex		
AK-002-P	2	Woodruff Key				3/16 x 3/4		
Optional parts not included in kit.								
AD-009-P	2	Transmission Dowel				0.6210	Solid	1.150
FKC-3HP	1967-1991	(366ci-454ci) GM BB V8 (High Performance)	AD-8081-P	4	Head Dowel	0.6400	0.500	0.500
			AD-1284-P	4	Timing Cover / Oil Pump Dowel	0.2466	Solid	0.630
			AW-013-P	1	Cam Lock Plate	N/A	N/A	N/A
			AB-039-P	2	Oil Filter Adapter Bolts	5/16-18 x 1-1/16		
			AB-001-P	3	Cam Bolt	5/16-18 x 3/4 Hex		
			AK-002-P	2	Woodruff Key	3/16 x 3/4		
			AD-023	2	Transmission Dowel	0.6210	Solid	1.550

NOTES



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