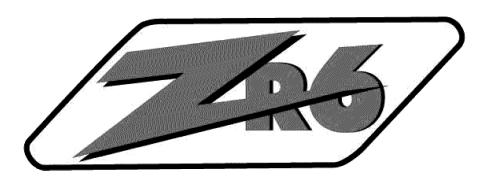




# MARINE ILLUSTRATED PARTS MANUAL MODEL MP6.0L MY 2007



L510014-07 01/07

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### Contents:

Symbols	2
Maintenance Item Part Numbers	3
Cylinder Block Assembly - Figure 1	4
Cylinder Head Assembly / Front Cover - Figure 2	6
Exhaust Manifold Assembly / Knock Sensors - Figure 3	10
Intake Manifold Components - Figure 4	12
Oil Pan and Oil Pump Assembly - Figure 5	14
Throttle Body Assemblies and Related Components - Figure 6	15
Remote Oil Filter Components (Standard Drive) - Figure 7	16
Remote Oil Filter Components ("V" - Drive) - Figure 8	20
Fuel Control Cell (FCC) Components - Figure 9	22
Heat Exchanger and Components - Figure 10	24
Fresh Water Cooling System Components - Figure 11	26
Raw Water Drain System Components - Figure 12	28
Exhaust Manifold and Components - Figure 13	30
Exhaust Manifold 4" Spacer Kit and Components - Figure 14	32
Raw Water Cooling Pump - Figure 15	
Wiring Harness Assemblies and Senders - Figure 16	36
ECM and Relays - Figure 17	38
Accessory Drive System Components - Figure 18	40
Starter Assembly Components - Figure 19	42
Engine and Transmission Mounts - Figure 20	44
Bellhousing Assembly - Figure 21	46
Transmission and Related Parts (Standard Drive) - Figure 22	48
Transmission and Related Parts ("V" - Drive) - Figure 23	50

### "TYPICAL VIEWS ARE SHOWN"

### **ENGINE ROTATION**

Engine Rotation is identified as "RH" or "LH" with the engine model number. Rotation always is determined from the flywheel end looking toward the front of the engine. In some instances, propeller shaft rotation may be opposite to that of the engine.

When ordering a replacement engine, production block or parts for the engine, be certain to check engine rotation. **DO NOT rely on propeller rotation in order to determine engine rotation.** 

### LEFT-HAND ROTATION is STANDARD ROTATION.

(Flywheel turns counterclockwise when viewed from flywheel end of the engine.)

### RIGHT-HAND ROTATION is OPPOSITE ROTATION.

(Flywheel turns clockwise when viewed from flywheel end of the engine.)

L510014-07 PCM ZR6

### **HOW TO READ THIS PARTS BOOK:**

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RB001005I	1	Base Engine Assembly, 6.0L	
1	2	(3)	4	(5)

- 1 ITEM NUMBER This number corresponds with the number in the exploded view on the facing page.
- ② PART NUMBER This is the designated part number for the particular component or assembly.
- 3 QUANTITY This refers to the number of pieces used.
- 4 DESCRIPTION This identifies what the component or assembly is.
- (5) MODEL ID This identifies a component or assembly that is unique to a specific engine model.

\_\_\_\_\_

Symbols shown throughout parts list are defined here or on the bottom of the individual parts list page.

AR = As Required

OPT = Optional

NSS = Not Serviced Separately

NA = Not Available

OS = Oversize

US = Undersize

TBD = To Be Determined

NI = Not Illustrated

\_\_\_\_\_\_

### **REPLACEMENT PARTS:**



### **WARNING:**

Electrical, ignition and fuel system components on PCM Engines are designed and manufactured to comply with U.S. Coast Guard rules and regulations to minimize risks of fire or explosion.

Use of replacement electrical, ignition and fuel system components which do not comply with these rules and regulations could result in a fire or explosion hazard and should be avoided.

### **MAINTENANCE ITEM PART NUMBERS:**

Description	Part Number
Oil Filter	R077001
Kit, Transmission Oil Filter (ZF)	RP077011
Fuel Filter (FCC)	RP080026
Spark Plugs	RP030011
Spark Plug Wire Set	RK120021
Serpentine Drive Belt	R066027
Raw Water Pump Impeller Kit	RP061022
Thermostat	R026007

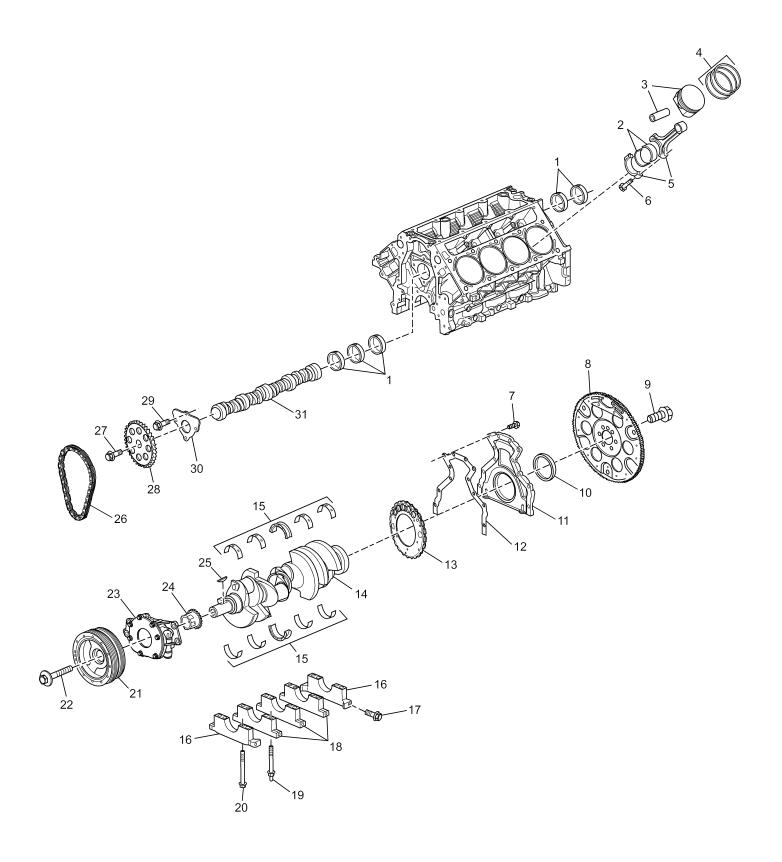
### **MARINE TRANSMISSIONS:**

PCM Engines are equipped with PCM or Hurth Transmissions, standard or "V"-drive. If transmission parts are required, contact your dealer or closest PCM Parts Distributor for required parts.

Parts manuals and overhaul manuals are available through PCM Distributors.

L510014-07 PCM ZR6

### CYLINDER BLOCK ASSEMBLY - FIGURE 1

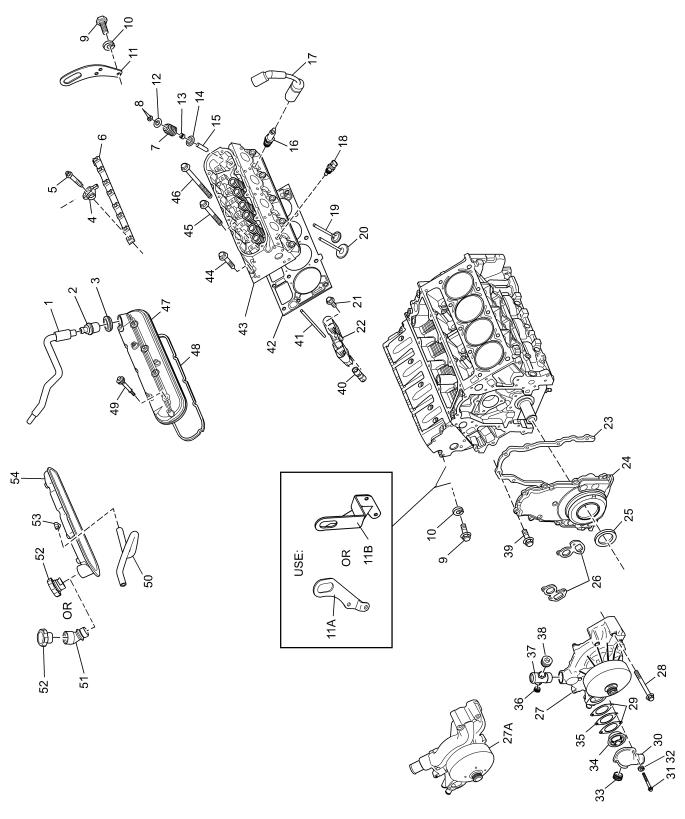


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# CYLINDER BLOCK ASSEMBLY - FIGURE 1

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
*	RB001021		Base Engine Assembly	
1	TBD	1	Bearing Set, camshaft	
2	R007029	8	Bearing, for one connecting rod (STD)	
3	RA013018	8	Piston w/Pin, (STD)	
4	TBD	8	Ring Set, piston (STD)	
5	TBD	8	Connecting Rod (STD)	
6	TBD	16	Bolt, connecting rod cap	
7	TBD	12	Bolt, rear engine cover	
8	RA138016	1	Flywheel Assembly	
9	R009205	6	Bolt, flywheel attaching	
10	R047236	1	Seal, crankshaft rear oil	
11	TBD	1	Cover, rear engine	
12	TBD	1	Gasket, rear engine cover	
13	p/o item #14	1	Reluctor Ring, crankshaft	
14	TBD	1	Crankshaft Assembly	
15	TBD	1	Bearing Set, crankshaft	
16	TBD	2	Cap, crankshaft bearing #1 and #5	
17	TBD	10	Bolt, crankshaft bearing cap side	
18	TBD	3	Cap, crankshaft bearing #2 - #4	
19	TBD		Stud, crankshaft bearing cap attaching	
20	TBD		Bolt, crankshaft bearing cap attaching	
21	R064016	1	Balancer, crankshaft	
22	TBD	1	Bolt, crankshaft balancer	
23	TBD	1	Oil Pump Assembly	
24	TBD	1	<b>Drive</b> , oil pump	
25	TBD	1	Key, crankshaft	
26	TBD	1	Chain, timing	
27	TBD	1	Bolt, camshaft sprocket attaching	
28	TBD	1	Sprocket, camshaft	
29	TBD	3	Bolt, camshaft retainer attaching	
30	TBD	1	Retainer, camshaft	
31	TBD	1	Camshaft	

### CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

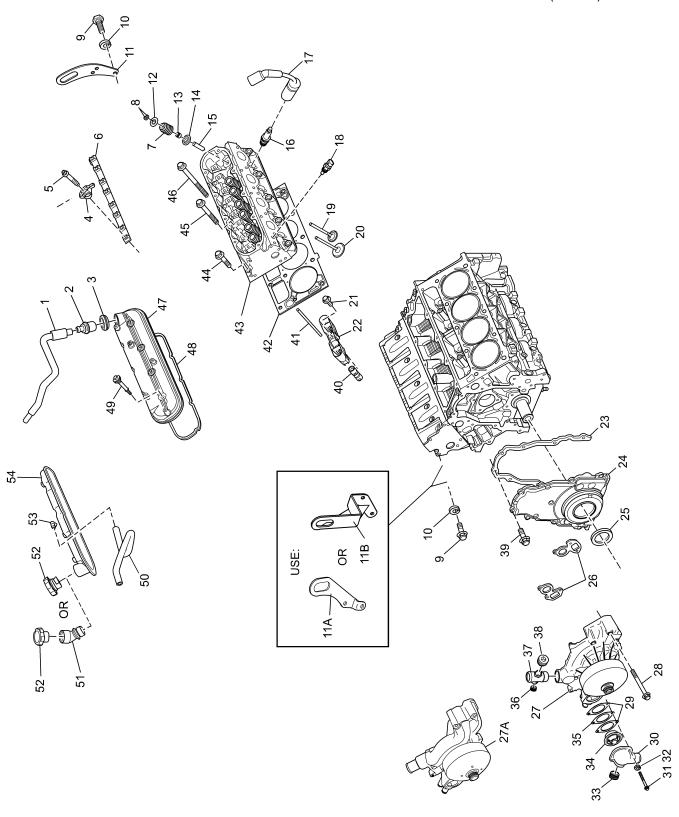


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# CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	TBD	1	Hose, PCV valve	
2	TBD	1	Valve, positive crankcase ventilation (PCV)	
3	TBD	1	Grommet, PCV valve	
4	TBD	16	Rocker Arm, valve	
5	TBD	16	Bolt, valve rocker arm attaching	
6	TBD	2	Guide, valve rocker arm	
7	TBD	16	Valve Spring Assembly	
8	TBD	32	Retainer, valve stem	
9	98443025	4	Bolt, lifting eye attaching	
10	93940000	4	Lockwasher, lifting eye attaching bolt	
11	R042012	1	Lifting Eye, rear, all	
11A	R042014	1	Lifting Eye, front, std. drive (replaces R042012)	
11B	R042016	1	Lifting Eye, front, v-drv (replaces R042012)	
12	TBD	16	Cap, valve spring	
13	TBD	16	Seal, valve stem	
14	TBD	32	Rotator, valve	
15	TBD	16	Guide, valve stem	
16	RP030011	8	Spark Plug	
17	RK12002	1	Spark Plug Wire Set	
18	R020046	1	Engine Coolant Temperature (ECT) Sensor	
19	TBD	8	Valve, exhaust (STD)	
20	TBD	8	Valve, intake (STD)	
21	TBD	8	Bolt, valve lifter retainer attaching	
22	TBD	8	Retainer, valve lifter	
23	RM0280	1	Gasket, front engine cover	
24	TBD	1	Cover, front engine	
25	R047237	1	Seal, front engine cover oil	
26	RM0281	2	Gasket, water circulating pump	
27	RK057033B	1	Water Circulation Pump Assembly	
27A	RA057036	1	Water Circulation Pump Assembly (S/N 470419 and above)	
28	TBD	4	Bolt, water circulating pump attaching	
29	RM0275	2	Gasket, thermostat housing	
30	R025036	1	Housing, thermostat	
31	98223016	2	<b>Bolt</b> , thermostat housing attaching	
32	93920000	2	Lockwasher, thermostat housing attaching	
33	113186	1	Plug, thermostat housing	
34	R026002	1	Thermostat, (160° F)	
35	R109051	1	Plate, thermostat retainer	
36	RS3551	1	Plug, water neck	
37	R024208	1	Water Neck	
38	RS3551	1	Plug, water neck	
39	TBD	8	Bolt, front engine cover attaching	

# CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2 (cont'd)



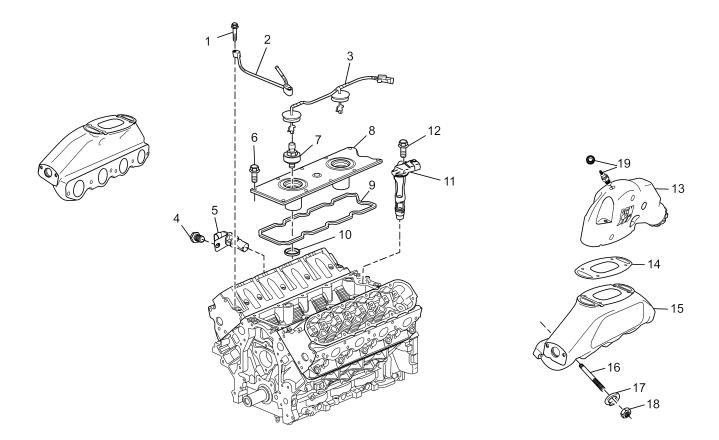
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# CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2 (cont'd)

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
40	TBD	16	Lifter, valve	
41	TBD	16	Push Rod	
42	RM0278	2	Gasket, Cylinder Head	
43	R003016	2	Cylinder Head	
44	R009208	4	Bolt, cylinder head (short)	
45	R009209	10	Bolt, cylinder head (medium)	
46	R009207	16	Bolt, cylinder head (long)	
47	RA033016	1	Cover, rocker (LH)	
48	RM0282	2	Gasket, rocker cover	
49	TBD	8	Bolt, rocker cover attaching	
50	TBD	1	Tube, breather	
51	R034049	1	Tube, oil fill	
52	R034038B	1	Cap, oil fill tube	
53	TBD	1	Fitting, breather tube	
54	RA033017	1	Cover, rocker w/Oil Fill (RH)	

L510014-07

### EXHAUST MANIFOLD / KNOCK SENSORS - FIGURE 3



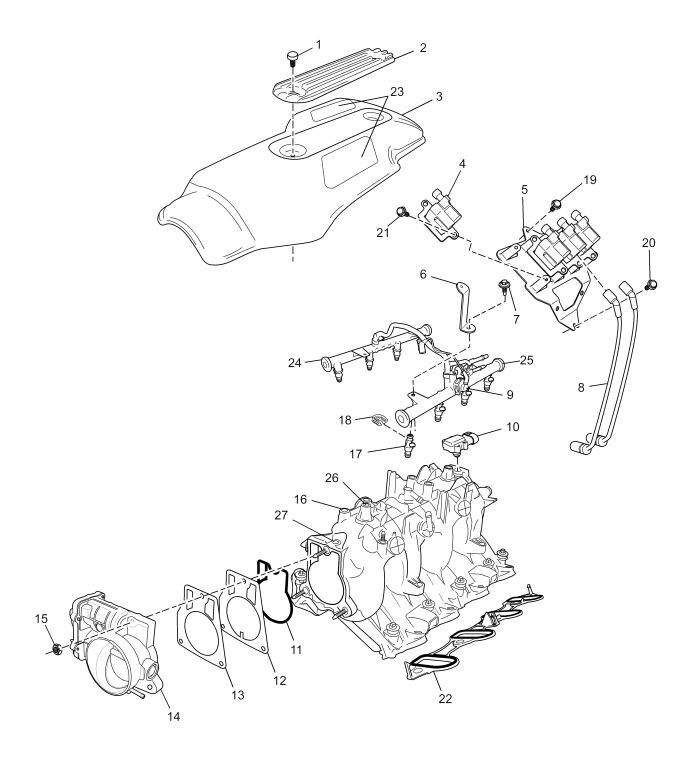
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# EXHAUST MANIFOLD / KNOCK SENSORS - FIGURE 3

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	TBD	2	Bolt, coolant air bleed pipe attaching	
2	TBD	1	Pipe, coolant air bleed	
3	TBD	1	Harness, knock sensor	
4	TBD	1	Bolt, crankshaft position attaching	
5	R020044	1	Sensor, crankshaft position	
6	TBD	10	Bolt, valley cover attaching	
7	R020043	2	Sensor, knock	
8	TBD	1	Cover, valley	
9	TBD	1	Gasket, valley cover	
10	TBD	2	Seal, knock sensor oil	
11	R020045	1	Sensor, camshaft position	
12	TBD	1	Bolt, camshaft position attaching	
13	R029016	2	Elbow, exhaust	
14	RM0274	2	Gasket, exhaust elbow to manifold	
15	R028023	2	Manifold, exhaust	
16	R031035	12	Stud, exhaust manifold attaching	
17	93930000	12	Lockwasher, exhaust manifold stud attaching	
18	97330000	12	Nut, exhaust manifold stud attaching	
19	RS3539	2	Plug, exhaust elbow	
19	R020047	2	Switch, exhaust temperature (optional)	

L510014-07

### INTAKE MANIFOLD COMPONENTS - FIGURE 4



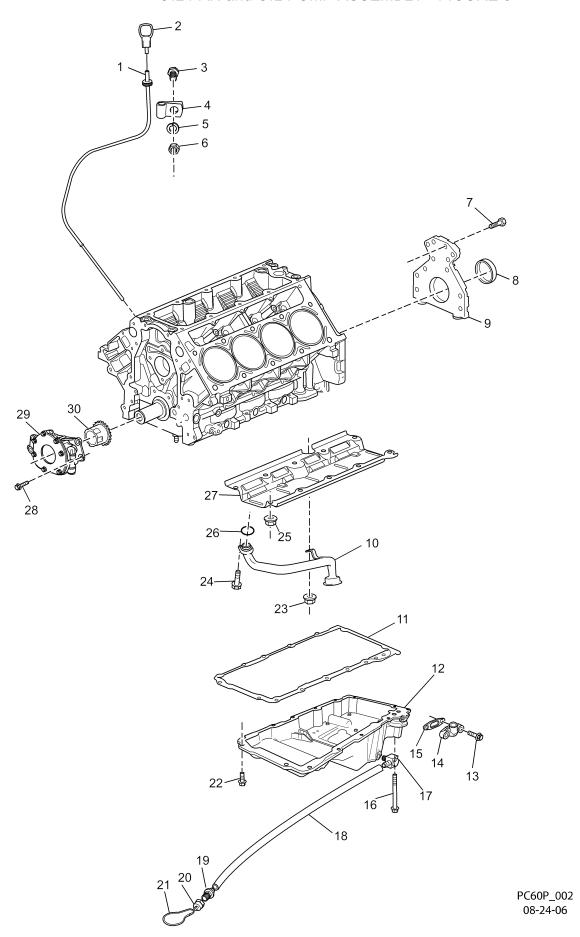
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# INTAKE MANIFOLD COMPONENTS - FIGURE 4

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R175055	2	Bolt, engine cover attaching	
2	R060063	1	Insert, engine cover	
3	R060062	1	Cover, engine	
3	R060062B	1	Cover, engine, used with front mount degas bottle	04-600V-xx, 15-600V-xx
4	R117013	8	Coil, ignition	
5	R090273	2	Bracket, ignition coil mounting	
6	R090268	2	Bracket, support	
7	98222018	4	Bolt, fuel rail attaching	
8	RK120021	1	Spark Plug Wire Set	
9	R088003	1	Regulator, fuel pressure ('03 Only)	
10	R020036	1	Sensor, manifold absolute pressure (MAP)	
11	TBD	1	Seal, throttle body	
12	R062087A	1	Plate, throttle body adapter	
13	RM0251	1	Gasket, throttle body	
14	RA035041	1	Throttle Body Assembly	
15	L00918	3	Nut, throttle body attaching	
16	R002025	1	Intake Manifold	
17	RA087008	8	Fuel Injector Assembly	
18	R127097	8	Retainer, fuel injector	
19	RS5126	2	Bolt, coil bracket attaching	
20	98223016	2	Bolt, coil bracket attaching	
NI	93920000	2	Lockwasher, coil bracket attaching	
21	91107075	16	Bolt, ignition coil attaching	
22	RM0277	1	Gasket Set, intake manifold	
23	R143154A	2	Decal, engine cover	
24	R086003	1	Fuel Rail, 6.0L, (right)	
25	R086004	1	Fuel Rail, 6.0L, w/regulator pocket (left)	
25	R086004A	1	Fuel Rail, 6.0L, w/o regulator pocket (left)	
26	RA085103	1	Fuel Rail, 6.0L, crossover	
27	R036007	8	Insert, threaded, intake	
28	RS3550	1	Plug, pipe, 1/4" NPT	

L510014-07

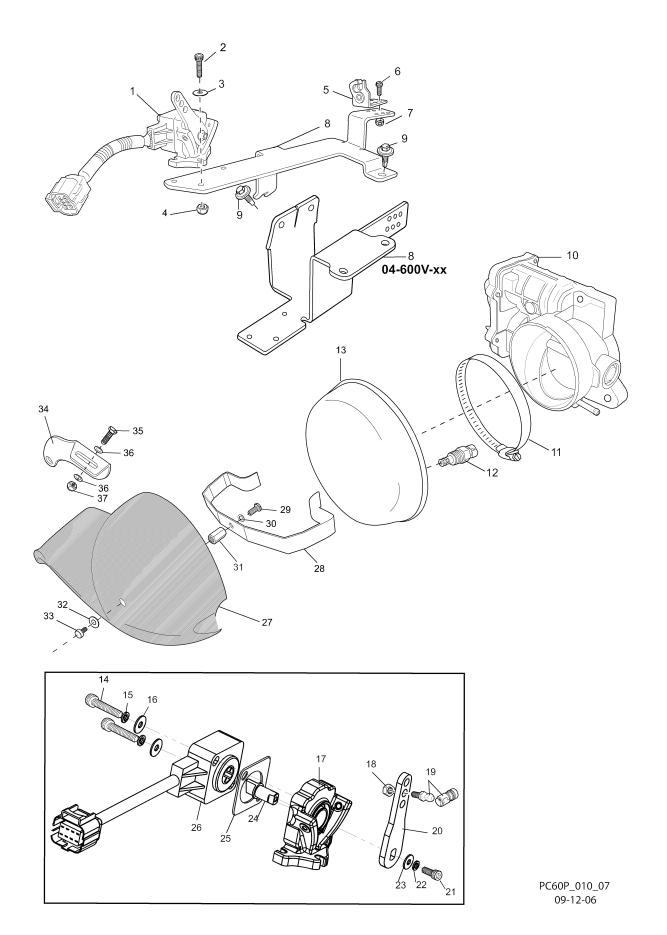
### OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5



# OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R041079	1	Tube, oil dipstick	
2	R041080	AR	Dipstick, oil level (0 to 4 degree)	
2	R041081	AR	Dipstick, oil level (12 degree)	
3	RS0302	1	Bolt, oil dipstick tube attaching	
4	R127015	1	Clamp, oil dipstick tube attaching	
5	RS2180	1	Lockwasher, oil dipstick tube attaching	
6	RS1028	1	Nut, oil dipstick tube attaching	
7	TBD	1	Bolt, engine rear cover attaching	
8	R047236	1	Seal, engine rear cover oil	
9	TBD	1	Cover, engine rear	
10	R074030	1	Tube, oil pickup	
11	RM0279	1	Gasket, oil pan	
12	R005025	1	Oil Pan	
13	TBD	2	Bolt, oil sending unit adapter attaching	
14	R079071	1	Adapter, oil sending unit	
15	RM0284	1	Gasket, oil sending unit adapter	
16	TBD	2	Bolt, oil pan attaching (long)	
17	R024213	1	Fitting, oil drain	
18	R045049	AR	Hose, oil drain	
19	R024061	1	Fitting, oil drain	
20	R024066A	1	Cap, oil drain	
21	R190123	1	Hook, oil drain hose	
22	TBD	12	Bolt, oil pan attaching (short)	
23	TBD	1	Nut, oil pickup tube attaching	
24	TBD	1	Bolt, oil pickup tube attaching	
25	TBD	10	Nut, windage tray attaching	
26	TBD	1	O-ring, oil pickup tube	
27	R012027	1	Tray, windage	
28	TBD	4	Bolt, oil pump attaching	
29	RA070018	1	Oil Pump Assembly	
30	TBD	1	Drive, oil pump	

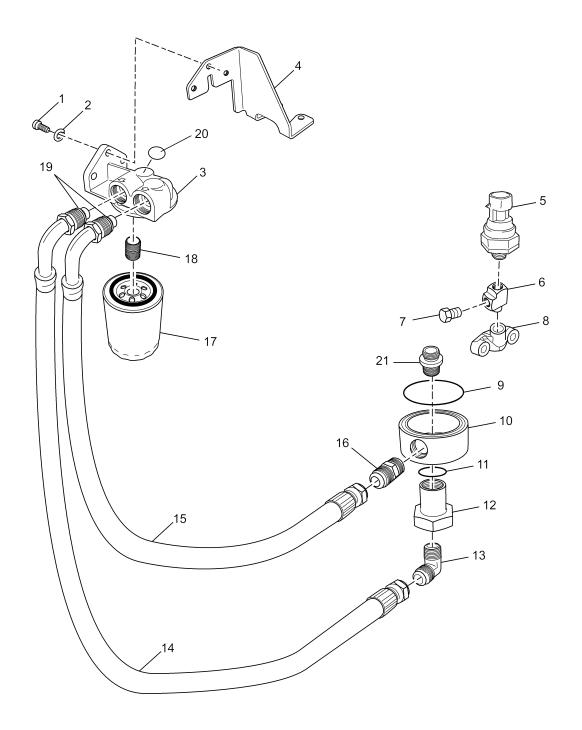
### THROTTLE BODY and RELATED COMPONENTS - FIGURE 6



# THROTTLE BODY and RELATED COMPONENTS - FIGURE 6

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA119005	1	Throttle Control Position (TCP) Sensor Assembly	
2	91864075	3	Bolt, TCP Sensor Assembly attaching	
3	92004000	3	Washer, flat, TCP Sensor Assembly attaching	
4	RS2052	3	Nut, TCP Sensor Assembly attaching	
5	R090086	1	Cable Clip, throttle	
6	RS5122	2	Bolt, cable clip attaching	
7	RS2050	2	Nut, cable clip attaching	
8	R090321B	1	Bracket, TCP Assembly/Throttle Clip	
8	R090267C	1	Bracket, TCP Assembly/Throttle Clip/Degas Bottle	04-600V-xx
9	98222018	2	Bolt, TCP/Throttle Clip bracket attaching	
10	RA035041	1	Throttle Body Assembly	
11	RS3857	1	Clamp, flame arrestor	
12	NSS	1	Air Temp Sensor (order R145026B)	
13	R145026B	1	Arrestor, flame	
14	91064125	2	Bolt, TCP Sensor attaching	
15	93040000	2	Lock Washer, TCP Sensor attaching	
16	92004000	2	Flat Washer, TCP Sensor attaching	
17	R109053A	1	Plate Assembly, TCP Sensor	
18	RS1568	1	Nut, ball joint attaching	
19	R178003	1	Ball Joint Assembly	
20	R081009	1	Arm, TCP Sensor	
21	91864050	1	Bolt, TCP Sensor arm attaching	
22	94854500	1	Lock Washer, TCP Sensor arm attaching	
23	94004200	1	Flat Washer, TCP Sensor arm attaching	
24	R058071	1	Shaft, TCP Sensor	
25	R062090	1	Spacer, TCP support	
26	R119005	1	TCP Sensor	
27	R060069	1	Cover, flame arrestor	
28	R090342	1	Bracket, flame arrestor cover, upper	
29	RS6502	1	<b>Bolt</b> , cover mount attaching, upper (use removable locktite)	
30	93920000	1	Lockwasher, cover mount attaching, upper	
31	R017082	1	Coupling, nut cover mount, upper	
32	R096143	1	Washer, cover attaching, upper	
33	R175055	1	Bolt, cover attaching, upper (use removable locktite)	
34	R090340	1	Bracket, cover flame arrestor, lower	
35	RS5122	1	Bolt, cover attaching, lower	
36	92004000	2	Washer, cover attaching, lower	
37	RS2055	1	Nut, Nylock, cover attaching, lower	

# REMOTE OIL FILTER COMPONENTS (STANDARD DRIVE) - FIGURE 7



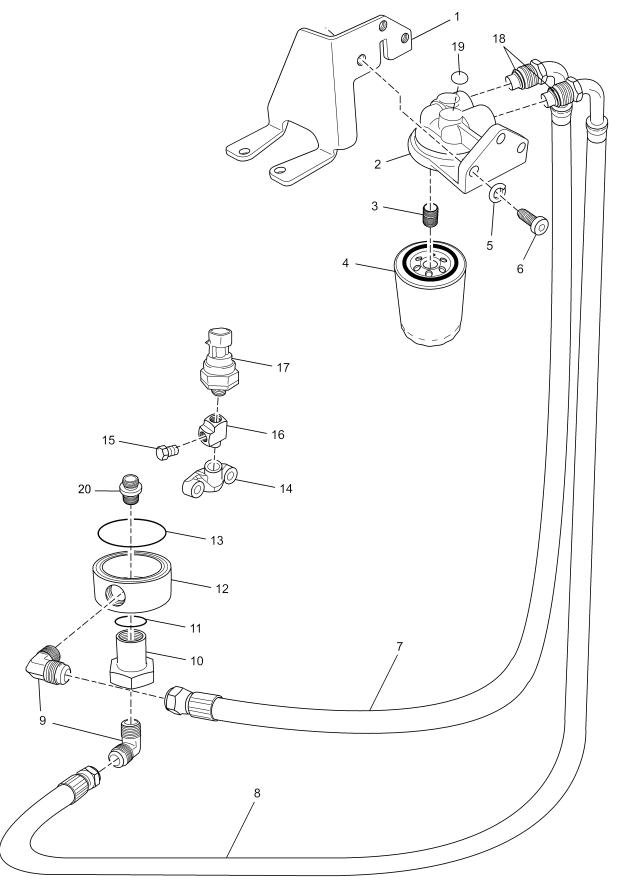
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# REMOTE OIL FILTER COMPONENTS (STANDARD DRIVE) - FIGURE 7

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	99333020	3	Bolt, oil filter header mounting	
2	RS2179	3	Lockwasher, oil filter header mounting	
3	R079066	1	Oil Filter Header	
4	R090275	1	Bracket, oil filter header mounting	
5	R020049	1	Sender, oil pressure	
6	R024145	1	Tee, sender attaching	
7	RS3554	1	Plug, oil pressure sensor tee	
8	R079071	1	Adapter, oil sending unit	
9	R047240	1	O-ring, oil bypass adapter	
10	R079067	1	Adapter, oil bypass	
11	R047202	1	O-ring, oil bypass adapter attaching fitting	
12	R079068	1	Nut, oil bypass adapter attaching	
13	R024184	1	Fitting, 90 degree	
14	R045120D	1	Hose Assembly, filter header to bypass adapter	
15	R045120D	1	Hose Assembly, bypass adapter to filter header	
16	R024148	1	Fitting, straight	
17	R077001	1	Filter, oil	
18	R024203	1	Nipple, header filter adapter	
19	R047245	2	O-Ring, oil line	
20	R143175	1	Decal, "CAUTION HOT"	
21	R079074	1	Adapter, engine to oil bypass	

L510014-07 PCM ZR6

# REMOTE OIL FILTER COMPONENTS ("V" - DRIVE) - FIGURE 8



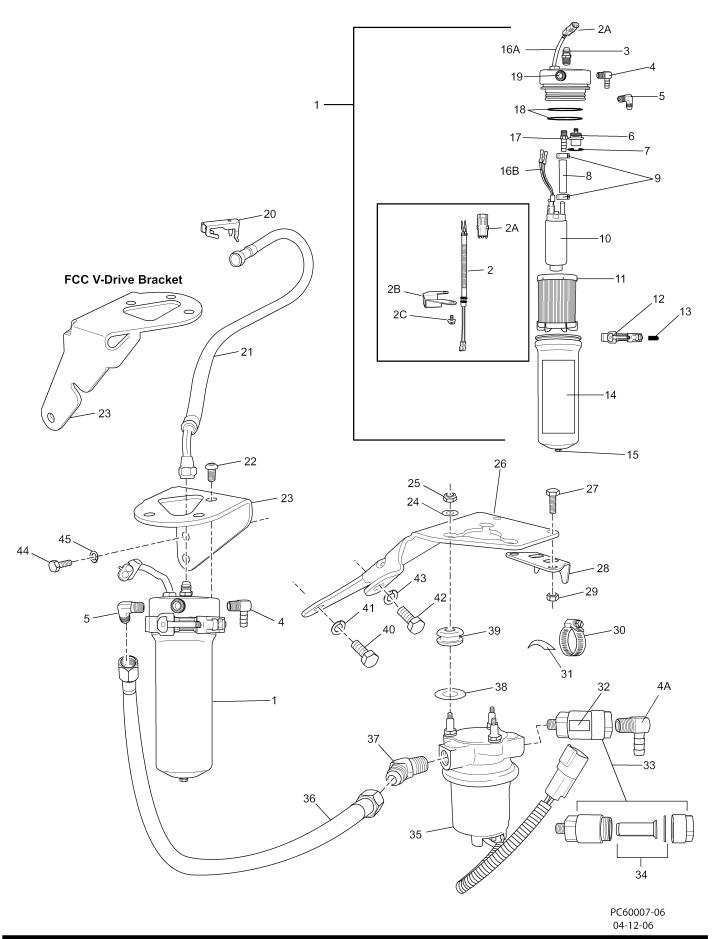
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# REMOTE OIL FILTER COMPONENTS ("V" - DRIVE) - FIGURE 8

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090275	1	Bracket, oil filter header mounting	
2	R079066	1	Oil Filter Header	
3	R024203	1	Nipple, header filter adapter	
4	R077001	1	Filter, oil	
5	RS2179	3	Lockwasher, oil filter header mounting	
6	99333020	3	Bolt, oil filter header mounting	
7	RA045120	1	Hose Assembly, bypass adapter to filter header	
8	RA045120	1	Hose Assembly, filter header to bypass adapter	
9	R024184	2	Fitting, 90 degree	
10	R079068	1	Fitting, oil bypass adapter attaching	
11	R047202	1	O-ring, oil bypass adapter attaching fitting	
12	R079067	1	Adapter, oil bypass	
13	R047240	1	O-ring, oil bypass adapter	
14	R079071	1	Adapter, oil sending unit	
15	RS3554	1	Plug, oil pressure sensor tee	
16	R024145	1	Tee, sender attaching	
17	R020049	1	Sender, oil pressure	
18	R047245	2	O-Ring, oil line	
19	R143175	1	Decal, "CAUTION HOT"	
20	R079074	1	Adapter, engine to oil bypass	

L510014-07

# FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 9

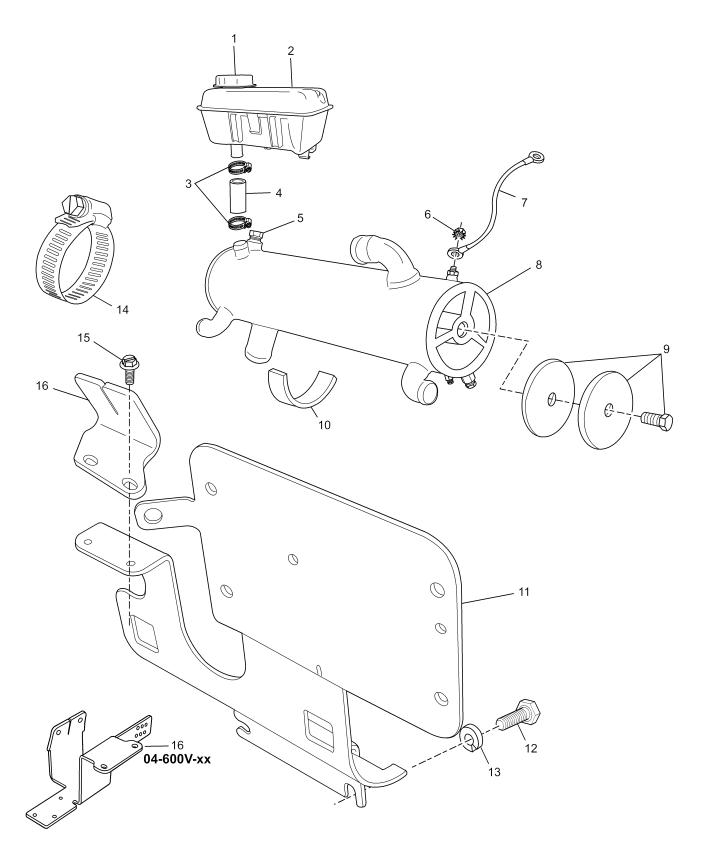


# FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 9

1	ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
Connector, WP 2-way Female   Connector, WP	1	RA080030A	1	Fuel Control Cell Assembly	
Baffle FCC Used wf spiece harmess	2	R1210085B	1		
2	2A	7172040	1	Connector, W/P 2-way Female	
Fitting, 14 NPT x SAE	2B	R012030	1	Baffle, FCC used w/1-piece harness	
A	2C	91620025	2	Screw, self tapping, baffle/1-piece harness retaining	
Fitting_ 138 NPT to Hose fo tank	3	R024175	1	Fitting, 1/4 NPT X SAE	
5         R024183         1         Fitting, 1/4 NPT X SAE (from LPFP)           6         R088004         1         Regulator, fuel pressure (FCC ystem Only)           8         R045098B         1         Hose, 5/16it X 1/2od X 2 1/2           10         RA080027         1         Hose, 5/16it X 1/2od X 2 1/2           11         R080026         1         Fitting, 1/4 NPT X SAE (from LPFP)           12         R177010         1         Clamp, Deliker, 5/8           12         R177010         1         Clamp, FCC           14         R143112A         1         Cover, T-bolt end           14         R143112A         1         Decal, FCC           15         RS3554         1         Harness, FCC Internal           16B         RA121080         1         Harness, FCC Internal           18         R047241         1         Harness, FCC Internal           19         R35550         1         Rtiting, 1/8 NPT X 5/16 Barb           20         R127100         1         Hose Assembly, FCC to fuel rail (inlet)           21         RA0859900         1         Hose Assembly, FCC to fuel rail (inlet)           22         R090277         1         Hose Assembly, FCC to fuel rail (inlet) </td <td>4</td> <td>R024225</td> <td>1</td> <td>Fitting, 1/4 NPT to Hose (return to tank)</td> <td></td>	4	R024225	1	Fitting, 1/4 NPT to Hose (return to tank)	
6         R088004         1         Regulator, fuel pressure (FCC System Only)           7         R048070         1         Retainer, fuel pressure regulator           9         R127087         2         Clamp, Oetiker, 5/8           10         RA080027         1         Pump, high pressure fuel           11         R080026         1         Filter, Loui (FCC)           NI         RP080026         1         Filter, Loui (FCC)           NI         R75002         1         Clamp, FCC           13         R126002         1         Cover, T-bolt end           14         R14312A         1         Decal, FCC           15         R83554         1         Plug, pipe, hex head, 1/8           16         RA121060         1         Harness, FCC Feed through           17         R024219         1         Fitting, 1/8 NPT X 5/16 Barb           18         R047241         1         Fitting, 1/8 NPT X 5/16 Barb           19         R25550         1         Plug, pipe, hex socket, 1/4           21         RA085990C         1         Hasa Assembly, FCC to fuel rail (inlet)           22         R038075         3         R090276         1         Bracket, FCC mounting, Volkive	4A	R024226	1	Fitting, 3/8 NPT to Hose (to tank)	
7         R045070         1         Retainer, fuel pressure regulation           8         R045098B         1         Hose, 5/16lid X 1/20d X 2 1/2           10         RA080027         1         Hose, 5/16lid X 1/20d X 2 1/2           11         R080026         1         RURD           11         R080026         1         Kit. FCC filter and O-rings           12         R171010         1         Clamp, FCC           13         R128002         1         Cover, T-boll end           14         R143112A         1         Decal, FCC           16A         RA3121061         1         Harness, FCC Feed through           16B         RA4121061         1         Harness, FCC Informal           17         R024219         1         Fitting, 1/8 NPT X 5/16 Barb           O-Ring, FCC scaling         1         Plug, pipe, hex socket, 1/4           20         R127100         1         Retainer, fuel line           12         RA085990D         1         Hose Assembly, FCC to fuel rail (inlet), V-DRIVE           21         R090277         1         Hose Assembly, FCC to fuel rail (inlet), V-DRIVE           22         R096071         1         Bracket, FCC mounting, V-DRIVE	5	R024163	1	Fitting, 1/4 NPT X SAE (from LPFP)	
R045098B	6	R088004	1	Regulator, fuel pressure (FCC System Only)	
9	7	R048070	1	Retainer, fuel pressure regulator	
10	8	R045098B	1	<b>Hose</b> , 5/16id X 1/2od X 2 1/2	
11	9	R127087	2	Clamp, Oetiker, 5/8	
NI	10	RA080027	1	Pump, high pressure fuel	
12	11	R080026	1	Filter, fuel (FCC)	
13         R128002         1         Cover, T-bolt end           14         R143112A         1         Decal, FCC           15         RS3554         1         Plug, pipe, hex head, 1/8           16A         RA121060         1         Harness, FCC Foed through           17         R024219         1         Hitting, 1/8 NFT X S/16 Barb           18         R047241         1         O-Ring, FCC sealing           19         RS3550         1         Plug, pipe, hex socket, 1/4           20         R127100         1         Retainer, fuel line           21         RA0850900         1         Hose Assembly, FCC to fuel rail (inlet)           22         90384075         3         Bolt, FCC attaching           23         R090276         1         Bracket, FCC mounting, V-DRIVE           24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090272         1         Bracket, pre-filter bracket attaching           27         RS0251         2         Bott, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter 1/2"	NI	RP080026	1	Kit, FCC filter and O-rings	
14	12	R171010	1	Clamp, FCC	
15         RS3554         1         Plug, pipe, hex head, 1/8           168         RA121061A         1         Harness, FCC Feed through           187         R024219         1         Fitting, 1/8 NPT X 5/16 Barb           17         R024219         1         Fitting, 1/8 NPT X 5/16 Barb           18         R047241         1         O-Ring, FCC sealing           19         RS3550         1         Plug, pipe, hex socket, 1/4           20         R127100         1         Retainer, fuel line           21         RA085090C         1         Hose Assembly, FCC to fuel rail (inlet)           22         90384075         3         Boit, FCC attaching           23         R090277         1         Bracket, FCC mounting, V-DRIVE           24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump mounting           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Boit, pre-filter bracket attaching           28         R090272         1         Bracket, low-pressure fuel pump mounting           30         RS3656         1	13	R128002	1	Cover, T-bolt end	
16A         RA121060         1         Harness, FCC Feed through           17         Ro24219         1         Harness, FCC internal           18         Ro47241         1         O-Ring, FCC sealing           19         RS3550         1         Plug, pips, hex socket, 1/4           19         RA085090C         1         Retainer, fuel line           21         RA085090C         1         Hose Assembly, FCC to fuel rail (inlet)           21         RA085090C         1         Hose Assembly, FCC to fuel rail (inlet)           22         90384075         3         Bolt, FCC attaching           23         R090276         1         Bracket, FCC mounting           24         R090277         1         Bracket, FCC mounting, U-DRIVE           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter bracket attaching           31         R094040         1 <t< td=""><td>14</td><td>R143112A</td><td>1</td><td></td><td></td></t<>	14	R143112A	1		
16B	15	RS3554	1	Plug, pipe, hex head, 1/8	
17         R024219         1         Fitting, 1/8 NPT X 5/16 Barb           18         R047241         1         O-Ring, FCC sealing           19         R33550         1         Plug, pipe, hax socket, 1/4           20         R127100         1         Retainer, fuel line           21         RA085090C         1         Hose Assembly, FCC to fuel rail (inlet)           21         RA085090D         1         Hose Assembly, FCC to fuel rail (inlet)           22         90384075         3         Bott, FCC attaching           23         R090276         1         Bracket, FCC mounting           24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, fow-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter mounting           29         RS1078         2         Nut, wilockwasher, pre-filter bracket attaching           31         R094040         1         Isolator, rubber, wild adsaive           32         R143174         1	16A	RA121060	1	Harness, FCC Feed through	
18	16B	RA121061A	1	Harness, FCC internal	
18	17	R024219	1	Fitting, 1/8 NPT X 5/16 Barb	
19	18	R047241	1	<u> </u>	
Retainer, fuel line			1	<u> </u>	
21			1		
21					
22   90384075   3   Bolt, FCC attaching   Bracket, FCC mounting   Bracket, FCC mounting   Washer, flat, mounting, V-DRIVE   Washer, flat, mounting, upper   Locking Nut, low-pressure fuel pump   Bracket, fow-pressure fuel pump mounting   RS1078   RN90272   1   Bracket, pre-filter mounting   Bracket, pre-filter bracket attaching   Clamp, pre-filter 1 ½"   Isolator, rubber, w/ adhesive   Decal, pre-filter   Solator, w/ adhesive   Decal, pre-filter   Solator, w/ adhesive   Decal, pre-filter   Solator, w/ adhesive   Decal, pre-filter   Solator   Solator, rubber, rubbe				, ,	
23         R090276         1         Bracket, FCC mounting           23         R090277         1         Bracket, FCC mounting, V-DRIVE           24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter bracket attaching           31         R094040         1         Isolator, rubber, w' adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Kit, fuel filter and seal           34         RP077014         1         Kit, fuel filter and seal           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024163         1         Fitting, 95 degree, V-DRIVE           38         R096141         3         Rosembly, low-pressure pump mounting, lower           39         R094035A				· //	
23         R090277         1         Bracket, FCC mounting, V-DRIVE           24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter mounting           30         RS3858         1         Clamp, pre-filter pracket attaching           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Fitting, 45 degree           37         R024193         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Gr		R090276	1	•	
24         R096142         3         Washer, flat, mounting, upper           25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter bracket attaching           29         RS1078         2         Nut, w/lockwasher, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter 1 ½"           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           Kit, fuel filter and seal         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443035         1 <td< td=""><td></td><td>R090277</td><td>1</td><td>Bracket, FCC mounting, V-DRIVE</td><td></td></td<>		R090277	1	Bracket, FCC mounting, V-DRIVE	
25         RS1521L         3         Locking Nut, low-pressure fuel pump           26         R090286         1         Bracket, low-pressure fuel pump mounting           27         RS0251         2         Bolt, pre-filter bracket attaching           28         R090272         1         Bracket, pre-filter mounting           29         RS1078         2         Nut, w/lockwasher, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter bracket attaching           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024163         1         Fitting, 45 degree           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443005         1 <td></td> <td>R096142</td> <td>3</td> <td>_</td> <td></td>		R096142	3	_	
26	25	RS1521L	3	- **	
R80251	26	R090286	1		
28         R090272         1         Bracket, pre-filter mounting           29         RS1078         2         Nut, w/lockwasher, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter 1 ½"           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2 <td>27</td> <td>RS0251</td> <td>2</td> <td></td> <td></td>	27	RS0251	2		
29         RS1078         2         Nut, w/lockwasher, pre-filter bracket attaching           30         RS3858         1         Clamp, pre-filter 1 ½"           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2					
30         RS3858         1         Clamp, pre-filter 1 ½"           31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket	29		2	Nut, w/lockwasher, pre-filter bracket attaching	
31         R094040         1         Isolator, rubber, w/ adhesive           32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
32         R143174         1         Decal, pre-filter           33         RA077014         1         Fuel Pre-filter Assembly, 150 micron           34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket				• • •	
33       RA077014       1       Fuel Pre-filter Assembly, 150 micron         34       RP077014       1       Kit, fuel filter and seal         35       RA080018       1       Fuel Pump, low-pressure         36       RA085071       1       Hose Assembly, low-pressure pump to FCC         37       R024197       1       Fitting, 45 degree         38       R096141       3       Washer, fuel pump mounting, lower         39       R094035A       3       Grommet, isolator         40       98443025       1       Bolt, LPFP bracket attaching, block         41       93940000       1       Lockwasher, LPFP bracket attaching, mount         43       93940000       1       Lockwasher, LPFP bracket attaching, mount         44       98443025       2       Bolt, FCC mounting bracket         45       93940000       2       Lockwasher, FCC mounting bracket					
34         RP077014         1         Kit, fuel filter and seal           35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
35         RA080018         1         Fuel Pump, low-pressure           36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket				•	
36         RA085071         1         Hose Assembly, low-pressure pump to FCC           37         R024197         1         Fitting, 45 degree           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket				·	
37         R024197         1         Fitting, 45 degree           37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, mount           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
37         R024163         1         Fitting, 90 degree, V-DRIVE           38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, block           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
38         R096141         3         Washer, fuel pump mounting, lower           39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, block           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
39         R094035A         3         Grommet, isolator           40         98443025         1         Bolt, LPFP bracket attaching, block           41         93940000         1         Lockwasher, LPFP bracket attaching, block           42         98443030         1         Bolt, LPFP bracket attaching, mount           43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket					
40       98443025       1       Bolt, LPFP bracket attaching, block         41       93940000       1       Lockwasher, LPFP bracket attaching, block         42       98443030       1       Bolt, LPFP bracket attaching, mount         43       93940000       1       Lockwasher, LPFP bracket attaching, mount         44       98443025       2       Bolt, FCC mounting bracket         45       93940000       2       Lockwasher, FCC mounting bracket					
41       93940000       1       Lockwasher, LPFP bracket attaching, block         42       98443030       1       Bolt, LPFP bracket attaching, mount         43       93940000       1       Lockwasher, LPFP bracket attaching, mount         44       98443025       2       Bolt, FCC mounting bracket         45       93940000       2       Lockwasher, FCC mounting bracket					
42       98443030       1       Bolt, LPFP bracket attaching, mount         43       93940000       1       Lockwasher, LPFP bracket attaching, mount         44       98443025       2       Bolt, FCC mounting bracket         45       93940000       2       Lockwasher, FCC mounting bracket				-	
43         93940000         1         Lockwasher, LPFP bracket attaching, mount           44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket				-	
44         98443025         2         Bolt, FCC mounting bracket           45         93940000         2         Lockwasher, FCC mounting bracket				_	
45 93940000 2 Lockwasher, FCC mounting bracket				_	
				_	
INI   15143114       Decal, warning, luct leaks	NI	R143114	1	Decal, Warning, fuel leaks	

L510014-07 PCM ZR6

### **HEAT EXCHANGER and COMPONENTS - FIGURE 10**

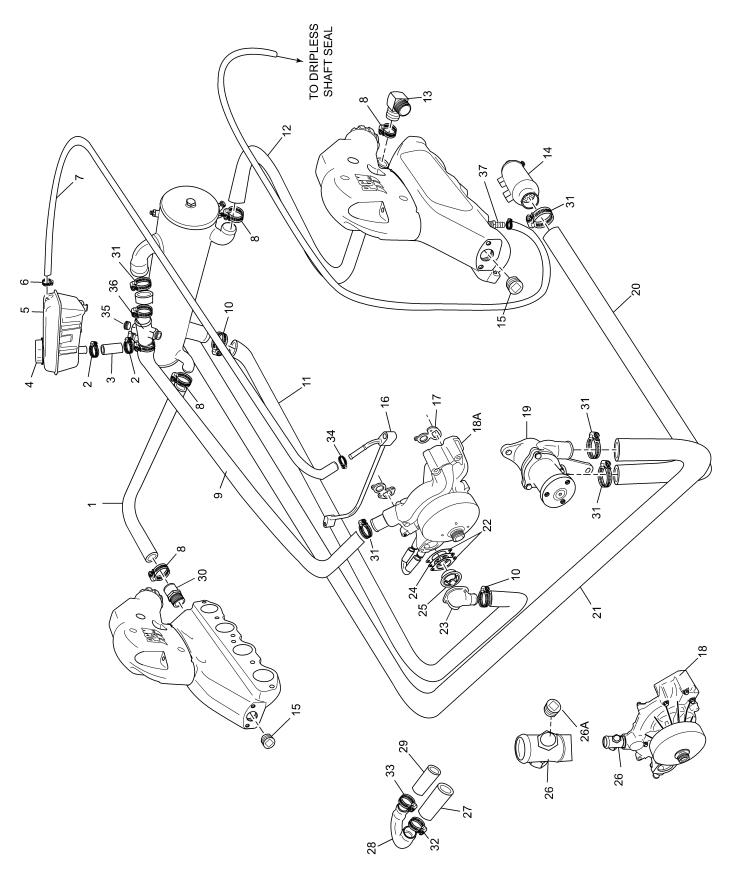


PC60P\_007-07 04-18-06

# HEAT EXCHANGER and COMPONENTS - FIGURE 10

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R034045	1	Cap, degas bottle	
2	R146001	1	Bottle, degas	
NI	R143152	1	Decal, 6.0L specification	
NI	R143153	1	Decal, coolant fill	
3	RS3872	2	Clamp, hose	
4	R045153	1	Hose, degas bottle to heat exchanger	
4	R045161	1	Hose, degas bottle to heat exchanger	04-600V-xx
5	R168008	AR	Anode, sacrificial zinc	
6	RS1078	1	Nut, ground wire stud	
7	R101013	1	Wire, grounding	
8	RA147047	1	Heat Exchanger Assembly	
9	R034009	AR	End Cap , exchanger	
10	R094040	2	Isolator, rubber	
11	R090279A	1	Bracket, heat exchanger	
12	RS0304	2	Bolt, heat exchanger bracket attaching	
13	RS2380	2	Lockwasher, mounting bolt	
14	RS3857	2	Clamp, exchanger mounting	
15	91107075	2	Bolt, degas bottle bracket attaching	
16	R090274A	1	Bracket, degas bottle mounting	
16	R090267C	1	Bracket, degas bottle/TCP mounting	04-600V-xx
NI	R143155	1	Decal, Protective Anode	
NI	R143156	1	Decal, Raw Water Drain	
NI	R143157	1	Decal, Fresh Water Drain	
NI	R143183-07	1	Decal, 6.0 Emission MY '07	
NI	R143158	1	Decal, "Ultra Low Emission"	

### FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 11



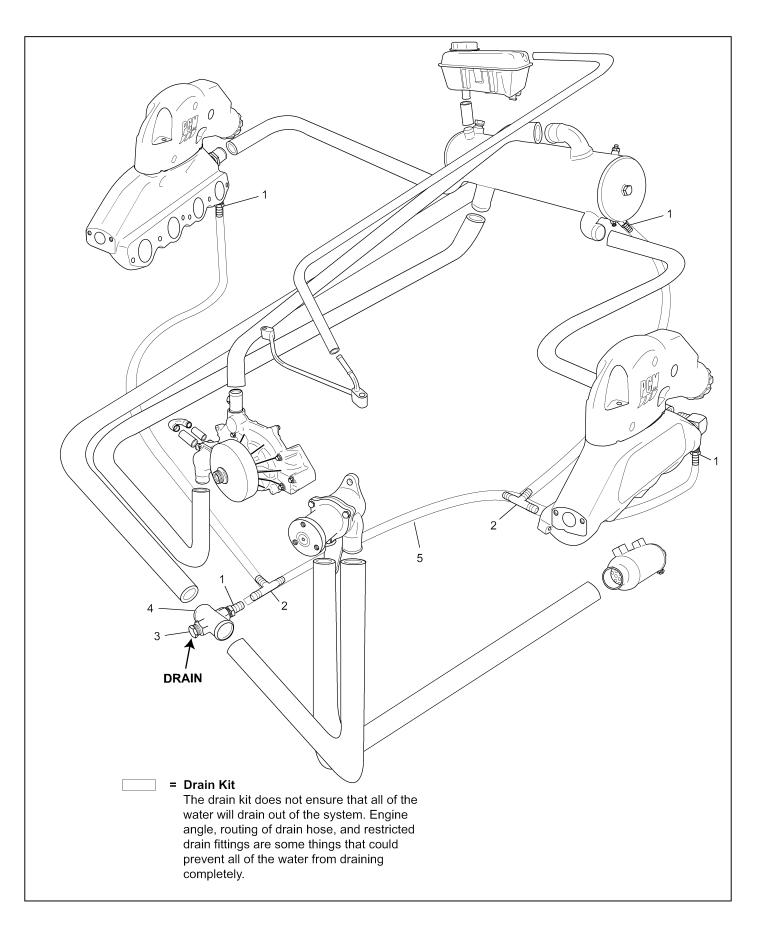
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PCM ZR6

### FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 11

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R045151	1	Hose, exchanger to exhaust manifold (Starboard STD)	
2	RS3872	2	Clamp, hose	
3	R045153	1	Hose, degas bottle to heat exchanger	
3	R045161	1	Hose, degas bottle to heat exchanger	04-600V-xx
4	R034045	1	Cap, degas bottle	
5	R146001	1	Bottle, degas	
6	R127087	1	Clamp, hose (5/8" - degas bottle)	
7	R045132	1	Hose, coolant air bleed to bottle	
8	RS3851	4	Clamp, hose (1")	
9	R045149	1	Hose, circ. pump to heat exchanger	
9	R045149A	1	Hose, circ. pump to heat exchanger (S/N 470419 and above)	
10	RS3868	2	<b>Clamp</b> , hose (1 1/2")	
11	R045148	1	Hose, exchanger to thermostat housing	
12	R045150	1	Hose, exchanger to exhaust manifold (Port STD)	
13	R024006A	1	Fitting, 90 degree	
14	R147014	1	Cooler, transmission oil	
15	113186	2	Plug, manifold	
16	TBD	1	Tube, coolant air bleed	
17	RM0281	2	Gasket, water pump to engine block	
18	RK057033B	1	Water Circulation Pump Assembly	
18A	RA057036	1	Water Circulation Pump Assembly (S/N 470419 and above)	
19	RA057032	1	Raw Water Pump	
20	18401	1	Hose, oil cooler to raw water pump (cut-to-fit)	
21	R045147	1	Hose, raw water pump to exchanger	
22	RM0275	2	Gasket, thermostat housing	
23	R025036	1	Thermostat Housing	
24	R109051	1	Plate, thermostat retainer	
25	R026002	1	Thermostat, (160 degree)	
26	R024208	1	Water Neck	
26A	RS3551	2	Plug,water neck	
27	R045153	1	Hose, coolant bypass fitting (3/4" bulk)	
28	R024210	1	Bypass, coolant	
29	R045086	1	Hose, coolant bypass fitting (5/8" bulk)	
30	R024073	1	Fitting, manifold straight	
31	RS3858	8	<b>Clamp</b> , hose (1 1/4")	
32	R127087G	2	Clamp, hose (1 1/16" oetiker)	
33	R127087F	2	Clamp, hose (1" oetiker)	
34	R127084	1	Clamp, hose (vent tube)	
35	RS3551	2	Plug, 4-way fitting (S/N 470419 and above)	
36	R024216	1	Fitting, 4-way (S/N 470419 and above)	
37	R024234	1	Fitting, 3/8 NPT x 5/16 hose	15-600V-02
			NOTE: For S/N 470419 and above, hose R045149A (item 9) is cut 4" from the Heat exchanger to allow for installation of R024216 (item 36).	

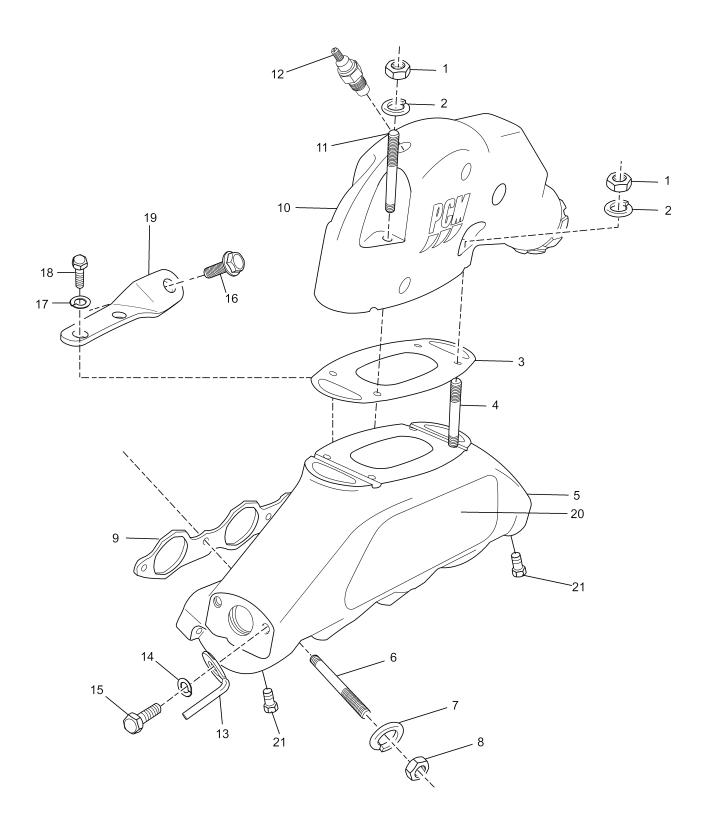
### OPTIONAL DRAIN KIT COMPONENTS - FIGURE 12



# OPTIONAL DRAIN KIT COMPONENTS - FIGURE 12

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R024218	4	Fitting, straight	
2	R024215	2	Tee, hose	
3	RS3557	1	Plug, drain	
4	R024216	1	Fitting, 4-way RW drain	
5	R045175	AR	Hose, RW drain	
NS	R127087G	10	Clamp, hose (1 1/16" oetiker)	
NS	R127087F	2	Clamp, hose (1" oetiker)	
	<u> </u>	<u> </u>		

### **EXHAUST MANIFOLD and COMPONENTS - FIGURE 13**



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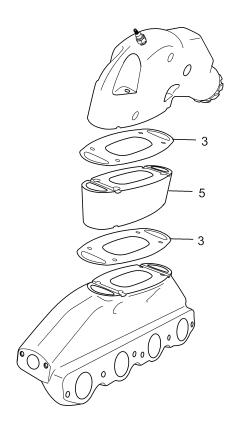
PCM ZR6

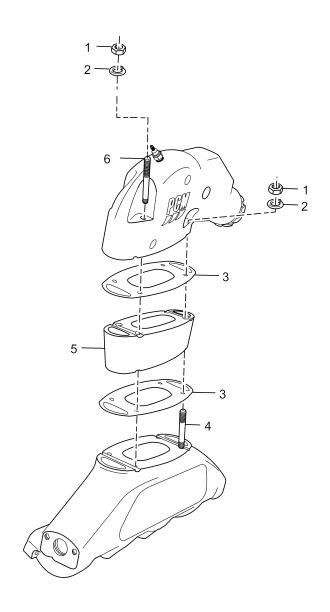
# EXHAUST MANIFOLD and COMPONENTS - FIGURE 13

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	95310000	8	Nut, exhaust elbow attaching	
2	93300000	8	Lockwasher, exhaust elbow attaching	
3	RM0274	2	Gasket, manifold to exhaust elbow	
4	R031036	4	Stud, exhaust elbow attaching (short)	
4	R031039	AR	Stud, exhaust elbow attaching w/4" riser (short)	
5	R028023	2	Exhaust Manifold Assembly	
6	R031035	12	Stud, manifold to cylinder head attaching	
7	RS2179	12	Lockwasher, manifold to cylinder head attaching	
8	RS7026	12	Nut, manifold to cylinder head attaching	
9	RM0276	2	Gasket, manifold to cylinder head	
10	R029016	2	Exhaust Elbow Assembly	
11	R031037	4	Stud, exhaust elbow attaching (long)	
11	R031040	AR	Stud, exhaust elbow attaching w/4" riser (long)	
12	R020047	2	Switch, exhaust temperature (optional)	
13	R096144	2	Retainer, spark plug wire clip	
14	922200020	2	Washer, retainer attaching	
15	RS0280	2	Bolt, retainer attaching	
16	98222018	2	Bolt, bracket attaching	
17	93920000	4	Lockwasher, bracket attaching	
18	90165063	4	Bolt, bracket attaching	
19	R090305	2	Bracket, manifold support	
20	R143002F	2	Decal, exhaust manifold, 6.0L	
21	RS3557	4	Plug, Hex Head, Brass 3/8" NPT	
			*NOTE: See Fresh Water Cooling section for parts used on Fresh Water Cooled engines.	

L510014-07 PCM ZR6

### EXHAUST MANIFOLD 4" SPACER KIT COMPONENTS - FIGURE 14





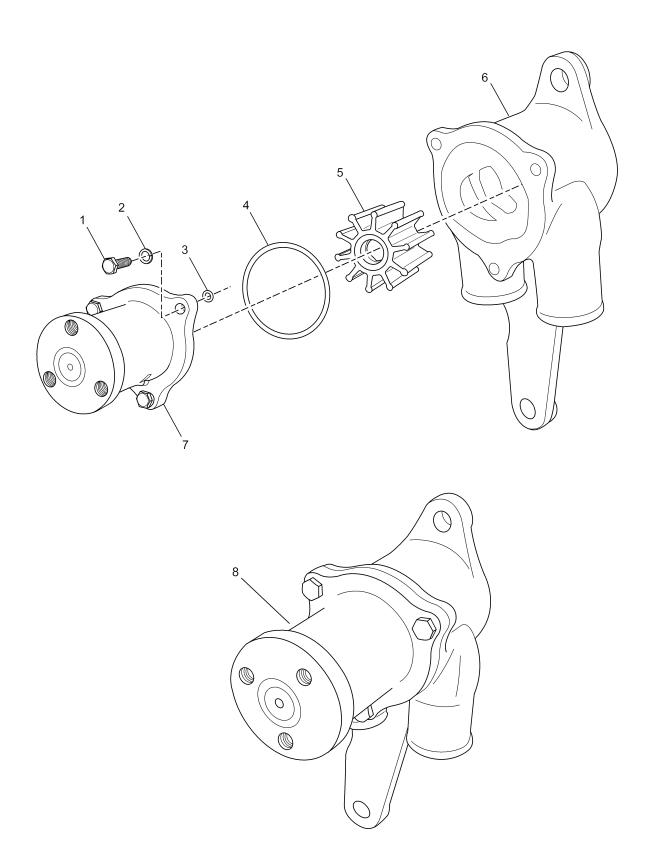
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### EXHAUST MANIFOLD 4" SPACER KIT COMPONENTS - FIGURE 14

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	95310000	8	Nut, exhaust elbow attaching	15-600V-XX
2	93300000	8	Lockwasher, exhaust elbow attaching	15-600V-XX
3	RM0274	4	Gasket, manifold/spacer and spacer/elbow	15-600V-XX
4	R031039	4	Stud, exhaust elbow attaching w/4" riser (short)	15-600V-XX
5	R062086	2	Spacer, 4"	15-600V-XX
6	R031040	4	Stud, exhaust elbow attaching w/4" riser (long)	15-600V-XX
NI	RK062086	AR	Kit, riser	15-600V-XX

L510014-07

### **RAW WATER COOLING PUMP - FIGURE 15**

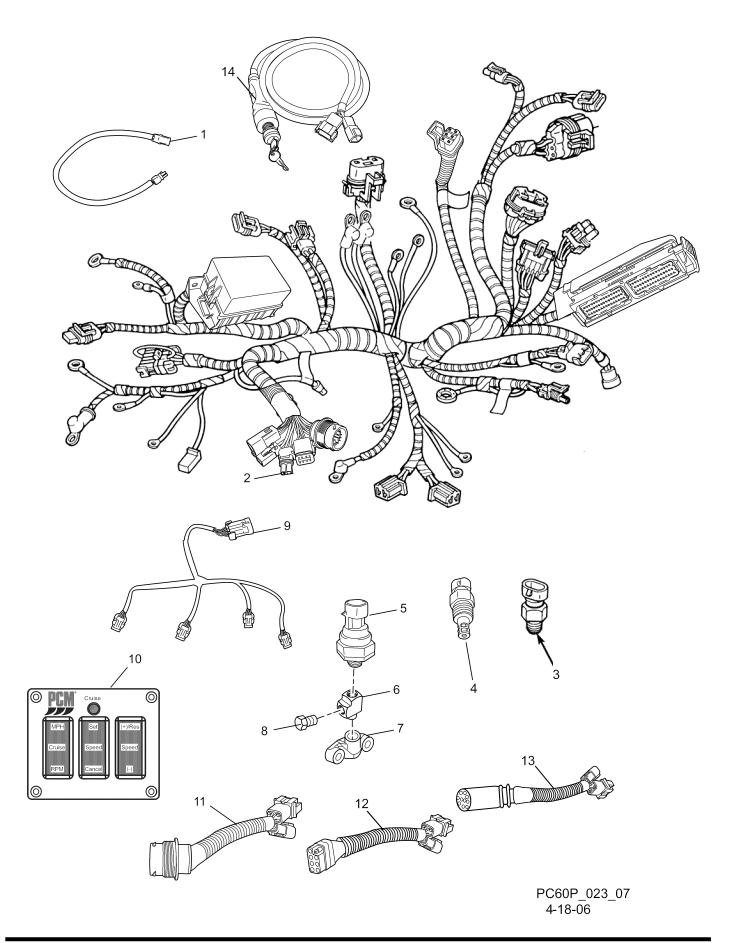


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### RAW WATER COOLING PUMP - FIGURE 15

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	TBD	3	Bolt, bearing housing attaching	
2	TBD	3	Lockwasher, bearing housing attaching bolt	
3	R047243	3	O-ring, bearing housing attaching bolt	
4	R047242	1	O-ring, bearing housing attaching	
5	RP061022	1	Impeller	
6	R057032	1	Housing, raw water pump	
7	RA134071	1	Bearing Housing Assembly	
8	RA057032	1	Raw Water Pump Assembly	
			•	
		l		

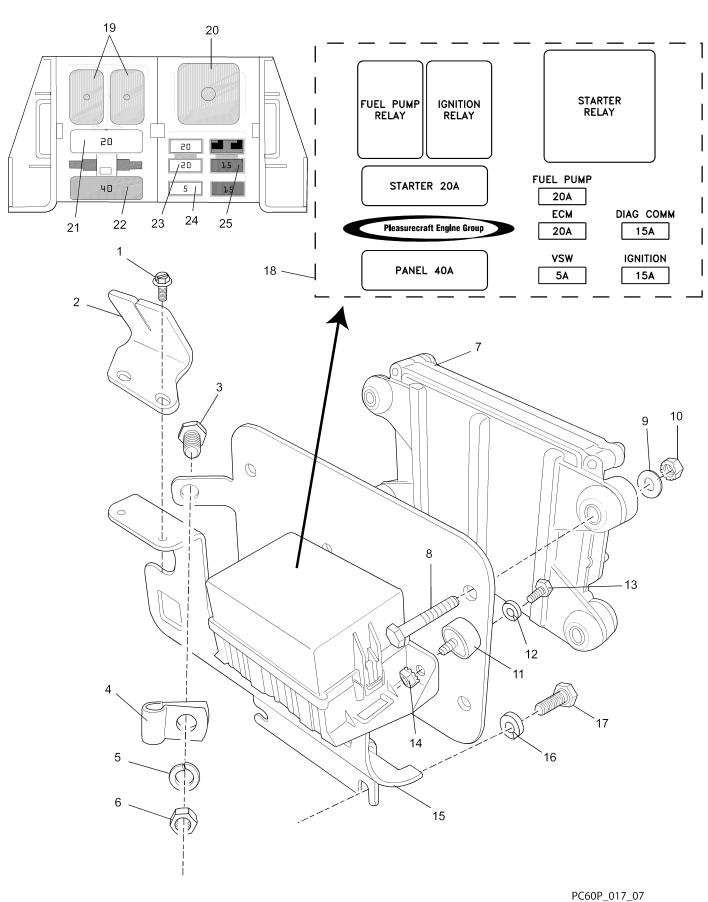
### WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 16



### WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 16

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R121078	AR	Harness, FCC ("V" - Drive)	
2	RA121088	1	Engine Wiring Harness Assembly ('07)	
3	R020046	1	Sensor, engine coolant temperature (ECT)	
4	R020032	1	Sensor, inlet air	
5	R020049	1	Sender, oil pressure	
6	R024145	1	Tee, sender attaching	
7	R079071	1	Adapter, oil sending unit	
8	RS3554	1	Plug, oil pressure sensor tee	
9	TBD	2	Harness, ignition coil	
10	RA152008	AR	Panel, switch (Speed Control)	
11	RA121098	AR	Harness, Adapter to 14-pin boat harness	
12	RA121094	AR	Harness, Adapter to 8-pin (female) boat harness	
NI	RA121094A	AR	Harness, Adapter to 8-pin (male) boat harness	
13	RA121093	AR	Harness, Adapter to 10-pin boat harness	
NI	RA121093A	AR	Harness, Adapter to 10-pin boat harness, w/VDO sensor leads	
NI	RA121091B	AR	Harness, Speed Control (14 foot)	
NI	RA121092	AR	Harness, Engine to Dash, Un-Terminated (25 foot)	
NI	RA121092C	AR	Harness, Engine to Dash, Un-Term., w/VDO sensor leads(25 ft)	
14	RT0091	AR	Harness, Test w/Key Switch	

### ECM and RELAYS - FIGURE 17

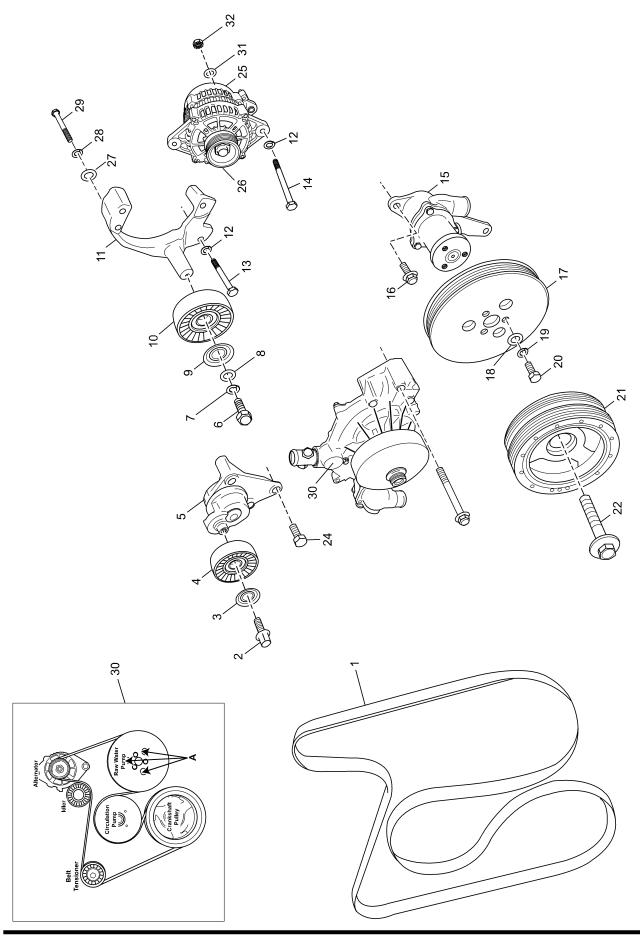


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### ECM and RELAYS - FIGURE 17

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	91107075	2	Bolt, degas bottle bracket attaching	
2	R090274A	1	Bracket, degas bottle mounting	
3	RS0302	1	Bolt, oil dipstick tube attaching	
4	R127015	1	Clamp, oil dipstick tube attaching	
5	RS2180	1	Lockwasher, oil dipstick tube attaching	
6	RS1028	1	Nut, oil dipstick tube attaching	
7	R116023 -2Q01	1	Engine Control Module	
8	98223035	4	Bolt, ECM attaching	
9	RS2672	4	Flat washer, ECM attaching	
10	97220060	4	Nut, KEPS, ECM attaching	
11	R094044	2	Isolator, fuse block mounting	
12	RS2178	2	Lockwasher, Isolator attaching	
13	RS0251	2	Bolt, Isolator attaching	
14	RS1078	2	Nut, KEPS, Fuse Block attaching	
15	R090279A	1	Bracket, ECM/Heat Exchanger mounting	
16	RS2180	2	Lockwasher, ECM bracket attaching bolt	
17	RS0304	2	Bolt, ECM bracket attaching	
18	R143186	1	Decal, main fuse box	
19	R130015	2	Relay, Fuel Pump and Ignition	
20	R130016	1	Relay, Starter	
21	R153019C	1	Fuse, Starter, 20 Amp	
22	R153019F	1	Fuse, Panel, 40 Amp	
23	R153017B	2	Fuses, 20 amp	
24	R153017A	2	Fuses, 15 amp	
25	R153017C	1	Fuse, 5 amp	
			, .	

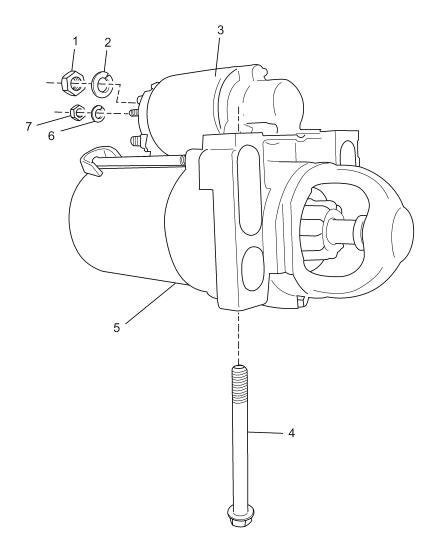
### ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 18



### ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 18

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R066027	1	Belt, serpentine drive	
2	p/o item #5	1	Bolt, tensioner pulley attaching	
3	p/o item #5	1	Washer, tensioner pulley attaching bolt	
4	p/o item #5	1	Pulley, tensioner	
5	RA068002	1	Tensioner, belt	
6	98333025	1	Bolt, idler pulley attaching	
7	RS2179	1	Lockwasher, idler pulley attaching bolt	
8	92940000	1	Washer, idler pulley attaching bolt (small)	
9	R096145	1	Washer, formed, idler pulley attaching bolt (large)	
10	R065040	1	Pulley, idler	
11	R090269	1	Bracket, idler pulley mounting / alternator	
12	93940000	2	Lockwasher, idler pulley bracket attaching bolt	
13	98443110	1	Bolt, idler pulley bracket attaching	
14	98446070	1	Bolt, alternator mounting, lower	
15	RA057032	1	Raw Water Pump Assembly	
16	98442030	2	Bolt, raw water pump mounting	
17	R065050	1	Pulley, raw water pump	
18	92934000	3	Flat Washer, raw water pump pulley attaching	
19	93934000	3	Lockwasher, raw water pump pulley attaching bolt	
20	99335016	3	Bolt, raw water pump pulley attaching	
21	R064016	1	Balancer, crankshaft	
22	TBD	1	Bolt, crankshaft balancer	
23	TBD	4	Bolt, water circulation pump attaching	
24	TBD	3	Bolt, belt tensioner mounting	
25	RA097007C	1	Alternator Assembly, 70 Amp	
25	RA097009	1	Alternator Assembly, 100 Amp	
NI	RF097009C	AR	Retro Fit Kit, 100 Amp Alternator	
NI	R121081	AR	Harness, Jumper, Adapt 70A harness to 100A alternator	
26	R065055	1	Pulley, alternator (70 amp)	
27	92200000	1	Flatwasher, alternator mounting	
28	RS2179	1	Lockwasher, alternator mounting	
29	98339070	1	Bolt, alternator mounting, upper	
30	R143147	1	Decal, belt routing	
31	92920000	2	Flatwasher, alternator wire attaching (70A)	
32	97220060	2	Nut, alternator wire attaching (70 A)	
32	97330060	1	Nut, KEPS, Alternator Positive Post, 100A	

### STARTER ASSEMBLY COMPONENTS - FIGURE 19



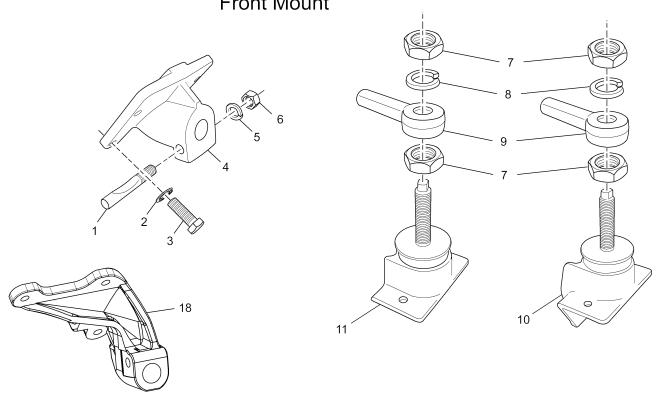
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### STARTER ASSEMBLY COMPONENTS - FIGURE 19

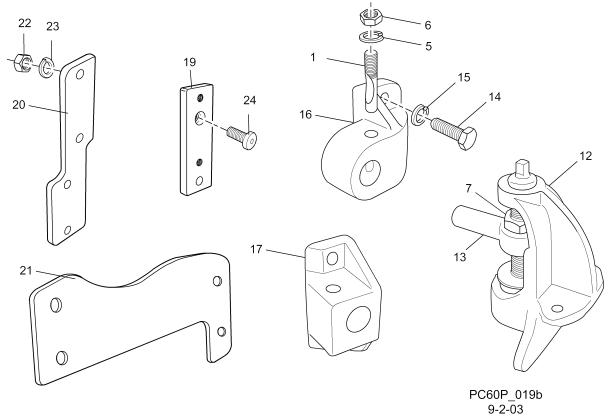
ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS7019	1	Nut, solenoid terminal	1
2	RS2200	1	Lockwasher, solenoid terminal	1
3	RU0050A	1	Solenoid, starter	1
4	R009203	2	Bolt, starter mounting	2
5	RA122019	1	Starter Motor Assembly	1
6	93003000	2	Lockwasher, solenoid terminal	2
7	RS7036	2	Nut, solenoid terminal	2

### **ENGINE and TRANSMISSION MOUNTS - FIGURE 20**

# Engine Mount Group Front Mount



## Engine Mount Group Rear Mount

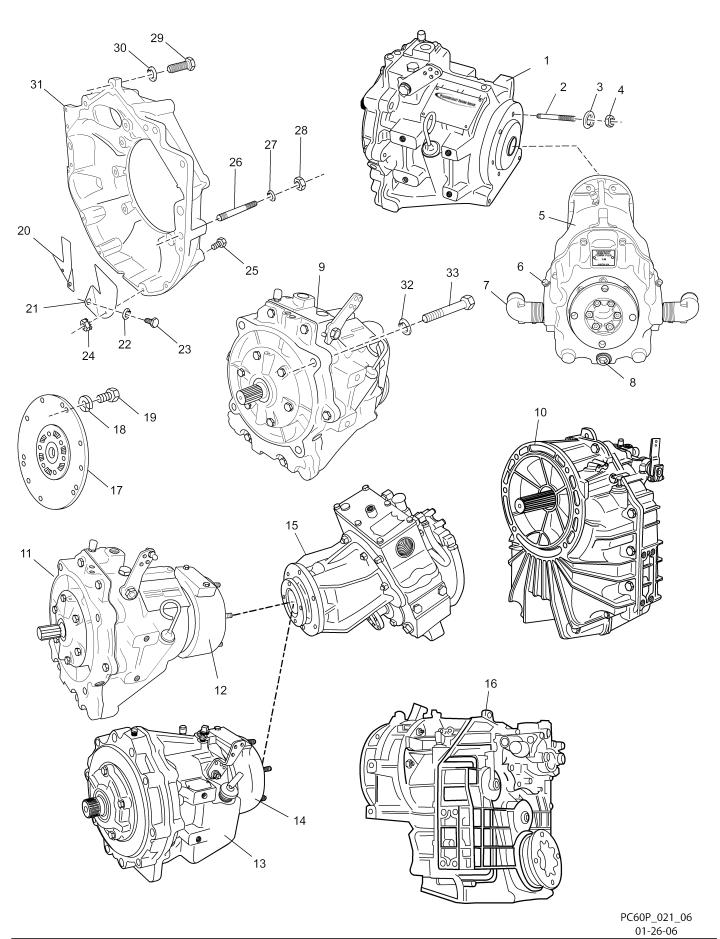


PCM ZR6 L510014-07

### ENGINE and TRANSMISSION MOUNTS - FIGURE 20

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R095020	2	Bolt, trunnion clamp	
2	93940000	8	Lockwasher, engine mount attaching bolt	
3	98443030	8	Bolt, engine mount attaching	
4	R090242	2	Mount, engine front	
5	RS2181	2	Lockwasher, trunnion clamp bolt	
6	RS1529	2	Nut, trunnion clamp bolt	
7	RS1075	4	Nut, adjustment and lock	
8	RS2186	2	Lockwasher, adjusting nut	
9	R091001	2	Trunnion, long	
9	R091007	2	Trunnion, short	
10	RC091001	1	Trunnion Assembly	
11	RA092016	1	Trunnion Assembly	
12	RA092011	2	<b>Trunnion Assembly</b> , tall (1.23:1 STD / V-drive) Used with item #17 - R090145 mount	
12	RA092011A	2	<b>Trunnion Assembly</b> , tall (1.23:1 STD / V-drive) Used with item #16 - R090205 mount	
12	RA091003	2	<b>Trunnion Assembly</b> , short (1.0:1 STD) Used with item #17 - R090145 mount	
12	RA091006	2	<b>Trunnion Assembly</b> , short (1.0:1 STD) Used with item #16 - R090205 mount	
13	R091003	2	<b>Trunnion</b> , 2.5" (use with R090145)	
13	R091006	2	Trunnion, 2.125" (use with R090205)	
14	RS0329	4	Bolt, rear mount attaching (R090205)	
14	RS0328	4	Bolt, rear mount attaching (R090145)	
14	RS0327	4	Bolt, rear mount attaching (R109054)	
14	RS0330	4	Bolt, rear mount attaching (R090318)	
15	RS2181	4	Lockwasher, rear mount attaching bolt	
16	R090205	1	Mount, rear	
17	R090145	1	Mount, rear	
NI	R090343	1	Mount, rear, port	15-600V-xx
NI	R090344	1	Mount, rear, starboard	15-600V-xx
NI	97905	2	Mount, engine support (dual rear)	03-600V-01, 03-600V-02
18	R090293	1	Mount, engine front (port) 1.23:1	
18	R090294	1	Mount, engine front (starboard) 1.23:1	
18	R090302	1	Mount, engine front (port) 1.0:1	
18	R090303	1	Mount, engine front (starboard) 1.0:1	
NI	93940000	6	Lockwasher, engine mount attaching bolt (item #18)	
NI	98443030	4	<b>Bolt</b> , engine mount attaching, upper (item #18)	
NI	98449055	2	<b>Bolt</b> , engine mount attaching, lower (item #18)	
19	R169062	AR	Shim, Mount, rear	03-600-01
NI	R169063	AR	Spacer, Mount, rear, 2"	04-600V-03
20	R090318	2	Mount, PCM V-DRV (use with RA092016, item 11)	
21	R109054	2	Plate, brace, PCM V-DRV used when there is no mount	
22	RS1029	4	Nut, rear mount attaching (R090318)	
23	RS2181	4	Lockwasher, rear mount attaching (R090318)	
24	90465100	2	<b>Bolt</b> , shim mount attaching (R169062)	

### **BELL HOUSING ASSEMBLY - FIGURE 21**

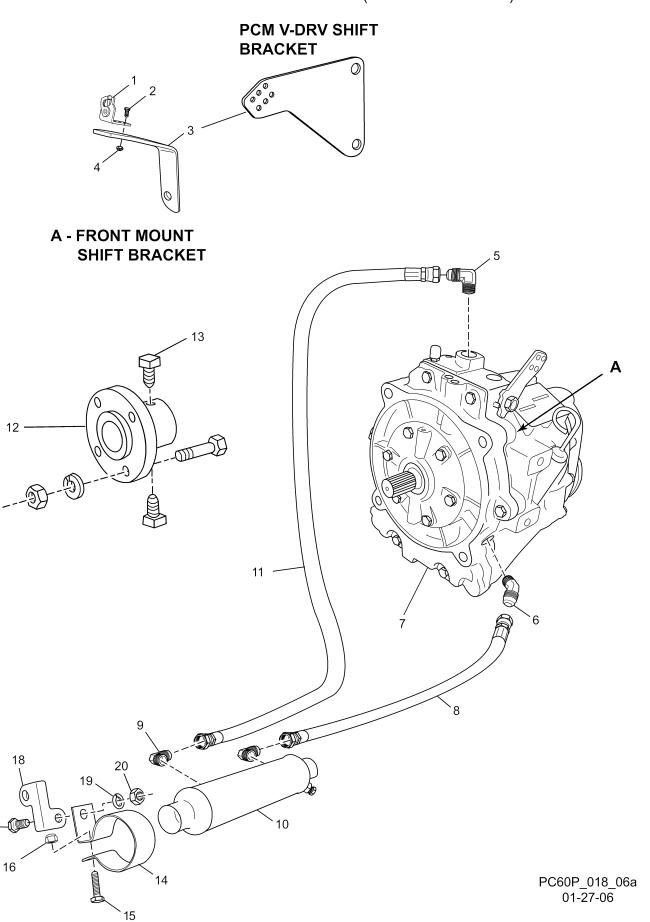


## **BELL HOUSING ASSEMBLY - FIGURE 21**

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA157015	AR	Transmission Assembly, IRM40S, PCM to PCM V-DRV	
2	R031035	8	Stud, PCM V-DRV to transmission attaching	
3	RS2179	8	Lockwasher, PCM V-DRV to transmission attaching	
4	RS7026	8	Nut, PCM V-DRV to transmission attaching	
5	RA156011B	AR	PCM Power-Plus V-Drive Assembly, 1.48:1	
NI	R190250	AR	Gear Lube, synthetic SAE 50, PCM V-DRV	
6	TBD	2	Plug, brass, oil fill/drain, PCM V-DRV	
7	97854	2	Fitting, brass elbow 90°, PCM V-DRV	
8	RS3633	1	Plug, brass, raw water drain, 1/2" square socket	
9	RA157017	AR	Transmission Assembly, IRM40I, 1.23:1 PCM	
10	RA156009	AR	Transmission Assembly, 630V, HURTH, 1.29:1	03-600V-01
10	RA156009A	AR	Transmission Assembly, 630V, HURTH, 1.5:1	03-600V-02, 04-600V-01
11	RA157016	AR	Transmission Assembly, IRM40A, 1.0:1 PCM	
12	R079056	AR	Adapter, V-Drive, PCM to Walter	
13	RA157001	AR	Transmission Assembly, 1.0:1 Warner (71C)	
13	RA157003	AR	Transmission Assembly, 1.0:1 Warner (72C)	
13	RA157001A	AR	Transmission Assembly, (71C w/v-drive adapter))	
14	R079072	AR	Adapter, V-Drive, Warner to Walter	
15	RA156004	AR	V-Drive Assembly, Walters, 1.46:1	
16	RA156010	AR	Transmission Assembly, 90VTS, ZF 2-speed	04-600V-02
NI	RK104013	AR	Connector Kit, ZF 2-speed	
17	98511	1	Plate, damper (Warner Transmissions, 6.0/8.1L)	
17	R140016	1	Plate, damper (PCM Transmissions)	
17	R140018	1	Plate, damper (Hurth Transmission/2-speed)	
18	93940000	4	Lockwasher, damper plate attaching bolt	
19	98446030	4	Bolt, damper plate attaching	
20	R019011A	1	Cover, dust, (stbd) (use w/top mount starter)	
20	R019011	1	Cover, dust (stbd) (use w/bottom mount starter)	
21	R019012	1	Cover, dust (port)	
22	93920000	2	Lockwasher, dust cover attaching	
23	RS6503	2	Bolt, dust cover attaching	
24	RS1078	2	Nut, dust cover attaching	
25	RS0256	2	Bolt, dust cover attaching	
26	R031034	2	Stud, bellhousing attaching	
27	93940000	2	Lockwasher, bellhousing attaching	
28	97440000	2	Nut, bellhousing attaching	
29	98443050	3	Bolt, bellhousing attaching	
30	93940000	3	Lockwasher, bellhousing attaching	
31	R142014	1	Bellhousing, top or bottom mount starter	
31	R142006B	1	Bellhousing, bottom mount starter, only	
NI	R019010	1	Cover, dust, top mount starter (used w/R019008A)	
NI	RS0327	2	Bolt, dust cover attaching	
NI	RS2181	2	Lockwasher, dust cover attaching	
			** PCM **	
32	RS2180	4	Lockwasher, transmission attaching bolt	
33	RS0329	4	<b>Bolt</b> , transmission attaching	
l		_	**Velvet Drive **	
NI	96541	2	Stud, transmission mounting (4")	
NI	RS2181	6	Lockwasher, transmission mounting	
NI	RS1029	2	Nut, transmission mounting stud	
NI	RS0337	4	Bolt, transmission mounting	
,	B004040	_	**Hurth Gears**	
NI	R031018	2	Stud, transmission mounting (1 5/8")	
NI	RS2181	6	Lockwasher, transmission mounting	
NI	RS1029	2	Nut, transmission mounting stud	
NI	RS0329	4	Bolt, transmission mounting	

L510014-07 PCM ZR6

### TRANSMISSION AND RELATED COMPONENTS (STANDARD DRIVE) - FIGURE 22



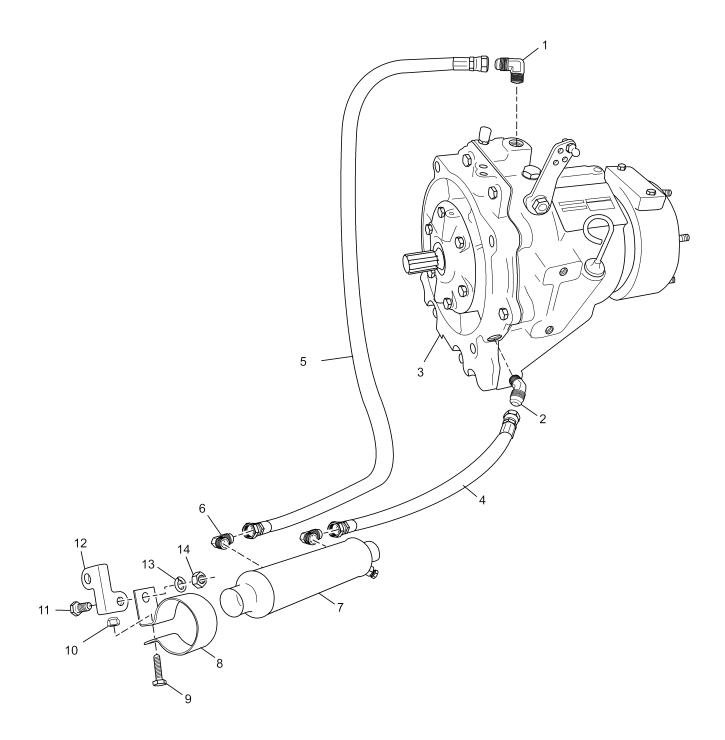
PCM ZR6 L510014-07

## TRANSMISSION AND RELATED COMPONENTS (STANDARD DRIVE) - FIGURE 22

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090086	1	Cable Clip, single cable	
2	RS5122	2	Bolt, cable clip attaching	
3	R090143A	1	Bracket, shift	
3	R090319	1	Bracket, shift (PCM V-DRV)	
4	RS2055	2	Nut, cable clip attaching bolt	
5	R024010	1	Fitting, 90 degree	
6	R024053	1	Fitting, 45 degree	
7	RA157017	1	Transmission, 1.23:1	
7	RA157016	AR	Transmission, 1.0:1	
8	RA045007M	1	Hose Assembly, cooler to transmission	
9	R024010	2	Fitting, 90 degree	
10	R147014	1	Transmission Cooler Assembly	
11	RA045007T	1	Hose Assembly, transmission to cooler	
12	R148010	OPT	Coupler, prop shaft (4" X 1" shaft)	
12	R148011	OPT	Coupler, prop shaft (4" X 1 1/8" shaft)	
13	2000090	2	Screw, set - coupler	
14	R090010	1	Clamp, cooler assembly mounting	
15	RS0256	1	Bolt, cooler attaching	
16	RS1078	1	Nut, cooler attaching	
17	RS0302	1	Bolt, cooler clamp attaching	
18	R090013A	1	Bracket, cooler mounting	
19	RS2180	1	Lockwasher, cooler clamp attaching bolt	
20	RS1028	1	Nut, oil cooler clamp attaching bolt	

L510014-07 PCM ZR6

## TRANSMISSION AND RELATED COMPONENTS (1.0:1 "V" - DRIVE) - FIGURE 23



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PCM ZR6 L510014-07

# TRANSMISSION AND RELATED COMPONENTS (1.0:1 "V" - DRIVE) - FIGURE 23

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R024010	1	Fitting, 90 degree	
2	R024010	1	Fitting, 90 degree	
3	RA157016	1	Transmission, 1.0:1, (w/R079056 Adapter)	
4	RA045007M	1	Hose Assembly, cooler to transmission	
5	RA045007T	1	Hose Assembly, transmission to cooler	
6	R024010	2	Fitting, 90 degree	
7	R147014	1	Cooler Assembly, transmission	
8	R090010	1	Clamp, cooler assembly mounting	
9	RS0254	1	Bolt, cooler attaching	
10	RS1078	1	Nut, cooler attaching	
11	RS0302	1	Bolt, cooler clamp attaching	
12	R090013A	1	Bracket, cooler mounting	
13	RS2180	1	Lockwasher, cooler clamp attaching bolt	
14	RS1028	1	Nut, oil cooler clamp attaching bolt	