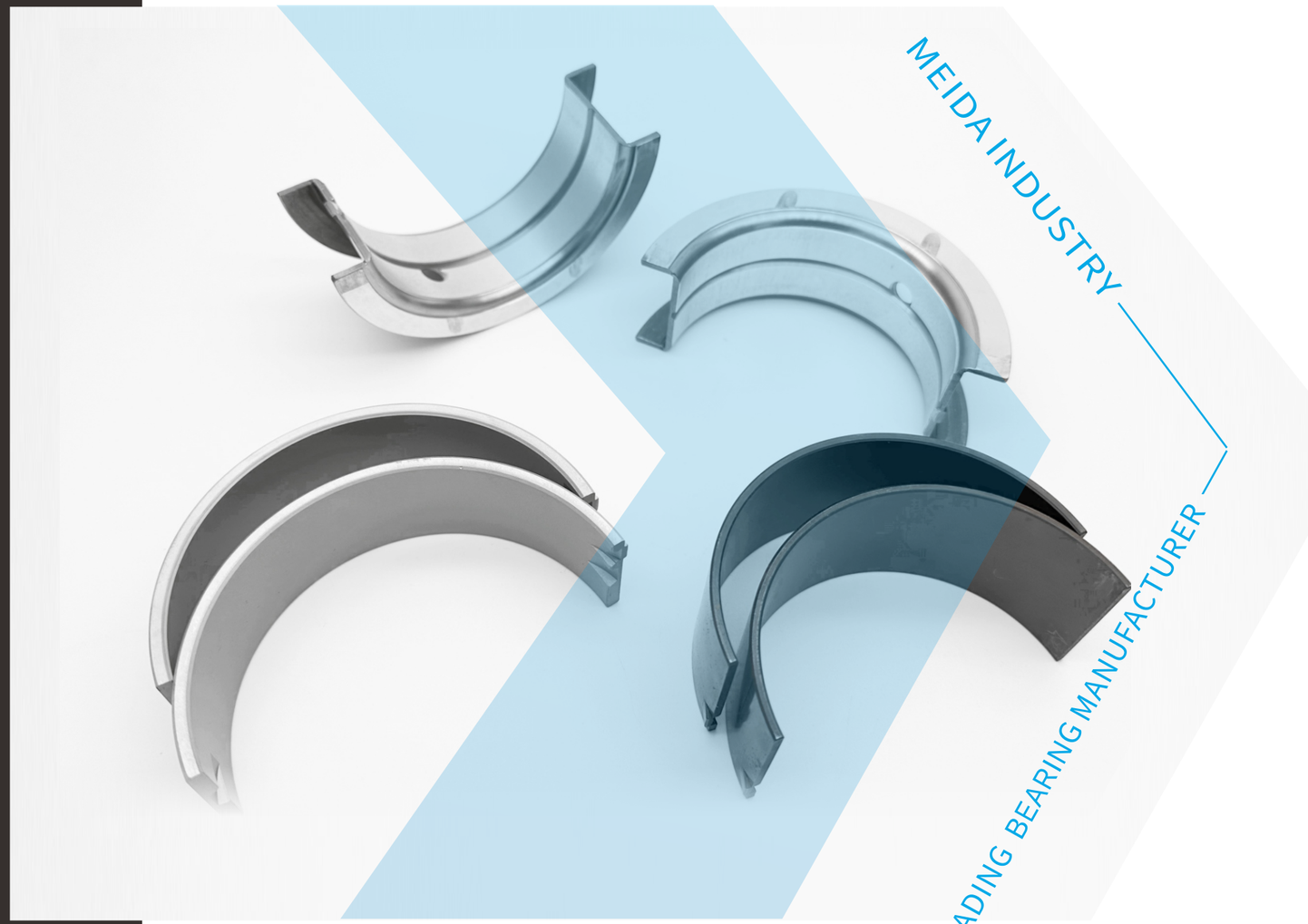
美达实业
MEIDA INDUSTRIAL



WeChat

Add: 8th, Weisan Road, Xinwu development Zone, Wanzhi District, Wuhu City, Anhui Province, China. 241100
Email: mida@midabearing.com









COMPANY
PROFILE

Meida Industry was founded in 2002 to supply high quality bearings to the customers all over the world. Meida manufactures high quality engine bearings used for automobiles, light-duty and heavy-duty trucks, marines,generators and many other types of engines.

Seeking to distribute high quality bearings, Meida has built fully automatic bearing production process lines, electroplating production lines and spraying production lines. In the meantime, Meida has a complete range of testing equipment and means for raw materials and bearings.

MEIDA FACTORY



Raw material warehouse

As a company that specializes in bearing manufacturing, Meida are constantly implementing new equipment, including production equipment and testing equipment, for achieving a higher level of precision. For now, Meida has 4 fully automatic high performance bearing production lines and 4 semi-automatic high performance bearing production lines.



Workshop

Meida has a raw material warehouse of almost 27,000 feet, including steel-aluminum strips and steel-bronze strips. To ensure the quality of bearing, Meida will test every input of raw material.



Electroplating plant

Meida has its own plating plant, complying with the national environmental standards. The plating plant performs deposition of various overlays to meet the challenging demands of the engine applications.



Product warehouse

Meida has a product warehouse of nearly 45,000 feet, including more than 1000 kinds of bearings, bushings and thrust washers. The abundant stock can meet customers' both long-term needs and emergency needs.

R&D

As a top manufacturer, Meida is always searching for innovative solutions to meets customers' needs. With years of experience and highly skilled employees, we can support our customers through product design to operating risk anaylsis. Every step that we take on R&D is tightly alighned with customers' needs, which are high-performed quality and cost-effective price.



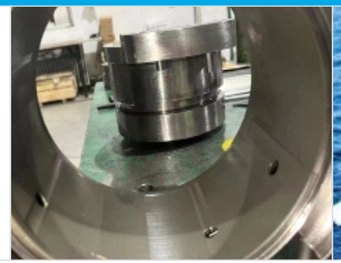






POLYMER SPRAYING








◆Polymer Coating Material：MD-001
◆Fatigue Strength：>110MPa
◆Specific Pressure：>25MPa
◆Operating Temperature：-70~250℃
◆Friction Coefficient under dry sliding wear：0.10
◆Coating Thinkness：10±2μm
◆Friction Coefficient under oil lubrication：0.045
◆Bench Test：No obvious damage after 1-year operation
◆Coating Composition：Modified PI，Modified PAI，High molecular weight phenolic resin，WS2，Graphene and so on。
◆Application：Ship、Rolling mill、High power diesel engine and so on.



◆Polymer Coating Material：MD-002
◆Fatigue Strength：80~90MPa
◆Operating Temperature：-70~220℃
◆Friction Coefficient under dry sliding wear：0.08
◆Coating Thinkness：10±2μm
◆Friction Coefficient under oil lubrication：0.045
◆Coating Composition：Modified PI，High molecular weight phenolic resin，MoS2，Carbon nanotubes and so on。
◆Application：Small and medium diesel engine、Gasoline engine and so on

POLYMER SPRAYING





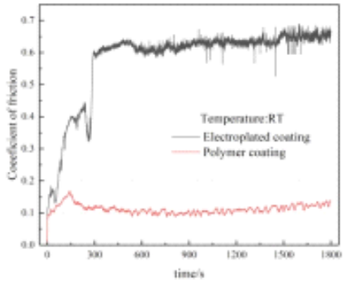



◆Polymer Coating Material：MD-003
◆Fatigue Strength：80~90MPa (Fatigue strength of ternary electro plating is about 70MPa)
◆Operating Temperature：-70~220℃
◆Friction Coefficient under dry sliding wear：0.11
◆Coating Thinkness：10±2μm
◆Friction Coefficient under oil lubrication：0.05
◆Coating Composition：Modified PI，High molecular weight phenolic resin，PTFE，Micro-nano Zn、TiO2 and so on。
◆Application：Small and medium diesel engine、Gasoline engine and so on

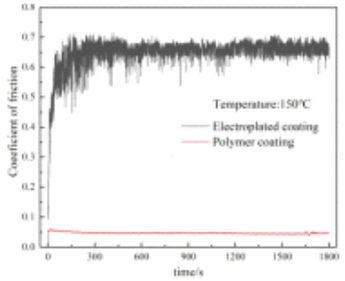


◆Polymer Coating Material：MD-004
◆Fatigue Strength：75~85MPa
◆Operating Temperature：-70~220℃
◆Friction Coefficient under dry sliding wear：0.08
◆Coating Thinkness：10±2μm
◆Friction Coefficient under oil lubrication：0.045
◆Coating Composition：Modified PI，High molecular weight phenolic resin，MoS2，Fe2O3 and so on。
◆Application：Small and medium diesel engine、Gasoline engine and so on

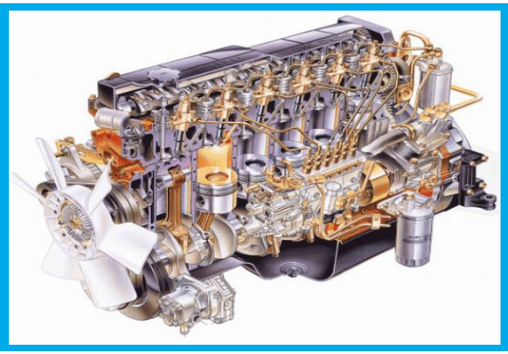
ELECTROPLATED COATING VS POLYMER COATING—TRIBOLOGICAL PROPERTIES



Comparison of friction coefficient under dry sliding wear at room temperature



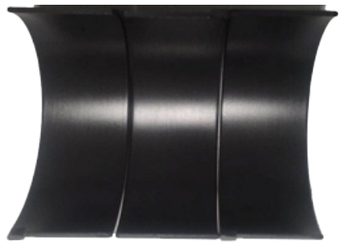
Comparison of friction coefficient under dry sliding wear at 150°C temperature



At room temperature, the friction coefficient under dry sliding wear of polymer coating decreased by 75.86%. At 150 temperature, the friction coefficient under dry sliding wear of polymer coating decreased by 91.69%

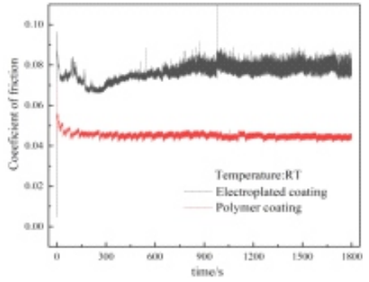


Electroplating coating

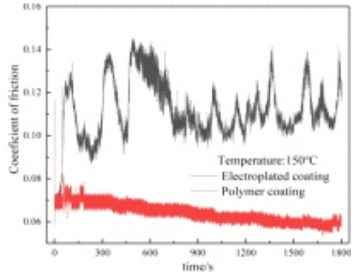


Polymer coating

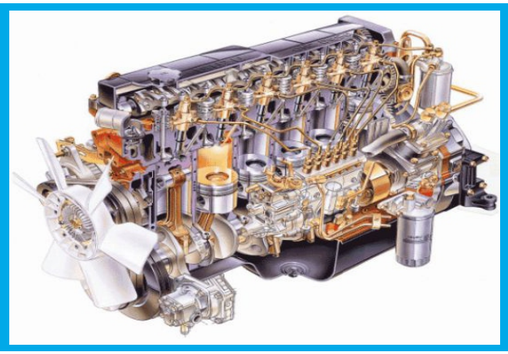
ELECTROPLATED COATING VS POLYMER COATING—TRIBOLOGICAL PROPERTIES



Comparison of friction coefficient under oil lubrication at room temperature



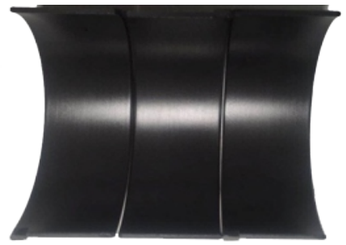
Comparison of friction coefficient under oil lubrication at 150°C temperature



At room temperature, the friction coefficient under oil lubrication of polymer coating decreased by 42.3%. At 150 temperature, the friction coefficient under oil lubrication of polymer coating decreased by 36%。



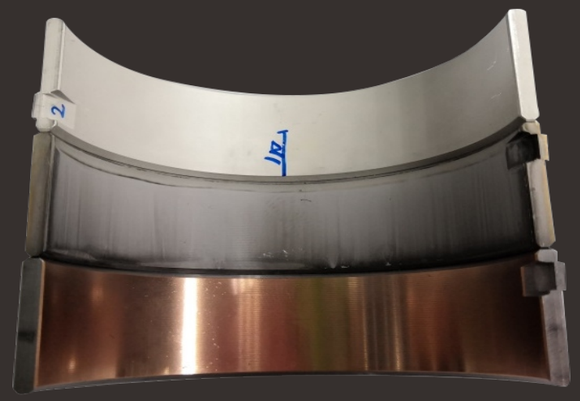
Electroplating coating



Polymer coating

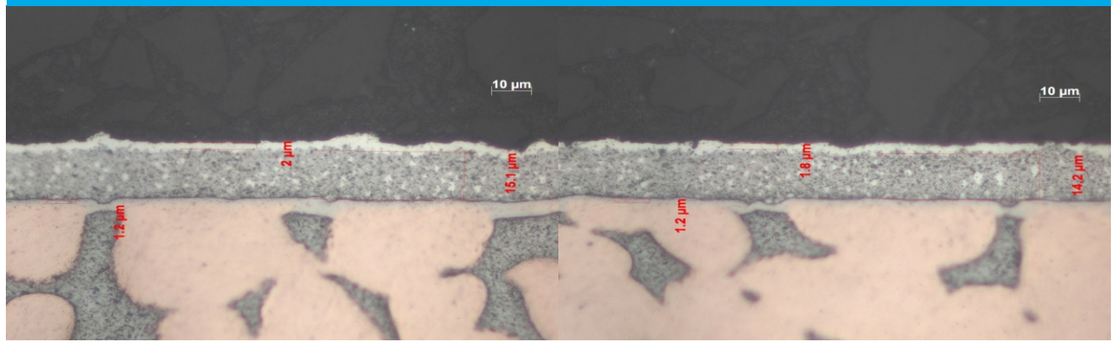
TERNARY ELECTROPLATING

INSPECTION

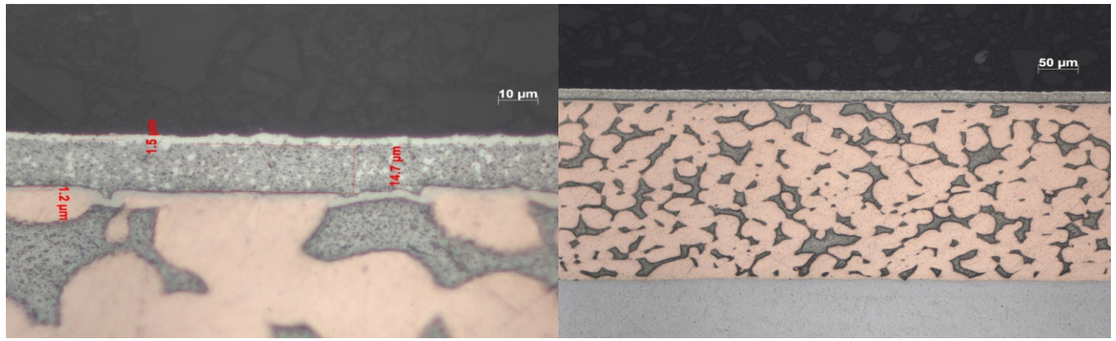


Cutting diagram

1.Metallography structure and layer thicknes:



#1-1 #1-2



#1-3 #1-4



2.Alloy layer composition: (AAS Method)

Item	sactual value MPCC	rated value
Pb, %	27.6	19.0-28.0
Sn, %	1.1	0.5-5.0

3.Electroplating layer composition: (AAS Method)

Items	actual value MPCC	rated value
Cu, %	1.0	1.0-3.0
Sn, %	10	8.0-12.0

4.Steel back composition: (OES Method)

Items	Steel back	C	Si	Mn	P	S
Test data,%	Rem.	0.0987	0.0825	0.166	0.0172	0.0145
1.0300 wp,%	Rem.	⩽0.13	/	⩽0.70	⩽0.045	⩽0.050

5.Hardness (Metallographic section) :

Layer	Method	D1	D2	D3	AVG.	Std.
Alloy Layer	HV0.5/10	65.5	64.2	63.2	64.3	45-85HV
Steel back	HB(converted from HV5/10)	150.1	144.4	145.4	146.6	100-200HB

CUMMINS

Engine Model	OE No.	REF NO	Size	Article	Pcs/Set	Lining Materil
A2300	4900232		STD	main bearing	10	AL
	4900563		STD	con rod bearing	8	AL
ISF2.8	4046031		STD	thrust bearing	1	AL
	4966250		STD	main bearing, upper	4	AL
	4946030		STD	main bearing, lower	5	AL
	5284536		STD	con rod bearing, upper	4	CU
	5284537		STD	con rod bearing, lower	4	AL
B3.3	3800872		STD	main bearing	10	CU
	4993834		STD	con rod bearing	8	CU
4BT B3.9	3802010		STD	main bearing	10	AL
	3802211		.010	main bearing	10	AL
	3802212		.020	main bearing	10	AL
	3802213		.030	main bearing	10	AL
	3901170	3939859	STD	con rod bearing	8	CU
	3901171	3939860	.010	con rod bearing	8	CU
	3901172	3939861	.020	con rod bearing	8	CU
	3901173	3939862	.030	con rod bearing	8	CU
	4891178	3901085	SEMI	piston pin bushing	4	CU
	3901306	3940059	STD	camshaft bushing	5	CU
6BT QSB ISDe B5.9 B6.7	3802070		STD	main bearing	14	AL
	3802071		.010	main bearing	14	AL
	3802072		.020	main bearing	14	AL
	3802073		.030	main bearing	14	AL
	3901170	3939859	STD	con rod bearing	12	CU
	3901171	3939860	.010	con rod bearing	12	CU
	3901172	3939861	.020	con rod bearing	12	CU
	3901173	3939862	.030	con rod bearing	12	CU
	4893693		STD	con rod bearing	12	CU
	4892795		.010	con rod bearing	12	CU
	4892796		.020	con rod bearing	12	CU
	4892793		.030	con rod bearing	12	CU
	3940059		STD	camshaft bushing	7	CU
	3901306		STD	camshaft bushing	7	CU
	3901085		SEMI	piston pin bushing	6	CU
	4891178		SEMI	piston pin bushing	6	CU
6BT	4955853	3978818/3978820 /3978822	STD	main bearing	14	AL
	4955860		.010	main bearing	14	AL
	4955861		.020	main bearing	14	AL
	4955862		.030	main bearing	14	AL
	4955863		.040	main bearing	14	AL
6BT	4955855	3978818/3978820 /3978822	STD	main bearing	10	AL
	4955856		.010	main bearing	10	AL
	4955857		.020	main bearing	10	AL
	4955858		.030	main bearing	10	AL
	4955859		.040	main bearing	10	AL
ISBe	4955352		STD	main bearing	14	AL
	4938949		.010	main bearing	14	AL
	4938950		.020	main bearing	14	AL
	3969562		STD	con rod bearing	12	CU
	4932375		.010	con rod bearing	12	CU
	4932376		.020	con rod bearing	12	CU

CUMMINS

Engine Model	OE No.	REF NO	Size	Article	Pcs/Set	Lining Materil
6CT	3802210		STD	main bearing	14	AL
	3802211		.010	main bearing	14	AL
	3802212		.020	main bearing	14	AL
	3802213		.030	main bearing	14	AL
	3901430		STD	con rod bearing	12	CU
	3901431		.010	con rod bearing	12	CU
	3901432		.020	con rod bearing	12	CU
	3901433		.030	con rod bearing	12	CU
	3945329		STD	camshaft bushing	7	CU
	3913990		SEMI	piston pin bushing	6	CU
ISC	3945917		STD	main bearing	14	AL
	3945918		.010	main bearing	14	AL
	3945919		.020	main bearing	14	AL
	3945920		.030	main bearing	14	AL
	3950661		STD	con rod bearing	12	CU
	3950662		.010	con rod bearing	12	CU
	3950663		.020	con rod bearing	12	CU
	3950664		.030	con rod bearing	12	CU
NT855	3801260		STD	main bearing	14	CU
	3801261		.010	main bearing	14	CU
	3801262		.020	main bearing	14	CU
	3801263		.030	main bearing	14	CU
	3067568	3019218	STD	thrus twasher	4	AL
	3009213		STD	locks	14	FE
	214950		STD	con rod bearing	12	CU
	214951		.010	con rod bearing	12	CU
	214952		.020	con rod bearing	12	CU
	214953		.030	con rod bearing	12	CU
	3801106		STD	camshaft bushing	7	CU
	187420		SEMI	piston pin bushing	6	CU
NH220	203670		STD	con rod bearing	12	CU
	203671		.010	con rod bearing	12	CU
	203672		.020	con rod bearing	12	CU
	203673		.030	con rod bearing	12	CU
NT855SC	203660		STD	con rod bearing	12	CU
	203661		.010	con rod bearing	12	CU
	203662		.020	con rod bearing	12	CU
	203663		.030	con rod bearing	12	CU
N14	3055145		STD	con rod bearing	12	CU
	3055146		.010	con rod bearing	12	CU
	3055147		.020	con rod bearing	12	CU
	3055148		.030	con rod bearing	12	CU

CUMMINS

Engine Model	OE No.	REF NO	Size	Article	Pcs/Set	Lining Materil
M11	3801150		STD	main bearing	14	CU
	3801151		.010	main bearing	14	CU
	3801152		.020	main bearing	14	CU
	3801153		.030	main bearing	14	CU
	4025120	t-washer 4023203/4023083	STD	main bearing	18	14CU+4AL
	4025121	t-washer 4023203/4023083	.010	main bearing	18	14CU+4AL
	4025122	t-washer 4023203/4023083	.020	main bearing	18	14CU+4AL
	4025123	t-washer 4023203/4023083	.030	main bearing	18	14CU+4AL
	4025124	t-washer 4023203/4023083	.040	main bearing	18	14CU+4AL
	4025125	t-washer 4023203	STD	main bearing	18	14CU+4AL
	4025126	t-washer 4023203	.010	main bearing	18	14CU+4AL
	4025127	t-washer 4023203	.020	main bearing	18	14CU+4AL
	4025128	t-washer 4023203	.030	main bearing	18	14CU+4AL
	4025129	t-washer 4023203	.040	main bearing	18	14CU+4AL
	3016760		STD	con rod bearing	12	CU
	3016761		.010	con rod bearing	12	CU
	3016762		.020	con rod bearing	12	CU
	3016763		.030	con rod bearing	12	CU
	2878168		STD	cam bushing	1	CU
	3896894		SEMI	pistion pin bushing	1	CU
	3027105		SEMI	pistion pin bushing	1	CU
ISL, L375	3945917		STD	main bearing	14	CU
	3950661/3966244		STD	con rod bearing	12	CU
QSX-15, ISX	3800298		STD	main bearing	14	CU
	4089845		.010	main bearing	14	CU
	4089846		.020	main bearing	14	CU
	4089847		.030	main bearing	14	CU
	4089405		STD	con rod bearing	12	CU
	4090016		.010	con rod bearing	12	CU
	4090017		.020	con rod bearing	12	CU
	4090018		.030	con rod bearing	12	CU
	4089139		STD	con rod bearing	12	CU
	2882087		STD	con rod bearing	12	CU
	4376360		.010	con rod bearing	12	CU
	4376361		.020	con rod bearing	12	CU
	3680202		STD	thrus twasher	4	AL
	3680580		STD	cam bushing	4	CU
	3680581		STD	cam bushing	3	CU
	4026423		STD	cam bushing	7	CU
	4059448		SEMI	pistion pin bushing	6	CU
K19	AR12270		STD	main bearing	14	CU
	AR12271		.010	main bearing	14	CU
	AR12272		.020	main bearing	14	CU
	AR12273		.030	main bearing	14	CU
	205840		STD	con rod bearing	12	CU
	205841		.010	con rod bearing	12	CU
	205842		.020	con rod bearing	12	CU
	205843		.030	con rod bearing	12	CU
	3002834		SEMI	camshaft bushing	7	CU
	3043909		SEMI	piston pin bushing	6	CU
	205112		STD	thrust washer	4	AL
VTA28	AR4220		STD	main bearing	14	CU
	AR4221		.010	main bearing	14	CU
	AR4222		.020	main bearing	14	CU
	AR4223		.030	main bearing	14	CU
	200600		STD	con rod bearing	24	CU
	200601		.010	con rod bearing	24	CU
	200602		.020	con rod bearing	24	CU
	200603		.030	con rod bearing	24	CU

CUMMINS

Engine Model	OE No.	REF NO	Size	Article	Pcs/Set	Lining Materil
KV50	3018210		STD	main bearing	18	CU
	3018211		.010	main bearing	18	CU
	3018212		.020	main bearing	18	CU
	3018213		.030	main bearing	18	CU
	3018214		.040	main bearing	18	CU
	3047390		STD	con rod bearing	32	CU
	3047391		.010	con rod bearing	32	CU
	3047392		.020	con rod bearing	32	CU
	3047393		.030	con rod bearing	32	CU
	3047394		.040	con rod bearing	32	CU
K38	AR12250		STD	main bearing	14	CU
	AR12251		.010	main bearing	14	CU
	AR12252		.020	main bearing	14	CU
	AR12253		.030	main bearing	14	CU
	AR12254		.040	main bearing	14	CU
	3047390		STD	con rod bearing	24	CU
	3047391		.010	con rod bearing	24	CU
	3047392		.020	con rod bearing	24	CU
	3047393		.030	con rod bearing	24	CU
	3047394		.040	con rod bearing	24	CU
QSK23	4095973		STD	main bearing	14	CU
	4092492		STD	con rod bearing	12	CU
QSK45	4024792		STD	main bearing	14	CU
	3643984		STD	con rod bearing	24	CU
	4007569		STD	thrust washer	4	AL
QSK60	4024792		STD	main bearing	18	CU
	3643984		STD	con rod bearing	32	CU
	4007569		STD	thrust washer	4	AL



CATERPILLAR

Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
3064/3066/S4K/S6K	5I7588			STD	main bearing	2	CU
	5I7784			0.25	main bearing	2	CU
	5I7785			0.50	main bearing	2	CU
	5I7786			0.75	main bearing	2	CU
	5I7637			STD	con rod bearing	2	CU
	5I7794			0.25	con rod bearing	2	CU
	5I7795			0.50	con rod bearing	2	CU
	5I7796			0.75	con rod bearing	2	CU
	5I7654			STD	thrust washer	3	CU
	5I7789			0.15	thrust washer	3	CU
	5I7788			0.30	thrust washer	3	CU
	5I7787			0.45	thrust washer	3	CU
	5I7528			STD	camshaft bushing	1	AL
	5I7529			STD	camshaft bushing	1	AL
	5I8009			STD	camshaft bushing	1	AL
	5I7539			SEMI	con rod bushing	1	CU
3208LATER V8	4W8090	7E7894		STD	con rod bearing	16	CU
	9N5920			.010	con rod bearing	16	CU
	9N5921			.020	con rod bearing	16	CU
	9N5922			.050	con rod bearing	16	CU
	8N8929			STD	main bearing	2	CU
	8N8926			.010	main bearing	2	CU
	8N8931			.020	main bearing	2	CU
	8N8932			.050	main bearing	2	CU
	4W8092			STD	main bearing	8	CU
	8N9022			.010	main bearing	8	CU
	8N9023			.020	main bearing	8	CU
	8N9020			.050	main bearing	8	CU
	4W8091			STD	flange bearing	2	CU
	8N9065			.010	flange bearing	2	CU
	8N9064			.020	flange bearing	2	CU
	8N9066			.050	flange bearing	2	CU
	9N5082			STD	bushing	1	CU
	9N5246			STD	bushing	1	CU
	1W5920			STD	bushing	1	CU
	8N0701			SEMI	bushing	1	CU
D4,D5,D6,3304,3306	8N8220	4W5739	328-5572	STD	con rod bearing	2	CU
	8N8221			.010	con rod bearing	2	CU
	8N8222			.020	con rod bearing	2	CU
	8N8223			.030	con rod bearing	2	CU
	232-3233			STD	main bearing	2	AL
	8N8224	4W5738		STD	main bearing	2	CU
	8N8225			.010	main bearing	2	CU
	8N8226			.020	main bearing	2	CU
	8N8227			.030	main bearing	2	CU
	7S9439			STD	flange bearing	2	CU
	7S9844			.010	flange bearing	2	CU
	7S9845			.020	flange bearing	2	CU
	7S9846			.030	flange bearing	2	CU
	6N8940			STD	thrust washer	2	AL
	1003652			STD	thrust washer	2	CU
	9S3037			0.232	thrust washer	2	AL
	7N9342			STD	thrust washer	2	AL
	7M4046			STD	camshaft bushing	1	CU
	9M5477			STD	camshaft bushing	1	CU
	8N4110			STD	camshaft bushing	1	CU
	8N0702			SEMI	con rod bushing	1	CU
	8N1985			SEMI	con rod bushing	1	CU
	8N0703			SEMI	con rod bushing	1	CU
	8N1849			SEMI	con rod bushing	1	CU

CATERPILLAR

Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
3406/3406B/ 3406C/3406E	9Y9497	2170586	328-5574	STD	con rod bearing	2	CU
	4W5702			.025	con rod bearing	2	CU
	4W5703			.050	con rod bearing	2	CU
	4W5492	2170390	3215746	STD	main bearing	2	CU
	4W5698			.025	main bearing	2	CU
	4W5699			.050	main bearing	2	CU
	4W5700			.025 O.D	main bearing	2	CU
	4W5701			.050 O.D	main bearing	2	CU
	8N0706			SEMI	pistion pin bushing	1	CU
	4P8495			SEMI	pistion pin bushing	1	CU
	4N0685			STD	camshaft bushing	1	CU
	8N0705			SEMI	pistion pin bushing	1	CU
3406C-R	9Y7735	328-5573		STD	con rod bearing	2	CU
	7E0558			.025	con rod bearing	2	CU
	7E0559			.050	con rod bearing	2	CU
3508/3508B/ 3512/3516	105-0253	149-6031		STD	main bearing	2	CU
	105-0254	149-6032		.025	main bearing	2	CU
	105-0255	149-6033		.050	main bearing	2	CU
	107-7330			STD	con rod bearing	2	CU
	107-7331			.025	con rod bearing	2	CU
	107-7332			.050	con rod bearing	2	CU
	7C6209			STD	thrust washer	2	CU
3204	8N6308			STD	con rod bearing	8	CU
	1N3821			.010	con rod bearing	8	CU
	1N3822			.020	con rod bearing	8	CU
	1W3906			.050	con rod bearing	8	CU
	1W0312			STD	main bearing	6	CU
	1W1661			.010	main bearing	6	CU
	1W1662			.020	main bearing	6	CU
	1W1663			.050	main bearing	6	CU
	1W0311			STD	main bearing	4	CU
	1W1655			.010	main bearing	4	CU
	1W1656			.020	main bearing	4	CU
	1W1657			.050	main bearing	4	CU
	4W8093			STD	main bearing	6	CU
	8N8976			.010	main bearing	6	CU
	8N8972			.020	main bearing	6	CU
	8N8974			.050	main bearing	6	CU
	4W8092			STD	main bearing	4	CU
	8N9022			.010	main bearing	4	CU
	8N9023			.020	main bearing	4	CU
	8N9020			.050	main bearing	4	CU
	4W8091			STD	flange bearing	2	CU
	8N9065			.010	flange bearing	2	CU
	8N9064			.020	flange bearing	2	CU
	8N9066			.050	flange bearing	2	CU

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Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
3208 Early, 3145, 3150, 3160	9N5923			STD	con rod bearing	2	CU
	9N5924			.010	con rod bearing	2	CU
	9N5925			.020	con rod bearing	2	CU
	9N5926			.050	con rod bearing	2	CU
	4W8092			STD	main bearing	2	CU
	8N9022			.010	main bearing	2	CU
	8N9023			.020	main bearing	2	CU
	8N9020			.050	main bearing	2	CU
	8N9084			STD	flange bearing	2	CU
	8N9083			.010	flange bearing	2	CU
	8N9082			.020	flange bearing	2	CU
	8N9081			.050	flange bearing	2	CU
	4W8091			STD	flange bearing	2	CU
	8N9065			.010	flange bearing	2	CU
	8N9064			.020	flange bearing	2	CU
	8N9066			.050	flange bearing	2	CU
D379/D398	8N7769	3148505		STD	main bearing	2	CU
	8N7770	3148506		.025	main bearing	2	CU
	8N7771	3148507		.050	main bearing	2	CU
	8N7764			STD	con rod bearing	2	CU
	8N7765			.025	con rod bearing	2	CU
	8N7766			.050	con rod bearing	2	CU
631A/631B	7W2138			STD	main bearing	2	AL
	8N5346			.025	main bearing	2	AL
	8N5347			.050	main bearing	2	AL
	7W2137			STD	flange bearing	2	AL
	8N5341			.025	flange bearing	2	AL
	8N5342			.050	flange bearing	2	AL
	7W2136			STD	con rod bearing	2	AL
	8N5339			.025	con rod bearing	2	AL
	8N5338			.050	con rod bearing	2	AL
D9/D9D D9E/D9G, D353/G353	1N4336			STD	con rod bearing	2	AL
	1N4337			.025	con rod bearing	2	AL
	1N4338			.050	con rod bearing	2	AL
	9M3893			STD	main bearing	2	AL
	9M4872			.025	main bearing	2	AL
	9M4877			.050	main bearing	2	AL
	9M3894			STD	main bearing	2	AL
	9M4873			.025	main bearing	2	AL
	9M4878			.050	main bearing	2	AL
	9M3895			STD	main bearing	2	AL
	9M4874			.025	main bearing	2	AL
	9M4879			.050	main bearing	2	AL
	9M3896			STD	flange bearing	2	AL
	9M4875			.025	flange bearing	2	AL
	9M4880			.050	flange bearing	2	AL
	1N4316			STD	main bearing	2	AL
	1N4319			.025	main bearing	2	AL
	1N4322			.050	main bearing	2	AL
	1N4317			STD	main bearing	2	AL
	1N4320			.025	main bearing	2	AL
	1N4323			.050	main bearing	2	AL
	1N4318			STD	main bearing	2	AL
	1N4321			.025	main bearing	2	AL
	1N4324			.050	main bearing	2	AL
	1N4331			STD	flange bearing	2	AL
	1N4332			.025	flange bearing	2	AL
	1N4333			.050	flange bearing	2	AL

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Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
D7E, D8, D8H, D8K	8N7933			STD	con rod bearing	2	AL
	8N7934			.025	con rod bearing	2	AL
	8N7935			.050	con rod bearing	2	AL
	8N7923			STD	main bearing	2	AL
	8N7924			.025	main bearing	2	AL
	8N7925			.050	main bearing	2	AL
	8N7928			STD	flange bearing	2	AL
	8N7929			.025	flange bearing	2	AL
	8N7930			.050	flange bearing	2	AL
3116	7W9415	224-6638		STD	con rod bearing	2	CU
	7C6976			0.25	con rod bearing	2	CU
	7C6977			0.50	con rod bearing	2	CU
	101-1530			STD	main bearing	2	AL
	7C6971	145-0163		0.25	main bearing	2	AL
	7C6972	145-0165		0.50	main bearing	2	AL
	107-7708			STD	main bearing	2	AL
	7C6961	145-0162		0.25	main bearing	2	AL
	7C6962	145-0164		0.50	main bearing	2	AL
	7W9416	107-7602	212-4893	STD	flange bearing	2	AL
	7C6966			0.25	flange bearing	2	AL
	7C6967			0.50	flange bearing	2	AL
	216-5586			STD	camshaft bushing	1	CU
	2W7213			SEMI	pistion pin bushing	1	CU
	2W0027			SEMI	pistion pin bushing	1	CU
C7	224-6638			STD	con rod bearing	2	CU
	7C6976	3J3-4803		0.25	con rod bearing	2	CU
	7C6977			0.50	con rod bearing	2	CU
	107-7708			STD	main bearing	2	AL
	145-0162			0.25	main bearing	2	AL
	145-0164			0.50	main bearing	2	AL
	107-7602			STD	flange bearing	2	AL
	7C6966			0.25	flange bearing	2	AL
	7C6967			0.50	flange bearing	2	AL
C9	213-3190			STD	con rod bearing	2	CU
	282-2478			0.25	con rod bearing	2	CU
	282-2479			0.50	con rod bearing	2	CU
	151-2939			STD	main bearing	2	AL
	282-1771			0.25	main bearing	2	AL
	282-1772			0.50	main bearing	2	AL
	246-3150			STD	thrust washer	2	CU
	216-5586			STD	camshaft bushing	1	AL
	203-5805			STD	camshaft bushing	2	AL
	203-6090			STD	camshaft bushing	1	AL
	160-8194			SEMI	pistion pin bushing	1	CU
C10	211-0588			STD	main bearing	2	CU/AL
	128-0400			0.50	main bearing	2	CU/AL
	128-0401			0.75	main bearing	2	CU/AL
	211-0587			STD	main bearing	2	CU/AL
	128-0382			0.50	main bearing	2	CU/AL
	128-0383			0.75	main bearing	2	CU/AL
	217-0577			STD	con rod bearing	2	CU
	128-0390			0.50	con rod bearing	2	CU
	128-0391			0.75	con rod bearing	2	CU
	246-3144			STD	thrust washer	2	CU
	7W5844			SEMI	bushing, con rod	1	CU
	216-5584			STD	bushing, camshaft	1	CU
	216-5585			STD	bushing, camshaft	1	CU
	216-5583			STD	bushing, camshaft	1	CU

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Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
C11	116-1089			STD	con rod bearing	2	CU
	128-0395			0.51	con rod bearing	2	CU
	128-0396			0.76	con rod bearing	2	CU
C12,C13	292-0484			STD	con rod bearing	2	CU
	128-0395			0.51	con rod bearing	2	CU
	128-0396			0.76	con rod bearing	2	CU
	115-2972			SEMI	bushing, con rod	1	CU
	187-8969			STD	bushing, camshaft	1	CU
C15,C16	317-8766			STD	main bearing	2	CU
	224-3246			STD	con rod bearing	2	CU
	232-3235			.025	con rod bearing	2	CU/AL
	232-3236			.050	con rod bearing	2	CU/AL
	229-6259			SEMI	bushing, con rod	1	CU
	6I2726			SEMI	bushing, con rod	1	CU
C18	317-8766			STD	main bearing	2	CU
	261-3450			STD	con rod bearing	2	CU/AL
C2.2	198586140			STD	main bearing	8	AL
	198586150			.010	main bearing	8	AL
	198586160			.020	main bearing	8	AL
	U5ME0011			STD	con rod bearing	8	AL
	U5ME0011A			.010	con rod bearing	8	AL
	U5ME0011B			.020	con rod bearing	8	AL
	199266200/210			STD	thrust washer	4	AL
	198517222			STD	cam bushing	1	AL
	198517226			.010	cam bushing	1	AL
	198517229			.020	cam bushing	1	AL
C4.4	353-7423	U5MB0033		STD	main bearing	10	AL
	353-7424	U5MB0033A		0.25	main bearing	10	AL
	353-7425	U5MB0033B		0.50	main bearing	10	AL
	353-7426	U5MB0033C		0.75	main bearing	10	AL
	360-3986	T410927		STD	con rod bearing	8	AL
	468-7762	T420155		0.25	con rod bearing	8	AL
	468-7769	T420154		0.50	con rod bearing	8	AL
	468-7770	T420153		0.75	con rod bearing	8	AL
C6.6	T409189			STD	main bearing	14	AL
	T418680			0.25	main bearing	14	AL
	T418696			0.50	main bearing	14	AL
	T418697			0.75	main bearing	14	AL
	T409188			STD	con rod bearing	12	AL
	T400524			0.25	con rod bearing	12	AL
	T400525			0.50	con rod bearing	12	AL
	T400526			0.75	con rod bearing	12	AL
3054	353-7427	U5MB0034		STD	main bearing	10	AL
	353-7428	U5MB0034A		0.25	main bearing	10	AL
	353-7429	U5MB0034B		0.50	main bearing	10	AL
	353-7430	U5MB0034C		0.75	main bearing	10	AL
	353-2205	U5ME0034		STD	con rod bearing	8	AL
	353-2206	U5ME0034A		0.25	con rod bearing	8	AL
	353-2207	U5ME0034B		0.50	con rod bearing	8	AL
	353-2208	U5ME0034C		0.75	con rod bearing	8	AL
3056	353-7415	U5MB0030		STD	main bearing	14	AL
	353-7416	U5MB0030A		0.25	main bearing	14	AL
	353-7417	U5MB0030B		0.50	main bearing	14	AL
	353-7418	U5MB0030C		0.75	main bearing	14	AL
	353-2752	U5ME0035		STD	con rod bearing	12	AL
	353-2753	U5ME0035A		0.25	con rod bearing	12	AL
	353-2754	U5ME0035B		0.50	con rod bearing	12	AL
	353-2755	U5ME0035C		0.75	con rod bearing	12	AL

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Engine Model	OE No.	REF No. 1	REF No. 2	Size	Article	Pcs/Set	Lining Materil
C6.4	5I7588			STD	main bearing	2	CU
	5I7784			0.25	main bearing	2	CU
	5I7785			0.50	main bearing	2	CU
	5I7786			0.75	main bearing	2	CU
	294-1748			STD	con rod bearing	2	CU
	297-7648			0.25	con rod bearing	2	CU
	297-7649			0.50	con rod bearing	2	CU
	297-7650			0.75	con rod bearing	2	CU
	305-4928			STD	bushing	1	CU
	296-4663			STD	bushing	1	CU
	296-4673			STD	bushing	1	CU
3176,C32	232-3226			STD	con rod bearing	2	CU
	341-0060			.010	con rod bearing	2	CU



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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil
4D92 4D92-1,2,3	6140-21-8020	M403H	M856K	MS-1125GP	main bearing	10	CU
	6140-31-3040	R403H	R856K	CB-1125GP	con rod bearing	8	CU
	6140-21-8050	T403H	T856L	TW-1125K	Thrust Washer	3	CU
	6140-31-3131	P403H	P856L	PB-1125J	piston pin bushing	4	CU
4D94-2	6142-22-8010	M407H	M857K	MS-1125GP	main bearing	10	CU
	6140-31-3040	R403H	R856K	CB-1125GP	con rod bearing	8	CU
	6140-21-8050	T403H	T856L	TW-1125K	Thrust Washer	4	CU
	6140-31-3131	P403H	P856L	PB-1125J	piston pin bushing	4	CU
4D95,4D95L	6204-21-8010	M408H	M888K	MS-2608GP	main bearing	10	CU
	6204-31-3400	R408H	R888KS	CB-2608GP	con rod bearing	8	CU
	6204-21-8500	T408H	T888K	TW-2608GP	thrust washer	3	CU
	6204-21-1410	C408H	C888L	SH-2608K	camshaft bearing	3	CU
	6204-31-3130	P408H	P888L	PB-2608J	piston pin bushing	4	CU
4D105-3	6130-21-8000				main bearing	10	CU
	6130-31-3040				con rod bearing	8	CU
	6130-21-8500				Thrust Washer	4	CU
	6130-21-1410				camshaft bearing	1	CU
	6130-21-1420				camshaft bearing	1	CU
	6130-21-1430				camshaft bearing	1	CU
4D105,4D105-5	6134-21-8000	M404H	M859K	MS-2604 GP	main bearing	10	CU
	6136-31-3040	R404H	R859K	CB-2604GP	con rod bearing	8	CU
	6136-21-8050	T404A	T865L	TW-2601K	thrust washer	3	CU
	6136-21-1410	C404H	C859L	SH-2604K	camshaft bearing	3	CU
	6136-32-3130	P404H	P859L	PB-2604	piston pin bushing	4	CU
4D120,4D130	6112-23-8010	M401H	M852K	MS-1067GP	main bearing	10	CU
	6114-30-3500	R401H	R852K	CB-1067GP	con rod bearing	8	CU
	6112-23-8550	T401P	T852P	TW-1067BC	Thrust Washer	3	CU
	6110-23-1410				camshaft bearing	1	CU
	6110-33-3120				piston pin bushing	1	CU
6D95	6204-21-8100	M409H	M890K	MS-2607GP	main bearing	14	CU
	6207-31-3300	R409H	R890K	CB-2607GP	con rod bearing	12	CU
	6207-31-3600	R409H	R891K	CB-2607GP	con rod bearing	12	CU
	6207-31-3900				con rod bearing	12	CU
	6204-21-8050	T408H			Thrust Washer	3	CU
	6204-31-3130	P409H			piston pin bushing	1	CU
	6207-31-3130				piston pin bushing	1	CU
	6207-31-3530				piston pin bushing	1	CU
	6204-21-1420				camshaft bearing	1	CU
	6204-21-1430	C408H			camshaft bearing	1	AL
6D105 S6D105 S6D105-T 6D110 S6D110-T SA6D110-T	6136-21-8010	M405A	M865K	MS-2601GP	main bearing	14	CU
	6136-31-3040	R405A	R865K	CB-2601GP	con rod bearing	12	CU
	6138-31-3040	R405A	R866K	CB-2603GP	con rod bearing	12	CU
	6136-32-3040	R405A	R868K	CB-2610GP	con rod bearing	12	CU
	6136-21-8050	T404A	T865L	TW-2601K	Thrust Washer	3	CU
	6136-21-1410	C405H	C865L	SH-2601J	camshaft bearing	4	CU
	6136-32-3130	P405H	P866L	PB-2601	piston pin bushing	6	CU
6D125 S6D125-T SA6D125 6D125-1-R	6150-21-8010	M411H	M892K	MS-2612GP	main bearing	14	CU
	6150-31-3040	R411H	R892K	CB-2612GP	con rod bearing	12	CU
	6151-31-3040	R411H	R893K	CB-2612GP	con rod bearing	12	CU
	6150-21-8050				Thrust Washer	3	CU
	6150-21-1490				camshaft bearing	7	CU
	6150-31-3130				piston pin bushing	6	CU
6D108	6221-21-8010		M869K	MS-2621GP	main bearing	14	CU
	6221-31-3040		R869K	CB-2621GP	con rod bearing	12	CU
	6222-31-3040		R854K	CB-2621GP	con rod bearing	12	CU
	6221-21-8050				Thrust Washer	3	CU
	6221-21-1410				camshaft bearing	7	CU
	6221-31-3130				con rod bush	6	CU

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil
6D155 S6D155 -T SA6D155-T	6127-21-8010		M878K	MS-1127GP	main bearing	14	CU
	6127-31-3040		R878K	CB-1127GP	con rod bearing	12	CU
	6127-21-8051				Thrust Washer	4	AL
	6127-21-1490				camshaft bearing	7	AL
	6127-31-3131				con rod bush	6	CU
6D102	6736-21-8110				main bearing	14	CU
	6732-31-3410				con rod bearing	12	CU
6D107	6736-21-8110				main bearing	14	CU
	6754-31-3410 6732-31-3410				con rod bearing	12	CU
6D130	6610-21-8010	M402H	M880K	MS-1077GP	main bearing	14	CU
	6610-31-3040	R402H	R880K	CB-1077GP	con rod bearing	12	CU
	6710-31-3041	R406H	R88IK	CB-1077GP	con rod bearing	12	CU
	6610-21-8051	T402P	T880A	TW-1077AS	Thrust Washer	4	AL
6D140	6210-21-8010				main bearing	14	CU
	6261-21-8010				main bearing	14	CU
	6210-31-3040				con rod bearing	12	CU
	6210-32-3041				con rod bearing	12	CU
	6210-21-8050				thrust washer	3	CU
	6210-21-1490				camshaft bearing	7	CU
	6211-31-3130				piston pin bushing	6	CU
6D170	6162-23-8010				main bearing	14	CU
	6240-23-8010				main bearing	14	CU
	6162-33-3040				con rod bearing	12	CU
	6162-23-8050				thrust washer	4	CU
	6162-23-1490				camshaft bearing	7	CU
	6162-33-3130				piston pin bushing	6	CU
SA12V 140	6215-21-8001				main bearing	14	CU
	6215-31-3041				con rod bearing	24	CU
	6215-21-8050				Thrust Washer	3	CU
	6245-21-1482				camshaft bearing	1	CU
	6245-31-3130				piston pin bushing	1	CU
	6245-31-3140				piston pin bushing	1	CU



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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
C190 C190 C223 C223-T	5-11510-020	M153H	M4532K	MS-1138GP	main bearing	4	CU	forC190
						2/2	CU	
						2	CU	
	5-11510-036	M183H	M4536A	MS-1605GP	main bearing	4	CU	
						4	CU	
						2	CU	
	5-12271-005	R160H	R4536A	CB-1070GP	con rod bearing	8	CU	
	9-11581-048	T157H	T4650A	TW-1622GP	thrust washer	2	AL	
	9-11610-602	C160L1	C525A	SH-1070B	cam bushing	1:1:1	AL	
	5-11610-002	C160L1	C535A	SH-1605B	cam bushing	1:1:1	AL	
	9-12251-062	P160H	P526L	PB-1070J	pin bushing	4	CU	
	5-12251-005		P535L	PB-1605J	pin bushing	4	CU	
	8-94118-825		P534L		pin bushing	4	CU	
C221,C240	5-11510-021	M160H2	M4525K	MS-1610GP	main bearing	4	CU	
						4	CU	
						2	CU	
	5-12271-005	R160H	R4536K	CB-1070GP	con rod bearing	8	CU	
	9-11581-057	T160H	T4651A	TW-1070GP	thrust washer	2	AL	
	9-11610-032	C153L	C525A	SH-1070B	cam bushing	1:1:1	AL	C221
	5-11610-002	C160L1	C535A	SH-1605B	cam bushing	1:1:1	AL	C240
	9-12251-061	P157H	P503L	PB-1033J	pin bushing	4	CU	C221
	9-12251-062	P160H	P526L	PB-1070J	pin bushing	4	CU	C240
	5-12251-005		P535L	PB-1605J	pin bushing	4	CU	
C330	5-11510-002	M168H	M4634K	MS-1628GP	main bearing	10	CU	
	8-94153-512		M4654K		main bearing	10	CU	
	9-12271-608	R168H	R4634K	CB-1603GP	con rod bearing	8	CU	
	9-11585-065	T169H	T433K*	TW-1100GP	thrust washer	2/2	CU	
	9-11685-601	T168H	T434K*	TW-1129GP	thrust washer	2/2	CU	
	9-11691-048	C168L	C528A1	SH-1100B	cam bushing	1/3	AL	
	9-11691-048	C177L	C434A1	SH-1163B	cam bushing	1/2	CU	
	9-12251-059	P170H	P528L	PB-1100J	pin bushing	4	CU	
	5-12251-010	P177H	P529L	PB-1129J	pin bushing	4	CU	
Da640, DA640PP DA640PT DA640PN DA640PR DA640-T	9-11510-136	M155H	M4007K	MS-1052GP	main bearing	(1:1):(6:6)	CU	DA640PN,DA640PR[M151H,R155H] DA640PP,DA640PT[M155H,R151H] DA640-T[M/R151H]
	9-12271-146	R155H	R4007K	CB-1052GP	con rod bearing	6/6	CU	
	9-11510-109	M154H			main bearing	(1:1):(5:5):(1:1)	CU	
	9-11510-189	M151H	M4008K		main bearing	(6:5:1):(1:1)	CU	
	9-12271-204	R151H	R4008K		con rod bearing	6/6	CU	
	9-11515-170	T155H	T407K	TW-1052GP	thrust washer	2/2	CU	
	9-12251-084		P407L	PB-1052J	pin bushing	6	CU	
E120 E120H E120-T	1-11510-033	M167H2	M4035K	MS-1154GP	main bearing	(5/5):(1/1):(1:1)	CU	
	1-12271-023	R167H1	R4035K	CB-1154GP	con rod bearing	12	CU	
	9-11515-216	T167H	T4035K	TW-1102GP	thrust washer	2/2	CU	
	9-12251-088	P167H	P435L	PB-1154J	pin bushing	6	CU	
4BA1 UM4BA1 4BB1 UM4BB1 4BC1 4BC2 UM4BC2 4BE1 4BE2	5-11510-002	M168H	M4634K	MS-1628GP	main bearing	10	CU	4BA1 4BB1 (M4634K,M4632K,M4654K,M4631K) 4BC1(M4632K,M4631K)4BC2 4BE1 4BE2(M4631K)
	5-11510-051		M4632K	MS-1163GP	main bearing	8:(1:1)	CU	
	5-11510-065		M4654K		main bearing	10	CU	
	8-94114-564	M177H1	M4631K	MS-1603GP	main bearing	9/1	CU	
	9-12271-608	R168H1	R4634K	CB-1603GP	con rod bearing	8	CU	
	9-11585-601	T168H	T434K*	TW-1129GP	thrust washer	2/2	CU	
	8-94114-565	T173H	T427A	TW-1155GP	thrust washer	2/2	AL	
	5-87810-017	C168L	C528A1	SH-1100B	cam bushing	1/3	AL	
	9-11611-048	C177L	C434A1	SH-1163B	cam bushing	1/2	AL	
	9-12251-059	P170H	P528L	PB-1100J	pin bushing	4	CU	for4BA1
	1-12251-027	P168H	P434L	PB-1163J	pin bushing	4	CU	for4BB1 4BC2
	5-12251-010	P177H	P529L	PB-1129J	pin bushing	4	CU	for4BC1

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
4BD1 4BD1-T UM4BD1 4BD2 4BG1 UM4BG1	5-11510-054	M178H	M4640K		main bearing	9/1	CU	4BD1
	5-11510-064	M190H	M4641K	MS-1604GP	main bearing	9/1	CU	4BD1 4BD1-T 4BG1
	8-94132-813		M4637A		main bearing	8/2	CU	
	9-12271-608	R168H1	R4634K	CB-1603GP	con rod bearing	8	CU	
	1-11680-001	T173H	T428K*	TW-1155GP	thrust washer	2/2	CU	
	8-94114-565	T173H	T427A	TW-1155GP	thrust washer	2/2	CU	
	9-11611-048	C177L	C434A1	SH-1163B	cam bushing	1/2	AL	
	1-12251-027	P168H	P434L	PB-1163J	pin bushing	4	CU	
4EC1 4EC1-T	8-94151-600	M187A	M4540A	MS-1624GP	main bearing	5/5	AL	4EC1
	8-94314-253/255	R187A	R4540A	CB-1624A	con rod bearing	8	AL	
	8-94154-014	M194A	M4541A	MS-1625GP	main bearing	5/5	AL	for 4EE1-T 4EC1-T
	8-94381-678/680	R187A	R4540A	CB-1624A	con rod bearing	8	AL	
4EC1-T(NAVI)	8-94321-611	T187A	T4541A	TW-1625A TW-1624GP	thrust washer	2	AL	
	8-94321-679-0		T4544A	TW-1626A	thrust washer	2	AL	
4EE1-T	8-94251-216	P187H	P540L	PB-1624J	pin bushing	4	CU	
	8-94114-054		P541L	PB-1625J	pin bushing	4	CU	
	8-94369-904		P4544L	PB-1636J	pin bushing	4	CU	for 4EE1-T
4HF1 4HG1 4HJ1 4HE1-T	8-97045-915	M801H	M4547K	MS-1631GP	main bearing	5/5	CU	
	8-97045-800/1	R801H	R4547K	CB-1631GP	con rod bearing	8	CU	
	8-97131-186		R4002K	CB-1640GP	con rod bearing	8	CU	
	8-94396-980	T801A	T4547A	TW-1631A	thrust washer	3	CU	
	8-94363-380	C801A1	C4547A	SH-1631A	cam bushing	10	AL	for 4HF1
	8-97112-638		C4548A	SH-1640A	cam bushing	10	AL	for 4HG1
			C4549A		cam bushing	10	AL	for 4HJ1
	1-12251-036	P801H	P4547L	PB-1631J	pin bushing	4	CU	
	8-94394-613		P4548L		pin bushing	4	CU	for4HE1-T
6HE1 6HH1 6HE1-T	8-94393-327	M802H	M4000K	MS-1632GP	main bearing	7/7	CU	
	8-97045-800/1	R802H	R4000K	CB-1632GP	con rod bearing	6/6	CU	
	8-97131-186		R4005K	CB-1639GP	con rod bearing	12	CU	R4005K for 6HE1-T
	8-94396-980	T801A	T4547A	TW-1631A	thrust washer	3	AL	
	8-94363-380		C4000A	SH-1632A	cam bushing	14	AL	
	8-94390-311		C4005K		cam bushing	14	AL	for 6HE1-T
	1-12251-036		P4000L	PB-1632J	pin bushing	6	CU	
	8-94394-613		P4005L		pin bushing	6	CU	for 6HE1-T
4JA1 UM4JA1 4JC1 4JD1 4JE1 4JF1 D201	8-94168-553	M184A1	M4650A	MS-1622GP	main bearing	5/5	AL	
	8-94125-747	R184A1	R4650A	CB-1622GP	con rod bearing	8	AL	
	8-94168-555	T184A	T4650A	TW-1622A	thrust washer	2	AL	
	8-94168-556	C184A1	C4650A	SH-1622B	cam bushing	1/2	AL	
	8-94247-968	P184H1	P450L	PB-1622J	pin bushing	4	CU	for 4JA1.4JC1 4JD1
4JB1 4JB1-T UM4JB1 4JG2	8-94168-552	M185A	M4651A	MS-1623GP	main bearing	5/5	AL	
	8-94125-747	R184A1	R4650A	CB-1622GP	con rod bearing	8	AL	
	8-94453-520	T185A	T4651A	TW-1070GP	thrust washer	2	AL	
	8-94168-556	C184A1	C4650A	SH-1622B	cam bushing	1/2	AL	
	8-94247-968	P184H1	P450L	PB-1622J	pin bushing	4	CU	
	8-84457-158		P4651L	PB-1623J	pin bushing	4	CU	
4ZA1 4ZB1 4ZB1-T 4ZC1 4ZC1-T 4ZD1	8-94251-263	M172H	M5022A	MS-1620GP	main bearing	10	AL	
	8-94414-305/306	R171H	R522A	CB-1620GP	con rod bearing	8	AL	
	8-94251-265	T171A1	T521A	TW-1616A	thrust washer	2	AL	
4ZE1	8-94446-580/582	M197A	M5523A	MS-1627GP	main bearing	5/5	AL	
	8-94440-093/095	R172A1	R523A	CB-1627GP	con rod bearing	8	AL	
	8-94251-265	T171A1	T521A	TW-1616A	thrust washer	2	AL	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
6BB1 UM6BB1	5-11510-048	M173H1	M4027K	MS-1611GP	main bearing	13/1	CU	
	1-11510-074	M182H1	M4029K	MS-1612GP	main bearing	7/7	CU	
	9-11510-606	M169H	M4036K	MS-1629GP	main bearing	14	CU	
	9-12271-608	R169H	R4036K	CB-1612GP	con rod bearing	12	CU	
	1-11680-001	T173H	T428K*	TW-1155GP	thrust washer	2/2	CU	
	9-11585-601	T168H	T434K*	TW-1129GP	thrust washer	2/2	CU	
	9-11691-048	C173L	C433A1	SH-1129B	cam bushing	1/5	AL	
	5-12251-006	P173H	P436L	PB-1155J	pin bushing	6	CU	
6BD1-T, 6BD1 6BF1-T 6BF1 UM6BD1	5-11510-048	M173H1	M4027K	MS-1611GP	main bearing	13/1	CU	
	1-11510-036		M4028K		main bearing	14	CU	M4028Kfor 6BD1-T 6BF1-T
6BGI 6BG1-T UM6BG1	1-11510-074	M182H1	M4029K	MS-1612GP	main bearing	7/7	CU	6BG1 6BG1-T UM6BG1(M4029K)
	9-12271-608	R169H	R4036K	CB-1612GP	con rod bearing	12	CU	
	1-11680-001	T173H	T428K*	TW-1155GP	thrust washer	2/2	CU	
	9-11691-048	C173L	C433A1	SH-1129B	cam bushing	1/5	AL	
	5-12251-006	P173H	P436L	PB-1155J	pin bushing	6	CU	
6QA1 6QA2	1-11510-037	M188H	M4013K	MS-1609GP	main bearing	(5:5):(1:1):(1:1)	CU	
	1-12271-026	R188H	R4013K	CB-1609GP	con rod bearing	12	CU	
	9-11515-198	T163H	T420K	TW-1071GP	thrust washer	4	CU	
	9-12251-073		P420L	PB-1092J	pin bushing	6	CU	
6QA1 6QA2 UM6QA1 6QB2	1-11510-066		M4014K	MS-1636GP	main bearing	(5:5):(1:1):(1:1)	CU	
	1-12271-047		R414K	CB-1636GP	con rod bearing	12	CU	
	1-11510-038		T414K	TW-1636K	thrust washer	4	CU	
	9-12251-073		P420L	PB-1092J	pin bushing	6	CU	
6RA1 6RA1-T	1-11510-039	M195H	M448K	MS-1613GP MS-1154GP	main bearing	(5:5):(1:1):(1:1)	CU	
	1-12271-029	R167H	R4035K	CB-1154GP	con rod bearing	12	CU	
	1-12271-055		R449K	CB-1614GP	con rod bearing	12	CU	
	1-11515-040	T167H	T4048K	TW-1613K	thrust washer	4	CU	
	9-12251-088	P167H	P435L	PB-1154J	pin bushing	6	CU	
6RB1 UM6RB1 6RB1-T 6RB2	1-11510-039	M195H	M4048K	MS-1613GP MS-1154GP	main bearing	(5:5):(1:1):(1:1)	CU	
	1-12271-028	R195H	R4048K	CB-1613GP	con rod bearing	6/6	CU	
	1-11515-040	T167H	T4048K	TW-1613K	thrust washer	4	CU	
	1-12251-025		P4048L	PB-1613J	pin bushing	6	CU	
6SA1-T UM6SA1	1-11510-067	M186H	M444K	MS-1618GP	main bearing	7/7	CU	
	1-12271-050	R186H	R444K	CB-1618GP	con rod bearing	12	CU	
	1-11599-005	T186H	T444K	TW-1618K	thrust washer	4	CU	
	1-12251-016	P186H	PP4044L	P1-1156J	pin bushing	6	CU	
6SA1	1-11510-047		M4043K	MS-1634GP	main bearing	7/7	CU	
	1-12271-020		R4043K	CB-1634GP	con rod bearing	12	CU	
	1-11515-019		T4043K	TW-1634K	thrust washer	4	CU	
6SD1 6SD1-T UM6SD1	1-11510-067	M186H	M444K	MS-1618GP	main bearing	7/7	CU	
	1-12271-060	R189H	R445K	CB-1635GP	con rod bearing	12	CU	
	1-11599-005	T186H	T444K	TW-1618K	thrust washer	4	CU	
	1-12251-021		P445L	PB-1635J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
8PA1 UM8PA1 8PB1 UM8PB1 8PB1-T 8PC1 8PC1-T 10PA1 10PB1 UM10PB1 10PB1-T 10PC1 12PA1 12PB1 UM12PB1 12PB1-T 12PC1	1-11510-003	MP179H1	MP4038K	M1-1156GP	main bearing	8PA/B/C1:5/5 10PA/B/C1:6/6 12PA/B/C1:7/7	CU	
	1-12271-008	RP179H1	RP4038K	C1-1156GP	con rod bearing	8PA/B/C1:8/8 10PA/B/C1:10/10 12PA/B/C1:12/12	CU	
	1-11515-004	T179H	T438K	TW-1156K	thrust washer	2/2	CU	
	1-12251-001	P179H	PP438L		pin bushing	8PA/B/C1: 8 10PA/B/C1: 10 12PA/B/C1: 12	CU	
	1-12251-011		PP4044L	P1-1156J	pin bushing	8PA/B/C1:8 10PA/B/C1:10 12PA/B/C1:12	CU	
8PD/E1 10PD/E1 12PD/E1 UM12PD1	1-11510-078	MP198H	MP4040K	M1-1630GP	main bearing	8PD/E1:5/5 10PD/E1:6/6 12PD/E1:7/7	CU	
	1-12271-043	RP198H	RP4040K	C1-1630GP	con rod bearing	8PD/E1:8/8 10PD/E1:10/10 12PD/E1:12/12	CU	
	1-11510-098		T4040A	TW-1630K	thrust washer	4	AL	
	1-12251-033		PP4040L	P1-1630J	pin bushing	8PD/E1: 8 10PD/E1: 10 12PD/E1: 12	CU	



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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
Ed30 ED304 ED33 ED33-T ED35	12207-J2000	M062H	M324K	MS-1180GP MS-1122GP	main bearing	5/4/1	CU	for ED30 Ed304
	12117-J2000	R062H	R3023K	CB-1122GP	con rod bearing	8		
	12207-J6500	M082H	M324K	MS-1180GP	main bearing	5/5	CU	
	12117-Z5500	R082H	R3026K	CB-2801GP CB-1180GP	con rod bearing	8	CU	
	12280-J2025	T062H	T3023A	TW-1122J	thrust washer	2/2	CU	
FD33 FD33-T FD35 FD35-T	13002-J2000		C3023A	SH-1122B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	13002-T9000		C3024A		cam bushing	5	AL	
	12030-J2000		P323L	PB-1122J	pin bushing	4	CU	
	12030-Z5000		P324L	PB-1180J	pin bushing		CU	
ED6 FD6 FD6-T	12207-Z5325	M065H	M3327K	MS-1135GP	main bearing	7/7	CU	
	12117-Z5510	R065H	R3327K	CB-2802GP	con rod bearing	12	CU	
	12280-J2025	T062H	T3023A	TW-1122J	thrust washer	2/2	AL	
	13003-Z5025		C3327A	SH-1135B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	13003-Z5028		C3328R	SH-2800K	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-Z5000		P327L	PB-1135J	pin bushing	6	CU	
FE6,FE6-T	12213-Z5500	M092H	M3329K	MS-2800GP	main bearing	7/7	CU	
	12117-Z5560	R092H	R3329K	CB-2800GP	con rod bearing	12	CU	
	12280-Z5225~7	T092H	T3329L	TW-2800J	thrust washer	2/2	CU	
				TW-2809J	thrust washer	4	CU	
	13003-Z5025		C3327A	SH-1135B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-95000	P067H	P310L	PB-1083J	pin bushing	6	CU	
ND6 NDT04 ND604 ND6-T NE6 NET04 NE604 NE6-T	12213-95025	M067H1	M3333K	MS-1193GP	main bearing	1:1	CU	
					main bearing	5:5	CU	
					main bearing	2	CU	
	12117-95007	R067H1	R3310K	CB-1083GP	con rod bearing	12	CU	
	12280-95025	T067H	T310L	TW-1083K	thrust washer	4	CU	
	13003-95026		C310A	SH-1083B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-95000	P067H	P310L	PB-1083J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
Pd6 PD064 PD6T04 PD6H PD6-T PE6 PE6H PE6H-T PE6-T PE604 PE6T04 PP6H	12212-96000	M076H1	M3307K	MS-1084GP	main bearing	1:1	CU	
					main bearing	5:5	CU	
					main bearing	2	CU	
	12111-96012	R076H	R3307K	CB-1084GP	con rod bearing	12	CU	
	12280-96025	T076H	T3307K	TW-1084K	thrust washer	2:2	CU	
	12280-96126/25	T095H	T3308K	TW-2803k	thrust washer	2/2	CU	for PE6-T
	13003-96026		C3207A	SH-1084B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	13003-96227		C3209A	SH-2806B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-96000	P076H	P307L	PB-1084J	pin bushing	6	CU	
Pf6 PF6-T PG6 PG6H PG6-T	12213-96526		M3305K	MS-2803GP	main bearing	(1:1):(5:5):(2:2)	CU	
	12111-96506		R3305K	CB-2803GP	con rod bearing	12	CU	
	12117-96576		R3306K	CB-2810GP	con rod bearing	12	CU	
	12117-96608		R3308K	CB-2811GP	con rod bearing	12	CU	Pg6 PG6H
	12280-96125/26		T3308K	TW-2803K	thrust washer	2/2	CU	
	12280-97225		T3305K	TW-2807K	thrust washer	2/2	CU	
	13003-96127		C3305R	SH-2803K	cam bushing	1	CU	
					cam bushing	1	CU	
					cam bushing	1	CU	
					cam bushing	1	CU	
					cam bushing	1	CU	
	13003-97325		C3306R	SH-2807K	cam bushing	5	CU	
	13003-97326		C3307R	SH-2808K	cam bushing	5	CU	Pg6 PG6H
	12030-96002		P3305L	PB-2803J	pin bushing	6	CU	
Qd32 QD32-T TD23 TD25 TD27 TD27-T	12207-43G10	M087H	M3035A	MS-1190GP	main bearing	5/5	CU	
	12111-43G01	R089H	R3036K*	CB-1190GP	con rod bearing	8	CU	
	12111-02N00	R080H	R3035A	CB-1192GP	con rod bearing	8	CU	FOR TD23 TD25 Td27
	12280-37525	T080H1	T3020A	TW-1028GP	thrust washer	2/2	CU	
	13002-43G00	C087A	C3036A	SH-1190B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-2W200		P3029L	PB-2805J	pin bushing	4	CU	
	12030-2W200		P3029L1		pin bushing	4	CU	
	12030-02N00		P335L	PB-1192J	pin bushing	4	CU	FOR TD23
	12030-43G00	P087H1	P336L	PB-1190J	pin bushing	4	CU	FOR TD25 TD27~'89
	12030-31N00		P3030L	PB-1194J	pin bushing	4	CU	FOR TD27
RD8 RD8-T RE8 RF8	12212-97525	M063H1	M3312K	MS-1118GP	main bearing	(4:4):(1:1)	CU	
	12212-97725	M090H1	M3317K	MS-1186GP	main bearing	(4:4):(1:1)	CU	
	12213-97069	MP090H1	M3321K	MS-1197GP	main bearing	5/5	CU	
	12117-97000	RP063H1	R3312K	CB-1118GP	con rod bearing	2/2	CU	
	12280-97025	T063H	T312L	TW-1118K	thrust washer	16	CU	
	13003-97128		C3311A	SH-1118B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-97000	P063H	PP312L1*4	PB-1118J	pin bushing	8	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
RF8-T RG8 RH8	12213-97160		M3324K	MS-2812GP	main bearing	10	CU	
	12117-97075		R3324K	CB-2812GP	con rod bearing	16	CU	
	12280-97005		T3325K	TW-2812K	thrust washer	4	CU	
	13308-97508		C3324R	SH-2812K	cam bushing		CU	
	12030-97003		P3324L	PB-2812J	pin bushing		CU	
RH10			M3325K	MS-2813GP	main bearing	12	CU	
			R3325K	CB-2813GP	con rod bearing	20	CU	
	12280-97005		T3325K	TW-2812K	thrust washer		CU	
	13303-97007		C3325R	SH-2813K	cam bushing		CU	
	12030-97005		P3325L		pin bushing		CU	
UD3 UD33 UD4 UD43 UD5 UD6 UD7	12215-90025	MP075H	MP3325K		main bearing	UD3/33:4/4;UD 4/43:5/5 UD5:6/6;UD6:7/ 7;UD7:8/8	CU	
	12111-90126	RP075H	RP3325K		con rod bearing	UD3/33:3/3;UD 4/43:4/4 UD5:5/5;UD6:6/ 6;UD7:7/7	CU	
	12290-90007	T075H	T3325K		thrust washer		CU	
RD10 RD10-T RE10 RF10	12212-97286	M064H1	M3318K	MS-1119GP	main bearing	(5:5):(1:1)		for RD10 RD10-T
	12212-97826	M091H1	M3316K	MS-1187GP	main bearing	(5:5):(1:1)	CU	for RD10 RD10-T Re10
	12213-97069	MP090H1	M3322K	MS-1198GP	main bearing	6/6	CU CU	for RD10 RD10-T RE10 Rf10
	12117-97008	RP063H1	R3314K	CB-1119GP	con rod bearing	20	CU	
	12280-97025	T063H	T312L	TW-1118K	thrust washer	2/2	CU	
	13003-97225		C3313A	SH-1119B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-97000	P064H	PP312L1*5	PB-1119J	pin bushing	10	CU	
SD20 SD22(220C,E20) SD23 SD25 SD25-T	12207-37502	M080H1	M3020K*	MS-1028GP	main bearing		CU	Sd20 SD22
	12207-V1700	M085H	M321K*	MS-1182GP	main bearing	3/3 10	CU	SD20 SD22 SD23 SD25/-T
	12117-Y5200	R080H	R3020A	CB-1029GP	con rod bearing	8	CU	
	12280-37525	T080H1	T3020A	TW-1028GP	thrust washer	2/2	CU	
	13002-37500/1	C052L	C205A	SH-1003B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-37500	P080H	P3020L	PB-1029J	pin bushing	4	CU	
	12030-37500/NB	P080HS			pin bushing	4	CU	
	12030-L2000	P085H	P321L	PB-1182J	pin bushing	4	CU	
	12030-L2000/NB	P085HS			pin bushing	4.000	CU	
SD33 SD33-T	12207-61504	M081H1	M3025K*	MS-1058GP	main bearing	4/4	CU	
	12117-Y5200	R081H	R3025K*	CB-1058GP	con rod bearing	12	CU	
	12280-37525	T080H1	T3020A	TW-1028GP	thrust washer	2/2	CU	
	13002-90010		C325A	SH-1191B	cam bushing	1	AL	
					cam bushing	2	AL	
					cam bushing	1	AL	
	13002-61500	C081L	C3025A	SH-1004B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-37500	P081H	P3025L	PB-1058J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
TD42	12207-06J10	M096H	M3038K*	MS-1195GP	main bearing	7/7	CU	
	12111-43G00	R096H	R3038K*	CB-1195GP	con rod bearing	12	CU	
	12280-37525	T080H1	T3020A	TW-1028GP	thrust washer	2/2	CU	
	13002-06J00/1		C3038A	SH-1195B	cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
					cam bushing	1	AL	
	12030-43G00	P096H1	P338L	PB-1195J	pin bushing	6	CU	
	12030-43G00/NB	P096H1S			pin bushing	6	CU	
	12030-31N00		P3032L	PB-1196J	pin bushing	6	CU	



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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
DK10 DK10-T DK20 DK20-T ED100 ED100-T ER100 ER200	11701-1110	M211H	M111OK	MS-1149GP	main bearing	(2:2):(4:4):(1:1)	CU	
				MS-1054GP	main bearing	4:1:(1:1)	CU	
	13201-1271	R207H1	R1112K	CB-2104GP	con rod bearing	6/6	CU	
	11011-1050	T203P	T1110K	TW-1054BC	thrust washer	4	CU	
	11011-1200	T211P	T1112K	TW-1149BC	thrust washer	3	CU	
	11812-1010		C111A1	SH-1149B	cam bushing	7	AL	
	13272-1190		P112L1	PB-1116J	pin bushing	6	CU	
				PB-1149J	pin bushing	6	CU	
DM100 DQ100	11701-1170	M202H	M1032K	MS-1059GP	main bearing	(2:2):(4:4):(1:1)	CU	
	13201-1140	R202H	R1032K	CB-1059GP	con rod bearing	12	CU	
	11011-1080	T202H	T1032K	TW-1059GP	thrust washer	4	CU	
	11812-1040	C202L	C132A	SH-1059B	cam bushing	5	AL	
	13272-1130	P202H	P132L	PB-1059J	pin bushing	6	CU	
DS50. DS60. DS70 DS80	11701-1360	M201H	M1100K	MS-1038GP	main bearing	(2:2):(4:4):(1:1)	CU	
	13201-1230	R201H	R1100K	CB-1039GP	con rod bearing	12	CU	
	11011-1130	T201H	T1100K	TW-1038K	thrust washer	4	CU	
	11812-1060		C100A	SH-1038B	cam bushing	5	AL	
	13272-1180		P100L1	PB-1039J	pin bushing	6	CU	
EB100 EB100H EB200 EB300 EB400	11701-1160	M204H1	M1120K	MS-1079GP	main bearing	(2:2):(4:4):(1:1)	CU	
	13201-1111	R204H2	R1122K	CB-2100GP	con rod bearing	12	CU	
	11011-1060	T204P	T1122K	TW-1079BC	thrust washer	4	CU	
	11011-1060	T213P	T1122K	TW-1120BC	thrust washer	3	CU	
	11812-1020				cam bushing	1	AL	
	11822-1020				cam bushing	1	AL	
	11832-1020		C120A	SH-1079B	cam bushing	1	AL	
	11842-1020				cam bushing	1	AL	
	11852-1020				cam bushing	1	AL	
	13272-1230		P120L	PB-1079J	pin bushing	6	CU	
	13272-1100		P121L	PB-1120J	pin bushing	6	CU	
EF100 EF100-T EF300 EG100 EF350,EF500,EF700 EF700-T	11701-1431	M210H1	M127K1	MS-1144GP	main bearing	5/5	CU	
	11701-1023		M128K	MS-1148GP	main bearing	5/5	CU	for EF350/500/700EF700-T
	13201-1021	R210H1	R1127K	CB-1144GP	con rod bearing	8/8	CU	
	11011-1030	T210H	T1127K	TW-1144K	thrust washer	3	CU	
	11011-1150	T212H	T1128K	TW-1148K	thrust washer	3	CU	
	11811-1020		C127A	SH-1144B	cam bushing	2/3	AL	
	13272-1050	P210H	P127L1	PB-1144J	pin bushing	8	CU	
EF550 EF750 EF750-T F17C/T F17D/T F17E F20C	11701-1580	M220H1	M123K	MS-2107GP	main bearing	5/5	CU	
	13201-1380	R220H1	R123K	CB-2107GP	con rod bearing	8/8	CU	
	11011-1210	T221H	T1123K	TW-2107K	thrust washer	3	CU	
	11011-1260	T220H	T1104K	TW-2114K	thrust washer	4	CU	
	11811-1170		C123A	SH-2107A	cam bushing	2/3	AL	
	13272-1240		P123L	PB-2107J	pin bushing	8	CU	
F21C	11701-2370A	M124K	M1158K	MS-2120GP	main bearing	5/5	CU	
	13201-1380C	R220H1	R123K	CB-2107GP	con rod bearing	8/8	CU	
	11011-1300A	T1124K	T1158K	TW-2120K	thrust washer	3	CU	
	11811-1170		C123A	SH-2107A	cam bushing	2/3	AL	
	13272-1510	P124L	P1158L		pin bushing	8	CU	
EC100	11701-1260	M205H	M1149K	MS-1140GP	main bearing	4:8:2	CU	
	13201-1170	R205H1	R145K1	CB-1081GP	con rod bearing	12	CU	
	11011-1110	T205H	T1145K	TW-1081GP	thrust washer	4	CU	
	11812-1030	C205L	C145A	SH-1081B	cam bushing	4	AL	
	13272-1140	P205H	P145L	PB-1081J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
EH100 EH300 EH500 EH700 EH700-T	11701-1271	M208H1	M1149K	MS-1140GP	main bearing	4:8:2	CU	
	13201-1180	R206H1	R1148K	CB-1165GP	con rod bearing	6/6	CU	for EH100
	13201-1190	R209H1	R149K	CB-1140GP	con rod bearing	6/6	CU	for Eh300
	13201-1261	R208H1	R1140K	CB-2101GP	con rod bearing	6/6	CU	for EH500 EH700 EH700-T
	11011-1110	T205H	T1145K	TW-1081GP	thrust washer	4	CU	
	11812-1030	C205L	C145A	SH-1081B	cam bushing	4	AL	for EH100 Eh300
	11812-1051				cam bushing	1	AL	
	11822-1050				cam bushing	1	AL	
	11832-1050				cam bushing	1	AL	
	11842-1030		C1140A	SH-2101A	cam bushing	1	AL	
	11852-1040				cam bushing	1	AL	
	11862-1020				cam bushing	1	AL	
	11872-1030				cam bushing	1	AL	
			C1108A	SH-2108A	cam bushing	7	AL	
	13271-1030		P148L1	PB-1139J	pin bushing	6	CU	
	13272-1030		P149L1	PB-1140J	pin bushing	6	CU	
	13272-1220	P208H1	P1108L	PB-2108J	pin bushing	6	CU	
EK100 EK100-T EK200 EK130-T K13D K13U K130-T K13C K13C-T	11701-1013	M214H1	M106K	MS-2102GP	main bearing	7/7	CU	
	13201-1012	R214H1	R1106K	CB-2102GP	con rod bearing	6/6	CU	
	13201-1610	R225H	R107K	CB-2112GP	con rod bearing	6/6	CU	FOR K13C K13C-T
	11011-1011	T214H	T1106K	TW-2102K	thrust washer	3	CU	For EK100
	11011-1250		T1107K	TW-2112K TW-2102K	thrust washer	4	CU	for K13D
	11011-1360A		T1117K	TW-2123K	thrust washer	3	CU	
	11811-1190				cam bushing	1	AL	
	11821-1200				cam bushing	1	AL	
	11831-1140				cam bushing	1	AL	
	11841-1130		C106A	SH-2102A	cam bushing	1	AL	
	11851-1090				cam bushing	1	AL	
	11861-1060				cam bushing	1	AL	
	11871-1060				cam bushing	1	AL	
	13272-1010		P106L	PB-2102J	pin bushing	6	CU	
	13272-1320		P107L	PB-2104J	pin bushing	6	CU	FOR K13C K13C-T
EL100 EL100-T EM100 EP100 EP100-T PO9B-T M10U	11710-1460	M215H	M1143K	MS-2103GP	main bearing	7/7	CU	
	13201-1312	R215H	R137K	CB-2103GP	con rod bearing	6/6	CU	for EL100 EL100-T
	13201-1400	R223H	R138K	CB-2106GP	con rod bearing	12	CU	for Em100
	13201-1410	R221H	R143K	CB-2106GP	con rod bearing	12	CU	for EP100 EP100-T PO9B-T
	13201-1490	R222H	R142K	CB-2113GP	con rod bearing	12	CU	for EP100 EP100-T PO9B-T M10U
	11011-1180	T215H	T1137K	TW-2103GP	thrust washer	4	CU	
	11011-1220	T219H	T1138K	TW-2105GP	thrust washer	4	CU	
	11811-1070				cam bushing	1	AL	FOR PO9C-T
	11821-1070				cam bushing	1	AL	
	11831-1060				cam bushing	1	AL	
	11841-1020		C137A	SH-2103A	cam bushing	1	AL	
	11851-1050				cam bushing	1	AL	
	11861-1040				cam bushing	1	AL	
	11871-1050				cam bushing	1	AL	
	11811-1070				cam bushing	1	AL	
	11831-1060		C141A	SH-2113A	cam bushing	1	AL	
	11851-1050				cam bushing	1	AL	
	11871-1050				cam bushing	1	AL	
	13272-1200		P137L	PB-2103J	pin bushing	6	CU	for EL100 EL100-T
	13272-1250		P138L	PB-2105J	pin bushing	6	CU	for Em100
	13272-1260		P143L	PB-2113J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
P11	11710-1460	M215H	M1143K	MS-2103GP	main bearing	7/7	CU	P11C
	13201-1880B		R1150K	CB-2122GP	con rod bearing	6/6	CU	
	11701-1870A		M1144K		main bearing		CU	PO9C-T
	13201-1490	R222H	R142K	CB-2113GP	con rod bearing	12	CU	
	11011-1330A		T1150K	TW-2122K	thrust washer		CU	
	11811-1070				cam bushing	1	AL	
	11821-1070				cam bushing	1	AL	
	11831-1060				cam bushing	1	AL	
PO9C-T	11841-1020		C137A	SH-2103A	cam bushing	1	AL	
	11851-1050				cam bushing	1	AL	
	11861-1040				cam bushing	1	AL	
	11871-1050				cam bushing	1	AL	
	13271-1390		P1144L		pin bushing		CU	
	13271-1460		P1150L		pin bushing		CU	
HO6C HO7C HO6B-T HO6C-T HO7C-T	11701-1790	M218H1	M1108K	MS-2108GP	main bearing	(3:3):(4:4)	CU	
	13201-1460	R219H1	R108K	CB-2108GP	con rod bearing	6/6	CU	
	13201-1580	R218H1	R109K	CB-2111GP	con rod bearing	6/6	CU	
	13201-1631	R224H1	R1113K	CB-2115GP	con rod bearing	6/6	CU	for HO7D
	11011-1270	T218H	T1108K	TW-2108K	thrust washer	4	CU	
	11812-1051				cam bushing	1	AL	
	11822-1110				cam bushing	1	AL	
	11832-1080				cam bushing	1	AL	
	11842-1080		C1108A	SH-2108A	cam bushing	1	AL	
	11852-1060				cam bushing	1	AL	
HO7D	11862-1040				cam bushing	1	AL	
	11872-1030				cam bushing	1	AL	
	11812-1051				cam bushing	1	AL	
	11832-1080		C1109A	SH-2111A	cam bushing	1	AL	
	11852-1060				cam bushing	1	AL	
	11872-1030				cam bushing	1	AL	
	13272-1270	P208H1	P1108L	PB-2108	pin bushing	6	CU	
HO6C-T1	11701-2290A		M1109K		main bearing		CU	
	13201-1600A	R218H1	R109K	CB-2111GP	con rod bearing	6/6	CU	
			C1110A		cam bushing	7	AL	
	13272-1270	P208H1	P1108L	PB-2108	pin bushing	6	CU	
JO5C JO7C JO5C-T1 JO8C	11701-2160A	P208H1	MP1104K	M1-2117GP	main bearing	5/5	CU	
	13201-1780A	MP224H	RP1104K	C1-2117GP	con rod bearing	4/4	CU	for JO5C JO7C
	13201-1790A	RP224H1	RP1105K	C1-2118GP	con rod bearing	4/4	CU	for JO5C-T1
	13201-1631		R1113K	CB-2115GP	con rod bearing	6/6	CU	for Jo8c
	11901-1010A	R224H1	C1104A	SH-2117A	cam bushing	6/2	AL	
	13272-1300B		P1104/5/6L		pin bushing	4	CU	
JO8C-T1	11701-2110A		M1106K		main bearing	7/7	CU	
	13201-1790A		RP1105K	C1-2118GP	con rod bearing	6/6	CU	
WO4D WO4D-T	11701-1611	M216H	M133K	MS-2109GP	main bearing	10	CU	
	13201-1430	R216H	R133K1	CB-2109GP	con rod bearing	8	CU	
	13201-1540						CU	
	11011-1240		T1033K	TW-2109GP	thrust washer	2/2	CU	
WO4C-T	11811-1180				cam bushing	1	AL	
	11821-1190		C133A	SH-2109B	cam bushing	1	AL	
	11831-1130				cam bushing	1	AL	
	13272-1280	P216H	P133L	PB-2111J PB -2109J	pin bushing	4	CU	
WO6D WO6D-T WO6E	1170-1630	M217H	M134K	MS-2110GP	main bearing	14	CU	
	13201-1450	R217H	R134K1	CB-2110GP	con rod bearing	12	CU	
	11011-1240		T1033K	TW-2109GP	thrust washer	2/2	CU	
	11811-1180				cam bushing	1	AL	
	11821-1190	C217L	C134A	SH-2110B	cam bushing	1	AL	
	11831-1130				cam bushing	1	AL	
	11841-1120				cam bushing	1	AL	
	13272-1280	P217H	P134L	PB-2112J PB-2110J	pin bushing	6	CU	

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
53 Series 3-53, 4-53	5149447				main beairng-STD		2	CU
	5149449				main bearing-010		2	CU
	5149450				main bearing-020		2	CU
	5149451				main bearing-030		2	CU
	8924357	MB2100K			main beairng-STD		2	CU
	8924359	MB2100K			main bearing-010		2	CU
	8924360	MB2100K			main bearing-020		2	CU
	8924361	MB2100K			main bearing-030		2	CU
	5149452	RB2100K			con rod bearing-STD		2	CU
	5149454	RB2100K			con rod bearing-010		2	CU
	5149455	RB2100K			con rod bearing-020		2	CU
	5149456	RB2100K			con rod bearing-030		2	CU
53 Series 6V53, 8V53	5198410	MB2110K			main bearing STD		2	CU
	5198412	MB2110K			main bearing-010		2	CU
	5198413	MB2110K			main bearing-020		2	CU
	5198414	MB2110K			main bearing-030		2	CU
	5195927				main bearing STD		2	CU
	5196685				main bearing-010		2	CU
	5196686				main bearing-020		2	CU
	5196687				main bearing-030		2	CU
	5197975	RB2110K			con rod bearing-STD		2	CU
	5197977	RB2110K			con rod bearing-010		2	CU
	5197978	RB2110K			con rod bearing-020		2	CU
	5197979	RB2110K			con rod bearing-030		2	CU
53 Series	5116197				thrust washer		4	CU
	5198209				cam bushing		1	CU
	5116181				piston pin bushing		1	CU
71 Series 2-71, 3-71, 4-71, 6-71	5192874	MB2120K			main bearing STD		2	CU
	5192876	MB2120K			main bearing-010		2	CU
	5192877	MB2120K			main bearing-020		2	CU
	5192878	MB2120K			main bearing-030		2	CU
	2351129	RB2121K			con rod bearing-STD		2	CU
	2351133	RB2121K			con rod bearing-010		2	CU
	2351135	RB2121K			con rod bearing-020		2	CU
	2351137	RB2121K			con rod bearing-030		2	CU
71 Series 6V71, 8V71, 12V71, 16V71	5149556	MB2130K			main bearing-STD		2	CU
	5149559	MB2130K			main bearing-010		2	CU
	5149561	MB2130K			main bearing-020		2	CU
	5149563	MB2130K			main bearing-030		2	CU
	5149565				main bearing-STD		2	CU
	5149567				main bearing-010		2	CU
	5149568				main bearing-020		2	CU
	8922118				main bearing-030		2	CU
	203501025				con rod bearing-STD		2	CU
	203501027				con rod bearing-010		2	CU
	203501028				con rod bearing-020		2	CU
	203501029				con rod bearing-030		2	CU
	5149572	RB2130K			con rod bearing-STD		2	CU
	5149575	RB2130K			con rod bearing-010		2	CU
	5149577	RB2130K			con rod bearing-020		2	CU
	5149579	RB2130K			con rod bearing-030		2	CU

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Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil	Note
S60 8.5L	8929670	MB2150KS			main bearing-STD	2	CU	
	18929671	MB2150KS			main bearing-010	2	CU	
	18929672	MB2150KS			main bearing-020	2	CU	
	18929673	MB2150KS			main bearing-030	2	CU	
	8929680	MB2150KL			main bearing-STD	2	CU	
	8929681	MB2150KL			main bearing-010	2	CU	
	8929682	MB2150KL			main bearing-020	2	CU	
	8929683	MB2150KL			main bearing-030	2	CU	
	23533263				thrust bearing, upper	1	CU	
	23532926	8929084	8929553/8929554		thrust bearing, lower	1	CU	
	8929710	RB2150K			con rod bearing-STD	2	CU	
	8929711	RB2150K			con rod bearing-010	2	CU	
	8929712	RB2150K			con rod bearing-020	2	CU	
	8929713	RB2150K			con rod bearing-030	2	CU	
	23515581	RB2151K			con rod bearing-STD	2	CU	
	23515582	RB2151K			con rod bearing-010	2	CU	
	23515583	RB2151K			con rod bearing-020	2	CU	
	23515584	RB2151K			con rod bearing-030	2	CU	
	23535745	RB2153K	23526142		con rod bearing-STD	2	CU	
	23527062	RB2153K	23527065		con rod bearing-010	2	CU	
	23527063	RB2153K	23527066		con rod bearing-020	2	CU	
	23527064	RB2153K	23527067		con rod bearing-030	2	CU	
92 Series 6V92, 8V92, 12V92, 16V92	5149565				main bearing-STD	2	CU	
	5149567				main bearing-010	2	CU	
	5149568				main bearing-020	2	CU	
	8922118				main bearing-030	2	CU	
	5149572				con rod bearing-STD	2	CU	
	5149575				con rod bearing-010	2	CU	
	5149577				con rod bearing-020	2	CU	
	5149579				con rod bearing-030	2	CU	

JOHN DEERE

Engine Model	OE No.	REF NO.1	REF NO.2	Article	Pcs/Set	Lining Materil
6081,8.1L	RE504195	MB3450SS1T	KS79305600	main bearing	2	AL
	RE504196			main bearing	2	AL
	RE504197			main bearing	2	AL
	RE504198	MB3450SL1T	KS72132600	flange bearing	2	AL
	RE504199			flange bearing	2	AL
	RE504200			flange bearing	2	AL
	R116081	RB3450K1	R525767	con rod bearing	2	CU
	RE57167			con rod bearing	2	CU
4.202 400SERIES 4.129 400SERIES	RE27352	MB3410K1		main bearing	2	AL
	RE27353			main bearing	2	AL
	RE27360			main bearing	2	AL
	RE27368			main bearing	2	AL
3135G 3164G 3152D,3164DL 3179DL,4.239T	AT21139	MB3410KF1	RE521350	flange bearing	2	AL
	RE526754			flange bearing	2	AL
	RE527235			flange bearing	2	AL
	AT21136			flange bearing	2	AL
3.029D 300SERIES 6.359D 300SERIES 6068D 300SERIES	RE27348	RB3410K1		con rod bearing	2	CU
	RE27349			con rod bearing	2	CU
	RE27358			con rod bearing	2	CU
	RE27364			con rod bearing	2	CU
ENGINE 303 329 414 EA202D 414 135 180 202 152 276 6CYL	AR97517	RB3412K1		con rod bearing	2	CU
	AR97653			con rod bearing	2	CU
	AR97654			con rod bearing	2	CU
	AR97655			con rod bearing	2	CU
	T23471	B3342-40LS	3329Y20	bushing	1	CU
	R55647	B3818-40LS	3329YA20	bushing	1	CU
	R57451	B4620-35LS		bushing	1	CU
115/1010 SERIES 145/165 SERIES 217/248 SERIES 155/165/2010 2010SERIES		MB3420K1	MB-2129P	main bearing	2	CU
		MB3420KF1	MB-2130P	flange bearing	2	CU
		MB3421K1	MB-2227P	main bearing	2	CU
		MB3421KF1	MB-2228P	flange bearing	2	CU
		RB3420K1	CB-637P	con rod bearing	2	CU
		B3345-38LS	B-878	pin bushing	1	CU
4.270 400 SERIES 6.466 400SERIES	AR74814	MB3430AS1		main bearing	2	AL
	AR77816			main bearing	2	AL
	AR77817			main bearing	2	AL
	AR77818			main bearing	2	AL
	AR77748	MB3430AL1		flange bearing	2	AL
	AR77750			flange bearing	2	AL
	AR77751			flange bearing	2	AL
	AR77752			flange bearing	2	AL
	AR45723	RB3430K1		con rod bearing	2	CU
	AR49396			con rod bearing	2	CU
	AR49397			con rod bearing	2	CU
	AR49398			con rod bearing	2	CU
	AR73277	RB3431K1		con rod bearing	2	CU
	AR73279			con rod bearing	2	CU
	AR73280			con rod bearing	2	CU
	AR73281			con rod bearing	2	CU
	AR77747	TW3430A3	MB-2859W	thrust washer	4	AL
	R30939	B4136-30LS		pin bushing	1	CU
	3129Y20			pin bushing	1	CU

JOHN DEERE

Engine Model	OE No.	REF NO.1	REF NO.2	Article	Pcs/Set	Lining Materil
6.404 400 SERIES	AR49243	MB3431KS1		main bearing	2	CU
	MB-2415P				2	CU
	3126P				2	CU
	AR49242	MB3431KF1		flange bearing	2	CU
	MB-2416P				2	CU
	3127P				2	CU
	AR45723	RB3430K1		con rod bearing	2	CU
	CB-669P				2	CU
	3125CP				2	CU
	R30939	B4136-30LS B4136-39LST		bushing	1	CU
	3129Y20			bushing	1	CU
	R42173			bushing	1	CU
	3129YB20			bushing	1	CU
4802/4804/4809 45D/T 4805/4807/48106. 8D/T	RE65168	MB3440AF1		flange bearing	2	AL
	RE65912			flange bearing	2	AL
	RE65165	MB3440A1		main bearing	8	AL
	RE65911			main bearing	8	AL
	RE65908	RB3440K1		con rod bearing	8	CU
	RE65909			con rod bearing	8	CU
	R123960	B3820-32LS		con rod bushing	4	CU
	R114082	B4618-40LSGT		con rod bushing	4	CU
	R119874	B6010-39LT		cam bushing	1	CU
	R115299	B4336-28RGT		cam bushing	6	CU

MACK

Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil
DE6,E6	215SB72CP1	MS-954P	EMS-8570-STD	STD	main bearing	14	CU
	215SB72CP2		EMS-8570-010	.010	main bearing	14	CU
	215SB72CP3		EMS-8570-020	.020	main bearing	14	CU
	215SB72CP4		EMS-8570-030	.030	main bearing	14	CU
	57GC279		EWA-2761	STD	thrust washer	4	CU
	183GC23		EPN2762	STD	lock pin	2	AL
	62GB2382P1	CB-559P	EBG-8330-STD	STD	con rod bearing	12	CU
	62GB2382P10		EBG-8330-010	.010	con rod bearing	12	CU
	62GB2382P20		EBG-8330-020	.020	con rod bearing	12	CU
	62GB2382P30		EBG-8330-030	.030	con rod bearing	12	CU
	62GB2393P1	CB-1379P	EBG-8331-STD	STD	con rod bearing	12	CU
	62GB2393P10		EBG-8331-010	.010	con rod bearing	12	CU
	62GB2393P20		EBG-8331-020	.020	con rod bearing	12	CU
	62GB2393P30		EBG-8331-030	.030	con rod bearing	12	CU
	215SB72DP1	MS-954P	EMS-8575-STD	STD	main bearing	14	CU
	215SB72DP2		EMS-8575-010	.010	main bearing	14	CU
	215SB72DP3		EMS-8575-020	.020	main bearing	14	CU
	215SB72DP4		EMS-8575-030	.030	main bearing	14	CU
DE7,E7	57GC387		EMS-8572-STD	STD	main bearing	14	CU
	57GC387P1		EMS-8572-010	.010	main bearing	14	CU
	57GC387P2		EMS-8572-020	.020	main bearing	14	CU
	57GC387P3		EMS-8572-030	.030	main bearing	14	CU
	62GB2396A		EBG-8332-STD	STD	con rod bearing	12	CU
	62GB2396P10		EBG-8332-010	.010	con rod bearing	12	CU
	62GB2396P20		EBG-8332-020	.020	con rod bearing	12	CU
	62GB2396P30		EBG-8332-030	.030	con rod bearing	12	CU
	57GC2144		EBK-2767-STD	STD	thrust washer	4	CU
	57GC2144P2		EBK-2767-002	0.02	thrust washer	4	CU

VOLVO

Engine Model	OE No.	REF NO.1	REF NO.2	REF NO.3	Article	Pcs/Set	Lining Materil
D60,TD60,TD63		77 137 600	71-3446/6		con rod bearing	12	CU
		77 138 600	71-3695/6		con rod bearing	12	CU
		77 139 600	H969/7		main bearing	14	CU
D70,TD70,TD71,TD73	270115	87 229 600	71-3480/6		con rod bearing	12	CU
		87 230 600	71-3623/6		con rod bearing	12	CU
	274432	87 228 600	H841/7		main bearing	14	CU
TD100G,TD100	270438	87 515 600	H842/7		main bearing	2	CU
	270124	87 516 600	71-1227/6		con rod bearing	2	CU
TD100A	270438	87 515 600	H842/7		main bearing	2	CU
	270099	87 269 600	71-3601/6		con rod bearing	2	CU
F12, TD120	270449				main bearing	2	CU
	270130				con rod bearing	2	CU
D12A FH12 FL12 NI12	20530916	77 751 600			main bearing	14	CU
	276134	77 750 600			con rod bearing	12	CU
FM9 3108	20867178				main bearing	2	CU
	85103713				con rod bearing	2	CU



NAVISTAR

Engine Model	OE No.	REF NO.1	Article	Pcs/Set	Lining Materil
DT360 5.9L	684552	MB3210K1	main bearing	2	CU
	684555	MB3210K1	main bearing	2	CU
	687385	MB3210K1	main bearing	2	CU
	684561	MB3210KF	thrust bearing	2	CU
	684564	MB3210KF	thrust bearing	2	CU
	687388	MB3210KF	thrust bearing	2	CU
	1823859C91	MB3210K	main bearing, set	14	CU
	1823860C91	MB3210K	main bearing, set	14	CU
	1823861C91	MB3210K	main bearing, set	14	CU
	1823863C91	RB3211K1	con rod bearing	2	CU
	1823864C91	RB3211K1	con rod bearing	2	CU
	1823865C91	RB3211K1	con rod bearing	2	CU
	1823866C91	RB3211K1	con rod bearing	2	CU
DT466 7.6L	684570	MB3212K1	main bearing	2	CU
	684573	MB3212K1	main bearing	2	CU
	687391	MB3212K1	main bearing	2	CU
	684576	MB3212K1	main bearing	2	CU
	684579	MB3212KF	thrust bearing	2	CU
	684582	MB3212KF	thrust bearing	2	CU
	687394	MB3212KF	thrust bearing	2	CU
	684585	MB3212KF	thrust bearing	2	CU
	1823847C91	MB3212K	main bearing, set	14	CU
	1823848C91	MB3212K	main bearing, set	14	CU
	1823849C91	MB3212K	main bearing, set	14	CU
	1823850C91	MB3212K	main bearing, set	14	CU
	681314C2(1823855)	RB3210K1	con rod bearing	2	CU
	681315C2(1823856)	RB3210K1	con rod bearing	2	CU
	687382C2(1823857)	RB3210K1	con rod bearing	2	CU
	681316C2(1823858)	RB3210K1	con rod bearing	2	CU
	1808059C91(1823851)	RB3212K1	con rod bearing	2	CU
	1808060C91(1823852)	RB3212K1	con rod bearing	2	CU
	1808061C91(1823853)	RB3212K1	con rod bearing	2	CU
	1808062C91(1823854)	RB3212K1	con rod bearing	2	CU
	1808069	MB3240K1	main bearing	2	CU
	1808070	MB3240K1	main bearing	2	CU
	1808071	MB3240K1	main bearing	2	CU
	1808072	MB3240K1	main bearing	2	CU
	684579	MB3240KF	thrust bearing	2	CU
	684582	MB3240KF	thrust bearing	2	CU
	687394	MB3240KF	thrust bearing	2	CU
	684585	MB3240KF	thrust bearing	2	CU
	1823843C91	MB3240K	main bearing, set	14	CU
	1823844C91	MB3240K	main bearing, set	14	CU
	1823845C91	MB3240K	main bearing, set	14	CU
	1823846C91	MB3240K	main bearing, set	14	CU
DT466 BIG BORE 7.6L	1830725	MB3217K1	main bearing	2	CU
	1833364	MB3217K1	main bearing	2	CU
	1833365	MB3217K1	main bearing	2	CU
	1833366	MB3217K1	main bearing	2	CU
	1830726	MB3217KF	thrust bearing	2	CU
	1833361	MB3217KF	thrust bearing	2	CU
	1833362	MB3217KF	thrust bearing	2	CU
	1833363	MB3217KF	thrust bearing	2	CU
	1842570	RB3217K6	con rod bearing	2	CU
	1830673	RB3217K6	con rod bearing	2	CU
	1830674	RB3217K6	con rod bearing	2	CU
	1830675	RB3217K6	con rod bearing	2	CU

NAVISTAR

Engine Model	OE No.	REF NO.1	Article	Pcs/Set	Lining Materil
DT466 PLN 7.6L	1822321	MB3213K1	main bearing	2	CU
	1822490	MB3213K1	main bearing	2	CU
	1822491	MB3213K1	main bearing	2	CU
	1822492	MB3213K1	main bearing	2	CU
	1822379	MB3213KF	thrust bearing	2	CU
	1822494	MB3213KF	thrust bearing	2	CU
	1822495	MB3213KF	thrust bearing	2	CU
	1822496	MB3213KF	thrust bearing	2	CU
	1822389	RB3213K1	con rod bearing	2	CU
	1822486	RB3213K1	con rod bearing	2	CU
	1822487	RB3213K1	con rod bearing	2	CU
	1822488	RB3213K1	con rod bearing	2	CU
Dt570 9.3L	1842566		main bearing	2	CU
	1842889		main bearing	2	CU
	1842890		main bearing	2	CU
	1842891		main bearing	2	CU
	1842567		thrust bearing	2	CU
	1842892		thrust bearing	2	CU
	1842893		thrust bearing	2	CU
	1842894		thrust bearing	2	CU
	1842570	RB3217K6	con rod bearing	2	CU
	1830673	RB3217K6	con rod bearing	2	CU
	1830674	RB3217K6	con rod bearing	2	CU
	1830675	RB3217K6	con rod bearing	2	CU

PERKINS

Engine Model	OE No.	REF NO.1	Article	Pcs/Set	Lining Materil
3.152	68084	MB4165A	main bearing	8	AL
	85036	RB3022A	con rod bearing	6	AL
	31137211	STD	thrust washer	2	AL
	31137221	STD	thrust washer	2	AL
	31137212	0.007	thrust washer	2	AL
	31137222	0.007	thrust washer	2	AL
4.203	68082	MB5234A	main bearing	10	AL
	85035	RB4309A	con rod bearing	8	AL
4.212	81558	MB5212A	main bearing	10	AL
	85042	RB4438A	con rod bearing	8	AL
4.318	68085	MB5232A	main bearing	10	AL
	85041	RB4412A	con rod bearing	8	AL
6.354	85010	MB7189A	main bearing	14	AL
	85043	RB6425A	con rod bearing	12	AL
6.354.4	68079	MB7377A	main bearing	14	AL
	85043	RB6425A	con rod bearing	12	AL
6.354-T	U5MB0011	MB4165A	main bearing	14	AL
	U5ME0007	RB3022A	con rod bearing	12	AL
6.354.4-T	68079	MB7377A	main bearing	14	AL
	U5ME0015	353-2752	con rod bearing	12	AL
404C,404C-T	198586140		main bearing	8	AL
	U5ME0011		con rod bearing	8	AL
	198517222		cam bushing	1	AL
	199266210		thrust washer	1	AL
	199266200		thrust washer	1	AL
	198517265		pistion pin bushing	1	CU
403C-15/17	198586050		main bearing	6	AL
	198586080		main bearing	6	AL
	198517222		cam bushing	1	AL
	199266210		thrust washer	1	AL
	199266200		thrust washer	1	AL
	198517265		pistion pin bushing	1	CU
3054,3054B	353-7427	U5MB0034	main bearing	10	AL
	353-7428	U5MB0034A	main bearing	10	AL
	353-7429	U5MB0034B	main bearing	10	AL
	353-2205	U5ME0034	con rod bearing	8	AL
	353-2206	U5ME0034A	con rod bearing	8	AL
	353-2207	U5ME0034B	con rod bearing	8	AL
	032-9090		thrust washer	1	AL
	032-9091		thrust washer	1	AL
	320-2352		pistion pin bushing	1	CU
	067-6158		pistion pin bushing	1	CU
	7W2510		pistion pin bushing	1	CU
	225-5438		pistion pin bushing	1	CU
	036-5802		camshaft bushing	1	CU
3054C,3054E	353-7423	U5MB0033	main bearing	10	AL
	353-7424	U5MB0033A	main bearing	10	AL
	353-7425	U5MB0033B	main bearing	10	AL
	366-8853		camshaft bushing	1	CU
3056,3056B	353-7415		main bearing	14	AL
	353-7416		main bearing	14	AL
	353-7417		main bearing	14	AL
	353-2752		con rod bearing	12	AL
	353-2753		con rod bearing	12	AL
	353-2754		con rod bearing	12	AL

PERKINS

Engine Model	OE No.	REF NO.1	Article	Pcs/Set	Lining Materil
3008 V8	KRP3105	CV8321/22	main bearing	10	CU
	KRP3007	CV1357	con rod bearing	16	CU
3012 V12	KRP3105	CV8321/22	main bearing	14	CU
	KRP3007	CV1357	con rod bearing	24	CU
2206	KRP3107		main bearing	14	CU
	KRP3008		con rod bearing	12	CU



MERCEDES - BENZ

Engine Model	Part No.	KS NO.	GLYCO NO.	Article	Pcs/Set	Material
OM601.911/912/913 /921 OM601.900/940-943/970 4CYL	MB5482A	87 435 600	H997/5	MAIN BEARING	10	AL
	RB4806A	87 436 600	01-3584	CON ROD BEARING	8	AL
		87 231 600 74 605 600	01-3771	CON ROD BEARING	8	AL
OM602.900/940-942/946-948/980/982/983/986/991/994OM602.911/912/930/931/938-940/942/943/961/962/970 OM602A OM602Euro2.980/981/984/985/989 5CYL	MB5482A	87 418 600/ 77 519 600	H997/6	MAIN BEARING	12	AL
		87 419 600	01-3584	CON ROD BEARING	10	AL
		87 232 600	01-3771	CON ROD BEARING	10	AL
		77 219 600	71-3645/5	CON ROD BEARING	10	AL
Om314 OM364 OM364A Euro1 OM364LA OM364LA Euro11 OM354 4CYL	MB5550K5	87 427 600	H712/5	MAIN BEARING	10	CU
	MB5551K5	87 427 601	H938/5	MAIN BEARING	10	CU
	MB5552K5	77 264 600	H048/5 OM364	MAIN BEARING	10	CU
	RB5552K4	87 429 600 (78 672 600)	71-3572/4	CON ROD BEARING	8	CU
Om352 OM353 OM362LA OM364 OM366 OM366A/LA OM356Euro1 OM357 Euro2 6CYL	MB5550K7	87 426 600	H712/7	MAIN BEARING	14	CU
	MB5551K7	87 426 601	H938/7	MAIN BEARING	14	CU
	MB5552K7	77 265 600	H048/7 OM366(356)	MAIN BEARING	14	CU
	RB5552K6	87 428 600 (78 672 600)	71-3572/6	CON ROD BEARING	12	CU
Om904 LA Euro11 OM907Euro2 OM924Euro2/3 Om924 4CYL	MB5585K	77 538 600 (79 226 600)	H067/5	MAIN BEARING	10	CU
	RB5585K	77 540 600 (79 227 600)	71-3850/4	CON ROD BEARING	8	CU
M906 OM902 OM906 Euro2 OM909 Euro2 Om926 M926Euro2/3 6CYL	MB5585K	77 539 600 (79 226 600)	H067/7	MAIN BEARING	14	CU
	RB5585K	77 541 600 (79 227 600)	71-3850/6	CON ROD BEARING	12	CU
OM360 6CYL	MB5555K7	87 724 600	H809/7	MAIN BEARING	14	CU
	RB5555K6	87 725 600	71-2811/6	CON ROD BEARING	12	CU
OM427 OM407/H OM407A/LA OM407HA OM447HEuro1 OM447HAEuro1 Om476 6CYL	MB5570K7	87 503 600 (78 586 600) (78 587 600)	H992/7 (OM407/427/447/476)	MAIN BEARING	14	CU
	RB5570K6	87 505 600 (78 585 600)	71-3561/6	CON ROD BEARING	12	CU
OM402/OM402A OM402LAEuro1 OM422A OM422LA OM440Euro1 OM442 OM446Euro2 8CYL	MB5560K5	87 401 600	H821/5	MAIN BEARING	10	CU
	RB560K8	87 404 600 (78 692 600)	(OM402/422/440/442/446) 71-3009/8	CON ROD BEARING	16	CU
		78 902 600	71-3693/8	CON ROD BEARING	16	CU
OM457LA OM457 OM457EURO1/2 6CYL		77 754 600	H075/7	MAIN BEARING	14	CU
		77 723 600 79 294 600	71-3893/6	CON ROD BEARING	12	CU

MERCEDES - BENZ

Engine Model	Part No.	KS NO.	GLYCO NO.	Article	Pcs/Set	Material
OM355 .910-916/918,960-967, 970-976,978-984 OM355.968/969/977 OM355A 6CYL	MB5554K7	87 735 600	H818/7	MAIN BEARING	14	CU
	RB5554K6	87 737 600	71-2549/6	CON ROD BEARING	12	CU
OM501LA Euro11 OM541Euro1 OM941Euro1 6CYL		77 548 600/77 683 600(79 231 600)	H063/4	MAIN BEARING	8	CU
		77 547 600 79 229 600	71-3835	CON ROD BEARING	12	CU
OM502 OM542 OM942 OM542/942 Euro1 8CYL		77 549 600 (79 231 600)	H064/5	MAIN BEARING	10	CU
		77 550 600 (79 232 600)	71-3868	CON ROD BEARING	16	CU

SCANIA

Engine Model		KS NO.		Article	Pcs/Set	Material
D5,DS5		77284600		main bearing	10	CU
		77285640		con rod bearing	8	CU
D8,DS8		77169600	VPM91604	main bearing	14	CU
		77170600	VPR91606	con rod bearing	12	CU
DC9,DSC9		77707600	VPM92521	main bearing	14	CU
		77709600	VPR92530	con rod bearing	12	CU
D10,DS10,D11,DS11, DS11,DSC11		87234600	VPM748	main bearing	14	CU
		87235600	VPR747	con rod bearing	12	CU
DC12,DSC12		77710600		main bearing	14	CU
		77711600		con rod bearing	12	CU
D14,DS14,DSC14		87204300	VPM91462	main bearing	10	CU
		87203600	VPR91770	con rod bearing	16	CU

IVECO

Engine Model	Part No.	MD NO.	REF NO.	Article	Pcs/Set
AR51 AR55 AR59 105.000 305 A/B 605 D/C			6534M	main bearing	1/1
					4/4
			4-60305RAA	con rod bearing	8
			2516AF	thrust washer	4
			2519XA	pin bushing	4
230A.000	190 1594	RB2402K1	60990CP	main bearing	8
		PB	60079X	pin bushing	4
8025.01 8025.02 2CYL	190 1559		60076CP	main bearing	6
	190 1424	MB2401K1 VPM91810	66631CPA	main bearing	3/3
	190 1594	RB2402K1	60990CP	con rod bearing	4
	190 1609	RB2401K1 VPR91809	66630CP	con rod bearing	4
	190 0756	TW2402K4 VPW16	60076AFA	thrust washer	4
	190 1270	TW2401K4 VPW95076	60076AFF	thrust washer	2/2
			60079X	pin bushing	4
			66634Y	pin bushing	4
			66634YA	pin bushing	2
			66634YC	pin bushing	2
8035.01 803A.062(8030.01) 8030.02 8035.02 853A 3CYL OM	190 1559		60076CP	main bearing	8
	190 1424	MB2401K1 VPM91810	66631CPA	main bearing	4/4
	190 1594	RB2402K1	60990CP	con rod bearing	6
	190 1609	RB2401K1 VPR91809	66630CP	con rod bearing	6
	190 0756	TW2402K4 VPW16	60076AFA	thrust washer	4
	190 1270	TW2401K4 VPW95076	60076AFF	thrust washer	2/2
			60079X	pin bushing	6
			66634Y	pin bushing	6
			66634YA	pin bushing	3
			66634YC	pin bushing	3
			1651M	cam bushing	1
				cam bushing	1
				cam bushing	1

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Engine Model	Part No.	MD NO.	REF NO.	Article	Pcs/Set
804A(8040.01) 8040.02 8045.02 8040.04 8045.04 4CYL OM	190 1559		60076CP	main bearing	10
				main bearing	14
	190 1424	MB2401K1 VPM91810	66631CPA	main bearing	5/5
				main bearing	7/7
	190 1594	RB2402K1	60990CP	con rod bearing	8
				con rod bearing	12
	190 1609	RB2401K1 VPR91809	66630CP		8
				con rod bearing	
	190 0067		60076AF	thrust washer	4
			60079X	pin bushing	12
	190 0756	TW2402K4 VPW16	60076AFA	thrust washer	4
	190 1270	TW2401K4 VPW95076	60076AFF	thrust washer	2/2
806A(8060.01,8060.11) 8060.02 8060.12 8065.02 8065.04 8060.24 8062.24 6CYL OM			66634Y	pin bushing	8
				pin bushing	12
			66634YA	pin bushing	4
				pin bushing	6
			66634YC	pin bushing	4
				pin bushing	6
			1651M	cam bushing	1
				cam bushing	1
				cam bushing	1
			1652M	cam bushing	1
				cam bushing	1
				cam bushing	1
				cam bushing	1
213.000 213H 6CYL	190 1424	MB2401K1 VPM91810	66631CPA	main bearing	7/7
	190 0067		60076AF	thrust washer	4
		B3600-17LS	60079X	pin bushing	12
		B3600-35LS	66634YC	pin bushing	6
8025.05 8025.06 2CYL 8035.06 8031 I 05 8031 M06 8035.05 3CYL OM	193 0176	MB2420K1 VPM91976	1011CP	main bearing	3/3
					4/4
	193 0181	RB2420K1 VPR91975	1010CP	con rod bearing	2/2
				con rod bearing	3/3
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4200-35LS	1014Y	pin bushing	2
				pin bushing	3
			1651M	cam bushing	1
				cam bushing	1
				cam bushing	1
8040.05.200.203.230.233.235 8041 I05 8041 C05 8041 M 08/09 8041 SRM 15 8040.06 8040.25 B.4200/4220 8040.25.200 8040.25X.4000 8040.25.4990 8040.45.400.4010.4020.4030.40 35.4050 8040.45 8040.45D 8040.45X.4180 8045.05 4CYL OM	193 0176	MB2420K1 VPM91976	1011CP	main bearing	10
	193 0181	RB2420K1 VPR91975	1010CP	con rod bearing	4/4
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4200-35LS	1014Y	pin bushing	4
			1651M	cam bushing	1
				cam bushing	1
				cam bushing	1

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Engine Model	Part No.	MD NO.	REF NO.	Article	Pcs/Set
8055.05 5CYL	193 0176	MB2420K1 VPM91976	1011CP	main bearing	6/6
	193 0181	RB2420K1 VPR91975	1010CP	con rod bearing	5/5
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4200-35LS	1014Y	pin bushing	5
			1652M	cam bushing	1
				cam bushing	1
				cam bushing	1
				cam bushing	1
8060.05.200 8060.05.201/203 8060.05.205/206 8060.05.246 8061.05 8060.06 8060.25R.4200.4300.4700.4900 8060.45.4100/4700 8060.45B 8060.45R 8060.45R.5000 8060.25.080.600-605 8060.25V.4000 8060.25V.4100/4600/4700/4900 6CYL OM	193 0176	MB2420K1 VPM91976	1011CP	main bearing	7/7
	193 0181	RB2420K1 VPR91975	1010CP	con rod bearing	6/6
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4200-35LS	1014Y	pin bushing	6
			1652M	cam bushing	1
					1
					1
					1
8061 I05/25 8061 SI25 8061 SRI 10 8061 SI35/36 6CYL	193 0176	MB2420K1 VPM91976	1011CP	main bearing	7/7
	193 0181	RB2420K1 VPR91975	1010CP	con rod bearing	6/6
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4200-35LS	1014Y	pin bushing	6
			1652M	cam bushing	1
					1
					1
					1
8055.04 5CYL	190 1424	MB2401K1 VPM91810	66631CPA	main bearing	6/6
					7/7
	190 1609	RB2401K1 VPR91809	66630CP	con rod bearing	10
					12
8065.24 6CYL	190 1270	TW2401K4 VPW95076	60076AFF	thrust washer	2/2
		B3800-17LS	66634Y	pin bushing	10
		B3800-35LS	66634YA	pin bushing	5
			1652M	cam bushing	1
				cam bushing	1
				cam bushing	1
				cam bushing	1
C03D/20 C03/20/21/41 C03/70/100 4CYL OM	190 1614	RB2440K1 VPR91989	60115CP	con rod bearing	8
	190 1624	TW2440K4 VPW105	60116AF	thrust washer	4
		B4412-36LS VPS96421	60116YA	pin bushing	4
CN3 3CYL OM	190 1614	RB2440K1 VPR91989	60115CP	con rod bearing	6
		B4412-36LS VPS96421	60116YA	pin bushing	3
			1651M	cam bushing	1
				cam bushing	1
				cam bushing	1

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Engine Model	Part No.	MD NO.	REF NO.	Article	Pcs/Set
CP3 6CYL OM	190 1244	MB2440K7 VPM91322	6578M	main bearing	3/3
					4/4
	190 1614	RB2440K1 VPR91989	60115CP	con rod bearing	12
	190 1624	TW2440K4 VPW105	60116AF	thrust washer	4
		B4412-36LS VPS96421	60116YA	pin bushing	6
8340.04 8340.04.001 8340.R.001 8340.05 OM CO3/130T 4CYL OM	190 1414	MB2450K5 VPM91858	6556M	main bearing	2/2
					3/3
	190 1619	RB2451K1 VPR91974	66550CP	con rod bearing	8
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4608-38LS	66554Y	pin bushing	4
8360.04 8365.25 8360.03 8360.05 8361 SI/SRI 10-12 8361 SM21 8361 SRM32 8361SRM40 6CYL OM	190 1419	MB2450K7 VPM91859	6557M	main bearing	3/3
					4/4
	190 1619	RB2451K1 VPR91974	66550CP	con rod bearing	12
		TW2400K4 VPW95075	1011BF	thrust washer	4
		B4608-38LS	66554Y	pin bushing	6
220H.11 8200.21 8200.01.220-620.001/021-8200.11 8200.02 8200.12 8205.02 8200.03 8200.13 6CYL OM	190 1372	MB2470K7 VPM91739	6550M	main bearing	1/1
					1/1
	190 1636				4/4
	190 0573	RB2470K6 VPR91738	6-66515CP	con rod bearing	12
			60062AF	thrust washer	4
			66519Y	pin bushing	6
8460 SRM 28,25 8460.21.002.042.102.106.708.710 —8465.21.002 8460.21.202.206.611 8460.21B.613,615 8460.41 8460.41.320.406C,K,L,R 6CYL	190 2557	MB2468K7 VPM92345	7024M	main bearing	6/6
					1/1
	190 2566	RB2468K6 VPR92346	6-1230CP	con rod bearing	12
	190 2562		1232BF	thrust washer	4
			6-1234Y	pin bushing	6
8220.02 8220.12 8220.22 8220.32 6CYL	190 1629 190 1690		6555M	main bearing	1/1
					6/6
	190 1641		6-66545CP	con rod bearing	12
			66549Y	pin bushing	6
8210 M22 8210 SRM36 8210 SI/SRI 10 8210 SRI12 8210.42 8210.42.009.369L 8210.42K.875 6CYL	190 1367	MB2460K7 VPM91741 NE:2023	6549M	main bearing	1/1
					4/4
					1/1
	190 2080	RB2461K6 VPR91970	6-1675CP	con rod bearing	1/1 12
	190 1203		62022BF	thrust washer	4
			1679Y	pin bushing	6

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Engine Model	Part No.	MD NO.	REF NO.	Article	Pcs/Set
203.000 203H 203A/61 203H/61 310H/61 6CYL		MB2480K7 VPM355	4518M	main bearing	1/1
					4/4
					1/1
					1/1
		RB2480K6		con rod bearing	12
	190 1646		6-60065CP	con rod bearing	12
	190 0573		60062AF	thrust washer	4
			61929X	pin bushing	12
221.000 8210.01 6CYL	190 1651		6-61925CP	con rod bearing	12
			61929X	pin bushing	12
			61929XA	pin bushing	6
8210 I 03 8210.02,12,22 8210.12 8210.22 8210.22.800 8215.02 6CYL OM	190 1367	MB2460K7 VPM91741	6549M	main bearing	1/1
					4/4
					1/1
	190 2080	RB2461K6 VPR91970	6-1675CP	con rod bearing	12
			6-62020CP	con rod bearing	12
	190 1656	RB2460K6 VPR91740	6-66520CP	con rod bearing	12
			1679Y	pin bushing	6
			61929X	pin bushing	12
			61929XA	pin bushing	6
	190 1203		62022BF	thrust washer	4
8260.02 6CYL			66706CP	main bearing	7/7
	190 1788		66705CP	con rod bearing	6/6
	190 1471		66706BF	thrust washer	4
8280.01 8281 I 03	190 1661		66495CP	con rod bearing	16
8280.02.265.269.273.279.410.4			66499Y	pin bushing	8
8280.22.205 8280.42.001.010.042 8280.42.050-8280.42S.342.350.352.362 8281 SI 10 8281 SRI 10 8281 SRM 44,70 8CYL OM			66706CP	main bearing	5/5
	190 5698		1685CP	con rod bearing	16
	190 1788		66705CP	con rod bearing	8
					8
	190 1471		66706BF	thrust washer	4
			66499Y	pin bushing	8

BEARING MATERIAL COMPONENTS AND FEATURES

	Alloy code	SAE code	Components	Features and used for
Al based Alloy	AlSn20Cu	SAE783	Sn:17.5%-22.5%;Cu:0.7%-1.3%; Al:balance	Medium capacity, medium fatigue strength and good corrosion resistance, high performance when good lubricated, suitable for soft shafts. Used for mian bearing, con rod bearing, thrust washer, bushing.
	AlSn10Cu	SAE780	Sn:10%-14%;Cu:0.7%-1.3%; Al:balance	Medium or high capacity, medium fatigue strength and good corrosion resistance, suitable for soft shafts. Used for mian bearing, con rod bearing, thrust washer, bushing.
	AlSn6Cu	SAE770	Sn:5.5%-7.0%;Cu:0.7%-1.3%; Pb:1.0%-2.4%Al:balance	Medium or high capacity, medium fatigue strength and good corrosion resistance, suitable for hard shafts. Used for mian bearing, con rod bearing, thrust washer, bushing.
	AlZn5SiPb		Zn:4.5%;Si:1.5%;Cu:1%; Pb:1%;Al:balance	High capacity, high fatigue strength and good corrosion resistance, suitable for soft or hard shafts. Used for mian bearing, con rod bearing.
Sintered-Copper based Alloy	CuPb10Sn10	SAE797	Sn:9%-11%;Pb:9%-11%; Cu:balance	High capacity, high fatigue strength and high shock resistance, good corrosion resistance, suitable for hard shafts in medium or high speed. Used for con rod bearing, bushing, thrust washer.
	CuPb24Sn		Pb:21%-27%;Sn:0.6%-2.0%; Cu:balance	High capacity, medium or high fatigue strength, suitable for hard or soft shafts in high speed. Used for main bearing, con rod bearing, thrust washer.
	CuPb22Sn1.5	SAE49	Pb:20%-26%;Sn:1.0%-2.0%; Cu:balance	Good compliance and high capacity, high fatigue strength and high shock resistance, suitable for hard or soft shafts in high speed. Used for con rod bearing.
	CuPb30		Pb:26%-33%;Sn:0.5%; Cu:balance	Medium or high capacity, medium fatigue strength. Used for mian bearing, con rod bearing, bushing.
	CuPb24Sn4	SAE799	Pb:21%-27%;Sn:1%-4%; Cu:balance	High capacity, medium or high fatigue strength,high shock resistance，suitable for hard or soft shafts in high speed and revolve movement. Used for main bearing, con rod bearing, thrust washer.