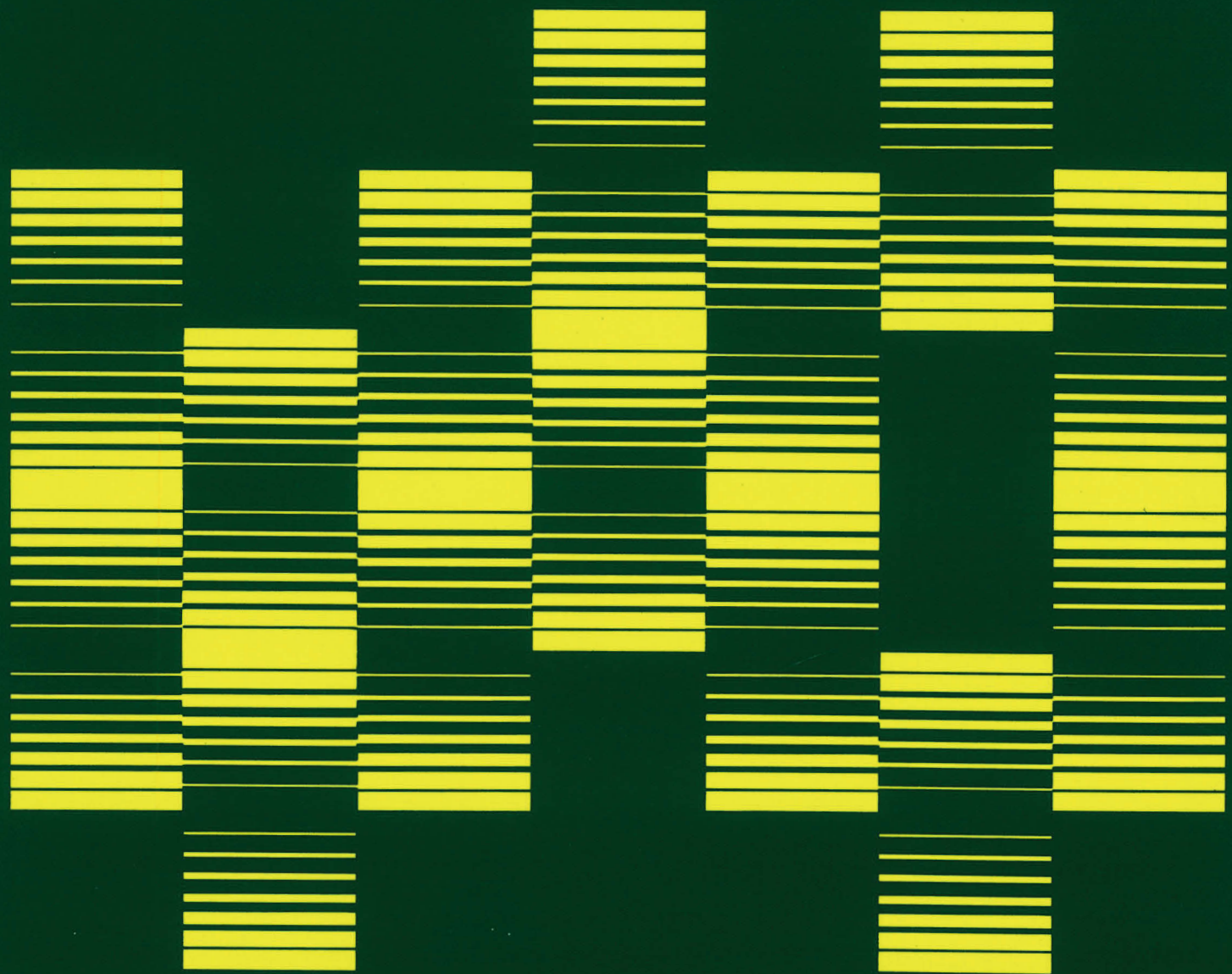


NDC

2021

ENGINE

BEARING



We Sell Fine Bearings



NDC セット番号 (例)
Set number (Example)

MR - 1156 GP STD

寸法 Size

材質記号 Material symbol (F-770)

部品番号 Part number

メインベアリングペアセット Item symbol (main bearing pair set)

NDC エヌデーシー株式会社

本社
習志野工場
神崎工場

〒275-0002 千葉県習志野市実籾2-39-1

〒289-0212 千葉県香取郡神崎町武田20-5

TEL : 047-477-1123 FAX : 047-477-2479

TEL : 0478-72-3111 FAX : 0478-72-3114

NDC NDC CO., LTD.

2-39-1 MIMOMI, NARASHINO-SHI CHIBA-KEN, 275-0002, JAPAN

TEL : 047-477-1123 FAX : 047-477-2479

NDC エヌデーシー販売株式会社

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NDC NDC SALES CO., LTD.

Head Office 2-39-1, MIMOMI, NARASHINO-SHI CHIBA-KEN, 275-0002 JAPAN

TEL : 047-477-1128 FAX : 047-477-1131

<http://www.ndc-sales.co.jp/>

エンジンの機能を十分に発揮するためには、信頼の置ける軸受を装着する必要があります。
優れた品質と、素晴らしい販売実績を有する**NDC**ベアリングを是非、ご使用下さい。

The selection and use of dependable engine bearings is essential for efficient engine performance. We recommend to you our top-ranked NDC engine bearings which are widely sold and hold a fine international reputation.

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1. このカタログには、自動車又はエンジンのメーカー名をアルファベット順に各頁の上部隅に記載してあります。

The automobile or engine manufacturer is alphabetically listed at the top corner of each page, as shown in the example.

DAIHATSU

Group No.	Engine Model	Year	No. of Cyl.	Displacement	MAIN Bearing
1	G AB	4/76-7/84	2	CC 547	*MS-2500A 11702-87701
	D AD				

この表にはエンジンの年式、シリンダー数、排気量及び適応するNDCベアリングのSET No. と純正番号（スタンダードサイズ）が記載してあります。

The following type of table lists group numbers in numerical order. Included are engine model year, number of cylinders, displacement, and the suitable NDC engine bearing set number and genuine part No.(for std. size).

DAIHATSU

Group No.	Engine Model	Year	No. of Cyl.	Displacement	MAIN Bearing	THRUST Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G AB	4/76-7/84	2	CC 547	*MS-2500A 11702-87701	(TW-2500A) 11011-87701	CB-2500A 13202-87701		BB-2500A 11902-87701
	D AD								

G : Gasoline Engine *MS-XXXXX : Unavailable now. Production will be made subject to order quantity.(新規販売予定)
D : Diesel Engine (TW-XXXXX) : Available until inventory is depleted.(在庫のみ販売)

部品取扱に際して必要な諸データは、グループ番号順に列記した各エンジン毎の数表によってわかります。

The shop data for each engine listed in numerical sequence of group numbers, includes the information needed for the installation of the parts. Housing Bore : minimum size. Length : nominal size.

DAIHATSU

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1 2	AB AD	*MS-2500A (TW-2500A) CB-2500A	Main	6				19.50	
			1-3	6	41.990	46.000	1.994		
			T.W.	2	(I.D.)	(O.D.)			
			2	2	48.250	62.000	1.990		
			C.R.	4					
			1-2	4	40.000	43.000	1.494	18.00	

*MS-XXXX : Unavailable now. Production will be made subject to order quantity.(新規販売予定)
(TW-XXXX) : Available until inventory is depleted.(在庫のみ販売)

記号の解説 Explanation of Symbols.

- Main メインベアリング Main bearing.
- T.W. スラストワッシャー Thrust washer.
- C.R. コンロッドベアリング Connecting rod bearing.
- Cam. カムシャフトベアリング Cam shaft bearing.
- P.B. ピストンピンブッシュ Piston pin bushing.
- B.B. バランサーブッシュ Balancer bushing.
- D.B. ポンプドライブシャフトブッシュ Pump drive shaft bushing.
- O.D. スラストワッシャーの外径 Outside diameter of thrust washer.
- I.D. スラストワッシャーの内径 Inside diameter of thrust washer.

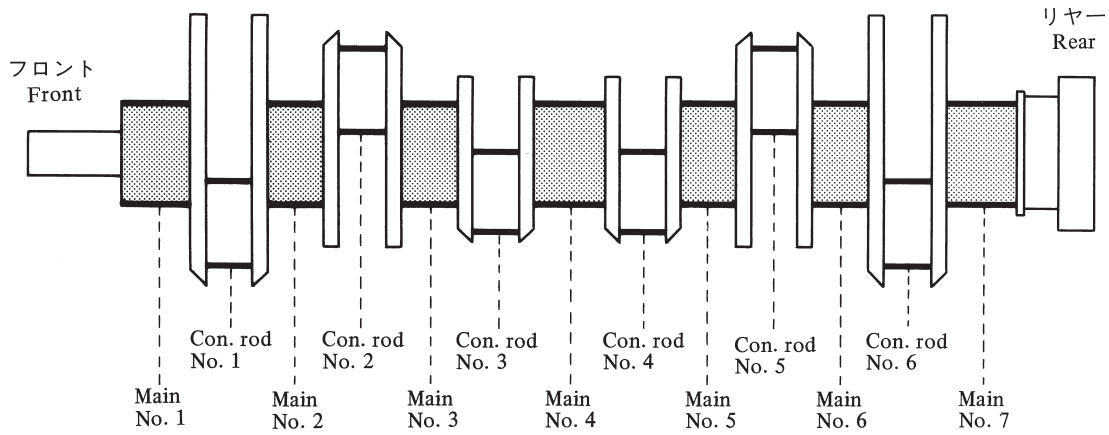
材質記号 Material Symbols

- A アルミニウム合金 Aluminum-Alloys.
- AS アルミニウム鋳物 Cast aluminum bearing.
- B 錫または鉛ベースバビット Tin or lead base babbit.
- BC 鋳造鉛青銅 Cast leaded bronze.
- GP 焼結銅・鉛と三元オーバーレイ
Sintered copper-lead and a trimetal overlay.
- J 焼結銅鉛 Sintered leaded bronze.
- K 焼結銅鉛 Sintered leaded bronze.

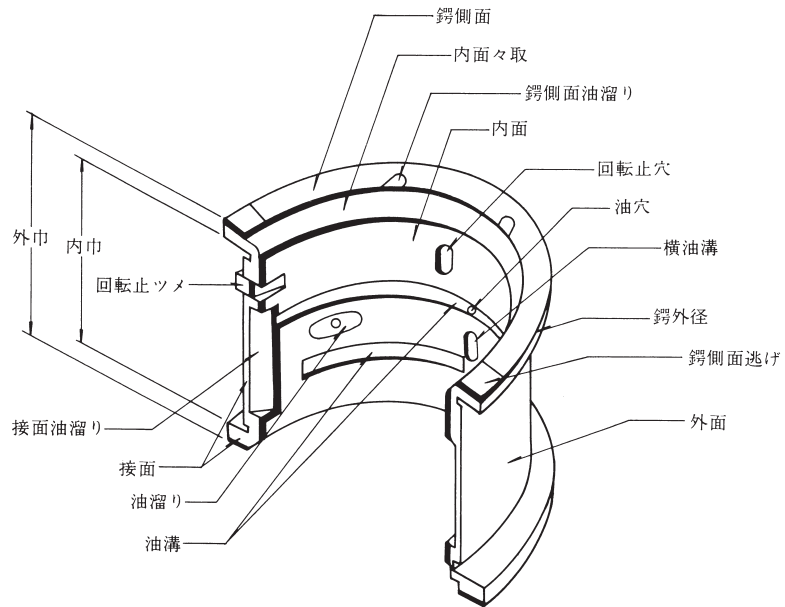
クランクシャフトと軸受の位置

Crankshaft and Bearing Positions

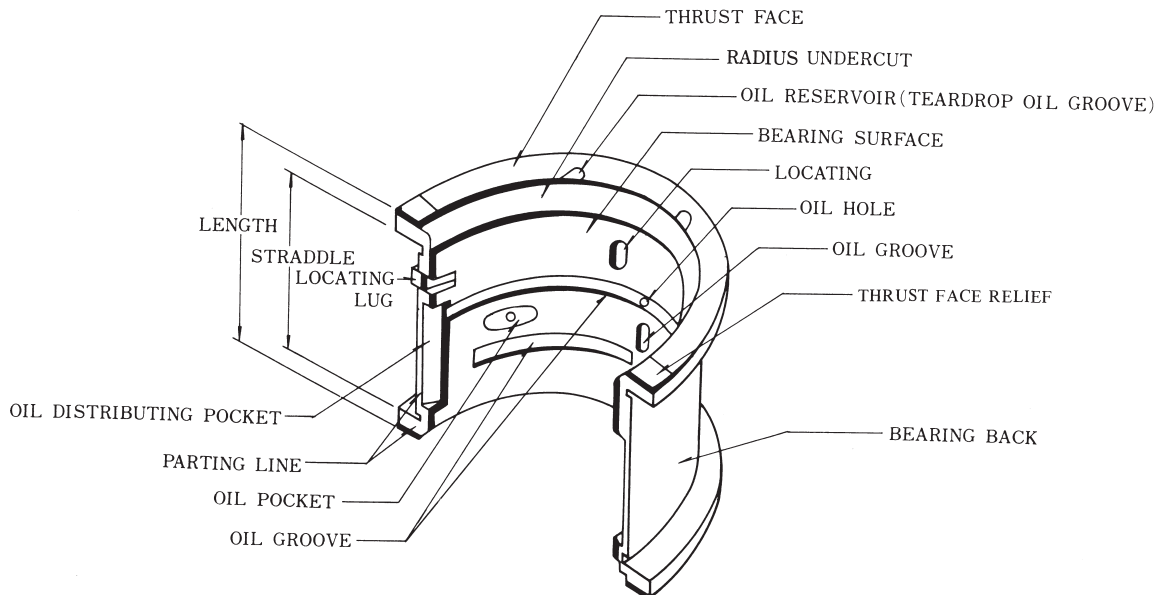
軸受の位置はフロント側よりリヤ側に向かって1番、2番……とします。
 Bearing positions are numbered from front to rear.



軸受の各部名称



Bearing Nomenclature



NEW PARTS IN CATALOG 2021

PAGE NO.	GROUP NO.	MAKER	ENGINE MODEL	PART NO.	REMARKS
11	34	HINO	J05E, J07E, J08E	MR-2119GP	11019-1470A
				TW-2119K	S1101-11380
				CR-2119GP	13201-2100A
11	35	HINO	N04C	MS-2125GP	11711-E0030
				TW-2125K	11011-E0030
				CB-2125GP	13281-E0140/50
				SH-2125A	11811-E0030, 11821/31-E0020
				PB-2125J	S1327-21400
15	32	HONDA	R18A, R20A	MS-2220A	13321/41-RNA-A02, 13321-PK1-752
				TW-2220A	13331-PNA-004
				CB-2220A	13211-RNA/RNE-A01, 13211-RNA-A020
21	47	ISUZU	6UZ1	MS-1647GP	8-97609-768-0
				CB-1647GP	8-97605-484-0
				PB-1647J	1-12251-051-0
22	57	ISUZU	RZ4E-TC	MS-1648A	8-98333-349-0
				TW-1648A	8-98334-690-0
				CB-1648	8-98333-348-0
				PB-1648J	8-98247-334-0
25	38	MAZDA	P4AT	MS-2022A	U2Y1-11-SGO
				CB-2022A	U2Y0-11-SGO
28	23	MITSUBISHI	4B10, 4B11, 4B12	MS-1849A	1052B338/342
				CB-1849A	1115A564
28	24	MITSUBISHI	4G94	CB-1852A	1115A102~104
28	25	MITSUBISHI	4N13, 4N14, 4N15	MS-1850A	1052B367/370
				TW-1850A	1052B392
				CB-1850A	1115A575/582
30	12	MITSUBISHI (FUSO)	6D31-T	SH-1810K	ME013116/11593/11526/11594
31	14	MITSUBISHI (FUSO)	6D40	MS-1851GP	ME121080~4
				SH-1851K	ME120007/9/11/13
				PB-1851J	ME120556
39	49	NISSAN/RENAULT	R9M	MS-1236A	12 20 758 70R
				TW-1236A	12 28 074 81R
				CB-1236A	12 15 078 12R
40	9	UD TRUCKS	MD92	MS-2820GP	12215/23-Z6001
				CB-2820GP	12117-Z6001
46	18	SUZUKI	J24B	MS-2416A	12301-78820-0A0
				CB-2416A	12100-78840-0A0
46	19	SUZUKI	K10A	MS-2411A	12340-75F00
				CB-2411A	12181-84H00
46	16	SUZUKI	M13A	MS-2412A	12340-75FA0
				CB-2412A	12100-70870/80
				SH-2412A	12737/8-69GE1
46	17	SUZUKI	M15A	MS-2413A	12340-57K02
				CB-2413A	12100-69830
46	20	SUZUKI	R06A	MS-2414A	12300-50810/30
				TW-2414A	12300-50860
				CB-2414A	12100-50810
			R06A-T	MS-2415A	12341-50MA0
56	102	TOYOTA	1AR-FE, 2AR-FE	MS-1480A	11711/721-0V030/040
				TW-1480A	11791-0V010/20
				CB-1480A	13281-0V011/21
47	5	TOYOTA	1AZ-FSE, 2AZ-FE	BB-1454A	11911-28011
				SH-1454A	11811/21-28010
48	12	TOYOTA	15B-FTE	MS-1476A	11701-58020
				CB-1476A	13041-58040

NEW PARTS IN CATALOG 2021

PAGE NO.	GROUP NO.	MAKER	ENGINE MODEL	PART NO.	REMARKS
56	103	TOYOTA	1GD-FTV, 2GD-FTV	MS-1477A	11701-0E010
			1GD-FTV	CB-1477A	13041-0E020
			2GD-FTV	CB-1478A	13041-0E010
51	45	TOYOTA	2KD-FTV	PB-1479J	90999-73157
55	80	TOYOTA	3SZ-FE	CB-1486A	13041-B1021
56	104	TOYOTA	1UR-FE	MS-1483A	11071/72-38010
				TW-1483A	11011-38050
				CB-1483A	13041-38070
56	104	TOYOTA	2UR-GSE	CB-1484A	13041-38081
56	104	TOYOTA	3UR-FE	CB-1485A	13041-38060
56	96	TOYOTA	1Z	SH-1426A	11802-78300
56	98	TOYOTA	11Z	SH-1443A	11802-78330
56	100	TOYOTA	1ZR-FE~3ZR-FE	SH-1471A	11811/21-37010
56	100	TOYOTA	3ZR-FE	CB-1472A	13041-37030
57	6	GM	(N200, N300)	MS-3894A	9002793
				CB-3894A	9002792
58	10	HYUNDAI	D4EA	MS-3891A	21020-27900
58	11	HYUNDAI	G4FC~G4FJ	MS-3892A	21020-2B000
				CB-3892A	23060-2B002
58	12	HYUNDAI	(KAPPA)	MS-3893A	21020-04012
				TW-3893A	21030-04001
				CB-3893A	23060-04011

注意事項

IMPORTANT NOTICE

- * このカタログは、出来るだけお客様のご要望に応えることを目的として作成致しました。
- * 記載されております内容については、十分注意を払って作成致しましたが、記載違い等による部品番号の互換性、寸法、その他仕様については、一切責任を負いかねますのでご了承願います。
- * OEM（組付）メーカー、純正部品番号は、相当品として参考までに掲載いたしました。
- * 従来カタログの改訂版としてご利用の程お願い申し上げます。

- * The purpose of this catalog is to furnish our customers with as a complete a listing of their parts requirements as possible.
- * All listing, application and interchanges have been compiled as carefully as possible with all available information; we cannot assume any responsibility for possible errors in listings.
- * All references to original manufacture's trade names and part numbers are for indentification only.
- * This catalog supersedes all previous catalogs and listings.

DAIHATSU

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G AB	4/76-7/84	2	547	MS-2500A 11702-87701	TW-2500A 11011-87701	CB-2500A 13202-87701		BB-2500A 11902-87701 11220-74000
	G AD	5/82-7/84	2	617					
CC									
2	G AB	8/84-10/88	2	547	MS-2506A 11702-87711 11702-87709	TW-2500A 11011-87701	CB-2500A 13202-87701		BB-2500A 11902-87701 11220-74000
	G AD	8/84-5/85	2	617					
3	G CB	10/77-8/84	3	993	MS-2501A 11701-87703 11702-87704 11702-87703	TW-2500A 11011-87701	CB-2501A 13041-87705 13202-87705 13041-87703 13041-87702		BB-2501A 11902-87702
	G CD	5/82-8/84	3	843					
	D CL	1/83-8/84	3	993					
4	G CB	8/1984-	3	993	MS-2505A 11701-87706 11701-87705 11702-87707 11702-87706 11702-87705	TW-2500A 11701-87701	CB-2501A Same as Group No.3-		BB-2501A 11902-87702
	G CB-T	8/84-11/90	3	993					
	G CD	8/1984-	3	843					
	D CL	8/1984-	3	993					
5	G CB-T	5/1985-	3	993	MS-2503A 11701-87704 11702-87708	TW-2503A 11011-87702	CB-2509GP 13041-87701 13041-87707 13202-87707		BB-2501A 11902-87702
	Charade								
6	D CL-T	8/1984-	3	993	MS-2503A 11701-87704 11702-87708	TW-2503A 11011-87702	CB-2503A 13041-87704 13202-87706		BB-2501A 11902-87702
	Charade								
7	D DG	1977-81	4	2,530	(MS-1158A) 11702-87305		CB-1158A 13202-87303		PB-1158J 90043-84018
	Delta								
8	D DG	1982-4/84	4	2,530	(MS-1158A) 11702-87305		CB-1158A 13202-87305 13202-87303	SH-1158A 11802-87380 11802-87381	PB-1158J 90043-84057 90043-84050
	D DL	10/82-4/84	4	2,765					
9	D DL	4/84-8/87	4	2,765	(MS-1158A) 11702-87305		CB-1158A 13202-87305	SH-1158A 11802-87380	PB-2502J 90043-84052 (4/84-7/87)
	D DL-T	4/84-8/87	4	2,765					
10	D DL	9/1987-	4	2,765	MS-2502A 11702-87306		CB-1158A 13202-87305	SH-2502A 11802-87301	PB-2511J 90043-84086 90043-84087 (7/87-8/87)
	D DL-T	9/1987-	4	2,765					
Delta Tafto Rocky Rugger									

DAIHATSU

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
11	G EB	8/85-7/90	3	547	MS-2507A 11702-87207 11702-87206 11701-87207 11701-87206 11701-87205 11701-87204 11701-87202 11701-87201	TW-2507A 11011-87201	CB-2507A 13041-87205 13041-87204 13041-87202 13041-87201 13202-87204 13202-87205		
	G EF	3/1990-	3	659					
		Cuore							
		Mira							
		Hijet							
		Atrai							
		Opti							
		Terios Kid							
	MOVE								
12	G ED	1985-	3	846	MS-2510A 11702-87203	TW-2510A 11011-87202	CB-2510A 13202-87203		
	Hijet								
13	G HC	1/1988-	4	1.295	MS-2511A 11701-87102 11701-87101	TW-2511A 11011-87101	CB-2511A 13041-87103 13041-87102 13041-87101		
	G HD	6/1989-	4	1.589					
		Charade							
		Rocky							
		Applause							
	Pyzar								
	Terios								
14	G K3-VE	5/2000-	4	1.297	MS-1450A (with a hole & lug) Same as Toyota 2sz 11701-97401	TW-2510A 11791-97401 11791-B1020	CB-2512A 13041-97401		
	G K3-VE2	5/2000-	4	1.297					
	G K3-VET	1/2002-	4	1.297					
	Storia								
	Sirion								
15	G K3-VE		4	1.297	MS-2512A (with 2 holes & no lug) 11701-B1020 11701-B1021	TW-2510A 11791-97401 11791-B1020	CB-2512A 13041-97401		
	G K3-VE2		4	1.297					
	G K3-VET		4	1.297					
16	G KF-VE	12/2005-	3	658	MS-2513A 11701-B2011	TW-2513A 11791-B2010	CB-2513A 13041-B2010		
	G KF-DET		3	658					
		Mira							
	Move								
	Hijet								

Refer to TOYOTA engine list on the following engine models:

3A, B, 3B, 13B, 14B, 1C, 2C, 3K, 4K, 5K, 5R, 12R, T, 2T, 12T, 13T, 1Y, 2Y, 3Y, 4Y

HINO

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D DK10	4/66-6/77	6	10,178	(MS-1149GP)	(TW-1054BC)	(CB-2104GP)	(SH-1149B)	(PB-1116J)
	D DK10-T	4/66-6/77	6	10,178	11701-1110	11011-1050	13201-1271	(NO.1)11812-1010	13272-1150
	D DK20	9/66-6/77	6	10,178	(MS-1149GP)	(-6/77)	13201-1270	(NO.2)11822-1060	(-6/77)
	D DK20-T	12/67-6/77	6	10,178	11701-1490/1 11701-1290	4pcs	13201-1090 13201-1081/80	(NO.3)11832-1010 (NO.4)11842-1010	
	D ED100	1971-86	6	11,581	(F.R)11701-1090	(TW-1149BC)	13201-1341	(NO.5)11852-1010	(PB-1149J)
	D ED100-T	1980-82	6	11,581	(C) 11701-1080 (I) 11701-1110	3pcs 11011-1200		(NO.6)11862-1030 (NO.7)11872-1040/10	13272-1190 13272-1080
	D ER100	1981-86	6	11,581		(7/77-)			(7/77-)
	D ER200	3/78-87	6	11,581	(MS-1154GP)				
2	D DM100	1963-86	6	4,313	MS-1059GP 11701-1170	TW-1059GP 11011-1080	(CB-1059GP) 13201-1140	(SH-1059B) (NO.1)11812-1040	PB-1059J 13272-1130
	D DQ100	6/72-8/83	6	4,507	11701-1180	11011-1090	13201-1150	(NO.2)11822-1040 (NO.3)11832-1040 (NO.4)11842-1040 (NO.5)11852-1030	
3	D DS50	1960-86	6	7,982	(MS-1038GP)	TW-1038K	(CB-1039GP)	(SH-1038B)	PB-1039J
	D DS60	1960-81	6	7,982	11701-1360	11011-1130	13201-1230	(NO.1)11812-1060	13272-1180
	D DS80	1962-68	6	7,982			13201-1240	(NO.2)11822-1070	13272-1070
	D DS70	1960-88	6	7,014	(F.R)11701-1340 (C)11701-1330 (I)11701-1350			(NO.3)11832-1060 (NO.4)11842-1060 (NO.5)11852-1050	
4	D EB100	1967-86	6	9,036	MS-1079GP	(TW-1079BC)	CB-2100GP	(SH-1079B)	PB-1079J
	D EB200	1967-79	6	9,036	11701-1160 11701-1150 (F.R)11701-1130 (C)11701-1120 (I)11701-1140	11011-1060 4pcs	13201-1111 13201-1110 13201-1120	(NO.1)11812-1020 (NO.2)11822-1020 (NO.3)11832-1020 (NO.4)11842-1020 (NO.5)11852-1020	13272-1230 13272-1090 13272-1040
5	D EB300	1971-77	6	9,838	MS-1079GP	(TW-1120BC)	CB-2100GP	(SH-1079B)	PB-1120J
	D EB400	7/77-88	6	9,838	11701-1161	11011-1171 11011-1170 11011-1060 (1977-) 3pcs	3201-1280 13201-1300	-Same as Group No.4-	13272-1100
6	D EC100	10/68-86	6	5,010	MS-1140GP 11701-1260 11701-1450 11701-1451 (F.R)11701-1230 (C)11701-1240 (I)11701-1250	TW-1081GP 11011-1110	CB-1081GP 13201-1170 13201-1160 13201-1290	(SH-1081B) (NO.1)11812-1030 (NO.2)11822-1030 (NO.3)11832-1030 (NO.4)11842-1050	
7	D EF100	1971-10/82	V8	13,804	MS-1144GP	TW-1144K	(CB-1144GP)	SH-1144A	PB-1144J
	D EF100-T	1971-9/79	V8	13,804	11701-1431	11011-1030	13201-1021	(NO.1)11811-1020	13272-1050
	D EF300	1971-5/81	V8	14,232	11701-1430 11701-1280	(1971-7/75) TW-1148K	13201-1020 13201-1200	(NO.2)11821-1180 (NO.3)11821-1180	
	D EG100	1973-5/78	V8	14,886		11011-1150 (7/1975-10/82)		(NO.4)11821-1180 (NO.5)11811-1020	
8	D EF350	9/79-10/82	V8	14,779	MS-1148GP	TW-1148K	CB-1144GP	SH-1144A	PB-1144J
	D EF500	7/1975-	V8	15,459	11701-1023	11011-1150	Same as	-Same as	-Same as
	D EF700	10/76-9/81	V8	15,920	11701-1022		Group No.7-	Group No.7-	Group No.7-
	D EF700-T	9/79-12/83	V8	15,920	11701-1021				

Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
9	D EF550	5/1981-	V8	16,260	MS-2107GP 11701-1580 11701-1800 11701-1680	TW-2107K 11011-1210 (5/81-10/85) TW-2114K 11011-1260 (10/1985-) Export use	CB-2107GP 13201-1380	SH-2107A (NO.1)11811-1170 (NO.2)11821-1180 (NO.3)11821-1180 (NO.4)11821-1180 (NO.5)11811-1170	PB-2107J 13272-1240
	D EF750	1/1981-	V8	16,745					
	D EF750-T	6/1981-	V8	16,745					
10	D F17C	9/87-2/91	V8	17,238	MS-2107GP 11701-1580	TW-2107K 11011-1210	CB-2107GP 13201-1380	SH-2107A (NO.1)11811-1170 (NO.2)11821-1180 (NO.3)11821-1180 (NO.4)11821-1180 (NO.5)11811-1170	PB-2107J 13272-1240
	D F17C-T	9/87-2/91	V8	17,238					
	D F17D	12/1989-	V8	16,745					
	D F17D-T	8/1990-	V8	16,745					
	D F17E	12/1989-	V8	16,745					
	D F20C	12/1989-	V8	19,688					
11	D F21C		V8	20,781	MS-2120GP 11701-2370	*TW-2120K 11011-1300	CB-2107GP 13201-1380	SH-2107A -Same as Group no..9	*PB- 13271-1510
12	D EH100	5/1972-86	6	5,871	MS-1140GP 11701-1271 11701-1270	TW-1081GP 11011-1110	CB-1165GP 13201-1180	(SH-1081B) (NO.1)11812-1030 (NO.2)11822-1030 (NO.3)11832-1030 (NO.4)11842-1050	PB-1139J 13271-1030
13	D EH300	6/74-12/80	6	6,211	MS-1140GP 11701-1271 11701-1270	TW-1081GP 11011-1110	(CB-1140GP) 13201-1190	(SH-1081B) (NO.1)11812-1030 (NO.2)11822-1030 (NO.3)11832-1030 (NO.4)11842-1050	PB-1140J 13272-1030
14	D EH500	2/80-10/83	6	6,211	MS-1140GP 11701-1271 11701-1270 11701-1520	TW-1081GP 11011-1110	CB-2101GP 13201-1261 13201-1260 13201-1360	SH-2101A (NO.1)11812-1051 (NO.2)11822-1050 (NO.3)11832-1050 (NO.4)11842-1030 (NO.5)11852-1040 (NO.6)11862-1020 (NO.7)11872-1030	PB-2108J 13272-1220 13272-1270
	D EH700	1/75-10/83	6	6,443					
15	D EH500	10/1983-86	6	6,211	MS-1140GP 11701-1271 11701-1270 11701-1520	TW-1081GP 11011-1110	CB-2101GP 13201-1261 13201-1260 13201-1360	SH-2108A (NO.1)11812-1051 (NO.2)11822-1110 (NO.3)11832-1080 (NO.4)11842-1080 (NO.5)11852-1060 (NO.6)11862-1040 (NO.7)11872-1030	PB-2108J 13272-1220 13272-1270
	D EH700	10/1983-	6	6,443					
	D EH700-T	10/1983-88	6	6,443					
16	D EK100	7/1975-	6	13,267	MS-2102GP 11701-1013 11701-1012 11701-1011 11701-1010 11701-1690	TW-2102K 11011-1011 TW-2112K 11011-1250 For EK100 (Export use)	CB-2102GP 13201-1012 13201-1011 13201-1010	SH-2102A (NO.1)11812-1190 (NO.2)11821-1200 (NO.3)11831-1140 (NO.4)11841-1130 (NO.5)11851-1090 (NO.6)11861-1060 (NO.7)11871-1060	PB-2102J 13272-1010
	D EK100-T	10/1984-89	6	13,267					
	D EK200	10/1980-90	6	13,267					
	D EK130-T	8/1986-	6	13,267					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
17	D	EK100	1986-12/89	6	13,267	MS-2102GP	TW-2102K	CB-2102GP	PB-2102J
	D	EK200	1986-12/89	6	13,267	11701-1013	11011-1011	13201-1012	13272-1010
	D	K13D	12/1989-	6	13,267	11701-1012		13201-1011	
	D	K13U	6/1990-	6	13,267	11701-1011		13201-1010	
	D	K130-T	12/89-91	6	13,267				
18	D	K13C	1/87-3/92	6	12,882	MS-2102GP	TW-2102K	CB-2112GP	SH-2102A
	D	K13C-T	3/1986-			11701-1013	11011-1011 (1/87-3/92)	13201-1610	(NO.1)11812-1190 (NO.2)11821-1200 (NO.3)11831-1140 (NO.4)11841-1130 (NO.5)11851-1090 (NO.6)11861-1060 (NO.7)11871-1060
19	D	K13D		6	13,267	MS-2102GP	*TW-2123K	CB-2102GP	SH-2102A
	D	EL100	3/1978-91	6	7,862	11701-1013	11011-1360	13201-1012	-Same as Group no.16
20	D	EL100	3/1978-91	6	7,862	MS-2103GP	*TW-2103GP	CB-2103GP	SH-2103A
	D	EL100-T	12/1981-91	6	7,862	11701-1460 11701-1470 11701-1851	11011-1180 (3/78-6/80)	13201-1312 13201-1252	(NO.1)11811-1070 (NO.2)11821-1070 (NO.3)11831-1060 (NO.4)11841-1020 (NO.5)11851-1050 (NO.6)11861-1040 (NO.7)11871-1050
21	D	EM100	6/1981	6	9,419	MS-2103GP	TW-2105GP	CB-2106GP	SH-2103A
	D					11701-1460 11701-1470 11701-1851	11011-1220	13201-1400 13201-1510 (CB-2105GP)	-Same as Group No.20-
22	D	EP100	11/81-6/84	6	8,821	MS-2103GP	TW-2105GP	CB-2106GP	SH-2103A
	D	EP100-T	5/81-6/84	6	8,821	11701-1590 11701-1851	11011-1220	13201-1410 (5/81-6/84)	-Same as Group No.20-
23	D	EP100	7/1984-91	6	8,821	MS-2103GP	TW-2105GP	CB-2113GP	SH-2103A
	D	EP100-T	6/1984	6	8,821	11701-1590 11701-1851	11011-1220	13201-1490	-Same as Group No.20-
	D	P09B-T	6/1984	6	8,501				
24	D	EP100-T	1986-89	6	8,821	MS-2103GP	TW-2105GP	CB-2113GP	SH-2113A
	D	M10U	8/1985-	6	9,880	11701-1590 11701-1851	11011-1220	13201-1490 13201-1670	(NO.1)11811-1070 (NO.3)11831-1060 (NO.5)11851-1050 (NO.7)11871-1050
25	D	H06C	12/83-7/86	6	6,485	MS-2108GP	TW-2108K	CB-2108GP	SH-2108A
	D	H07C	1/83-7/86	6	6,728	11701-1790	11011-1270	13201-1460	(NO.1)11812-1051
	D	H06B-T	1985-6/86	6	6,224	11701-1641		13201-1480	(NO.2)11822-1110
	D	H06C-T	12/82-6/86	6	6,485	11701-1661 11701-1602		13201-1421	(NO.3)11832-1080 (NO.4)11842-1080 (NO.5)11852-1060 (NO.5)11862-1040 (NO.7)11872-1030

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
26	D H06C	7/1986-	6	6,485	MS-2108GP -Same sa Group NO.25-	TW-2108K 11011-1270 11011-1230	CB-2111GP 13201-1580 13201-1590 13201-1600	SH-2108A -Same as Group No..25-	PB-2108J 13272-1270
	D H07C	7/1986-	6	6,728					
	D H06B-T	7/1986-	6	6,224					
	D H06C-T	7-1986	6	6,485					
27	D H06B-T	7/1989-	6	6,224	MS-2108GP -Same sa Group No..25-	TW-2108K 11011-1270 11011-1230	CB-2111GP 13201-1580 13201-1590 13201-1600	SH-2111A (NO.1)11812-1051 (NO.3)11832-1080 (NO.5)11852-1060 (NO.7)11872-1030	PB-2108J 13272-1270
	D H06C-T	6/1986-	6	6,485					
	D H07C	6/1986-90	6	6,728					
	D H07C-T	7/1989-	6	6,728					
28	D H06C-T1		6	6,485	MS-2111GP 11701-2290A S1170-12290		CB-2111GP 13201-1600	*SH-	PB-2108J 13272-1270
29	D H07D	7/1989-	6	7,421	MS-2108GP 11701-1661 11701-1602	TW-2108K 11011-1270 11011-1230	CB-2115GP 13201-1631 13201-1640		PB-2118J 13272-1300
30	D J05C		4	5,307	MR-2117GP 11701-2160 11701-2170	TW-2108K S1101-11230 S1101-11380	CR-2117GP 13201-1790 13201-1770	SH-2117A 11901-1010	PB-2116J(for J05C) 13272-1300
	D J07C		5	6,634					PB-2117J(for J07C) 13272-1300
31	D J05C-TI		4	5,307	MR-2117GP 11701-2160	TW-2108K S1101-11230 S1101-11380	CR-2118GP 13041-E0140~80 13041-E0240~80	SH-2117A 11901-1010	
32	D J08C		6	7,961	MS-2118GP 11701-2180	TW-2108K S1101-11230 S1101-11380	CB-2115GP 13201-1631 S1320-11631	SH-2118A 11901-1020	PB-2118J 13272-1300
33	D J08C-TI		6	7,961	MS-2118GP 11701-2110	TW-2108K S1101-11230 S1101-11380	CR-2118GP 13041-E0140~80 13041-E0240~80	SH-2118A 11901-1020	
34	D J05E		4	5,123	*MR-2119GP 11019-1470A 11701-2160A 11701-2170A 11701-2310A 11701-2320A (1Pr/Box)	*TW-2119K S1101-11230 11011-1230 11011-1270 11011-1380	*CR-2119GP 13201-2100A 13201-2110A 13201-2120A (1Pr/Box)		
	D J07E		5	6,403					
	D J08E		6	7,684					
35	D N04C		4	4,009	*MS-2125GP 11711-E0030	*TW-2125K 11011-E0030	*CB-2125GP 13281-E0140 13281-E0150	*SH-2125A 11811-E0030 11821-E0020 11831-E0020	*PB-2125J S1327-21400
36	D P09C-T		6	8,821	*MS- 11701-1870	TW-2122K 11011-1330	CB-2113GP 13201-1670	SH-2103A -same as Group no.20	*PB- 13272-1350
37	D P11C		6	10,520	MS-2103GP 11701-1851	TW-2122K 11011-1330	CB-2122GP 13201-1880	SH-2103A -same as Group no.20	*PB- 13272-1350
38	D V21C	3/87-91	V10	20,932	MS-2114GP 11701-1780	TW-2114K 11011-1260	CB-2114GP 13201-1620	SH-2114A (#1.6)11811-1170 (#2-5)11821-1180	PB-2114J 13272-1240
	D V22C	3/87-91	V10	21,548					
	D V25C	4/1991-	V10	24,610					
39	D V25C		V10	24,160	MS-2114GP 11701-2380	*TW-2121K 11011-1290	CB-2114GP -same as Group no.36	SH-2114A -same as Group no.36	*PB- 13271-1510
	D V26C		V10	25,977					
	D V22D		V10	21,548					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
40	D W04C-T	2/1985-	4	3,839	MS-2109GP 11701-1611 11701-1730	TW-2109GP 11011-1240	CB-2109GP 13201-1540	SH-2109K (No.1)11811-1180 (No.2)11821-1190 (No.3)11831-1130	
41	D W04D W04D-T	4/1983- 5/1983-	4	4,009	MS-2109GP 11701-1611	TW-2109GP 11011-1240	CB-2109GP 13201-1430	SH-2109K -same as Group No.29-	PB-2111J 13272-1280 13272-1281 (PB-2109J)
42	D W06D D W06D-T D W06E	3-1983- 5/1983- 4/1986-	6 6 6	5,759 5,759 6,014	MS-2110GP 11701-1630 11701-1750	TW-2109GP 11011-1280	CB-2110GP 13201-1450 13201-1550	SH-2110K (No.1)11811-1180 (No.2)11821-1190 (No.3)11831-1130 (No.4)11841-1120	PB-2112J 13272-1280 13272-1281 (PB-2110J)

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G	A18A	6/85-9/89	4	1,829	MS-2200GP 13321/7-PC6-003 -PD2-004	TW-1134A 13331-634-003/4	CB-2200GP 13211/7-PR4-A01/2 -PC6-003 -PD2-004	
	G	A20A Accord Vigor	4/1987-	4	1,955				
2	G	B16A Integra Civic	4/1989-	4	1,595	MS-2215GP (U)13321/7-PR3-003/4 (L)13341/7-PR3-003/4 13032/8-PR3-S10/20	TW-2215A 13331-PR3-003/4 -S10/20	CB-2215GP 13211/7-PR3-004 -PR3-S20	
3	G	B18A (U.S.A)		4	1,834	MS-2215GP -Same as Group No.2-	TW-2215A -Same as Group No.2	CB-2200GP -Same as Group No.1-	
		B18B		4	1,834				
		B20B Accura Integra		4	1,972				
4	G	B18A	5/1985-	4	1,834	MS-2208GP 13321/7-PG6-003/4 -PH6-003/4	TW-2215A 13331-PG6-003 (TW-2208CP)	CB-2200GP 13211/7-PR4-A01/2 -PC6-003 -PD2-004	
	G	B20A Prelude Accord	5/1985-	4	1,958				
5	G	B20A	5/1985-	4	1,958	-Same as Group No.4-	-Same as Group No.4- (TW-2208CP)	CB-2213GP 13211/7-PH3-003/4	
	G	B21A Prelude Accord	5/1991-	4	1,958				
6	G	C20A	10/85-10/90	V6	1,996	MS-2211GP (U)13321/5-PH6-013 -004/023 (L)13341/5-PH6-013 -004/023	TW-1134A 13331-634-003/4	CB-2211GP 13211/7-PH6-013 -PH6-014	
	G	C20A-T Legend	10/88-10/90						
7	G	C25A	11/85-9/88	V6	2,493	MS-2210GP (U)13321/5-PH7-013/14 -PL2-003/4 -PL2-J01/2 (L)13341/5-PH7-013/14 -PL2-003/4 -PL2-J01/2	TW-2210GP 13331-PH7-003/4	CB-2210GP 13211/5-PH7-013 -PH7-014	
		C27A Legend	10/85-10/90	V6	2,675				
8	G	D12A	10/1986-	4	1,237	MS-2214A 13321/7-PJ7-003/4	TW-1134A 13331-PD1-003/4	CB-2214GP 13211/7-PJ7-003/4	
		D13C Civic	8/1988-	4	1,296				
9	G	D13A	9/87-7/88	4	1,343	MS-2206GP 13321/7-PC0-004 -PC0-014 -PE0-661 -PE0-662 13032/8-PC0-S20 -PE0-660	TW-1134A 13331-PD1-003/4 13014-PD1-S10/20	CB-2204GP 13211/7-PE0-003/4 13022/8-PE0-S10/20	
	G	D13B Civic Logo	6/1987-	4	1,343				
10	G	D15A	8/87-7/88	4	1,493	MS-2206GP -Same as Group No.9-	TW-1134A -Same as Group No.9-	CB-2205GP 13211/7-PE1-003/4 13022/8-PE1-S10/20	
	G	D15B	6/1987-	4	1,493				
	G	D15Z Civic	9/1991-	4	1,493				
11	G	D15B	9/1991-	4	1,493	-Same as Group No.9-	-Same as Group No.9-	CB-2208GP 13022/8-PG6-S10/20	
	G	D15Z Civic	9/1991-	4	1,493				

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
12	G G	D16A B18A Accura Domani HR-V Integra (U.S.A)	10/86-	4	1,590	MS-2208GP 13321/7-PG6-003/4 -PM6-003/4	TW-2215A 13331-PG6-003/4 (TW-2208CP)	CB-2208GP 13211/7-PG6-003/4	
			1986-89	4	1,834				
13	G	D17A		4	1,668	MS-2201A 13321-P2E003/4 13321-P2F-A01 13321-PK1-752	TW-2201A 13331-PLM03	CB-2201GP 13211-PLM-A01	
14	G	E07A Acty Today	2/1990-	3	656	*MS-	*TW-	CB-2212GP 13211-PZ1-004	
15	G G G G G G	EC ED EF EK EM EP Civic	11/74-10/79	4	1,488	MS-1134GP 13321/7-634-003/4 -634-0031 -634-305/6	TW-1134A 13331-634-003/4 -PD1-003/4	CB-1142GP 13211/7-PB2-003/4 -PC1-003/4 -642-003/4	
			12/73-12/78	4	1,488				
			4/76-10/86	4	1,599				
			9/78-6/83	4	1,750				
			6/79-10/83	4	1,488				
			2/80-10/86	4	1,601				
16	G G G	EF EJ EN Civic	8/75-6/79	4	1,238	MS-1134GP 13321/7-634-003/4 -634-0031 -634-305/6	TW-1134A 13331-634-003/4 -PD1-003/4	CB-1134GP 13211/7-634-003/4 -PA5-003/4 -PB9-003/4 -PD1-003	
			5/78-10/83	4	1,335				
			10/79-10/83	4	1,335				
17	G	EH Acty	7/77-6/82	2	545	MS-1175A 13321/7-679-003	TW-1175A 13331-679-003	CB-1175GP 13211/7-679-003	
18	G	EH Acty Today	6/82-5/88	2	545	MS-2202A 13321-679-013 -679-005	TW-1175A 13331-679-003	CB-1175GP 13211/7-679-003 -PD1-003/4	
19	G	ER City	11/81-10/86	4	1,231	MS-2206GP 13321/7-PC0-003/4	TW-1134A 13331-PD1-003/4	CB-2206GP 13211/7-PC0-004	
20	G G	ES ET Vigor	11/82-10/86	4	1,829	MS-2200GP 13321/7-PC6-003/4 -PD2-004	TW-1134A 13331-634-003/4	CB-2200GP 13211/7-PR4-A01/2 -PK1-003 -PC6-003/4 -PD2-004	
			6/83-10/86	4	1,829				
21	G	EV Civic	7/83-10/87	4	1,342	MS-1134GP 13321/7-634-003/4	TW-1134A 13331-PD1-003/4	CB-2204GP 13211/7-PE0-003/4	
22	G	EV1 Civic	9/83-10/87	4	1,342	MS-2206GP 13321/7-PE0-004 -662	TW-1134A 13331-PD1-003/4	CB-2209GP 13211/7-PE0-661/2	
23	G	EW Civic	8/80-5/89	4	1,488	MS-1134GP 13321/7-634-003/4	TW-1134A 13331-PD1-003/4	CB-2205GP 13211/7-PE1-003/4	
24	G	EY Accord	6/83-10/86	4	1,598	MS-2200GP 13321/7-PC6-003/4	TW-1134A 13331-634-003/4	CB-2203GP 13211/7-PD4-003/4	
25	G	F18B F20B Accord		4	1,849	MS-2213GP 13321-PT0-003	TW-2213A 13331-PT0-003	CB-2200GP 13211-PC6-003	
				4	1,997				

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
26	G F20A	1989-	4	1,997	MS-2213GP 13321-PT0-003	TW-2213A 13331-PT0-003	CB-2213GP 13211-PH3-003		
	G F22A	1989-	4	2,156					
	Accord Prelude								
27	G H22A (VTEC) Prelude		4	2,156	MS-2213GP -Same as Group No.24-	TW-2213A -Same as Group No.24-	CB-2217GP 13211~7-P13-0141 13211~7-P13-0142		
28	G H23A Rover 623Sli Ascot	3/1992-	4	2,258	MS-2213GP 13321-PT0-003 13321-PCA-0031	TW-2213A 13331-PT0-003 13331-PT0-004	CB-2213GP 13211-PH3-003 13211-PH3-004		*PB- 13203-PAA-A013-Y1
29	G K20A Civic Acura CSX Ariel Atom	10/2002-	4	1,998	MS-2216GP (U)13321-PNA-0032 (L)13341-PNA-0032	TW-2216A 13331-PCX-003	CB-2216GP 13211~7 PAH-T01 13022-PAH-T10		*PB- 13203-PAA-A013-Y1
30	G K24A Accord Acura TSX Odyssey	10/2002-	4	2,354	MS-2216GP (U)13321-PNA-0032 (L)13341-PNA-0032	TW-2216A 13331-PCX-003	CB-2218GP 13211-PPA-0030		*PB- 13203-PAA-A013-Y1
31	G L13A	6/2001-	4	1,339	MS-2219A (U)13321-PWA-0030 (L)13341-PWA-0030 (U)13328-PWA-003/4 (L)13348-PWA-003/4	TW-2215A 13331-PR3-0031	CB-2219A 13211-PWA-0030 13281-PWA-003/4		
	G L15A	12/2001-	4	1,496					
	G LDA	9/2005-	4	1,339					
	Fit Jazz Insight								
32	G R16A R18A R20A		4	1,595	*MS-2220A 13321-RNA-A02 13341-RNA-A02 13321-PK1-752	*TW-2220A 13331-PNA-004	*CB-2220A 13211-RNA-A01 13211-RNE-A01		
			4	1,799					
			4	1,997					
33	G ZC Integra Ballade	10/1984-	4 4	1,590 1,590	MS-2208GP 13321/7-PG6-003/4 -PM6-003/4 -PH3-003/4 -PH3-S10/20	TW-2215A 13014-PG6/S10/20 13331-PG6-003/4 (TW-2208CP)	CB-2208GP 13022/8-PG6-S10/20 13211/7-PG6-003/4		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D 2AA1	1972-89	2	975	MS-1157GP	TW-1070A	CB-1157A		
	D 2AB1	1970-91	2	1,184	5-11510-011	9-11581-057	5-12271-005		
2	D 3AA1	1972-90	3	1,463	MS-1601GP	TW-1070A	CB-1601A	SH-1605A	
	D 3AB1	1971	3	1,777	5-11510-010	9-11581-057	5-12271-005	5-11610-002	
	D 3AD1	1977-90	3	1,498					
	D 3AD1-T	1978-79	3	1,498					
3	D 2AE1	1979-88	2	846	*MS 5-11510-049	TW-1070A 9-11581-057	*CB- 8-94110-930 8-94156-084		
4	D 3AE1	1977-88	3	1,296	(MS-1602GP)	TW-1070A	CB-1602A		
	D 3AF1	1977-6/87	3	1,170	5-11510-033	9-11581-057	8-94110-930 5-12271-032		
5	D 2KA1	1983-89	2	538	MS-	TW-	CB-		
	D 2KB1	1983-89	2	584	5-11510-062	5-11599-002	5-12271-014		
	D 2KC1	1983-	2	653					
6	D 3KA1	1983-	3	808	MS-	TW-	CB-		
	D 3KB1	1983-	3	877	8-94411-291 5-11510-061	5-11599-002	5-12271-014		
7	D 3KC1	1983-	3	980	MS-	TW-	CB-		
	D 3KC2	9/1989-	3	980	8-94411-291 5-11510-061	5-11599-003	5-12271-014		
8	D 3KR1	10/1984-	3	1,422	MS- 5-11510-066	TW- 5-11599-003	CB- 8-94156-084		
9	D 4BA1	1971-5/88	4	2,775	MS-1628GP	TW-1129GP	CB-1603GP	SH-1100K	PB-1100J
	D 4BB1	1971-1989	4	3,595	5-11510-002	9-11585-601	9-12271-002	5-87810-017	9-12251-059
	D 4BC1	12/78-6/84	4	3,268	9-11510-608		9-12271-608	(No.1)9-11691-048	for 4BA1
	D 4BC2	2/1980-	4	3,268	(M1-1129GP X5)		8-97011-031	(No.2)9-11693-035	
	D 4BE1	1/1985-	4	3,636	(1971-12/78)		(C1-1129GP X2)	(No.3)9-11693-035	
	D 4BE2	6/1986-	4	3,636				(No.4)9-11693-035	
					MS-1163GP 5-11510-051 (12/78-9/81)	TW-1604A 8-97071-358		(1971-1976)	PB-1163J 1-12251-027 5-12251-006 9-12251-602 for 4BB1,4BC2
					MS- 5-11510-065 (9/81-10/85)			SH-1163K (No.1)9-11611-048 (No.2)9-11693-035 (No.3)9-11693-035	
				MS-1603GP 8-94114-564 8-97011-024 5-11510-060 (10/1985-)	TW-1155GP 8-94114-565 5-11685-001		(No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035 (1976-)	PB-1129J 5-12251-010 5-12251-603 for 4BC1	

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing	
10	D	4BD1	12/1978-	4	3,856	MS-1606GP	TW-1155GP	CB-1603GP	SH-1163K	PB1163J
	D	4BD1-T	12/1978-	4	3,856	5-11510-054	8-94114-565	8-97011-031	(No.1)9-11611-048	1-12251-027
	D	4BD2	1993-	4	3,856	5-11510-053	5-11685-001	9-12271-608	(No.2)9-11693-035	5-12251-006
	D	4BG1	6/1986-	4	4,329	(12/78-7/80) MS-1604GP 5-11510-064 8-94117-032 (4/1980-) MS- 8-94132-813 8-97025-446 (4/1986-)	TW-1604A 8-97071-358	1-12271-070	(No.3)9-11693-035 (No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035	9-12251-602
11	D	6BB1	1972-4/80	6	5,393	MS-1629GP	TW-1129GP	CB-1612GP	SH-1129K	PB-1155J
	D	6BD1	7/1975-	6	5,785	9-11510-606	9-11585-601	9-12271-608	(No.1)9-11691-048	5-12251-006
	D	6BD1-T	1978-	6	5,785	(M1-1129GP X7)		5-12271-010	(No.2)9-11693-035	1-12251-027
	D	6BF1	10/79-1988	6	6,130	(1972-5/76)		(C1-1129GP X3)	(No.3)9-11693-035	9-12251-602
	D	6BF1-T	10/79-1988	6	6,130	MS-1611GP	TW-1155GP		(No.4)9-11693-035	
	D	6BG1	1/1984-	6	6,494	5-11510-048	1-11680-001		(No.5)9-11693-035	
	D	6BG1-T	5/1985-	6	6,494	5-11510-046 5-11510-013 (6/76-4/80) MS-1612GP 1-11510-074 1-11510-040 1-11510-084 (5/1980-)	1-11685-001 5-11685-001		(No.1)9-11611-048 (No.2)9-11613-035 (No.3)9-11613-035 (No.4)9-11613-035 (No.5)9-11613-035	
12	D	6BD1-T	10/79-4/80	6	5,785	MS-	TW-1155GP	CB-1612GP	SH-1129K	PB-1155J
	D	6BF1-T	10/79-4/80	6	6,130	1-11510-036 1-11510-032	1-11685-001 5-11685-001	9-12271-608 5-12271-010	(No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035 (No.4)9-11693-035 (No.5)9-11693-035	5-12251-006 1-12251-027
13	D	C190	1971-5/83	4	1,951	MS-1138GP	TW-1622A	CB-1070A	SH-1071A	PB-1070J
	Elf					5-11510-020 5-11510-006 9-11510-801	9-11581-048	5-12271-005 9-12271-168 8-94142-208	9-11610-602 9-11610-032 (1971-8/81) SH-1605A 5-11610-002 (F)5-11691-008 (C)5-11691-009 (R)5-11693-001 (8/81-5/83)	9-12271-062 (1971-8/81) PB-1605J 5-12251-005 (8/81-5/83)
14	D	C190	6/83-5/88	4	1,951	MS-1605GP	TW-1622A	CB-1070A	SH-1605A	PB-1605J
	D	C223	7/1979-	4	2,238	8-94118-830	9-11581-048	8-94462-943	5-11610-002	5-12251-005
	D	C223-T Bighorn Elf	8/83-8/88	4	2,238	8-94139-682 8-94104-726 5-11510-036	8-94454-605 8-94125-752	8-94142-208 8-94120-242	(F)5-11691-008 (C)5-11691-009 (R)5-11693-001	PB- 8-94118-825 (11/86-8/88)

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
15	D C221	1968-79	4	2,207	CC MS-1610GP 5-11510-021 5-11510-005 9-11510-163	TW-1070A 9-11581-057	CB-1070A 5-12271-005 9-12271-152	SH-1070A 9-11610-602 9-11610-032	PB-1033J 9-12251-061
16	D C240 Elf	1969-	4	2,369	MS-1610GP 5-11510-021 5-11510-005 9-11510-149	TW-1070A 9-11581-057	CB-1070A 9-12271-168 5-12271-005 8-94142-208 8-94462-943 8-94120-242	SH-1070A 9-11610-602 9-11610-032 (1969-8/81) SH-1605A 5-11610-002 (F)5-11691-008 (C)5-11691-009 (R)5-11693-001 (8/1981-)	PB-1070J 9-12271-062 (1969-8/81) PB-1605J 5-12251-005 5-12251-007 (8/1981-)
17	D C330	1971-88	4	3,318	MS-1628GP 9-11510-167 5-11510-043 (1976-81) MS- 8-94153-512 5-11510-065 (1982-83)	TW-1100GP 9-11585-065 (1976-81) TW-1129GP 9-11685-601 (1982-83)	CB-1603GP 9-12271-157 9-12271-175 9-12271-178	SH-1100K (No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035 (No.4)9-11693-035 (1971-75) SH-1163K (No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035 (1976-88)	PB-1100J 9-12251-059 (1971-73) PB-1129J 5-12251-010 9-12251-603 (1973-88)
18	D D C22NE 22LE		4	2,198	MS-1641GP 8-92061197-0		CB-1641GP 8-92028817-0 CB-1642GP		
19	D D D500 D500-T	1970-88 1971-77	6	4,978	MS-1629GP 5-11510-041 (1970-81) MS- 1-11510-041 (1982-88)	TW-1100GP 9-11585-065 (1970-81) TW-1129GP 9-11685-601 (1982-88)	CB-1612GP 9-12271-178 9-12271-157	SH-1129K (No.1)9-11691-048 (No.2)9-11693-035 (No.3)9-11693-035 (No.4)9-11693-035 (No.5)9-11693-035	PB-1629J 9-12251-059
20	D D DA120 GD150	1965-81 1965-74	6 6	6,126 5,654	(MS-1052GP) 9-11510-136 9-11510-127	TW-1052GP 9-11515-170	(CB-1023GP) 9-12271-121 9-12271-105		PB-1023J 9-12251-083
21	D DA220	1965-81	4	4,084	(MS-1064GP) 9-11510-138 1-11510-026	TW-1052GP 9-11515-170	(CB-1050GP) 9-12271-121 9-12271-105		PB-1023J 9-12251-083
22	D DA640	1965-8/88	6	6,373	(MS-1052GP) 9-11510-136 9-11510-127	TW-1052GP 9-11515-170	(CB-1052GP) 9-1227-146		PB-1052J 9-12251-084
23	D D D920 E110	1967-71 1967-72	6 6	9,203 11,044	(MS-1092GP) 9-11510-151	(TW-1071GP) 9-11515-198	(CB-1092GP) 9-12271-153		PB-1092J 9-12251-074
24	D D DH100 DH100-T	1967-11/82 1967-2/80	6 6	10,179 10,179	(MS-1092GP) 1-11510-012 9-11510-152	(TW-1071GP) 9-11515-198	(CB-1042GP) 9-12271-130 (1967-68) *CB- 9-12271-131 (1968-11/82)		PB-1042J 9-12251-070 9-12251-069

Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
25	D DH100	11/82-8/88	6	10,179	MS-1609GP 1-11510-037 1-11510-034	(TW-1071GP) 9-11515-198	*CB- 9-12271-131		PB-1042J 9-12251-070
26	D D E120 E120-T	1970- 1970-3/84	6 6	12,023 12,023	MS-1154GP 1-11510-033 1-11510-031 1-11510-011 9-11510-178	TW-1102GP 9-11515-216	CB-1154GP 1-12271-009 1-12271-023 9-12271-177		PB-1154J 9-12251-088
27	D 4EC1 Gemini Opel Chevrolet	3/85-2/90	4	1,487	MS-1624GP 8-94151-600~3	TW-1625A 8-94314-292 8-94321-611 8-94124-100 8-94427-387 8-94114-106 (TW-1624GP)	CB-1624A 8-94314-253~5 8-94472-613~5 8-94151-604~6 8-94340-051~3		PB-1624J 8-94251-216
28	D D 4EC1 4EC1-T Gemini	1/87-2/88 3/85-2/90	4 4	1,487 1,487	MS-1625GP 8-94154-014~7 8-94470-527~30	TW-1625A -Same as Group No.27-	CB-1624A -Same as Group No.27-		PB-1625J 8-94114-054
29	D 4EE1-T	2/1990-	4	1,686	MS-1625GP 8-94381-684~7	TW-1626A 8-94321-679	CB-1624A 8-94381-678~80		*PB-1636J 8-94369-904
30	D D D D D D D D D D 4FA1 4FA1-T 4FB1 4FB1-T 4FC1 4FC1-T 4FD1 4FE1 4FE1-T 4FG1 Gemini,Fargo	1/1981-89 1/1981-89 1/1979- 1/82-5/86 1/80-6/90 8/1983-91 3/83-11/88 5/1985- 5/1985- 11/89-6/90	4 4 4 4 4 4 4 4 4 4 4	1,487 1,487 1,817 1,817 1,995 1,995 2,189 1,499 1,499 2,380	MS-1616GP 8-94110-927 8-94220-838 8-94250-262 (No.1.2.4.5) 8-94420-010~12 (No.3) 8-94420-013~15	TW-1616A 8-94250-265	CB-1616GP 8-94110-930 8-94221-167 5-12271-032 8-94257-556 8-94329-497~9	SH-1166A 5-11611-010 5-11611-011	PB-1166J 5-12271-007 PB-1638J 8-94247-838 for 4FB1T,4FC1T 4FD1,4FG1
31	D D D D D 4HF1 4HG1 4HJ1 4HE1-T 4HK1-T	5/1990-	4 4 4 4 4	4,334 4,570 4,985 4,751 5,193	MS-1631GP 8-97045-915-0 8-97045-916-0 8-97045-917-0 8-97219-4560-0 8-97372-076~078	TW-1631A 8-94396-980-0 (F)8-94399-277 (R)8-94399-283 (F)8-97386-548 (R)8-97386-549	CB-1631GP 8-97045-800-0 8-97045-801-0 CB-1640GP (for 4HE1-T,4HK1-T) 8-94395-757-0 8-97131-186-0 CB-1644GP 8-97616-358/9-0	SH-1631A 8-94363-380-0 8-94393-380-0 SH-1640A (for 4HE1-T,4HK1-T) 8-97112-638-0 8-97386-189-0 *SH- (for 4HJ1)	PB-1631J 1-12251-036-0 PB-1644J (for 4HE1-T,4HK1-T) 8-94394-613-0
32	D D 6HE1 6HH1		6 6	7,127 8,226	MS-1632GP 8-94393-327 8-94394-449	TW-1631A -Same as Group No.31-	CB-1632GP 8-97045-800~1 8-94393-328	SH-1632A 8-94363-380-0	PB-1632J 1-12251-036-0
33	D D 6HE1-T 6HK1-T		6 6	7,127 7,790	MS-1632GP 8-94393-327-0 8-94391-514~6	TW-1631A -Same as Group No.31	CB-1639GP 8-94395-515-0 8-94395-757-0 8-97131-186-0 CB-1643GP 8-97616-358/9-0	SH-1643GP 8-94390-311-0 8-97602-699-0	PB-1643J 8-94394-613-0 8-94391-794-1

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing	
34	G	G130	1966-70	4	1,325	MS-1103GP	TW-1030A	CB-1032GP	SH-1032A	PB-1032J 9-12251-045 (1966-10/79)
	G	G150	1966-75	4	1,471	8-94215-641	8-94210-750	8-94424-465	5-11611-002	
	G	G161	1969-5/86	4	1,584	9-11510-609	9-11581-021	9-12271-143	9-11611-020	
	G	G180	1969-7/87	4	1,817	9-11510-141		9-12271-100	(1966-75)	
	G	G200 Gemini Piazza Coupe	12/1978-88	4	1,949	8-94250-574		(1966-5/86) CB-1628GP 8-94424-246 8-94218-061 8-94115-354 (CB-1103GP) (5/86-4/88)	*SH- 9-11611-040 (1975-4/88) (SH-1103B) 9-11611-035	
35	G	G200 Coupe	4/1988-89	4	1,949	MS-1620GP 8-94251-263	TW-1616A 8-94210-265 8-94251-265	CB-1620GP 8-94251-266 9-94424-252	*SH- 9-11611-040	
36	D	4JA1	5/1984-	4	2,499	MS-1622A	TW-1622A	CB-1622A	SH-1622A	PB-1622J 8-94247-968 8-94419-455 *PB- (for 4JA1-T) 8-97288-551 8-97352-889
	D	4JC1	1/1984-	4	2,238	8-94168-553	8-94168-555	8-94324-159	8-94427-196	
	D	4JD1	1987-	4	2,039	8-94340-693~5	8-94125-752	8-94125-747	8-94168-556	
	D	4JE1	1987-	4	1,862	8-97063-261~3	8-94454-604	8-94372-193	(F)8-94125-743	
	D	4JF1	1987-	4	1,496	8-94462-131	8-94454-605	8-97358-229	(C.R)8-94125-741	
	D	D201	85-8/88		2,238	8-94314-314		8-97358-234	(F)8-94427-206	
	D	4JA1-T		4		8-94338-581			(C.R)8-94427-201	
37	D	4JB1	1/1984-	4	2,771	MS-1623A	TW-1070A	CB-1622A	SH-1622A	PB-1622J 8-94247-968 8-94419-455 PB-1623J 8-94457-158 8-97311-438 8-97383-066 *PB- (for 4JH1-T) 8-97288-551 8-97352-889
	D	4JB1-T	10/1986-	4	2,771	8-94168-552	8-94453-520	8-94324-159	8-94427-196	
	D	4JG-2		4	3,059	8-94453-761	8-94168-554	8-94125-747	8-94168-556	
	D	4JG-2T (UBS)		4		(U)8-94481-026~8 (L)8-94481-029~31	8-94130-923 8-94453-762	8-94372-193 8-97358-229	(F)8-94125-743 (C.R)8-94125-741	
	D	4JX1 (UBS)		4		8-97063-258-0 8-97388-502-0	8-97354-055 8-97383-740	8-97358-234 8-97388-735	(F)8-94427-206 (C.R)8-94427-201	
	D	4JH1		4						
	D	4JH1-T (D-Max)		4						
	D	4JB2		4						
	D	4JJ1-T								
	38	D	8PA1	1973-89	V8	9,971	MR-1156GP	TW-1156K	CR-1156GP	
D		8PB1	4/1978-	V8	11,217	1-11510-003	1-11515-004	1-12271-008		
D		8PB1-T	8/81-8/83	V8	11,217	1-11510-008~9		1-12271-007		
D		8PC1	3/83-10/89	V8	12,011	1-11510-044~6		1-12271-030		
D		8PC1-T	7/83-8/89	V8	12,011	1-11510-051~2				
D		10PA1	3/70-5/84	V10	12,464	1-11530-053				
D		10PB1	10/1977-	V10	14,022	(1Pr/Box)		(1Pr/Box)		
D		10PB1-T	10/82-1/91	V10	14,022	8PA/B/C X 5boxes		8PA/B/C X 8boxes		
D		10PC1	4/83-8/89	V10	15,014	10PA/B/C X 6		10PA/B/C X 10		
D		12PA1	2/76-8/83	V12	14,958	12PA/A/C X 7		12PA/A/C X 12		
D		12PB1	12/1979-	V12	16,826					
D		12PB1-T	8/81-1/91	V12	16,826					
D		12PC1	7/83-8/89	V12	18,017					

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
39	D 8PD1	9/1989-	V8	13,741	MR-1630GP 1-11510-068 1-11510-007~8 8PD X 5boxes 10PD X 6 12PD X 7 1-11510-098	TW-1630K 1-11515-041 1-11510-098	CR-1630GP 1-12271-043 1-12271-076 8PD X 8boxes 10PD X 10 12PD X 12		PR-1630J 1-12251-033 (2Pcs/Box) 8PD X 4boxes 10PD X 5 12PD X 6 PR-1637J 1-12251-0450-0
	D 10PD1	7/1989-	V10	16,683					
	D 12PD1	8/1989-	V12	20,019					
	D 8PE1			15,201					
	D 10PE1			19,001					
	D 12PE1			22,801					
40	D 6QA1	2/80-4/86	6	11,044	MS-1609GP 1-11510-037 1-11510-034 1-11510-055	TW-1071GP 9-11515-198	CB-1609GP 1-12271-026 1-12271-024		PB-1092J 9-12251-073 9-12251-074
	D 6QA2	2/80-4/86	6	11,044					
41	D 6QA1	4/1986-	6	11,044	MS-1636GP 1-11510-066	TW1636K 1-11510-038	CB-1636GP 1-12271-047		PB-1029J 9-12251-073 9-12251-074
	D 6QA2	4/1986-91	6	11,044					
	D 6QB2	4/1990-	6	11,781					
42	D 6RA1	8/1981-	6	12,023	MS-1613GP 1-11510-039 1-11510-073	TW-1613K 1-11515-040	CB-1154GP 1-12271-029 (8/81-6/85) CB-1614GP 1-12271-055 (6/1985-)		PB-1154J 9-12251-088
	D 6RA1-T	8/1981-	6	12,023					
43	D 6RB1	8/1981-	6	13,741	MS-1613GP 1-11510-060 1-11510-073	TW-1613K 1-11515-040	CB1613GP 1-12271-028 1-12271-048		PB-1613J 1-12251-025
	D 6RB1-T	10/1984-	6	13,741					
	D 6RB2	11-1981-	6	13,741					
44	D 6SA1	1983-2/92	6	8,413	MS1618GP 1-11510-067	TW-1618K 1-11599-005 1-11599-007	CB1618GP 1-12271-050 1-12261-050		PR1156J 1-12251-016
	D 6SA1-T	5/85-12/89	6	8,413					
45	D 6SA1	10/1981-	6	8,413	MS-1634GP 1-11510-047	*TW-1634K 1-11515-019	CB-1634GP 1-12271-020		PR-1156J 1-12251-016 (2Pcs/Box x 3)
46	D 6SD1	5/1985-	6	9,839	MS-1618GP 1-11510-067	TW1618K 1-11599-007	CB-1635GP 1-12271-060 1-12271-068		PB-1635J 1-12251-021
	D 6SD1-T	1/1986-	6	9,389					
47	D 6UZ1	10/2006-	6	9,839	*MS- 8-97609-768-0	TW-1618K 1-11599-005-0	*CB- 8-97605-484-0		*PB- 1-12251-051-0
48	G 6VD1		V6	3,165	MS-1645A 8-97179-296-3 8-97179-300-0	TW-1645A 8-97014-208-0	CB-1645A 8-97179-293-0		
	G 6VE1		V6	3,494					
49	D 6WA1-T		6	12,068	MS-1646GP 1-11510-093-1 1-11518-059	TW-1646A 1-11510-093 1-11599-009-0	CB-1646GP 1-12271-072-1 1-12271-096-0		PB-1646J 1-12251-037 8-98115-959-0
	D 6WF1-T		6	14,256					
	D 6WG1-T		6	15,681					
50	G 4XC1	3/85-2/90	4	1,471	MS-1621A 8-94457-034~7 8-94151-528~30 8-94151-527	TW-1621A 8-94257-903 8-94409-869	CB-1621A 8-94151-531 8-94151-532~3 8-94311-012~14		
	G 4XC1-T Gemini	4/86-2/90	4	1,471					
51	G 4XC1	2/1990-	4	1,471	MS-1626A 8-94360-465~8	TW-1626A 8-94321-679	CB-1621A 8-94151-531 8-94151-532~3 8-94311-012~14		
	G 4XC1-T Gemini	2/1990-91	4	1,471					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
52	G 4XE1 Gemini	1/88-2/90	4	1,588	MS-1621A 8-94457-034~7	TW-1621A 8-94257-903 8-94409-869	CB-1626GP 8-94481-860~2		*PB-1626J 9-94316-289
53	G 4XE1 Gemini	2/1990-	4	1,588	MS-1626A 8-94360-465~8	TW-1626A 8-94321-679	CB-1626GP 8-94481-860~2		*PB-1626J 9-94316-289
54	G 4XE1-T Gemini	2/1990-	4	1,588	*MS-1633A 8-94331-704~7	TW-1626A 8-94321-679	*CB-1633GP 8-94331-708~10		*PB-1626J 9-94316-289
55	G 4ZA1 G 4ZB1 G 4ZB1-T G 4ZC1 G 4ZC-T G 4ZD1 Fargo,Piazza	1/1981- 3/81-6/90 1986-9/88 3/1986- 4/83-6/90 5/1984-	4 4 4 4 4 4	1,584 1,817 1,817 1,994 1,994 2,254	MS-1620GP 8-94251-263 8-94414-301~2 8-94101-043 8-94232-051 5-11510-030	TW-1616A 8-94481-907 8-94251-265	CB-1620GP 8-94414-305~6 8-94251-266 8-94240-676 8-94101-041		
56	G 4ZE1 Trooper	8/1987-	4	2,559	MS-1627GP 8-94446-580~2 8-94340-684	TW-1616A 8-94481-907	CB-1627A 8-94440-093~5		
57	D RZ4E-TC D-MAX		4	1,898	*MS-1648A 8-98333-349-0	*TW-1648A 8-98334-690-0	*CB-1648 8-98333-348-0		*PB-1648J 8-98247-334-0

MAZDA

Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G B1 B3 B5 Familia Demio	10/85-3/89	4	1,138	MS-2008A B6Y0-11-SG0	TW-2008A B6Y1-11-SJ0 B6Y0-11-SJ0	CB-1168A B3Y0-11-SE0		
		12/86-3/89	4	1,323					
		12/86-3/89	4	1,498					
2	G B1 B3 B5	3/1989-	4	1,138	MS-2012A B6Y2-11-SG0 B6Y1-11-SG0	TW-2008A B6Y1-11-SJ0 B6Y0-11-SJ0	CB-1168A B3Y0-11-SE0		
		3/1989-	4	1,323					
		3/1989-	4	1,498					
3	G B6 Familia Roadster	9/85-10/86	4	1,597	MS-2008A B6Y0-11-SG0	TW-2008A B6Y1-11-SJ0 B6Y0-11-SJ0	CB-2008A B6Y0-11SE0		*PB- B660-11-213 Applicable to DOHC
4	G B6 Bj Estude Familia BP Roadster	10/1986-	4	1,597	MS-2012A B6Y2-11-SG0 B6Y1-11-SG0	TW-2008A B6Y1-11-SJ0 B6Y0-11-SJ0	CB-2008A B6Y1-11-SE0 B6Y0-11-SE0		
		10/1986-	4	1,290					
		6/1989-	4	1,839					
5	G D5 E1 E3 E5 TC UC Familia	10/1985-	4	1,490	MS-1168A B6Y0-11-SG0 E5B6-23-151 E301-23-151	TW-1168A 8034-11-380	CB-1168A B3Y0-11-SE0 E5B6-23-105 8034-23-105		
		5/80-11/86	4	1,071					
		5/1980-	4	1,296					
		5/1980-	4	1,490					
		1/77-12/85	4	1,272					
		12/76-7/90	4	1,415					
6	G F6 F8 FE Bongo Capella	9/82-3/87	4	1,587	MS-2004A FE30-23-151 F801-23-251		CB-2004A F801-23-105		
		9/82-3/87	4	1,789					
		10/82-1/87	4	1,998					
7	G F2 F6 F8 FE Capella	5/1988-91	4	2,184	MS-2009A FE1H-11-SG0		CB-2004A F801-23-105		
		4/1987-	4	1,587					
		4/1987-	4	1,789					
		4/1987-	4	1,998					
8	G F8 FE Capella	2/1990-	4	1,789	MS-2009A FE1H-11-SG0		CB-2009A FEYA-11-SE0		
		4/1987-	4	1,998					
9	G FP FS Capella MPV		4	1,839	MS-2018A FSY1-11-SGOA	TW-2018A FSY1-11-SJ0	CB-2018A FSY1-11-SE0		
			4	1,991					
10	G G6 Proceed		4	2,605	MS-2011A G601-11-SG0		CB-2009A FEYA-11-SE0		BB-2011A G601-10-701 G601-10-721 G601-10-731
11	D HA Titan	5/77-9/80	4	2,977	MS-1153A SL01-23-110 SE01-23-110 1363-23-110	TW-1153A SL01-23-115	CB-1153A SE45-11-SE0 1363-23-105		PB-1075J 0636-11-213

MAZDA

Group No.		Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
12	D	HA Titan	10/80-3/89	4	2,977	MS-1153A SE01-23-110	TW-1153A SL01-23-115	CB-1153A SE45-11-SE0		PB-2005J SE01-11-213
13	G	JE Luce V6 Sentia	7/1987-	V6	2,954	MS-2010GP JFY1-11-SG0 JEY8-11-SG0	TW-2010GP JFY1-11-SJ0	CB-2010A JFY1-11-SE0		
14	G	JF MPV	7/86-9/91	V6	1,997	MS-2010GP JFY1-11-SG0 JEY8-11-SG0	TW-2010GP JFY1-11-SJ0	*CB-2001A JFY1-11-SE0		
15	G	KJ KL Millenia Capella Wagon		V6 V6	2,254 2,496	MS-2017GP KJY1-11-SGOA	TW-2010GP -Same as Group No.15-	CB-2017GP KJY1-11-SE0		
16	G	L3 Atenza		4	2,260	MS-2020A LFY1-11-SGO LFY1-11-SJ0		CB-2020A L3Y1-11-SE0		
17	G	LF Atenza Axcela		4	1,998	MS-2020A LFY1-11-SGO LFY1-11-SJ0		*CB- LFY1-11-SE0		
18	G	MA Luce Capella	3/77-4/89	4	1,970	MS-1114A 0305-23-151	TW-1061A 0305-23-201	CB-1086A 3975-23-105 0290-23-105	SH-1061A 0305-23-250 0221-23-150	PB-1114J 0107-11-212
19	G	NA Familia Bongo	5/70-11/83	4	1,586	MS-1114A 0305-23-151	TW-1061A 0305-23-201	CB-1141A 0222-23-105 (CB-1114GP)	SH-1061A 0305-23-250 0221-23-150	PB-1114J 0107-11-212
20	G	PB Familia Bongo	12/68-6/69	4	987	(MS-1082GP) 0249-23-110	TW- 0259-23-115	CB-1082A 0249-23-105		PB-1082J 0249-11-213
21	G G G	PB TA TB Familia Bongo	1967-7/90 3/1970-73 12/68-7/90	4 4 4	987 1,169 1,169	(MS-1082GP) 0268-23-110 0249-23-110	(TW-1082B) 0249-23-115	CB-1082A 0249-23-105		PB-1082J 0249-11-213
22	G G	PC TC Familia	1/70-2/78 3/70-2/78	4 4	985 1,272	MS-1113GP 0324-23-151	TW-1113K 0324-11-380	CB-1082A 0249-23-105		PB-1082J 0249-11-213
23	D	PN	6/1985-	4	1,720	MS-2013A PN11-11-SG0	TW-2013A PN11-11-SJ0	CB-2013A PN11-11-SE0		PB-2013J PN11-11-213
24	D D	RF R2 Bongo Capella	5/1983- 5/1983-	4 4	1,998 2,184	MS-2007A RFY0-11-SG0 RF01-23-135	TW-2007A RF01-23-115	CB-2004A RF01-23-105		PB-2007J RF01-11-213
25	D D	RF RF-T Bongo Capella	6/1986 12/1988-	4	1,998	MS-2007A RFY0-11-SG0	TW-2007A RF01-23-115	CB-2007A RFY0-11-SE0		PB-2004J RF71-11-213
26	D D	SL SL-T Titan	2-84-3/89 2/84-3/89	4	3,455	MS-1153A SL01-23-110	TW-1153A SL01-23-115	CB-1153A SL01-23-105		PB-2006J SL01-11-213

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
27	D S2 Bongo Cosmo	9/79-4/90	4	2,209	MS-1181GP 1456-23-110	TW-1181A 1456-23-115	CB-1181GP 1456-23-105		PB-1181J S213-11-213 0911-11-213
28	D TF Titan	4/1989- 12/1991-	4	4,021	MS-2014A TF01-11-SG0	TW-2014A TF01-11-SJ0	CB-2014A TF01-11-SE0 TFY1-11-SE0		PB-2014J TF01-11-213
29	G UB Luce Bongo Cosmo	5/70-7/73 4/73-8/86	4	1,490	MS-1114A 0305-23-151	TW-1061A 0305-23-201	CB-1141A 0222-23-105 (CB-1114GP)	SH-1061A 0221-23-150 0305-23-250	PB-1114J 0107-11-212
30	G VA Tian	6/71-12/88	4	1,985	MS-1114A 0552-23-140		CB-1141A GE01-23-105 0552-23-105	(SH-1141B) 0552-23-710A	PB-1141J 0107-11-212
31	G VB Luce Pick up	10/68-10/77	4	1,796	MS-1114A 0305-23-151	TW-1061A 0305-23-201	CB-1086A 3975-23-105 0290-23-105	SH-1061A 0211-23-150 0305-23-250	PB-1114J 0107-11-212
32	D WL WL-T Bongo Bongo Friendee		4	2,499	BMS-2016A WLY1-11-SG0	TW-2016A WLY1-11-SJ0	CB-2016A WLY1-11-SE0 WLYB-11-SE0		PB-2016J WL01-11-213
33	D W9 WE BT-50		4	2,892	MS-2016A WLY1-11-SG0	TW-2016A WLY1-11-SJ0	CB-2021A W9Y2-11-SE0		PB-2021J WE01-11-213A
34	D XA XB XA	1967-9/80 1971-8/77 9/80-4/89	4	2,522	MS-2000GP S501-23-110 S527-23-110 S636-23-110	TW-1075A 0636-23-115	CB-1075GP 0527-23-105 0636-23-105 CB-2015GP (An oil Hole)		PB-1075J 0636-11-213 PB-2000J S501-11-213
35	D YA ZB Titan Boxer	10/69-9/75 3/72-10/80	6	3,783	MS-2002GP V101-23-110 0727-23-110	TW-1075A 0636-23-115	CB-1097GP 0784-23-105		PB-1097J 0636-11-213
36	D ZB Titan	10/80-5/87	6	4,052	MS-2002GP V101-23-110A 4867-23-110	TW-1075A 0636-23-115	CB-2002GP V101-23-105		PB-1097J 0636-11-213
37	G ZY Axela		4	1,498	MS-2019A ZJY1-11-SG0 ZJY1-11-SHO ZJY1-11-SHX ZJY1-11-SJO ZJY1-11-SKO ZJY2-11-SG0 ZJY2-11-SHO ZJY2-11-SHX	TW-2019A ZJY1-11-SJO	CB-2019A ZYY1-11-SE0 ZYY1-11-SFX ZYY1-11-SFO ZYY2-11-SE0 ZYY2-11-SFO ZYY2-11-SFX		
38	G P4AT BD50-T Ford Ranger		4		*MS-2022A U2Y1-11-SG0		*CB-2022A U2Y0-11-SG0		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G G23B	7/78-11/83	2	546	(MS-1800A)		(CB-1800A)		
	G 2G23	3/77-8/82	2	546	MD019871		MD019635		
	G 2G24 Minica	8/82-12/83	2	644	MD019526		MD079650		
2	G G23B	12/83-5/87	2	546	MS-1820A		CB-1800A		
	G 2G25 Minica	1/84-11/88	2	783	MD079646		MD019635 MD079650		
3	G 3G81	1/1987-91	3	548	MS-1824A	TW-1824A	CB-1824A		*BB-
	G 3G82	1/87-11/88	3	796	MD114812	MD115171	MD114816		(F)MD141777
	G 3G83 Minica	1/1990-	3	657	MD1158908		MD1158909		(R)MD141778
4	G G11B	7/77-2/85	4	1,244	MS-1169A		CB-1169A		
	G G12B	2/78-5/88	4	1,410	MD030573		MD030516		
	G G13B	10/83-7/88	4	1,298					
	G G15B	10/83-7/88	4	1,468					
	G 4G11	4/78-12/81	4	1,244					
	G 4G12	3/76-12/81	4	1,410					
	G 4G13 Lancer Mirage	5/86-7/88	4	1,298					
5	G G13B	8/88-91	4	1,298	MS-1818A		CB-1825A		
	G G15B	8/88-92	4	1,439	MD147999		MD143090		
	G 4G13	8/1988-	4	1,298	MD030126				
	G 4G15 Lancer Mirage	8/1988-	4	1,439					
6	G G31B	4/86-6/88	4	1,499	MS-1164A		CB-1085A		BB-1085A
	G G32B	6/1977-	4	1,597	MS-1821A		MD071298		(F)MD008888
	G G33B	7/1977	4	1,439	MD091399		MD040704		(R.L)MD008889
	G G37B	6/1986-	4	1,755	MD071273		MD002843		(R.H)MD008889
	G 4G30	11/69-73	4	1,289	MD040682		MD002813		
	G 4G31	11/69-74	4	1,499	MD002343				for 4G32,G32B
	G 4G32	10/1970-	4	1,597					
	G 4G33	8/1971-	4	1,439					
	G 4G35	2/72-5/77	4	1,686					
	G 4G36	11/75-2/79	4	1,238					
7	G 4G41	10/71-5/79	4	1,378	MS-1024GP	TW-1024B	CB-1025GP	SH-1024B	PB-1024J
	G 4G42 (KE43,44) (KE46) Lancer	10/71-4/79	4	1,187	MD010780	(F)MD010350 (R)MD010351	MD010589 K432134	MD010340	MD010707
8	G G51B	11/77-2/78	4	1,855	MS-1131A		CB-1131A		BB-1131A
	G G52B	11/77-7/78	4	1,995	MD050360		MD026430		MD008288
	G 4G51	6/73-2/78	4	1,855	MD026445		MD024856		MD008289
	G 4G52	8/72-7/78	4	1,995	MD020381		MD050365		
	G 4G53	5/73-7/78	4	2,384					
	G 4G54	11/75-7/78	4	2,555					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
9	G G52B	8/78-9/87	4	1,995	MS-1819A		CB-1131A		
	G G54B	8/78-9/87	4	2,555	MD026815		MD026430		
	G 4G52	8/1978-	4	1,995	MD026440		MD024856		
	G 4G53	7/1978-83	4	2,384	(MS-1178A)		MD050365		
	G 4G54	8/1978-	4	2,555					
10	G G62B	5/79-2/88	4	1,795	MS-1821A		CB-1085A		BB-1164A
	G G63B	2/80-7/90	4	1,997	MD091399		MD071298		
	G G64B	10/86-8/89	4	2,350	MD071273		MD040704		
	G 4G62	1978-2/88	4	1,795	MD040682		MD002843		BB-1811A
	G 4G63	4/80-7/90	4	1,997	MD002343		MD002813		
	G 4G64	10/1986-	4	2,350			MD129423		
11	G 4G63	2/1992-	4	1,997	MS-1827A		CB-1827A		
	G 4G63		4	1,997	MD327494~7		MD327503~5		
	G 4G64	1997-	4	2,350	#3 MD327498~502		MD178648~50		
	G 4G69		4	2,378	MS-1834A MD326349	TW-1834A MD351820	MD195936~41		
12	G 6G71 Diamante Galant Debonair	7/1986-	V6	1,998	MS-1822A MD124496 MD105269	TW-1822A MD128659 MD116890	DB-1823A MD124592 MD116868		
13	G 6G72 Diamante Galant Debonair	7/86-7/92	V6	2,972	MS-1822A MD124496 MD105269	TW-1822A MD128659 MD116890	CB-1822A MD105277		
14	G 6G74 Pajero Debonair		V6	3,496	MS-1842GP MD197907~911	TW-1842A MD197988	CB-1842GP MD311928~932		
15	G 4G91	8/1991-	4	1,496	MS-1828A	TW-1828A	CB-1828A		
	G 4G93 Mirage Galant	5/1991-	4	1,834	MD174857	MD174862	MD174884		
16	G 4G92	8/1991-	4	1,755	MS-1828A	TW-1828A	CB-1829GP		
	G 4G93-T Mirage RVR X	8/1991-	4	1,834	MD174857	MD174862	MD177046		
17	G 4G92 Mirage	8/1991-	4	1,755	MS-1829GP MD194178	TW-1828A MD174862	CB-1829GP MD194201		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
18	D 4D55 4D55-T 4D56 4D56-T	2/80-3/86 2/80-3/86 4/1986- 4/1986	4 4 4 4	CC 2,346 2,346 2,476 2,476	MS-1131A		CB-1131A MD026430 MD024856 1115A111 MD153622 MD050365		PB-1802J MD050009 BB-1131A MD008288 MD008289 MD021118
					MD310665~69				
					MD310655~59(F) MD973121 MD050360 MD026445				
					MS-1845A 1052A448 1052A468~72 MD310665~69	TW-1845A MD374820 1052A483			
	D 4D56-T (105kw) Triton L200	2005-	4	2,476	MS-1845A 1052A448 1052A468~72 MD310665~69	TW-1845A MD374820 1052A483	CB-1845A 1115A117		
	D 4D56-T (131kw) Triton L200	2005-	4	2,476	MS-1802GP 1052A448 1052A468~72 MD310665~69		CB-1802GP 1115A294		
19	D 4D65 4D65-T Galant Mirage	10/83-9/91	4	1,795	MS-1821A		CB-1085A MD071298		
		3/83-9/91	4	1,795	MD091399 MD071273 (MS-1164A)				
20	D 4D68		4	1,998	*MS-1844GP MD195926~30 MD195934~5 MD338888 MD343336		*CB-1844GP MD327315 MD338480		
21	D 4M40	1982-	4	2,835	MS-1832GP	TW-1832A	CB-1832GP		PB-1832J ME201016
	D 4M41				ME200022	ME200280	ME200046		
	D 4M42-T				ME200665 ME201562	ME200281 1052A499	ME200043 CB-1847GP (for 4M42-T) ME994003		
22	G 6A12 FTO Perdana Waja	10/1994-	V6	1,998	MS-1846A MD189832	TW-1846A MD189837	CB-1846GP MD312142		
23	G 4B10 4B11 4B12		4	1,798	*MS-1849A		*CB-1849A 1115A564~566		
			4	1998	1052B338~341				
			4	2359	1052B342~348				
24	G 4G94		4				CB-1852A 1115A102~104		
25	G 4N13 4N14 4N15		4	1,798	*MS-1850A	*TW-1850A	*CB-1850A		
			4	2,268	1052B367	1052B392	1115A575		
			4	2,442	1052B370		1115A582		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D S2E	1977-91	2	1,310	MR-1826GP 34409-00100 (1Pr/Box) S2E X 3 S3E X 4 S4E X 5 S6E X 7	TW-1826J 34409-08100	CR-1826GP 34419-02100 (2Prs/Box) S2E X 1 S3E X 1.5 S4E X 2 S6E X 3	*SH- (for S2E) *SH- (for S3E) *SH- (for S4E) *SH- (for S6E)	PB-1078J 31619-00700 (for S4E) PB-1115J 31619-00700 (for S6E)
	D S3E	1978-91	3	1,960					
	D S4E	1976-	4	2,610					
	D S6E (MITSUBISHI HEAVY INDUSTRIES)	1980-	6	3,910					
2	D S4K-T		4	4,250	MR-1833GP 34309-09050 (1Pr/Box) S4K X 5 S6K X 7	TW-1833A 34309-00800	CR-1833GP 34219-00500 (1Pr/Box) S4K X 4 S6K X 6	SH-1833K (S6K-T) 34307-12700 34307-02801 34307-00600	PR-1833J 34319-10500 (2Pcs/Box) S4K X 2 S6K X 3
	D S6K-T (MITSUBISHI HEAVY INDUSTRIES)		6	6380					
3	D S4S		4	3,331	MR-1843A 32A09-00010 (S4S) 32B09-00010 (S6S) (1Pr/Box) S4S X 5 S6S X 7	TW-1843J 32B09-08101	CR-1843A 32A19-09010 (S4S) 32B19-09010 (S6S) (2Prs/Box) S4S X 2 S6S X 3		
	D S6S (MITSUBISHI HEAVY INDUSTRIES)		6	4,996					
4	D 4D30	11/78-8/82	4	3,298	(MS-1160GP) ME999089 ME011530 MS-1807GP ME999384 MS-1807K ME013644 ME013560 (9/1989-)	TW-1055K ME020328 ME013564 TW-1055K ME020328 ME013564 (9/82-9/89) TW-1807K ME013644 ME013560 (9/1989-)	CB-1807GP ME012205 ME012210 ME999106 ME012227 (CB-1160GP) CB-1807GP ME999250 ME999654 (9/1982-)	SH-1160K (No.1)ME029225 (No.2)ME029027 (No.3)ME029028/432 SH-1807K (No.1)ME029225 (No.2)ME011593 (No.3)ME011594	PB-1807J ME012203 (PB-1160J) PB-1807J ME012257 ME012249 PB-1809J ME012234 (11/1983-)
	D 4D30	9/1982-	4	3,298					
	D 4D31	10/82-8/91	4	3,298					
	D 4D31-T	10/82-9/89	4	3,567					
	D 4D32	9/1989-	4	3,567					
	D 4D33	9/1989-	4	4,214					
5	D 4D33		4	4,214	MS-1807GP ME999384	TW-1807K ME013560	CB-1836GP ME995148~52		PB-1807J PB-1809J PB-1830J -Same as Group No.4,6
	D 4D35		4	4,561					
	D 4D36		4	3,567					
6	D 4D34	8/91-8/91	4	3,907	MS-1807GP ME999384	TW-1807K ME013644 ME013560	CB-1830GP ME997261	SH-1830K (No.1)ME013116 (No.2)ME011593 (No.3)ME011594	PB-1830J ME013075
	D 4D34-T	8/1991-	4	3,907					
7	D 4D34		4	3,907	MS-1807GP ME999384	TW-1807K ME013560	CB-1835GP ME995153~57	SH-1835K (No.1)ME013116 (No.2)ME017268 (No.3)ME011593 (No.4)ME017144 (No.5)ME011594	PB-1830J -Same as Group No.6

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
8	D 6D10	3/74-11/79	6	5,974	MS-1145GP	TW-1145K	CB-1820GP	(SH-1145B)	PB-1145J
	D 6D11	7/74-11/79	6	6,754	ME999199	ME031059	ME032518	(NO.1)ME031042	ME033943
	D 6D14	2/1974-	6	6,557	ME999296		ME032417	(NO.2)ME031043	ME032015
	D 6D14-T	4/1976-	6	6,557	ME031634		ME032332	(NO.3)ME031044	ME032014
	D 6D15	9/79-10/88	6	6,919	ME031525		ME032016	(NO.4)ME031096	
	D 6D16	6/1992-	6	7,545	ME031345		ME997732		
	D 6D16-T	5/1985-	6	7,545	ME031078	TW-1820K	ME997367	SH-1820K	PB-1814J
	D 6D17	5/1991-	6	8,201		ME071163 (10/1987-)	ME997362 ME999892 ME999891 ME999550 ME997737 (CB-1145GP)	(NO.1)ME071141 (NO.2)ME071142 (NO.3)ME071143 (NO.4)ME071862 (10/87-5/92)	ME072126 ME035381 ME035380 PB-1820J ME072128
9	D 6D16		6	7,545	MS-1838GP	TW-1838J	CB-1820GP	SH-1820K	PB-1820J
	D 6D16-T		6	7,545	ME995344~48	ME130226	-Same as Group No.8	-Same as Group No.8	ME072128
	D 6D17		6	8,201	ME993942	ME130230~2	CB-1838GP ME995564 ME993951		PB-1838J ME132712
10	D 6D20	1/75-1/82	6	10,308	MS-1162GP	TW-1072J	CB-1803GP	SH-1162K	PB-1162J
	D 6D20-T	10/76-1/80	6	10,308	ME052053	31109-07109	(CB-1162GP)	(NO.1)ME051185	ME052159
	D 6D21	9/77-12/83	6	10,308	30909-00010		ME052488	(NO.2)ME051186	ME052158
	D 6D22	8/1979-	6	11,149			ME052069	(NO.3)ME051187	ME052660
	D 6D22-T	8/1979-	6	11,149			30919-02101	(NO.4)ME051188	ME052603
	D 6D23	7/83-7/86	6	11,149			30919-02102	(NO.5)ME051189 (NO.6)ME051190 (NO.7)ME051191	30319-00600 30319-00690
						TW-1147J 31209-78101		SH-1803K (NO.1)ME051187 (NO.2)ME051188 (NO.3.4)ME051189 (NO.5.6)ME051190 (NO.7)ME051191	
11	D 6D24		6	11,945	MS-1839GP ME350864~68	TW-1147J 31209-78101	CB-1839GP ME181337	SH-1839K ME051672/3/ 4/5/6/7/8	PB-1839J ME151450
12	D 6D31	10/85-	6	4,948	MS-1808GP	TW-1055K	CB-1808GP	SH-1808K	PB-1808J
	D 6D31-T				ME999711	ME020328 (10/85-1/90) ME013564	ME999726	(NO.1)ME029225 (NO.2)ME011593 (NO.3)ME011594 (NO.4)ME081526	ME012257 PB-1810J ME012234
							SH-1810K (NO.1)ME013116 (NO.2)ME011593 (NO.3)ME011594 (NO.4)ME081526		
13	D 6D34-T		6	5,861	MS-1808GP ME999711	TW-1807K ME013560 ME013644	CB-1837GP ME995175 ME996370	SH-1837K ME013116 ME011593 ME011594 ME081716	PB-1808J ME021257 PB-1837J ME013075

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
14	D 6D40		6	12,030	*MS-1851GP ME121080~4	TW-1804GP 31209-33100	CB-1803GP ME120101~5 ME121362~6	*SH-1851K ME120007/9/11/13 ME120015/17/19	*PB-1851J ME120556
15	D 6DB1	1965-85	6	8,550	MS-1036GP 30009-39004 30009-39002 (F.C)30009-31002 (I)30009-22002 (R)30009-26004	(TW-1036BC) 30009-18104 30009-18103	CB-1037GP 30019-12102 ME999056	(SH-1036B) (NO.1)30007-33100 (NO.2)30007-33200 (NO.3)30007-33300 (NO.4)30007-13403	PB-1037J 30019-20601
16	D 6DC2	1967-79	V6	9,955	MR-1147GP (1Pt/Box X 4) 31109-40020 31109-00000	TW-1072J 31109-07109 31109-07101	CR-1073GP (1Pt/Box X 6) 31119-51000 31119-50000	*SH- (NO.1)31207-13100 (NO.2)31207-43300 (NO.3)31207-03400 (NO.4)31207-13500	*PR- (2Pcs/Box X 6) 31219-05501 31219-05500 *PR- (2Pcs/Box X 3) 31219-02200 for connrod (31219-04011)
17	D 8DC2 D 8DC2-T D 8DC4 D 8DC6 D 8DC7 D 8DC8	1967-10/76 1969-10/76 1/74-10/76 1971-10/76 1/75-10/76 1973-10/76	V8	13,273 13,273 13,273 14,886 13,804 14,886	MR-1147GP (1Pr/Box X 5) 31209-70020 31209-01001 31209-00000	TW-1072J 31109-07109 31109-07101	CR-1073GP (1Pr-Box X 8) 31219-51000 31219-50000 31219-00001	*SH- (No.1)31207-13100 (No.2)31207-13200 (No.3)31207-43300 (No.4)31207-03400 (No.5)31207-13500 (No.1)31207-13100 (No.2)31207-03200 (No.3)31207-03300 (No.4)31207-03400 (No.5)31207-13500	*PR- (2Pcs-Box X 8) 31219-05501 31219-05500 *PR- (2Pcs-Box X 4) 31219-02200 for connrod (31219-04011)
18	D 8DC2 D 8DC2-T D 8DC4 D 8DC6 D 8DC7	11/76-10/79 11/76-10/79 11/76-12/79 11/76-2/82 11/76-10/79	V8	13,273 13,273 13,273 14,886 13,804	MR-1147GP (1Pr/Box X 5) 31209-70020	TW-1147J 31209-78101 TW-1804GP 31209-33100 (8/1979-)	CR-1147GP (2Prs-Box X 4) 31219-71010 31219-32010 ME093763~9	*SH- (No.1)31207-73100 (No.2)31207-13200 (No.3)31207-73300 (No.4)31207-73400 (No.5)31207-13500	PR-1147J (2Pcs/Box X 4) 31219-70600
19	D 8DC9 D 8DC9-T D 8DC10 D 8DC11	10/1979- 10/1979- 9/1984- 11/1984-	V8	16,031 16,031 16,752 17,737	MR-1147GP (1Pr/Box X 5) 31209-70020 ME093879~85	TW-1804GP 31209-33100 (8/1979-)	CB-1804GP 31219-32010 ME093763~9	*SH- (No.1)ME061300 (No.2)31207-13200 (No.3)31207-73300 (No.4)31207-73400 (No.5)31207-13500 (10/79-10/90) SH-1840K ME092006 ME092007 ME092008 ME092009 ME160764	*PR- (2Pcs-Box X 4) ME062310

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing	
20	D	10DC6	7/72-12/82	V10	18,608	MR-1147GP (1Pr/Box X 6) 31909-70020 31909-00000	TW-1072J 31109-07109 31109-07101 TW-1147J 31209-78101	CR-21073GP (1Pr/Box X 10) 31919-51000 31919-50000 CR-1147GP (2Prs-Box X 5) 31919-71010	*PR- (2Pcs-Box X 10) 31219-05501 31219-05500 *PR- (2Pcs-Box X 5) 31219-02200 for connrod (31219-04011) PR-1147J (2Pcs/Box X 5) 31219-70600	
	D	10DC8	10/75-3/80	V10	18,608					
21	D	4DR5	7/70-8/91	4	2,659	MS-1812GP ME997202 ME999080 ME001041 30319-10010 (M1-1115GP X5)	TW-1115K 31309-08101	CB-1812GP ME002019 ME002001 31619-02100 (C1-1115GP X2) CB-1831GP ME999764	SH-1078K (F)31707-20700 (C)31707-13201 (R)31707-13301 (F)31607-03600 /13101 (C)31707-13201 (R)31707-13301	
	D	4DR6-T	10/86-	4	2,659					PB-1078J 31619-00700 31619-00792 PB- ME002153 for 4DR6-T PB- ME002187 (10/89-)
	D	4DR7	10/89-	4	2,835					
22	D	6DR5	7/70-6/86	6	3,988	MS-1813GP ME999081 321409-10010 (M1-1115GP X7)	TW-1115K 31309-08101 31309-08100	CB-1813GP ME002023 31619-02100 (C1-1115GP X3)	SH-1115K (No.1)31307-20700 (No.2)31307-13201 (No.3)31307-13301 (No.4)31407-13401 (No.1)31307-03600 /13101 (No.2)31307-13201 (No.3)31307-13301 (No.4)31407-13401	PB-1115J 31619-00700 31619-00792
23	D	6DS1	1964-7/72	6	4,678	MS-1808GP ME999088 ME029253 ME025265 ME020323 30809-02000 30809-01009 30809-01000 (MS-1170GP)	TW-1055K ME020328 30809-08201	CB-1808GP ME025292 ME020452 ME012210 30819-02100 (CB-1055GP)	SH-1055K (No.1)ME020278 (No.2)ME020280 (No.3)ME020282 (No.4)ME023432 SH- (No.1)ME029225 (No.2)ME029027 (No.3)ME029028 (No.4)ME023432	
	D	6DS3	7/72-77	6	5,103					PB-1055J ME020448
	D	6DS5	4/70-3/76	6	4,978					
	D	6DS7	10/72-7/78	6	5,430					
24	D	4M51		4	5,249	MS-1836GP ME995143~47	*TW-1836J ME242094 ME242095	CB-1836GP ME995148~52	*SH- ME240854 PB-1807J PB-1809J PB-1830J -Same as Group No.4,6	

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
25	D 4M50-T		4	4,899	MS-1836GP ME995143~47	*TW-1836J ME242094 ME242095	CB-1835GP ME995153~57	*SH- ME240854	PB-1830J -Same as Group No.6
26	D 6M61-1 6M61-2 6M61-3		6	8,201	MS-1838GP ME995344~48	TW-1838J ME130226 ME130230~232	CB-1820GP -Same as Group No.8		PB-1814J PB-1820J ME072128
27	D 6M60-T1 6M60-T2 6M60-T3		6	7,545	MS-1838GP ME995344~48	TW-1838J ME130226 ME130230~232	CB-1838GP ME995564 ME993951		PB-1838J ME130950 ME301855
28	D 6M70T1 6M70T2 6M70T3		6	12,882	MS-1839GP ME350864~8	TW-1804GP 31209-33100	CB-1839GP ME181365 ME181337~41		
29	D 8M20 8M21		V8 V8	20,089 21,205	MS-1840GP ME997681~85	TW-1840GP ME160013	CB-1804GP -Same as Group No.17	SH-1840K ME092006/7/8/9 ME160764	

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G A12	1/1970-	4	1,171	MS-1087GP 12207-H1000/1 12207-M7200/1 12207-M5600/1		CB-1045GP 12111-20900 12111-20910 12111-H1010/1 12111-H1001 12111-18000	SH-1019A 13002-H1020 13002-18000	
	G A12A	11/77-9/81	4	1,237					
	G A13	10/75-10/81	4	1,270					
	G A14	9/74-6/82	4	1,397					
	G A15 Sunny	6/1980-	4	1,487					
2	G CA16	10/79-9/91	4	1,598	MS-1217A (MS-1173GP) 12207-01E00 12207-D0200 (F.I.R) 12207-D4200 (C) 12261-D4200 (F.I.R) 12215-D4225 (C) 12247-D4225 (F.I.R) 12207-18V00 (C) 12261-18V00		CB-1173GP 12111-01E00 12111-D0200 12111-16A00 12111-03E00 12111-D0210 12111-D4200/2 *CB- 12111-V5500 12111-19V00/4 for CA18P,CA20P (1985-)	PB-1205J 12030-D4200 for CA16D,CA18D	
	G CA18	6/1981-	4	1,809					
	G CA20	6/1981-	4	1,973					
	Bluebird Stanza Auster Preirie								
3	D CD17	10/1982-	4	1,680	MS-1217A (MS-1173GP) 12207-D0200 (10/82-7/83) MS-1217A (F.I.R) 12207-54A00 (C) 12261-54A00 (7/1983-)		CB-1173GP 12111-16A00 *CB- 12111-D2800 (1988-)	PB-1173J 12030-16A01 (1983-)	
	Sunny Pulsar Langrey								
4	D CD20	5/1990-	4	1,973	MS-1217A (F.I.R) 12207-57J00 (C) 12261-54A00		CB-1217A 12111-22J00/2		PB-1217J 12030-57J00 for CD20
	D CD20-T	6/1991-	4	1,973					
5	G CG10DE		4	997	MS-1224A 12207-41B00 12207-41B10 12207-BC000	TW-1224A 12280-41B01 12280-BC000	CB-1224A 12111-41B00 CB-1235A 12111-AX010 (for CR14DE)		
	G CG13DE		4	1,274					
	G CR10DE		4	997					
	G CR12DE		4	1,240					
	G CR14DE		4	1,386					
6	G E10	3/81-5/88	4	988	MS-1174GP 12207-01M00 12207-17M00		CB-1174GP 12111-11M20/1 12111-11M00 12111-17M00	JB-1174B 13165/6-01M00 Jackshaft Bush	
	G E13	10/81-2/91	4	1,270					
	G E15	3/81-2/91	4	1,487					
	G E15-T	9/82-9/87	4	1,487					
	G E16 Sunny,Pulsar	5/83-8/88	4	1,597					
7	G GA13	1/1990-	4	1,295	MS-1208A 12207-50Y00/4 12207-53Y00/4 12207-77A00/04 12207-77A10/14 12207-4M500 12207-4M50A	TW-1208A 12280-53Y00 12280-77A00	CB-1208A 12111-50Y00/2 12111-53Y00/2 12111-77A00/2 12111-4M500	PB-1208J 12030-53Y00 12030-77A00	
	G GA14	9/1988-	4	1,392					
	G GA15	1/1990-	4	1,467					
	G GA16	1/1990-	4	1,596					
	G QG13DE	10/98-8/02	4	1,295					
	G QG15DE	10/1998-	4	1,497					
	G QG18DE	8/1998-	4	1,769					
8	G H20	7/67-8/82	4	1,982	MS-1042GP 12207-78400 12207-E0702 12207-78200		CB-1002GP 12111-P5100 12111-P5112 12111-P5110 12111-12210	SH-1003A 13002-71204 13002-71200 13002-32200	PB-1002J 12030-32200
	Junior								
	Cab-all								
	Caravan Homy								

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing	
9	G G	HR15DE HR16DE Tiida H4M Qashqal Renault Fluence SM3	9/2004-	4	1,498	MS-1227A 12215-BC20A	TW-1227A 12280-BC20A	CB-1227A 12150-BC20C 12110/1-BC20B		
	4			1,598						
	4			1,598						
10	G G	HR12DE HR12DDR March Micra Note XH5 Renault Pulse		3	1,198	MS-1233A 12207-1HC0B (U)12215-BC20A (L)12223-1HC0B	TW-1227A 12280-BC20A	CB-1233GP 12150-5H70A (U)12110-5H70A (L)12111-BC20B 12150-3HD1B (U)12110-3HD1A (L)12111-BC22B 12110-8W80A		
	3			1,198						
	3			1,198						
11	G G G G G	J J13 J15 J16 J18 Bluebird Truck	1965-69 10/69-11/75 3/70-8/79 8/72-8/85 1980-	4	1,299	(MS-1034GP) 12231-13200 (-1969) MS-1091GP 12231-01W00/10 12231-A3801 12231-B5000	TW-1000B 12280-B5225 12280/81-B3000 12280/81-B5200	CB-1007GP 12111-16700 12111-B3000 12111-09405 CB-1204GP 12111-B5225 For J18	SH-1006A 13002-B5000 13002-13200	
	4			1,299						
	4			1,483						
	4			1,567						
	4									
12	G	KA24 Preasge Largo 240SX	1988-	4	2,388	MS-1209GP 12215/23-40F00 12247/55-40F00		CB-1209GP 12111-40F00 12111-53F00	PB-1209J 12030-40F00101	
13	G	KH1S KH2S KH3S		4		MS-1220A 12207-50K00		CB-1221A 12111-85G00	SH-1003A -Same as Group No.8-	PB-1217J 12030-57J00
14	G G	K21 K25 Forklift		4		MS-1220A 12207-50K00 12231-FY500 12247-50K00		CB-1220A 12111-FY500		
	4									
15	G G G G	L13 L14 L16 L18 Bluebird Violet Stanza	1967-70 9/1970-4/77 4/67-7/89 9/70-12/81	4	1,296	MS-1043GP 12207-W3400 12207-23000/1		CB-1044GP 12111-V0700 12111-V0705 12111-V0715 12111-73400 12111-F5100 12111-21000		
	4			1,428						
	4			1,595						
	4			1,770						
16	G	L20B Truck	1974-4/80	4	1,952	MS-1183GP 12207-U6000/1		CB-1044GP 12111-73400 12111-V0700		
17	D	LD20 Skyline Bluebird Laurel Vanette	4/78-9/83	4	1,952	MS-1183GP 12207-U6000/1		CB-1044GP 12111-73400 12111-V0700	PB-1183J 12030-W3400 (4/78-9/82) PB-1189J 12030-V0700 (9/82-9/83)	

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
18	D LD20 Skyline Bluebird Laurel Vanette	10/1983-	4	1,952	MS-1218GP 12207-05E00 (10/83-8/85) (F.R)12215-G5525 (I) 12231-G5525 (C) 12247-G5525 (8/1985-)		CB-1048GP 12111-73400 12111-V0700		PB-1189J 12030-V0700
19	G L20 G L24 G L26 G L28 Cedric	1966-5/87 10/71-5/87 1/71-6/78 6/1975-	6 6 6 6	1,998 2,393 2,565 2,753	MS-1047GP 12207-73400		CB-1048GP 12111-73400 12111-V0700 12111-F5100		
20	G L20A Cedric Laurel	6/81-5/87	6	1,998	MS-1047GP 12207-73400		CB-1177GP 12111-D0200		
21	D LD28 Skyline Cedric	10/79-10/86	6	2,792	MS-1047GP 12207-73400		CB-1048GP 12111-73400 12111-V0700 12111-F5100		PB-1047J 12030-V0700 PB-1048J 12030-W3400
22	G MA09 G MA10 March	8/88-1/92 9/1982-	4 4	930 987	MS-1202A 12215/23-21B00 12215/16-01B10	TW-1202A 12280-01B00/1	CB-1202A 12111-17B00 12111-01B00/11		
23	G MR16DDT Qashqai Tiida G MR190DDT M5M RenaultLutecia ClioSport		4 4 4	1,618 1,618 1,618	MS-1234A 12207-1KC0A 12215/23-1KC0A	TW-1228A 12280-CK825 (12280-CK800)	CB-1234GP 12150-1KC0A 12110-1KC0A 12111-CK800		
24	G MR18DE G MR20DE Tiida G M4R Renault Megane Renault Raguna SM5		4 4 4	1,797 1,997 1,997	MS-1228A 12215-CK800	TW-1228A 12280-CK825	CB-1228A 12150-CK80A		
25	G NA20S NA20P NA16S	9/89-6/99 6/91- 9/89-8/95	4 4	1,998 1,627	MS-1221A (F.I.R)12207-85G00 (C)12261-85G00 MS-1225A (FOR NA16) 12261-84G00 12207-85G00		CB-1221A 12111-85G00		
26	G P40 PF40 Patrol	9/79-10/87 6/80-12/88	6 6	3,956 3,956	MS-1172GP 12207-L6200/1 12207-L6000/2		CB-1001GP 12111-58010 13002-58000	SH-1002A 13002-C6005 13002-58000	
27	G QR20DE QR25DE		4 4	1,998 2,488	MS-1226A 12207-6N210	TW-1226A 12207-6N210	CB-1226GP 12111-6N210 12111-JA00A 12111-JA00C		PB-1226J 12030-6N200

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
28	G	RB20D Cefiro	8/1985-	6	1,998	MS-1203GP (F.I.R)12207-42L10 (C) 12261-42L00 (F.I.R)A2231-42L00 (C) 12261-42L00		CB-1215GP 12111-58S00/02	PB-1206J 12030-58S00
29	G	RB20 RB24 Cefiro Crew	10/1984-	6	1,998	MS-1203GP (F.I.R)12207-42L10 (C) 12261-42L00 (F.I.R)12207-AA100 (C) 12261-AA100		CB-1203GP 12111-42L00/02 12111-19V00/02	PB-1203J 12030-53Y00 12030-77A00
	G		5/89-8/91	6	2,429				
30	G	RB25 Skyline Laurel Stagea	8/1991-	6	2,498	MS-1203GP (F.I.R)12207-42L10 (C) 12261-42L00		CB-1216GP 12111-05U00/02	PB-1206J 12030-58S00
31	G	RB26DETT Skyline	8/1989-	6	2,568	MS-1216GP (F.I.R)12207-05U00 (C) 12261-12U00		CB-1216GP 12111-05U00/02	PB-1206J 12030-58S00
32	G	RB30S Patrol	8/85-8/88	6	2,962	MS-1203GP (F.I.R)12207-42L10 (C) 12261-42L10		CB-1206GP 12111-67S00/02	PB-1206J 12030-58S00
33	D	RD28	6/1983-	6	2,825	MS-1207A (F.I.R)12207-V7200 (C) 12209-V7200 (F.I.R)12207-V7200 (C) 12261-42L00 (C) 12261-42L08		CB-1207A 12111-V7200/02	PB-1207J 12030-V7200 PB-1221J (FOR RD28-T) 12030-22J01
		RD28-T Laurel Safari							
34	G	SR18 SR20		4	1,838	MS-1213GP 12207-60J00	TW-1213GP 12280-60J00	CB-1213GP 12111-60J00 12111-1N500	PB-1213J 12030-60J02
	G			4	1,998				
35	G	TB42E TB45E	10/1987-	6	4,169	MS-1199A 12207-03J00/10 12207-VB000		CB-1199A 12111-03J00/10	SH-1199A 13002-03J00
	G			6	4,478				
	G	TB48DE		6	4,758	MS-1230A (for TB48DE) 12207-VC210			PB-1199J 12030-03J00
36	G	VG20 Cedric Gloria	6/83-10/86	V6	1,998	(MS-1200GP) (F) 12215-V5325 (I) 12231-V5325 (R) 12247/55-V5300		(CB-1200GP) 12111-F6300 12111-V5001	

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
37	G VG20 Cedric Gloria	10/86-	V6	1,998 CC	MS-1211GP (F) 12215-02P25 (I) 12231-02P25 (R) 12261-02P00 (F) 12214-40V00 (I) 12230-40V00 (R) 12261-40V00 (F) 12214-40V10 (I) 12230-40V10 (R) 12261-40V10 (MS-1201GP)		CB- 12111-10V03 CB-1200GP 12111-F6300		PB-1200J 12030-D4200
38	G VG20D Cedric Gloria	6/87-6/91	V6	1,998	MS-1211GP (F) 12207-F6500 (I) 12207-F6510 (R) 12263-F6500		CB- 12111-16V00/02		PB-1206J 12030-58S00
39	G VG30 Fairlady Z Cedric	6/83-4/87	V6	2,960	MS-1211GP (F) 12215-02P25 (I) 12231-02P25 (R) 12247/55-02P00 (MS-1201GP)		CB-1210A 12111-V5211 (CB-1201GP)		
40	G VG30 Fairlady Z Cedric	4/1987-	V6	2,960	MS-1211GP (F) 12214-02P00 (I) 12230-02P00 (R) 12261-02P00 (F) 12215-02P25 (I) 12231-02P25 (R) 12261-02P00 (F) 12214-40V00 (I) 12230-40V00 (R) 12261-40V00 (F) 12214-40V10 (I) 12230-40V10 (R) 12261-40V10 (MS-1201GP)		CB-1210A 12111-02P00 12111-40V10		PB-1210J 12030-21V00
41	G VG30D Fairlady Z Cedric	2/1986	V6	2,960	MS-1211GP (F) 12207-F6500 (I) 12207-F6510 (R) 12263-F6500 (F) 12207-30P00 (I) 12207-30P10/20 (R) 12263-30P00		CB-1211GP 12111-31P00/03		PB-1211J 12030-30P00 12230-F6510
42	G VH41 VH45 Cima President InfinitiQ41-45	8/1991- 10/1989-	V8 V8	4,130 4,494	MS-1214GP (F,R) 12207-60U00 (I) 12207-60U10 (C) 12263-60U00 MS-1231GP 12215-60U00 12223-60U00	TW-1214A 12280/81-60U00	CB-1214GP 12111-60U00-02		PB-1214J 12030-60U00/1

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing	
43	G VK45DD	2001-	V8	4,494	MS-1231GP 12207-AR010	TW-1214A 12280-81-7S000	CB-1231GP 12111-7S010		PB-1231J 12030-7S000	
	G VK45DE	8/2003-	V8	4,494						
	G VK50VE	2008-	V8	5,026						
	G VK56DE		V8	5,552						
	Armada M45,M56 QX56 Titan									
44	G VQ20DE		V6	1,995	MS-1219GP 12207-31U00	TW-1219A 12280/1-31U00 12280/1-31U10	CB-1219GP 12111-31U10 CB-1222GP 12111-4P110 CB-1223GP 12111-4W000 12111-JA10C		PB-1219J 12030-31U01	
	G VQ23DE		V6	2,349						
	G VQ25DD		V6	2,495						
	G VQ25DE		V6	2,495						
	G VQ25DET		V6	2,495						
	G VQ30DD		V6	2,987						
	G VQ30DE		V6	2,987						
	G VQ30DET		V6	2,987						
	G VQ35DE		V6	3,498						
45	G VQ40DE		V6	3,954	MS-1232GP 12207-EA200	TW-1232A 12280-EA20A 12280-EA200	CB-1232GP 12111-EA200		PB-1219J 12030-31U01	
	Frontier Pathfinder Suzuki Equator									
46	D YD22	6/99-5/04	4	2,148	MS-1229A 12207-ES60A 12207-AD200	TW-1229A 12280-AD200 12280-AD201	CB-1229A 12111-ES60A		PB-1229J 12030-AD200	
	D YD25	6/98-12/01	4	2,488						
47	G Z16	9/1997-	4	1,595	MS-1043GP 12207-W3400 12207-23001 12207-23000 12207-21000		CB-1044GP 12111-V0705 12111-V0715 12111-V0700 12111-73400 12111-F5100			
	G Z18	9/1977-	4	1,770						
		Bluebird Stanza Laurel Skyline								
48	G Z20	11/1975	4	1,952	MS-1183GP 12207-U6000/1		CB-1044GP 12111-V0700 12111-V0705 12111-V0715 12111-73400			
	G Z22	8/1982-	4	2,187						
	G Z24	8/1983-	4	2,389						
49	D R9M		4		*MS-1236A 12 20 758 70R	*TW-1236A 12 28 074 81R	*CB-1236A 12 15 078 12R			

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D BD30	5/89-10/91	4	2,953	CC MS-2817A (MS-1190GP) 12207-54T10	TW-1028A 12280-37525/27	CB-1194A (U)12111-54T10 (L)12111-43G01	SH-1190A 13002-43G05 13002-54T00	PB-1194J 12030-31N00
2	D ED30	2/69-8/82	4	2,956	MS-1180GP 12207-J2000 (MS-1122GP)	TW-1122J 12280-J2025/27	CB-1122GP 12117-J2000	SH-1122A 13002-J2000	PB-1122J 12030-J2000
3	D ED33	2/78-11/86	4	3,298	MS-1180GP 12207-J6500/10	TW-1122J 12280-J2025/27	CB-2801GP 12117-Z5500/10 12117-Z5000 (CB-1180GP)	SH-1122A 13002-J2000	PB-1180J 12030-Z5000
	D ED33-T	12/81-11/86	4	3,298					
	D FD33	1/83-11/86	4	3,298					
	D FD33-T	6/84-11/86	4	3,298					
4	D ED33	11/1986-	4	3,298	MS-1180GP 12207-J6500/10	TW-1122J 12280-J2025/27	CB-2801GP 12111-01T00/10 (CB-1180GP)	SH-1135A 13003-Z5025	PB-1180J 12030-Z5000
	D ED35	6/1990	4	3,465					
	D FD33	11/86-5/88	4	3,298					
	D FD33-T	11/1986-	4	3,298					
	D FD35	11/1986-	4	3,465					
	D FD35-T	11/1986-	4	3,465					
5	D ED6	9/74-4/83	6	5,654	MS-1135GP 12207-Z5325 12207-Z5225 12207-Z5125 12207-Z5025 12207-Z5510 12207-Z5500 12207-Z5000 12215-Z5025	TW-1122J 12280-J2025/27 12280-Z5025/27	CB-2802GP 12117-Z5510 12117-Z5500	SH-1135A 13003-Z5025 (#1.2)13003/4-J2000 (#3.4)13005/6-Z5000	PB-1135J 12030-Z5000
	D FD6	5/1973-	6	5,654					
	D FD6-T	5/1973-	6	5,654					
6	D FE6		6	6,925	MS-2800GP 12213-Z5500 12213-Z5505 12213-Z5564~68	TW-2800J 12280-Z5225/27 12280-Z5125/27	(CB-2800GP) 12117-Z5560/1 CB-2809GP 12117-Z5600	SH-1135A -Same as Group No.5- SH-2800K 13003-Z5028 (#1,2,3)13003/4/5-Z5502 (#4)13006-Z5503	PB-1083J 12030-95000
	D FE6-T		6	6,925					
7	D FD42		4	4,214	MS-2804GP 12207-0T003	TW-2800J -Same as Group No.6-	CB-2804GP 12110-0T003	SH-2804A 13005/8-0T000	PB-2804J 12030-0T001
	D FD46		4	4,617					
	D FD46-T		4	4,617					
	D FD46-TA								
8	D GE13T Big Thumb Quon		6	13,074	MS-2814GP 12215-00Z00 12223-00Z00	TW-2814K 12280/90-00Z08 12280-97436	CB-2814GP 12117-00Z60	SH-2814K 13003/4/5/6-00Z01 13007/8/9-00Z01	PB-2814J 12030-00Z00
9	D MD92		6	9,203	MS-2820GP 12215/21-Z6001	*TW-2820K 12280-Z6026 12280/90-Z6003	CB-2820GP 12117-Z6001	*SH-2816K 13003-Z6001 13004~8-Z6002	*PB-2820J 12030-Z6001
	D MD92T		6	9,203					
	D MD92		6	9,203	MS-2816GP 12215/21-Z6013 12213-Z6013	TW-2816K 12280-Z6128	CB-2816GP 12117-Z6013	13009-Z6001	PB-2816J 12030-Z6002
	D MD92T		6	9,203					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
10	D ND6	7/1970-	6	6,842	MS-1193GP 12213-95025 12212-95000 (F.I.R)12213/27-95012 (C) 12214-95012 (F.I.R)12213/27-95006 (C) 12214-95006 (F.I.R)12213/27-95000 (C) 12214-95000 (F.I.R)12215-95025/26 (C) 12222-95026 (MS-1083GP)	TW-1083K 12280-95025/27	CB-1083GP 12117-95007 12117-95001	SH-1083K 13003-95026 13003-95025 (No.1)13303-95000/1 (No.2)13304-95000/1 (No.3)13305-95000/1 (No.4)13006-95000/1 (No.5)13007-95000/1 (No.6)13008-95000/1 (No.3)13009-95000/1	PB-1083J 12030-95000
	D ND6-T	10/71-4/86	6	6,842					
	D NE6	12/1985-	6	7,412					
	D NE6-T	12/1985-	6	7,412					
11	D NF6-T		6	9,160	MS-2815GP 12213-95500 12214-95500 12227-95500	TW-2803K 12280/90-96015	CB-2815GP 12117-95501	SH-1083K 13003/9-95001 SH-2815K 13003/9-95501	PB-2815J 12030-95501
12	D PD6	1969-	6	10,308	MS-1084GP 12212-96000 (F.I.R)12213/27-96000 (C) 12214-96000 (F.I.R)12213/27-96000 (C) 12222-96000 (F.I.R)12215-95025/26 (C) 12214-96000 (F.I.R)12215-96025/26 (C) 12222-96000 (F.I.R)12215/23-96001 (F.I) 12221-96000 (C) 12222-96000	TW-1084K 12280-96025/27 12280-96000/4 12290-96000/4 TW-2803K 12280-96126/25 (TW-1188K)	CB-1084GP 12117-96012 12117-96006 12117-96000	SH-1084K 13003-96025/26 (No.1)13003-96000 (No.2)13004-96000 (No.3)13005-96000 (No.4)13006-96000 (No.5)13007-96000/1 (-12/82) *SH-2806B 13003-96226 (No.1)13003-96017 (No.2)13004-96018 (No.3)13005-96017 (No.4)13006-96018 (No.5)13007-96017	PB-1084J 12030-96000
	D PD6-T	6/1971-	6	10,308					
	D PE6	8/1970-	6	11,670					
	D PE6-T	10/1974-	6	11,670					
	D PD6H	1/1983-	6	10,308					
	D PE6H	3/1973-	6	11,670					
D PE6H-T	7/1984-	6	11,670						
D PP6H	2/1980-6/88	6	11,670						
13	D PF6		6	12,503	MS-2803GP 12213-96526 12213-96025	TW-2803K -Same as Group No.9- TW-2807K 12280-97225 12280-96500 12290-96505	CB-2803GP 12117-96506 CB-2810GP 12117-96576	(SH-2803K) 13003-96127 SH-2807K 13003-97325 (#1,3,5)13003/5/7-96019 (#2,4)13004/6-96060	PB-2803J 12030-96002
	D PF6-T		6	12,503					
14	D PG6		6	13,337	MS-2803GP -Same as Group No.11-	TW-2807K -Same as Group No.11-	CB-2811GP 12117-96608	SH-2808K 13003-97326 (#1,2,3)13003/5/7-96060 (#2,4)13004/6-96061	
	D PG6H		6	13,337					
15	D QD32	9/96-6/07	4	3,153	MS-2817A (MS-1190GP) 12207-43G10	TW-1028A 12280-37525/27	CB-2805A (CB-1190GP) 12111-43G01	SH-1190A 13002-43G00	PB-2805J 12030-2W200
	D QD32Eti	9/96-8/99	4	3,153					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
16	D RD8	8/71-7/83	V8	14,313	MS-1118GP 12212-97185 12212-97525	TW-1118K 12280-97025/27	CB-1118GP 12117-97008 12117-97004 12117-97000	SH-1118K 13003-97128 13003-97025 13003-97029 (#1)13003-97000/2/3 (#2)13004-97000/2/3/5 (#3)13005-97000/2/3/5 (#4)13006-97000/2/3/5 (#5)13007-97000/2/3/5	PB-1118J 12030-97000/1
	D RD8-T								
17	D RD8	7/83-4/85	V8	14,313	MS-1186GP	TW-1118K 12280-97025/27	CB-1118GP 12117-97062 12117-97008	SH-1118K -Same as Group No.11-	PB-1118J 12030-97001/2
	D RD8-T	7/83-4/85	V8	15,115	12212-97228				
	D RE8	5/83-4/85	V8	15,115	12212-97725 12212-97529				
18	D RD8	4/1985-	V8	14,313	MS-1197GP	TW-1118K 12280-97025/27	CB-1118GP 12117-97069 12117-97062 12117-97013 12117-97008	SH-1118K -Same as Group No.11-	PB-1118J 12030-97001/2
	D RD8-T	4/1985-	V8	14,313	12213-97025				
	D RE8	4/1985-	V8	15,115	12213-97104				
	D RF8	4/1985-	V8	16,991	12213-97069				
19	D RF8T		V8		MS-2812GP	TW-2812K 12280/90-97005	CB-2812GP 12117-97075 12117-97101	SH-2812K 13003-97327 13003/4/5/6-97007 13008-97508	PB-2812J 12030-97003 PB-2817J (For RH8) 12030-97005
	D RG8		V8		12213-97160				
	D RH8		V8		12215-97627				
20	D RD10	8/71-7/83	V10	17,892	MS-1119GP	TW-1118K 12280-97025/27	CB-1119GP 12117-97008 12117-97004 12117-97000	SH-1119K 13003-97225 13003-97027 13003-97126 (No.1)13003-97000/2/3 (No.2)13004-97000/2/3/5 (No.3)13005-97000/2/3/5 (NO.4)13006-97000/2/3/5 (NO.5)13007-97000/2/3/5 (NO.6)13007-97000/2/3/5	PB-1119J 12030-97000/1
	D RD10-T	8/71-7/83	V10	17,892	12212-97286 12212-97029 12212-97025				
21	D RD10	7/83-1/86	V10	17,892	MS-1187GP	TW-1118K 12280-97025/27	CB-1119GP 12117-97062 12117-97008	SH-1119K -Same as Group No.14-	PB-1119J 12030-97001/2
	D RD10-T	7/83-1/86	V10	17,892	12212-97826				
	D RE10	7/1983-	V10	18,894	12212-97328 12212-97225 12212-97128				
22	D RD10	1/1986	V10	18,894	MS-1198GP	TW-1118K 12280-97025/27	CB-1119GP 12117-97067 12117-97062 12117-97013 12117-97008	SH-1119K -Same as Group No.14-	PB-1119J 12030-97001/2
	D RD10-T	1/1986	V10	18,894	12213-97026				
	D RE10	1/1986	V10	18,894	12213-97104				
	D RF10	1/1986	V10	21,239	12213-97069				
23	D RH10		V10		MS-2813GP 12213-97160	TW-2812K 12280/90-97005	CB-2813GP 12117-97075	SH-2813K 13003-97328 13003/4/5-97007 13006/7/8-97007	PB-2813J 12030-97005

UD TRUCKS

Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
24	D SD20	1963-8/80	4	1,991	MS-1028GP 12207-37502/6	TW-1028A 12280-37525/27 12281-37502/04 12280-37503/05	CB-1029GP 12117-Y5200/10 12117/37505/4 12117-37503/2	SH-1003A 13002-37500/1	PB-1029J 12030-37500
	D SD22	1963-8/80	4	2,164					
25	D SD20	8/80-6/83	4	1,991	MS-1182GP 12207-V1700/1 12215-V1700	TW-1028A 12280-37525/27	CB-1029GP 12117-Y5200/10 12117-37505/4	SH-1003A 13002-37500/1	PB-1182J 12030-L2000
	D SD22	8/1980-	4	2,164					
	D SD23	8/80-8/87	4	2,289					
	D SD25	11/1981-	4	2,488					
	D SD25-T	6/85-9/88	4	2,488					
26	D SD33	1966-	6	3,246	MS-1058GP 12207-61505/7	TW-1028A 12280-37525/27	CB-1058GP 12117-Y5200/10 12117-37502~7	SH-1004A 13002-61500 (79 -) (SH-1191B) 13002-90010 (79 -)	PB-1058J 12030-37500
	D SD33-T								
27	D TD23	6/1986-	4	2,289	(MS-1190GP) 12207-54T00/10 12207-43G00/10	TW-1028A 12280-37525/27	CB-1192GP 12111-02N00/1	SH-1190A 13002-43G05 13002-54T00	PB1192J 12030-02N00
28	D TD25	8/1986-	4	2,494	(MS-1190GP) 12207-54T00/10 12207-43G00/10 MS-2817A	TW-1028A 12280-37525/27	(CB-1190GP) 12111-43G00/1	SH-1190A 13002-43G05	PB-1109J 12030-43G00 PB-1194J 12030-31N00 for TD27
	D TD27	6/1986-	4	2,663					
	D TD27-T	10/1988-	4	2,663					
29	D TD42	10/1987-	6	4,169	(MS-1195GP) 12207-06J10/11 MS-2818A 12207-WJ10B	TW-1028A 12280-37525/27	(CB-1195GP) 12111-43G00/1 CB-2818A	SH-1195A 13002-06J00/1	PB-1195J 12030-43G00 PB-1196J 12030-31N00
30	D ZD30DD		4	2,953	(MS-2805A) 12207-2W211 MS-2817A 12207-MA70A	TW-2805J 12280-2W210 12280-2W20A	CB-2805A 12111-2W200 12111-2W20A		PB-2805J 12030-2W200 *BB-2817A 12407-2W20B 12407-2W21A
	D ZD30DDTi NV350 CARAVAN ATLAS		4	2,953					

SUBARU (FUJI HEAVY INDUS.)

Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G E23	9/82-2/90	2	544	MS-1126GP		CB-2303GP		
	G E42	3/88-6/89	2	665	38265-2100		48291-5400		
	G EK21	2/73-5/76	2	358	48265-1000		38291-2100		
	G EK22	4/76-7/77	2	490					
	G EK23	4/77-3/90	2	544			(CB-1126GP)		
	G EK23-T	10/83-10/86	2	544					
	G EK42	9/82-6/89	2	665					
	Rex,Samber								
2	G EA63	10/71-9/78	4	1,361	(MS-1124GP)		CB-1124GP		PB-2300J
	G EA64	10/73-9/78	4	1,176	88265-8820		38291-4300		47336-7001
	G EA71	9/75-9/78	4	1,595	88265-8830		38291-6100		
	Leone						38291-7900		
3	G EA63	10/78-9/79	4	1,361	(MS-1184GP)		CB-1124GP		PB-2300J
	G EA64	10/78-9/79	4	1176	88265-8840		38291-4300		47336-7001
	G EA65	10/79-10/89	4	1298	(F.R)81115-8830		38291-7900		
	G EA71	10/1978-	4	1,595	(C) 48536-7010				
	Leone								
4	G EA81	6/79-10/84	4	1,781	MS-2300GP		CB-1124GP		PB-2300J
	G EA81-T	8/82-10/84	4	1,781	48543-7000		38291-7900		47336-7001
	G EA82	6/84-	4	1,781	(F,R)12215-AA000		28291-4300		
	Leone				(C) 48536-7100		12108-AA040		
5	G EA82	6/1984-	4	1,781	MS-2300GP		CB-2300GP		PB-2300J
	G EA82-T	6/84-8/91	4	1,781	48543-7000		12108-AA000		47336-7001
	Leone				(F,R)12215-AA000		12108-AA090		
					(C) 48536-7100				
6	G EF10	11/1983-	3	997	MS-2301GP		CB-2301GP		
	Justy				48265-5500		48291-5600		
	Domingo				48265-5600				
					28265-5400				
7	G EF12	10/1985-	3	1,189	MS-2301GP		CB-2302GP		
	Justy				48265-5500		12108-KA110		
	Domingo						12111-KA001		
							12111-KA000		
8	G ER27	7/87-9/91	6	2,672	MS-2304GP		CB-2304A		PB-2304J
	Arcyone				1211-AA000		12108-AA130		47336-7001
					(F,R)12215-AA000				
					(I) 12212-AA000				
					(C) 48536-7100				
9	G EJ15		4	1,493	MS-2305A		CB-2305A		
	G EJ16		4	1,597	12209-AA040		12108-AA210		
	G EJ18		4	1820			12111-AA330		
	G EJ20		4	1994	MS-2306A				
	G EJ22		4	2,212	12209-AA200		CB-2306GP		
	G EJ25		4	2,457			12108-AA530		
	Legacy					12111-AA570			
	Impreza								
10	G EN07		4	658	MS-2307GP	TW-2307A	CB-2307GP		
	Vivio				12211-KA060	12252-KA000	12108-KA030		
					12215-KA110		12111-KA190		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G F5A Fronte Carry Cervo	5/79-2/90	3	543	MS-2402A 12300-78810 12300-78811 12300-78812	TW-2402A 12300-78830 12351-78100 12341-78101	CB-2402A 12181-78130 12181-78110		PB-2401J 12165-73000
2	G F5A-T Fronte Carry	5/79-9/89	3	543	MS-2402A 12300-78810 12300-78811 12300-78812 12341-78101	TW-2402A 12300-78830 12351-78100	CB-2401A 12181-81050 1281-81051 12181-73000 12181-73001 6pcs/Set		PB-2401J 12165-73000
3	G F6A			657	MS-2406A 12341-60D00 12300-61800-0A0	TW-2403A 12340-82820	CB-2401A 12181-81501-0A0 CB-2406A 12181-81401		
4	G G F8A F10A Jimny Alto	12/79-9/88 8/82-7/91	4 4	797 970	MS-1179A 12300-73810 12300-73811 12300-73812	TW-1179A 12300-73830	CB-1179A 12181-81050 12181-81051 12181-73000 12181-73001 8pcs/set		PB-1179J 12165-73000
5	G F8B (Y64) (SS80) Alto	12/79-7/91	3	796	MS-2401A 12300-78860	TW-1179A 12300-73830	CB-2401A 12181-78400 6pcs/Set		PB-2401J 12165-73000
6	G G10 G10-T Fronte	10/83-7/91 5/1984-9/88	3 3	993 993	MS-2403A 12340-82000 12300-82810	TW-2403A 12340-82820	CB-2403A 12100-82810		
7	G G G G13A G13B G13BA Cultus	8/1984- 8/1984- 8/1988-	4 4 4	1,324 1,298 1,298	MS-2404A 12340-82000 12300-82810	TW-2403A 12300-82820	CB-2404A 12100-82810		
8	G G13B (DOHC) Cultus	8/1984-	4	1,298	MS-2404A 12340-82000	TW-2403A 12300-82820	CB-2404A 12100-86810		
9	G G G G15A G16A G16B Escude Cultus	7/1991- 5/1988- 8/1991-	4 4 4	1,493 1,590 1,590	MS-2405A 12340-60A10	TW-2405A 12300-60820	CB-2405A 12100-60820 12100-60821 12100-60830 12100-60831		
10	G H20A Escude Sidekick Vitara	1995-	V6	1,998	MS-2409A 12340-85FB3	TW-2407A 12300-85830	CB-2407A 12100-85823 12100-85824		
11	G H25A H27A Escude Vitara	1997- 2001-	V6 V6	2,493 2,736	MS-2407A 13240-86FA2	TW-2407A 12300-85830	CB-2407A 12100-85823 12100-85824		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
12	G J18A J20A Escude Vitara	1995- 1997-	4 4	1,839 1,995	MS-2408A 12340-85FB3	TW-2407A 12300-85830	CB-2408A 12100-85823 12100-85824		
13	G K6A	1994-	3	658	MS-2410A 12340-75F00	TW-2403A 12300-60840	CB-2401A 12181-54A50 CB-2410A 12181-84H00		
14	G K10B		3	996	*MS-	TW-2403A			
15	G K12B	2007-	4	1,242	*MS-2412A	TW-2403A			
16	G M13A		4	1,328	*MS-2412A 12340-75FA0-0A0	TW-2405A 12300-60850 12300-78890	*CB-2412A 12100-70870-0A0 12100-70880-0A0	*SH-2412A 12737-69GE1 12738-69GE1	
17	G M15A M16A		4 4	1,490 1,586	*MS-2413A 12340-57K02	TW-2405A 12300-60850 12300-78890	*CB-2413A 12100-69830		
18	G J24B	2006-	4	2,393	*MS-2416A 12301-78820-0A0	TW-2405A 12300-60850 12300-78890	*CB-2416A 12100-78810-0A0		
19	G K10A	1997-2003	4	996	*MS-2411A 12340-75F00	TW-2403A	*CB-2411A 12181-84H00		
20	G R06A R06A-T	2010-	3 3	658 658	*MS-2414A 12300-50810 12300-50830 *MS-2415A 12341-50MA0 12345-50MA0	*TW-2414A 12300-50860	*CB-2414A 12100-50810		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G 1A	8/78-5/79	4	1,452	MS-1400A 11701-15010 11701-15011	TW-1400A 11011-15010/20 11011-01010/11	CB-1400A 13041-15010 13041-15011		
	G 2A	5/82-1/83	4	1,295					
	G 3A	3/79-1/83	4	1,452					
	G 4A	82-83	4	1,587					
2	G 2A	1/83-7/83	4	1,295	MS-1410A 11701-15030	TW-1400A 11011-15010/20 11011-01010/11	CB-1400A 13041-15011		
	G 3A	1/83-7/83	4	1,452					
	G 4A	1/83-7/83	4	1,587					
		Tercel Carina							
3	G 2A	7/83-5/85	4	1,295	MS-1410A 11701-15030 11701-15050 11701-16010	TW-1400A 11011-01010 11011-01020 11011-15010 11011-15020	CB-1410GP 13041-01010 13041-15030/1 13041-16010 13041-16040/1		
	G 3A	10/83-9/90	4	1,452					
	G 4A	10/1983-	4	1,587					
	G	5/1987-	4	1,498					
	G 4A-GZE	5/1987-	4	1,587					
	G 7A	6/1992-	4	1,762					
						CB-1425GP (for4A-GZE) 13041-16070/1		PB-1425J (for4A-GZE) 90999-73111	
4	D 1AD-FTV		4	1,998	MS-1473A 11701-0R010-01 11701-0R010-02 11701-26010-01 11701-26010-02	TW-1473A 11791-26010	CB-1473GP 13041-26020-01 13041-26020-02		
	D 2AD-FTV		4	2,231					
	D 2AD-FHV		4	2,231					
			Auris Corolla RAV4						
5	G 1AZ-FE	2001/8-	4	1,998	MS-1454A 11711-28010 11711-28020 11711-28021	TW-1454A 11791-28020	CB-1454A 13281-28010/11 13281-0H030 13281-0H010	*SH-1454A 11811-28010 11821-28010	*BB-1454A 11911-28011
	G 2AZ-FE	2002/4-	4	2,362					
6	D B	2/72-9/84	4	2,977	MS-1121A 11702-56010		CB-1121A 13041-56010 13202-56010	SH-1401A 11802-56010 11802-56011 (SH-1121B)	PB-1428J 90999-73065 (PB-1121J)
	D 2B	1/77-10/82	4	3,168					
		Dyna Coaster							
7	D B	4/84-4/88	4	2,977	MS-1428A (MS-1417A) 11701-56010	TW-1417A 11011-56010 11011-56020	CB-1121A 13041-56010 13202-56010	SH-1401A 11802-56020 (4/84-6/86) *SH- 11802-56021 (6/86-4/88)	PB-1428J 90999-73065
			Dyna Coaster						
8	D B	4/88-3/89	4	2,977	MS-1428A 11701-56010 11701-56030	TW-1417A 11011-56010 11011-56020	CB-1428A 13041-56020 13041-56030	*SH- 11802-56021 (4/88-8/88) SH-1428A 11802-56030 (8/88-3/89)	PB-1428J 90999-73065
9	D B	3/1989-	4	2,977	MS-1428A 11701-56020	TW-1417A 11011-56010/20	CB-1428A 13041-56030	SH-1428A 11802-56030	
10	D 3B	8/80-9/84	4	3,431	MS-1121A 11702-56010		CB-1401A 13041-58010 13202-58010	SH-1401A 11802-56010 11802-56011	PB-1401J 90999-73088

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
11	D 3B	8/84-8/88	4	3,431	MS-1428A 11701-56010 (MS-1417A)	TW-1417A 11011-56010 11011-56020	CB-1401A 13041-58010 13041-58020	SH-1401A 11802-56011 SH-1417A 11802-56020 (8/84-6/86) *SH- 11802-56021 (6/86-4/88)	PB-1401J 90999-73088
12	D 3B	8/1988-	4	3,431	MS-1428A	TW-1417A	CB-1429A	SH-1428A	PB-1429J
	D 11B	8/1988-	4	2,977	11701-56020	11011-56010	13041-56040	11802-56030	90999-73116
	D 14B	8/1988-	4	3,660		11011-56020			(8/88-3/89)
	D 15B	1/93-7/99	4	4,100					90999-73124
	D 15B-FTE		4	4100	*MS-1476A 11701-58020	*TW- 11011-58010	*CB-1476A 13041-58040	SH-1429A 11802-56031	*PB- 90999-73141
13	D 11B	1/85-6/86	4	2,977	MS-1428A	TW-1417A	CB-1401A	SH-1417A	PB-1417J
	D 13B	9/84-6/86	4	3,431	11701-56010	11011-56010 11011-56020	13041-58010	11802-56020	90999-73099 90999-73122
14	D 11B	6/86-8/88	4	2,977	MS-1428A	TW-1417A	CB-1401A	*SH-	
	D 13B	6/86-8/88	4	3,431	11701-56010	11011-56010/20	13041-58010	11802-56021	
15	D 13B-T	9/84-3/89	4	3,431	MS-1428A 11701-56010 (MS-1429A) 11701-56040 (9/88-3/89)	TW-1417A 11011-56010 11011-56020	CB-1401A 13041-58010 (9/84-4/88) CB-1429A 13041-56040 (4/88-3/89)	SH-1417A 11802-56020 (9/84-6/86) *SH- 11802-56021 (6/86-8/88) SH-1428A 11802-56030 (8/88-3/89)	PB-1401J 90999-73088 *PB- 90999-73100
16	D 13B-T	3/89-1/90	4	3,431	MS-1428A	TW-1417A	CB-1429A	SH-1428A	
	D 14B-T	10/1989-	4	3,660	11701-56020	11011-56010/20	13041-56040	11802-56030	
17	D 1C	1/82-8/85	4	1,839	MS-1408A	TW-1408A	CB-1408A		PB-1408J
	D 1C-T	11/1982-	4	1,839	11701-64030	11011-64010	13041-64010		90999-73101
	D 2C		4	1,974	11701-64010		13041-64030		90999-73091
	D 2C-T		4	1,974			13041-64031		
18	D 1C	8/85-8/90	4	1,839	MS-1421A	TW-1408A	CB-1421A		PB-1421J
	D 2C	8/85-8/90	4	1,974	11701-64050	11011-64010	13041-64050 13041-76018		90999-73102 90999-73138
19	D 1C	8/90-9/91	4	1,839	MS-1448A	TW-1408A	CB-1448A		PB-1421J
	D 2C	8/1987-	4	1,974	11701-64070/71	11011-64010	13041-64070/71		90999-73102
	D 2C-T	8/85-10/91	4	1,974	11701-64040		13041-64041		90999-73138
	D 3C-T	5/1990-	4	2184	11701-27011/12		CB-1453A 13041-64072		
20	D 1CD-FTV	8/2000-	4	1,995	MS-1448A 11701-27020 11701-27021		CB-1460A 13041-27010		
		Avensis Corolla (D-4D)							

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing			
21	D	D	1964-74	6	5,890	MS-1040GP	TW-1040A	CB-1041GP	*SH-	PB-1040J		
	D	2D Truck	1964-	6	6,494	11702-77010 11701-76020 11702-76011	11011-76009 11011-76010	13202-77020 13202-77010 13202-76007	11802-77010 11802-76012 (For 2D'4/77-)	90999-70004/5 (1964-8/76) PB-1041J 90999-73080/81 (8/76-3/77)		
22	D	1DZ Forklift	1990-	4	2,486	MS-1446A 11701-78200/1/2	TW-1436A 11011-17010	CB-1446A 13041-78200/1/2				
23	G	1E	10/1984-	4	999	MS-1415A	TW-1415A	CB-1415A				
	G	2E Starlet Tercel	10/1984-	4	1,295	11701-10010 11701-10011 11701-10012	11011-10010 11011-10011 11011-10020	13041-10020				
	G	4E	1991-	4	1,331							
24	G	3E	5/1985-	4	1,456	MS-1424A 11701-11010	TW-1424A 11011-11020	CB-1424A 13041-11010 13041-11020				
		5E	1991-	4	1,496							
25	G	F Land cruiser	1954-9/73	6	3,878	(MS-1007GP) 11702-60010/12 11702-60020		CB-1123A 13202-60010	SH-1123A 11802-60010			
26	G	F	9/73-9/75	6	3,878	MS-1123A		CB-1123A	SH-1123A			
	G	2F Land cruiser	4/75-11/84	6	4,230	11702-60013 11702-76009		13202-60010/11 13202-76006	11802-61010/11 11802-76009			
27	G	3F Land cruiser	1984-	6	3,995	MS-1413A 11701-61010 11701-76001	TW-1413A 11011-61010 11011-76007	CB-1413A 13041-35020 13041-76006	SH-1123A 11802-61010/11 11802-76009	PB-1413J 90999-73072		
28	G	1FZ-FE Land cruiser	1990-	6	4,476	MS-1438A 11701-66020/21	TW-1438A 11011-66020	CB-1438A 13041-66020		PB-1438J 90999-73135		
29	G	1G Cressida Crown Celica Soarer Mark II	2/82-2/85	6	1,988	MS-1402A 11701-63021 11701-70012 11701-70011 11701-88360 11701-88300	TW-1402A 11011-70010	CB-1402GP 13041-70010 13041-88300		PB-1402J 90999-73070 90999-73060		
	G	1G-E 1G-FF	3/85-88	6	1,988	(F)11071-70010/1/2 (L,R)11701-70020/21 (F)11071-88300 (L,R)11701-88300/60	11011-70010	13041-70010 13041-88300		PB-1402J 90999-73060 90999-73070		
											CB-1420GP 13041-88340 (10/85-7/88)	*PB- 90999-73107 (10/85-7/88)
											CB-1433A 13041-88341 (8/88-)	PB-1433J 90999-73113 (8/1988-)
31	G	1GR-FE FJ Cruiser Fortuner Hilux Tacoma Tundra Sequoia		V6	3,955	MS-1458A 11701-31041(No.1) 11701-31011(No.2) 11701-31050(No.1) 11701-31020(No.2) 11701-0P040(No.1) 11701-0P040(No.2)	*TW- 11011-31040 (~2009/2) TW-1466A 11011-0P020 11011-31070 11011-31071 (2009/3~)	CB-1458A 13041-31041 13041-31042 13041-31090 13041-0P030 13041-0P050 13041-0P070	PB-1458J 90999-73144			

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
32	G 2GR-FE Avalon Camry ES350 RX350 Sienna Lotus Evora		V6	3,456	CC MS-1468A 11701-31061(No.1) 11701-31031(No.2) 11701-0P030(No.1) 11701-0P030(No.2) 11701-0P050(No.1) 11701-0P050(No.2)	TW-1458A 11011-31060 11011-0P030	CB-1468A 13041-31070 13041-0P040 13041-0P080 13041-0P081		PB-1458J 90999-73144
33	G 2GR-FSE (D-4S) Crown CS350 IS350		V6	3,456	*MS-	TW-1458A 11011-31060 11011-0P030	*CB-		PB-1458J 90999-73144
34	G 3GR-FE GS300 IS300 G 3GR-FSE (D-4) GS300 G 4GR-FE Crown IS250 G 5GR-FE Crown(China) Reiz(China)		V6	2,994	*MS-	TW-1458A 11011-31060	*CB-		PB-1458J 90999-73144
			V6	2,994					
			V6	2,499					
			V6	2,497					
35	D H D 2H Dyna Forklift Coaster	2/69-8/80	6	3,576	MS-1427A 11702-47011 11702-47010 11702-47012 11702-76005 (MS-1080GP)	TW-1063B 11011-46020 11011-68010 11011-76006	CB-1403A (CB-1080A) 13202-47011 13202-76004	SH-1063A 11802-46010	PB-1080J 90999-70048 90999-73083 90999-73069
		11/79-4/82	6	3,980				SH-1080A 11802-48010 (7/1972-)	
36	D 2H Dyna Coaster Land cruiser	4/82-10/85	6	3,980	MS-1427A (No.1)11702-68020 (No.2)11702-76010 (MS-1403A)	TW-1063B 11011-46020 11011-68010 11011-76006	(CB-1080A) 13202-47011 13202-76004 (4/82-11/84) CB-1403A 13041-68020 13041-76010 (11/84-10/85)	SH-1403A 11802-68010	PB-1403J 90999-73087
37	D 2H Dyna Coaster Land cruiser	10/85-9/91	6	3,980	MS-1427A (No.1)11702-68020 (No.2)11701-68020 (No.1)11702-76011 (No.2)11702-76006	TW-1427A 11011-68020 11011-76008	CB-1403A 13041-68040 13041-76012	SH-1403A 11802-68011	PB-1403J 90999-73087
38	D 12H-T Coaster Land cruiser	10/85-9/87	6	3,980	MS-1427A (No.1)11702-68020 (No.2)11701-68020	TW-1427A 11011-68020	CB-1403A 13041-68040 (10/85-9/87) B041-68040 CB-1427A 13041-68050 (10/1987-)	SH-1403A 11802-68011	PB-1427J 90999-73108

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing		
39	D D	1HZ 1HD-T Land cruiser	1/1990- 1-1990-	6 6	4,163 4,163	MS-1436A 11701-17010/11	TW-1436A 11011-17010	CB-1436A 13041-17010/11	SH-1436A 11801-17010	PB-1436J 90999-73126 For 1HZ PB-1444J 90999-73127 90999-73127 For 1HD-T	
	D D G	J 2J 5P Dyna Toyoace	1965-6/69 2/69-11/75 7/72-11/75	4 4 4	2,336 2,481 2,771	(MS-1063GP) 11702-46010 11702-48010 11702-76006	TW-1063A 11011-46010/20 11011-76006	CB-1137A (CB-1063A) 13202-46010 13202-48010 13202-76005	SH-1063A 11802-46010 11802-76005 SH-1080A 11802-48010 11802-76006 (7/72-11/75)	PB-1063J 90999-70048 90999-73069 90999-73083	
41	D D G	2J 2J-T 5P	11/75-9/91 5/1982- 11/75-10/85	4 4 4	2,481 2,481 2,771	MS-1137A 11702-48011/12 11702-76007/8	TW-1063A 11011-46010/20 11011-76006	CB-1137A (CB-1063A) 13202-48010 13202-76005	SH-1080A 11802-48010 11802-76006	PB-1063J 90999-73083 19266-21910	
	G G	1JZ-FSE 2JZ-FSE Crown, Soarer Progres		6 6	2,491 2,997	MS-1434A 11701-46010/20 11071-46010/20	TW-1434A 11011-46030	CB-1434GP 13041-46010/1/2/3 13281-46021			
	G G G G	K 2K 3K 4K Corolla	10/66-7/77 4/69-8/82 8/69-8/82 2/78-8/82	4 4 4 4	1,077 993 1,166 1,290	MS-1056GP 11702-22020 11702-22010	TW-1056A 11011-22010 11011-22011	CB-1056GP 13202-13010 13202-22010	SH-1056A 11802-13020 11802-22010	PB-1056J 90999-73070 90999-70063	
44	G G G G G	2K 3K 4K 5K 7K	8/82-9/86 8/82-7/83 8/82-8/90 9/1985	4 4 4 4 4	993 1,166 1,290 1,486 1,781	MS-1416A 11701-13010 11701-13011	TW-1056A 11011-22011 11011-76001	CB-1416A 13041-13040 13041-76001 CB-1447A 13041-17011 13041-16090 For 7K	SH-1056A 11802-22011 11802-13020 11802-76001	PB-1056J 90999-73070	
	D	1KD-FTV	7/2000-	4	2,982	MS-1452A 11701-30020	TW-1452A 11011-30010	CB-1452A 13041-30020		PB-1464J 90999-73143 90999-73156	
		D	2KD-FTV (D-4D)	8/2004-	4	2,494					*PB-1479J (for 2KD) 90999-73157
	46	G	1KZ-TE	5/1993-	4	2,982	MS-1452A 11701-67020/1 11704-67020 11705-67020	TW-1452A 11011-67020 11012-67020 11013-67020	CB-1452A 13041-67030/1 13204-67030 13205-37030		PB-1452J 90999-73136
		G	1KR-FE Passo/Boon Vits Aygo Peugeot 107	6/2004-	3	997	MS-1463A 11701-0Q010	TW-1463A 11791-0Q010 11791-40020	CB-1463A 13041-0Q010		

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
48	D L	10/77-2/82	4	1,762	MS-1161A	TW-1161A	CB-1161A	SH-1161A	PB-1063J
	L	2/82-4/83	4	2,188	11702-54010	11011-54010/20	13202-540 10/11 (10/77-2/82)	11802-54010	90999-73069
	2L	2/82-8/83	4	2,446	11701-54040		CB-1406A 13041-54012 (2/82-8/83)		90999-73083
49	D 2L	8/82-8/83	4	2,446	MS-1161A	TW-1161A	CB-1411A	SH-1161A	PB-1411J
	D 2L-T	8/82-4/83	4	2,446	11701-54040	11011-54010	13041-54040	11802-54010	90999-73094
50	D L	4/82-8/88	4	2,188	MS-1406A	TW-1161A	CB-1406A	SH-1161A	PB-1063J
	D 2L	8/83-7/88	4	2,446	11701-54061 11701-54060	11011-54010	13041-54013 13041-54012	11802-54010	90999-73083
51	D L	8/1988-	4	2,188	MS-1406A	TW-1161A	CB-1406A	SH-1431A	PB-1406J
	D 2L	10/1990-	4	2,446	11701-54061 11701-54060	11011-54010	13041-54024	11802-54020	90999-13114
52	D 2L-T	8/83-8/88	4	2,446	MS-1406A 11701-54060	TW-1161A 11011-54010	CB-1411A 13041-54040 13041-54041	SH-1161A 11802-54010	PB-1411J 90999-73094 90999-73118
53	D 2L-T	8/1988-	4	2,446	MS-1406A	TW-1161A	CB-1411A	SH-1431A	PB-1431J
	D 3L	8/1988-	4	2,779	11701-54061	11011-54020	13041-54041	11802-54020	90999-73115
	D 5L		4	2,985					
54	G M	10/65-11/75	6	1,988	(MS-1051GP)	TW-1006A	CB-1171GP	SH-1068A	PB-1051J
	G 2M	9/69-2/73	6	2,253	11702-45010	11011-45010	13202-45010	11802-41010	90999-73066
	G 3M	5/67-2/71	6	1,998	11702-45011	11011-40010	13202-45011	For M,2M	90999-70057
	G 4M	2/71-11/75	6	2,563	11702-41010	11011-43010	13202-41010	& 4M (-11/75)	
	G 5M	4/78-7/84	6	2,759					DB-1171A 11022-41010
55	G 5M	7/84-8/84	6	2,759	(MS-1051GP)	TW-1006A	CB-1414GP		PB-1051J
	G 6M Soarer Celica	7/83-8/84	6	2,954	11702-45010 11702-45011 11702-41010	11011-45010 11011-40010 11011-43010	13041-42010		90999-73066 DB-1171A 11022-41010
56	G M Cressida	9/87-8/89	6	1,988	MS-1414GP (F) 11071-43010 (L,R)11701-43010	TW-1006A 11011-43010	CB-1171GP 13202-45011		PB-1051J 90999-73066 DB-1171A 11022-41010
57	G 5M	8/84-8/90	6	2,759	MS-1414GP	TW-1006A	CB-1414GP		PB-1051J
	G 6M	8/84-8/87	6	2,954	(F) 11071-43010	11011-43010	13041-42010		90999-73066
	G 7M	1/1986-	6	2,954	(L,R)11701-43010				
58	G 1MZ-FE	1994-	6	2,994	MS-1455A	TW-1455A	CB-1455A		PB-1455J
	G 2MZ-FE	1998-	6	2,496	11701-20020 11701-20020	11011-20020	13041-20010		90999-73119 PB-1458J 90999-73114
59	D 1N	12/1986-	4	1,453	MS-1449A	TW-1056A	CB-1449A		PB-1449J
	D 1N-T	5/1988	4	1,453	11701-55020 11701-55010	11011-22011	13041-55020 13041-55010		90999-73109

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
60	D 1ND-TV Auris IQ Yaris Mini(BMW)	11/2002-	4	1,362	MS-1456A (with locating lug) 11701-21010 11701-22020 11701-21040	TW-1457A 11791-21010 11791-22020 11791-0T030	CB-1456A (with an oil hole) 13041-21020 13041-21021 13041-21030		
61	D 1ND-TV Auris IQ Yaris Mini(BMW)		4	1,362	MS-1461A (no locating lug) 11701-21031	TW-1457A 11791-33030	CB-1461A (no oil hole) 13041-33040 CB-1462A 13041-33041 (10/2003-)		
62	G 1NZ-FE 2NZ-FE Yaris Echo Verso	8/1999- 8/1999-	4 4	1,496 1,298	MS-1456A (with locating lug) 11701-21010 11701-21040	TW-1457A 11791-21010 11791-22020 11791-0T030	CB-1456A (with an oil hole) 13041-21020 13041-21021 13041-21030		
63	G 1NZ-FE 2NZ-FE Corolla Prius Yaris		4 4	1,496 1,298	MS-1461A (no locating lug) 11701-21031	TW-1457A 11791-33030	CB-1461A (no oil hole) 13041-33040		
64	D 1PZ Land cruiser	1/1990-	5	3,469	MS-1439A 11701-17010	TW-1436A 11011-17010	CB-1439A 13041-17010	SH-1436A 11801-17010	PB-1439J 90999-73126
65	G G 3P 4P Hiace Toyoace Forklift	5/67-8/81 9/71-8/88	4 4	1,345 1,493	MS-1062GP 11702-23011 11702-23010 11702-76001	TW-1005B 11011-23010 11011-20010 11011-76002	CB-1062GP 13202-23012 13202-23011 13202-23010 13202-76001	(SH-10621B) 11802-23010 11802-76002	(PB-1062J) 90999-73059 90999-70001
66	G 5R	2/67-10/70 10/70-8/78	4 4	1,994 1,994	(MS-1011GP) 11702-40020 MS-1107GP 11702-44020 11702-76002	TW-1006A 11011-45010	CB-1046A 13202-44010/1/2 13202-76002	SH-1107A 11802-40010 (SH-1013B)	PB-1046J 90999-73044 90999-73064
67	G 5R	8/1978-	4	1,994	MS-1159A 11702-44040 11702-44021 11702-76003/4	TW-1133A 11011-35011 11011-38010 11011-76004/5	CB-1046A 13202-44040 13202-44012 13202-76002/3	SH-1107A 11802-40011 11802-76003	PB-1046J 90999-73064
68	G G 2R 12R Corona Hilux Townace	10/68-11/75 10/68-9/88	4 4	1,490 1,587	MS-1060A 11702-31020 11702-31011	TW-1007A 11011-31030 11011-31020 11011-31011	CB-1035A 13202-31020 13202-31010	SH-1060A 11802-31010	PB-1035J 90999-73027
69	G G G G G 6R 7R 8R 16R 18R Corona Cressida	9/68-7/73 9/68-7/73 9/68-7/73 8/73-11/82 1/72-10/83	4 4 4 4 4	1,707 1,591 1,858 1,808 1,968	MS-1152GP 11702-33012 (MS-1094GP) 11702-33011 Flange type	TW-1133A 11011-35010 11011-38010 11011-33010	CB-1133GP 13202-33010 13202-33011	SH-1068A 11802-33010	PB-1068J 90999-73048 DB-1152A 11022-33010

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
70	G 8R	9/68-12/71	4	1,858	MS-1152GP 11702-33012 11702-68270 (MS-1094GP) 11702-33011 Fiange type	TW-1133A 11011-35010 11011-35011	CB-1133GP 13202-33010 13202-33011		PB-1068J 90999-73072 90999-73048 DB-1152A 11022-33010
	G 10R	2/70-12/71	4	1,858					
	G 18R	1/72-10/82	4	1,968					
	G 19R	1/74-7/77	4	1,968					
	Corona Cressida								
71	G 20R	1/74-3/82	4	2,189	MS-1133GP 11702-38010	TW-1133A 11011-38010	CB-1133GP 13202-38010 13202-38011		PB-1068J 90999-73072 90999-73048
	G 21R	8/78/3/82	4	1,972					
	G 22R	8/77-3/82	4	2,366					
72	G 20R	3/82-4/82	4	2,198	MS-1405GP 11702-38011	TW-1133A 11011-35010/11 11011-38010	CB-1133GP 13202-38011		PB-1068J 90999-73072
	G 21R	3/82-8/84	4	1,972					
	G 22R	3/82-8/84	4	2,366					
73	G 21R	8/84-8/88	4	1,972	MS-1405GP 11701-35030	TW-1405A 11011-35020	CB-1133GP 13041-35030		PB-1068J 90999-73072
	G 22R	8/1984-	4	2,366					
74	G 1RZ	5/1990-	4	1,988	MS-1435A 11701-75010 11701-75020 11701-75021 11071-75021	TW-1435A 11011-75010	CB-1435A 13041-75010 13041-75020 13041-75021 13041-75022		PB-1435J 90999-73129
	G 2RZ		4	2,438					
	G 3RZ		4	2,693					
		Hiace Land cruiser Regius Hilux							
75	G 1S	3/82-8/88	4	1,832	MS-1401A (F.I.R)11701-63021 (C) 11701-60320 (F.I.R)11701-70012 (C) 11701-63020	TW-1117A 11011-74020 (TW-1441A) 11011-25010	CB-1404A 13041-63020		
	G 2S	8/82-8/86	4	1,995					
	G 3S	6/84-8/86	4	1,998					
	Celica Camry Carina								
76	G 3S	12/87-7/90	4	1,998	MS-1404A (F.I.R)11701-63021 (C) 11701-60320	TW-1117A (TW-1441A)	CB-1404A 13041-63020		PB-1441J 90999-73112
	G 4S	4/1987-	4	1,838					
	Ipsum								
77	G 3S	8/1986-	4	1,998	MS-1404A (F.I.R)11701-88342 (C) 11701-88360 (F.I.R)11701-88360 (C) 11701-88360	TW-1117A 11011-74020 (TW-1441A) 11011-25010	CB-1419GP 13041-88360 13041-74010		PB-1441J 90999-73112 90999-73106
	Ipsum Townace Liteace Vista								
78	G 3S	1985-	4	1,998	MS-1404A (F.I.R)11701-88360 (C) 11701-88360	TW-1117A 11011-74020 (TW-1441A) 11011-25010	CB-1441GP 13041-74030 13041-74040		PB-1441J 90999-73112
	G 5S	1985-	4	2,164					
	Camry Rav 4								
79	G 1SZ-FE	1/1999-	4	997	MS-1450A (with a hole & lug) 11701-23020 11701-23021	TW-2510A -Same as Daihatsu ED,K3 11791-23020 11791-23030	CB-1450A 13041-23020 13041-23021		
	G 1SZ-FE	2002-	4	997	MS-2512A (with 2 holes & no lug) -Same as Daihatsu K3 11701-23050/1 11701-23060/1				

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Group No.	Engine Model	Year	No. of Cyl.	Dis- place- ment- CC	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
80	G 2SZ-FE	12/2002-	4	1,296	MS-2512A (with 2 holes & no lug) 11701-23050 11701-23051 11701-23060 11701-23061	TW-2510A 11791-23020 11791-23030	CB-2512A 13041-23030 13041-23031 *CB-1486A (for 3SZ) 13041-B1021		
	G 3SZ-FE	1/2006-	4	1,495					
81	G T	1970-71	4	1,407	MS-1104GP 11702-25010 11702-25011 11702-25020		CB-1117GP 13202-25010	SH-1104A 11802-25010	
	G 2T Carina Celica	1970-71	4	1,588					
82	G T	9/71-8/79	4	1,407	MS-1117GP 11702-25012 11702-25013	TW-1117A 11011-25010 (TW-1441A)	CB-1117GP 13202-25010	SH-1104A 11802-25010 11802-25011	
	G 2T	9/71-10/82	4	1,588					
	G 3T	3/77-10/82	4	1,770					
	G 12T	1/76-8/82	4	1,588					
	G 13T	11/77-8/82	4	1,770					
83	G 2T-G Carina Celica Corolla	9/71-8/85	4	1,588	MS-1117GP 11702-27012 11702-88260 11702-88261	TW-1117A 11011-25010 (TW-1441A)	CB-1117GP 13202-25010 13202-88260/1 (9/71-9/82) CB-1422GP 13202-88281 (9/82-8/85)		
84	G 3T	10/82-10/83	4	1,770	MS-1117GP 11702-25012 11702-25013	TW-1117A 11011-25010 (TW-1441A)	CB-1422GP 13041-18010 13041-18011	SH-1104A 11802-25011	
	G 12T	8/82-11/84	4	1,588					
	G 13T	8/82-11/84	4	1,770					
85	G 3T-G	10/82-10/83	4	1,770	MS 11701-88280	TW-1117A 11011-25010 (TW-1441A)	CB-1422GP 13041-88281		
	G 4T-G	8/82-11/84	4	1,770					
86	G 1TR-FE	7/2003-	4	1,998	MS-1459A 11701-75031 11701-0C010	TW-1459A 11011-75020	CB-1459A 13041-75050 13041-75030/40		PB-1459J 90999-73144
	G 2TR-FE	8/2004-	4	2,693					
87	G 1UZ Celsior LS400	8/1988-	V8	3,968	MS-1440GP 11701-50010 11071-50010	TW-1440A 11011-50010	CB-1440GP 13041-50020		PB-1440J 90999-73119
88	G 2UZ-FE	1998-	V8	4,663	*MS-1442A 11701-50032 11701-50021	TW-1440A 11011-50010	*CB-1442A 13041-50030 13041-0F011		PB-1442J 90999-73144
	G 3UZ-FE		V8	4,292					
89	D 1VD-FTV Land Cruiser	3/2007-	V8	4,461	MS-1465GP 11701-51020 11071-51010	TW-1465A 11011-51010	CB-1465GP 13041-51020		
90	G 1VZ-FE Camry	1987-	V6	1,992	MS-1423GP 11701-62020	TW-1423A 11011-62010	CB-1423GP 13041-62010		
91	G 3VZ-E Camry	1987-	V6	2,959	MS-1437GP 11701-65010	TW-1423A 11011-62010	CB-1437GP 13041-65020		
92	G 3VZ-FE	1987-	V6	2,959	MS-1423GP 11701-62020	TW-1423A 11011-62010	CB-1445GP 13041-62020		PB-1445J 90999-73130 (for 3VZ-FE)
	G 4VZ-FE Hilux	1987-	V6	2,496					

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Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
93	G 5VZ-FE	1994-	V6	3,378	MS-1437GP 11071-65022 11071-65011	TW-1423A 11011-62010	CB-1445GP 13041-62030		PB-1445J 90999-73130
94	G 1Y G 2Y G 3Y G 4Y Liteace Townace Hilux	10/82-8/88 12/1982- 12/1982 8/1986-	4 4 4 4	1,626 1,812 1,998 2,237	MS-1407A 11701-71020 11701-76013	TW-1117A 11011-25010 11011-76003 (TW-1441A)	CB-1407A 13041-71011 13041-71021 13041-71020 13041-76014 13041-76021 13041-76016	SH-1407A 11802-71010 11802-76011 11802-73010	
95	D 1W	1983-	4	4,009	MS-2109GP 11701-78010	TW-2109GP 11011-78010	CB-2109GP 13041-78010	SH-2109K 11801-78010	PB-2109J 90999-73095 90999-73110
96	D 1Z	1990-	4	2,953	MS-1426A 11701-78300	TW-1426A 11011-78300	CB-1137A 13281-68020 13041-76012	*SH-1426A 11802-78300	90384-32951/50
97	D 2Z Forklift	1994-	4	3,469	MS-1474A 11701-78C00-71		CB-1137A 13041-68040 13041-76012		
98	D 11Z	1990-	6	4,429	MS-1443A 11701-78300 11701-78330	TW-1426A 11011-78300	CB-1403A 13041-76012/13 13041-76014	*SH-1443A 11802-78330	*PB- 90384-32950 90384-35951
99	D 13Z Forklift	1996-	6	4,616	MS-1475A 11701-78C00-71		CB-1403A 13041-76012/3/4		
100	G 1ZR-FE G 2ZR-FE G 3ZR-FE		4 4 4	1,598 1,797 1,986	MS-1471A 11701-0T010-01 11701-37010 11701-37020	TW-1457A 11011-22020 11791-22020	CB-1471A 13041-0T010-01 13041-37010 13281-37010 *CB-1472A (for 3ZR-FE) 13041-37030 13281-37030	*SH-1471A 11811-37010 11821-37010	PB-1457J 90999-73151
101	G 1ZZ-FE 2ZZ-FE		4 4	1,794	MS-1457A 11701-22010/11 11701-0D010	TW-1457A 11791-22020 11791-0T030 11011-22020	CB-1457A 13041-22020/1/2 13041-22023/24		PB-1457J 90999-73140
102	G 1AR-FE G 2AR-FE		4 4	2,672 2,493	*MS-1480A 11711-0V030 11721-0V030 11711-0V040 11721-0V040	* TW-1480A 11791-0V010 11791-0V020	*CB-1480A 13281-0V011 13281-0V021		
103	D 1GD-FTV D 2GD-FTV		4 4	2,754 2,393	*MS-1477A 11701-0E010	*TW- 11011-0L020	CB-1477A 13041-0E020 CB-1478A 13041-0E010		
104	G 1UR-FE G 1UR-FSE G 2UR-FSE G 2UR-GSE G 3UR-FE		V8 V8 V8 V8 V8	4,608 4,608 4,968 4,968 5,663	*MS-1483A 11071-38010 11072-38010	*TW-1483A 11011-38050	*CB-1483A 13041-38070 *CB-1484A (for 2UR-GSE) 13041-38081 *CB-1485A (for 3UR-FE) 13041-38060		

GM KOREA

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G G15MF LeMans Cielo Lanos		4	1,498	MS-3021A 90093813 PNP1021 (Opel Kadett)		CB-3017A 90 323 617 (Opel Kadett)		
2	G F8C F8CL Damas Matiz		3 3	796 796	MS-3879A P12351A82011-000	TW-3879A P12300-82820-000	CB-3879A P1218A81051-0A0		
3	G C22SEL Leganja		4	2,198	MS-1641GP (MS-3020GP) 92017650/1,92062902 (Opel Ascot, Isuzu C22NE)		CB-1641GP 92028811 (An oil hole) CB-1642GP (CB-3020GP) (Two oil holes) (Opel Ascot, Isuzu C22NE)		
4	G S-TEC Daewoo Tico Chevrolet Spark Chevrolet Exclusive Chevrolet Joy Chevrolet Chronos GM Daewoo Matiz II FSO Matiz Pontiac Matiz Pontiac G2 Formosa Matiz		4 4	995 1,150	MS-3888A P12351A82011-000	TW-3879A P12300-82820-000	CB-3888A P1218A81051-0A0		
5	G SAIL (Shanghai GM)	2010-	4		MS-3890A 24102256 24102257	TW-3890A 9002794	CB-3890A 24102259		
6	G N200 N300 (SGMW) Chevrolet N200 Wuling N200		4 4	1,051 1,206	MS-3894A 9002793	TW-3890A 9002794	CB-3894A 9002792		

HYUNDAI

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D D4BH D4BX H-100	01/88-	4	2,476	MS-1131A MD050360 21020-42907/8/9		CB-1131A 23060-42001 23060-42911/2		
			4	2,476					
2	D D4CB Porter II Kia Sorento	2004-	4	2,497	MS-3887A 21020-4A900 21020-4A920	TW-3887A 21021-4A900 21030-4A900 21030-4A920 21231-4A400	CB-3887A 23060-4A900 23060-4A921/2/3/4 23060-4A930		
3	G G4AJ G4DJ Excel S Coupe	01/86-01/94 02/90-10/95	4	1,468	MS-1169A MD147999 21020-21124		CB-1169A MD030516 23060-21124		
			4	1,468					
4	G G6AT Sonata	01/90-08/99	V6	2,972	MS-1822A -Same as Mitsubishi 6G72 MD105269 MD197608	TW-1822A -Same as Mitsubishi 6G72 MD128659 MD116890	CB-1822A -Same as Mitsubishi 6G72 MD105277		
5	G G4CN G4CP G4CS Sonata G4CR	01/91-08/95 01/93-03/00 01/89-01/92	4	1,836	MS-1821A 04156438 MD071273		CB-1085A 23060-33030 MD002843		BB-1811A MD040598 MD040597 MD103722
			4	1,997					
			4	2,350					
			4	2,350					
6	G G4FK G4EK Avante Dodge Attitude Dodge Brisa (Alpha)	4/1994- 3/1995-	4	1,341	MS-3880A 21020-22541 21020-26040 21020-26640		CB-3880A 23060-22540 23060-26040		
			4	1,495					
			4	1,795					
7	G G4GM Avante Elantra (Beta)	3/1995-	4	1,597 1,795	MS-3878A 21020-23140	TW-3878A 21030-23000	CB-3878A 23060-23140		
8	G G4HC Atos, Atoz Amica Dodge Atos Inokom Atos Kia Visto Santro	1997-	4	798	MS-3882A 21020-02540	TW-3882A 21030-02501	CB-3882A 23060-02500		
			4	999					
9	G G4KF G4KC G4KD (Theta)		4	1,998	MS-3889A 21020-25100/10/20 21020-2G000/10/20	TW-3889A 21020-25150	CB-3889A 23060-25100/10/20 23060-2G000/10/20 23060-2G100/10/20		
			4	2,359					
			4	2,359					
10	D D4EA (Lambda)		4	1,998 2,359	*MS-3891A 21020-27900				
11	G G4FC G4FD G4FG G4FJ (Gamma)		4		*MS-3891A 21020-2B000		*CB-3892A 23060-2B002		
			4	1,591					
			4						
			4	1,591					
12	G (Kappa)		4 4		*MS-3893A 21020-04012	*TW-3893A 21030-04001	*CB-3893A 23060-04011		

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	D B3 B5 Pride Rio	2/1987- 11/96-04/98	4	1,323	MS-3876A OK1Y0 11 SGO KK1Y1 11 SGO	TW-3876A OK1Y0 11 SJO KK1Y0 11 SJO	CB-3876A OK1Y0 11 SEO KK1Y0 11 SEO		
			4	1,498					
2	G BPD Mentor Timor Shuma Spectra	10/89-08/02	4	1,839	MS-2008A -Same as Mazda B6 B6Y0-11-SGO MS-2012A -Same as Mazda B6 B6Y1-11-SGO	TW-2008A -Same as Mazda B6 B6Y0-11-SJO	CB-2008A -Same as Mazda B6 B6Y0-11-SEO		
3	D D4BH D4BX Bongo III		4	2,476	MS-1131A -Same as Mitsubishi 4D56 MD050360 21020-42907/8/9		CB-1131A -Same as Mitsubishi 4D56 23060-42001 23060-42911/2		
			4	2,607					
4	D D4CB Sorento	2004-	4	2,497	MS-3887A 21020-4A900 21020-4A920	TW-3887A 21021-4A900 21030-4A900 21030-4A920 21231-4A400	CB-3887A 23060-4A900 23060-4A921/2/3/4 23060-4A930		
5	G FE-D Clarus Credos Sportage	01/94-05/01	4	1,998	MS-2004A -Same as Mazda FE F801-23-251 MS-2009A -Same as Mazda FE FE1H-11-SGO		CB-2009A -Same as Mazda FE FEYA 11-SEO		
6	D J2 JT Pregio Frontier	11/1995-	4	2,975	MS-3883A OK6Z2 11 SGO	*TW- OK6Z2 11 SJO (TW-1075J)	CB-3883A OVNY1 11 SEO		
7	D JS, S2 Bongo	5/81-7/87	4	2,209	MS-3885A OK6Z1 11 SGO	*TW- OK6Z1 11 SJO	CB-3885A OK6Z1 11 SEO		
8	D R2 Bongo	01/80-02/00	4	2,184	MS-2007A -Same as Mazda R2 RF01-23-135	TW-2007A -Same as Mazda R2 RF01-23-115	CB-2004A -Same as Mazda R2 F801-23-105		PB-2007J -Same as Mazda R2 RF01-11-213
9	D VN, RFA Hi-Besta	1/1995-	4	2,662	MS-3884A OVNY1 11 SGO	*TW- OVNY1 11 SJO	CB-3883A OVNY1 11 SEO		
10	G G4KF G4KC G4KD (Theta) Optima Sorento Sportage		4	1,998	MS-3889A 21020-25100/10/20 21020-2G000/10/20	TW-3889A 21020-25150	CB-3889A 23060-25100/10/20 23060-2G000/10/20 23060-2G100/10/20		
			4	2,359					
			4	2,359					

RENAULT

Group No.	Engine Model	Year	No. of Cyl.	Dis- placement-	MAIN Bearing	Thrust Washer	CON.ROD Bearing	CAMSHAFT Bearing	PISTON PIN BALANCER Bushing
1	G H4M Fluence SM3		4	1,598 CC	MS-1227A 12215-BC20A	TW-1227A 12280-BC20A	CB-1227A 12150-BC20C 12110/1-BC20B		
2	G M4R Fluence Megane Faguna MS5		4	1,997	MS-1228A 12215-CK800	TW-1228A 12280-CK825	CB-1228A 12150-CK80A		
3	D M9R Laguna Megane Dualis Qashqai		4	1,995	*MS-	*TW-	*CB-		
4	G M5M Lutecia ClioSport		4	1,618	MS-1234A 12207-IKCOA	TW-1228A 12280-CK825	CB-1234GP 12150-IKCOA		
5	G XH5		3	1,198	MS-1233A 12207-IHCB	TW-1227A 12280-BC20A	CB-1233GP 12150-5H70A		

DAIHATSU

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	AB	MS-2500A	Main	6					
2	AD		1-3	6	41.990	46.000	1.994	19.50	
		MS-2506A	Main	6					
			1-3	3/3	41.990	46.000	1.994	19.50	
		TW-2500A	T.W.	2	(I.D.)	(O.D.)			
			2	2	48.250	62.000	1.990		
		CB-2500A	C.R.	4					
			1-2	4	40.000	43.000	1.494	18.00	
		BB-2500A	B.B.	4					
			1	2	44.960	48.000	1.508	17.00	
			2	2	33.960	37.000	1.508	20.00	
3	CB	MS-2501A	Main	8					
4	CB-T		1-4	8	41.990	46.000	1.994	19.50	M1-2500 X 8
5	CD	MS-2505A	Main	8					
	CL		1-4	4/4	41.990	46.000	1.994	19.50	
6	CL-T	MS-2503A	Main	8					
			1-4	4/4	47.990	52.004	1.994	17.10	
		TW-2500A	T.W.	2	(I.D.)	(O.D.)			
			No.3	2	48.250	62.000	1.990		
		TW-2503A	T.W.	2	(I.D.)	(O.D.)			
				2	54.250	68.000	1.990		
		CB-2501A	C.R.	6					
			1-3	6	40.000	43.000	1.494	18.00	C1-2500 X 6
		CB-2509GP	C.R.	6					
			1-3	6	43.000	46.000	1.497	20.00	
		CB-2503A	C.R.	6					
			1-3	6	45.000	48.000	1.494	20.10	
		BB-2501A	B.B.	2					
			1	1	44.960	48.000	1.508	17.00	B1-2500 X 1
			2	1	33.960	37.000	1.508	20.00	B2-2500 X 1
7	DG	(MS-1158A)	Main	10					
8	DL		1.3.5.	3/2	67.970	72.000	1.997	30.25	
9	DL-T		2.4.	2/2	67.970	72.000	1.997	24.25	
			△3(L)	/1	67.970	72.000	1.997	37.95	
		CB-1158A	C.R.	8					
			1-4	8	54.980	58.000	1.487	27.63	
		SH-1158A	Cam	3					
			1	1	45.970	50.005	2.002	23.00	
			2	1	45.670	50.005	2.152	25.00	
			3	1	45.370	50.005	2.302	23.00	
		PB-1158J	P.B.	4					
			1-4	4	26.000	29.000	1.530	30.00	An oil hole
		PB-2502J	P.B.	4					
			1-4	4	26.000	29.000	1.530	30.00	2 holes

DAIHATSU

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
10	DL DL-T	MS-2502A	Main	10						
			1(U)	1	67.970	72.000	2.005	24.25		
			2.3.4.5.	4	67.970	72.000	2.005	24.25		
			1.2.4.5	4	67.970	72.000	2.005	24.25		
			△3(L)	1	67.970	72.000	2.005	37.95		
		CB-1158A	C.R.	8						
			1-4	8	54.980	58.000	1.487	27.63		
		SH-2502A	Cam	5						
			1	1	46.575	50.605	2.000	22.00		
			2	1	46.275	50.325	2.000	18.00		
			3	1	45.975	50.025	2.000	18.00		
			4	1	45.675	49.705	2.000	18.00		
		PB-2511J	5	1	45.375	50.005	2.300	22.00		
P.B.	4									
1-4	4		28.000	31.000	1.900	30.00				
11	EB EF	MS-2507A	Main	8						
			1-4	4/4	41.990	46.000	1.994	16.00		
		TW-2507A	T.W.	2	(I.D.)	(O.D.)				
				2	48.250	59.000	1.990			
CB-2507A	C.B.	6								
	1-3	6	37.000	40.000	1.494	15.00				
12	ED	MS-2510A	Main	8						
			1-4	4/4	46.000	50.000	1.994	16.00		
		TW-2510A	T.W.	2	(I.D.)	(O.D.)				
				2	52.250	63.000	1.990			
CB-2510A	C.B.	6								
	1-3	6	40.000	43.000	1.994	16.00				
13	HC HD	MS-2511A	Main	10						
			1-5	10	50.000	54.000	1.999	18.10		
		TW-2511A	T.W.	2	(I.D.)	(O.D.)				
				2	57.200	76.400	2.490			
CB-2511A	C.B.	4								
	1-4	4	45.000	48.000	1.490	18.00				
14	K3-VE K3-VE2	MS-2512A	Main	10						
			1-5	5/5	46.000	50.000	1.992	14.90	2 Holes & no Lug	
15	K3-VET	TW-2510A	T.W.	2	(I.D.)	(O.D.)				
				2	52.250	63.000	1.990			
	2SZ-FE 3SZ-FE	CB-2512A	C.R.	8						
			1-4	8	40.000	43.000	1.492	13.20		
	MS-1450A	MS-1450A	Main	10						
			1-5	5/5	46.000	50.000	1.995	14.80	A Hole & Lug	
16	KF-VE KF-DET	MS-2513A	Main	8						
			1-4	4/4	41.100	43.000	1.998	14.85	w/o Lug	
		TW-2513A	T.W.	2	(I.D.)	(O.D.)				
				2	47.250	59.750	1.985			
CB-2513A	C.R.	6								
	1-3	6	35.000	38.000	1.496	13.50	w/o Lug			

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	DK10 DK10-T DK20 DK20-T	(MS-1054GP)	Main	14						
			1.7	4	99.960	106.020	2.997	47.50		
			2.3.5.6	4/4	99.960	106.020	2.997	37.00		
			4	1/1	99.960	106.020	2.997	65.00		
	ED100 ED100-T	MS-1149GP	Main	14						
			1.7	2/2	99.960	106.020	2.997	43.63		
			2.3.5.6	4/4	99.960	106.020	2.997	33.13		
			4	1/1	99.960	106.020	2.997	60.13		
	ER100 ER200	(TW-1054BC)	T.W.	4						
			(TW-1149BC)	T.W.	3					
		CB-2104GP	C.R.	12						
			1-6	6/6	79.970	85.000	2.497	40.13		
			(SH-1149B)	Cam	7					
		(PB-1116J)	P.B.	1	1	65.470	70.000	2.250	50.00	S1-1054
				2	1	65.170	70.000	2.400	34.00	S2-1149
				3	1	64.770	70.000	2.600	34.00	S3-1054
				4	1	64.470	70.000	2.750	46.00	S4-1054
				5	1	64.170	70.000	2.900	34.00	S5-1116
				6	1	63.770	70.000	3.100	34.00	S6-1149
7	1			63.470	70.000	3.250	32.00	S7-1116		
(PB-1149J)	P.B.	1-6	6	48.000	54.030	3.050	44.00			
		1-6	6	48.000	54.000	3.030	44.20			
2	DM100 DQ100	MS-1059GP	Main	14						
			1.7	2/2	66.960	70.985	2.000	32.13		
			2.3.5.6	4/4	66.960	70.985	2.000	23.63		
			4	1/1	66.960	70.985	2.000	36.13		
		TW-1059GP	T.W.	4	(I.D.)	(O.D.)				
			4	4	74.250	91.750	2.500			
		CB-1059GP	C.R.	12						
			1-6	12	55.950	58.985	1.500	33.63		
			(SH-1059B)	Cam	5					
		PB-1059J	P.B.	1	1	54.970	58.000	1.500	35.00	
				2	1	53.970	57.000	1.500	32.00	
				3	1	53.470	56.500	1.500	21.50	
				4	1	52.970	56.000	1.500	32.00	
				5	1	45.970	49.000	1.500	29.00	
		1-6	6	29.000	32.000	1.540	33.90			
3	DS50 DS60 DS70 DS80	MS-1038GP	Main	14						
			1.7	2/2	89.970	96.020	3.007	43.20		
			2.3.5.6	4/4	89.970	96.020	3.007	31.20		
			4	1/1	89.970	96.020	3.007	64.20		
		TW-1038K	T.W.	4	(I.D.)	(O.D.)				
			4	4	98.250	122.000	4.000			
		CB-1039GP	C.R.	12						
			1-6	12	74.950	81.000	3.010	47.20		
			(SH-1038B)	Cam	5					
		PB-1039J	P.B.	1	1	56.970	61.000	2.000	38.00	
				2	1	55.970	60.000	2.000	40.00	
				3	1	54.970	59.000	2.000	35.00	
				4	1	53.970	58.000	2.000	40.00	
				5	1	47.975	52.000	2.000	42.00	
				1-6	6	40.000	45.000	2.530	36.20	

HINO

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
4	EB100 EB200	MS-1079GP	Main	14							
			1.7	2/2	94.960	101.000	3.000	44.13			
			2.3.5.6	4/4	94.960	101.000	3.000	34.13			
			4	1/1	94.960	101.000	3.000	64.13			
5	EB300 EB400	(TW-1079BC)	T.W.	4	(I.D.)	(O.D.)					
			4	4	101.500	129.750	4.970				
			(TW-1120BC)	T.W.	3	(I.D.)	(O.D.)				
			4	3	101.500	129.750	4.970				
		CB-2100GP	C.R.	12							
			1-6	6/6	74.970	81.000	3.000	46.13			
			(SH-1079B)	Cam	5						
			1	1	63.070	68.000	2.450	50.00			
			2	1	62.770	68.000	2.600	40.00			
					3	1	62.370	68.000	2.800	40.00	
					4	1	62.070	68.000	2.950	40.00	
					5	1	61.770	68.000	3.100	35.00	
		PB-1079J	P.B.	6							
			1-6	6	43.000	49.000	3.030	42.20			
PB-1120J	P.B.	6									
	1-6	6	45.000	51.000	3.030	44.20					
6	EC100	MS-1140GP (MS-1081GP)	Main	14							
			1.7	4	73.960	78.985	2.487	32.13			
			2.3.5.6	8	73.960	78.985	2.487	28.13			
			4	2	73.960	78.985	2.487	35.13			
		TW-1081GP	T.W.	4	(I.D.)	(O.D.)					
			4	4	81.250	98.750	2.500				
		CB-1081GP	C.R.	12							
			1-6	12	59.960	63.985	2.000	33.63			
			(SH-1081B)	Cam	4						
					1	1	56.470	59.500	1.500	35.00	
					2	1	54.470	57.500	1.500	30.00	
					3	1	53.870	56.900	1.500	30.00	
					4	1	53.570	59.600	1.500	30.00	
		PB-1081J	P.B.	6							
1-6	6		31.500	35.500	2.040	37.10					
7 8	EF100 EF100-T	MS-1144GP	Main	10							
			1-5	5/5	104.920	111.000	3.010	34.00			
	EF300 EF350	MS-1148GP	Main	10							
			1-5	5/5	104.920	111.000	3.007	35.00			
	EF350 EF500	TW-1144K	T.W.	3	(I.D.)	(O.D.)					
			5	3	117.200	144.600	3.970				
	EF500 EF700	TW-1148K	T.W.	3	(I.D.)	(O.D.)					
			5	3	117.200	144.600	4.470				
	EF700 EF700-T EG100	CB-1144GP	C.R.	16							
			R1-4	8	83.965	89.015	2.497	32.70			
			L1-4	8	83.965	89.015	2.497	32.70			
			Cam	5							
				1.5	2	62.970	68.000	2.495	47.00		
				2.3.4.	3	62.970	68.000	2.495	26.00	S1-1144 S2-2107	
PB-1144J	P.B.	8									
	1-8	8	50.000	55.000	2.537	(U)40.20 (L)51.00					

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
9	EF550	MS-2107GP	Main	10						
	EF750		1-5	5/5	109.920	116.000	3.007	35.00		
	EF750-T	MS-2120GP	Main	10						
			1-5	5/5	109.920	116.000	3.007	35.00		
10	F17C	TW-2107K	T.W.	3	(I.D.)	(O.D.)				
	F17C-T		5	3	122.200	149.600	4.470		2 Locating Holes	
	F17D	TW-2114K	T.W.	4	(I.D.)	(O.D.)				
	F17D-T		5	4	122.200	149.600	4.470		3 Locating Holes	
	F20C	CB-2107GP	C.R.	16						
11	F21C	SH-2107A	1-8	8/8	83.965	89.015	2.497	32.70		
			Cam	5						
			1.5	2	62.970	68.000	2.495	47.00		
		2.3.4	3	62.970	68.000	2.495	26.00			
		PB-2107J	P.B.	8						
1-8	8	50.000	55.000	2.530	(U)40.20 (L)51.00					
12	EH100	MS-1140GP	Main	14						
13	EH300		1.7	4	73.960	78.985	2.487	32.13		
			2.3.5.6	8	73.960	78.985	2.487	28.13		
14	EH500	TW-1081GP	4	2	73.960	78.985	2.487	35.15		
			T.W.	4	(I.D.)	(O.D.)				
15	EH700 EH700-T	CB-1165GP	4	4	81.250	98.750	2.500			
			C.R.	12						
			1-6	6/6	62.960	66.985	2.000	33.63		
		(CB-1140GP)	C.R.	12						
		1-6	6/6	64.960	68.985	1.997	33.63			
		CB-2101GP	C.B.	12						
		1-6	6/6	64.960	68.985	2.000	33.63			
		(SH-1081B)	Cam	4						
		1	1	56.470	59.500	1.500	35.00			
		2	1	54.470	57.500	1.500	30.00			
		3	1	53.870	56.900	1.500	30.00			
		4	1	53.570	56.600	1.500	30.00			
		SH-2101A	Cam	7						
		1	1	61.470	64.500	1.495	35.00	S1-2108		
		2	1	61.270	64.300	1.500	30.00	S2-2101		
3	1	61.070	64.100	1.500	30.00	S3-2101				
4	1	60.870	63.900	1.500	30.00	S4-2101				
5	1	60.670	63.700	1.500	30.00	S5-2101				
6	1	60.470	63.500	1.500	30.00	S6-2101				
7	1	58.270	61.300	1.500	30.00	S7-2108				
SH-2108A	Cam	7								
1	1	61.470	64.500	1.495	35.00					
2	1	61.270	64.300	1.500	26.00					
3	1	61.070	64.100	1.500	26.00					
4	1	60.870	63.900	1.500	26.00					
5	1	60.670	63.700	1.500	26.00					
6	1	60.470	63.530	1.500	26.00					
7	1	58.270	61.300	1.500	30.00					
PB-1139J	P.B.	6								
1-6	6	34.000	38.000	2.040	40.10					
PB-1140J	P.B.	6								
1-6	6	35.000	39.000	2.040	40.10					
PB-2108J	P.B.	6								
1-6	6	39.000	43.000	2.040	(U)31.70 (L)40.00					

HINO

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
16	EK100	MS-2102GP	Main	14						
	EK100-T		1-7	7/7	89.930	96.000	3.000	40.00		
	EK130-T	TW-2102K	T.W.	3	(I.D.)	(O.D.)			2 Locating Holes	
	EK200		7	3	102.000	127.600	3.970			
17	K13D K13U K130-T	TW-2112K	T.W.	4	(I.D.)	(O.D.)			3 Locating Holes	
			7	4	102.000	127.600	3.970			
		*TW-2123K	T.W.	3	(I.D.)	(O.D.)				
			7	3	104.200	128.000	3.970			
18	K13C K13C-T	CB-2102GP	C.R	12					U : a Hole&Groove	
			1-6	6/6	83.965	89.015	2.500	40.60	L : Oil Groove	
		CB-2112GP	C.R	12					U : 1 Oil Hole	
			1-6	6/6	83.965	89.015	2.500	40.60	L : 2 Oil Holes	
19	K13D	SH-2102A	Cam	7						
			1	1	65.970	71.000	2.500	42.00		
			2	1	65.770	71.000	2.600	30.00		
			3	1	65.570	71.000	2.700	30.00		
			4	1	65.370	71.000	2.800	42.00		
			5	1	65.170	71.000	2.900	30.00		
			6	1	64.970	71.000	3.000	30.00		
			7	1	64.770	71.000	3.100	32.00		
		PB-2102J	P.B.	6						
			1-6	6	50.000	55.000	2.527	(U)39.00 (L)51.00		
34	J05E J07E J08E	*MR-2119GP	Main	2						
		J05E	1-5	5/5					1 pair/box X 5	
		J07E	1-6	6/6					1 pair/box X 6	
		J08E	1-7	7/7					1 pair/box X 7	
		*TW-2119K	T.W.	4						
			4	2/2						
		*CR-2119GP	C.R	2						
		J05E	1-4	8					1 pair/box X 4	
		J07E	1-5	10					1 pair/box X 5	
		J08E	1-6	12					1 pair/box X 6	
35	N04C	*MS-2125GP	Main	10						
			1-5	5/5						
		*TW-2125K	T.W.							
		*CB-2125GP	C.R	8						
			1-4	8						
*SH-2125A	Cam									
*PB-2125J	P.B.	4								
	1-4	4								

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
20	EL100	MS-2103GP	Main	14						
	EL100-T		1-7	7/7	89.930	96.000	3.010	34.00		
21	EM100	*TW-2103GP	T.W.	4	(I.D.)	(O.D.)				
			4	4	102.300	122.600	3.470			
22	EP100	TW-2105GP	T.W.	4	(I.D.)	(O.D.)				
			4	4	102.300	124.600	2.970			
23	EP100-T	TW-2122K	T.W.	4	(I.D.)	(O.D.)				
			4	4	102.300	125.000	2.970			
24	P09B-T	CB-2103GP	C.R	12						
			1-6	6/6	72.970	77.015	2.002	32.00		
36	P09C-T	CB-2106GP	C.R	12					Oil Hole 1	
		(CB-2105GP)	1-6	12	74.970	80.015	2.502	32.00	(Oil hole 0)	
37	P11C	CB-2122GP	C.R	12						
			1-6	6/6	79.970	80.015	2.510	32.00		
37	P11C	M10U	C.R	12					U:1 Oil Hole	
			1-6	6/6	74.970	80.015	2.502	32.00	L:2 Oil Holes	
37	P11C	SH-2103A	Cam	7						
			1	1	64.970	69.000	2.000	34.00		
37	P11C	SH-2113A		1	64.570	68.600	2.000	20.00		
				3	1	64.170	68.200	2.000	20.00	
37	P11C	SH-2113A		4	1	63.770	67.800	2.000	20.00	
				5	1	63.370	67.400	2.000	20.00	
37	P11C	SH-2113A		6	1	62.970	67.000	2.000	20.00	
				7	1	62.570	66.600	2.000	25.00	
37	P11C	SH-2113A		1	1	64.970	69.000	2.000	34.00	S1-2103
				2	1	64.170	68.200	2.000	20.00	S3-2103
37	P11C	SH-2113A		3	1	63.370	67.400	2.000	20.00	S5-2103
				4	1	62.570	66.600	2.000	25.00	S7-2103
37	P11C	PB-2103J	P.B.	6						
			1-6	6	40.000	44.000	2.015	(U)31.50 (L)40.30		
37	P11C	PB-2105J	P.B.	6						
			1-6	6	42.000	46.000	2.015	(U)33.00 (L)42.80		
37	P11C	PB-2113J	P.B.	6						
			1-6	6	47.000	51.000	2.030	(U)24.60 (L)42.80		

HINO

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
25	H06B	MS-2108GP	Main	14					
26	H06B-T		1.4.7.	3/3	79.960	84.985	2.487	32.13	M2-2108-U/L
27	H06C-T		2.3.5.6.	4/4	79.960	84.985	2.487	28.13	M1-2108-U/L
		MS-2111GP	Main	14					
	H07C		1.4.7	3/3	79.960	85.000	2.487	32.13	L: GROOVE ON THE BACK
	H07C-T		2.3.5.6	4/4	79.960	85.000	2.487	28.13	L: GASH ANGLE 60°
		TW-2108K	T.W.	4	(I.D.)	(O.D.)			
28	H06C-TI		4	2/2	82.250	104.900	2.500		
		CB-2108GP	C.R.	12					
29	H07D		1-6	6/6	64.960	68.985	2.000	33.13	
		CB-2111GP	C.R.	12					C1-2111X6
			1-6	6/6	64.960	68.985	2.000	33.13	C1-2108-Lx6
		CB-2115GP	C.R.	12					
			1-6	6/6	64.960	68.985	1.997	25.13	
		SH-2108A	Cam	7					
			1	1	61.470	64.500	1.495	35.00	
			2	1	61.270	64.300	1.500	26.00	
			3	1	61.070	64.100	1.500	26.00	
			4	1	60.870	63.900	1.500	26.00	
			5	1	60.670	63.700	1.500	26.00	
			6	1	60.470	63.500	1.500	26.00	
			7	1	58.270	61.300	1.500	30.00	
		SH-2111A	Cam	4					
			1	1	61.470	64.500	1.495	35.00	S1-2108
			3	1	61.070	64.100	1.500	26.00	S3-2108
			5	1	60.670	63.700	1.500	26.00	S5-2108
			7	1	58.270	61.300	1.500	30.00	S7-2108
		PB-2108J	P.B.	6					
			1-6	6	39.000	43.000	2.040	(U)31.70 (L)40.00	
30	J05C	MR-2117GP	Main						
	J07C	J05C,J05C-TI	1-5	5/5	79.960	85.000	2.487	28.13	1 pair/box X 5
		J07C	1-6	6/6		U: M1-2108-U			1 pair/box X 6
31	J05C-TI	J08C	1-7	7/7		L: M1-2117-L	gash angle 60°		1 pair/box X 7
32	J08C	MS-2118GP	Main						U: M1-2108-U
33	J08C-TI	J08C, J08C-TI	1-7	7/7	79.960	85.000	2.487	28.13	L: M1-2117-L
		CR-2117GP	C.R.						
		J05C	1-4	4/4	64.960	68.985	1.997	25.13	1 pair/box X 4
		J07C	1-5	5/5					1 pair/box X 5
		CR-2118GP	C.R.						
		J05C-TI	1-4	8	64.960	68.985	1.997	27.83	2pcs/box X4
		J08C-TI	1-6	12					2pcs/box X5
		CB-2115GP	C.R.	12	64.960	68.985	1.997	25.13	
			1-6	6/6					
		SH-2117A	Cam	8					
			6	6	39.975	43.985	1.995	20.13	
			2	2	39.975	43.985	1.995	20.13	
		SH-2118A	Cam	10					
			8	8	39.975	43.985	1.995	20.13	S1-2117
			2	2	39.975	43.985	1.995	20.13	S2-2117
		PB-2116J	P.B.	4					
			1-4	4	37.000	41.000	1.995	35.50	
		PB-2117J	P.B.	5					
			1-5	5	37.000	41.000	1.995	35.50	
		PB-2118J	P.B.	6					
			1-6	6	37.000	41.000	1.995	35.50	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
38	V21C V21C V25C	MS-2114GP	Main 1-6	12 6/6	109.920	116.000	3.007	35.00	
39	V25C V26C V22D	TW-2114K	T.W.	4	(I.D.)	(O.D.)			
				4	122.200	149.600	4.470		
		*TW-2121K	T.W.	4	(I.D.)	(O.D.)			
				4	122.200	150.000	4.470		
		CB-2114GP	C.R.	20					
			1-10	10/10	83.965	89.015	2.497	32.70	
		SH-2114A	Cam	6					
			1.6	2	62.970	68.000	2.495	47.00	S1-2107
			2.3.4.5.	4	62.970	68.000	2.495	26.00	S2-2107
		PB-2114J	P.B.	10					
			1-10	10	50.000	55.000	2.530	(U)40.20 (L)51.00	
40	W04C-T	MS-2109GP	Main 1-5	10 10	72.960	78.000	2.493	25.13	M1-2110 X10
41	W04D W04D-T	TW-2109GP	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	82.250	98.900	2.500		
		CB-2109GP	C.R.	8					
			1-4	8	61.960	65.985	1.997	28.13	C1-2110 X8
		SH-2109K	Cam	3					
			1	1	56.970	60.000	1.500	27.00	
			2	1	56.770	59.800	1.500	27.00	
			3	1	56.570	59.600	1.500	27.00	
		PB-2111J (PB-2109J)	P.B.	4					
			1-4	4	35.000	39.000	2.040	(U)30.00 (L)38.00	
42	W06D W06D-T W06E W06E	MS-2110GP	Main 1-7	14 14	72.960	78.000	2.493	25.13	
		TW-2109GP	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	82.250	98.900	2.500		
		CB-2110GP	C.R.	12					
			1-6	12	61.960	65.985	1.997	28.13	
		SH-2110K	Cam	4					
			1	1	56.970	60.000	1.500	27.00	S1-2109
			2	1	56.770	59.800	1.500	27.00	S2-2109
			3	1	56.570	59.600	1.500	27.00	S3-2109
			4	1	56.370	59.800	1.700	27.00	S4-2110
		PB-2112J (PB-2110J)	P.B.	6					
			1-6	6	35.000	39.000	2.040	(U)30.00 (L)38.00	P1-2111X6

HONDA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	A18A A20A	MS-2200GP	Main	10					
			1-5	10	50.000	54.000	1.998	20.00	
		TW-1134A	T.W.	2	(I.D.)	(O.D.)			
			4	2	56.250	78.000	2.500		
		CB-2200GP	C.R.	8					
			1-4	8	45.000	48.000	1.498	19.50	
2	B16A	MS-2208GP	Main	10					
3	B18A		1-5	10	55.000	59.000	1.998	20.00	U/L : 1 Oil Hole
4	B20A	MS-2215GP	Main	10					U : 2 Oil Holes
5	B21A		1-5	5/5	55.000	59.000	1.995	20.00	L : no Oil Hole
		TW-2215A	T.W.	2	(I.D.)	(O.D.)			
			4	2	61.250	82.000	2.500		
		(TW-2208GP)	T.W.	2	(I.D.)	(O.D.)			
			4	2	61.250	82.000	2.500		
		CB-2200GP	C.R.	8					
			1-4	8	45.000	48.000	1.498	19.50	1 Oil Hole
		CB-2213GP	C.R.	8					
			1-4	8	48.000	51.000	1.498	19.40	
		CB-2215GP	C.R.	8					
			1-4	8	45.000	48.000	1.498	19.50	no Oil Hole
6	C20A C20A-T	MS-2211GP	Main	8					
			1-4	4/4	50.000	54.000	1.999	20.00	
		TW-1134A	T.W.	2	(I.D.)	(O.D.)			
			4	2	56.250	78.000	2.500		
		CB-2210GP	C.R.	12					
			1-6	12	45.000	48.000	1.498	17.50	
7	C25A C27A	MS-2210GP	Main	8					
			1-4	4/4	64.000	68.000	1.998	20.00	
		TW-2210GP	T.W.	2	(I.D.)	(O.D.)			
			4	2	75.250	94.000	2.500		
		CB-2210GP	C.R.	12					
			1-6	12	52.000	55.000	1.498	17.50	
8	D12A D13C	MS-2114GP	Main	10					
			1-5	10	43.000	47.000	1.998	20.00	
		TW-1134A	T.W.	2	(I.D.)	(O.D.)			
			4	2	56.250	78.000	2.500		
		CB-2214GP	C.R.	8					
			1-4	8	39.000	42.000	1.498	18.50	
9	D13A2 D13B	MS-2206GP	Main	10					
			1-5	10	45.000	49.000	1.998	20.00	
		TW-1134A	T.W.	2	(I.D.)	(O.D.)			
			4	2	56.250	78.000	2.500		
10	D15A D15B	CB-2204GP	C.R.	8					
			1-4	8	40.000	43.000	1.498	18.50	
		CB-2205GP	C.R.	8					
			1-4	8	42.000	45.000	1.498	18.50	
11	D15Z	CB-2208GP	C.R.	8					
			1-4	8	45.000	48.000	1.498	18.50	
12	D16A B18A	MS-2208GP	Main	10					
			1-5	10	55.000	59.000	1.998	20.00	
		TW-2215A	T.W.	2	(I.D.)	(O.D.)			
			4	2	61.250	82.000	2.500		
33	ZC	(TW-2208GP)	C.R.	8					
		CB-2208GP	C.R.	8					
			1-4	8	45.000	48.000	1.998	18.50	

HONDA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
14	E07A	*MS- *TW- CB-2212GP	Main 1-4 T.W. 3 C.R. 1-3	8 8 2 2 6 6	(I.D.) 36.000	(O.D.) 39.000	1.490	17.50	
15 16	EC EE ED EF EK EM EP EJ EN	MS-1134GP MS-2206GP TW-1134A CB-1134GP CB-1142GP	Main 1-5 Main 1-5 T.W. 4 C.R. 1-4 C.R. 1-4	10 10 10 2 2 8 8 8 8	50.000 45.000 (I.D.) 56.250 40.000 42.000	54.000 49.000 (O.D.) 78.000 43.000 45.000	1.998 1.998 2.500 1.498 1.498	20.00 20.00 17.50 17.50	1 Oil Hole at 17°
21 22 23	EV EV1 EW	CB-2204GP CB-2205GP CB-2209GP	C.R. 1-4 C.R. 1-4 C.R. 1-4	8 8 8 8 8 8	40.000 42.000 38.000	43.000 45.000 41.000	1.498 1.498 1.498	18.50 18.50 18.50	1 Oil Hole at 15°
17 18	EH	MS-1175A MS-2202A TW-1175A CB-1175GP	Main 1-3 Main 1-3 T.W. 3 C.R. 1-2	6 6 6 2 2 4 4	42.000 38.000 (I.D.) 48.250 40.000	46.000 42.000 (O.D.) 66.000 43.000	1.998 1.998 2.500 14.98	20.00 20.00 17.50	
19	ER	MS-2206GP TW-1134GP CB-2206GP	Main 1-5 T.W. 4 C.R. 1-4	10 10 2 2 8 8	45.000 (I.D.) 56.250 37.000	49.000 (O.D.) 78.000 40.000	1.998 2.500 1.498	20.00 17.50	
20 24	ES ET EY	MS-2200GP TW-1134GP CB-2200GP CB-2203GP	Main 1-5 T.W. 4 C.R. 1-4 C.R. 1-4	10 10 2 2 8 8 8 8	50.000 (I.D.) 56.250 45.000 42.000	54.000 (O.D.) 78.000 84.000 45.000	1.998 2.500 1.498 1.498	20.00 19.50 17.50	
25 26 27 28	F18B F20B F20A F22A H22A H23A	MS-2213GP TW-2213A CB-2213GP CB-2200GP CB-2217GP	Main 1-5 T.W. C.R. 1-4 C.R. 1-4 C.R. 1-4	10 10 2 8 8 8 8 8	50.000 (I.D.) 57.500 48.000 45.000 48.000	54.000 (O.D.) 78.000 51.000 48.000 51.000	1.998 2.490 1.498 1.498 1.496	20.00 19.50 19.50 19.43	An Oil Hole

HONDA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
13	D17A	MS-2201A	Main	10	55.000 (I.D.)	59.000 (O.D.)	2.016	20.00	
		TW-2201A	T.W.	2					
		CB-2201GP	C.R.	8					
			1-4	8					
29 30	K20A K24A	MS-2216GP	Main	10	50.000 (I.D.)	59.000 (O.D.)	2.012	20.00	
		TW-2216A	T.W.	2					
		CB-2216GP	C.R.	8					
			1-4	8					
CB-2218GP	C.R.	8							
	1-4	8							
31	L13A L15A LDA	MS-2219A	Main	10	50.000	54.000	1.999	17.00	
		CB-2219A	C.R.	8					
			1-4	8					
32	R16A R18A R20A	*MS-2220A	Main	10	(I.D.)	(O.D.)			
		*TW-2220A	T.W.	5/5					
		*CB-2220A	C.R.	8					
			1-4	8					

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	2AA 2AB1	MS-1157GP	Main	6						
			1.3	4	69.920	73.975	2.017	30.63		
			2	2	69.920	73.975	2.017	21.53		
2	3AA1 3AB1 3AD1 3AD1-T	MS-1601GP	Main	8						
			1.3	4	69.920	73.975	2.017	30.63		
			2.4	4	69.920	73.975	2.017	21.53		
			T.W.	2	(I.D)	(O.D.)				
		TW-1070A	2	2	78.050	92.950	2.480			
			CB-1157A	C.R.	4					
				1-2	4	52.930	55.985	1.508	21.53	
			CB-1601A	C.R.	6					
1-3	6	52.930		55.985	1.508	21.53				
SH-1605A	Cam	3								
	1-3	1	47.975	52.000	2.030	22.00				
3	2AE1	MS-	Main	6						
			1.3	4	69.920	73.975	2.017	26.63		
4	3AE1 3AF1	(MS-1602GP)	Main	8						
			1.3	4	69.920	73.975	2.017	26.63		
			2.4	4	69.920	73.975	2.017	21.53		
			T.W.	2	(I.D)	(O.D.)				
		TW-1070A	2	2	78.050	92.950	2.480			
			CB-	C.R.	4					
				1-2	4	48.940	51.985	1.505	22.13	
			CB-1602A	C.R.	6					
1-3	6	48.940		51.985	1.505	22.13				
5	2KA1 2KB1 2KC1	MS-	Main	6						
			1-3	6	51.935	55.980	2.008	15.13		
		MS-	Main	8						
6	3KA1 3KB1	TW-	T.W.	2	(I.D)	(O.D.)				
			2	2	60.150	71.200	2.660			
		TW-	T.W.	2	(I.D)	(O.D.)				
7	3KC1 3KC2	TW-	2	2	68.250	79.000	2.650			
			CB-	C.R.	4					
		1-2		4	42.938	45.985	1.506	16.53		
		CB-	C.R.	6						
1-3	6		42.938	45.985	1.506	16.53				
8	3KR1	MS-	Main	8						
			1-4	8	59.930	63.976	2.009	15.00		
		TW-	T.W.	2	(I.D)	(O.D.)				
			2	2	68.250	79.000	2.650			
		CB-1602A	C.R.	6						
			1-3	6	48.940	51.985	1.505	22.13		

ISUZU

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
9	4BA1	MS-1628GP	Main	10					
	4BB1	(MR-1129GP)	1-5	10	75.920	81.000	2.525	27.93	6.00mm Wide Notch
	4BC1	MS-1163GP	Main	10					
	4BC2		1.2.4.5	8	75.920	81.000	2.525	27.93	6.00mm Wide Notch
	4BE1		3	1/1	75.920	81.000	2.525	27.93	//
	4BE2	MS-	Main	10					
			1-5	10	75.920	81.000	2.525	27.83	
		MS-1603GP	Main	10					
			1-5	9	75.920	81.000	2.525	27.83	4.5mm Narrow Notch
			3-L	1	75.920	81.000	2.525	27.83	//
		TW-1129GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	84.600	100.500	2.500		
		TW-1155GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	88.500	100.500	2.500		Full Circum Groove
		TW-1604A	T.W.	4	(I.D)	(O.D.)			
			4	2/2	88.500	100.500	2.500		Teardrop Oil Groove
		CB-1603GP	C.R.	8					
			1-4	8	63.944	68.000	2.013	29.93	C1-1129 X 8
		SH-1100K	Cam	4					
			1	1	55.970	60.000	2.000	20.00	
		2.3.4	3	55.970	60.000	2.000	20.00		
	SH-1163K	Cam	3						
		1	1	55.970	60.000	2.000	20.00	S1-1100 X 1	
		2.3	2	55.970	60.000	2.000	20.00	S2-1100 X 2	
	PB-1100J	P.B	4						
		1-4	4	33.000	36.000	1.530	38.00		
	PB-1129J	P.B	4						
		1-4	4	33.000	38.000	2.530	38.00		
	PB-1163J	P.B	4						
		1-4	4	35.000	38.000	1.530	38.00	P1-1155 X 4	
10	4BD1	MS-1606GP	Main	10					
	4BD1-T		1-5	9	79.930	85.000	2.525	27.83	
	4BD2		3-L	1	79.930	85.000	2.525	27.83	
		MS-1604GP	Main	10					
	4BG1		1-5	9	79.930	85.000	2.518	26.83	4.5mm Narrow Notch
			3-L	1	79.930	85.000	2.518	26.83	//
		MS-	Main	10					
			1.2.4.5	8	79.920	85.000	2.516	26.73	
			3	2	79.920	85.000	2.516	26.73	
		TW-1155GP	T.W.	4	(I.D)	(O.D.)			Full Circum Groove
			4	2/2	88.250	101.000	2.500		
		TW-1604A	T.W.	4	(I.D)	(O.D.)			
			4	2/2	88.500	100.500	2.500		Teardrop Oil Groove
		CB-1603GP	C.R.	8					
			1-4	8	63.944	68.000	2.013	29.93	
		SH-1163K	Cam	3					
		1	1	55.970	60.000	2.000	20.00		
		2.3.	2	55.970	60.000	2.000	20.00		
	PB-1163J	P.B	4						
		1-4	4	35.000	38.000	1.530	38.00	P1-1155 X 4	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
11	6BB1	MS-1629GP	Main	14					
12	6BD1	(MR-1129GP)	1-7	14	75.920	81.000	2.525	27.83	6.00mm Wide Notch
	6BD1-T	MS-1611GP	Main	14					
			1-7	13	79.920	85.000	2.525	26.83	6.00mm Wide Notch
	6BF1		4-L	1	79.920	85.000	2.525	26.83	//
	6BF1-T	MS-	Main	14					
			1-7	7	79.920	85.000	2.518	26.83	
	6BG1	MS-1612GP	Main	14					
	6BG1-T		1-7	7/7	79.920	85.000	2.518	26.83	4.5mm Narrow Notch
		TW-1129GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	84.250	101.000	2.500		
		TW-1155GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	88.250	101.000	2.500		
		TW-	T.W.	4	(I.D)	(O.D.)			
			4	2/2	88.250	101.000	2.500		
		CB-1612GP	C.R.	12					
			1-6	12	63.944	68.000	2.013	29.93	C1-1129 X 12
		SH-1129K	Cam	6					
		1	1	55.970	60.000	2.000	20.00	S1-1100 X 1	
		2-6	5	55.970	60.000	2.000	20.00	S2-1100 X 2	
	PB-1155J	P.B	6						
		1-6	6	35.000	38.000	1.530	38.00		
13	C190	MS-1138GP	Main	10					
14			1.5	4	59.932	63.975	2.017	30.63	
	C223		2.4	2/2	59.932	63.975	2.017	23.13	
	C223-T		3	2	59.932	63.975	2.017	38.13	
		MS-1605GP	Main	10					
			1.5.	4	59.932	63.975	2.017	27.63	
			2.4.	4	59.932	63.975	2.017	23.13	
			3	2	59.932	63.975	2.017	28.83	
		TW-1622A	T.W.	2	(I.D)	(O.D.)			
		(TW-1031B)	3	2	73.050	86.950	2.480		
		CB-1070A	C.R.	8					
			1-4	8	52.930	55.985	1.508	21.53	
		SH-1070A	Cam	3					
			1	1	47.975	52.000	2.030	25.00	
			2	1	47.975	52.000	2.030	25.00	
			3	1	47.975	52.000	2.030	25.00	
		SH-1605A	Cam	3					
			1	1	47.975	52.000	2.030	22.00	
			2	1	47.975	52.000	2.030	22.00	
			3	1	47.975	52.000	2.030	22.00	
		PB-1070J	P.B	4					
		1-4	4	27.000	30.000	1.530	34.00		
	PB-1605J	P.B	4						
		1-4	4	27.000	30.000	1.530	30.00		
	PB-	P.B	4						
		1-4	4						

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
15	C221	MS-1610GP	Main	10					
			1.5	4	69.920	73.975	2.017	30.63	
16	C240		2.4	4	69.920	73.975	2.017	21.53	
			3	2	69.920	73.975	2.017	36.13	
		TW-1070A	T.W.	2	(I.D)	(O.D.)			
			3	2	78.050	92.950	2.480		
		CB-1070A	C.R.	8					
			1-4	8	52.930	55.985	1.508	21.53	
		SH-1070A	Cam	3					
			1	1	47.975	52.000	2.030	25.00	
			2	1	47.975	52.000	2.030	25.00	
			3	1	47.975	52.000	2.030	25.00	
		SH-1605A	Cam	3					
			1	1	47.975	52.000	2.030	22.00	
			2	1	47.975	52.000	2.030	22.00	
			3	1	47.975	52.000	2.030	22.00	
		PB-1033J	P.B.	4					
			1-4	4	25.000	27.995	1.503	34.00	
		PB-1070J	P.B.	4					
			1-4	4	27.000	30.000	1.530	34.00	
		PB-1605J	P.B.	4					
			1-4	4	27.000	30.000	1.530	30.00	
17	C330	MS-1628GP	Main	10					
			1-5	10	75.920	81.000	2.525	27.83	M1-1129 X 10
		MS-	Main	10					
			1-5	10	75.920	81.000	2.525	27.83	
		TW-1100GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	84.250	101.000	3.000		
		TW-1129GP	T.W.	4	(I.D)	(O.D.)			
			4	2/2	84.250	101.000	2.500		
		CB-1603GP	C.R.	8					
			1-4	8	63.944	68.000	2.013	29.93	C1-1129 X 8
		SH-1100K	Cam	4					
			1	1	55.970	60.000	2.000	20.00	
			2-4	3	55.970	60.000	2.000	20.00	
		SH-1163K	Cam	3					
			1	1	55.970	60.000	2.000	20.00	
			2.3	2	55.970	60.000	2.000	20.00	
		PB-1100J	P.B.	4					
			1-4	4	33.000	36.000	1.530	38.00	
		PB-1129J	P.B.	4					
			1-4	4	33.000	38.000	2.530	38.00	
18	C22NE 22LE	MS-1641GP	Main	10					
			1.2.4.5	8	57.995	62.000	1.995	19.30	
			△3	2	57.995	62.000	1.995	25.62	
		CB-1641GP	C.R.	8					
			1-4	8	48.987	52.000	1.497	19.20	1 Oil Hole
		CB-1642GP	C.R.	8					
			1-4	8	48.987	52.000	1.497	19.20	2 Oil Holes

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
19	D500 D500-T	MS-1629GP	Main	14						
			1-7	14	75.920	81.000	2.525	27.83	M1-1129 X 14	
		MS-	Main	14						
			1-7	14	75.920	81.000	2.525	27.83		
		TW-1100GP	T.W.	4		(I.D.)	(O.D.)			
			4	2/2	84.250	101.000	3.000			
		TW-1129GP	T.W.	4		(I.D.)	(O.D.)			
			4	2/2	84.250	101.000	2.500			
CB-1612GP	C.R.	12								
	1-6	12	63.944	68.000	2.013	29.93	C1-1129 X 12			
SH-1129K	Cam	6								
	1	1	55.970	60.000	2.000	20.00				
2-6	5	55.970	60.000	2.000	20.00					
	PB-1629J	P.B.	6							
1-6		6	33.000	36.000	1.530	38.00	P1-1100 X 6			
20	DA120	(MS-1052GP)	Main	14						
22	DA640 GD150	(MS-1052GP)	1-6	6/6	74.950	82.000	3.510	28.20		
			7	1/1	74.950	82.000	3.510	44.05		
		TW-1052GP	T.W.	4		(I.D.)	(O.D.)			
			1	2/2	82.250	99.900	3.480			
		(CB-1023GP)	C.R.	12						
			1-6	12	66.925	70.000	3.010	37.53		
		(CB-1052GP)	C.R.	12						
			1-6	12	66.925	71.980	2.513	37.53		
PB-1023J	P.B.	6								
	1-6	6	34.000	40.000	3.030	37.13				
PB-1052J	P.B.	6								
	1-6	6	36.000	41.000	2.540	38.13				
21	DA220	(MS-1064GP)	Main	10						
		(MS-1064GP)	1-4	4/4	74.950	82.000	3.510	28.20		
			5	1/1	74.950	82.000	3.510	44.05		
		TW-1052GP	T.W.	4		(I.D.)	(O.D.)			
			1	2/2	82.250	99.900	3.480			
		(CB-1050GP)	C.R.	8						
			1-4	8	63.950	70.000	3.010	37.53	C1-1023 X 8	
		PB-1050J	P.B.	4						
			1-4	4	34.000	40.000	3.030	37.13	P1-1023 X 4	
23	D920	(MS-1092GP)	Main	14						
E110		(MS-1092GP)	1-3.5.6	10	91.900	97.970	3.013	36.00		
			4	2	91.900	97.970	3.013	56.00		
		TW-1071GP	7	1/1	91.900	97.970	3.013	50.50		
			T.W.	4		(I.D.)	(O.D.)			
		(CB-1092GP)	1	2/2	102.250	119.900	3.480			
			C.R.	12						
		PB-1092J	1-6	12	79.925	85.980	3.013	44.50		
			P.B.	6						
1-6	6	45.990	52.000	3.030	46.00					

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
24	DH100	(MS-1092GP)	Main	14					
25	DH100-T		1-3.5.6	10	91.900	97.970	3.013	36.00	
			4	2	91.900	97.970	3.013	56.00	
			7	1/1	91.900	97.970	3.013	50.50	
		MS-1609GP	Main	14					
			1-3.5.6	10	91.900	97.970	3.013	34.00	
			4	2	91.900	97.970	3.013	51.00	
			7	1/1	91.900	97.970	3.013	49.50	
		TW-1071GP	T.W.	4	(I.D.)	(O.D.)			
			1	2/2	102.250	119.900	3.480		
		(CB-1042GP)	C.R.	12					
			1-6	6/6	77.920	82.980	2.513	46.50	
		*CB-	C.R.	12					
			1-6	12	77.920	82.980	2.513	46.50	C1-1042-L X 12
		(PB-1042J)	P.B.	6					
			1-6	6	45.000	51.000	3.050	40.00	
26	E120	MS-1154GP	Main	14					
	E120-T		1-3.5.6	5/5	99.905	105.970	3.010	34.00	
			4	1/1	99.905	105.970	3.010	55.00	
			7	1/1	99.905	105.970	3.010	49.50	
		TW-1102GP	T.W.	4	(I.D.)	(O.D.)			
			1	2/2	111.250	133.900	3.480		
		CB-1154GP	C.R.	12					
			1-6	12	87.925	93.980	3.011	42.50	
		PB-1154J	P.B.	6					
			1-6	6	50.000	56.000	3.050	(U)35.00 (L)44.50	
27	4EC1	MS-1624GP	Main	10					
28	4EC1-T		1-5	5/5	47.938	51.976	2.006	15.53	
		MS-1625GP	Main	10					
29	4EE1-T		1-5	5/5	51.938	55.976	2.006	15.53	
		TW-1625A	T.W.	2	(I.D.)	(O.D.)			
		(TW-1624GP)	2	2	59.000	69.950	2.210		
		TW-1626A	T.W.	2					
			2	2	59.000	73.700	2.210		
		CB-1624A	C.R.	8					
			1-4	8	45.945	48.982	1.506	16.83	
		PB-1624J	P.B.	4					
			1-4	4	22.000	25.000	1.540	23.75	
		PB-1625J	P.B.	4					
			1-4	4	25.000	28.000	1.540	23.75	
		*PB-1636J	P.B.	4					
			1-4	4	27.000	30.000	1.540	23.75	
30	4FA1	MS-1616GP	Main	10					
	4FA1-T		1-5	5/5	55.932	59.980	2.008	21.86	
	4FB1	TW-1616A	T.W.	2	(I.D.)	(O.D.)			
	4FB1-T		3	2	64.000	80.200	2.360		
	4FC1	CB-1616GP	C.R.	8					
	4FC1-T		1-4	8	48.940	51.985	1.505	21.63	
	4FD1	SH-1166A	Cam	10					
	4FD1-T		1-5	10	27.975	31.000	1.500	16.13	
	4FE1	PB-1166J	P.B.	4					
	4FE1-T		1-4	4	25.000	28.000	1.530	26.75	
	4FG1	PB-1638J	P.B.	4					
			4	4	27.000	30.000	1.540	26.75	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
31	4HE1-T 4HF1 4HG1 4HJ1 4HK1-T	MS-1631GP	Main	10					
			1-5	5/5	81.915	87.000	2.518	27.33	
		TW-1631A	T.W.	3	(I.D.)	(O.D.)			
				1/2	92.750	109.750	3.000		
		CB-1631GP	C.R.	8					
			1-4	8	65.922	69.985	2.013	30.43	
		CB-1640GP	C.R.	8					
			1-4	8	72.922	77.985	2.517	30.43	
		CB-1644GP	C.R.	8					
			1-4	4/4	72.922	77.985	2.517	30.43	U: L/H Notch L: R/H Notch
		SH-1631A	Cam	10					
			1-5	10	39.975	43.000	1.500	22.13	Shell with a hole
		SH-1640A	Cam	10					
	1-5	10	39.975	43.000	1.500	16.00	Shell with a hole		
PB-1631J	P.B.	4							
	1-4	4	36.000	40.000	2.040	(U)29.80			
PB-1644J	P.B.	4							
	1-4	4	40.000	44.000	2.040	(L)40.85 (U)28.70 (L)40.85	P1-1643 X 4		
32	6HE1	MS-1632GP	Main	14					
	6HH1		1-7	7/7	81.915	87.000	2.518	27.33	
33	6HE1-T 6HK1-T	TW-1631A	T.W.	3	(I.D.)	(O.D.)			
				1/2	92.750	109.750	3.000		
		CB-1632GP	C.R.	12					
			1-6	12	65.922	69.985	2.013	30.43	C1-1631 X 12
		CB-1639GP	C.R.	12					
			1-6	12	72.922	77.985	2.517	30.43	
		CB-1643CP	C.R.	12					
			1-6	6/6	72.922	77.985	2.517	30.43	U: L/H Notch L: R/H Notch
		SH-1632A	Cam	14					
			1-7	14	39.975	43.000	1.500	22.13	S1-1631 X 14
		SH-1643GP	Cam	8					
			1-4	8	39.975	43.000	1.500	26.13	Shell with a hole
		PB-1632J	P.B.	6					
	1-6	6	36.000	40.000	2.040	(U)29.80	P1-1631 X 6		
PB-1643J	P.B.	6							
	1-6	6	40.000	44.000	2.040	(L)40.85 (U)28.70 (L)40.85			
34	G130 G150 G161 G180 G200	MS-1103GP	Main	10					
			1.3.5	6	55.935	58.980	1.517	32.13	
			2.4	4	55.935	58.980	1.517	21.13	
		TW-1030A	T.W.	2	(I.D.)	(O.D.)			
			3	2	63.000	80.200	2.360		
		CB-1032GP	C.R.	8					
			1-4	8	48.940	51.985	1.513	22.13	φ4 Hole at 40°
		(CB-1103GP)	C.R.	8					
			1-4	8	48.940	51.985	1.510	22.13	φ3 Hole at 20°
		CB-1628GP	C.R.	8					
			1-4	8	48.940	51.985	1.513	22.13	20oil Holes at 20° & 40°
		SH-1032A	Cam	3					
			1-3	3	44.975	48.000	1.500	25.00	
		*SH-	Cam	10					
			1-5	10	29.945	32.985	1.510	20.13	
		(SH-1103B)	Cam	5					
	1.2.3.5	4	49.975	48.000	1.500	22.00			
	4	1	49.975	48.000	1.500	18.00			
PB-1032J	P.B.	4							
	1-4	4	22.000	25.400	1.720	26.00			

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
35	G200	MS-1620GP	Main	10					
			1-5	10	55.932	59.980	2.008	21.86	
		TW-1616A	T.W.	2	(I.D)	(O.D.)			
			3	2	64.000	80.200	2.360		
		CB-1620GP	C.R.	8					
36	4JA1 4JC1 4JD1 4JE1 4JF1	MS-1622A	Main	10					
			1-5	5/5	59.932	64.000	2.004	23.03	
		MS-1623A	Main	10					
			1-5	5/5	69.932	74.000	2.006	23.03	
		TW-1622A	T.W.	2	(I.D)	(O.D.)			
37	4JB1 4JB1-T 4JB1-T D201	TW-1070A	T.W.	2	(I.D)	(O.D.)			
			3	2	73.050	86.950	2.480		
		CB-1622A	C.R.	8					
			1-4	8	52.930	56.000	1.513	25.83	
		SH-1622A	Cam	3					
			1	1	49.975	54.000	2.003	25.00	
			2.3	2	49.975	54.000	2.003	22.00	
		PB-1622J	P.B	4					
			1-4	4	31.000	34.000	1.530	33.00	
			PB-1623J	P.B	4				
		1-4	4	34.000	37.025	1.530	33.00		
38	8PA1 8PB1 8PB1-T 8PC1 8PC-T 10PA1 10PB1 10PB1-T 10PC1 12PA1 12PB1 12PB1-T 12PC	MR-1156GP	Main						
			1/5	5/5	96.870	102.970	3.013	28.73	2Pcs/Box X 5
		8PA/B/C1	1/6	6/6					2Pcs/Box X 6
		10PA/B/C1	1/7	7/7					2Pcs/Box X 7
		TW-1156K	T.W.	4	(I.D)	(O.D.)			
			5	2/2	106.250	130.900	3.420		
		CR-1156GP	C.R.						
		8PA/B/C1	L/R 1-4	8/8	77.910	83.980	3.013	26.13	2Pcs/Box X 8
		10PA/B/C1	L/R 1-5	10/10					2Pcs/Box X 10
		12PA/B/C1	L/R 1-6	12/12					2Pcs/Box X 12
		PR-1156J	P.B.						
		8PA/B/C1	1-4	8	38.000	43.000	2.550	(U)26.00	2Pcs/Box X 4
		10PA/B/C1	1-5	10				(L)38.00	2Pcs/Box X 5
12PA/B/C1	1-6	12					2Pcs/Box X 6		
39	8PD1 10PD1 12PD1 12PD1 8PE1 10PE1 12PE1	MR-1630GP	Main						
			1-5	5/5	104.870	109.970	2.513	27.73	2Pcs/Box X 5
		10PD1	1-6	6/6					2Pcs/Box X 6
		12PD1	1-7	7/7					2Pcs/Box X 7
		TW-1630A	T.W.	4	(I.D)	(O.D.)			
			5	4	116.250	134.650	4.480		
		CR-1630GP	C.R.						
		8PD1	L/R 1-4	8/8	81.910	86.980	2.513	25.63	2Pcs/Box X 8
		10PD1	L/R 1-5	10/10					2Pcs/Box X 10
		12PD1	L/R 1-6	12/12					2Pcs/Box X 12
		PR-1630J	P.B.						
		8PD1	1-8	8	43.000	47.000	2.040	(U)25.53	2Pcs/Box X 4
		10PD1	1-10	10				(L)38.38	2Pcs/Box X 5
		12PD1	1-12	12					2Pcs/Box X 6
		PR-1637J	P.B.						
8PE1	1-8	8	43.000	47.000	2.040	(U)25.43	2Pcs/Box X 4		
10PE1	1-10	10				(L)38.23	2Pcs/Box X 5		
12PE1	1-12	12					2Pcs/Box X 6		

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
40	6QA1	MS-1609GP	Main	14					
41	6QA2		1-3,5-6	5/5	91.900	97.970	3.013	34.00	
			4	1/1	91.900	97.970	3.013	51.00	
	6QB2		7	1/1	91.900	97.970	3.013	49.50	
		MS-1636GP	Main	14					
			1-3,5-6	5/5	91.910	97.970	3.013	28.00	
			4	1/1	91.910	97.970	3.013	42.00	
			7	1/1	91.910	97.970	3.013	49.50	
		TW-1071GP	T.W.	4	(I.D)	(O.D.)			
			1	4	102.250	119.900	3.480		
		TW-1636K	T.W.	4	(I.D)	(O.D.)			
			1	4	102.250	119.900	3.480		
		CB-1609GP	C.R.	12					
			1-6	12	79.920	85.980	3.013	41.50	
		CB-1636GP	C.R.	12					
			1-6	12	79.925	85.980	3.013	35.50	
		PB-1092J	P.B.	6					
			1-6	6	45.990	52.000	3.030	46.00	
42	6RA1	MS-1613GP	Main	14					
	6RA1-T		1-3.5.6	5/5	99.905	105.970	3.010	34.00	
			4	1/1	99.905	105.970	3.010	51.00	
43	6RB1		7	1/1	99.905	105.970	3.010	49.50	
	6RB1-T	TW-1613K	T.W.	4	(I.D)	(O.D.)			
	6RB2		1	4	111.250	139.900	3.480		
		CB-1154GP	C.R.	12					
			1-6	12	87.925	93.980	3.011	42.50	
		CB-1614GP	C.R.	12					
			1-6	12	87.925	93.980	3.011	38.90	
		CB-1613GP	C.R.	12					
			1-6	6/6	89.925	95.980	3.011	38.90	
		PB-1154J	P.B.	6					
			1-6	6	50.000	56.000	3.050	(U)35.00 (L)44.50	
		PB-1613J	P.B.	6					
			1-6	6	52.000	56.000	2.035	(U)35.00 (L)45.00	
44	6SA1	MS-1618GP	Main	14					
45	6SA1-T		1-7	7/7	89.929	96.000	3.013	27.63	
46	6SD1	MS-1634GP	Main	14					
	6SD1-T		1-7	7/7	89.929	96.000	3.013	29.23	
		TW-1618K	T.W.	4	(I.D)	(O.D.)			
			7	4	101.250	124.000	3.500		
		*TW-1634K	T.W.	4					
			7	4	99.250	124.000	3.500		
		CB-1618GP	C.R.	12					
			1-6	12	77.914	83.980	3.013	27.63	
		CB-1634GP	C.R.	12					
			1-6	12	77.914	82.980	2.513	29.33	
		CB-1635GP	C.R.	12					
			1-6	12	79.914	84.980	2.513	32.63	
		PR-1156J	P.B.	6					
			1-6	6	38.000	43.000	2.540	(U)26.00 (L)38.00	2Pcs/Box X 3
		PB-1635J	P.B.	6					
			1-6	6	43.000	47.000	2.040	(U)29.80 (L)43.00	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
48	6VD1 6VE1	MS-1645A	Main	8					
				4	63.920	69.000	2.521	18.53	
		TW-1645A	T.W.	2/2	63.920	69.000	2.521	16.53	
				2	(I.D)	(O.D.)			
				2	71.000	97.650	1.960		
CB-1645A	C.R.	12							
			1-6	12	53.940	57.000	1.508	17.13	
49	6WAI-T 6WFI-T 6WGI-T	MS-1646GP	Main	14					
				1-7	7/7	104.905	110.970	3.010	37.50
		TW-1646A	T.W.	4	(I.D)	(O.D.)			
				4	121.650	143.900	3.980		
		CB-1646GP	C.R.	12					
			1-6	6/6	91.925	97.980	3.011	44.50	
		PB-1646J	P.B.	6					
			1-6	6	56.000	62.000	3.030		
50	4XC1	MS-1621A	Main	10					
51	4XC1-T		1-5	5/5	47.938	51.976	2.009	17.13	
52									
53	4XE1	MS-1626A	Main	10					
54	4XE1-T	*MS-1633A	Main	1-5	5/5	51.938	55.976	2.009	17.13
				1-5	5/5				
		TW-1621A	T.W.	2	(I.D)	(O.D.)			
				3	2	55.250	69.950	2.210	
		TW-1626A	T.W.	2	(I.D)	(O.D.)			
				2	2	59.000	73.700	2.210	
		CB-1621A	C.R.	8					
			1-4	8	39.945	42.982	1.505	17.13	
		CB-1626GP	C.R.	8					
			1-4	8	39.945	42.982	1.504	17.13	
55	4ZA1 4ZB1 4ZB1-T 4ZC1 4ZC1-T 4ZD1	MS-1620GP	Main	10					
				1-5	10	55.932	59.980	2.008	21.86
		TW-1616A	T.W.	2	(I.D)	(O.D.)			
				3	2	64.000	80.200	2.360	
		CB-1620GP	C.R.	8					
			1-4	8	48.940	51.985	1.510	21.63	
56	4ZE1	MS-1627GP	Main	10					
				1-5	5/5	55.932	59.980	2.008	21.86
		TW-1616A	T.W.	2	(I.D)	(O.D.)			
				3	2	64.000	80.200	2.360	
CB-1627A	C.R.	8							
			1-4	8	48.940	51.985	1.510	22.13	
47	6UZ1	*MS-1647GP	Main	14					
			1-7	7/7					
		*CB-1647GP	C.R.	12					
			1-6	6/6					
		*PB-1647J	P.B.	6					
			1-6	6					
57	RZ4E-TC	*MS-1648A	Main	10					
			1-4						
		*TW-1648A	T.W.						
		*CB-1648	C.R.	8					
		*PB-1648J	P.B.	4					

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	B1	MS-2008A	Main	10					
2	B3	MD-2012A	1-5	10	49.955	54.000	2.012	17.63	φ 4 Hole at 27° 34' Lug3.5 U : φ 5 Hole at 28° 45' Lug3.5 L : no Oil Hole Lug : 4.0mm
	B5		1-5	5/5	49.955	54.000	2.012	17.63	
3	B6	TW-2008A	T.W.	2	(I.D)	(O.D.)			
4	BJ	CB-1168A	4	2	57.250	69.000	2.550		
	BP		C.R.	1-4	8	39.955	43.000	1.513	17.13
			C.R.	1-4	8	44.956	48.000	1.513	17.13
			*PB-	P.B.	4				
				1-4	4	19.993	23.000	1.543	21.80
5	D5	MS-1168A	Main	10					φ 4 Hole at 29° 40'
	E1	TW-1168A	1-5	10	49.955	54.000	2.012	19.13	
	E3		T.W.	4	(I.D)	(O.D.)			
	E5		5	4	57.250	69.000	2.000		
	TC	CB-1168A	C.R.	8					
	UC		1-4	8	39.956	43.000	1.508	17.13	
6	F2	MS-2004A	Main	10					M1-2004 X 9 M2-2004 X 1 M1-2004 X 4 M1-2009 X 5 No H&G M2-2004 X 1 R/H Notch with Hole L/H Notch without H
7	F6		1-5	9	59.955	64.000	2.013	19.13	
8	F8		Δ3(U)	1	59.955	64.000	2.013	27.99	
		MS-2009A	Main	10					
			1.2.4.5	4	59.955	64.000	2.013	19.13	
			1-5(L)	5	59.955	64.000	2.013	19.13	
			Δ3(U)	1	59.955	64.000	2.013	27.99	
		CB-2004A	C.R.	8					
			1-4	8	50.955	54.002	1.510	21.13	
		CB-2009A	C.R.	8					
			1-4	8	50.955	54.002	1.510	21.13	
9	FP	MS-2018A	Main	10					
	FS	TW-2018A	1-5	5/5	55.955	60.000	2.010	17.63	
			T.W.	2					
		CB-2018A	C.R.	8					
			1-4	8	47.956	51.000	1.514	17.13	
10	G6	MS-2011A	Main	10					
			1-4	5/4	59.940	60.000	2.013	20.00	
			5	/1	59.940	60.000	2.013	25.99	
		CB-2009A	C.R.	8					
			1-4	8	50.955	54.002	1.510	21.13	
		BB-2011A	B.B.						
			1.2.	2	42.000	46.000	1.995	23.00	
			3.4.	2	40.000	44.000	1.980	26.00	
			5.6.	2	21.000	24.000	1.480	16.00	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
11	HA	MS-1153A	Main	10							
12		TW-1153A	1-5	10	75.825	80.066	2.093	28.70			
		CB-1153A	T.W.	4	(I.D)	(O.D.)					
		PB-1075J	3	4	84.700	101.400	2.325				
		PB-2005J	C.R.	8	1-4	8	61.125	64.833	1.835	28.05	
			P.B.	4	1-4	4	31.749	34.919	1.610	26.80	
			P.B.	4	1-4	4	30.000	33.000	1.500	34.30	
13	JE	MS-2010GP	Main	8							
14	JF	TW-2010GP	1-4	4/4	61.955	66.000	2.012	18.13			
		CB-2010A	T.W.	4	(I.D)	(O.D.)					
		*CB-2001A	C.R.	12	2/2	68.250	80.000	2.050			
			1-6	12	52.955	56.000	1.511	17.03			
			C.R.	12	1-6	12	47.955	51.000	1.511	17.03	
15	KJ KL	MS-2017GP	Main	8							
			1-3	3/3	61.955	67.000	2.506	18.13			
			4	1/1	61.955	67.000	2.506	22.03			
		TW-2010GP	T.W.	4	(I.D)	(O.D.)					
		CB-2017GP	C.R.	12	2/2	68.250	80.000	2.050			
			1-6	12	52.955	56.000	1.511	17.03			
16	L3	MS-2020A	Main	10							
			1.2.4.5	4	52.000	57.020	2.504	19.01			
			1-5(L)	5	52.000	57.020	2.505	19.01			
		CB-2020A	△3(U)	1	52.000	57.020	2.504	24.00			
			C.R.	8	1-4	8	50.000	53.025	1.502	16.90	
17	LF	*CB-	C.R.	8							
18	MA NA	MS-1114A	Main	10							
19			1.2.4	6	62.955	67.000	2.010	18.13			
			3	2	62.955	67.000	2.010	24.13			
			5	2	62.955	67.000	2.010	24.13			
			TW-1061GP	T.W.	4	(I.D)	(O.D.)				
			5	2/2	71.750	86.400	2.050				
			CB-1086A	C.R.	8	1-4	8	52.950	56.002	1.511	22.13
			CB-1141A	C.R.	8	1-4	8	52.955	56.002	1.510	20.93
			(CB-1114GP)	C.R.	8	1-4	8	52.950	56.002	1.510	22.13
			SH-1061A	Cam	6	1	2	44.960	49.009	2.015	24.13
					2.3	4	4	44.960	49.009	2.015	18.13
			PB-1114J	P.B.	4	1-4	4	21.990	25.000	1.530	27.90
										Shell with a Hole	
										Shell with a Hole	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
20 21	PB	(MS-1082GP)	Main	10					
			1.2.4	6	55.955	60.000	2.013	20.13	
	TA TB	*TW- (TW-1082B) CB-1082A PB-1082J	3.5.	4	55.955	60.000	2.013	23.13	
			T.W.	4	(I.D)	(O.D.)			
			5	4	62.250	78.000	2.000		
			T.W.	4	(I.D)	(O.D.)			
			5	2/2	62.250	78.000	2.000		
			C.R.	8					
1-4	8	44.955	48.002	1.510	19.63				
1-4	4	20.000	23.000	1.543	24.40				
22	PC	MS-1113GP	Main	10					
			1.2.4	6	62.950	67.000	2.010	20.13	
	TC	TW-1113K CB-1082A PB-1082J	3.5	4	62.950	67.000	2.010	23.13	
			T.W.	4	(I.D)	(O.D.)			
			5	2/2	70.250	80.000	2.000		
			C.R.	8					
			1-4	8	44.955	48.002	1.510	19.63	
			P.B.	4	20.000	23.000	1.543	24.40	
1-4	4								
23	PN	MS-2013A	Main	10					
			1-5	10	55.955	60.000	2.010	17.63	
		TW-2013A	T.W.	2	(I.D)	(O.D.)			
			2	62.250	79.000	2.550			
		CB-2013A	C.R.	8					
			1-4	8	48.955	52.000	1.511	18.13	
PB-2013J	P.B.	4	25.000	28.000	1.535	22.80			
1-4	4								
24 25	R2	MS-2007A	Main	10					
			1.2.4.5.	4/4	59.955	64.000	2.010	18.53	
	RF	TW-2007A	3	1/1	59.955	64.000	2.010	21.13	
			T.W.	4	(I.D)	(O.D.)			
	RF-T	CB-2004A	3	2/2	69.250	84.400	2.050		
			C.R.	8					
	CB-2007A	C.R.	8						
		1-4	8	50.955	54.002	1.510	21.13	1 Oil Hole	
	PB-2007J	C.R.	8						
		1-4	8	50.955	54.002	1.510	21.13	No Oil Hole	
PB-2004J	P.B.	4	25.000	28.000	1.530	26.80			
	1-4	4	30.000	33.000	1.530	26.80			
26	SL	MS-1153GP	Main	10					
			1-5	10	75.825	80.066	2.093	28.70	
	SL-T	TW-1153A	T.W.	4	(I.D)	(O.D.)			
			3	2/2	84.700	101.400	2.325		
	CB-1153GP	C.R.	8						
		1-4	8	61.125	64.833	1.835	28.05		
PB-2006J	P.B.	4	34.000	37.000	1.534	34.30			
	1-4	4							

MAZDA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
27	S2	MS-1181GP	Main	10							
			1-5	5/5	65.000	69.000	1.983	28.70	Inch Size		
		TW-1181A	T.W.	4	(I.D)	(O.D.)					
			3	2/2	73.700	90.400	2.325				
		CB-1181GP	C.R.	8							
			1-4	8	53.000	56.696	1.830	28.65	Inch Size		
		PB-1181J	P.B.	4							
			1-4	4	28.000	31.000	1.530	26.80			
28	TF	MS-2014A	Main	10							
			1-5	10	78.980	84.100	2.525	29.40			
	TM	TW-2014A	T.W.	4	(I.D)	(O.D.)					
				4	88.500	104.400	2.325				
		CB-2014A	C.R.	8							
		1-4	8	63.987	68.100	2.030	29.90				
		PB-2014J	P.B.	4							
			1-4	4	35.000	38.000	1.530	36.80			
29 31	UB	MS-1114A	Main	10							
	VC			1.2.4	6	62.955	67.000	2.010	18.13		
				3	2	62.955	67.000	2.010	24.13		
	VB			5	2	62.955	67.000	2.010	24.13		
				TW-1061A	T.W.	4	(I.D)	(O.D.)			
					5	2/2	71.750	86.400	2.050		
				CB-1086A	C.R.	8					
					1-4	8	52.950	56.002	1.511	22.13	
				CB-1141A	C.R.	8					
					1-4	8	52.955	56.002	1.510	20.93	
				*(CB-1114GP)	C.R.	8					
					1-4	8	52.950	56.002	1.510	22.13	
				SH-1061A	Cam	6					
			1	2	44.960	49.009	2.015	24.13			
		2.3	4	44.960	49.009	2.015	18.13				
		PB-1114J	P.B.	4							
			1-4	4	21.990	25.000	1.530	27.90			
30	VA	MS-1141A	Main	6							
				1	2	62.950	67.005	2.007	24.63		
				△2	2	62.950	67.005	2.007	36.02		
				3	2	62.950	67.005	2.007	30.13		
			CB-1141A	C.R.	8						
					1-4	8	52.955	56.005	1.510	20.93	
				(SH-1141B)	Cam	3					
					1	1	49.990	53.000	1.505	25.10	
					2	1	48.990	52.000	1.505	28.10	
					3	1	44.990	48.000	1.505	25.10	
				PB-1114J	P.B.	4					
		1-4	4	21.990	25.000	1.530	27.90				

MAZDA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
32	WL WL-T	MS-2016A	Main 1-5	10 5/5	66.955 (I.D)	71.000 (O.D.)	2.006	22.60		
		TW-2016A	T.W. 3	4 2/2						75.200
33	W9 WE	CB-2016A	C.R. 1-4	8 8	54.955	58.000	1.507	23.60		
		CB-2021A	C.R. 1-4	8 8	56.995	60.019	1.511	23.63		
		PB-2016J	P.B. 1-4	4 4	32.000	35.095	1.530	31.00		
		PB-2021J	P.B. 1-4	4 4	34.000	37.100	1.530	31.00		
34	XA XB	MS-2000GP	Main 1-5	10 5/5	69.825 (I.D)	74.066 (O.D.)	2.093	28.70		
		TW-1075A	T.W. 3	4 2/2						78.700
		CB-1075GP	C.R. 1-4	8 8	57.125	60.833	1.836	28.65		No Oil Hole
		CB-2015GP	C.R. 1-4	8 8	57.125	60.833	1.836	28.65		1 Oil Hole
		PB-1075J	P.B. 1-4	4 4	31.749	34.919	1.610	26.80		
		PB-2000J	P.B. 1-4	4 4	28.000	31.000	1.530	30.70		
35 36	YA ZB	MS-2002GP	Main 1-7	14 7/7	69.825 (I.D)	74.066 (O.D.)	2.093	28.70		
		TW-1075A	T.W. 3	4 2/2						78.700
		CB-1097GP	C.R. 1-6	12 12	57.125	60.833	1.836	28.65		C1-1075 X 12
		CB-2002GP	C.R. 1-6	12 12	57.125	60.833	1.836	28.65		1 Oil Hole
		PB-1097J	P.B. 1-6	6 6	31.749	34.919	1.601	26.80		P1-1075 X 6
37	ZY	MS-2019A	Main 1-5	10 5/5	49.975	55.000	2.513	17.05		
		*TW-2019A	T.W. 3	2						57.450
		*CB-2019A	C.R. 1-4	8 8	47.975	51.000	1.512	16.80		
38	P4AT	*MS-2022A	Main 1-5	10 5/5						
		*CB-2022A	C.R. 1-4	8 8						

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1 2	G23B	(MS-1800A)	Main	6					
			1.2.	4	43.000	47.000	1.990	20.00	3.95 Wide Notch 2 Holes at 30°
	2G23		△3	2	43.000	47.000	1.990	23.95	
	2G24	MS-1820A	Main	6					
	2G25			1-2	2/2	43.000	47.000	1.990	19.50
			△3	1/1	43.000	47.000	1.990	23.95	
		(CB-1800A)	C.R.	4					
			1-2	4	39.992	43.004	1.495	17.13	
3	3G81	MS-1824A	Main	8					
	3G82		1-4	4/4	40.000	44.000	1.990	17.13	
	3G83	TW-1824A	T.W.	2	(I.D)	(O.D.)			
					45.250	56.700	2.475		
		CB-1824A	C.R.	6					
			1-3	6	36.000	39.000	1.489	14.63	
		*BB-	B.B.	2					
				1	1	20.000	23.000	1.482	16.00
			2	1	44.000	47.000	1.482	16.00	
4 5	G11B	MS-1169A	Main	10					
	G12B		1.2.4	8	48.000	52.000	1.990	19.13	2 Holes at 27°
	G13B		△3	2	48.000	52.000	1.990	23.95	
		MS-1818A	Main	10					
	4G11,12		1.2.4	4/4	48.000	52.000	1.990	19.13	L : 2 Holes at 71° 2 Holes at 56°
	4G13,15		△3	2	48.000	52.000	1.990	23.95	
		CB-1169A	C.R.	8					
			1-4	8	42.000	45.000	1.493	17.63	
	CB-1825A	C.R.	8						
		1-4	8	42.000	45.000	1.493	15.63		
6 10 19	G31B,32B	MS-1164A	Main	10					
	G33B,37B		1.2.4	4/4	57.000	61.000	1.990	23.13	2 Holes at 48° 31'
			△3	2	57.000	61.000	1.990	28.95	
	4G30,31	MS-1821A	Main	10					
	4G32,33		1.2.4	4/4	57.000	61.000	1.990	23.13	2 Holes at 55° 30'
	4G35,36		△3	2	57.000	61.000	1.990	28.95	
	4G37	CB-1085A	C.R.	8					
			1-4	8	45.000	48.000	1.493	23.63	
	G62B,63B	BB-1085A	B.B.	3					
	G64B		1	1	38.975	42.000	1.502	19.00	
			2	2	35.975	39.000	1.491	16.00	
	4G62,63	BB-1164A	B.B.	3					
4G64		1	1	41.975	45.025	1.505	19.00		
		2	2	40.967	44.025	1.495	21.00		
4D65	BB-1811A	B.B.	3						
4D65-T		1	1	41.975	45.025	1.505	19.00		
		2	1	40.967	44.025	1.495	21.00		
		3	1	40.967	44.025	1.495	21.00		
7	4G41	MS-1024GP	Main	6					
			1-3	3/3	63.993	68.000	1.993	25.13	
	4G42	TW-1024B	T.W.	2	(I.D)	(O.D.)			
			1	2	34.300	41.350	3.575		
		CB-1025GP	C.R.	8					
			1-4	8	52.000	55.000	1.493	22.13	
		(SH-1024B)	Cam	4					
			1	1	44.975	48.000	1.492	19.50	
			2	1	43.975	47.000	1.492	13.00	
			3	1	42.975	46.000	1.492	13.00	
			4	1	41.975	45.000	1.492	19.50	
		PB-1024J	P.B.	4					
			1-4	4	19.000	21.000	1.025	26.75	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
8	G51B	MS-1131A	Main	10						
9	G52B	MS-1131A	1.2.4.5	4/4	66.000	70.000	1.990	25.13		
	G54B		△3	1/1	66.000	70.000	1.990	30.95		
	4G51	MS-1819A	Main	10						
			1.2.4.5	4/4	60.000	64.000	1.990	25.13		
	4G52	CB-1131A	△3	1/1	60.000	64.000	1.990	30.95		
	4G53		C.R.	8						
	4G54		BB-1131A	1-4	8	53.000	56.007	1.493	25.13	
				B.B.	3					
			1-2	2	43.000	46.000	1.480	20.00		
			3	1	23.000	26.000	1.510	18.00		
11	4G63	MS-1827A	Main	10						
			1.2.4.5	4/4	57.000	61.000	1.990	20.63		
			△3	1/1	57.000	61.000	1.990	25.45		
		MS-1834A	Main	10						
			1-5	5/5	57.000	61.000	1.990	20.63		
		TW-1834A	CB-1827A	T.W.	2					
		3		2	63.250	80.350	2.125			
			C.R.	8						
			1-4	8	45.000	48.000	1.490	21.23		
12	6G71	MS-1822A	Main	8						
13	6G72	TW-1822A	1-4	4/4	60.000	64.000	1.990	18.13		
			T.W.	4	(I.D)	(O.D.)				
		CB-1823A	2/2	66.250	77.700	1.975				
			C.B.	12						
		CB-1822A	1-6	12	45.000	48.000	1.493	15.50	For 6G71	
			C.B.	12				For 6G72		
			1-6	12	50.000	53.000	1.493	15.50		
14	6G74	MS-1842GP	Main	8						
			1-4	4/4	64.000	68.000	1.993	17.13		
		TW-1842A	T.W.	2	(I.D)	(O.D.)				
			2	70.250	94.700	1.975				
		CB-1842GP	C.R.	12						
			1-6	12	55.000	58.000	1.493	15.50		
15	4G91	MS-1828A	Main	10						
16	4G92	MS-1829GP	1-5	5/5	50.000	54.000	1.990	19.13	2 Oil Holes	
17	4G93		Main	10						
	4G93-T	TW-1828A	1-5	5/5	50.000	54.000	1.990	19.13	3 Oil Holes	
			T.W.	2	(I.D)	(O.D.)				
				1	2	56.250	75.400	1.975		
			CB-1828A	C.R.	8					
			1-4	4/4	45.000	48.000	1.490	16.80		
		CB-1829GP	C.R.	8						
			1-4	4/4	45.000	48.000	1.490	16.80		

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
18	4D55	MS-1131A	Main	10							
	4D55-T		1.2.4.5	8	66.000	70.000	1.990	25.13			
	4D56		△3	2	66.000	70.000	1.990	30.95			
	4D56-T	CB-1131A	C.R.	8							
			1-4	8	53.000	56.007	1.493	25.13			
		PB-1802J	P.B.	4							
			1-4	4	29.000	32.000	1.850	31.70	SF Size		
		BB-1131A	B.B.	3							
			1-2	2	43.000	46.000	1.480	20.00			
			3	1	23.000	26.000	1.510	18.00			
		MS-1845A	Main	10							
			1-5	10	66.000	70.000	1.990	25.13			
		TW-1845A	T.W.	2	(I.D.)	(O.D.)					
			3	2			2.475				
	20	4D68	*MS-1844GP	Main	10						
			1-5	5/5	57.000	60.000	2.003	20.63			
*CB-1844GP			C.R.	8							
			1-4	4/4	45.000	48.000	1.499	21.23			
21			4M40 4M41	MS-1832GP	Main	10					
					1-5	5/5	68.000	72.000	2.000	22.00	
				TW-1832A	T.W.	4	(I.D.)	(O.D.)			
		2/2	76.250	94.700	2.450						
	CB-1832GP	C.R.	8								
		1-4	4/4	54.000	58.000	1.995	27.63	U : 23mm Oval Hole			
	CB-1847GP	C.R.	8								
		1-4	4/4	54.000	58.000	1.995	27.63	U : φ 6 Hole			
	PB-1832J	P.B.	4				(U)20.50				
		1-4	4	29.98	33.03	1.50	(L)36.60				
22	6A12	MS-1846A	Main	8							
			1-4	4/4	53.000	57.000	1.993	17.00			
		TW-1846A	T.W.	2	(I.D.)	(O.D.)					
			2	59.000	79.700	1.975					
	CB-1846A	C.R.	12								
		1-6	12	43.000	46.000	1.493	15.00				
23	4B10 4B11 4B12	*MS-1849A	Main	10							
			1-5	5/5							
		*CB-1849A	C.R.	8							
		1-4	8								
24	4G94	CB-1852A	C.R.	8							
			1-4	8	47.000	50.000	1.498	16.83			
25	4N13 4N14 4N14 4N15 4N15	*MS-1850A	Main	10							
			1-5	5/5							
		*TW-1850A	T.W.								
		*CB-1850A	C.R.	8							
		1-4	8								

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	S2E S3E S4E S6E	MR-1826GP	Main							
		S2E	1-3	6	74.980	79.000	1.990	31.13	2pcs/Box X 3	
		S3E	1-4	8					2pcs/Box X 4	
		S4E	1-5	10					2pcs/Box X 5	
		S6E	1-7	14					2pcs/Box X 6	
		TW-1826J	T.W.	3	(I.D)	(O.D.)				
				3	82.250	98.000	2.450			
		CR-1826GP	C.R.							
		S2E	1-2	4	57.980	62.000	2.000	34.13	4pcs/Box X 1	
		S3E	1-3	6					4pcs/Box X 1.5	
		S4E	1-4	8					4pcs/Box X 2	
		S6E	1-6	12					4pcs/Box X 3	
		PB-1078J	P.B.	4						
		S4E	1-4	4	28.000	31.000	1.530	36.000		
		PB-1115J	P.B.	6						
S6E	1-6	6	28.000	31.000	1.530	36.000				
2	S4K-T S6K-T	MR-1833GP	Main							
		S4K-T	1-5	5/5	89.950	95.020	2.490	27.13	2pcs/Box X 5	
		S6K-T	1-7	7/7					2pcs/Box X 7	
		TW-1833A	T.W.	3	(I.D)	(O.D.)				
				3	97.250	113.000	2.450			
		CR-1833GP	C.R.							
		S4K-T	1-4	8	59.950	64.020	2.000	29.63	2pcs/Box X 4	
		S6K-T	1-6	12					2pcs/Box X 6	
		PR-1833J	P.B.	6						
S4K-T	1-4	4	33.995	37.025	1.500	35.00	2pcs/Box X 2			
S6K-T	1-6	6					2pcs/Box X 3			
3	S4S S6S	MR-1843A	Main							
		S4S	1-5	5/5	77.950	82.000	1.990	25.13	2pcs/Box X 5	
		S6S	1-7	7/7					2pcs/Box X 7	
		TW-1843J	T.W.	3	(I.D)	(O.D.)				
				3	86.250	105.750	2.450			
		CR-1843A	C.R.							
		S4S	1-4	8	57.970	61.000	1.500	27.13	4pcs/Box X 2	
S6S	1-6	12					4pcs/Box X 3			

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
4	4D30	(MS-1160CP)	Main	10					U : 36mm Hole in Notch side
	4D31		1-5	5/5	77.960	82.000	2.007	27.13	
5	4D31-T	MS-1807GP	Main	10					U : 45mm Hole in opp. Notch side
6	4D32		1-5	5/5	77.960	82.000	2.007	27.13	
7	4D33	TW-1055K	T.W.	3	(I.D)	(O.D)			
	4D34	TW-1807K	No.5	3	83.250	104.000	2.450		
	4D34-T		T.W.	3	(I.D)	(O.D)			
	4D35			3	83.250	110.000	2.450		
	4D36	(CB-1160GP)	C.R.	8					
		CB-1807GP	C.R.	4/4	59.965	64.000	2.000	33.13	U : 23mm Oval Hole
		CB-1830GP	C.R.	8					
			1-4	4/4	64.960	69.000	2.000	33.13	U : 23mm Oval Hole
	CB-1835GP	C.R.	8						
			1-4	4/4	64.960	69.000	2.000	33.13	U : ϕ 6 Hole
	CB-1836GP	C.R.	8						
			1-4	4/4	59.965	64.000	2.000	33.13	U : ϕ 6 Hole
	SH-1160K		Cam	3					
			1	1	54.460	58.500	2.000	41.00	
			2	1	54.460	58.000	1.750	26.00	
			3	1	52.960	57.000	2.000	30.00	
	SH-1807K		Cam	3					
			1	1	54.460	58.500	2.000	41.00	
			2	1	54.460	58.000	1.750	21.00	
			3	1	52.960	57.000	2.000	21.00	
	SH-1830K		Cam	3					
			1	1	54.460	58.500	2.000	33.00	
			2	1	54.460	58.000	1.750	21.00	
			3	1	52.960	57.000	2.000	21.00	
	SH-1835K		Cam	5					
			1	1	54.460	58.500	2.000	33.00	S1-1830
			2	1	54.460	58.250	1.875	21.00	S2-1835
			3	1	54.460	58.000	1.750	21.00	S2-1807
			4	1	54.460	57.750	1.625	21.00	S4-1835
			5	1	52.960	57.000	2.000	21.00	S3-1807
	PB-1807J		P.B.	4					
	(PB-1160J)		1-4	4	34.000	37.000	1.540	38.80	
	PB-1809J		P.B.	4					
			1-4	4	34.000	37.000	1.540	(U)25.00 (L)38.40	
	PB-1830J		P.B.	4					
			1-4	4	36.000	40.000	2.000	(U)26.35 (L)38.40	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
8	6D10	MS-1145GP	Main	14					
9	6D11	MS-1838GP	Main	14	79.955	85.000	2.500	28.13	
		MS-1838GP	Main	14					
		MS-1838GP	1-7	7/7	83.955	89.000	2.500	28.13	
	6D14	TW-1145K	T.W.	3	(I.D.)	(O.D)			
	6D14-T		7	3	90.250	110.000	2.450		
	6D15	TW-1820K	T.W.	3	(I.D.)	(O.D)			
	6D16			3	90.250	113.000	2.450		
		TW-1838J	T.W.	3	(I.D.)	(O.D)			
				3	94.250	116.500	2.450		
	6D16-T	CB-1820GP	C.R.	12					
	6D17		1-6	6/6	64.940	69.000	2.000	34.13	
		CB-1838GP	C.R.	12					
			1-6	6/6	69.940	74.000	2.008	34.10	
		PB-1838J	P.B.	6					
			1-6	6	42.000	46.075	2.010	(U)26.80 (L)41.40	
		(SH-1145B)	Cam	4					
			1	1	57.720	64.000	3.100	28.00	
			2	1	57.970	64.000	2.975	28.00	
			3	1	58.220	64.000	2.850	28.00	
			4	1	58.470	64.000	2.725	32.50	
		SH-1820K	Cam	4					
			1	1	57.720	62.000	2.125	28.00	
			2	1	57.970	62.250	2.125	28.00	
26	6M61		3	1	58.220	62.500	2.125	28.00	
			4	1	58.470	62.750	2.125	32.50	
27	6M60-T	PB-1145J	P.B.	6					
			1-6	6	38.000	41.000	1.530	42.00	
		PB-1814J	P.B.	6					
			1-6	6	38.000	42.000	2.030	42.00	
		PB-1820J	P.B.	6					
			1-6	6	38.000	42.000	2.030	(U)28.40 (L)41.40	
12	6D31	MS-1808GP	Main	14					
	6D31-T		1-7	7/7	77.960	82.000	2.007	27.13	M1-1807U/L X 7
		TW-1055K	T.W.	3	(I.D)	(O.D)			
			5	3	83.250	104.000	2.450		
		CB-1808GP	C.R.	12					C1-1807 X 6 C1-1055 X 6
			1-6	6/6	59.965	64.000	2.000	33.13	
		SH-1808K	Cam	4					
			1	1	54.460	58.500	2.000	41.00	S1-1807
			2	1	54.460	58.000	1.750	21.00	S2-1807
			3	1	53.960	57.500	1.750	21.00	S3-1808
			4	1	52.960	57.000	2.000	21.00	S3-1807
		SH-1810K	Cam	4					
			1	1	54.460	58.500	2.000	33.00	S1-1830
			2	1	54.460	58.000	1.750	21.00	S2-1807
			3	1	53.960	57.500	1.750	21.00	S3-1808
			4	1	52.960	57.000	2.000	21.00	S3-1807
		PB-1808J	P.B.	6					
			1-6	6	34.000	37.000	1.540	38.80	P1-1807 X 6
		PB-1810J	P.B.	6					
			1-6	6	34.000	37.000	1.540	(U)25.00 (L)38.40	P1-1809 X 6

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
10	6D20	MS-1162GP	Main	14					
11	6D20-T	MS-1839GP	Main	14					
			1-7	7/7	99.920	106.000	3.000	31.13	
			Main	14					
			1-7	7/7	99.920	106.000	3.000	28.63	
	6D21	TW-1072J	T.W.	3	(I.D)	(O.D)			
	6D22		7	3	108.500	130.000	2.950		
	6D22-T	TW-1147J	T.W.	3	(I.D)	(O.D)			
	6D23		7	3	108.500	139.000	2.950		
	6D24	CB-1803GP	C.R.	12					
		(CB-1162GP)	1-6	6/6	83.930	90.000	3.000	44.13	
		CB-1839GP	C.R.	12					
			1-6	6/6	83.930	90.000	3.000	41.13	
		SH-1162K	Cam	7					
			1	1	64.470	72.000	3.735	26.00	
			2	1	64.720	72.000	3.610	26.00	
			3	1	64.970	72.000	3.485	26.00	
			4	1	65.220	72.000	3.360	26.00	
			5	1	65.470	72.000	3.265	26.00	
			6	1	65.720	72.000	3.235	26.00	
			7	1	65.970	72.000	2.985	34.00	
		SH-1803K	Cam	7					
			1	1	64.970	72.000	3.485	26.00	
			2	1	65.220	72.000	3.360	26.00	
			3.4	2	65.470	72.000	3.265	26.00	
			5.6	2	65.720	72.000	3.235	26.00	
			7	1	65.970	72.000	2.985	34.00	
		SH-1839K	Cam	7					
			1	1	64.970	71.000	3.000	26.00	
			2	1	65.220	71.250	3.000	26.00	
			3	1	65.470	71.500	3.000	26.00	
			4	1	65.470	71.750	3.125	26.00	
			5	1	65.720	72.000	3.125	26.00	
			6	1	65.720	72.250	3.250	26.00	
			7	1	65.970	72.500	3.250	34.00	
		PB-1162J	P.B.	6					
			1-6	6	50.000	55.000	2.520	46.00	
		PB-1839J	P.B.	6					
			1-6	6	50.000	55.000	2.520	(U)31.60 (L)46.00	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
13	6D34-T	MS-1808GP	Main	14	77.960 (I.D.)	82.000 (O.D)	2.007	27.13	M1-1807U/L X 7
			1-7	7/7					
		TW-1807K	T.W.	3	83.250	110.000	2.450	33.13	C1-1835 X 6 C1-1830 X 6
			3	3					
		CB-1837GP	C.R.	12	64.960	69.000	2.000	33.00	S1-1830
			1-6	6/6					
		SH-1837K	Cam	4	54.460	58.500	2.000	21.00	S2-1807
			1	1					
			2	1					
			3	1					
PB-1808J	P.B.	6	54.470	57.500	1.495	21.00	S3-1837		
	1-6	6							
PB-1837J	P.B.	6	52.960	57.000	2.000	21.00	S3-1807		
	1-6	6							
14	6D40	*MS-1851GP	Main	14	99.920	106.000	3.000	31.13	
			1-3,5-7	6/6					
		TW-1804GP	T.W.	3	99.920	106.000	3.000	41.13	
			4	1/1					
		CB-1803GP	C.R.	12	111.500	138.500	2.950	44.13	
			1-6	6/6					
		*SH-1851K	Cam	7	83.930	90.000	3.000	26.00	
			1	1					
			2	1					
			3	1					
4	1								
5	1								
6	1								
*PB-1851J	P.B.	6	66.730	72.000	2.615	26.00			
1-6	6								
15	6DB1 6DB1-T	MS-1036GP	Main	14	89.960	96.000	3.000	49.20	
			1	1/1					
		(TW-1036BC)	T.W.	4	89.960	96.000	3.000	31.20	
			4	1/1					
		CB-1037GP	C.R.	12	89.960	96.000	3.000	49.20	
			1-6	12					
		(SH-1036B)	Cam	4	89.960	96.000	3.000	56.20	
			1	1					
			2	1					
			3	1					
PB-1037J	P.B.	6	91.125	123.125	4.950	41.20			
	1-6	6							
PB-1037J	P.B.	6	74.920	81.000	3.007	45.00			
	1-6	6							
PB-1037J	P.B.	6	58.720	65.010	3.125	26.00			
	1-6	6							
PB-1037J	P.B.	6	58.450	65.010	3.250	26.00			
	1-6	6							
PB-1037J	P.B.	6	58.200	65.010	3.375	40.00			
	1-6	6							
PB-1037J	P.B.	6	57.970	65.010	3.500	46.00			
	1-6	6							
PB-1037J	P.B.	6	40.000	44.000	2.030	46.00			
	1-6	6							

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
16	6DC2	MR-1147GP	Main	8						
			1-4	4/4	99.920	106.000	3.010	31.13	2pcs/Box X 4	
		TW-1072J	T.W.	3	(I.D)	(O.D)				
			4	3	108.500	130.000	2.950			
		CR-1073GP	C.R.	12						
			1-6	12	83.930	90.000	3.000	37.63	4pcs/Box X 3	
		SH-	Cam	4						
			1	1	65.220	72.000	3.360	22.00		
			2	1	65.470	72.000	3.235	22.00		
			3	1	65.720	72.000	3.110	22.00		
P1-	P.B.	12								
	1-6	12	45.000	49.000	2.030	22.00	2pcs/Box X 6			
P1-	P.B.	6								
	1-6	6	45.000	51.000	3.030	48.00	2pcs/Box X 3			
17	8DC2	MR-1147GP	Main	10						
18	8DC2-T	TW-1072J	1-5	5/5	99.920	106.000	3.010	31.13	2pcs/Box X 5	
19	8DC4		T.W.	3	(I.D)	(O.D)				
	8DC6	TW-1147J	5	3	108.500	130.000	2.950			
	8DC7		T.W.	3	(I.D)	(O.D)				
	8DC8	TW-1804GP	6	3	108.500	139.000	2.950			
	8DC9		T.W.	3	(I.D)	(O.D)				
	8DC9-T	CR-1073GP	5	3	111.500	138.500	2.950			
	8DC10		C.R.	16						
	8DC11	CR-1147GP	L1-4	8	83.930	90.000	3.010	37.63	2pcs/Box X 8	
	8DC11		R1-4	8	83.930	90.000	3.010	37.63		
	8DC2-T	CB-1804GP	C.R.	16						
	8DC9-T		L1-4	8	83.930	90.000	3.010	37.63	4pcs/Box X 4	
		R1-4	8	83.930	90.000	3.010	37.63			
		C.R.	16							
		L1-4	8	89.930	95.000	2.510	37.63			
		R1-4	8	89.930	95.000	2.510	37.63			
		SH-	Cam	5						
		1	1	65.220	72.000	3.360	22.00			
		2	1	65.220	72.000	3.360	34.25			
		3	1	65.470	72.000	3.235	22.25			
		4	1	65.720	72.000	3.110	22.25			
	5	1	65.970	72.000	2.985	34.25				
	SH-	Cam	5							
	1	1	65.220	72.000	3.360	34.00				
	2	1	65.220	72.000	3.360	34.00				
	3	1	65.470	72.000	3.235	34.00				
	4	1	65.720	72.000	3.110	34.00				
	5	1	65.970	72.000	2.985	34.00				
	SH-	Cam	5							
	1	1	65.220	72.000	3.360	34.00				
	2	1	65.220	72.000	3.360	34.00				
	3	1	65.470	72.000	3.235	34.00				
	4	1	65.720	72.000	3.110	34.00				
	5	1	65.970	72.000	2.985	34.00				
	PR-	P.B.	16							
			16	45.000	49.000	2.030	22.00	2pcs/Box X 8		
	PR-	P.B.	8							
			8	45.000	51.000	3.030	48.00	2pcs/Box X 4		
	PR-1147J	P.B.	8							
			8	45.000	51.000	3.030	(U)42.00 (L)56.40	2pcs/Box X 4		
	PR-	P.B.	8							
			8	50.000	56.000	3.030	(U)40.40 (L)56.35	2pcs/Box X 4		

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
20	10DC6 10DC8	MR-1147GP	Main	12						
			1-6	12	99.920	106.000	3.010	31.13	2pcs/Box X 6	
			T.W.	3	(I.D)	(O.D)				
		6	3	108.500	130.000	2.950				
		TW-1072J	T.W.	3	(I.D)	(O.D)				
			6	3	108.500	139.000	2.950			
		TW-1147J	T.W.	3	(I.D)	(O.D)				
			6	3	108.500	139.000	2.950			
		CR-1073GP	C.R.	20						
			1-10	10	83.930	90.000	3.010	37.63	2pcs/Box X 10	
		CR-1147GP	C.R.	20						
			L1-10	10	83.930	90.000	3.010	37.63	4pcs/Box X 5	
R1-10	10		83.930	90.000	3.010	37.63				
PR-	P.B.	20								
	1-5	20	45.000	49.000	2.030	22.00	2pcs/Box X 10			
PR-	P.B.	10								
	1-5	10	45.000	51.000	3.030	48.00	2pcs/Box X 5			
PR-1147J	P.B.	10								
	1-5	10	45.000	51.000	3.030	(U)42.00 (L)56.40	2pcs/Box X 5			
21	4DR5 4DR7 4DR6-T	MS-1812GP (M1-1115GP)	Main	10						
			1-5	10	69.955	74.000	2.000	28.13	U : an Oil Hole	
			T.W.	3	(I.D)	(O.D)				
		TW-1115K	5	3	77.250	95.000	2.450			
			C.R.	8						
		CB-1831GP	1-4	4/4	57.955	62.000	2.000	32.13		
			C.R.	8						
		CB-1812GP (C1-1115GP)	1-4	8	57.955	62.000	2.000	32.13		
			Cam	3						
		SH-1078K	1	1	54.460	57.000	1.250	36.00		
			2	1	54.460	57.000	1.250	26.00		
			3	1	53.960	57.000	1.500	26.00		
PB-1078J	P.B.	4								
	1-4	4	28.000	31.000	1.530	36.00				
PB-	P.B.	4								
	1-4	4	30.000	33.000	1.525	(U)22.70 (L)35.40				
PB-	P.B.	4								
	1-4	4	28.000	32.984	2.520	35.80				
22	6DR5	MS-1813GP (MR-1115GP)	Main	14						
			1-7	14	69.955	74.000	2.000	28.13	C1-1115 X 12	
			T.W.	3	(I.D)	(O.D)				
		TW-1115K	7	3	77.250	95.000	2.450			
			C.R.	12						
		CB-1813GP	1-6	12	57.955	62.000	2.000	32.13		
			Cam	4						
		SH-1115K	1	1	54.450	57.000	1.250	36.00		
			2	1	54.450	57.000	1.250	26.00		
			3	1	53.450	57.000	1.500	26.00		
			4	1	52.450	57.000	2.000	26.00		
		PB-1115J	P.B.	6						
1-6	6		28.000	31.000	1.530	36.00				

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
23	6DS1 6DS3	MS-1808GP	Main	14					
		(MS-1170GP)	1-7	7/7	77.960	82.000	2.007	27.13	
	6DS5 6DS7	TW-1055K	T.W.	3		(I.D)	(O.D)		
			7	3	83.250	104.000	2.450		
	6DS5 6DS7	CB-1808GP	C.R.	12					
		(CB-1055GP)	1-6	12	59.965	64.000	2.000	33.13	
		SH-1055K	Cam	4					
			1	1	54.460	57.000	1.250	41.00	
			2	1	54.460	57.000	1.250	26.00	
			3	1	53.960	57.000	1.500	26.00	
			4	1	52.960	57.000	2.000	30.00	
		SH-	Cam	4					
			1	1	54.460	58.500	2.000	41.00	
			2	1	54.460	58.000	1.750	26.00	
	3	1	53.960	57.500	1.750	26.00			
	4	1	52.960	57.000	2.000	30.00			
	PB-1055J	P.B.	6						
		1-6	6	32.000	35.000	1.530	37.00		
24	4M51	MS-1836GP	Main	10					
25	4M50-T		1-5	5/5	85.950	91.000	2.503	27.13	
		*TW-1836J	T.W.	4	(I.D)	(O.D)			
			2/2	2/2	97.250	117.700	2.450		
		CB-1835GP	C.R.	8					
			1-4	4/4	64.950	69.000	2.000	33.13	
		CB-1836GP	C.R.	8					
			1-4	4/4	59.965	64.000	2.125	33.13	
		*SH-	Cam	20					
			20	20	31.925	35.000	1.503	20.90	
			PB-1807J	P.B.	4				
		1-4	4	34.000	37.000	1.540	38.80		
	PB-1809J	P.B.	4						
		1-4	4	34.000	37.000	1.540	(U)25.00 (L)38.40		
	PB-1830J	P.B.	4						
		1-4	4	36.000	40.000	2.000	(U)26.35 (L)38.40		
29	8M20 8M21	MS-1840GP	Main	10					
			1-5	5/5	114.920	121.000	3.013	31.13	
	8M20 8M21	TW-1840GP	T.W.	3		(I.D.)	(O.D.)		
			3	3	126.500	154.000	2.950		
	8M20 8M21	CB-1804GP	C.R.	16					
			1-8	8/8	89.930	95.000	2.510	37.63	
	8M20 8M21	SH-1840K	Cam	5					
			1	1	65.220	71.500	3.107	34.25	
			2	1	65.220	71.750	3.232	34.25	
			3	1	65.470	72.000	3.232	34.25	
			4	1	65.720	72.250	3.232	34.25	
		5	1	65.970	72.500	3.232	34.25		
28	6M70T	MS-1839GP	Main	14					
			1-7	7/7	99.920	106.000	3.000	28.63	
		TW-1804GP	T.W.	3		(I.D.)	(O.D)		
			5	3	111.500	138.500	2.950		
6M70T	CB-1839GP	C.R.	12						
		1-6	6/6	83.930	90.000	3.000	41.13		

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	A12	MS-1087GP	Main	10						
	A12A		1.5	2/2	49.964	53.654	1.835	22.10		
	A13		2.4	4	49.964	53.654	1.835	18.10		
	A14		△3	1/1	49.964	53.654	1.835	26.95		
	A15	CB-1045GP	C.R.	8						
			1-4	8	44.974	48.000	1.498	19.60		
		SH-1019A	Cam	5						
			1	1	43.976	47.000	1.585	23.50		
			2	1	43.296	46.500	1.585	14.00		
			3	1	42.796	46.000	1.585	14.00		
4	1	42.296	45.500	1.585	14.00					
5	1	41.221	44.425	1.585	14.00					
2	CA16	(MS-1173GP)	Main	10						
	CA18		1.2.4.5	4/4	52.964	56.641	1.829	22.10		
	CA20		△3	1/1	52.964	56.641	1.829	27.95		
3	CD17	MS-1217A	Main	10						
			1.2.4.5	4/4	52.964	56.654	1.828	20.10		
4	CD20 CD20T	CB-1173GP	△3	1/1	52.964	56.654	1.828	27.95		
			C.R.	8						
		1-4	8	44.974	48.000	1.508	18.60			
		CB-1217A	C.R.	8						
			1-4	8	49.974	53.000	1.498	20.10		
		PB-1205J	P.B.	4						
			1-4	4	20.001	22.987	1.535	20.80		
		PB-1173J	P.B.	4						
1-4	4		24.000	28.000	2.025	24.20				
PB-1217J	P.B.	4								
	1-4	4	25.000	28.000	1.530	24.70				
5	CG10DE	MS-1224A	Main	10						
	CG13DE	TW-1224A	1-5	5/5	44.970	49.000	2.010	16.00		
	CR10DE		T.W.	2	(I.D.)	(O.D.)				
	CR12DE	CB-1224A	2	2	51.250	60.000	1.970			
	CR14DE		C.R.	8						
	1-4	8	39.974	43.000	1.508	15.00				
CB-1235A	C.R.	8								
	1-4	8	39.974	43.000	1.508	15.00	An Oil Hole			
6	E10	MS-1174GP	Main	10						
	E13		1.5	4	49.964	53.641	1.827	22.10		
	E15		2.4	4	49.964	53.641	1.827	18.10		
	E15-T	CB-1174GP	△3	2	49.964	53.641	1.827	26.95		
	E16		C.R.	8						
		1-4	8	39.974	43.000	1.500	17.13			
		JB-1174A	J.B.	2						
			1	1	32.000	35.000	1.495	21.50		
	2	1	28.600	31.600	1.495	16.00				

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
7	GA13	MS-1208A	Main	10						
	GA14		1-5	5/5	49.964	53.644	1.830	17.10		
	GA15	TW-1208A	T.W.	2	(I.D)	(O.D)				
	GA16			2	56.250	71.000	1.970			
	QG13DE	CB-1208A	C.R.	8						
	QG15DE		1-4	8	39.974	43.000	1.505	17.10		
	QG18DE	PB-1208J	P.B.	4						
			1-4	4	19.000	22.000	1.535	21.80		
8	H20	MS-1042GP	Main	10						
			1.5	4	62.955	66.645	1.832	28.10		
			2.4	4	62.955	66.645	1.832	22.10		
				CB-1002GP	△3	2	62.955	66.645	1.832	33.95
					C.R.	8				
					1-4	8	51.970	55.000	1.503	24.10
				SH-1003A	Cam	3				
					1	1	45.440	48.640	1.590	24.00
					2	1	43.910	47.120	1.590	22.00
					3	1	41.230	44.430	1.590	24.00
				PB-1002J	P.B.	4				
					1-4	4	22.000	24.000	1.050	28.50
9	HR15-DE	MS-1227A	Main	10						
			1-5	10	47.979	51.997	2.005	16.00		
10	HR12-DE HR12-DDR	TW-1227A	T.W.	2	(I.D)	(O.D.)				
				2	54.95	73.75	1.960			
		CB-1227A	C.R.	8						
			1-4	4/4	39.971	43.000	1.510	15.00		
		MS-1233A	Main	8						
	1-4	4/4	47.979	51.997	1.998	16.13				
		CB-1233GP	C.R.	6						
			1-3	3/3	39.971	43.000	1.505	15.13		
11	J J13 J15 J16 J18	(MS-1034GP)	Main	6						
			1-3	6	50.825	54.521	1.835	31.00		
		MS-1091GP	Main	6						
			1-3	6	50.825	54.508	1.835	28.10		
		TW-1000A	T.W.	4	(I.D.)	(O.D.)				
			2	2/2	56.550	69.700	2.286			
		CB-1007GP	C.R.	8						
			1-4	8	47.650	51.333	1.835	22.10		
		CB-1204GP	C.R.	8						
			1-4	8	47.635	50.673	1.500	20.00		
		SH-1006A	Cam	3						
1	1		45.400	48.641	1.585	37.30				
2	1		43.910	47.120	1.590	22.00				
3	1		41.230	44.425	1.585	20.60				
12	KA24	MS-1209GP	Main	10						
			1.2.4	4/4	59.975	63.672	1.835	19.00		
			△3	1/1	59.975	63.672	1.835	26.95		
		CB-1209GP	C.R.	8						
			1-4	8	49.974	53.013	1.508	20.00		
		PB-1209J	P.B.	4						
			1-4	4	21.000	24.000	1.500	24.80		

For J18

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
13	KH1S	MS-1220A	Main	10						
	KH2S		1.2.4.5	8	62.955	66.645	1.835	19.00		
	KH3S		3	2	62.955	66.645	1.835	34.00		
14	K21	MS-1221A	Main	10						
	K25		1.2.4.5	4/4	54.955	58.645	1.835	19.00		
			△3	1/1	54.955	58.645	1.835	27.00		
25	NA20S NA16S	MS-1225A	Main	10						
			1.2.4.5	4/4	54.955	58.645	1.835	19.00		
	△3		1/1	54.955	58.645	1.835	32.00			
		CB-1220A	C.R.	8						
			1-4	8	45.000	48.000	1.496	18.60		
		CB-1221A	C.R.	8						
			1-4	8	50.000	53.000	1.502	22.00		
		SH-1003A	Cam	3						
			1	1	45.440	48.640	1.590	24.00		
			2	1	43.910	47.120	1.590	24.00		
		3	1	41.230	44.430	1.590	24.00			
	PB-1217J	P.B.	4							
		1-4	4	25.000	28.000	1.530	24.70			
15	L13	MS-1043GP	Main	10						
	L14		1	2	54.955	58.665	1.835	26.13		
	L16		2.4	4	54.955	58.665	1.835	24.13		
	L18		△3	2	54.955	58.660	1.835	31.95		
			5	2	54.955	58.660	1.835	26.13		
47	Z16	CB-1044GP	C.R.	8						
	Z18		1-4	8	49.970	53.000	1.506	22.10		
16	L20B	MS-1183GP	Main	10						
17	LD20		1	1/1	59.955	63.645	1.835	26.13		
18	LD20-T		2.4	2/2	59.955	63.645	1.835	24.13		
			△3	1/1	59.955	63.645	1.835	31.95		
45	Z20 Z22 Z24	MS-1218GP	5	1/1	59.955	63.645	1.835	26.13		
			1.5	2/2	59.955	63.645	1.835	22.10		
	2.4		2/2	59.955	63.645	1.835	22.10			
	△3		1/1	59.955	63.645	1.835	31.95			
		CB-1044GP	C.R.	8						
			1-4	8	49.970	53.000	1.506	22.10		
		PB-1183J	P.B.	4						
			1-4	4	26.000	29.000	1.520	26.70		
	PB-1189J	P.B.	4							
		1-4	4	25.000	28.000	1.525	26.70			
19	L20	MS-1047GP	Main	14						
	L24		1	2/2	54.955	58.660	1.835	26.10		
	L26		2.3.5.6	4/4	54.955	58.660	1.835	24.10		
	L28		△4	1/1	54.955	58.660	1.835	31.95		
		CB-1048GP	C.R.	12						
20	L20A		1-6	12	49.970	53.000	1.506	22.10	C1-1044 X 12	
			CB-1177GP	C.R.	12					
21	LD28		1-6	12	44.974	48.000	1.497	18.60		
			PB-1047J	P.B.	6					
				1-6	6	25.000	28.000	1.525	26.70	P1-1189J X 6
			PB-1048J	P.B.	6					
		1-6	6	26.000	29.000	1.520	26.70	P1-1183J X 6		

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
22	MA09 MA10	MS-1202A	Main	10					
			1-5	5/5	44.971	49.000	2.004	17.10	
		TW-1202A	T.W.	2	(I.D.)	(O.D.)			
			4	2	51.250	60.000	1.970		
		CB-1202A	C.R.	8					
			1-4	8	39.974	43.000	1.500	15.13	
23	MR16-DDT	MS-1234A	Main	10					
			1-5	5/5	51.979	55.997	1.998	17.00	
		CB-1234GP	C.R.	8					
			1-4	4/4	43.971	47.000	1.496	16.00	
24	MR20-DE	MS-1228A	Main	10					
			1-5	10	51.979	55.997	2.005	17.00	
		TW-1228A	T.W.	2	(I.D.)	(O.D.)			
			2	2	58.95	76.75	2.210		
		CB-1228A	C.R.	8					
			1-4	4/4	43.971	47.000	1.506	16.00	
26	P40 PF40	MS-1172GP	Main	14					
			△1	1/1	69.300	73.000	1.835	40.50	
			2.3.5	4/4	69.300	73.000	1.835	26.13	
			4	1/1	69.300	73.000	1.835	41.13	
			7	1/1	69.300	73.000	1.835	49.13	
		CB-1001GP	C.R.	12					
			1-6	12	57.150	60.180	1.508	26.10	
		SH-1002A	Cam	4					
			1	1	49.149	54.451	1.645	29.55	
			2	1	48.945	52.248	1.645	19.20	
			3	1	48.641	51.943	1.645	19.20	
		4	1	48.336	51.639	1.645	31.90		
27	QR20 QR25	MS-1226A	Main	10					
			1.2.4.5	4	54.979	58.968	1.988	20.00	
			1-5	5	54.979	58.968	1.988	20.00	
			3U	1	54.979	58.968	1.988	23.45	
		TW-1226A	T.W.	2	(I.D.)	(O.D.)			
			1/1	1/1	59.27	83.25	2.45		
		CB-1226GP	C.R.	8					
			1-4	8	44.974	48.000	1.507	19.00	
		PB-1226J	P.B.	4					
			1-4	4	20.001	21.980	1.03	22.80	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
28	RB20	MS-1203GP	Main	14					
29	RB20D		1.2.3	3/3	54.975	58.645	1.825	19.10	
	RB24		△4	1/1	54.975	58.645	1.825	26.95	
30	RB25		5.6.7	3/3	54.975	58.645	1.825	19.10	
		CB-1203GP	C.R.	12					
32	RB30S		1-6	12	41.974	45.000	1.506	16.10	
		CB-1206GP	C.R.	12					
			1-6	12	49.974	53.000	1.506	17.10	
		CB-1215GP	C.R.	12					
			1-6	12	44.974	48.013	1.508	17.10	
		CB-1216GP	C.R.	12					
			1-6	12	47.974	51.013	1.501	17.10	
		PB-1203J	P.B.	6					
			1-6	6	19.001	21.987	1.535	21.80	P1-1208X 6
		PB-1206J	P.B.	6					
			1-6	6	21.001	23.987	1.535	21.80	
31	RB26DETT	MS-1216GP	Main	14					
			1-3,5-7	6/6	54.975	58.658	1.825	20.00	
			△4	1/1	54.975	58.658	1.825	27.00	
		CB-1216GP	C.R.	12					
			1-6	12	51.013	47.974	1.501	17.00	
		PB-1206J	P.B.	6					
			1-6	6	21.001	23.987	1.535	21.80	
33	RD28	MS-1207A	Main	14					
	RD28-T		1-3,5-7	6/6	54.975	58.645	1.819	19.90	
			△4	1/1	54.975	58.645	1.819	26.95	
		CB-1207A	C.R.	12					
			1-6	12	49.974	53.000	1.498	20.10	
		PB-1207J	P.B.	6					
			1-6	6	24.994	28.000	1.525	24.47	
		PB-1221J	P.B.	6					
			1-6	6	27.000	30.063	1.530	24.70	
34	SR18	MS-1213GP	Main	10					
	SR20		1-5	5/5	54.980	58.968	1.990	19.00	
		TW-1213GP	T.W.	2	(I.D.)	(O.D.)			
				2	61.750	83.500			
		CB-1213GP	C.R.	8					
			1-4	8	47.974	51.013	1.510	17.00	
		PB-1213J	P.B.	4					
			1-4	4	22.001	24.998	1.53	22.80	
46	YD22	MS-1229A	Main	10					
	YD25		1-5	5/5	63.000	66.660	1.826	20.00	
		TW-1229A	T.W.	2	(I.D.)	(O.D.)			
			3	2	69.75	88.250	1.950		
		CB-1229A	C.R.	8					
			1-4	8	52.000	55.000	1.498	23.00	
		PB-1229J	P.B.	4					
			1-4	4	28.000	30.980	1.500	26.60	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
35	TB42E TB45E	MS-1199A	Main	14						
			1-5.7	6/6	70.920	74.975	2.007	26.00	U : ϕ 7-2 Oil Holes	
			Δ 6	1/1	70.920	74.975	2.007	31.95	U : ϕ 7-2 Oil Holes	
		MS-1230A	Main	14						
			1-5.7	6/6	70.921	74.975	2.012	26.00	U : ϕ 7&12 Oval Holes	
			Δ 6	1/1	70.921	74.975	2.012	31.95	U : ϕ 7&12 Oval Holes	
	TB48DE	CB-1199A	C.R.	12						
			1-6	12	56.926	60.000	1.517	26.10		
		SH-1199A	Cam	7						
			1	1	50.740	53.800	1.520	20.00		
			2	1	50.540	53.600	1.520	20.00		
			3	1	50.340	53.400	1.520	20.00		
			4	1	50.140	53.200	1.520	20.00		
			5	1	49.940	53.000	1.520	20.00		
6	1		49.740	52.800	1.520	20.00				
7	1	49.540	52.600	1.520	20.00					
PB-1199J	P.B.	6								
	1-6	6	22.995	25.987	1.530	25.80				
36	VG20	(MS-1200GP)	Main	8						
37			1	1/1	52.975	56.645	1.821	22.60		
38	VG20D		2.3	2/2	52.975	56.645	1.821	19.10		
			Δ 4	1/1	52.975	56.645	1.821	28.85		
39	VG30	MS-1211GP	Main	8						
40			1	1/1	62.975	66.645	1.830	22.60	U : 5 Oil Holes	
41	VG30D		2.3	2/2	62.975	66.645	1.830	19.10	U : 5 Oil Holes	
			Δ 4	1/1	62.975	66.645	1.830	28.85	U : 5 Oil Holes	
		(MS-1201GP)	Main	8						
			1	1/1	62.975	66.658	1.830	22.60	U : An Oil Hole	
			2.3	2/2	62.975	66.658	1.830	19.10	U : An Oil Hole	
			Δ 4	1/1	62.975	66.658	1.830	28.85	U : An Oil Hole	
		(CB-1200GP)	C.R.	12						
			1-6	12	44.974	48.000	1.506	15.10		
		CB-	C.R.	12						
			1-6	12	44.974	48.000	1.506	17.10		
		CB-	C.R.	12						
			1-6	12	44.974	48.000	1.503	17.10		
		CB-1210A	C.R.	12						
		(CB-1201GP)	1-6	12	49.974	53.000	1.506	17.10		
		CB-1211GP	C.R.	12						
			1-6	12	49.974	53.000	1.506	17.10		
		PB-1200J	P.B.	6						
			1-6	6	20.001	22.987	1.535	20.80		
		PB-1206J	P.B.	6						
			1-6	6	21.001	23.987	1.535	21.80		
		PB-1210J	P.B.	6						
			1-6	6	21.001	23.987	1.535	20.80		
		PB-1211J	P.B.	6						
			1-6	6	22.001	24.980	1.535	21.80		

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
42	VH41 VH45	MS-1214GP	Main	10						
				2/2	63.964	68.968	2.496	20.00		
				2/2	63.964	68.968	2.496	22.30		
				TW-1214A	T.W.	1/1	63.964	68.968	2.496	21.30
						4	(I.D.)	(O.D.)		
				CB-1214GP	C.R.	2/2	70.750	85.000	1.950	
						16				
						L1-4	8	51.974	55.013	1.509
				PB-1214J	P.B.	R1-4	8	51.974	55.013	1.509
		1-8	8			22.001	24.980	1.530	22.80	
43	VK45DD VD45DE VK50VE VK56DE	MS-1231GP	Main	10						
				1-5	5/5	63.964	68.944	2.510	20.10	
				TW-1214A	T.W.	4	(I.D.)	(O.D.)		
						2/2	70.750	85.000	1.950	
				CB-1231GP	C.R.	16				
						1-8	16	53.989	57.000	1.503
		PB-1231J	P.B.	8						
				1-8	8	22.001	23.980	1.030	22.50	
44	VQ20DE VQ25DD VQ25DE VQ30DD VQ30DET	MS-1219GP	Main	8						
				1-4	4/4	59.975	63.993	2.009	20.10	
				TW-1219A	T.W.	4	(I.D.)	(O.D.)		
						2/2	66.500	79.500	1.950	
				CB-1219GP	C.R.	12				
						1-6	12	44.975	48.000	1.509
				CB-1222GP	C.R.	12				
						1-6	12	49.974	53.000	1.505
				CB-1223GP	C.R.	12				
		1-6	12			51.974	55.000	1.505	17.10	
		PB-1219J	P.B.	6						
				1-6	6	22.001	23.980	1.030	20.80	
45	VQ40DE	MS-1232GP	Main	8						
				1-4	4/4	69.975	74.993	2.506	20.10	
				TW-1232A	T.W.		(I.D.)	(O.D.)		
							76.750	92.750	1.950	
				CB-1232GP	C.R.	12				
						1-6	12	53.974	57.000	1.503
		PB-1219J	P.B.	6						
				1-6	6	22.001	23.980	1.030	20.80	
49	R9M	*MS-1236A	Main	10						
			1-5							
		*TW-1236A	T.W.							
		*CB-1236A	C.R.	8						
			1-4							

UD TRUCKS

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	BD30	(MS-1190GP)	Main	10					C1-1194-U X 4	
			1-5	5/5	70.920	74.981	2.013	26.00		
		TW-1028A	T.W.	4	(I.D.)	(O.D.)				
			2	2/2	78.850	93.800	2.325			
		CB-1194A	C.R.	8						
			1-4	4/4	56.925	59.913	1.513	26.10		
		SH-1190A	Cam	5						
			1	1	50.740	53.800	1.520	20.50		
			2	1	50.540	53.600	1.520	22.00		
			3	1	50.340	53.400	1.520	22.00		
4	1		50.140	53.200	1.520	22.00				
PB-1194J	5	1	49.940	53.000	1.520	22.00				
	P.B.	4								
	1-4	4	30.000	33.000	1.525	32.80				
2	ED30	MS-1180GP	Main	10						
3	ED33	(MS-1122GP)	1-5	5/5	75.940	79.980	1.955		28.00	
4	ED33-T	TW-1122J	T.W.	4	(I.D.)	(O.D.)				
			4	2/2	86.250	101.800	3.000			
ED35	CB-1122GP	C.R.	8							
		1-4	8	59.945	63.980	1.998	34.00			
FD33	CB-2801GP	C.R.	8							
		1-4	8	61.945	65.980	1.998	32.00			
FD33-T	(CB-1180GP)	SH-1122A	Cam	3						
			1	1	57.355	60.400	1.515		28.00	
FD35	PB-1122J	2	1	57.155	60.200	1.515	26.00			
		3	1	56.955	60.000	1.515	26.00			
FD35-T	P.B.	4								
	1-4	4	32.000	35.985	2.020	35.15				
PB-1180J	P.B.	4								
	1-4	4	34.000	37.985	2.030	35.00				
5	ED6	MS-1135GP	Main	14					C1-2801 X 8	
			1-7	7/7	75.940	79.980	1.995	26.00		
	FD6	TW-1122J	T.W.	4	(I.D.)	(O.D.)				
			6	2/2	86.250	101.800	3.000			
	FD6-T	CB-2802GP	C.R.	12						
			1-6	12	61.945	65.980	1.998	32.00		
	SH-1135A	(CB-1135GP)	Cam	4						
			1	1	57.355	60.400	1.515	28.00		
			2	1	57.155	60.200	1.515	26.00		
			3	1	56.955	60.000	1.515	26.00		
			4	1	56.755	59.800	1.515	26.00		
	PB-1135J	P.B.	6							
1-6		6	34.000	37.985	2.030	35.00				

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
6	FE6 FE6-T	MSD-2800GP	Main	14						
			7-1	7/7	77.950	82.980	2.500	26.00		
		TW-2800J	T.W.	4		(I.D.)	(O.D.)			
			4	2/2	89.250	103.800	2.950			
		TW-2809J	T.W.	4		(I.D.)	(O.D.)			
			4	2/2	87.025	108.800	2.975			
		(CB-2800GP)	C.R.	12						
			1-6	12	64.945	68.980	2.000	32.00		
		CB-2809GP	C.R.	12						
			1-6	12	64.945	68.980	2.000	32.00		
		SH-1135A	Cam	4						
			1	1	57.355	60.400	1.515	28.00	S1-1122	
			2	1	57.155	60.200	1.515	26.00	S2-1122	
			3	1	56.955	60.000	1.515	26.00	S3-1135	
		SH-2800K	Cam	4						
			4	1	56.755	59.800	1.515	26.00	S4-1135	
			1	1	57.355	60.400	1.510	28.00		
			2	1	57.155	60.200	1.510	26.00		
		PB-1083J	P.B.	6						
1-6	6		36.000	39.985	2.015	39.10				
3	1		56.955	60.000	1.510	26.00				
4	1		56.755	59.800	1.510	26.00				
7	FD42 FE46 FD46-T FD46-TA	MS-2804GP	Main	10						
			1-5	5/5	77.940	82.980	2.501	27.00		
		TW-2800J	T.W.	4		(I.D.)	(O.D.)			
			4	2/2	89.250	103.800	2.950			
		CB-2804GP	C.R.	8						
			1-4	4/4	64.945	68.980	2.001	32.00		
		SH-2804A	Cam	4						
			1	1	57.555	60.600	1.515	28.00		
			2	1	57.355	60.400	1.515	26.00		
			3	1	57.155	60.200	1.515	26.00		
PB-2804J	P.B.	4								
	4	1	56.955	60.000	1.515	26.00				
	1-4	4	36.000	39.985	2.030	38.00				
	1-4	4	36.000	39.985	2.030	38.00				
8	GE13T	MS-2814GP	Main	14						
			1-7	7/7	104.93	111.000	3.013	37.00		
		TW-2814K	T.W.	4		(I.D.)	(O.D.)			
			7	2/2	117,500	155,300	3,950			
		CB-2814GP	C.R.	12						
			1-6	12	91.935	96.980	2.500	43.00		
		SH-2814K	Cam	7						
			1	1						
			2	1						
			3	1						
			4	1						
			5	1						
			6	1						
PB-2814J	P.B.	6								
	1-6	6								
	7	1								
	1-6	6								

UD TRUCKS

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
10	ND6 ND6-T	MS-1193GP (MS-1083GP)	Main	14						
			1-3	3/3	89.894	95.970	3.018	28.00		
				5-7	3/3	89.894	95.970	3.018	28.00	
	NE6 NE6-T	TW-1083K	4	2	89.894	95.970	3.018	43.00		
			T.W.	4	(I.D.)	(O.D.)				
		CB-1083GP	7	2/2	102.380	117.800	3.000			
	C.R.		12							
		SH-1083K	1-6	12	69.908	73.975	2.013	35.00		
	Cam		7							
			1	1	57.960	62.000	2.010	31.00		
			2	1	57.760	61.800	2.010	28.00		
			3	1	57.560	61.600	2.010	28.00		
			4	1	57.360	61.400	2.010	43.00		
			5	1	57.160	61.200	2.010	28.00		
			6	1	56.960	61.000	2.010	28.00		
			7	1	56.760	60.800	2.010	25.50		
		PB-1083J	P.B.	6						
1-6	6		36.000	39.985	2.015	39.10				
11	NF6T	MS-2815GP	Main	14						
			1-3	3/3	94.000	99.970	3.018	28.00		
				5-7	3/3	94.000	99.970	3.018	28.00	
				4	2	94.000	99.970	3.018	43.00	
		CB-2815GP	C.R.	12						
			1-6	12	76.000	79.980	2.013	35.00		
		PB-2815J	P.B.	6						
			1-6	6	44.000	48.110	2.030	45.15		
		SH-2815K	Cam	7						
			1	1	62.94	67.000	2.015	31.00		
				2	1	62.74	66.800	2.015	28.00	
				3	1	62.54	66.600	2.015	28.00	
				4	1	62.34	66.400	2.015	43.00	
				5	1	62.14	66.200	2.015	28.00	
				6	1	61.94	66.000	2.015	28.00	
				7	1	61.74	65.800	2.015	25.50	
		12	PD6 PD6-T	MS-1084GP	Main	14				
1	1/1				99.894	105.970	3.018	35.00		
			2.3.5.7	5/5	99.894	105.970	3.018	35.00		
PE6 PE6-T	TW-1084K		4	2	99.894	105.970	3.018	55.00		
			T.W.	4	(I.D.)	(O.D.)				
PE6H PE6H-T	TW-2803K (TW-1188K)		7	2/2	112.380	127.800	3.000		(-'82)	
			T.W.	4	(I.D.)	(O.D.)				
	CB-1084GP		7	2/2	112.380	133.800	4.000		(-'83-)	
C.R.			12							
PP6H	SH-1084K		1-6	12	79.908	83.970	2.013	41.00		
			Cam	5						
			1	1	62.740	66.800	2.020	34.00		
			2	1	62.540	66.600	2.020	28.00		
			3	1	62.340	66.400	2.020	39.00		
			4	1	62.140	66.200	2.020	28.00		
			5	1	61.940	66.000	2.020	31.00		
	*SH-2806B		Cam	5						
	PB-1084J	P.B.	6	46.000	49.850	2.015	44.13			
1-6		6								

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
13	PF6	MS-2830GP	Main	14					
14	PF6-T	MS-2830GP	1-3,5-7U	6	99.894	105.970	3.018	35.00	M1-1084U
	PG6		1-3,5-7L	6	99.894	105.970	3.018	35.00	M1-2803L
14	PG6H	MS-2830GP	4	2	99.894	105.970	3.018	55.00	M3-1084
			TW-2803K	T.W.	4	(I.D.)	(O.D.)		
14	PG6H	MS-2830GP	4	2/2	112.380	133.800	4.000		
			TW-2807K	T.W.	4	(I.D.)	(O.D.)		
14	PG6H	MS-2830GP	4	2/2	112.380	145.420	4.000		
			CB-2803GP	C.R.	12				
14	PG6H	MS-2830GP	1-6	12	84.908	88.970	2.013	41.00	
			CB-2810GP	C.R.	12				
14	PG6H	MS-2830GP	1-6	12	89.908	94.980	2.513	37.00	
			CB-2811GP	C.R.	12				
14	PG6H	MS-2830GP	1-6	12	84.908	88.980	2.013	37.00	
			(SH-2803K)	Cam	5				
14	PG6H	MS-2830GP	1	1	62.740	66.800	2.020	34.00	
			2	1	62.540	66.600	2.020	28.00	
14	PG6H	MS-2830GP	3	1	62.340	66.400	2.020	39.00	
			4	1	62.140	66.200	2.020	28.00	
14	PG6H	MS-2830GP	5	1	61.940	66.000	2.020	31.00	
			SH-2807K	Cam	5				
14	PG6H	MS-2830GP	1	1	62.740	66.800	2.020	34.00	
			2	1	62.540	66.600	2.020	28.00	
14	PG6H	MS-2830GP	3	1	62.340	66.400	2.020	39.00	
			4	1	62.140	66.200	2.020	28.00	
14	PG6H	MS-2830GP	5	1	61.940	66.000	2.020	31.00	
			SH-2808K	Cam	5				
14	PG6H	MS-2830GP	1	1	62.740	66.800	2.020	34.00	
			2	1	62.540	66.600	2.020	28.00	
14	PG6H	MS-2830GP	3	1	62.340	66.400	2.020	39.00	
			4	1	62.140	66.200	2.020	28.00	
14	PG6H	MS-2830GP	5	1	61.940	66.000	2.020	31.00	
			PB-2803J	P.B.	6				
14	PG6H	MS-2830GP	1-6	6	50.000	54.000	2.000	51.00	SF Size
15	QD32	(MS-1190GP)	Main	10					
15	QD32-T	(MS-1190GP)	1-5	5/5	70.920	74.981	2.013	26.00	
			TW-1028A	T.W.	4	(I.D.)	(O.D.)		
27	TD23	(CB-1190GP)	4	2/2	78.850	93.800	2.325		
28	TD25		C.R.	8					
28	TD27	(CB-1190GP)	1-4	8	56.926	59.987	1.513	26.10	
			CB-1192GP	C.R.	8				
28	TD27-T	(CB-1190GP)	1-4	8	52.926	55.987	1.513	26.10	
			SH-1190A	Cam	5				
28	TD27-T	(CB-1190GP)	1	1	50.740	53.800	1.520	20.50	
			2	1	50.540	53.600	1.520	22.00	
28	TD27-T	(CB-1190GP)	3	1	50.340	53.400	1.520	22.00	
			4	1	50.140	53.200	1.520	22.00	
28	TD27-T	(CB-1190GP)	5	1	49.940	53.000	1.520	22.00	
			PB-1190J	P.B.	4				
28	TD27-T	(CB-1190GP)	1-4	4	28.000	31.000	1.525	32.50	
			PB-1192J	P.B.	4				
28	TD27-T	(CB-1190GP)	1-4	4	26.000	29.000	1.525	33.00	
			PB-1194J	P.B.	4				
28	TD27-T	(CB-1190GP)	1-4	4	30.000	33.000	1.525	32.80	
			PB-2805J	P.B.	4				
28	TD27-T	(CB-1190GP)	1-4	4	33.000	36.000	1.530	33.00	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
16	RD8	MS-1118GP	Main	10					
17	RD8-T		1-4	4/4	109.894	115.970	3.018	29.00	
18			5	1/1	109.894	115.970	3.018	37.00	
	RE8	MS-1186GP	Main	10					
			1-4	4/4	109.894	115.970	3.018	31.00	
	RF8		5	1/1	109.894	115.970	3.018	37.00	
		MS-1197GP	Main	10					
			1-5	5/5	109.894	115.970	3.018	31.00	M1-1186U/L
		TW-1118K	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	122.380	149.850	4.000		
		CB-1118GP	C.R.	16					
			1-8	16	84.904	88.975	2.013	39.20	
		SH-1118K	Cam	5					
			1	1	65.740	69.800	2.020	43.00	
			2	1	65.940	70.000	2.020	25.00	
			3	1	66.140	70.200	2.020	25.00	
			4	1	66.340	70.400	2.020	25.00	
			5	1	66.540	70.600	2.020	47.50	
		PB-1118J	P.B.	8					
			1-8	8	46.000	49.985	2.015	(U)34.89 (L)49.00	
19	RF8T	MS-2812GP	Main	10					
	RG8		1-5	5/5	109.894	115.97	3.018	35.50	
	RH8	TW-2812K	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	122.500	160.80	4.010		
		CB-2812GP	C.R.	16					
			1-8	16	89.908	94.980	2.513	34.80	C1-2812 X 16
		SH-2812K	Cam	5					
			1	1	65.740	69.800	2.015	56.50	
			2	1	65.940	70.000	2.015	25.00	
			3	1	66.140	70.200	2.015	25.00	
			4	1	66.340	70.400	2.015	25.00	
			5	1	66.540	70.600	2.015	47.50	
		PB-2812J	P.B.	8					
			1-8	8	50.005	54.065	2.030	53.15	
		PB-2817J	P.B.	8					
			1-8	8	50.005	54.065	2.030	45.25	P1-2813 X 8
9	MD92	MS-2820GP	Main	14					
			1-7	7/7	80.000	86.000	3.018	32.90	
		*TW-2820K	T.W.		(I.D.)	(O.D.)			
		CB-2820GP	C.R.	12					
			1-6	12	69.935	74.000	1.992	35.50	
		*PB-2820J	P.B.	6					
			1-6	6					
	MD92-T	MS-2816GP	Main	14					
			1-7	7/7	85.000	91.000	2.971	32.90	
		TW-2816K	T.W.	4	(I.D.)	(O.D.)			
			2/2	2/2	93.250	119.55	2.975		
		CB-2816GP	C.R.	12					
			1-6	12	75.000	79.000	1.977	35.40	
		*SH-2816K	Cam	7					
		PB-2816J	P.B.	6					
			1-6	6	46.000	50.068	2.030	43.60	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
20	RD10	MS-1119GP	Main	12					
21	RD10-T		1-5	5/5	109.894	115.970	3.018	29.00	
22			6	1/1	109.894	115.970	3.018	37.00	
	RE10	MS-1187GP	Main	12					
			1-5	5/5	109.894	115.970	3.018	31.00	M1-1186U,L
	RF10		6	1/1	109.894	115.970	3.018	37.00	M2-1186U,L
	RE10	MS-1198GP	Main	12					
			1-6	6/6	109.894	115.970	3.018	31.00	M1-1188U,L
		TW-1118K	T.W.	4	(I.D.)	(O.D.)			
			5	2/2	122.380	149.850	4.000		
		CB-1119GP	C.R.	20					
			1-10	20	84.904	89.975	2.013	39.20	C1-1118 X 20
		SH-1119K	Cam	6					
			1	1	65.740	69.800	2.020	43.00	S1-1118
			2	1	65.940	70.000	2.020	25.00	S2-1118
			3	1	66.140	70.200	2.020	25.00	S3-1118
			4	1	66.340	70.400	2.020	25.00	S4-1118
			5	1	66.540	70.600	2.020	25.00	S5-1119
			6	1	66.740	70.800	2.020	47.50	S6-1119
		PB-1119J	P.B.	10					
			1-10	10	46.000	49.985	2.015	(U)34.89 (L)49.00	
23	RH10	MS-2813GP	Main	12					
			1-6	6/6	109.894	115.970	3.018	35.50	
		TW-2812K	T.W.	4					
			5	2/2					
		CB-2813GP	C.R.	20					
			1-10	20	89.908	94.980	2.513	34.80	C1-2812X20
		SH-2813K	Cam	6					
			1	1	65.740	69.800	2.015	56.50	
			2	1	65.940	70.000	2.015	25.00	
			3	1	66.140	70.200	2.015	25.00	
			4	1	66.340	70.400	2.015	25.00	
			5	1	66.540	70.600	2.015	25.00	
			6	1	66.740	70.800	2.015	47.50	
		PB-2813J	P.B.	10					
			1-10	10	50.005	54.065	2.030	45.25	
24	SD20	MS-1028GP	Main	6					
25	SD22		1-3	3/3	70.920	74.981	2.013	32.13	
	SD23	MS-1182GP	Main	10					
	SD25		1-5	10	70.920	74.981	2.013	26.00	
	SD25-T	TW-1028A	T.W.	4	(I.D.)	(O.D.)			
			2	2/2	78.850	93.800	2.325		
		CB-1029GP	C.R.	8					
			1-4	8	52.926	55.987	1.513	26.13	
		SH-1003A	Cam	3					
			1	1	45.440	48.640	1.590	24.00	
			2	1	43.910	47.120	1.590	22.00	
			3	1	41.230	44.430	1.590	24.00	
		PB-1029J	P.B.	4					
			1-4	4	26.000	29.000	1.530	30.00	
		PB-1182J	P.B.	4					
			1-4	4	26.000	28.987	1.500	32.10	

UD TRUCKS

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
26	SD33 SD33-T	MS-1058GP	Main	8						
			1-4	4/4	70.920	74.981	2.013	32.13	M1-1028 X 8	
		TW-1028A	T.W.	4	(I.D.)	(O.D.)				
			3	2/2	78.850	93.800	2.325			
		CB-1058GP (SH-1004B)	C.R.	12						
			1-6	12	52.926	55.987	1.513	26.13	C1-1029 X 12	
			Cam	4						
			1	1	45.440	48.640	1.590	24.00	(-'79)	
			2.3	2	43.910	47.120	1.590	22.00		
			4	1	41.230	44.430	1.590	24.00		
		SH-1191B)	Cam	4						
			1	1	51.400	54.400	1.490	24.00	('79-)	
			2	1	51.200	54.200	1.490	22.00		
			3	1	51.000	54.000	1.490	22.00		
PB-1058J	P.B.	6								
	1-6	6	26.000	29.000	1.530	30.00				
29	TD42	(MS-1195GP)	Main	14						
			1-7	7/7	70.920	74.981	2.013	26.00		
		MS-2818A	Main	14						
			1-7	7/7	70.920	74.981	2.014	25.00		
		TW-1028A	T.W.	4	(I.D.)	(O.D.)				
			2/2	2/2	78.850	93.800	2.325			
		(CB-1195GP)	C.R.	12						
			1-6	12	56.926	59.987	1.513	26.10		
		SH-1195A	Cam	7						
			1	1	50.740	53.800	1.520	20.50	S1-1190	
			2	1	50.540	53.600	1.520	22.00	S2-1190	
			3	1	50.340	53.400	1.520	22.00	S3-1190	
			4	1	50.140	53.200	1.520	22.00	S4-1190	
			5	1	49.940	53.000	1.520	22.00	S5-1195	
6	1		49.740	52.800	1.520	22.00	S6-1195			
7	1	49.540	52.600	1.520	22.00	S7-1195				
PB-1195J	P.B.	6								
	1-6	6	28.000	31.000	1.525	32.50				
30	ZD30DD ZD30DDTI	(MS-2805A)	Main	10						
			1-5	5/5	70.920	74.981	2.014	26.00		
		MS-2817A	Main	10						
			1-5	5/5	70.920	74.981	2.014	25.00		
		TW-2805J	T.W.	2	(I.D.)	(O.D.)				
			3	2	78.600	93.800	2.360			
		CB-2805A	C.R.	8						
			1-4	8	56.926	59.987	1.513	26.10		
		PB-2805J	P.B.	4						
			1-4	4	33.000	36.000	1.530	33.000		
BB-2817A	B.B	4								
	2	2	50.895	53.980	1.512	16.000				
			2	2	50.695	53.780	1.512	21.000		

SUBARU (FUJI HEAVY INDUS.)

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
1	E23,E42 EK21,EK22 EK23,EK23T EK42	MS-1126GP	Main	6						
			1.2	4	41.980	45.000	1.508	20.13		
			△3	2	41.980	45.000	1.508	24.96		
		CB-2303GP (CB-1126GP)	C.R.	4						
			1-2	4	38.000	41.000	1.490	15.13		
2	EA63	(MS-1124GP)	Main	6						
3	EA64 EA65 EA71	(MS-1184GP)	1.3	4	49.960	53.987	2.010	21.13		
			△2	2	49.960	53.987	2.010	25.96		
			Main	6						
			1.3	4	49.960	53.987	2.010	21.13		
			△2	2	49.960	53.987	2.010	25.96		
4	EA81 EA81-T EA82 EA82-T	MS-2300GP	CB-1124GP	C.R.	8					
				1-4	8	45.000	48.000	1.490	13.63	
				Main	6					
				1.3	4	54.965	59.000	2.020	21.13	
				△2	2	54.965	59.000	2.020	25.96	
5	EA82 EA82-T	CB-2300GP	C.R.	8						
			1-4	8	45.005	48.000	1.490	14.63		
			P.B.	4						
			1-4	4	21.000	23.000	1.040	19.40		
			6	EF10 EF12	MS-2301GP	Main	8			
1.3	6	41.980				45.000	1.508	20.13		
△2	2	41.980				45.000	1.508	24.96		
CB-2301GP	C.R.	6								
	1-3	6				42.000	45.000	1.490	15.13	For EF10
CB-2302GP	C.R.	6								
	1-3	6	42.000	45.000	1.491	15.13	For EF12			
8	ER27	MS-2304GP	Main	8						
			1.2.4.	6	54.965	59.000	2.019	21.13		
			△3	2	54.965	59.000	2.019	25.96		
			CB-2304A	C.R.	12					
				1-6	12	45.005	48.000	1.490	14.63	
P.B.	6									
1-4	6	21.000	23.000	1.040	19.40	P1-2300 X 6				
9	EJ15 EJ16 EJ18 EJ20 VEJ22 EJ25	MS-2305A	Main	10						
			1.5.	4	60.000	64.000	2.003	19.00		
			2.4	4	60.000	64.000	2.003	15.00		
			△3	2	60.000	64.000	2.003	21.94		
			MS-2306A	Main	10					
				1.3.	4	60.000	64.000	2.003	19.00	
				2.4.	4	60.000	64.000	2.003	15.00	
				△5	2	60.000	64.000	2.003	22.94	
				CB-2305A	C.R.	8				
			1-4		8	52.000	55.000	1.498	16.63	
			CB-2306GP	C.R.	8					
1-4	8	48.000		51.000	1.498	15.63				
10	EN07	MS-2307GP	Main	10						
			1-5	10	41.974	45.024	1.512	14.10		
			TW-2307A	T.W.	4	(I.D.)	(O.D.)			
					4	47.250	57.900	1.960		
			CB-2307GP	C.R.	8					
1-4	8	30.989		34.018	1.498	13.50				

SUZUKI

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1 2	F5A F5A-T	MS-2402A	Main	8					
		TW-2402A	1-4	8	40.000	44.000	1.991	17.13	
			T.W.	2	(I.D.)	(O.D.)			
			3	2	47.250	63.000	2.520		
		CB-2402A	C.R.	6					For F5A
			1-3	6	32.000	35.000	1.490	16.10	
		CB-2401A	C.R.	6				For F5A-T	
			1-3	6	38.000	41.000	1.491	18.10	C1-1179 X 6
		PB-2401J	P.B.	3					
			1-3	3	15.995	18.021	1.030	22.00	
3	F6A	MS-2406A	Main	8					
		TW-2403A	1-4	8	44.000	48.000	1.991	17.10	
			T.W.	2	(I.D.)	(O.D.)			
			3	2	52.250	68.000	2.520		
		CB-2401A	C.R.	6					
			1-3	6	38.000	41.000	1.491	18.10	
		CB-2406A	C.R.	6					
			1-3	6	36.000	39.000	1.490	16.10	
4	F8A F10A	MS-1179A	Main	10					
		TW-1179A	1-5	10	50.000	54.000	1.991	20.10	
			T.W.	2	(I.D.)	(O.D.)			
			3	2	57.250	73.000	2.520		
		CB-1179A	C.R.	8					
			1-4	8	38.000	41.000	1.491	18.10	
		PB-1179J	P.B.	4					
			1-4	4	15.995	18.021	1.030	22.00	P1-2401 X 4
5	F8B (Y64) (SS80) Export only	MS-2401A	Main	8					
		TW-1179A	1-4	8	50.000	54.000	1.991	17.10	
			T.W.	2	(I.D.)	(O.D.)			
			3	2	57.250	73.000	2.520		
		CB-2401A	C.R.	6					
			1-3	6	38.000	41.000	1.491	18.10	
		PB-2401J	P.B.	3					
			1-3	3	15.995	18.021	1.030	22.00	
6	G10 G10-T	MS-2403A	Main	8					
		TW-2403A	1-4	4/4	45.000	49.000	2.000	18.10	
			T.W.	2	(I.D.)	(O.D.)			
			3	2	52.250	68.000	2.520		
		CB-2403A	C.R.	6					
			1-3	6	42.000	45.000	1.490	18.10	C1-2404 X 6
7 8	G13A G13B G13BA	MS-2404A	Main	10					
		TW-2403A	1-5	5/5	45.000	49.000	2.000	18.10	
			T.W.	2	(I.D.)	(O.D.)			
			4	2	52.250	68.000	2.520		
		CB-2404A	C.R.	8					
			1-4	8	42.000	45.000	1.490	18.10	
9	G15A G16A G16B	MS-2405GP	Main	10					
		TW-2405A	1-5	5/5	52.000	56.000	2.012	18.10	
			T.W.	2	(I.D.)	(O.D.)			
			4	2	59.250	75.000	2.520		
		CB-2405A	C.R.	8					
			1-4	8	44.000	47.000	1.490	18.10	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
10	H20A	MS-2407A	Main 1-4	8 4/4	65.000	70.000	2.496	19.10	
11	H25A H27A	MS-2408A	Main 1-5	10 5/5	58.000	62.000	1.988	19.10	
12	J18A J20A	MS-2409A	Main 1-4	8 4/4	58.000	62.000	1.988	19.10	M1-2408U/L X 4
		TW-2407A	T.W. 3	2 2	(I.D.) 71.750	(O.D.) 84.750	2.470		
		CB-2407A	C.R. 1-6	12 12	50.000	53.000	1.485	16.10	
		CB-2408A	C.R. 1-4	8 8	50.000	53.000	1.485	16.10	
13	K6A	MS-2410A	Main 1-4	8 4/4	45.000	49.000	2.000	18.13	
		TW-2403A	T.W. 3	2 2	(I.D.) 52.250	(O.D.) 68.000	2.520		
		CB-2410A	C.R. 1-3	6 6	38.000	41.000	1.490	16.10	
14 15	K10B K12B	*MS- *MS-2412A	Main 1-4	8 10					
		TW-2403A	T.W. 3	2 2	(I.D.) 52.250	(O.D.) 68.000	2.520		
16	M13A	*MS-2412A	Main 1-5	10 5/5	45.000	49.000	2.000	18.13	
		*CB-2412A	C.R. 1-4	8 8					
		TW-2405A	T.W. 4	2 2	(I.D.) 59.250	(O.D.) 75.000	2.520		
17	M15A M16A	*MS-2413A	Main 1-5	10 10					
		*CB-2413A	C.R. 1-4	8 8					
		*SH-2412A	Cam						
18	J24B	*MS-2416A	Main 1-5	10 10					
		*CB-2416A	C.R. 1-4	8 8					
19	K10A	*MS-2411A	Main 1-5	10 10					
		*CB-2411A	C.R. 1-4	8 8					
20	R06A	*MS-2414A	Main 1-4	8 8					
		*TW-2414A	T.W.						
		*CB-2414A	C.R. 1-3	6 6					
	R06A-T	*MS-2415A	Main	8					

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	1A	MS-1400A	Main	10					
2	2A		1-5	10	48.000	52.020	2.004	19.90	φ 6 Hole in U/L
3	3A	MS-1410A	Main	10					
	4A		1-5	5/5	48.000	52.020	2.004	19.90	φ 6 Hole in U
	A-GZE	TW-1400A	T.W.	4	(I.D.)	(O.D.)			
	5A		3	2/2	53.750	66.000	2.490		
	7A-FE	CB-1400A	C.R.	8					
			1-4	8	40.000	43.000	1.490	17.10	L/H notch
		CB-1410GP	C.R.	8					
			1-4	8	40.000	43.000	1.490	17.10	R/H notch
		CB-1425GP	C.R.	8					
			1-4	8	42.000	45.000	1.490	17.10	
		CB-1451A	C.R.	8					
			1-4	8	48.000	51.000	1.490	17.00	for 7A-FE
		PB-1425J	P.B.	4					
			1-4	4	20.000	22.000	1.030	22.00	
4	1AD-FTV	MS-1473A	Main	10					
	2AD-FTV		1-5	5/5	59.000	63.000	1.995	19.10	
	2AD-FHV	TW-1473A	T.W.	2	(I.D.)	(O.D.)			
				2	65.500	81.000	1.975		
		CB-1473GP	C.R.	8					
			1-4	8	50.000	53.000	1.491	19.13	
5	1AZ-FE	MS-1454A	Main	10					
	2AZ-FE		1-5	5/5	55.000	59.000	1.996	16.80	
		TW-1454A	T.W.	2	(I.D.)	(O.D.)			
			3	2	60.525	77.75	1.980		
		CB-1454A	C.R.	8					
			1-4	8	48.000	51.000	1.490	15.50	
		*BB-1454A	B.B.	8					
			1-4	8					
		*SH-1454A	Cam	2					
			1	1					
			2	1					
102	1AR-FE	*MS-1480A	Main	10					
	2AR-FE		1-5	5/5					
		*TW-1480A	T.W.						
		*CB-1480A	C.R.	8					
			1-4	8					
103	1GD-FTV	*MS-1477A	Main	10					
			1-5	5/5					
		*CB-1477A	C.R.	8					
			1-4	8	55.000	58.000	1.489	23.00	
	2GD-FTV	*CB-1478A	C.R.	8					
			1-4	8	50.000	53.000	1.489	25.10	
104	1UR-FE	*MS-1483A	Main	10					
	1UR-FSE								
	2UR-FSE	*TW-1483A	T.W.	4					
			3	2/2			2.500		
		*CB-1483A	C.R.	16					
			1-8	16	53.000	56.000	1.492	17.00	
	2UR-GSE	*CB-1484A	C.R.	16					
			1-8	16	53.000	56.000	1.486	17.00	
	3UR-FE	*CB-1485A	C.R.	16					
			1-8	16	56.000	59.000	1.492	17.00	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
6	B	MS-1121A	Main	10					
7	2B		1.2.4	8	70.000	75.000	2.485	26.90	
8	3B		△No.3	1/1	70.000	75.000	2.485	33.93	
9	11B	MS-1428A	Main	10					
10	13B	(MS-1429A)	1-5	5/5	70.000	75.000	2.485	26.90	
11	13B-T	TW-1417A	T.W.	4	(I.D.)	(O.D.)			
12	14B		3	2/2	76.250	90.700	2.480		
13	14B-T	CB-1121A	C.R.	8					
14	15B		1-4	8	59.000	62.000	1.485	30.00	φ4 Hole at 10°
15		CB-1401A	C.R.	8					
16			1-4	8	61.000	64.000	1.485	30.00	φ4 Hole at 11°
		CB-1428A	C.R.	8					
			1-4	8	59.000	62.000	1.485	30.00	φ4 Hole at 25°
		CB-1429A	C.R.	8					
			1-4	8	61.000	64.000	1.485	30.00	Oval Hole at 37°
		SH-1401A (SH-1121B)	Cam	3					
			1	1	47.175	51.030	1.915	24.00	S1-1401
			2	1	46.975	51.030	2.015	20.00	S2-1121
			3	1	46.775	51.030	2.115	24.00	S3-1121
		*SH-	Cam	5					
			1	1	53.475	57.500	2.010	20.00	
			2	1	53.225	57.250	2.010	20.00	
			3	1	52.975	56.000	1.510	20.00	
			4	1	52.725	56.000	1.635	20.00	
			5	1	52.475	56.250	1.885	20.00	
		SH-1417A	Cam	5					
			1	1	53.475	56.500	1.510	20.00	
			2	1	53.225	56.250	1.510	20.00	
			3	1	52.975	56.000	1.510	20.00	
			4	1	52.725	56.000	1.635	20.00	
			5	1	52.475	56.250	1.885	20.00	
		SH-1428A	Cam	5					
			1	1	53.475	57.500	2.010	20.00	
			2	1	53.225	57.250	2.010	20.00	
			3	1	52.975	57.000	2.010	20.00	
			4	1	52.725	57.000	2.135	20.00	
			5	1	52.475	57.250	2.385	20.00	
		PB-1428J (PB-1121J)	P.B.	4					
			1-4	4	29.010	33.000	2.030	32.00	
		PB-1401J	P.B.	4					
			1-4	4	32.010	36.000	2.030	32.00	
		PB-1417J	P.B.	4					
			1-4	4	34.010	38.000	2.040	36.00	
		PB-1429J	P.B.	4					
			1-4	4	32.010	36.000	2.030	(U)25.00 (L)33.00	
	15B-FTE	*MS-1476A	Main	10					
			1-5	5/5					
		*CB-1476A	C.R.	8					
			1-4	8					
		SH-1429A	Cam	5					
			1	1	53.585	57.600	2.005	25.00	
			2	1	53.335	57.350	2.005	20.00	
			3	1	53.085	57.100	2.005	20.00	
			4	1	52.835	57.100	2.130	20.00	
			5	1	52.585	57.350	2.380	20.00	

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
17	1C	MS-1408A	Main	10					
18	2C		1-5	5/5	57.000	61.000	1.990	22.00	φ6 Hole in U
19	2C-T 3C-T	MS-1421A	Main	10					
			1-5	5/5	57.000	61.000	1.990	20.00	
		MS-1448A	Main	10					
			1-5	5/5	57.000	61.000	1.990	22.00	15mm Oval Hole
		TW-1408A	T.W.	4	(I.D.)	(O.D.)			
			3	2/2	62.250	76.800	2.730		
		CB-1408A	C.R.	8					
			1-4	8	50.500	53.500	1.482	23.70	L/H Notch
		CB-1421A	C.R.	8					
			1-4	8	50.500	53.500	1.482	18.90	L/H Notch
		CB-1448A	C.R.	8					
			1-4	8	50.500	53.500	1.482	23.10	L/H Notch
		CB-1453A	C.R.	8					
			1-4	8	50.500	53.500	1.482	23.10	R/H Notch
		PB-1408J	P.B.	4					
			1-4	4	27.000	30.000	1.540	27.50	
		PB-1421J	P.B.	4					
			1-4	4	27.000	30.000	1.540	(U)20.00 (L)27.50	
20	1CD-FTV	MS-1448A	Main	10					
			1-5	5/5	57.000	61.000	1.990	22.00	
		CB-1460A	C.R.	8					
			1-4	8	50.500	53.500	1.480	21.10	No Oil Hole L/H Notch
21	D 2D	MS-1040GP	Main	14					
			1.3.5.7	12	74.980	81.030	3.005	34.00	
			4	2	74.980	81.030	3.005	49.13	
		(TW-1040B)	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	83.250	100.000	2.980		
		CB-1041GP	C.R.	12					
			1-6	12	61.980	66.030	2.005	31.00	
		SH-	Cam	4					
			1	1	55.195	60.000	2.390	30.70	
			2	1	54.975	60.000	2.500	25.70	
			3	1	54.975	60.000	2.500	25.70	
			4	1	54.475	60.000	2.600	26.80	
		PB-1040J	P.B.	6					
			1-6	6	34.030	40.000	3.030	37.00	(-'76)
		PB-1041J	P.B.	6					
			1-6	6	34.030	38.000	2.030	37.00	('76-)
22	1DZ	MS-1446A	Main	10					
			1-5	5/5	65.000	69.000	1.983	16.30	
		TW-1436A	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	74.250	85.750	2.980		
		CB-1446A	C.R.	8					
			1-4	4/4	50.500	53.500	1.478	20.40	
23	1E 2E 4E	MS-1415A	Main	10					
			1-5	5/5	47.000	51.022	2.000	16.00	
		TW-1415A	T.W.	4	(I.D.)	(O.D.)			
			3	2/2	52.750	64.500	2.490		
		CB-1415A	C.B.	8					
			1-4	4/4	40.000	43.000	1.491	15.10	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
24	3E 5E	MS-1424A	Main	10							
			1-5	5/5	50.000	54.018	2.000	16.00			
		TW-1424A	T.W.	4	(I.D.)	(O.D.)					
			3	2/2	55.250	68.000	2.480				
		CB-1424A	C.B.	8							
			1-4	8	43.000	46.000	1.492	15.10			
25 26	F 2F	(MS-1007GP)	Main	8							
			1	1/1	67.000	72.000	2.500	32.15			
			2	1/1	68.500	73.500	2.500	30.15			
			△3	1/1	70.000	75.000	2.500	35.94			
			4	1/1	71.500	76.500	2.500	40.15			
			MS-1123A	Main	8						
				1	1/1	66.990	72.010	2.501	32.15		
				2	2	68.490	73.510	2.501	30.15		
				△3	2	69.990	75.010	2.501	35.94		
				4	1/1	71.490	76.510	2.497	40.15		
				CB-1123A	C.R.	12					
					1-6	12	54.000	56.800	1.390	31.85	
				SH-1123A	Cam	4					
					1	1	47.975	52.000	2.000	29.00	
					2	1	46.475	50.500	2.000	24.00	
					3	1	44.975	49.000	2.000	24.00	
			4	1	43.475	47.500	2.000	25.00			
27	3F	MS-1413A	Main	8							
			1	2	67.000	72.010	2.497	32.15			
			2	2	68.500	73.510	2.497	30.15			
			3	2	67.000	75.100	2.497	28.15			
			4	2	71.500	76.510	2.497	40.15			
			TW-1413A	T.W.	4	(I.D.)	(O.D.)				
				3	2/2	78.250	91.000	2.480			
			CB-1413A	C.R.	12						
				1-6	12	53.000	56.000	1.488	22.00		
			SH-1123A	Cam	4						
				1	1	47.975	52.000	2.000	29.00		
				2	1	46.475	50.500	2.000	24.00		
				3	1	44.975	49.000	2.000	24.00		
				4	1	43.475	47.500	2.000	25.00		
		PB-1413J	P.B.	6							
			1-6	6	22.019	24.000	1.030	27.80			
28	1FZ	MS-1438A	Main	14							
			1-7	7/7	68.980	74.040	2.492	23.40			
			TW-1438A	T.W.	4	(I.D.)	(O.D.)				
				5	2/2			2.475			
			CB-1438A	C.R.	12						
				1-6	12	56.980	60.540	1.745	21.40		
		PB-1438J	P.B.	6							
			1-6	6	26.000	28.030	1.035	28.00			
31	1GR-FE	MS-1458A	Main	8							
			1,4	2/2	72.000	77.000	2.497	22.20			
			2,3	2/2	72.000	77.000	2.497	18.80			
			TW-1466A	T.W.	4	(I.D.)	(O.D.)				
				2/2	80.05	96.75	1.975				
			CB-1458A	C.R.	12						
		1-6	12	56.000	59.000	1.492	16.00				

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
29 30	1G	MS-1402A	Main	14					
			1-7	7/7	55.000	59.020	2.000	19.20	
	1G-GTE	MS-1420A	Main	14					
			1	2	55.000	59.020	2.000	22.20	
			2-7	6/6	55.000	59.020	2.000	19.20	
		TW-1402A	T.W.	4	(I.D.)	(O.D.)			
			No.4	2/2	60.750	73.000	1.990		
		CB-1402GP	C.R.	12					
			1-6	12	42.000	45.000	1.498	17.93	
		CB-1420GP	C.R.	12					
			1-6	12	42.000	45.000	1.492	18.18	
		CB-1433A	C.R.	12					
			1-6	12	44.000	47.000	1.492	17.18	
		PB-1402J	P.B.	6					
	1-6	6	18.011	20.000	1.030	25.00			
*PB-	P.B.	6							
	1-6	6	22.000	24.000	1.030	20.30			
	PB-1433J	P.B.	6						
		1-6	6	20.000	22.000	1.030	23.30		
35	H	MS-1427A	Main	14					
36	2H	(MS-1080A)	1-3,5-7	12	70.000	74.002	1.986	22.60	
37		(MS-1403A)	No.4	2	70.000	74.002	1.986	29.60	
38	12H-T	TW-1063A	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	76.250	90.000	2.980		
		TW-1427A	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	76.250	90.000	2.980		
		(CB-1080A)	C.R.	12					
			1-6	12	55.000	58.000	1.485	27.60	C1-1063 X 12
		CB-1403A	C.R.	12					
			1-6	12	55.000	58.000	1.485	25.60	L/H Notch C1-1403 X 12
		CB-1427A	C.R.	12					
			1-6	12	55.000	58.000	1.485	25.60	R/H Notch (-'75)
		SH-1063A	Cam	4					
		(SH-1063B)	1	1	47.175	51.000	1.900	24.00	
			2	1	46.975	51.000	2.000	20.00	
			3	1	46.775	51.000	2.100	20.00	
			4	1	46.575	51.000	2.200	24.00	
		SH-1080A	Cam	4					
		(SH-1080B)	1	1	47.175	51.000	1.900	24.00	('76-)
			2	1	46.975	51.000	2.000	20.00	
	3	1	46.775	51.000	2.100	20.00			
	4	1	46.575	51.000	2.200	24.00			
	SH-1403A	Cam	4						
		1	1	51.170	55.000	1.900	24.00		
		2	1	50.970	55.000	2.000	20.00		
		3	1	50.770	55.000	2.100	20.00		
		4	1	50.570	55.000	2.200	24.00		
	PB-1080J	P.B.	6						
		1-6	6	27.000	30.000	1.530	30.50	P1-1063 X 6	
	PB-1403J	P.B.	6						
		1-6	6	29.000	33.000	2.035	31.00		
	PB-1427J	P.B.	6						
		1-6	6	32.000	36.000	2.040	31.00		

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note	
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.			
39	1HZ 1HZ-T 1HD-T	MS-1436A	Main	14						
		TW-1436A	1-7	7/7	66.990	71.000	1.982	22.10		
			4	2/2	74.250	85.750	2.980			
		CB-1436A	C.R.	12						
		SH-1436A	1-6	6/6	59.000	62.014	1.489	23.60		
			Cam	2						
		PB-1436J	1	2	66.900	71.020	1.980	22.10	Shell bearing For 1HZ	
1-6	6		29.000	32.030	1.530	27.20				
PB-1444J	P.B.	6					For 1HD-T			
			1-6	6	33.000	36.030	1.530	(U)22.50 (L)30.50		
40	J	(MS-1063GP)	Main	10						
41	2J		1.2.4.5	8	70.000	74.000	1.990	22.60		
			3	2	70.000	74.000	1.990	33.60		
5P		MS-1137GP	Main	10						
			1.2.4.5	8	70.000	74.000	1.990	24.60		
			3	2	70.000	74.000	1.990	31.60		
			TW-1063B	T.W.	4	(I.D.)	(O.D.)			
				3	2/2	76.250	90.000	2.980		
			CB-1137A (CB-1063A)	C.R.	8					
				1-4	8	55.000	58.000	1.485	27.60	C1-1403 X 8
			SH-1063A (SH-1063B)	Cam	4					
				1	1	47.175	51.000	1.900	24.00	(-75)
				2	1	46.975	51.000	2.000	20.00	
				3	1	46.775	51.000	2.100	20.00	
			SH-1080A (SH-1080B)	Cam	4					
				4	1	46.575	51.000	2.200	24.00	(76-)
				1	1	47.175	51.000	1.900	24.00	
				2	1	46.975	51.000	2.000	20.00	
PB-1063J	P.B.	4	1-4	4	27.000	30.000	1.530	30.50		
42	1JZ-FSE 2JZ-FSE	MS-1434A	Main	14						
			1	1/1	62.000	66.000	2.010	23.00		
			2-7	6/6	62.000	66.000	2.010	20.00		
			TW-1434A	T.W.	4	(I.D.)	(O.D.)			
					2/2			1.970		
			CB-1434GP	C.R.	12					
1-6	12	52.000	55.000	1.510	19.30					

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
43	K	MS-1056GP	Main	10					
44	2K		1-5	10	50.000	54.004	1.994	20.90	
	3K	MS-1416A	Main	10					
	4K		1-5	5/5	50.000	54.004	1.994	20.90	L : R/H Notch
	5K	TW-1056A	T.W.	4	(I.D.)	(O.D.)			
	7K		3	2/2	55.250	68.000	2.480		
		CB-1056GP	C.R.	8					
			1-4	8	42.000	45.000	1.492	18.90	a Hole at 30° 30'
		CB-1416A	C.R.	8					
			1-4	8	42.000	45.000	1.492	18.90	a Hole at 28° 30'
		CB-1447A	C.R.	8					
			1-4	8	48.000	51.000	1.490	17.10	
		SH-1056A	Cam	4					
			1	1	43.225	48.000	2.375	17.90	
			2	1	42.975	47.500	2.250	17.90	
			3	1	42.725	47.000	2.125	17.90	
			4	1	42.475	46.500	2.000	17.90	
		PB-1056J	P.B.	4					
			1-4	4	18.011	20.000	1.030	25.00	
45	1KZ-TE	MS-1452A	Main	10					
46	1KD-FTV		1-5	5/5	70.000	75.000	2.485	23.80	
		TW-1452A	T.W.	4					
			3	2/2	76.250	90.920	2.480		
		CB-1452A	C.R.	8					
			1-4	8	59.000	62.014	1.489	24.60	
		PB-1452J	P.B.	4					
			1-4	4	34.000	37.000	1.530	(U)22.5 (L)31.5	2 Oil Holes
		PB-1464J	P.B.	4					
			1-4	4	34.000	37.000	1.530	(U)22.5 (L)31.5	1 Oil Hole
	2KD-FTV	*PB-1479J	P.B.	4					
			1-4	4	34.000	37.000	1.530		
47	1KR-FE	MS-1463A	Main	8					
			1-4	4/4	44.000	48.000	1.995	14.90	
		TW-1463A	T.W.	2	(I.D.)	(O.D.)			
			2	2	52.250	62.750	1.990		
		CB-1463A	C.R.	6					
			1-3	6	40.000	43.000	1.500	13.60	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
48	L	MS-1161A	Main	10					
49	2L		1-5	10	62.000	66.000	1.987	27.60	
50	2L-T	MS-1406A	Main	10					
51	3L		1-5	5/5	62.000	66.000	1.987	27.60	L : Center Notch
52	5L	TW-1161A	T.W.	4	(I.D.)	(O.D.)			
53			3	2/2	70.250	81.800	2.480		
		CB-1161A	C.R.	8					
			1-4	8	53.000	56.000	1.486	26.00	an Oil Hole
		CB-1406A	C.R.	8					
			1-4	8	53.000	56.000	1.486	26.00	no Oil Hole
		CB-1411A	C.R.	8					
			1-4	8	55.000	58.000	1.486	26.00	
		SH-1161A	Cam	6					
			△1	1/1	34.985	38.015	1.500	28.04	Shell with a Hole
			2.3	4	34.985	38.015	1.500	20.03	Shell with a Hole
		SH-1431A	Cam	10					
			△No.1	2	34.975	38.015	1.504	32.62	Shell with a Hole
			2-5	8	27.975	31.015	1.504	17.43	Shell with a Hole
		PB-1063J	P.B.	4					
			1-4	4	27.000	30.000	1.530	30.50	
		PB-1411J	P.B.	4					
			1-4	4	29.000	32.000	1.530	30.50	
		PB-1406J	P.B.	4					
			1-4	4	27.000	30.000	1.530	(U)23.00 (L)31.00	
		PB-1431J	P.B.	4					
			1-4	4	29.000	32.000	1.530	(U)23.00 (L)31.00	
54	M	MS-1051GP	Main	14					
55	2M		1-7	7/7	60.000	64.022	1.998	22.13	
56	3M	MS-1414GP	Main	14					
57	4M		1	1/1	60.000	64.022	1.998	25.13	
	5M		2-7	12	60.000	64.022	1.998	22.13	
	6M	TW-1006A	T.W.	4	(I.D.)	(O.D.)			
	7M		No.4	2/2	66.250	80.000	2.975		
		CB-1171GP	C.R.	12					
			1-6	12	52.000	55.015	1.499	20.00	R/H Notch w 2 Holes
		CB-1414GP	C.R.	12					
			1-6	12	52.000	55.015	1.497	20.00	L/H Notch w 1 Hole
		SH-1068A	Cam	8					
			△1/L	1	34.990	38.014	1.509	28.04	
			No.1-4	7	34.990	38.014	1.509	20.13	
		PB-1051J	P.B.	6					
			1-6	6	22.009	24.000	1.030	24.80	
		DB-1171A	D.B.	2					
			1	1	40.970	44.975	2.020	16.20	
			2	1	32.970	36.975	2.020	16.20	

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Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
58	1MZ-FE 2MZ-FE	MS-1455A	Main	8					
			1,4	2/2	61.000	66.000	2.489	22.20	
			2,3	2/2	61.000	66.000	2.489	18.80	
		TW-1455A	T.W.	4	(I.D.)	(O.D.)			
			2/2	68.450	83.550	1.98	-		
		CB-1455A	C.R.	12					
		1-6	12	53.000	56.000	1.499	16.00		
		PB-1455J	P.B.	6					
			1-6	6	22.000	24.000	1.000	20.50	
59	1N IN-T	MS-1449A	Main	10					
			1-5	5/5	50.000	54.036	2.008	18.00	
		TW-1056A	T.W.	4	(I.D.)	(O.D.)			
			3	2/2	55.250	68.000	2.480		
		CB-1449A	C.R.	8					
			1-4	8	44.000	47.014	1.492	17.90	
		PB-1449J	P.B.	4					
			1-4	4	23.500	26.500	1.540	23.50	
60 61	1ND-TV	MS-1461A	Main	10					
			1-5	5/5	46.000	50.000	1.995	16.10	without Notch
		TW-1457A	T.W.	2	(I.D.)	(O.D.)			
			2	54.250	69.750	2.475			
CB-1461A	C.R.	8							
	1-4	8	40.000	43.000	1.495	13.63	No Oil Hole		
		CB-1462A	C.R.	8					
			1-4	8	44.000	47.000	1.495	15.60	
62 63	1NZ 2NZ	MS-1456A	Main	10					
			1-5	5/5	46.000	50.000	1.995	16.00	with Notch
		CB-1456A	C.R.	8					
			1-4	8	40.000	43.000	1.494	13.63	with an Oil Hole
64	1PZ	MS-1439A	Main	12					
			1-6	6/6	67.000	71.000	1.982	22.10	
		TW-1436A	T.W.	4	(I.D.)	(O.D.)			
			4	2/2	74.250	85.750	2.980		
		CB-1439A	C.R.	10					
			1-5	10	59.000	62.014	1.490	23.60	
		SH-1436A	Cam	2					
		2	35.000	38.020	1.530	29.00	Shell Bearing		
		PB-1439J	P.B.	5					
			1-5	5	29.000	32.000	1.530	27.00	

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
65	3P 4P	MS-1062GP	Main	6							
			1-3	6	52.000	56.023	2.004	29.00			
			T.W.	4	(I.D.)	(O.D.)					
		TW-1005B	2	2/2	57.000	69.500	2.480				
			C.R.	8							
			1-4	8	47.000	50.025	1.504	23.00			
		(SH-1062B)	Cam	3							
			1	1	46.975	51.000	2.000	24.00			
			2	1	46.775	51.000	2.100	20.00			
(PB-1062J)	3	1	46.575	51.000	2.200	24.00					
	P.B.	4									
	1-4	4	20.000	22.000	1.030	24.00					
66 67	5R	(MS-1011GP)	Main	6							
			1	1/1	60.000	65.010	2.500	28.00			
			2	1/1	60.000	65.010	2.500	36.00			
		MS-1107GP	3	1/1	60.000	65.010	2.500	40.00			
			Main	6							
			1	2	60.000	64.000	1.990	28.00			
		MS-1159A	△.2	2	60.000	64.000	1.990	41.98			
			3	2	60.000	64.000	1.990	36.00			
			Main	6							
		TW-1006A	1	2	60.000	64.000	1.992	27.70			
			2.3	4	60.000	64.000	1.992	35.40			
		TW-1133A	T.W.	4	(I.D.)	(O.D.)					
			2	2/2	66.250	80.000	2.975				
		CB-1046A	T.W.	4	(I.D.)	(O.D.)					
			2	2/2	66.250	80.000	1.990				
		SH-1107A (SH-1013B)	C.R.	8							
			1-4	8	55.000	58.025	1.500	26.00			
		PB-1046J	Cam	5							
			1	1	46.475	50.000	1.750	29.00			
			2	1	46.225	50.000	1.875	20.00			
			3	1	45.975	50.000	2.000	46.00			
			4	1	45.725	50.000	2.125	19.00			
			5	1	45.475	50.000	2.250	28.00			
			P.B.	4							
		1-4	4	22.009	24.000	1.030	31.60				
		68	2R 12R	MS-1060A	Main	6					
					1	2	58.000	61.600	1.790	30.00	
2	2				58.000	61.600	1.790	34.00			
TW-1007A	3			2	58.000	61.600	1.790	40.00			
	T.W.			4	(I.D.)	(O.D.)					
CB-1035A	2			2/2	64.050	76.000	3.000				
	C.R.			8							
SH-1060A	1-4			8	50.000	53.000	1.500	27.00			
	Cam			3							
PB-1035J	1			1	46.470	50.000	1.760	28.00			
	2			1	46.220	50.000	1.885	42.00			
	3			1	45.970	50.000	2.010	25.00			
	P.B.	4									
	1-4	4	20.016	22.000	1.030	27.00					

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
69	6R	(MS-1094GP)	Main	10					
70	7R	MS-1152GP	1.2.4.5	8	59.980	64.000	2.000	22.00	Shell with a Hole Shell with a Hole
	8R		△ 3	2	59.980	64.000	2.000	35.80	
	10R		Main	10					
	16R		1.2.4.5	8	59.980	64.000	2.000	22.00	
	18R		3	2	59.980	64.000	2.000	28.00	
	19R		T.W.	4	(I.D.)	(O.D.)			
		TW-1133A	3	2/2	66.250	80.000	1.990		
		CB-1133GP	C.R.	8					
			1-4	8	52.990	56.000	1.500	22.00	
		SH-1068A	Cam	8					
			△1/L	1	34.990	38.014	1.509	28.04	
			1.2.4.5	7	34.990	38.014	1.509	20.13	
	PB-1068J	P.B.	4						
		1-4	4	22.000	24.000	1.030	27.80		
	DB-1152A	D.B.	2						
		1	1	45.980	49.975	2.000	25.00		
		2	1	45.980	44.975	2.000	20.00		
71	20R	MS-1133GP	Main	10					
72	21R	MS-1405GP	1.2.4.5	8	59.980	64.004	2.000	22.00	
73	22R		3	2	59.980	64.004	2.000	24.00	
		Main	10						
		1-5	5/5	59.980	64.004	2.000	22.00		
		T.W.	4	(I.D.)	(O.D.)				
		TW-1133A	3	2/2	66.250	80.000	1.990		
		T.W.	4	(I.D.)	(O.D.)				
		TW-1405A	4	2/2	66.250	80.000	2.740		
		C.R.	8						
		1-4	8	52.990	56.000	1.500	22.00		
		P.B.	4						
		PB-1068J	1-4	4	22.000	24.000	1.030	27.80	
74	1RZ	MS-1435A	Main	10					
	2RZ	MS-1435A	1.5	2/2	59.995	64.000	1.990	25.00	
	3RZ		2.3.4	3/3	59.995	64.000	1.990	23.00	
		T.W.	4	(I.D.)	(O.D.)				
		TW-1435A	2/2	65.250	89.700	2.490			
		C.R.	8						
		1-4	8	53.000	56.000	1.485	19.70		
		P.B.	4						
		PB-1435J	1-4	4	24.000	27.000	1.535	26.00	

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
75	1S	MS-1404A	Main	10					
76	2S		1.2.4.5	4/4	55.000	59.020	2.000	19.20	
77	3S		No.3	1/1	55.000	59.020	2.000	23.00	
78	4S 5S	TW-1117A	T.W.	4	(I.D.)	(O.D.)			
		(TW-1441A)	No.3	2/2	64.300	76.000	2.490		
			T.W.	4	(I.D.)	(O.D.)			
			No.3	2/2	64.250	76.000	2.490		
		CB-1404A	C.R.	8					
			1-4	8	48.000	51.000	1.488	20.50	
		CB-1419GP	C.R.	8					
			1-4	8	48.000	51.000	1.488	21.30	
		CB-1441GP	C.R.	8					
			1-4	8	52.000	55.000	1.497	20.30	
		PB-1441J	P.B.	4					
			1-4	4	22.000	24.000	1.035	26.50	
79	1SZ-FE	MS-1450A	Main	10					
80	2SZ-FE		1-5	5/5	46.000	50.000	1.995	14.80	With a Hole & Lug
	3SZ-FE	MS-2512A	Main	10					
			1-5	5/5	46.000	50.000	1.992	14.90	With 2 Holes & no Lug
		TW-2510A	T.W.	2	(I.D.)	(O.D.)			
			3	2	52.250	63.000	1.990		
		CB-1450A	C.R.	8					
			1-4	8	35.000	38.000	1.494	13.00	
		CB-2512A	C.R.	8					
			1-4	8	40.000	43.000	1.492	13.20	
		*CB-1486A	C.R.	8					
			1-4	8					
81	T	MS-1104GP	Main	10					
82	2T		1.2.4.5	8	58.000	62.000	1.992	20.93	
83	2T-G		△No.3	2	58.000	62.000	1.992	30.93	
84	3T	MS-1117GP	Main	10					
85	3T-G		1-5	10	58.000	62.000	1.992	20.93	
	4T-G	*MS-	Main	10					
	12T		1-5	5/5	58.000	62.000	1.992	20.93	
	13T	TW-1117A	T.W.	4	(I.D.)	(O.D.)			
		(TW-1441A)	No.3	2/2	64.300	76.000	2.490		
		CB-1117GP	C.R.	8					
			1-4	8	48.000	51.000	1.494	19.90	φ3 Hole at 39°
		CB-1422GP	C.R.	8					
			1-4	8	48.000	51.000	1.494	18.90	φ3 Hole at 28°
		SH-1104A	Cam	5					
			No.1	1	46.475	50.000	1.745	18.00	
			No.2	1	46.225	49.750	1.745	15.90	
			No.3	1	45.975	49.000	1.495	17.90	
			No.4	1	45.725	49.250	1.745	16.00	
			No.5	1	45.475	49.500	1.995	17.90	
86	1TR-FE	MS-1459A	Main	10					
	2TR-FE		1-5	5/5	60.000	64.000	1.996	21.00	
		TW-1459A	T.W.	4	(I.D.)	(O.D.)			
				2/2	65.750	80.750	2.475		
		CB-1459A	C.R.	8					
			1-4	8	53.000	56.000	1.493	15.60	

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
87	1UZ-FE	MS-1440GP	Main	10					
88	2UZ-FE		1-2	2/2	66.770	72.020	2.500	22.50	
			3.4.5	3/3	66.770	72.020	2.500	19.50	
		TW-1440A	T.W.	4	(I.D.)	(O.D.)			
				2/2	73.850	89.300	2.500		
		CB-1440GP	C.R.	16					
			1-8	16	52.000	55.000	1.497	19.50	
		MS-1442A	Main	10					
				2/2	67.000	72.000	2.490	22.40	
				3/3	67.000	72.000	2.490	19.40	
		CB-1442A	C.R.	16					
			1-8	16	52.030	55.000	1.490	19.50	
89	1VD-FTV	MS-1465GP	Main	10					
			1,5	2/2	75.000	79.000	1.988	22.50	L/H Notch
			2-4	3/3	75.000	79.000	1.988	20.50	R/H Notch
		TW-1465A	T.W.	2	(I.D.)	(O.D.)			
				2	82.380	105.500	2.485		
		CB-1465GP	C.R.	16					
			1-6	16	55.000	58.000	1.490	17.50	
90	1VZ-FE	MS-1423GP	Main	8					
91	3VZ		1	1/1	64.000	68.028	1.992	22.00	
92	4VZ-FE		2.3.4	3/3	64.000	68.028	1.992	20.00	
93	5VZ-FE	MS-1437GP	Main	8					
			1	1/1	64.000	68.028	1.992	22.00	
			2-4	3/3	64.000	68.028	1.992	20.00	
		TW-1423A	T.W.	4	(I.D.)	(O.D.)			
				2/2	71.250	86.500	2.480		
		CB-1423GP	C.R.	12					
			1-6	12	48.000	51.024	1.488	17.00	
		CB-1437GP	C.R.	12					
			1-6	12	55.000	58.000	1.490	16.80	
		CB-1445GP	C.R.	12					
			1-6	12	55.000	58.000	1.490	16.80	
		PB-1445J	P.B.	6					
			1-6	6	22.000	24.030	1.050	23.00	
94	1Y	MS-1407A	Main	10					
	2Y		1-5	5/5	58.000	62.000	1.990	20.93	
	3Y	TW-1117A	T.W.	4	(I.D.)	(O.D.)			
	4Y	(TW-1441A)	3	2/2	64.300	76.000	2.490		
		CB-1407A	C.R.	8					
			1-4	8	48.000	51.000	1.490	19.90	
		SH-1407A	Cam	5					
			1	1	46.475	50.000	1.750	17.90	
			2	1	46.225	49.750	1.750	15.90	
			3	1	45.975	49.000	1.500	17.90	
			4	1	45.725	49.250	1.750	15.90	
			5	1	45.475	49.500	2.000	17.90	

TOYOTA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note		
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.				
95	1W	MS-2109GP	Main 1-5	10	72.960 (I.D.)	78.000 (O.D.)	2.493	25.13			
		TW-2109GP	T.W. 4	4							
		CB-2109GP	C.R. 1-4	8	82.250	98.900	2.500	28.13			
			SH-2109K	Cam No.1	3	1	56.970			60.000	1.500
				Cam No.2	3	1	56.770	59.800		1.500	27.00
				Cam No.3	3	1	56.570	59.600		1.500	27.00
		PB-2109J	P.B. 1-4	4	4	35.000	39.000	2.040		(U)30.00 (L)38.00	
96	1Z	MS-1426A	Main 1-5	10	74.000	78.000	1.985	25.60			
97	2Z	MS-1474A	Main 1-5	10	74.000 (I.D.)	78.000 (O.D.)	1.985	22.40			
		TW-1426A	T.W. 4	4							
		CB-1137A	C.R. 1-4	8	82.250	95.750	2.480	25.60			
			*SH-1426A	Cam 1	3	1	51.380			55.200	2.000
				Cam 2	3	1	51.000	55.000		2.000	20.00
		Cam 3	3	1	50.800	55.000	2.100	24.00			
98	11Z	MS-1443A	Main 1-7	14	74.000	78.000	1.985	25.60			
99	13Z	MS-1475A	Main 1-7	14	74.000 (I.D.)	78.000 (O.D.)	1.985	22.40			
		TW-1426A	T.W. 2/2	4							
		CB-1403A	C.R. 1-4	12	82.250	95.750	2.480	25.60			
			*SH-1443A	Cam 1	4	1	51.380			55.400	2.000
				Cam 2	4	1	51.180	55.200		2.000	22.00
		Cam 3	4	1	50.800	55.000	2.100	22.00			
		Cam 4	4	1	50.800	55.400	2.300	24.00			
100	1ZR-FE 2ZR-FE	MS-1471A	Main 1-5	10	48.000 (I.D.)	52.000 (O.D.)	1.997	17.10			
		TW-1457A	T.W. 2	2							
	CB-1471A	C.R. 1-4	8	54.25	69.75	2.475	14.40				
		*SH-1471A	Cam 1	4	2/2	34.500		37.500		1.514	23.30
	3ZR-FE	*CB-1472A	C.R. 1-4	8	8	47.000	50.000	1.493		14.50	
101	1ZZ 2ZZ	MS-1457A		10	48.000 (I.D.)	52.000 (O.D.)	1.996	16.80			
		TW-1457A		5/5						2	
		CB-1457A		8	2	54.25	69.75	2.475		15.50	
					8	8	44.000	47.000			1.490
		PB-1457J		4	4	20.000	22.000	1.000		20.00	

GM KOREA

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	G15MF	MS-3021A	Main	10					M1-3017
			1.2.4.5	8	54.985	59.000	2.001	19.43	
		△3	2	54.985	59.000	2.001	25.90		
		CB-3017A	C.R.	8					
1-4	8		42.987	46.000	1.497	16.63			
2	F8C F8L	MS-3879A	Main	8					
			1-4	8	44.000	48.000	1.991	17.10	
		TW-3879A	T.W.	2	(I.D.)	(O.D.)			
			3	2	52.250	68.000	2.520		
CB-3879A	C.R.	6							
	1-3	6	38.000	41.000	1.491	18.10			
3	C22SEL	MS-1641GP (MS-3020GP)	Main	10					An Oil Hole at 13° 2 Oil Holes U : 2 Oil Holes L : No Oil Holes
			1.2.4.5	8	57.995	62.000	1.995	19.43	
		△3	2	57.995	62.000	1.995	25.92		
		CB-1641GP	C.R.	8					
			1-4	8	48.987	52.000	1.497	19.33	
		CB-1642GP (CB-3020GP)	C.R.	8					
1-4	8		48.987	52.000	1.497	19.33			
4	S-TEC	MS-3888A	Main	10					
			1-5	10	44.000	48.000	1.991	17.10	
		TW-3879A	T.W.	2					
			3	2	52.250	68.000	2.520		
CB-3888A	C.R.	8							
	1-4	8	38.000	41.000	1.491	18.10			
5	SAIL	MS-3890A	Main	10					An Oil Hole at 31.5°
			1-5	5/5	49.000	53.000	1.996	17.10	
		TW-3890A	T.W.	2	(I.D.)	(O.D.)			
			2	2	57.300	72.700	2.520		
CB-3590A	C.R.	8							
	1-4	8	40.000	43.000	1.492	18.00			
6	N200 N300	MS-3894A	Main	10					
			10	10	49.000	53.000	1.996	17.10	
		TW-3890A	T.W.	2	(I.D.)	(O.D.)			
			2	2	57.300	72.700	2.520		
CB-3894A	C.R.	8							
	8	8	38.000	41.000	1.493	18.15			

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note			
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.					
2	D4CB	MS-3887A	Main 1-5	10 5/5	67.000	71.000	1.990	24.10				
		TW-3887A	T.W.	4	(I.D.)	(O.D.)						
		CB-3887A	C.R. 1-4	8 8	73.250	87.000	1.975			27.13		
6	G4FK G4EK	MS-3880A	Main 1.2.4.5	10 4/4	49.992	54.000	1.994	18.00				
		CB-3880A	△3	1/1	49.992	54.000	1.994	23.00				
			C.R. 1-4	8 8	44.990	48.000	1.495	19.00				
7	G4GM	MS-3878A	Main 1.2.4.5	10 4/4	56.992	61.000	1.994	21.00				
		TW-3878A	3	2	56.992	61.000	1.994	21.00				
			T.W. 3	2	(I.D.)	(O.D.)						
8	G4HC	MS-3882A	Main 1-5	10 5/5	42.000	46.000	2.000	16.10				
		TW-3882A	T.W.	2	(I.D.)	(O.D.)						
		CB-3882A	C.R. 1-4	8 8	47.750	58.250	2.475	14.05				
9	G4KC G4KD G4KF	MS-3889A	Main 1-5	10 5/5	51.953	56.000	2.022	18.10				
		TW-3889A	T.W.	2	(I.D.)	(O.D.)						
		CB-3889A	C.R. 1-4	8 8	58.250	76.250	1.965	17.10				
10	D4EA	MS-3891A	Main 1-5	10 5/5	60.000	64.000	1.978	21.60				
11	G4FC G4FD G4FE G4FF G4FG G4FH G4FI G4FJ	*MS-3892A	Main 1-5	10 5/5	48.000	52.000	2.030	16.03				
		*CB-3892A	C.R.	8								
			1-4	8	42.000	45.000	1.511	14.43				
		12	(KAPPA)	*MS-3893A	Main 1-5	10 5/5						
				*TW-3893A	T.W.							
				*CB-3893A	C.R. 1-4	8 8						

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note				
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.						
1	B3	MS-3876A	Main 1-5	10 5/5	49.956 (I.D.)	54.000 (O.D.)	2.013	17.50					
		TW-3876A	T.W.	2						57.250	69.000	2.550	
		CB-3876A	C.R. 1-4	8 8						39.955	43.000	1.513	17.00
6	J2 JT	MS-3883A	Main 1-5	10 6/4	70.000	74.090	2.004	27.13					
		*TW-	T.W.										
		CB-3883A	C.R. 1-4	8 8						57.000	60.846	1.838	26.73
7	JS S2	MS-3885A	Main 1-5	10 9	65.000	69.026	2.004	27.13					
			3L	1						65.000	69.026	2.004	27.13
		*TW-	T.W.										
		CB-3885A	C.R. 1-4	8 8	57.000	60.846	1.838	27.73					
9	VN RFA	MS-3884A	Main 1-5	10 5/5	75.000	80.090	2.504	27.33					
		*TW-	T.W.										
		CB-3883A	C.R. 1-4	8 8						57.000	60.846	1.838	26.73
10	G4KC G4KD G4KF	MS-3889A	Main 1-5	10 5/5	58.250	76.750	1.965	17.10					
		TW-3889A	T.W.	2									
		CB-3889A	C.R. 1-4	8 8								1.507	

RENAULT

Group No.	Engine Model	N D C Set No.	Position	Pcs /Eng	Dimension (mm) STD Size			Length mm Max.	Note
					Shaft Dia Max.	Housing Bore Min.	Wall Thickness Max.		
1	H4M	MS-1227A	Main	10					
			1-5	10	47.979	51.997	2.005	16.00	
		TW-1227A	T.W.	2	(I.D.)	(O.D.)			
				2	54.950	73.750	1.960		
		CB-1227A	C.R.	8					
			1-4	4/4	39.971	43.000	1.510	15.00	
2	M4R	MS-1228A	Main	10					
			1-5	10	51.979	55.997	2.005	17.00	
		TW-1228A	T.W.	2	(I.D.)	(O.D.)			
				2	58.950	76.750	2.210		
		CB-1228A	C.R.	8					
			1-4	4/4	43.971	47.000	1.508	16.00	
3	M9R	*MS-	Main						
		*TW-	T.W.						
		*CB-	C.R.						
4	M5M	MS-1234A	Main	10					
			1-5	5/5	51.979	55.997	1.998	17.00	
		TW-1228A	T.W.	2	(I.D.)	(O.D.)			
				2	58.950	76.750	2.210		
		CB-1234GP	C.R.	8					
			1-4	4/4	43.971	47.000	1.496	16.00	
5	XH5	MS-1233A	Main	8					
			1-4	4/4	47.979	51.997	1.998	16.00	
		TW-1227A	T.W.	2	(I.D.)	(O.D.)			
				2	54.950	73.750	1.960		
		CB-1233GP	C.R.	6					
			1-3	3/3	39.971	43.000	1.505	15.00	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
MI	G31, G32	BB-1085A		MZ	HA, SL	CB-1153A	
MI	G51B	BB-1131A		IZ	E120, 6RA1	CB-1154GP	
MI	G31, G32	BB-1164A		IZ	2AA, 2AB	CB-1157A	
TY	1AZ-FSE, 2AZ-FE	* BB-1454A		DH	DG, DL	CB-1158A	
MI	4G63	BB-1811A		MF	4D30	(CB-1160GP)	CB-1807GP
MZ	G6	BB-2011A		TY	L	CB-1161A	
DH	AB, AD, AB31	BB-2500A		HN	EH100	CB-1165GP	
DH	CB, CD, CL	BB-2501A		MZ	E3, E5, B5	CB-1168A	
UD	ZD30DD, ZD30DDTI	BB-2817A		MI	G11, G12	CB-1169A	
NS	P40	CB-1001GP		TY	M, 5M	CB-1171GP	
NS	H20	CB-1002GP		NS	CA16, CD17	CB-1173GP	
NS	J13, J15, J16	CB-1007GP		NS	E13, E15	CB-1174GP	
IZ	DA120	(CB-1023GP)		HD	EH	CB-1175GP	
MI	4G41, 4G42	CB-1025GP		NS	L20, LD28	CB-1177GP	
UD	SD22	CB-1029GP		SZ	F8A, F10A	CB-1179A	
IZ	G130, G161	CB-1032GP		MZ	S2	CB-1181GP	
TY	12R	CB-1035A		UD	TD27	(CB-1190GP)	CB-2805A
MF	6DB1	CB-1037GP		UD	TD23	CB-1192GP	
HN	DS50	(CB-1039GP)		UD	BD30	CB-1194A	
TY	D, 2D	CB-1041GP		UD	TD42	CB-1195GP	
IZ	DH100	(CB-1042GP)		NS	TB42	CB-1199A	
NS	L13, L18, Z24	CB-1044GP		NS	VG20E	(CB-1200GP)	
NS	A10, A12, A15	CB-1045GP		NS	VG30	(CB-1201GP)	CB-1210A
TY	5R	CB-1046A		NS	MA10	CB-1202A	
NS	L20, LD28	CB-1048GP		NS	RB20E	CB-1203GP	
IZ	DA220	(CB-1050GP)		NS	J18	CB-1204GP	
IZ	DA640	(CB-1052GP)		NS	RB30	CB-1206GP	
MF	6DS	(CB-1055GP)	CB-1808GP	NS	RD28	CB-1207A	
TY	2K, 3K, 4K	CB-1056GP		NS	GA15E	CB-1208A	
UD	SD33	CB-1058GP		NS	KA24	CB-1209GP	
HN	DM100	(CB-1059GP)		NS	VG30	CB-1210A	
TY	3P, 4P	CB-1062GP		NS	VG30D	CB-1211GP	
TY	J, 2J, 5P	(CB-1063A)	CB-1137A	NS	SR18, SR20	CB-1213GP	
IZ	C190, C223, C240	CB-1070A		NS	VH41, VH45	CB-1214GP	
MZ	XA	CB-1075GP		NS	RB24	CB-1215GP	
TY	H, 2H	(CB-1080A)	CB-1403A	NS	RB25, RB26DETT	CB-1216GP	
HN	EC100	CB-1081GP		NS	CD20	CB-1217A	
MZ	PB, PC	CB-1082A		NS	VQ20, 25, 30, 35	CB-1219GP	
UD	ND6	CB-1083GP		NS	K21, K25	CB-1220A	
UD	PD6	CB-1084GP		NS	KH1S, 2S, 3S, NA20S	CB-1221A	
MI	G31, 4G32, 4D65	CB-1085A		NS	VQ20, 25, 30, 35	CB-1222GP	
MZ	MA	CB-1086A		NS	VQ20, 25, 30, 35	CB-1223GP	
IZ	D920, E110	(CB-1092GP)		NS	CG10DE, 13E	CB-1224A	
MZ	YA, ZB	CB-1097GP		NS	QR20DE, 25DE	CB-1226GP	
IZ	G180	(CB-1103GP)	CB-1628GP	NS	HR15DE, 16DE, H4M	CB-1227A	
TY	T, 2T	CB-1117GP		NS	MR18DE, 20DE, M4R	CB-1228A	
UD	RD8	CB-1118GP		NS	YD22, YD25	CB-1229A	
UD	RD10	CB-1119GP		NS	VK45DE, VK56DE	CB-1231GP	
TY	B, 3B	CB-1121A		NS	VQ40DE	CB-1232GP	
UD	ED30	CB-1122GP		NS	HR12DE, XH2	CB-1233GP	
TY	F	CB-1123A		NS	MR16DDT, M5M	CB-1234GP	
SB	EA62, 63, 64, 81	CB-1124GP		NS	CR14DE	CB-1235A	
MI	G51, G52B, 4D55	CB-1131A		NS	R9M	* CB-1236A	
TY	18R, 20R, 22R	CB-1133GP		TY	1A, 2A, 3A, 5A	CB-1400A	
HD	EB1, EE, ER-T	CB-1134GP		TY	B, 3B, 11B	CB-1401A	
IZ	DA640T	(CB-1136GP)		TY	1G	CB-1402GP	
TY	J, 2J	CB-1137A		TY	12H-T	CB-1403A	
HN	EH300	(CB-1140GP)		TY	1S, 3S	CB-1404A	
MZ	NA, VA	CB-1141A		TY	L, 2L	CB-1406A	
HD	EC, ED	CB-1142GP		TY	1Y, 2Y, 3Y	CB-1407A	
HN	EF100, 350, 700	(CB-1144GP)		TY	1C, 2C	CB-1408A	
				TY	2A, 3A, 5A	CB-1410GP	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
TY	2L-T	CB-1411A		IZ	6RB1	CB-1613GP	
TY	3F	CB-1413A		IZ	6RA1, 6RA1-T	CB-1614GP	
TY	5M, 7M	CB-1414GP		IZ	4FA1, 4FC1-T	CB-1616GP	
TY	1E, 2E, 4E	CB-1415A		IZ	6SA1	CB-1618GP	
TY	5K	CB-1416A		IZ	4ZA1, G200W	CB-1620GP	
TY	3S, 4S	CB-1419GP		IZ	4XC1	CB-1621A	
TY	1G	CB-1420GP		IZ	4JA1, 4JB1	CB-1622A	
TY	1C, 2C	CB-1421A		IZ	4EC1	CB-1624A	
TY	2T-G, 3T, 12T, 13T	CB-1422GP		IZ	4XE1	CB-1626GP	
TY	1VZ-FE	CB-1423GP		IZ	4ZE1	CB-1627A	
TY	3E, 5E	CB-1424A		IZ	G180, G200	CB-1628GP	
TY	4A-GZE	CB-1425GP		IZ	4HF1, 4HG1, 4HJ1	CB-1631GP	
TY	12J	CB-1427A		IZ	6HE1, 6HH1	CB-1632GP	
TY	B	CB-1428A		IZ	4XE1-T	* CB-1633GP	
TY	13B-T, 14B, 15B	CB-1429A		IZ	6SA1	CB-1634GP	
TY	1G	CB-1433A		IZ	6SD1	CB-1635GP	
TY	1JZ-FSE, 2JZ-FSE	CB-1434GP		IZ	6QA1, 6QA2, 6QB2	CB-1636GP	
TY	1RZ, 2RZ, 3RZ	CB-1435A		IZ	6HE1-T, 6HK1-T	CB-1639GP	
TY	1HZ, 1HD	CB-1436A		IZ	4HE1-T, 4HK1-T	CB-1640GP	
TY	3VZ-E	CB-1437GP		IZ	C22NE, 22LE, C22SEL	CB-1641GP	
TY	1FZ	CB-1438A		IZ	C22NE, 22LE	CB-1642GP	
TY	1PZ	CB-1439A		IZ	6HK1-T	CB-1643GP	
TY	1UZ	CB-1440GP		IZ	4HK1-T	CB-1644GP	
TY	5S	CB-1441GP		IZ	6VD1, 6VE1	CB-1645A	
TY	2UZ-FE	CB-1442A		IZ	6WA1-T, 6WF1-T	CB-1646GP	
TY	3VZ-FE, 4VZ-FE, 5VZ-FE	CB-1445GP		IZ	6UZ1	* CB-1647GP	
TY	1DZ	CB-1446A		IZ	RZ4E-TC	* CB-1648GP	
TY	7K	CB-1447A		MI	G23	(CB-1800A)	
TY	2C-T, 3C-T	CB-1448A		MI	4D56-T (131kW)	CB-1802GP	
TY	1N, 1N-T	CB-1449A		MF	6D22, 6D23	CB-1803GP	
TY	1SZ-FE	CB-1450A		MF	8DC9	CB-1804GP	
TY	7A	CB-1451A		MF	4D30, 4D32	CB-1807GP	
TY	1KZ-TE, 1KD-FTV	CB-1452A		MF	6D31	CB-1808GP	
TY	2C-T, 3C-T	CB-1453A		MF	4DR5	CB-1812GP	
TY	1AZ-FE, 2AZ-FE	CB-1454A		MF	6DR5	CB-1813GP	
TY	1MZ-FE, 2MZ-FE	CB-1455A		MF	6D16	CB-1820GP	
TY	1NZ-FE, 2NZ-FE	CB-1456A		MI	6G72	CB-1822A	
TY	1ZZ-FE, 2ZZ-FE	CB-1457A		MI	6G71	CB-1823A	
TY	1GR-FE, 2GR-FE	CB-1458A		MI	3G81, 3G82	CB-1824A	
TY	1TR-FE, 2TR-FE	CB-1459A		MI	G15B, 4G15	CB-1825A	
TY	1CD-FTV	CB-1460A		MI	4G63	CB-1827A	
TY	1ND-TV	CB-1461A		MI	4G91, 4G93	CB-1828A	
TY	1ND-TV	CB-1462A		MI	4G92	CB-1829GP	
TY	1KR-FE	CB-1463A		MF	4D34	CB-1830GP	
TY	1VD-FTV	CB-1465A		MF	4DR5	CB-1831GP	
TY	2GR-FE	CB-1468A		MI	4M40, 4M41	CB-1832GP	
TY	1ZR-FE, 2ZR-FE	CB-1471A		MF	4D34, 4M50-T	CB-1835GP	
TY	3ZR-FE	* CB-1472A		MF	4D33, 35, 36, 4M51	CB-1836GP	
TY	1AD-FTV, 2AD-FTV	CB-1473GP		MF	6D34-T	CB-1837GP	
TY	15B-FTE	* CB-1476A		MF	6D16-T, 6D17, 6M60-T	CB-1838GP	
TY	1GD-FTV	CB-1477A		MF	6D24, 6M70T	CB-1839GP	
TY	2GD-FTV	CB-1478A		MI	6G74	CB-1842GP	
TY	1AR-FE, 2AR-FE	* CB-1480A		MI	4D68	* CB-1844GP	
TY	1UR-FE	* CB-1483A		MI	4D56-T (105kW)	CB-1845A	
TY	2UR-GSE	* CB-1484A		MI	6A12	CB-1846GP	
TY	3UR-FE	* CB-1485A		MI	4M42-T	CB-1847GP	
TY	3SZ-FE	* CB-1486A		MI	4B10M 4B11, 4B12	* CB-1849A	
IZ	3AA1, 3AD1	CB-1601A		MI	4N13, 4N14, 4N15	* CB-1850A	
IZ	3AE1, 3AF1, 3KR1	CB-1602A		MI	4G94	CB-1852A	
IZ	4BC2, 4BE1	CB-1603GP		MZ	JF	* CB-2001A	
IZ	6QA1	CB-1609GP		MZ	YA	CB-2002GP	
IZ	6BB1	CB-1612GP		MZ	F8, FE, RF	CB-2004A	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
MZ	B6	CB-2008A		SZ	F6A	CB-2406A	
MZ	F8, FE	CB-2009A		SZ	H20A, H25A, H27A	CB-2407A	
MZ	JE	CB-2010A		SZ	J18A, J20A	CB-2408A	
MZ	PN	CB-2013A		SZ	K6A	CB-2410A	
MZ	TF, TM	CB-2014A		SZ	K10A	* CB-2411A	
MZ	XA	CB-2015GP		SZ	M13A	* CB-2412A	
MZ	WL, WL-T	CB-2016A		SZ	M15A	* CB-2413A	
MZ	KJ, KL	CB-2017GP		SZ	R06A	* CB-2414A	
MZ	FP, FS	CB-2018A		SZ	J24B	* CB-2416A	
MZ	ZY	CB-2019A		DH	AB, AD	CB-2500A	
MZ	L3, LF	CB-2020A		DH	CB, CD, CL	CB-2501A	
MZ	W9, WE	CB-2021A		DH	CL-T	CB-2503A	
MZ	P4AT	* CB-2022A		DH	EB, EF	CB-2507A	
HN	EB400	CB-2100GP		DH	CB-T	CB-2509GP	
HN	EH500	CB-2101GP		DH	ED	CB-2510A	
HN	EK100, EK130	CB-2102GP		DH	HC, HD	CB-2511A	
HN	EL100	CB-2103GP		DH	K3-VE, K3-VET	CB-2512A	
HN	DK10, ER100	CB-2104GP		DH	KF-VE, KF-DET	CB-2513A	
HN	EP100	CB-2106GP		UD	FE6	CB-2800GP	
HN	EF550, EF750	CB-2107GP		UD	ED33, FD33	CB-2801GP	
HN	H06C, H07C	CB-2108GP		UD	ED6, FD6	CB-2802GP	
HN	W04D	CB-2109GP		UD	PF6-T	CB-2803GP	
HN	W06D	CB-2110GP		UD	FD42, FD46, FD46-T	CB-2804GP	
HN	H06C, H07C	CB-2111GP		UD	ZD30DD, ZD30DDTI	CB-2805A	
HN	K13C, K13C-T	CB-2112GP		UD	FE6-T	CB-2809GP	
HN	EP100, M10U, P09B-T	CB-2113GP		UD	PF6, PF6-T	CB-2810GP	
HN	V21C, V22C, V25C	CB-2114GP		UD	PG6, PG6H	CB-2811GP	
HN	H07D	CB-2115GP		UD	RF8T, RG8, RH8	CB-2812GP	
HN	P11C	CB-2122GP		UD	RH10	CB-2813GP	
HN	N04C	* CB-2125GP		UD	GE13T	CB-2814GP	
HD	A18A, B20A, ES	CB-2200GP		UD	NF6T	CB-2815GP	
HD	D17A	CB-2201GP		UD	MD92-T	CB-2816GP	
HD	EY	CB-2203GP		UD	MD92	CB-2820GP	
HD	EV, D13	CB-2204GP		GM	G15MF, OPEL KADETT	CB-3017A	
HD	EW, D15	CB-2205GP		KI	B3	CB-3876A	
HD	ER	CB-2206GP		HY	G4GM	CB-3878A	
HD	D16, ZC	CB-2208GP		GM	F8C, F8CL	CB-3879A	
HD	EV1	CB-2209GP		HY	G4FK	CB-3880A	
HD	C25A, C27A	CB-2210GP		HY	G4HA, G4HC	CB-3882A	
HD	C20A	CB-2211GP		KI	J2, JT, VN, RFA	CB-3883A	
HD	E07A	CB-2212GP		KI	JS, S2	CB-3885A	
HD	F20A, F22A, H23A	CB-2213GP		HY	D4CB	CB-3887A	
HD	D12, D13C	CB-2214GP		KI	S-TEC 1.0L	CB-3888A	
HD	B16A	CB-2215GP		HY	G4KC, G4KD, G4KF	CB-3889A	
HD	K20A	CB-2216GP		GM	SAIL (SHANGHAI GM)	CB-3890A	
HD	H22A	CB-2217GP		HY	G4FC, G4FJ	CB-3892A	
HD	K24A	CB-2218GP		HY	KAPPA	* CB-3893A	
HD	L13A, L15A	CB-2219A		GM	N200, N300	CB-3894A	
HD	R18A, R20A	* CB-2220A					
SB	EA82	CB-2300GP		MF	6DC, 8DC, 10DC	CR-1073GP	
SB	EF10	CB-2301GP		MF	4DR5, 6DR	CR-1115GP	
SB	EF12	CB-2302GP		IZ	4BA1, 4BB1, 6BB1	CR-1129GP	
SB	EK21, EK22	CB-2303GP		MF	6DC, 8DC, 10DC	CR-1147GP	
SB	ER27	CB-2304A		IZ	8PA1, 10PA1, 12PA1	CR-1156GP	
SB	EJ18, EJ20, EJ22	CB-2305A		IZ	8PD1, 10PD1, 12PD1	CR-1630GP	
SB	EJ25	CB-2306GP		MH	S2E, S3E, S4E, S6E	CR-1826GP	
SB	EN07	CB-2307GP		MH	S4K-T, S6K-T	CR-1833GP	
SZ	Y64 (SS80), F6A	CB-2401A		MH	S4S, S6S	CR-1843A	
SZ	F5A	CB-2402A		HN	J05C, J07C	CR-2117GP	
SZ	G10	CB-2403A		HN	J05C-TI, J08C-TI	CR-2118GP	
SZ	G13	CB-2404A		HN	J05E, J07E, J08E	* CR-2119GP	

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TY	5M, 7M	DB-1171A		HN	EF350, EF700	MS-1148GP	
NS	E13, E15	JB-1174A		HN	DK10, ER100	(MS-1149GP)	
MF	4DR5, 6DR5	MR-1115GP		TY	18R-G	MS-1152GP	
IZ	4BA, 6BB1, D500	MR-1129GP		MZ	HA, SL	MS-1153A	
MF	6DC, 8DC, 10DC	MR-1147GP		IZ	E120	MS-1154GP	
IZ	8PA1, 10PA1, 12PA1	MR-1156GP		IZ	2AA, 2AB	MS-1157GP	
IZ	8PD1, 10PD1, 12PD1	MR-1630GP		DH	DG, DL	(MS-1158A)	
MH	S2E, S3E, S4E, S6E	MR-1826GP		TY	5R	MS-1159A	
MH	S4K-T, S6K-T	MR-1833GP		MF	4D30	MS-1160GP	
MH	S4S, S6S	MR-1843A		TY	L	MS-1161A	
HN	J05C, J07C, J08C	MR-2117GP		MF	6D22, 6D23	MS-1162GP	
HN	J05E, J07E, J08E	* MR-2119GP		IZ	4BA1, 4BC1	MS-1163GP	
TY	F	(MS-1007GP)		MI	G31, G32, 4D65	MS-1164A	
MI	4G41, 4G42	MS-1024GP		MZ	E3, E5, B6, D5, TC	MS-1168A	
UD	SD22	MS-1028GP		MI	G11, G12	MS-1169A	
NS	J	(MS-1034GP)		NS	P40	MS-1172GP	
MF	6DB1	MS-1036GP		NS	CA16, CD17	MS-1173GP	
HN	DS30, DS50, DS70	(MS-1038GP)		NS	E13, E15	MS-1174GP	
TY	D, 2D	MS-1040GP		HD	EH	(MS-1175A)	
NS	H20	MS-1042GP		SZ	F8A, F10A	MS-1179A	
NS	L13, L16, L18	MS-1043GP		UD	FD33	MS-1180GP	
NS	L20, LD28	MS-1047GP		MZ	S2	MS-1181GP	
TY	M, 5M	(MS-1051GP)		UD	SD23	MS-1182GP	
IZ	DA120, DA640	(MS-1052GP)		NS	LD20II, Z24	MS-1183GP	
HN	DK10, ER100	MS-1054GP		SB	EA63, EA64	(MS-1184GP)	
TY	2K, 3K, 4K	MS-1056GP		UD	RE8	MS-1186GP	
UD	SD33	MS-1058GP		UD	RE10	MS-1187GP	
HN	DM100	MS-1059GP		UD	TD23, TD27	(MS-1190GP)	MS-2817A
TY	4R, 12R	MS-1060A		UD	NE6	MS-1193GP	
TY	3P, 4P	MS-1062GP		UD	TD42	(MS-1195GP)	MS-2818A
IZ	DA220	(MS-1064GP)		UD	RE8	MS-1197GP	
HN	EB100, 300, 400	MS-1079GP		UD	RE10	MS-1198GP	
MZ	PB	(MS-1082GP)		NS	TB42	MS-1199A	
UD	PD6	MS-1084GP		NS	VG20E	MS-1200GP	
NS	A12, A15	MS-1087GP		NS	VG20, VG30	(MS-1201GP)	MS-1211GP
NS	J13, J15, J16	MS-1091GP		NS	MA10	MS-1202A	
IZ	DH100, D920	(MS-1092GP)		NS	RB20, RB30	MS-1203GP	
TY	16R, 18R	(MS-1094GP)		NS	RD28	MS-1207A	
IZ	G130, G161, G180	MS-1103GP		NS	GA15E	MS-1208A	
TY	T, 2T	(MS-1104GP)		NS	KA24	MS-1209GP	
TY	5R	MS-1107GP		NS	VG20, VG30	MS-1211GP	
MZ	PC	MS-1113GP		NS	SR18, SR20	MS-1213GP	
MZ	MA, NA	MS-1114A		NS	VH41, VH45	MS-1214GP	
TY	T, 2T	MS-1117GP		NS	RB26DE	MS-1216GP	
UD	RD8	MS-1118GP		NS	CD20	MS-1217A	
UD	RD10	MS-1119GP		NS	LD20	MS-1218GP	
TY	B, 3B	MS-1121A		NS	VQ20, VQ25, VQ30, VQ35	MS-1219GP	
TY	F, 2F	MS-1123A		NS	KH1S, 2S, 3S, K21, K25	MS-1220A	
SB	EA62, 63	(MS-1124GP)		NS	NA20	MS-1221A	
SB	EK21, EK22	MS-1126GP		NS	CG10DE, CG13DE	MS-1224A	
MI	G51, G52B, 4D55	MS-1131A		NS	NA16	MS-1225A	
TY	20R, 21R	MS-1133GP		NS	QR20DE, QR25DE	MS-1226A	
HD	EC, ED, EE, EV, EW	MS-1134A		NS	HR15DE, HR16DE, H4M	MS-1227A	
UD	ED6	MS-1135GP		NS	MR18DE, MR20DE, M4R	MS-1228A	
TY	J, 2J	MS-1137A		NS	YD22, YD25	MS-1229A	
IZ	C190	MS-1138GP		NS	TB48DE	MS-1230A	
HN	EC100, EH500	MS-1140GP		NS	VK45DE, VK56DE	MS-1231GP	
MZ	VA	MS-1141A		NS	VQ40DE	MS-1232GP	
HN	EF100, EF300	MS-1144GP		NS	HR12DE, XH2	MS-1233A	
				NS	MR16DDT, M5M	MS-1234A	
				NS	R9M	* MS-1236A	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
TY	1A, 2A, 3A	MS-1400A		IZ	6BF1, 6BG1	MS-1612GP	
TY	1G	MS-1402A		IZ	6RA1, 6RB1	MS-1613GP	
TY	1S, 3S, 4S, 5S	MS-1404A		IZ	4FA1, 4FC1-T	MS-1616GP	
TY	20R, 21R, 22R	MS-1405GP		IZ	6SA1	MS-1618GP	
TY	L, 2L, 2L-T	MS-1406A		IZ	4ZA1, G200W	MS-1620GP	
TY	1Y, 2Y, 3Y	MS-1407A		IZ	4XC1, 4XE1	MS-1621A	
TY	1C, 2C	MS-1408A		IZ	4JA1, 4JD1, 4JF1	MS-1622A	
TY	2A, 3A, 5A	MS-1410A		IZ	4JB1, 4JG-2, 4JH1	MS-1623A	
TY	3F	MS-1413A		IZ	4EC1	MS-1624GP	
TY	5M, 7M	MS-1414GP		IZ	4EE1-T	MS-1625GP	
TY	1E, 2E, 4E	MS-1415A		IZ	4XC1, 4XE1	MS-1626A	
TY	5K	MS-1416A		IZ	4ZE1	MS-1627GP	
TY	3B, 11B	(MS-1417A)	MS-1428A	IZ	4BB1	MS-1628GP	
TY	1G	MS-1420A		IZ	6BB1	MS-1629GP	
TY	1C, 2C	MS-1421A		IZ	4HF1, 4HJ1, 4HK1-T	MS-1631GP	
TY	1VZ, 3VZ, 4VZ	MS-1423GP		IZ	6HE1, 6HH1, 6HE1-T	MS-1632GP	
TY	3E, 5E	MS-1424A		IZ	4XE1-T	* MS-1633A	
TY	1Z	MS-1426A		IZ	6SA1	MS-1634GP	
TY	2H,	MS-1427A		IZ	6QA1, 6QA2, 6QB2	MS-1636GP	
TY	B, 3B, 13B-T, 14B, 15B	MS-1428A		IZ	C22NE, 22LE, C22SEL	MS-1641GP	
TY	13B-T	(MS-1429A)	MS-1428A	IZ	6VD1, 6VE1	MS-1645A	
TY	1JZ-FE, 2JZ-FE	MS-1434A		IZ	6WA1-T, 6WF1-T	MS-1646GP	
TY	1RZ, 2RZ	MS-1435A		IZ	6UZ1	* MS-1647GP	
TY	1HD, 1HZ	MS-1436A		IZ	RZ4E-TC	* MS-1648A	
TY	3VZ-FE, 5VZ-FE	MS-1437GP		MI	G23	MS-1800A	
TY	1FZ	MS-1438A		MI	4D56-T (131kW)	MS-1802GP	
TY	1PZ	MS-1439A		MF	4D30, 4D32	MS-1807GP	
TY	1UZ	MS-1440GP		MF	6D31	MS-1808GP	
TY	2UZ-FE	MS-1442A		MF	4DR5	MS-1812GP	
TY	11Z	MS-1443A		MF	6DR5	MS-1813GP	
TY	1DZ	MS-1446A		MI	G11, G12	MS-1818A	
TY	1C-T, 2C-T	MS-1448A		MI	G51, G52B	MS-1819A	
TY	1N, 1N-T	MS-1449A		MI	G23	(MS-1820A)	
TY	1SZ-FE	MS-1450A		MI	4D65, G31, G32	MS-1821A	
TY	1KZ-TE, 1KD-FTV	MS-1452A		MI	6G71, 6G72	MS-1822A	
TY	1AZ-FE, 2AZ-FE	MS-1454A		MI	3G81	MS-1824A	
TY	1MZ-FE, 2MZ-FE	MS-1455A		MI	4G63	MS-1827A	
TY	1NZ-FE, 2NZ-FE	MS-1456A		MI	4G91, 4G92, 4G93	MS-1828A	
TY	1ZZ-FE, 2ZZ-FE	MS-1457A		MI	4G92	MS-1829GP	
TY	1GR-FE, 2GR-FE	MS-1458A		MI	4M40, 4M41	MS-1832GP	
TY	1TR-FE, 2TR-FE	MS-1459A		MI	4G63	MS-1834A	
TY	1ND-TV	MS-1461A		MF	4M51, 4M50-T	MS-1836GP	
TY	1KR-FE	MS-1463A		MF	6D16, 6M61	MS-1838GP	
TY	1VD-FTV	MS-1465GP		MF	6D24, 6M70T	MS-1839GP	
TY	2GR-FE	MS-1468A		MF	8M20, 8M21	MS-1840GP	
TY	1ZR-FE, 2ZR-FE	MS-1471A		MI	6G74	MS-1842GP	
TY	1AD-FTV, 2AD-FTV	MS-1473A		MI	4D55, 4D56	MS-1845A	
TY	2Z	MS-1474A		MI	6A12	MS-1846A	
TY	13Z	MS-1475A		MI	4B10, 4B11, 4B12	MS-1849A	
TY	15B-FTE	MS-1476A		MI	4N13, 4N14, 4N15	MS-1850A	
TY	1GD-FTV, 2GD-FTV	MS-1477A		MF	6D40	MS-1851GP	
TY	1AR-FE, 2AR-FE	MS-1480A		MZ	XA	MS-2000GP	
TY	1UR-FE	MS-1483A		MZ	YA	MS-2002GP	
IZ	3AA1, 3AD1	MS-1601GP		MZ	FE, F8	MS-2004A	
IZ	3AE1, 3AF1	(MS-1602GP)		MZ	RF	MS-2007A	
IZ	4BA1, 4BC1, 4BE1	MS-1603GP		MZ	B3, B5, B6	MS-2008A	
IZ	4BD1	MS-1604GP		MZ	FE, F8	MS-2009A	
IZ	C190, C223	MS-1605GP		MZ	FE, JE	MS-2010GP	
IZ	4BD1	MS-1606GP		MZ	G6	MS-2011A	
IZ	DH100, 6QA1	MS-1609GP		MZ	B3, B5, B6	MS-2012A	
IZ	C221, C240	MS-1610GP		MZ	PN	MS-2013A	
IZ	6BB1, 6BD1	MS-1611GP		MZ	TF, TM	MS-2014A	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
MZ	WL, WL-T	MS-2016A		SZ	G16	MS-2405GP	
MZ	KJ, KL	MS-2017GP		SZ	F6A	MS-2406A	
MZ	FP, FS	MS-2018A		SZ	H25A, H27A	MS-2407A	
MZ	ZY	MS-2019A		SZ	J18A, J20A	MS-2408A	
MZ	LF, L3	MS-2020A		SZ	H20A	MS-2409A	
MZ	P4AT	* MS-2022A		DH	AB, AD	MS-2500A	
HN	EK100, EK130-T	MS-2102GP		DH	CB, CD, CL	MS-2501A	
HN	EL100, EM100, EP100	MS-2103GP		DH	DL, DL-T	MS-2502A	
HN	EF550, EF750	MS-2107GP		DH	CB-T, CL-T	MS-2503A	
HN	H06C, H07C	MS-2108GP		DH	CB, CD, CL	MS-2505A	
HN	W04D	MS-2109GP		DH	AB, AD	MS-2506A	
HN	W06D	MS-2110GP		DH	EB, EF	MS-2507A	
HN	H06C-TI	MS-2111GP		DH	ED	MS-2510A	
HN	V21C, V22C, V25C	MS-2114GP		DH	HC-E, HD	MS-2511A	
HN	J08C-TI	MS-2118GP		DH	K3-VE, K3-VET	MS-2512A	
HN	F21C	MS-2120GP		DH	KF-VE, KF-DET	MS-2513A	
HN	N04C	* MS-2125GP		UD	FE6	MS-2800GP	
HD	A18A, ES, ET, EY	MS-2200GP		UD	PF6-T	MS-2803GP	
HD	D17A	MS-2201A		UD	FD42, FD46, FD46-T	MS-2804GP	
HD	EH	MS-2202A		UD	ZD30DD, ZD30DDTI	(MS-2805A)	MS-2817A
HD	D13, EH, EV1	MS-2206GP		UD	RF8T, RG8, RH8	MS-2812GP	
HD	B18A, B20A	MS-2208GP		UD	RH10	MS-2813GP	
HD	C25A, C27A	MS-2210GP		UD	GE13T	MS-2814GP	
HD	C20A	MS-2211GP		UD	NF6T	MS-2815GP	
HD	F20A	MS-2213GP		UD	MD92, MD92T	MS-2816GP	
HD	D12, D13C	MS-2214A		UD	ZD30DDTI	MS-2817A	
HD	B16A, B18A, B20B	MS-2215GP		UD	TD42	MS-2818A	
HD	K20A, K24A	MS-2216GP		UD	MD92	MS-2820GP	
HD	L13A, L15A	MS-2219A		GM	G15MF, OPEL KADETT	MS-3021A	
HD	R18A, R20A	MS-2220A		KI	B3	MS-3876A	
SB	EA81, EA82	MS-2300GP		HY	G4GM	MS-3878A	
SB	EF10, EF12	MS-2301GP		GM	F8C, F8CL	MS-3879A	
SB	ER27	MS-2304GP		HY	G4FK	MS-3880A	
SB	EJ18, EJ20, EJ22	MS-2305A		HY	G4HA, G4HC	MS-3882A	
SB	EJ25	MS-2306A		KI	J2, JT	MS-3883A	
SB	EN07	MS-2307GP		KI	VN, RFA	MS-3884A	
SZ	Y64 (SS80)	MS-2401A		KI	JS, S2	MS-3885A	
SZ	F5A, F5B	MS-2402A		HY	D4CB	MS-3887A	
SZ	G10	MS-2403A		GM	S-TEC 1.0L	MS-3888A	
SZ	G13	MS-2404A		HY	G4KC, G4KD, G4KF	MS-3889A	
SZ	G16	MS-2405GP		GM	SAIL (SHANGHAI GM)	MS-3890A	
SZ	F6A	MS-2406A		HY	D4EA	MS-3891A	
SZ	H25A, H27A	MS-2407A		HY	G4FC, G4FJ	MS-3892A	
SZ	J18A, J20A	MS-2408A		HY	KAPPA	* MS-3893A	
SZ	H20A	MS-2409A		GM	N200, N300	MS-3894A	
SZ	K6A	MS-2410A		NS	H20	PB-1002J	
SZ	K10A	* MS-2411A		IZ	DA120	PB-1023J	
SZ	M13A	* MS-2412A		MI	4G41, 4G42	PB-1024J	
SZ	M15A	* MS-2413A		UD	SD22	PB-1029J	
SZ	R06A	* MS-2414A		IZ	G130, G161	PB-1032J	
SZ	R06A-T	* MS-2415A		IZ	C220, DL201	PB-1033J	
SZ	J24B	* MS-2416A		TY	12R	PB-1035J	
SB	EA81, EA82	MS-2300GP		MF	6DB1	PB-1037J	
SB	EF10, EF12	MS-2301GP		HN	DS50	PB-1039J	
SB	ER27	MS-2304GP		TY	D, 2D	PB-1040J	
SB	EJ18, EJ20, EJ22	MS-2305A		TY	D, 2D	PB-1041J	
SB	EJ25	MS-2306A		IZ	DH100	PB-1042J	
SB	EN07	MS-2307GP		TY	5R	PB-1046J	
SZ	Y64 (SS80)	MS-2401A		NS	LD28	PB-1047J	
SZ	F5A, F5B	MS-2402A		NS	LD28	PB-1048J	
SZ	G10	MS-2403A		IZ	DA220	PB-1050J	
SZ	G13	MS-2404A					

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
TY	M, 5M, 7M	PB-1051J		NS	VG30D	PB-1211J	
IZ	DA640	PB-1052J		NS	SR18, SR20	PB-1213J	
MF	6DS	PB-1055J		NS	VH44, VH45	PB-1214J	
TY	2K, 3K, 4K, 5K	PB-1056J		NS	CD20	PB-1217J	
UD	SD33	PB-1058J		NS	VQ20, VQ25, VQ30, VQ35	PB-1219J	
HN	DM100	PB-1059J		NS	RD28-T	PB-1221J	
TY	J, L, 2L	PB-1063J		NS	QR20DE, QR25DE	PB-1226J	
TY	20R, 21R, 22R	PB-1068J		NS	YD22, YD25	PB-1229J	
IZ	C190, C240	PB-1070J		NS	VK45DD, VK45DE	PB-1231J	
MZ	HA, XA	PB-1075J		TY	B, 3B, 11B	PB-1401J	
MF	4DR5, S4E	PB-1078J		TY	1G	PB-1402J	
HN	EB100	PB-1079J		TY	H, 2H	PB-1403J	
TY	H, 2H	PB-1080J		TY	L, 2L	PB-1406J	
MZ	PB, PC	PB-1082J		TY	1C, 2C	PB-1408J	
UD	ND6, FE6	PB-1083J		TY	2L-T	PB-1411J	
UD	PD6	PB-1084J		TY	3F	PB-1413J	
IZ	D920, E110, 6QA1	PB-1092J		TY	3B, 11B, 13B	PB-1417J	
MZ	YA	PB-1097J		TY	1C, 2C	PB-1421J	
IZ	4BA1, 4BC1, C330	PB-1100J		TY	4A-GZE	PB-1425J	
MZ	MA, NA, VA	PB-1114J		TY	12H	PB-1427J	
MF	6DR5, S6E	PB-1115J		TY	B, 2B, 3B	PB-1428J	
HN	DK10, ER100	(PB-1116J)		TY	3B, 11B, 13B, 14B, 15B	PB-1429J	
UD	RD8	PB-1118J		TY	2L-T, 3L	PB-1431J	
UD	RD10	PB-1119J		TY	1G-E, 1G-FE	PB-1433J	
HN	EB300, EB400	PB-1120J		TY	1RZ, 2RZ, 3RZ	PB-1435J	
TY	B, 3B	(PB-1121J)	PB-1428J	TY	1HD, 1HZ	PB-1436J	
UD	ED30	PB-1122J		TY	1FZ	PB-1438J	
IZ	4BA1, 4BB1, C330	PB-1129J		TY	1PZ	PB-1439J	
UD	ED6	PB-1135J		TY	1UZ-FE	PB-1440J	
HN	EH100	PB-1139J		TY	5S	PB-1441J	
HN	EH300	PB-1140J		TY	2UZ-FE	PB-1442J	
HN	EF100, EF300, EF700	PB-1144J		TY	1HD-T	PB-1444J	
MF	6D10, 6D15	PB-1145J		TY	3VZ-FE, 5VZ-FE	PB-1445J	
HN	DK10, ER100	PB-1149J		TY	1N, 1N-T	PB-1449J	
IZ	6RA1, 6RB1, E120	PB-1154J		TY	1KZ-TE	PB-1452J	
IZ	6BB1, 6BD1	PB-1155J		TY	1MZ-FE, 2MZ-FE	PB-1455J	
DH	DG, DL	PB-1158J		TY	1ZZ-FE, 2ZZ-FE	PB-1457J	
MF	4D30	PB-1160J		TY	1GR-FE	PB-1458J	
MF	6D20, 21, 22, 23	PB-1162J		TY	1T-FE, 2TR-FE	PB-1459J	
IZ	4BA1, 4BC2, 4BE1	PB-1163J		TY	1KD-FTV, 2KD-FTV	PB-1464J	
IZ	4FA1	PB-1166J		TY	2KD-FTV	* PB-1479J	
UD	CD17	PB-1173J		IZ	C190, C223, C240	PB-1605J	
SZ	F8A, F10A	PB-1179J		IZ	6RB1	PB-1613J	
UD	FD33	PB-1180J		IZ	4JA1, 4JB1, 4JC1, 4JD1	PB-1622J	
MZ	S2	PB-1181J		IZ	4JB1, 4JG1, 4JH1	PB-1623J	
UD	SD23	PB-1182J		IZ	4EC1	PB-1624J	
NS	LD20II	PB-1183J		IZ	4EC1, 4EC1-T	PB-1625J	
NS	LD20II	PB-1189J		IZ	4XE1, 4XE1-T	* PB-1626J	
UD	TD27	PB-1190J		IZ	D500	PB-1629J	
UD	TD23	PB-1192J		IZ	4HF1, 4HG1, 4HJ1	PB-1631J	
UD	BD2	PB-1194J		IZ	6HE1, 6HH1	PB-1632J	
UD	TD42	PB-1195J		IZ	6SD1	PB-1635J	
UD	TD42	PB-1196J		IZ	4EE1-T	* PB-1636J	
NS	TB42	PB-1199J		IZ	4FA1, 4FB1	PB-1638J	
NS	VG20	PB-1200J		IZ	6HE1-T, 6HK1	PB-1643J	
NS	RB20, RB24	PB-1203J		IZ	4HE1-T, 4HK1	PB-1644J	
NS	CD17	PB-1205J		IZ	6WA1-T, 6WG1-T	PB-1646J	
NS	RB20D, RB30, VG20D	PB-1206J		IZ	6UZ1	* PB-1647J	
NS	RD28	PB-1207J		IZ	RZ4E-TC	* PB-1648J	
NS	GA15E	PB-1208J		MI	4D55, 4D56	PB-1802J	
NS	KA24	PB-1209J		MF	4D30, 4D32	PB-1807J	
NS	VG30	PB-1210J		MF	6D31	PB-1808J	

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MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
MF	4D31-T	PB-1809J		NS	A10, A12, A15	SH-1019A	
MF	6D31-T	PB-1810J		MI	4G41, 4G42	(SH-1024B)	
MF	6D16, 6D16-T, 6D17	PB-1814J		IZ	G130, G161	(SH-1032B)	
MF	6D16, 6D16-T, 6D17	PB-1820J		HN	DS50, DS70, DS80	(SH-1038B)	
MF	4D34, 4D34-T	PB-1830J		MF	6DS3, 5, 7	SH-1055B	
MI	4M40	PB-1832J		TY	2K, 3K, 4K, 5K	SH-1056A	
MF	6D34-T	PB-1837J		HN	DM100	(SH-1059B)	
MF	6D16, 6D16-T, 6D17	PB-1838J		TY	12R	SH-1060A	
MF	6D24	PB-1839J		MZ	MA, NA	SH-1061A	
MF	6D40	* PB-1851J		TY	H, 2H	SH-1063A	
MZ	XA, XB	PB-2000J		TY	16R, 18R, M, 5M	SH-1068A	
MZ	RF, RF-T	PB-2004J		IZ	C190, C240	SH-1070A	
MZ	HA	PB-2005J		MF	4DR5	SH-1078K	
MZ	SL	PB-2006J		HN	EB100, 300, 400	(SH-1079B)	
MZ	RF	PB-2007J		TY	J, H, 2H, 12H	SH-1080A	
MZ	PN	PB-2013J		HN	EC100, EH100, EH300	(SH-1081B)	
MZ	TF, TM	PB-2014J		UD	ND6	SH-1083K	
MZ	WL, WL-T	PB-2016J		UD	PD6	SH-1084K	
MZ	W9, WE	PB-2021J		IZ	4BA1, 4BB1, C330	(SH-1100B)	
HN	EK100, EK200, K13	PB-2102J		TY	T,2T	(SH-1104B)	
HN	EL100	PB-2103J		TY	5R	SH-1107A	
HN	K13C-T	PB-2104J		MF	6DR5	(SH-1115B)	
HN	EM100	PB-2105J		UD	RD8, RE8, RF8	SH-1118K	
HN	EF550, EF750, F17C	PB-2107J		UD	RD10, RE10, RF10	SH-1119K	
HN	H06C, H07C	PB-2108J		UD	ED30, ED33, FD33	SH-1122A	
HN	W04D	(PB-2109J)	PB-2111J	TY	F, 3F	SH-1123A	
HN	W06D	(PB-2110J)	PB-2112J	IZ	D500, 6BB1	SH-1129K	
HN	W04D	PB-2111J		UD	ED33, ED6, FD6, FE6	SH-1135A	
HN	W06D	PB-2112J		MZ	VA	(SH-1141B)	
HN	EP100, P09B-T, M10U	PB-2113J		HN	EF350, EF500, EF700	SH-1144A	
HN	V21C, V22C, V25C	PB-2114J		HN	DK10, ER100	(SH-1149B)	
HN	J05C	PB-2116J		DH	DG, DL	SH-1158A	
HN	J07C	PB-2117J		MF	4D30	SH-1160K	
HN	J08C	PB-2118J		TY	L, 2L	SH-1161A	
HN	N04C	* PB-2125J		MF	6D20	SH-1162K	
SB	EA62, EA71, EA82	PB-2300J		IZ	4BA1, 4BC1	SH-1163K	
SB	ER27	PB-2304J		IZ	4FA1, 4FC1, 4FE1	SH-1166A	
SZ	Y64 (SS80)	PB-2401J		UD	TD23, TD27	SH-1190A	
DH	DG, DL	PB-2502J		UD	SD33	(SH-1191B)	
DH	DL-T	PB-2511J		UD	TD42	SH-1195A	
UD	PF6, PF6-T	PB-2803J		NS	TB42	SH-1199A	
UD	FD42, FD46	PB-2804J		TY	B, 3B	SH-1401A	
UD	QD32, ZD30DD, ZD30DDTI	PB-2805J		TY	H, 2H	SH-1403A	
UD	PF6-T	* PB-2810J		TY	1Y, 2Y,3Y	SH-1407A	
UD	PG6, PG6H	* PB-2811J		TY	3B, 11B	SH-1417A	
UD	RF8T, RG8	PB-2812J		TY	1Z	* SH-1426A	
UD	RH10	PB-2813J		TY	3B, 11B, 14B	SH-1428A	
UD	GE13T	PB-2814J		TY	15B-FTE	SH-1429A	
UD	NF6-T	PB-2815J		TY	L, 2L, 2L-T, 3L	SH-1431A	
UD	MD92, MD92T	PB-2816J		TY	1PZ	SH-1436A	
UD	RH8	PB-2817J		TY	11Z	* SH-1443A	
				TY	1AZ-FSE, 2AZ-FE	* SH-1454A	
MF	6DC, 8DC, 10DC	PR-1147J		TY	1ZR-FE, 3ZR-FE	* SH-1471A	
IZ	8PA1, 10PA1, 12PA1	PR-1156J		IZ	C190, C240, 3AA1	SH-1605A	
IZ	8PD1, 10PD1, 12PD1	PR-1630J		IZ	4JA1, 4JB1, 4JF1, 4JH1	SH-1622A	
IZ	8PE1, 10PE1, 12PE1	PR-1637J		IZ	4HF1, 4HE1-T, 4HK1-T	SH-1631A	
MH	S4K-T, S6K-T	PR-1833J		IZ	6HE1, 6HH1	SH-1632A	
				IZ	4HG1, 4HK1	SH-1640A	
NS	P, P40	SH-1002A		IZ	6HE1-T, 6HK1	SH-1643GP	
NS	H20, SD22	SH-1003A		MF	6D22	SH-1803K	
UD	SD33, SD33-T	SH-1004A		MF	4D30	SH-1807K	
NS	J13, J16	SH-1006A		MF	6D31	SH-1808K	

Numerical Listing

MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
MF	6D31-T	* SH-1810K		IZ	C330, D500	TW-1100GP	
MF	6D16, 6D16-T, 6D17	SH-1820K		IZ	E120, 6RA1	TW-1102GP	
MF	4D34, 4D34-T	SH-1830K		MZ	PC	TW-1113K	
MF	S6K-T	SH-1833K		MF	4DR5, 6DR5	TW-1115K	
MF	4D34	SH-1835K		TY	3S, 2T, 3Y	TW-1117A	
MF	6D34-T	SH-1837K		UD	RD8, RD10	TW-1118K	
MF	6D24	SH-1839K		HN	EB300, EB400	(TW-1120BC)	
MF	8M20, 8M21	SH-1840K		UD	ED6, FD33	TW-1122J	
MF	6D40	* SH-1851K		IZ	4BA1, 6BB1	TW-1129GP	
HN	EH500, EH700	SH-2101A		TY	5R, 18R, 21R, 22R	TW-1133A	
HN	EK100	SH-2102A		HD	A18A, D15, EC, ED, EE	TW-1134A	
HN	EL100	SH-2103A		HN	EF100, EF300	TW-1144K	
HN	F17C, F20C	SH-2107A		MF	6D10, 6D15	TW-1145K	
HN	H06C, H07C	SH-2108A		MF	6DC, 8DC, 10DC, 6D23	TW-1147J	
HN	W04D, 1W	SH-2109K		HN	EF350, EF700	TW-1148K	
HN	W06D	SH-2110K		HN	DK10, ER100	(TW-1149BC)	
HN	H07C	SH-2111A		MZ	HA, SL	TW-1153K	
HN	EP100-T, M10U	SH-2113A		IZ	4BA1, 6BB1, 6BD1	TW-1155GP	
HN	V21C, V22C, V25C	SH-2114A		IZ	8PA1, 10PA1, 12PA1	TW-1156K	
HN	J05C, J07C	SH-2117A		TY	L, 2L	TW-1161A	
HN	J08C	SH-2118A		MZ	E1, E3, E5	TW-1168A	
HN	N04C	* SH-2125A		HD	EH	TW-1175A	
SZ	M13A	* SH-2412A		SZ	Y64 (SS80), FA10	TW-1179A	
DH	DL, DL-T	SH-2502A		MZ	S2	TW-1181A	
UD	FE6, FE6-T	SH-2800K		UD	PF6, PF6-T	(TW-1188K)	TW-2803K
UD	PF6, PF6-T	(SH-2803K)	SH-2807K	NS	MA10	TW-1202A	
UD	FD42, FD46, FD46-T	SH-2804A		NS	GA15E	TW-1208A	
UD	PE6H, PP6H	* SH-2806B		NS	SR18, SR20	TW-1213GP	
UD	PF6, PF6-T	SH-2807K		NS	VH41, VH45	TW-1214A	
UD	PG6, PG6H	SH-2808K		NS	VQ20, VQ25, VQ30, VQ35	TW-1219A	
UD	RF8T, RG8, RH8	SH-2812K		NS	CG10, CG13, CR10, CR12	TW-1224A	
UD	RH10	SH-2813K		NS	QR20DE, QR25DE	TW-1226A	
UD	GE13T	* SH-2814K		NS	HR15DE, HR16DE, H4M	TW-1227A	
UD	NF6-T	SH-2815K		NS	MR18DE, MR20DE, M4R	TW-1228A	
UD	MD92, MD92T	* SH-2816K		NS	YD22, YD25	TW-1229A	
NS	J13, J16, D11	TW-1000A		NS	VQ40	TW-1232A	
TY	3P, 4P	TW-1005B		NS	R9M	* TW-1236A	
TY	3R, 5R, M, 7M	TW-1006A		NS	CG10, CG13, CR10, CR12	TW-1224A	
TY	12R	TW-1007A		NS	QR20DE, QR25DE	TW-1226A	
MI	4G41, 4G42	(TW-1024B)		NS	HR15DE, HR16DE, H4M	TW-1227A	
UD	SD22, TD23, TD27	TW-1028A		NS	MR18DE, MR20DE, M4R	TW-1228A	
IZ	G130, G161, 4FA1	TW-1030A		NS	YD22, YD25	TW-1229A	
MF	6DB1	(TW-1036BC)		NS	VQ40	TW-1232A	
HN	DS50	TW-1038K		TY	1A, 2A, 3A, 5A	TW-1400A	
TY	D, 2D	TW-1040B		TY	1G	TW-1402A	
IZ	DA120, 220, 640	TW-1052GP		TY	21R, 22R	TW-1405A	
HN	DK10, ER100	(TW-1054BC)		TY	1C, 2C, 2C-T, 3C-T	TW-1408A	
MF	6DS, 4D30	TW-1055K		TY	3F	TW-1413A	
TY	2K, 3K, 4K, 5K, 1N, 1N-T	TW-1056A		TY	1E, 2E, 4E	TW-1415A	
HN	DM100	TW-1059GP		TY	B, 3B, 11B, 13B-T, 14B	TW-1417A	
MZ	MA, NA	TW-1061A		TY	1VZ-FE, 3VZ-FE, 5VZ-FE	TW-1423A	
TY	J, H, 2H	TW-1063B		TY	3E, 5E	TW-1424A	
IZ	C240, 3AA, 2AE, 4JB1	TW-1070A		TY	1Z, 11Z	TW-1426A	
IZ	DH100, D920, 6QA1	TW-1071GP		TY	12H-T	TW-1427A	
MF	6DC, 8DC, 10DC	TW-1072J		TY	1JZ-FSE, 2JZ-FSE	TW-1434A	
MZ	XA, YA	TW-1075A		TY	1RZ, 2RZ, 3RZ	TW-1435A	
HN	EB100, EB300	(TW-1079BC)		TY	1DZ, 1HD, 1HZ, 1PZ	TW-1436A	
HN	EC100, EH500	TW-1081GP		TY	1FZ-FE	TW-1438A	
MZ	PB	TW-1082B		TY	1UZ	TW-1440A	
UD	ND6	TW-1083K		TY	1S, 3S, 5S, T, 3T, 1Y, 4Y	TW-1441A)	TW-1117A
UD	PD6	TW-1084K		TY	1KD-FTV, 1KZ-TE	TW-1452A	
				TY	1AZ-FE, 2AZ-FE	TW-1454A	

Numerical Listing

MK	ENGINE MODEL	NDC NO.	REVISED NO.	MK	ENGINE MODEL	NDC NO.	REVISED NO.
TY	1MZ-FE, 2MZ-FE	TW-1455A		HD	F20A, F22A	TW-2213A	
TY	1NZ-FE, 2ZZ-FE	TW-1457A		HD	B16A, B18A, D16A, ZC	TW-2215A	
TY	1GR-FE, 2GR-FE	TW-1458A		HD	K20A, K24A	TW-2216A	
TY	1TR-FE, 2TR-FE	TW-1459A		SB	EN07	TW-2307A	
TY	1KR-FE	TW-1463A		SZ	F5B	TW-2402A	
TY	1VD-FTV	TW-1465A		SZ	G10, G13, F6A	TW-2403A	
TY	1GR-FE	TW-1466A		SZ	G15A, G16A, G16B	TW-2405A	
TY	1AD-FTV, 2AD-FTV	TW-1473A		SZ	H20A, H25A, J18A, J20A	TW-2407A	
TY	1AR-FE, 2AR-FE	* TW-1480A		SZ	R06A	TW-2414A	
TY	1UR-FE	* TW-1483A		DH	AB, CB, CD, CL	TW-2500A	
IZ	4BD1, 6BG1	TW-1604A		DH	CB-T, CL-T	TW-2503A	
IZ	6RA1, 6RB1	TW-1613K		DH	EB, EF	TW-2507A	
IZ	4FA1, 4ZA1	TW-1616A		DH	ED, 1SZ, 3SZ	TW-2510A	
IZ	6RB1, 6SA1	TW-1618K		DH	HC-E, HD	TW-2511A	
IZ	4XC1, 4XE1	TW-1621A		DH	KF-VE, KF-DET	TW-2513A	
IZ	C190, C223, 4JA1, 4JB1	TW-1622A		UD	FE6	TW-2800J	
IZ	4EC1, 4EC1-T	(TW-1624GP)	TW-1625A	UD	PF-6	TW-2803K	
IZ	4EC1, 4EC1-T	TW-1625A		UD	ZD30DD, ZD30DDTI	TW-2805J	
IZ	4EE1-T, 4XC1, 4XE1	TW-1626A		UD	PF6-T, PG6, PG6H	TW-2807K	
IZ	8PD1, 10PD1, 12PD1	TW-1630K		UD	FE6, FE6-T	TW-2809J	
IZ	4HF1, 6HE1, 6HK1-T	TW-1631A		UD	RF8T, RG8, RH8, RH10	TW-2812K	
IZ	6SA1	* TW-1634K		UD	GE13T	TW-2814K	
IZ	6QA1, 6QA2, 6QB2	TW-1636K		UD	MD92, MD92T	TW-2816K	
IZ	6VD1, 6VE1	TW-1645A		KI	B3	TW-3876A	
IZ	6WA1-T, 6WF1-T	TW-1646A		HY	G4GM	TW-3878A	
IZ	RZ4E-TC	* TW-1648A		GM	F8C, F8CL	TW-3879A	
MF	8DC9, 6D40, 6M70T	TW-1804GP		HY	G4HA, G4HC	TW-3882A	
MF	4D30, 4D35, 6D34-T	TW-1807K		HY	D4CB	TW-3887A	
MF	6D15, 6D16-T, 6D17	TW-1820K		GM	SAIL (SHANGHAI GM)	TW-3890A	
MI	6G71, 6G72	TW-1822A		HY	KAPPA	* TW-3893A	
MI	3G81, 3G82	TW-1824A		UD	MD92, MD92T	TW-2816K	
MF	S2E, S3E, S4E, S6E	TW-1826J		KI	B3	TW-3876A	
MI	4G91, 4G92, 4G93	TW-1828A		HY	G4GM	TW-3878A	
MI	4M40, 4M41	TW-1832A		GM	F8C, F8CL	TW-3879A	
MH	S4K-T, S6K-T	TW-1833A		HY	G4HA, G4HC	TW-3882A	
MI	4G63	TW-1834A		HY	D4CB	TW-3887A	
MF	4M50-T, 4M51	* TW-1836J		GM	SAIL (SHANGHAI GM)	TW-3890A	
MF	6D16, 6M60-T, 6M61	TW-1838J		HY	KAPPA	* TW-3893A	
MF	8M20, 8M21	TW-1840GP					
MI	6G74	TW-1842A					
MH	S4S, S6S	TW-1843J					
MI	4D55, 4D56	TW-1845A					
MI	6A12	TW-1846A					
MI	4N13, 4N14, 4N15	* TW-1850A					
MZ	RF	TW-2007A					
MZ	B1, B3, B5	TW-2008A					
MZ	JE, JF	TW-2010GP					
MZ	PN	TW-2013A					
MZ	TF, TM	TW-2014A					
MZ	WL, WL-T	TW-2016A					
MZ	FP, FS	TW-2018A					
MZ	ZY	TW-2019A					
HN	EK100, K13C	TW-2102K					
HN	EL100, EL100-T	* TW-2103GP					
HN	EL100, EM100, M10U	TW-2105GP					
HN	EF550, EF750	TW-2107K					
HN	H06C, H07C	TW-2108K					
HN	W04D, W06D, 1W	TW-2109GP					
HN	EK100, EK200, K13C	TW-2112K					
HN	V21C, V22C, V25C	TW-2114K					
HN	J05E, J07E, J08E	TW-2119K					
HN	F21C	* TW-2120K					
HN	V25C, V26C, V22D	* TW-2121K					
HN	P09C-T, P11C	TW-2122K					
HN	K13D	* TW-2123K					
HN	N04C	* TW-2125K					
HD	D17A	TW-2201A					
HD	B16A, B18A, D16A, ZC	(TW-2208GP)	TW-2215A				
HD	C25A, C27A	TW-2210GP					
HD	R18A, R20A	* TW-2220A					
HD	F20A, F22A	TW-2213A					
HD	B16A, B18A, D16A, ZC	TW-2215A					
HD	K20A, K24A	TW-2216A					
SB	EN07	TW-2307A					
SZ	F5B	TW-2402A					
SZ	G10, G13, F6A	TW-2403A					
SZ	G15A, G16A, G16B	TW-2405A					
SZ	H20A, H25A, J18A, J20A	TW-2407A					
SZ	R06A	TW-2414A					
DH	AB, CB, CD, CL	TW-2500A					
DH	CB-T, CL-T	TW-2503A					
DH	EB, EF	TW-2507A					
DH	ED, 1SZ, 3SZ	TW-2510A					
DH	HC-E, HD	TW-2511A					
DH	KF-VE, KF-DET	TW-2513A					
UD	FE6	TW-2800J					
UD	PF-6	TW-2803K					
UD	ZD30DD, ZD30DDTI	TW-2805J					
UD	PF6-T, PG6, PG6H	TW-2807K					
UD	FE6, FE6-T	TW-2809J					
UD	RF8T, RG8, RH8, RH10	TW-2812K					
UD	GE13T	TW-2814K					
UD	MD92, MD92T	TW-2816K					
KI	B3	TW-3876A					
HY	G4GM	TW-3878A					
GM	F8C, F8CL	TW-3879A					
HY	G4HA, G4HC	TW-3882A					
HY	D4CB	TW-3887A					
GM	SAIL (SHANGHAI GM)	TW-3890A					
HY	KAPPA	* TW-3893A					
UD	MD92, MD92T	TW-2816K					
KI	B3	TW-3876A					
HY	G4GM	TW-3878A					
GM	F8C, F8CL	TW-3879A					
HY	G4HA, G4HC	TW-3882A					
HY	D4CB	TW-3887A					
GM	SAIL (SHANGHAI GM)	TW-3890A					
HY	KAPPA	* TW-3893A					

* : Unavailable now. Production will be made subject to order quantity.

() : Available only from present inventory.

DH : DAIHATSU

NS : NISSAN

HN : HINO

UD : UD TRUCKS

HD : HONDA

SB : SUBARU (FUJI HEAVY IND.)

IZ : ISUZU

SZ : SUZUKI

MZ : MAZDA

TY : TOYOTA

MI : MITSUBISHI

GM : GM KOREA, DAEWOO

MF : MITSUBISHI FUSO

HY : HYUNDAI

MH : MITSUBISHI HEAVY IND.

KI : KIA

INCHES TO MILLIMETERS CONVERSION TABLE

Decimal		Decimal		Decimal		Decimal	
Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
.000100	0,0025	.003400	0,0864	.021000	0,5334	.196850	5,0000
.000200	0,0051	.003500	0,0889	.022000	0,5588	.200000	5,0800
.000300	0,0076	.003543	0,0900	.023000	0,5842	.236220	6,0000
.000394	0,0100	.003600	0,0914	.023622	0,6000	.250000	6,3500
.000400	0,0102	.003700	0,0940	.024000	0,6096	.275591	7,0000
.000500	0,0127	.003800	0,0965	.025000	0,6350	.300000	7,6200
.000600	0,0152	.003900	0,0991	.026000	0,6604	.314961	8,0000
.000700	0,0178	.003937	0,1000	.027000	0,6858	.350000	8,8900
.000787	0,0200	.004000	0,1016	.027559	0,7000	.354331	9,0000
.000800	0,0203	.004100	0,1041	.028000	0,7112	.393701	10,0000
.000900	0,0229	.004200	0,1067	.029000	0,7366	.400000	10,1600
.001000	0,0254	.004300	0,1092	.029528	0,7500	.433071	11,0000
.001100	0,0279	.004331	0,1100	.030000	0,7620	.450000	11,4300
.001181	0,0300	.004400	0,1118	.031000	0,7874	.472441	12,0000
.001200	0,0305	.004500	0,1143	.031496	0,8000	.500000	12,7000
.001300	0,0330	.004600	0,1168	.032000	0,8128	.511811	13,0000
.001400	0,0356	.004700	0,1194	.033000	0,8382	.550000	13,9700
.001500	0,0381	.004724	0,1200	.034000	0,8636	.551181	14,0000
.001575	0,0400	.004800	0,1219	.035000	0,8890	.590551	15,0000
.001600	0,0406	.004900	0,1245	.035433	0,9000	.600000	15,2400
.001700	0,0432	.005000	0,1270	.036000	0,9144	.629921	16,0000
.001800	0,0457	.006000	0,1524	.037000	0,9398	.650000	16,5100
.001900	0,0483	.007000	0,1779	.038000	0,9652	.669291	17,0000
.001969	0,0500	.007874	0,2000	.039000	0,9906	.700000	17,7800
.002000	0,0508	.008000	0,2032	.039370	1,0000	.708661	18,0000
.002100	0,0533	.009000	0,2286	.040000	1,0160	.748031	19,0000
.002200	0,0559	.009843	0,2500	.045000	1,1430	.750000	19,0500
.002300	0,0584	.010000	0,2540	.049213	1,2500	.787402	20,0000
.002362	0,0600	.011000	0,2794	.050000	1,2700	.800000	20,3200
.002400	0,0610	.011811	0,3000	.055000	1,3970	.826772	21,0000
.002500	0,0635	.012000	0,3048	.059055	1,5000	.850000	21,5900
.002600	0,0660	.013000	0,3302	.060000	1,5240	.866142	22,0000
.002700	0,0686	.014000	0,3556	.065000	1,6510	.900000	22,8600
.002756	0,0700	.015000	0,3810	.070000	1,7780	.905512	23,0000
.002800	0,0711	.015748	0,4000	.078740	2,0000	.944882	24,0000
.002900	0,0737	.016000	0,4064	.080000	2,0320	.950000	24,3840
.003000	0,0762	.017000	0,4318	.090000	2,2860	.984252	25,0000
.003100	0,0787	.018000	0,4572	.100000	2,5400	1.000000	25,4000
.003150	0,0800	.019000	0,4826	.118110	3,0000		
.003200	0,0813	.019685	0,5000	.150000	3,8100		
.003300	0,0838	.020000	0,5080	.157480	4,0000		

FRACTIONAL INCHES TO DECIMAL INCHES AND MILLIMETERS

Fraction	Decimal Inches	Milli-meters	Fraction	Decimal Inches	Milli-meters	Fraction	Decimal Inches	Milli-meters	Fraction	Decimal Inches	Milli-meters
1/64	.015625	0,3969	17/64	.265625	6,7469	33/64	.515625	13,0969	49/64	.765625	19,4469
1/32	.03125	0,7938	9/32	.28125	7,1438	17/32	.53125	13,4938	25/32	.78125	19,8438
3/64	.046875	1,1906	19/64	.296875	7,5406	35/64	.546875	13,8906	51/64	.796875	20,2406
1/16	.0625	1,5875	5/16	.3125	7,9375	9/16	.5625	14,2875	13/16	.8125	20,6375
5/64	.078125	1,9844	21/64	.328125	8,3344	37/64	.578125	14,6844	53/64	.828125	21,0344
3/32	.09375	2,3813	11/32	.34375	8,7313	19/32	.59375	15,0813	27/32	.84375	21,4313
7/64	.109375	2,7781	23/64	.359375	9,1281	39/64	.609375	15,4781	55/64	.859375	21,8281
1/8	.125	3,1750	3/8	.375	9,5250	5/8	.625	15,8750	7/8	.875	22,2250
9/64	.140625	3,5719	25/64	.390625	9,9219	41/64	.640625	16,2719	57/64	.890625	22,6219
5/32	.15625	3,9688	13/32	.40625	10,3188	21/32	.65625	16,6688	29/32	.90625	23,0188
11/64	.171875	4,3656	27/64	.421875	10,7156	43/64	.671875	17,0656	59/64	.921875	23,4156
3/16	.1875	4,7625	7/16	.4375	11,1125	11/16	.6875	17,4625	15/16	.9375	23,8125
13/64	.203125	5,1594	29/64	.453125	11,5094	45/64	.703125	17,8594	61/64	.953125	24,2094
7/32	.21875	5,5563	15/32	.46875	11,9063	23/32	.71875	18,2563	31/32	.96875	24,6063
15/64	.234375	5,9531	31/64	.484375	12,3031	47/64	.734375	18,6531	63/64	.984375	25,0031
1/4	.250	6,3500	1/2	.500	12,7000	3/4	.750	19,0500	1	1.000	25,4000

CONVERSION FORMULAS

Multiply	By	To Obtain	Multiply	By	To Obtain
Inches	25.4	Millimeters	Cubic Inches	16.38716	Cubic Centimeters
Millimeters	.03937	Inches	Litres	61.023	Cubic Inches

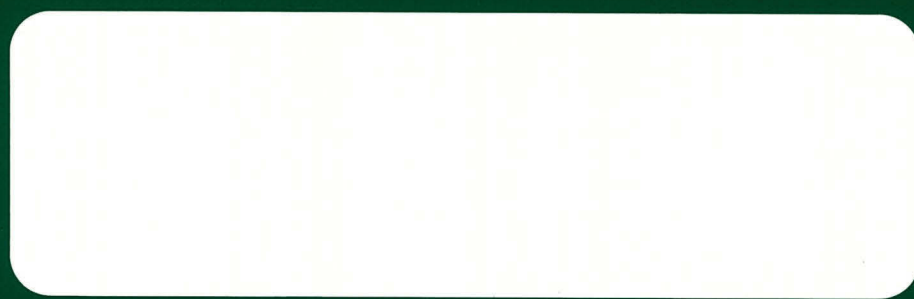
COMMON BEARING INCH UNDERSIZES CONVERTED TO MILLIMETERS				COMMON BEARING MILLIMETER UNDERSIZES CONVERTED TO INCHES			
Decimal Inches	Millimeters	Decimal Inches	Millimeters	Millimeters	Decimal Inches	Millimeters	Decimal Inches
.001"	0,0254	.020"	0,5080	0,025	.0010"	0,80	.0315"
.002"	0,0508	.030"	0,7620	0,05	.0020"	1,00	.0394"
.003"	0,0762	.040"	1,0160	0,25	.0098"	1,25	.0492"
.005"	0,1270	.050"	1,2700	0,30	.0118"	1,50	.0591"
.010"	0,2540	.060"	1,5240	0,50	.0197"	2,00	.0787"
				0,75	.0295"		

NDC



ENGINE

BEARING



NDC NDC CO., LTD.