



MARINE

ILLUSTRATED

PARTS MANUAL

MODEL MP 6.0L

LEVITATOR

MY 2006 - 2007

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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
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	16
Fuel Control Cell (FCC) Components - Figure 7	18
Wiring Harness Assemblies and Senders - Figure 8	20
ECM and Relays - Figure 9	22
Accessory Drive System Components - Figure 10	24
Starter Assembly Components - Figure 11	26

“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.)

HOW TO READ THIS PARTS BOOK:

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RB001005I	1	Base Engine Assembly, 6.0L	

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- 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:**

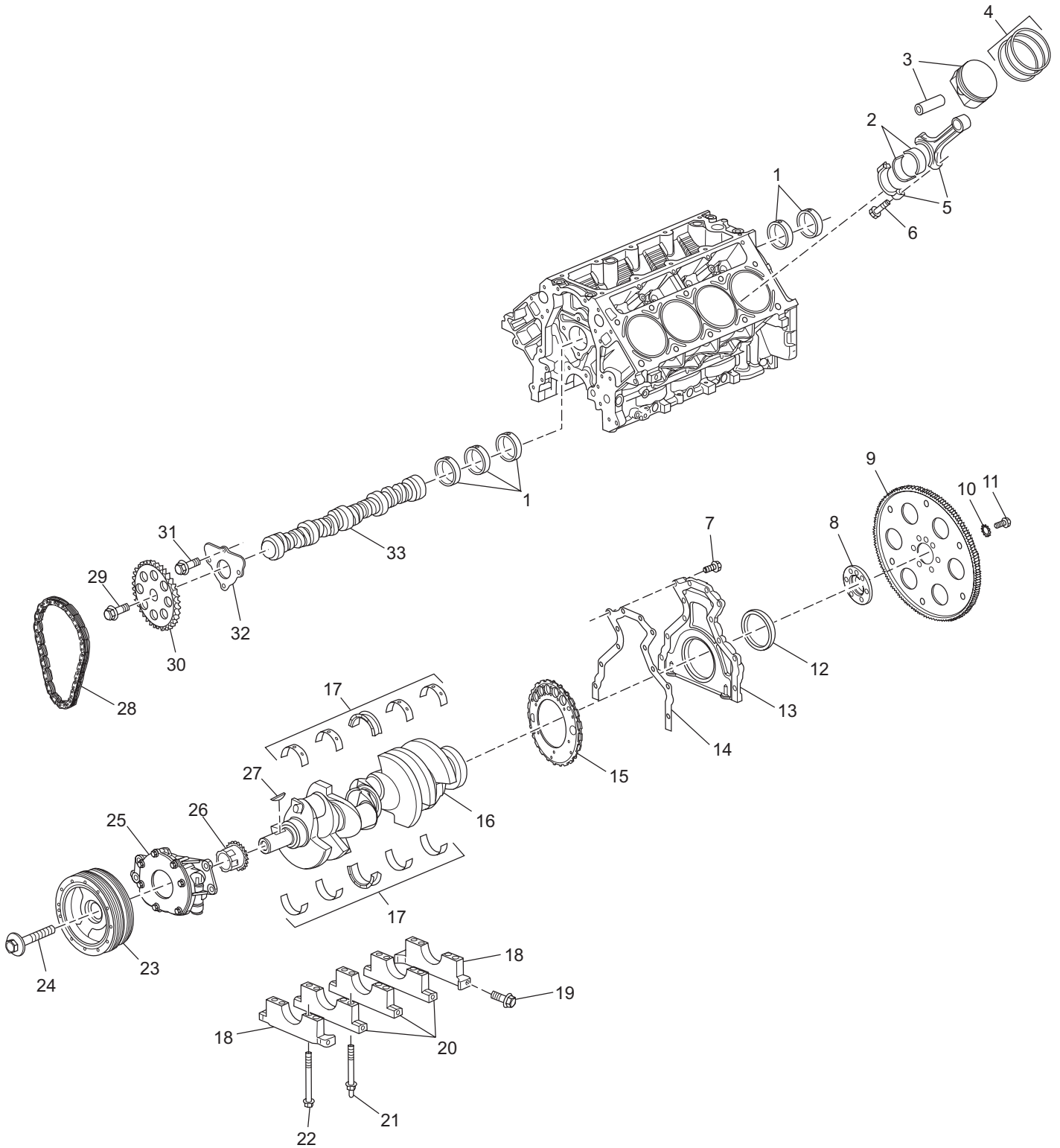
Electrical, ignition and fuel system components on PCM Engines are designed and manufactured to comply with U.S. Coast Guard rules and regulations to minimize risks of fire or explosion.

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	R077015
Fuel Filter (FCC)	RP080026
Spark Plugs	RP030011
Spark Plug Wire Set	TBD
Serpentine Drive Belt	R066032
Thermostat	TBD

CYLINDER BLOCK ASSEMBLY - FIGURE 1

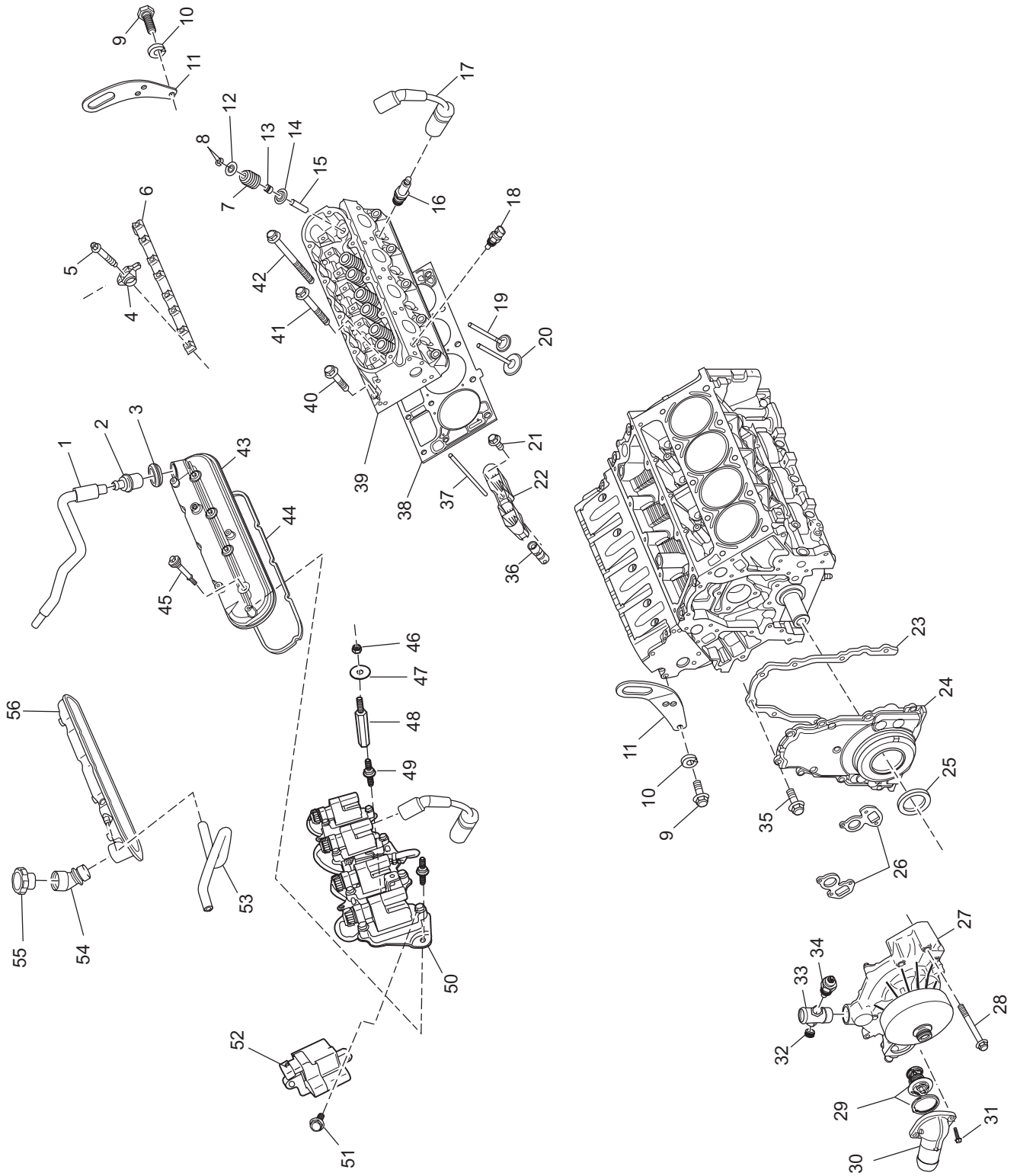


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CYLINDER BLOCK ASSEMBLY - FIGURE 1

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
*	RB001021		Base Engine Assembly	
1	TBD	1	Bearing Set , camshaft	
2	R007029	8	Bearing , connecting rod (STD)	
3	RA013018	8	Piston , (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	R063005	1	Hub , flywheel	
9	RA138016A	1	Flywheel Assembly	
10	RS2426	6	Starwasher , flywheel attaching	
11	R009205	6	Bolt , flywheel attaching	
12	R047236	1	Seal , crankshaft rear oil	
13	TBD	1	Cover , rear engine	
14	TBD	1	Gasket , rear engine cover	
15	part of item #14	1	Reluctor Ring , crankshaft	
16	TBD	1	Crankshaft Assembly	
17	TBD	1	Bearing Set , crankshaft	
18	TBD	2	Cap , crankshaft bearing #1 and #5	
19	TBD	10	Bolt , crankshaft bearing cap side	
20	TBD	3	Cap , crankshaft bearing #2 - #4	
21	TBD		Stud , crankshaft bearing cap attaching	
22	TBD		Bolt , crankshaft bearing cap attaching	
23	R064016	1	Balancer , crankshaft	
24	TBD	1	Bolt , crankshaft balancer	
25	TBD	1	Oil Pump Assembly	
26	TBD	1	Drive , oil pump	
27	TBD	1	Key , crankshaft	
28	TBD	1	Chain , timing	
29	TBD	1	Bolt , camshaft sprocket attaching	
30	TBD	1	Sprocket , camshaft	
31	TBD	3	Bolt , camshaft retainer attaching	
32	TBD	1	Retainer , camshaft	
33	TBD	1	Camshaft	

CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

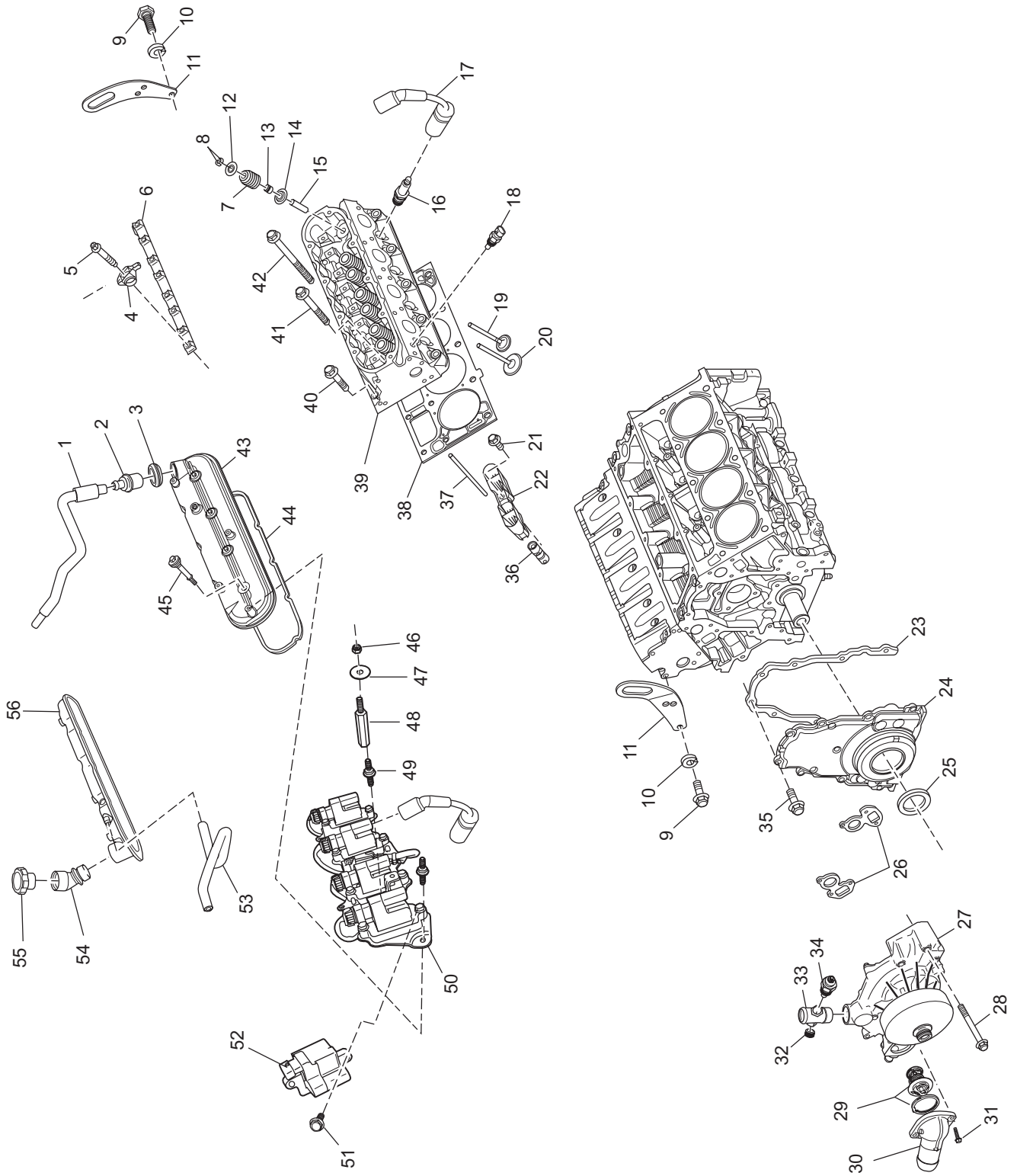


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CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2

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	
11	R042014	1	Lifting Eye , front	
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	TBD	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	RK057033A	1	Water Circulation Pump Assembly	
27A	RA057036	1	Water Pump Assembly (S/N 470419 and higher)	
28	TBD	4	Bolt , water circulating pump attaching	
29	TBD	1	Thermostat and Seal , (86° C (187° F))	
30	TBD	1	Housing , thermostat	
31	TBD	2	Bolt , thermostat housing attaching	
32	RS3551	1	Plug , water neck	
33	R024208	1	Water Neck	
34	R020002	1	Switch , coolant temperature	
35	TBD	8	Bolt , front engine cover attaching	

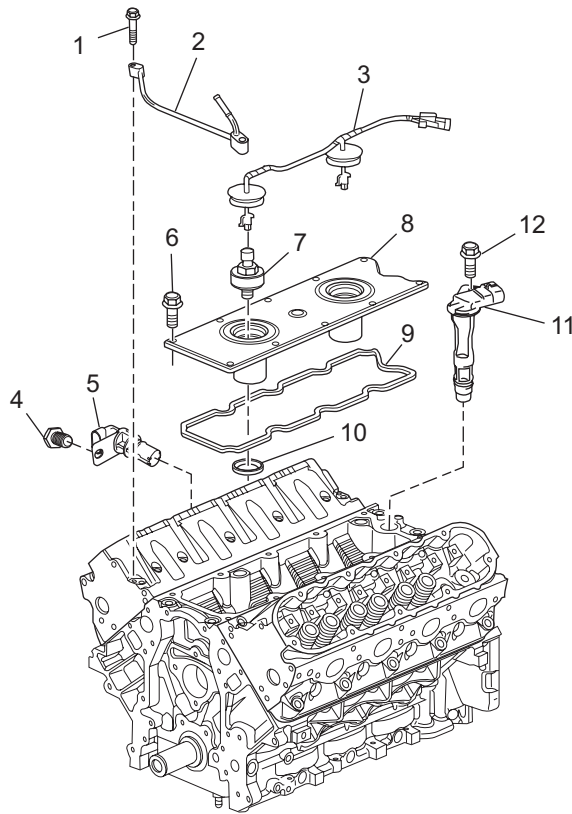
CYLINDER HEAD ASSEMBLY / FRONT COVER - FIGURE 2 (cont'd)



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

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
36	TBD	16	Lifter , valve	
37	TBD	16	Push Rod	
38	RM0278	2	Gasket , Cylinder Head	
39	R003016	2	Cylinder Head	
40	R009208	4	Bolt , cylinder head (short)	
41	R009209	10	Bolt , cylinder head (medium)	
42	R009207	16	Bolt , cylinder head (long)	
43	RA033016	1	Cover , rocker (LH)	
44	RM0282	2	Gasket , rocker cover	
45	TBD	8	Bolt , rocker cover attaching	
46	97224300	4	Nut , Nylock, engine cover attaching	
47	92104200	6	Fender Washer , engine cover attaching	
48	R095042	4	Stand-off , engine cover	
49	TBD	10	Stud , ignition coil bracket attaching	
50	TBD	2	Bracket , ignition coil mounting	
51	91107075	16	Bolt , ignition coil attaching	
52	R117013	8	Coil , ignition	
53	TBD	1	Tube , breather	
54	R034049	1	Tube , oil fill	
55	R034038B	1	Cap , oil fill tube	
56	RA033017	1	Cover , rocker w/Oil Fill (RH)	

KNOCK SENSORS - FIGURE 3

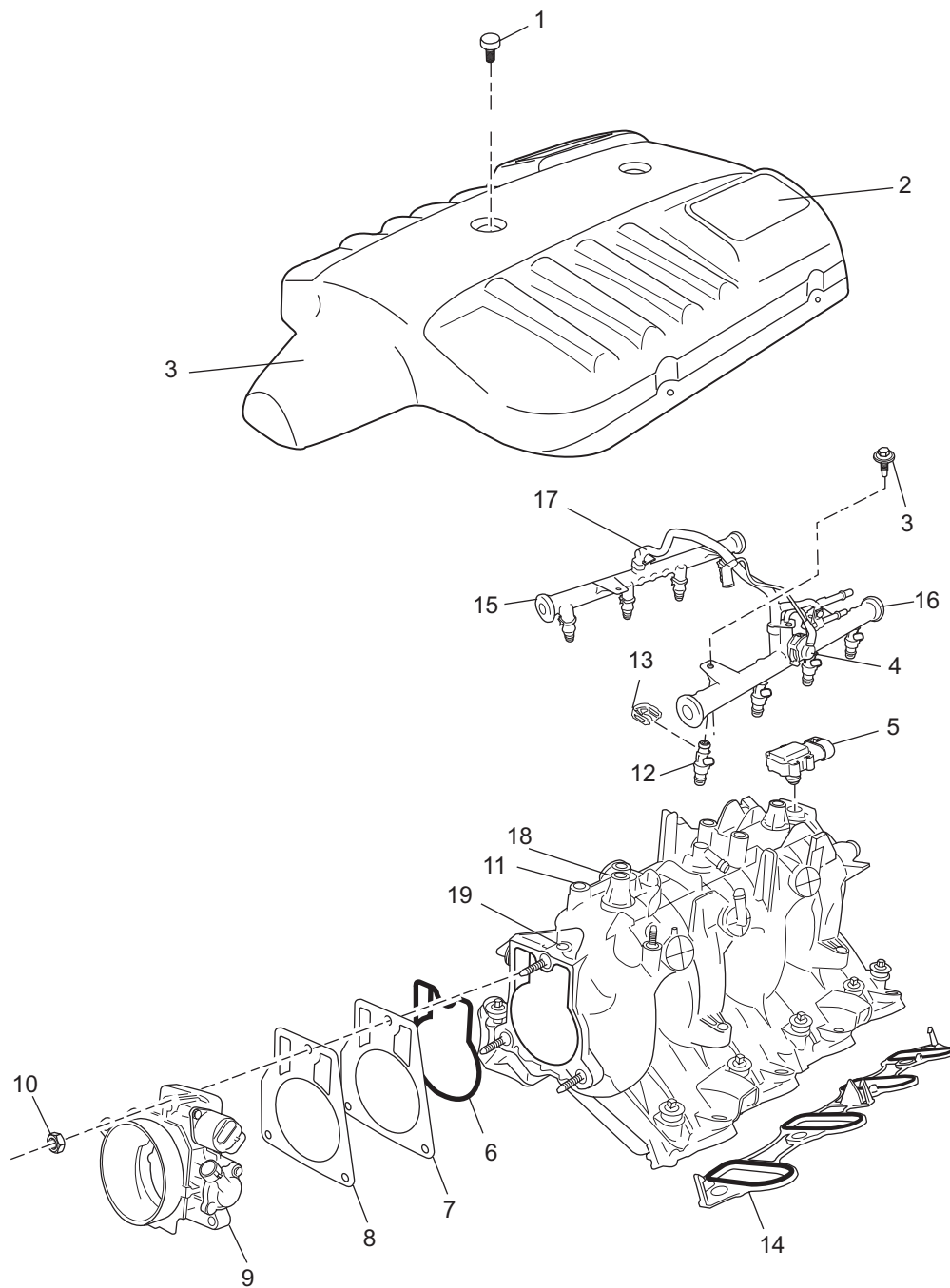


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KNOCK SENSORS - FIGURE 3

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	TBD	2	Bolt , coolant air bleed pipe attaching	2
2	TBD	1	Pipe , coolant air bleed	1
3	TBD	1	Harness , knock sensor	1
4	TBD	1	Bolt , crankshaft position attaching	1
5	R020044	1	Sensor , crankshaft position	1
6	TBD	10	Bolt , valley cover attaching	10
7	R020043	2	Sensor , knock	2
8	TBD	1	Cover , valley	1
9	TBD	1	Gasket , valley cover	1
10	TBD	2	Seal , knock sensor oil	2
11	R020045	1	Sensor , camshaft position	1
12	TBD	1	Bolt , camshaft position attaching	1

INTAKE MANIFOLD COMPONENTS - FIGURE 4

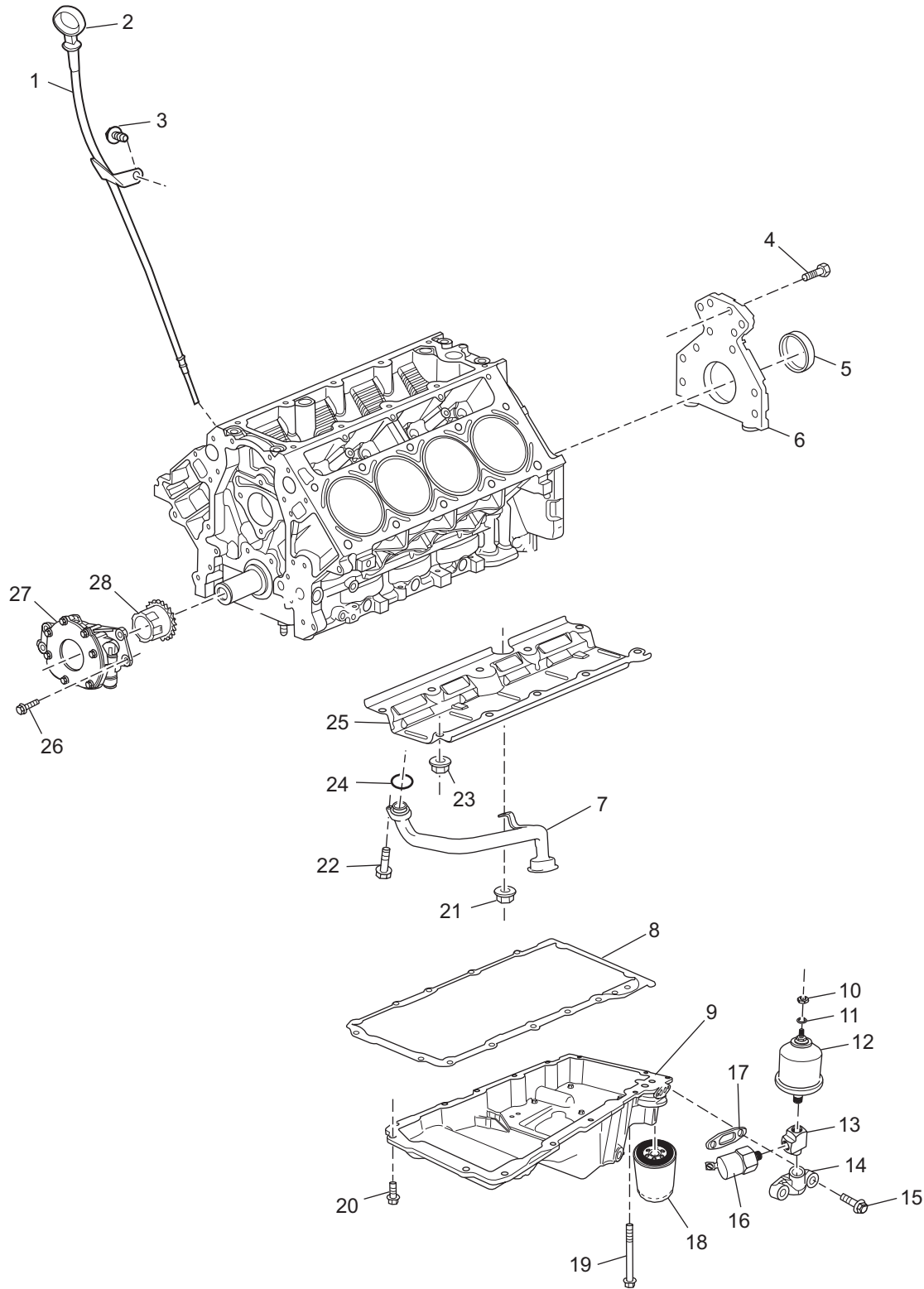


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INTAKE MANIFOLD COMPONENTS - FIGURE 4

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R175055	2	Bolt , engine cover attaching	
2	R143179	2	Decal , engine cover	
3	R060068	1	Cover , engine	
4	TBD	4	Bolt , fuel rail attaching	
5	R020036	1	Sensor , manifold absolute pressure (MAP)	
6	TBD	1	Seal , throttle body	
7	R062087	1	Plate , throttle body adapter	
8	RM0251	1	Gasket , throttle body	
9	RA035036B	1	Throttle Body Assembly	
10	L00918	3	Nut , throttle body attaching	
11	R002025	1	Intake Manifold	
12	RA087008	8	Fuel Injector Assembly	
13	R127097	8	Retainer , fuel injector	
14	RM0277	1	Gasket Set , intake manifold	
15	R086003	1	Fuel Rail , 6.0L, (right)	
16	R086004A	1	Fuel Rail , 6.0L, w/o regulator pocket (left)	
17	RA085103	1	Fuel Rail , 6.0L, crossover	
18	R036007	8	Insert , threaded, intake	
19	RS3550	1	Plug , pipe, 1/4" NPT	

OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5

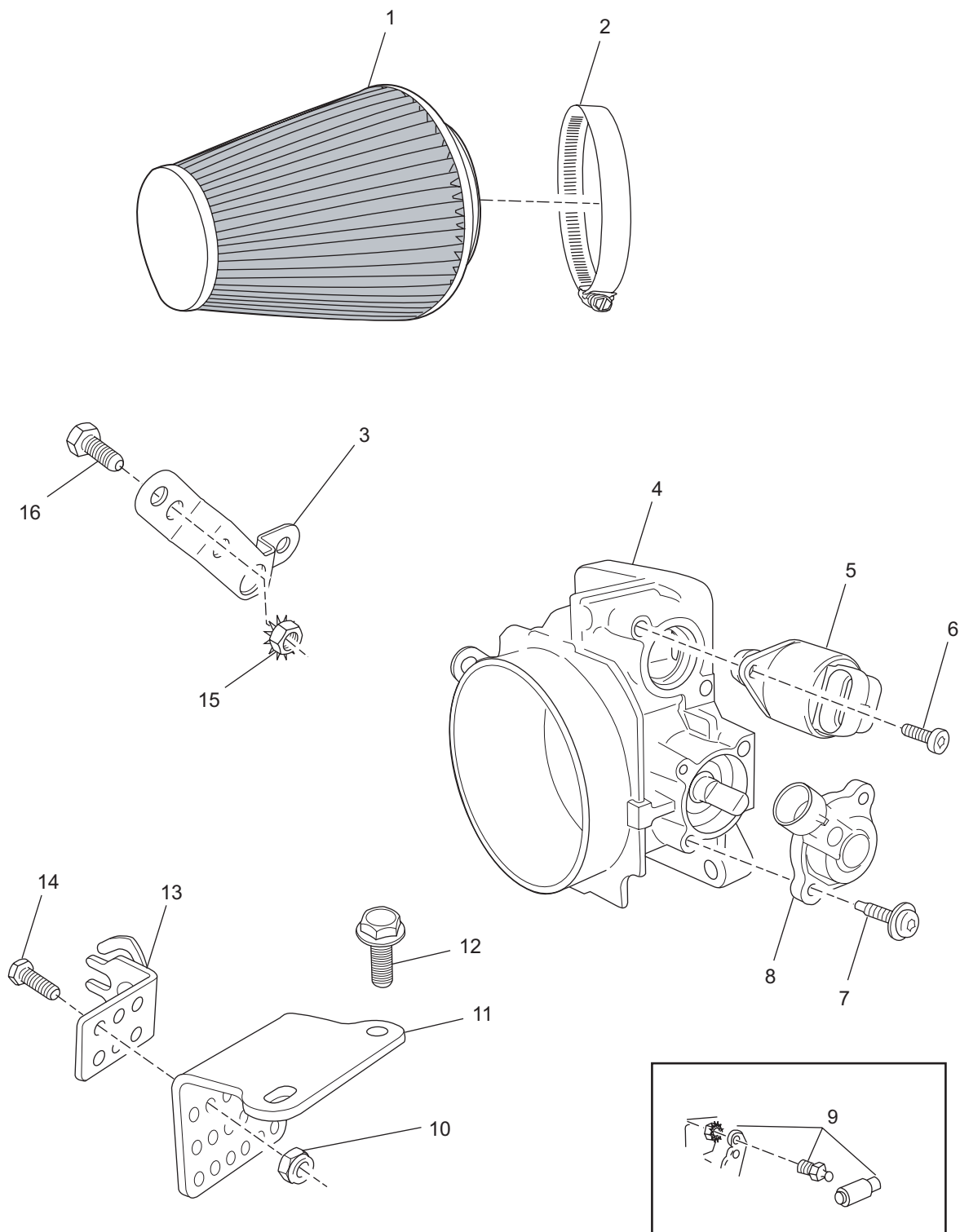


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OIL PAN and OIL PUMP ASSEMBLY - FIGURE 5

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R041084	1	Tube , oil dipstick	
2	R041086	1	Dipstick , oil level	
3	TBD	1	Bolt , oil dipstick tube attaching	
4	TBD	1	Bolt , engine rear cover attaching	
5	R047236	1	Seal , engine rear cover oil	
6	TBD	1	Cover , engine rear	
7	R074030	1	Tube , oil pickup	
8	RM0279	1	Gasket , oil pan	
9	R005025	1	Oil Pan	
10	RS1540	1	Nut , sender terminal	
11	RS2197	1	Lockwasher , sender terminal	
12	R020001	1	Sender , oil pressure	
13	R024145	1	Tee , sender attaching	
14	R079071	1	Adapter , oil sending unit	
15	TBD	2	Bolt , oil sending unit adapter attaching	
16	R020015A	1	Switch , oil pressure	
17	RM0284	1	Gasket , oil sending unit adapter	
18	R077015	1	Filter , oil	
19	TBD	2	Bolt , oil pan attaching (long)	
20	TBD	12	Bolt , oil pan attaching (short)	
21	TBD	1	Nut , oil pickup tube attaching	
22	TBD	1	Bolt , oil pickup tube attaching	
23	TBD	10	Nut , windage tray attaching	
24	TBD	1	O-ring , oil pickup tube	
25	R012027	1	Tray , windage	
26	TBD	4	Bolt , oil pump attaching	
27	TBD	1	Oil Pump Assembly	
28	TBD	1	Drive , oil pump	

THROTTLE BODY and RELATED COMPONENTS - FIGURE 6

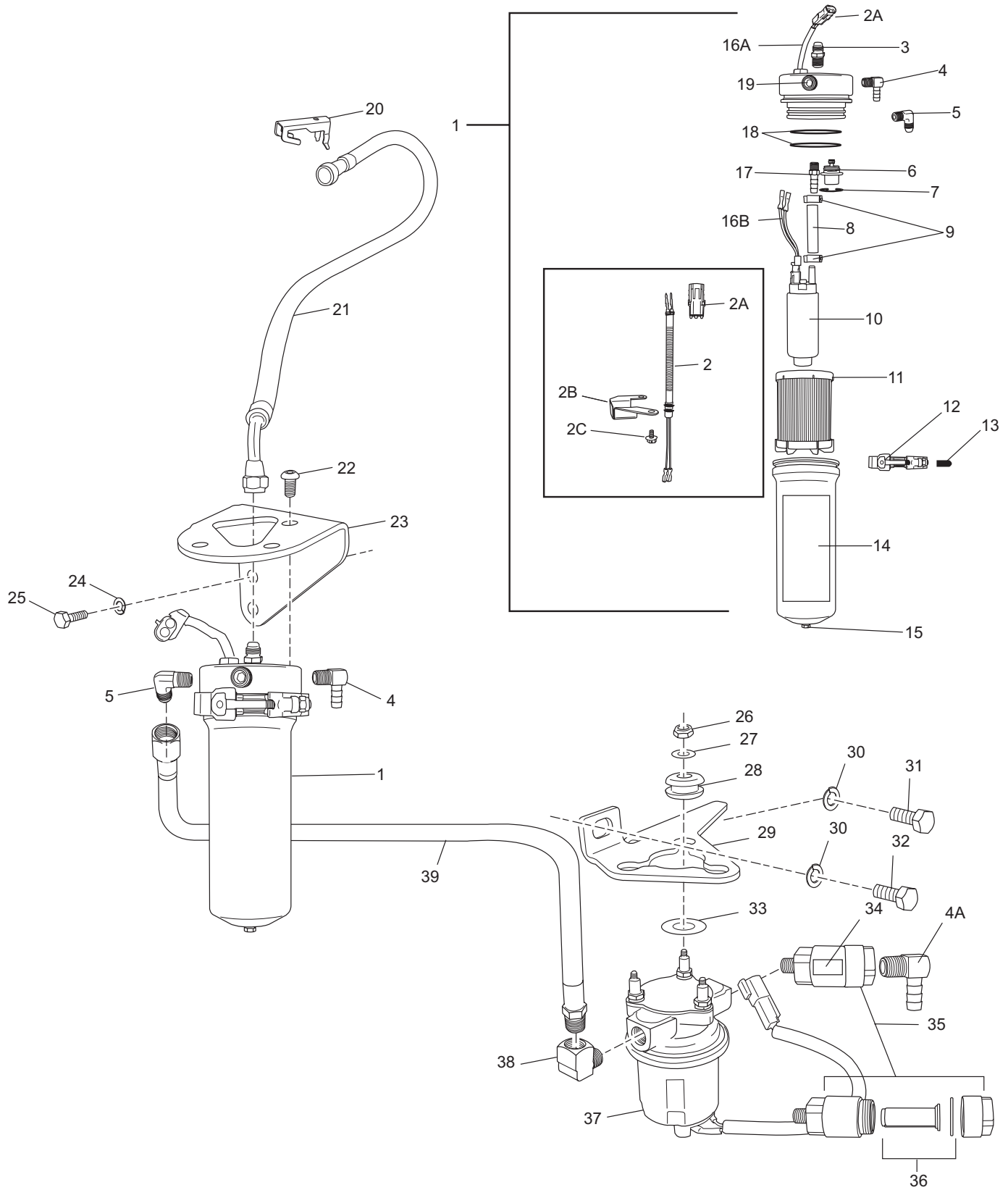


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THROTTLE BODY and RELATED COMPONENTS - FIGURE 6

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R145019	1	Arrestor , flame	
2	RS3857	1	Clamp , flame arrestor	
3	R081008	1	Throttle Arm , throttle body	
4	RA035036B	1	Throttle Body Assembly	
5	R084003	1	Valve , idle air control	
6	TBD	2	Screw , IAC valve attaching	
7	TBD	2	Screw , TP sensor attaching	
8	R020041	1	Sensor , throttle position	
9	R178003	1	Ball Joint Assembly , cable attaching	
10	RS2055	2	Locking Nut , cable clip mounting bolt	
11	R090267	1	Throttle Bracket , intake	
12	98222018	2	Bolt , throttle cable brkt attaching	
13	R090086	1	Cable Clip , throttle attaching	
14	RS5122	2	Bolt , cable clip mounting	
15	RS1078	2	Nut , throttle arm attaching	
16	RS0251	2	Bolt , throttle arm attaching	

FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 7

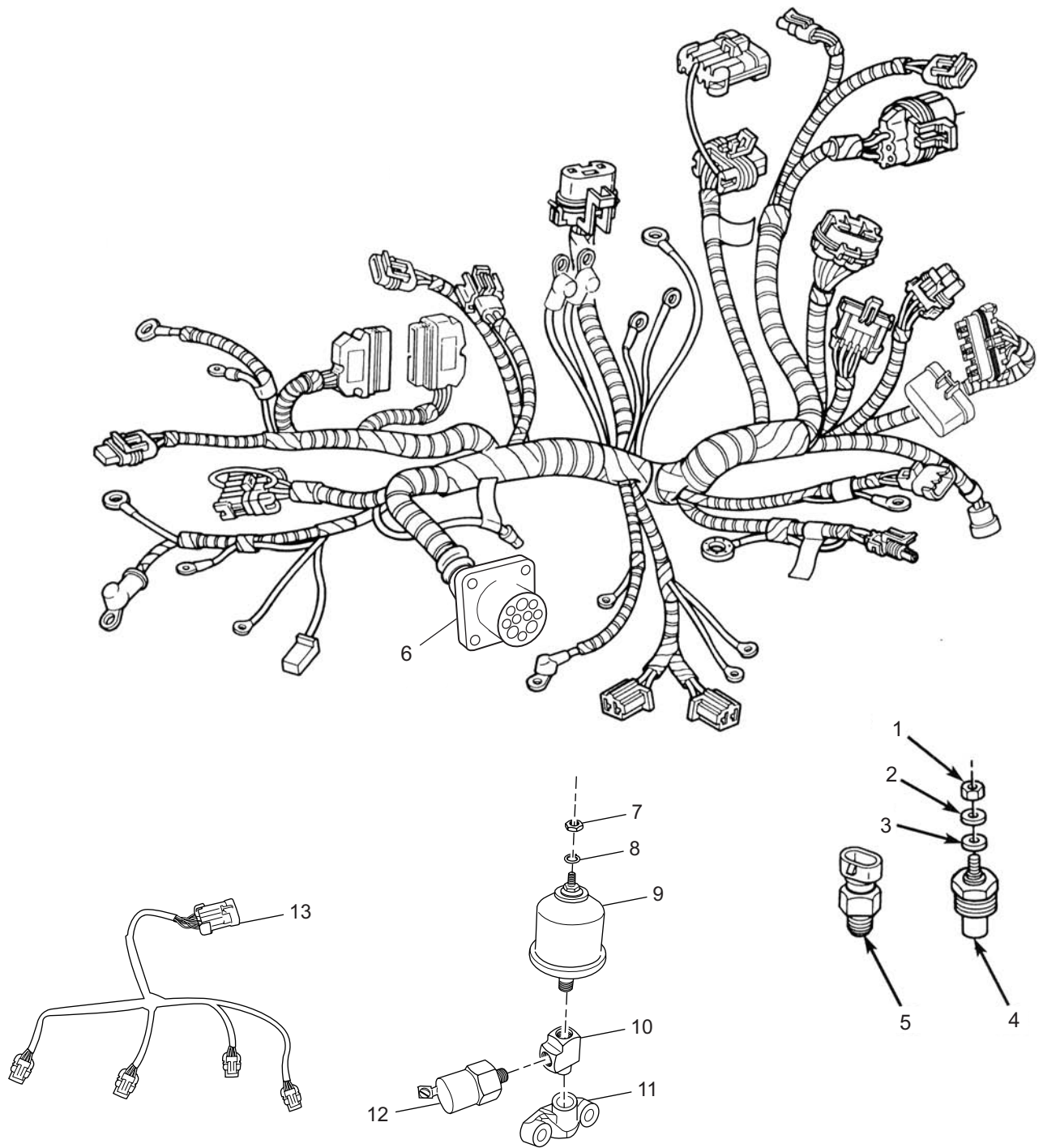


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FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 7

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA080030A	1	Fuel Control Cell Assembly	
2	R1210085B	1	Harness , 1-piece, FCC pass through (1-piece harness does not retro fit for 2-piece harness)	
2A	7172040	1	Connector , W/P 2-way Female	
2B	R012030	1	Baffle , FCC used w/1-piece harness	
2C	91620025	2	Screw , self tapping, baffle/1-piece harness retaining	
3	R024175	1	Fitting , 1/4 NPT X SAE	
4	R024225	2	Fitting , 1/4 NPT to Hose (return to tank)	
4A	R024226	2	Fitting , 3/8 NPT to Hose (to tank)	
5	R024163	1	Fitting , 1/4 NPT X SAE (from LPFP)	
6	R088004	1	Regulator , fuel pressure (FCC System Only)	
7	R048070	1	Retainer , fuel pressure regulator	
8	R045098B	1	Hose , 5/16id X 1/2od X 2 1/2	
9	R127087	2	Clamp , Oetiker, 5/8	
10	RA080027	1	Pump , high pressure fuel	
11	R080026	1	Filter , fuel (FCC)	
NI	RP080026	1	Kit , FCC filter and O-rings	
12	R171010	1	Clamp , 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 Feed through	
16B	RA121061A	1	Harness , FCC internal	
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	Bolt , FCC attaching	
23	R090276	1	Bracket , FCC mounting	
24	93940000	2	Lockwasher , FCC mounting bracket	
25	98443025	2	Bolt , FCC mounting bracket	
26	RS1521L	3	Locking Nut , low-pressure fuel pump	
27	R096142	3	Washer , fuel pump mounting	
28	R094035A	3	Grommet , mounting bracket	
29	R090280	1	Bracket , low-pressure fuel pump mounting	
30	93940000	2	Lockwasher , bracket attaching	
31	98443030	1	Bolt , bracket attaching	
32	98443025	1	Bolt , bracket attaching	
33	R096141	3	Washer , fuel pump mounting	
34	R143174	1	Decal , pre-filter	
35	RA077014	1	Fuel Pre-filter Assembly, 150 micron	
36	RP077014	1	Kit , fuel filter and seal	
37	RA080018	1	Fuel Pump , low-pressure	
38	R024192	1	Fitting , 90 degree	
39	RA085070A	1	Hose Assembly , low-pressure pump to FCC	
NI	R143114	1	Decal , Warning, fuel leaks	

WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 8

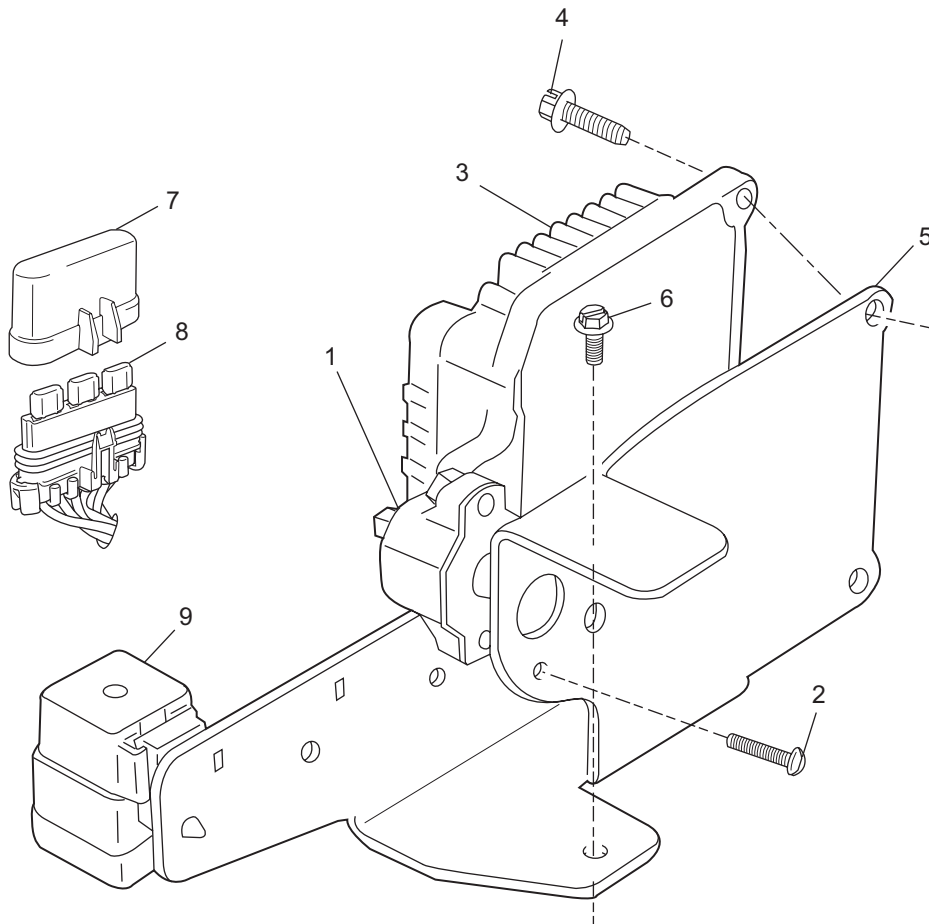


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WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 8

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS1540	1	Nut , sender terminal	
2	RS2197	1	Lockwasher , sender terminal	
3	RS2746	1	Washer , sender terminal	
4	R020002	1	Sender , temperature	
5	R020019	1	Sensor , engine coolant temperature (ECT)	
6	RA121076C	1	Engine Wiring Harness Assembly	
7	RS1540	1	Nut , sender terminal	
8	RS2197	1	Lockwasher , sender terminal	
9	R020001	1	Sender , oil pressure	
10	R024145	1	Tee , sender attaching	
11	R079071	1	Adapter , oil sending unit	
12	R020015A	1	Switch , oil pressure	
13	TBD	2	Harness , ignition coil	

ECM and RELAYS - FIGURE 9

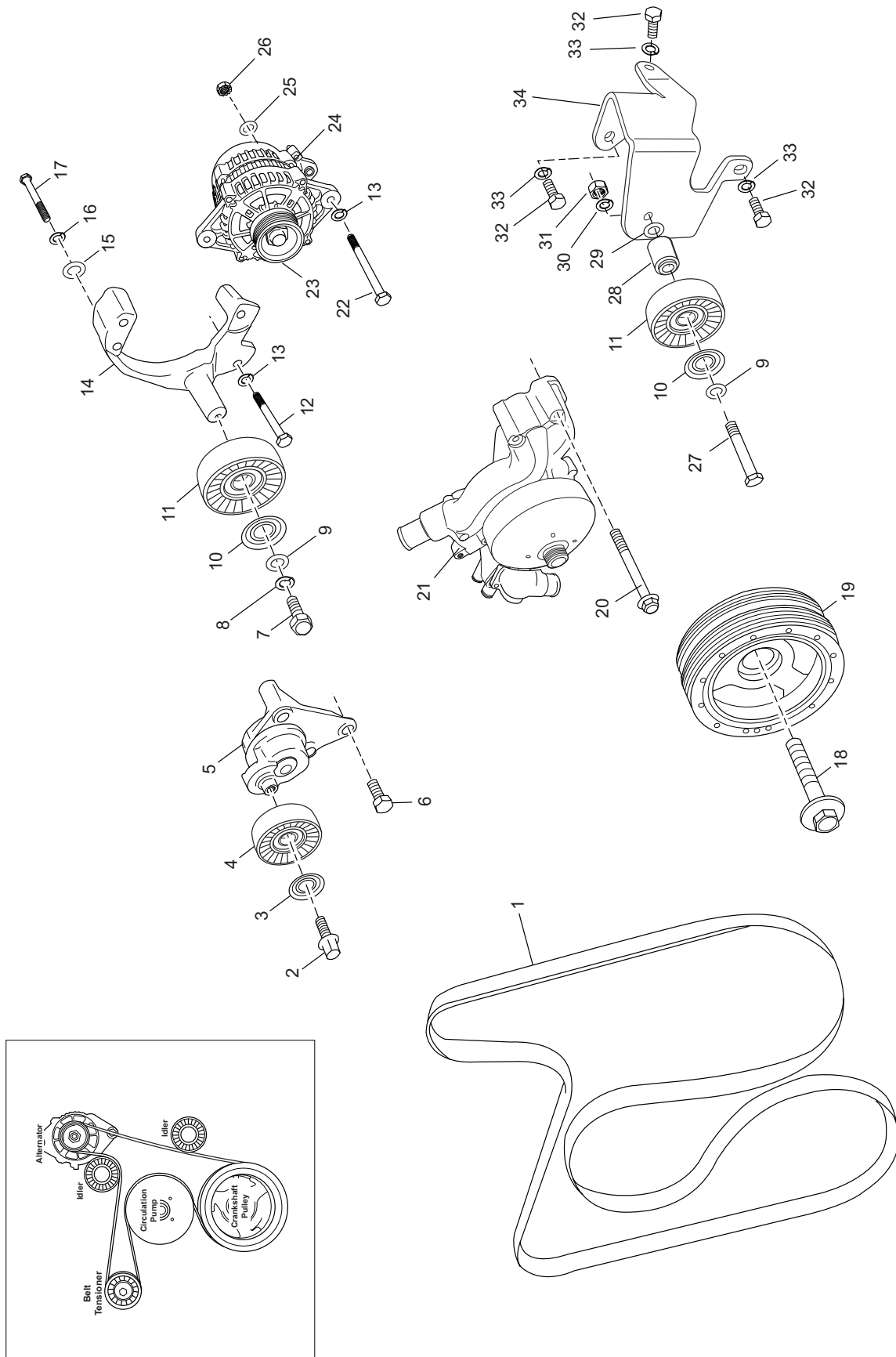


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ECM and RELAYS - FIGURE 9

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R153006C	1	Circuit Breaker Assembly (60 amp)	
2	RS5084	2	Bolt , circuit breaker mounting	
3	R116021Y	1	Engine Control Module cksum - 30218 (760A)	
4	91107075	3	Bolt , ECM attaching	
5	R090325	1	Bracket , ECM/relay mounting	
6	TBD	1	Bolt , bracket attaching	
7	R126014	1	Cover , fuse holder	
8	R153017B	3	Fuses , 20 amp	
9	R130011A	3	Relay , fuel pump, ignition, starter	

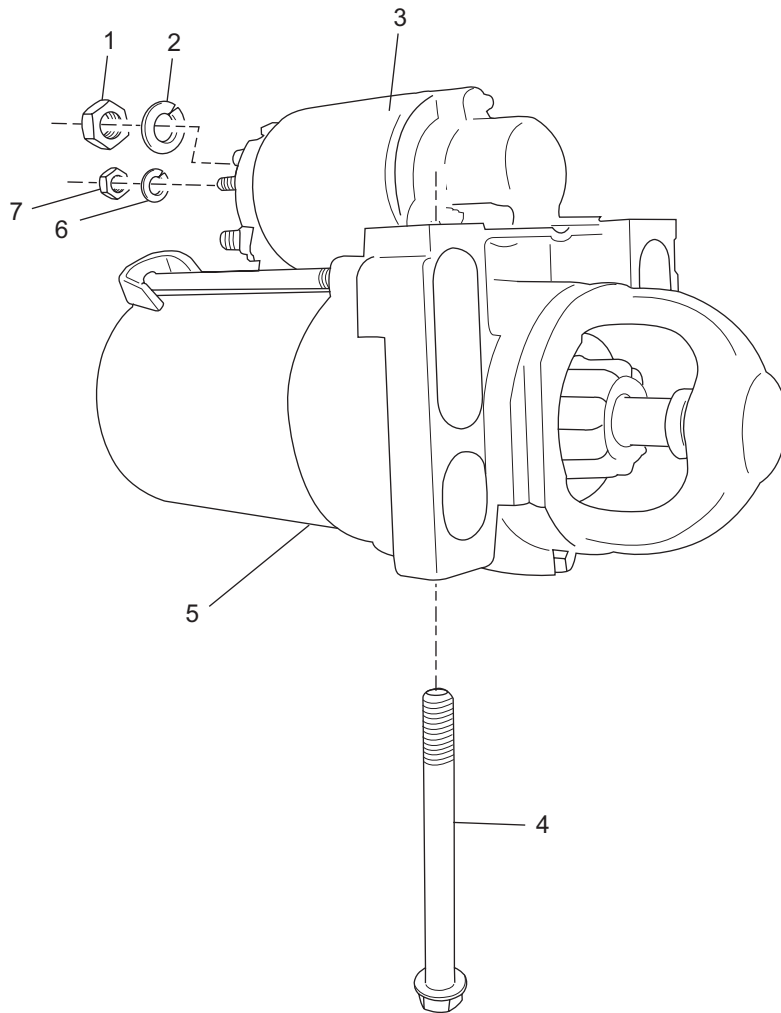
ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 10



ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 10

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R066032	1	Belt , serpentine drive	
2	part of item #5	1	Bolt , tensioner pulley attaching	
3	part of item #5	1	Washer , tensioner pulley attaching bolt	
4	part of item #5	1	Pulley , tensioner	
5	RA068002	1	Tensioner , belt	
6	TBD	3	Bolt , belt tensioner mounting	
7	98333025	1	Bolt , idler pulley attaching	
8	RS2179	1	Lockwasher , idler pulley attaching bolt	
9	92940000	2	Washer , idler pulley attaching bolt (small)	
10	R096145	2	Washer , formed, idler pulley attaching bolt (large)	
11	R065040	2	Pulley , idler	
12	98443110	1	Bolt , idler pulley bracket attaching	
13	93940000	2	Lockwasher , idler pulley bracket attaching bolt	
14	R090269	1	Bracket , idler pulley mounting / alternator	
15	92200000	1	Flatwasher , alternator mounting	
16	RS2179	1	Lockwasher , alternator mounting	
17	98339070	1	Bolt , alternator mounting, upper	
18	TBD	1	Bolt , crankshaft balancer	
19	R064016	1	Balancer , crankshaft	
20	TBD	6	Bolt , water circulation pump attaching	
21	RK057033A	1	Water Circulation Pump Assembly	
21A	RA057036	1	Water Pump Assembly (S/N 470419 and higher)	
22	98446070	1	Bolt , alternator mounting, lower	
23	R065055	1	Pulley , alternator (70 amp)	
24	RA097007C	1	Alternator Assembly, 70 Amp	
25	97220060	2	Nut , alternator wire attaching	
26	92920000	2	Flatwasher , alternator wire attaching	
27	90205200	1	Bolt , idler pulley attaching	
28	R062083	1	Spacer , idler pulley attaching	
29	92940000	1	Flat Washer , idler pulley attaching	
30	RS2179	1	Lockwasher , idler pulley attaching bolt	
31	RS1027	1	Nut , idler pulley attaching	
32	98443025	3	Bolt , idler pulley bracket attaching	
33	93940000	3	Lockwasher , idler pulley bracket attaching bolt	
34	R090347	1	Bracket , idler pulley mounting (S/N 475106 and higher)	

STARTER ASSEMBLY COMPONENTS - FIGURE 11



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STARTER ASSEMBLY COMPONENTS - FIGURE 11

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