



# MARINE

# ILLUSTRATED<sup>TM</sup> PARTS MANUAL

MODELS MP/CES  
CLEAN EMISSION SYSTEM  
5.0/5.7L

## SN 480001 thru 48xxxx



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**“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, 5.7L	

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
- NS = Not Shown
- 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:**

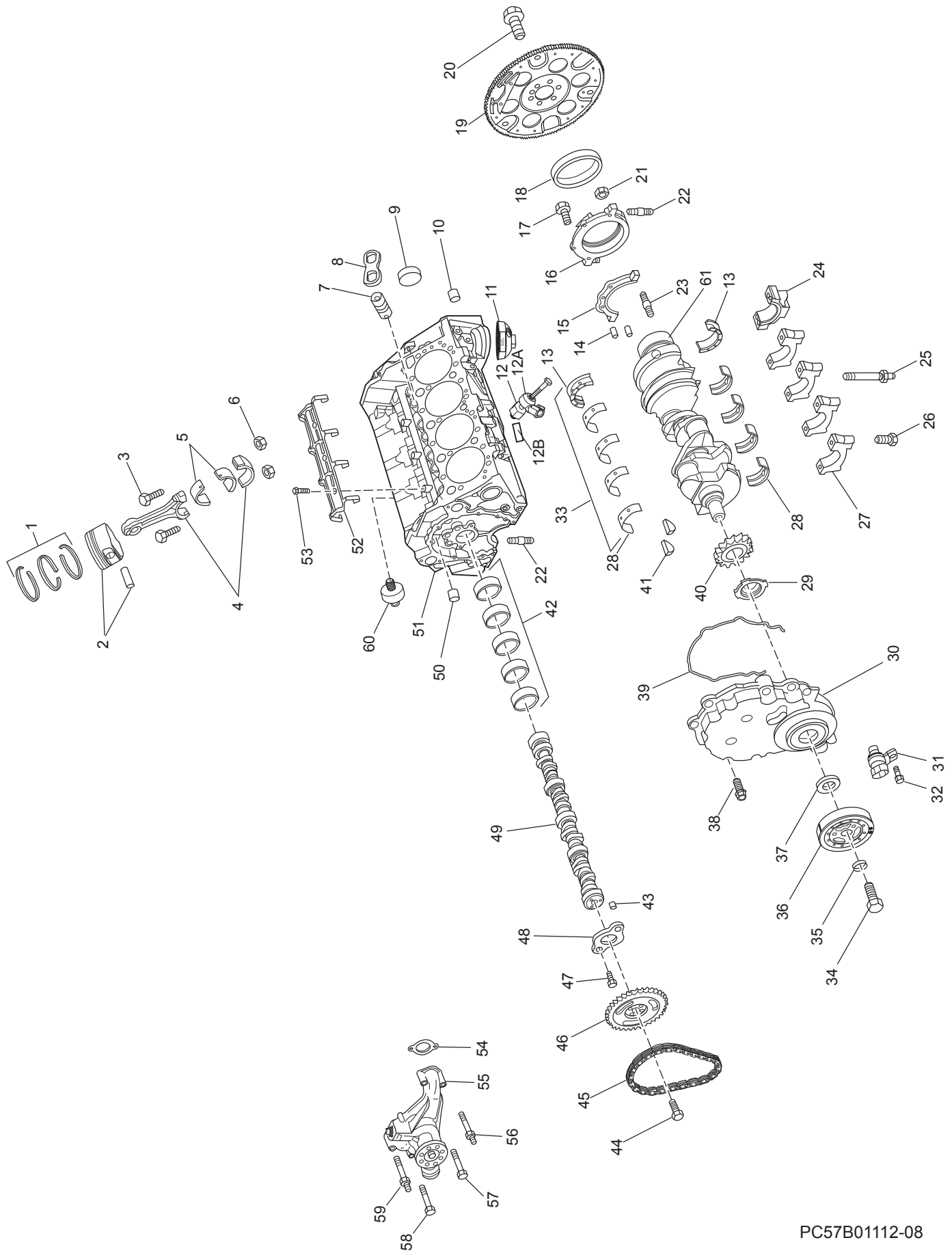
Description	Part Number
Oil Filter	R077001
Kit, Transmission Oil Filter (ZF)	RP077011
Fuel Filter, Primary	R080024A
Fuel Filter (FCC), Kit	RP080026
Spark Plugs	RP030010
Spark Plug Wire Set	RK120018
Spark Plug Wire Set, CES	RK120023
Serpentine Belt	R066028
Impeller Kit (Serpentine Raw Water Pump)	RP061022
Oil Drain Kit	RK024179
Exhaust Service Kit, 5.0/5.7L, MP engines only	RP173091
Fuel/ Water Seperator Element	R077019
Cap and Rotor Kit	RP173098

**MARINE TRANSMISSIONS:**

PCM Engines are equipped with PCM or Hurth Transmissions, standard or "V"-drives. 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.

CYLINDER BLOCK ASSEMBLY - FIGURE 1

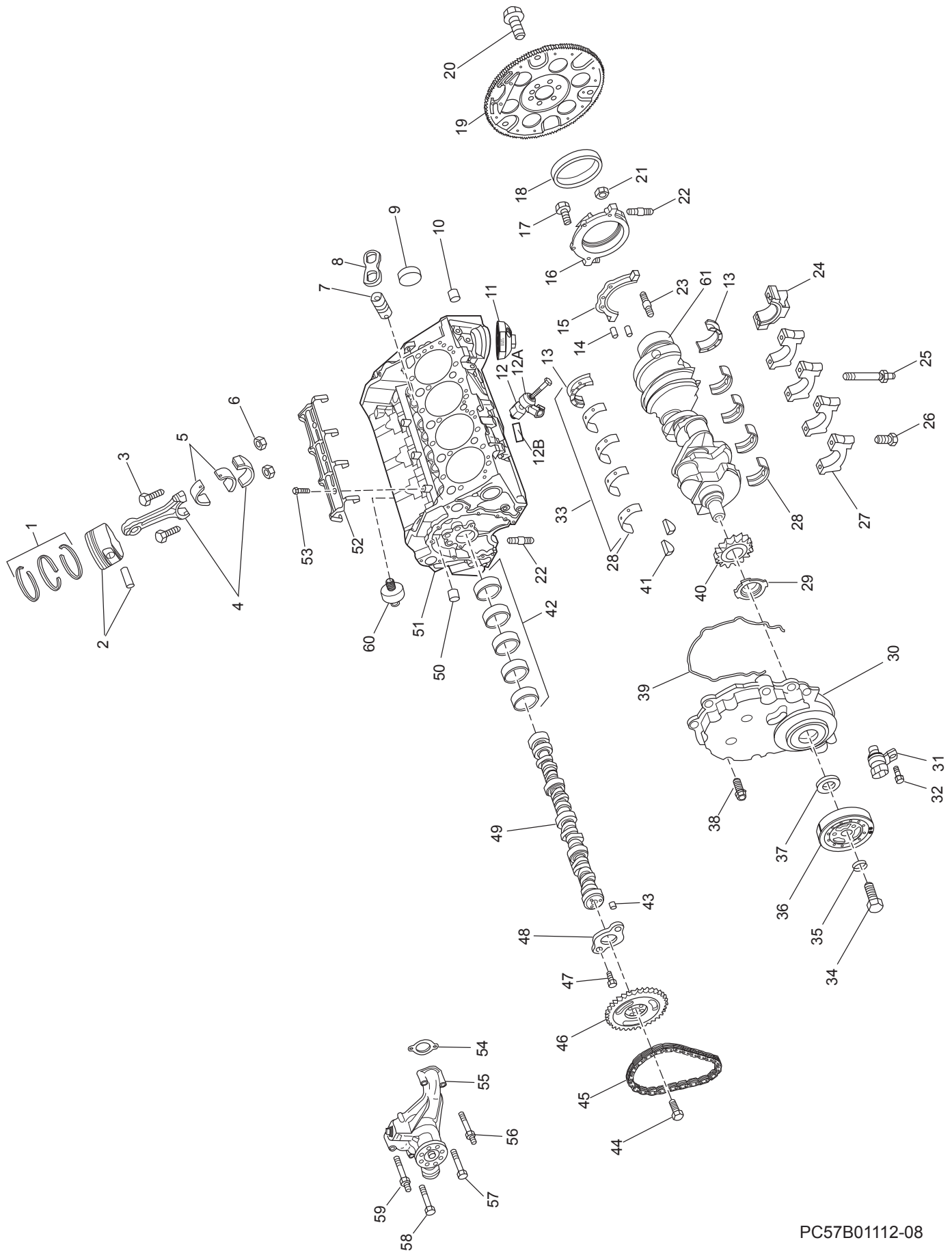


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## CYLINDER BLOCK ASSEMBLY - FIGURE 1

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
*	RB001004B		<b>5.0L Base Engine Assembly</b>	
*	RB001005I		<b>5.7L Base Engine Assembly</b>	
1	R015013	8	<b>Ring Set</b> , piston 5.7L (STD)	
1	R015006	8	<b>Ring Set</b> , piston 5.0L (STD)	
2	RA013016	8	<b>Piston</b> , 5.7L (STD)	
2	RA013017	8	<b>Piston</b> , 5.0L (STD)	
3	7080280	16	<b>Bolt</b> , connecting rod cap	
4	RA011012	8	<b>Connecting Rod</b> (STD)	
5	R007023	8	<b>Bearing Set</b> , connecting rod (STD)	
6	7080050	16	<b>Nut</b> , connecting rod cap	
7	R035038	16	<b>Lifter</b> , valve	
8	R037001	8	<b>Guide</b> , valve lifter	
9	R069064	1	<b>Plug</b> , camshaft	
10	33089		<b>Plug</b> , oil gallery	
11	R079051	1	<b>Adapter</b> , oil bypass	
12	R095043A	2	<b>Adapter</b> , flat response knock sensor	xx-5xxXC-xx
12A	R020052	2	<b>Sensor</b> , flat response knock (retaining bolt p/o sensor)	xx-5xxXC-xx
12B	R143156	2	<b>Decal</b> , "Raw Water Drain"	xx-5xxXC-xx
13	7056180	1	<b>Bearing</b> , crankshaft rear main (STD)	
13	N/A	AR	<b>Bearing</b> , crankshaft rear main (.001 US)	
13	7057180	AR	<b>Bearing</b> , crankshaft rear main (.010 US)	
13	7057190	AR	<b>Bearing</b> , crankshaft rear main (.020 US)	
14	NSS	2	<b>Pin</b> , flywheel locating	
15	707370	1	<b>Gasket</b> , crankshaft rear oil seal housing	
16	R134070	1	<b>Housing</b> , crankshaft rear oil seal	
17	70750250	2	<b>Bolt</b> , crankshaft rear oil seal housing, short	
17	70570260	1	<b>Bolt</b> , crankshaft rear oil seal housing, long	
18	R047173A	1	<b>Seal</b> , crankshaft rear oil	
19	RA138008	AR	<b>Flywheel Assembly</b> (Top Mount Starter)	
19	RA138010	1	<b>Flywheel Assembly</b> (Bottom Mount Starter)	
20	7070480	6	<b>Bolt</b> , flywheel attaching	
21	TBD	2	<b>Nut</b> , crankshaft rear oil seal housing	
22	TBD	2	<b>Stud</b> , crankshaft rear oil seal housing	
23	TBD	2	<b>Stud</b> , crankshaft rear oil seal housing	
24	NSS	1	<b>Cap</b> , crankshaft bearing #5	
25	7050870	5	<b>Stud</b> , crankshaft bearing cap	
26	TBD	5	<b>Bolt</b> , crankshaft bearing cap	
27	NSS	4	<b>Cap</b> , crankshaft bearing #1 - #4	
28	7050670	4	<b>Bearing</b> , crankshaft main (STD)	
28	7057200	AR	<b>Bearing</b> , crankshaft main (.002 US)	
28	7057220	AR	<b>Bearing</b> , crankshaft main (.010 US)	
28	7057230	AR	<b>Bearing</b> , crankshaft main (.020 US)	
29	R056001	1	<b>Ring</b> , crankshaft position sensor reductor	

CYLINDER BLOCK ASSEMBLY - FIGURE 1 (cont'd)



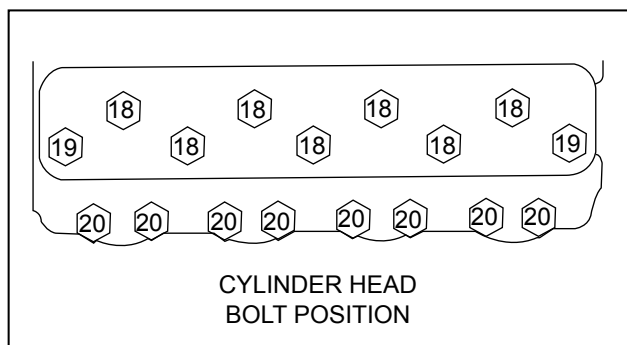
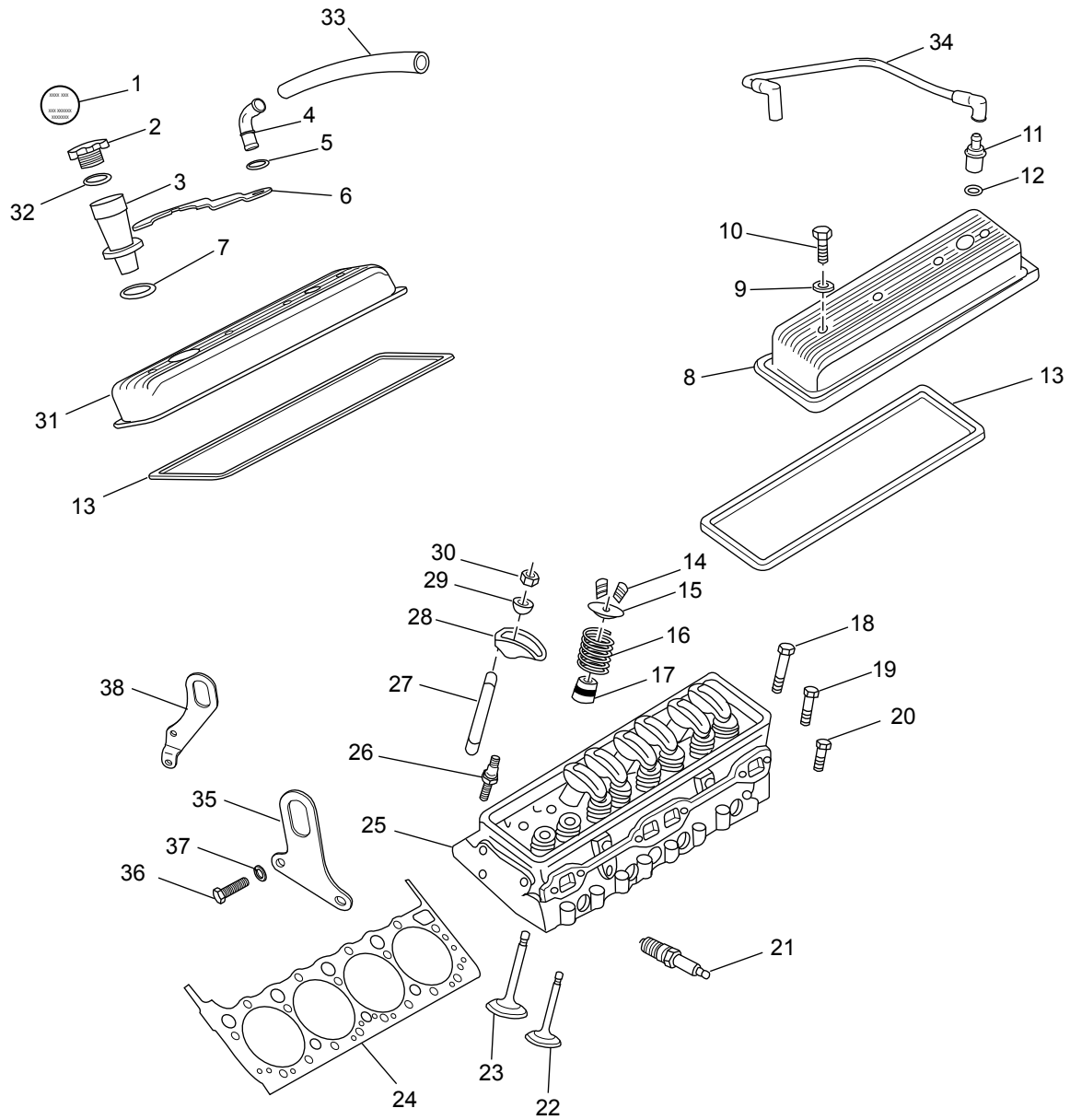
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## CYLINDER BLOCK ASSEMBLY - FIGURE 1 (cont'd)

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
30	R004010A	1	<b>Cover</b> , engine front cover (includes gasket and seal)	
31	R020038	1	<b>Sensor</b> , crankshaft position	
32	NSS	1	<b>Bolt</b> , crankshaft position sensor attaching	
33	RK007020	1	<b>Bearing Set</b> , crankshaft main (STD)	
34	R009091	1	<b>Bolt</b> , crankshaft balancer	
35	R096074	1	<b>Washer</b> , crankshaft balancer bolt	
36	R064010A	1	<b>Balancer</b> , crankshaft - '02 and newer	
36	R064010	1	<b>Balancer</b> , crankshaft - '97-'01	
37	NSS	1	<b>Seal</b> , crankshaft front oil	
38	R009177	6	<b>Bolt</b> , engine front cover attaching, short	
38	R009176	2	<b>Bolt</b> , engine front cover attaching, long	
39	NSS	1	<b>Gasket</b> , engine front cover	
40	R054024	1	<b>Sprocket</b> , crankshaft	
41	R164024	2	<b>Key</b> , crankshaft balancer	
42	RK051030	1	<b>Bearing Set</b> , camshaft	
42	7050630	1	<b>Cam Bearing #1</b>	
42	7050640	2	<b>Cam Bearing #2 &amp; #5</b>	
42	7050650	2	<b>Cam Bearing #3 &amp; #4</b>	
43	R022022	1	<b>Pin</b> , camshaft sprocket locating	
44	7130030	1	<b>Bolt</b> , camshaft sprocket attaching	
45	R055011	1	<b>Chain</b> , camshaft timing	
46	R054041	1	<b>Sprocket</b> , camshaft	
47	7070700	2	<b>Bolt</b> , camshaft retaining	
48	R109050	1	<b>Retainer</b> , camshaft	
49	RA050021	1	<b>Camshaft</b> , engine	
50	NSS	1	<b>Plug</b> , oil gallery	
51	NSS		<b>Block</b> , engine	
52	R090253A	1	<b>Retainer</b> , valve lifter	
53	RS0279	3	<b>Bolt</b> , valve lifter retainer	
54	RM0203	2	<b>Gasket</b> , water pump to engine block	
55	RA057027	1	<b>Water Pump Assembly</b>	
56	R095026	1	<b>Stud</b> , water pump attaching	
57	RS0307	1	<b>Bolt</b> , water pump attaching	
58	90305275	1	<b>Bolt</b> , water pump attaching	
59	R095026	1	<b>Stud</b> , water pump attaching	
60	R020027	2	<b>Sensor</b> , knock	
61	R006017A	1	<b>Crankshaft</b> , 350 1996/Later	
NI	R069066	8	<b>Plug</b> , Brass, block 1 5/8"	

CYLINDER HEAD ASSEMBLY - FIGURE 2

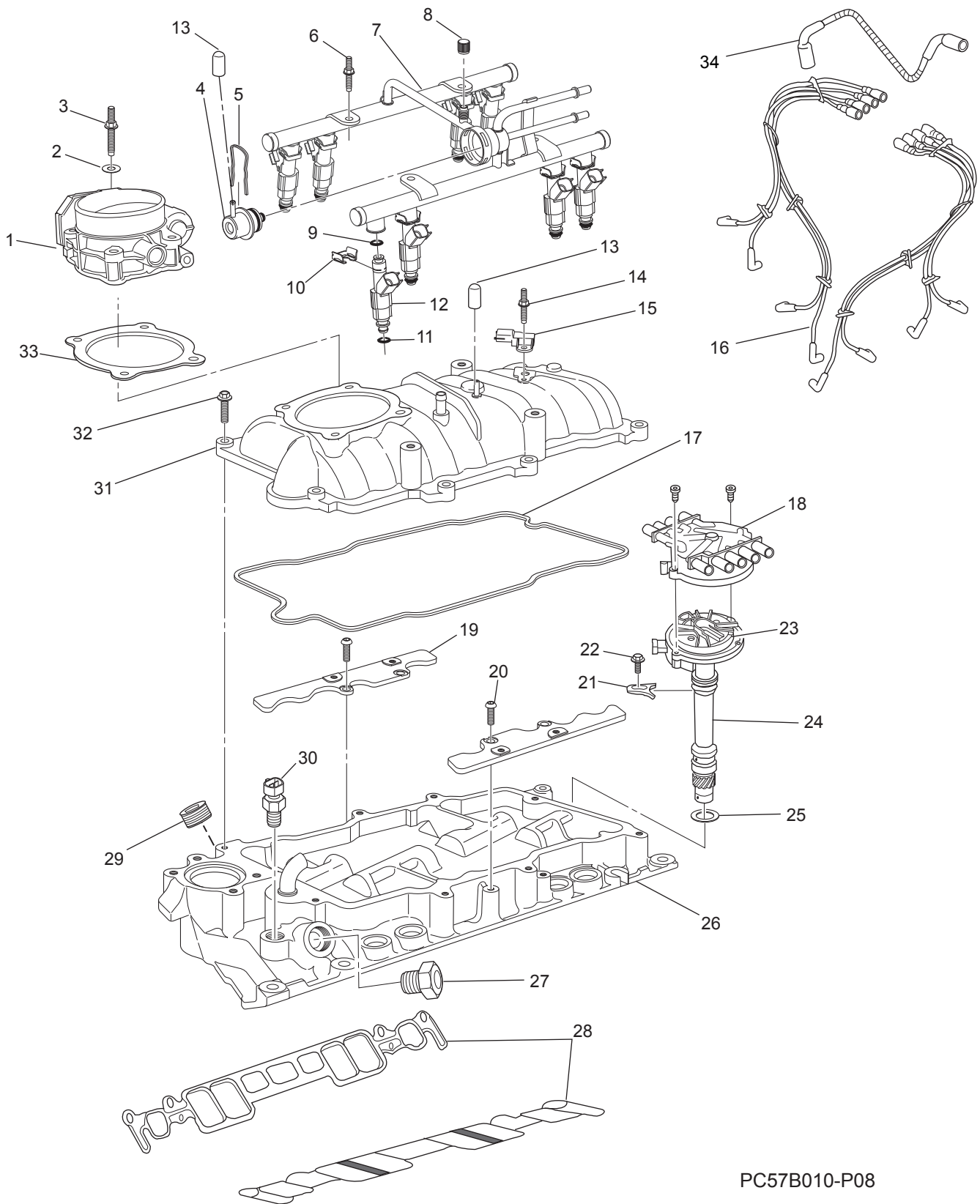


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## CYLINDER HEAD ASSEMBLY - FIGURE 2

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R143137	1	<b>Decal</b> , oil fill riser cap	
2	R034037	1	<b>Cap</b> , oil fill riser	
3	R034048	1	<b>Riser</b> , oil fill	
4	R024013C	1	<b>Elbow</b> , breather tube	
5	R094002	1	<b>Grommet</b> , breather tube elbow	
6	R127098	1	<b>Retainer</b> , oil fill riser	
7	R047228	1	<b>O-ring</b> , oil fill riser	
8	R033008A	1	<b>Cover</b> , rocker (left side)	
9	98009	8	<b>Washer</b> , rocker cover retaining bolt	
10	7231510	8	<b>Bolt</b> , rocker cover retaining	
11	R035015	1	<b>Valve</b> , positive crankcase ventilation	
12	R094015	1	<b>Grommet</b> , pcv valve	
13	RM0193	2	<b>Gasket</b> , rocker cover	
14	R049012	32	<b>Retainer</b> , valve stem	
15	R049015	16	<b>Cap</b> , valve spring	
16	R046050	16	<b>Valve Spring Assembly</b>	
17	R047238	8	<b>Seal</b> , valve stem (intake)	
17	R047239	8	<b>Seal</b> , valve stem (exhaust)	
18	R009168	14	<b>Bolt</b> , cylinder head to engine block (long)	
19	7057300	4	<b>Bolt</b> , cylinder head to engine block (medium)	
20	7057280	16	<b>Bolt</b> , cylinder head to engine block (short)	
21	R030010	8	<b>Spark Plug</b>	
22	R043035	8	<b>Valve</b> , (intake)	
23	R043036	8	<b>Valve</b> , (exhaust)	
24	RM0195	2	<b>Gasket</b> , cylinder head	
25	R003007B	2	<b>5.0L Cylinder Head Assembly</b>	
25	R003008B	2	<b>5.7L Cylinder Head Assembly</b>	
26	R095034	16	<b>Stud</b> , valve rocker arm	
26	7230920	AR	<b>Stud</b> , valve rocker arm (.013 OS)	
26	R095035	AR	<b>Stud</b> , valve rocker arm (.033 OS)	
27	R039023	16	<b>Push Rod</b>	
28	R038015	16	<b>Rocker Arm</b> , Assembly w/ball	
29	R038011	16	<b>Ball</b> , rocker arm	
30	R017069	16	<b>Nut</b> , rocker arm attaching	
31	R033008	1	<b>Cover</b> , rocker (right side)	
32	NSS	1	<b>O-Ring</b> , oil fill riser cap	
33	20806	1	<b>Tube</b> , breather	
34	R045176	1	<b>Tube</b> , PCV	
35	R042015	1	<b>Bracket</b> , lift ring (front, replaces R042008)	
36	RS0304	3	<b>Bolt</b> , lift ring attaching	
37	RS2180	3	<b>Lockwasher</b> , lift ring attaching	
38	R042014	1	<b>Bracket</b> , lift ring (rear, replaces R042008)	

INTAKE MANIFOLD ASSEMBLY - FIGURE 3

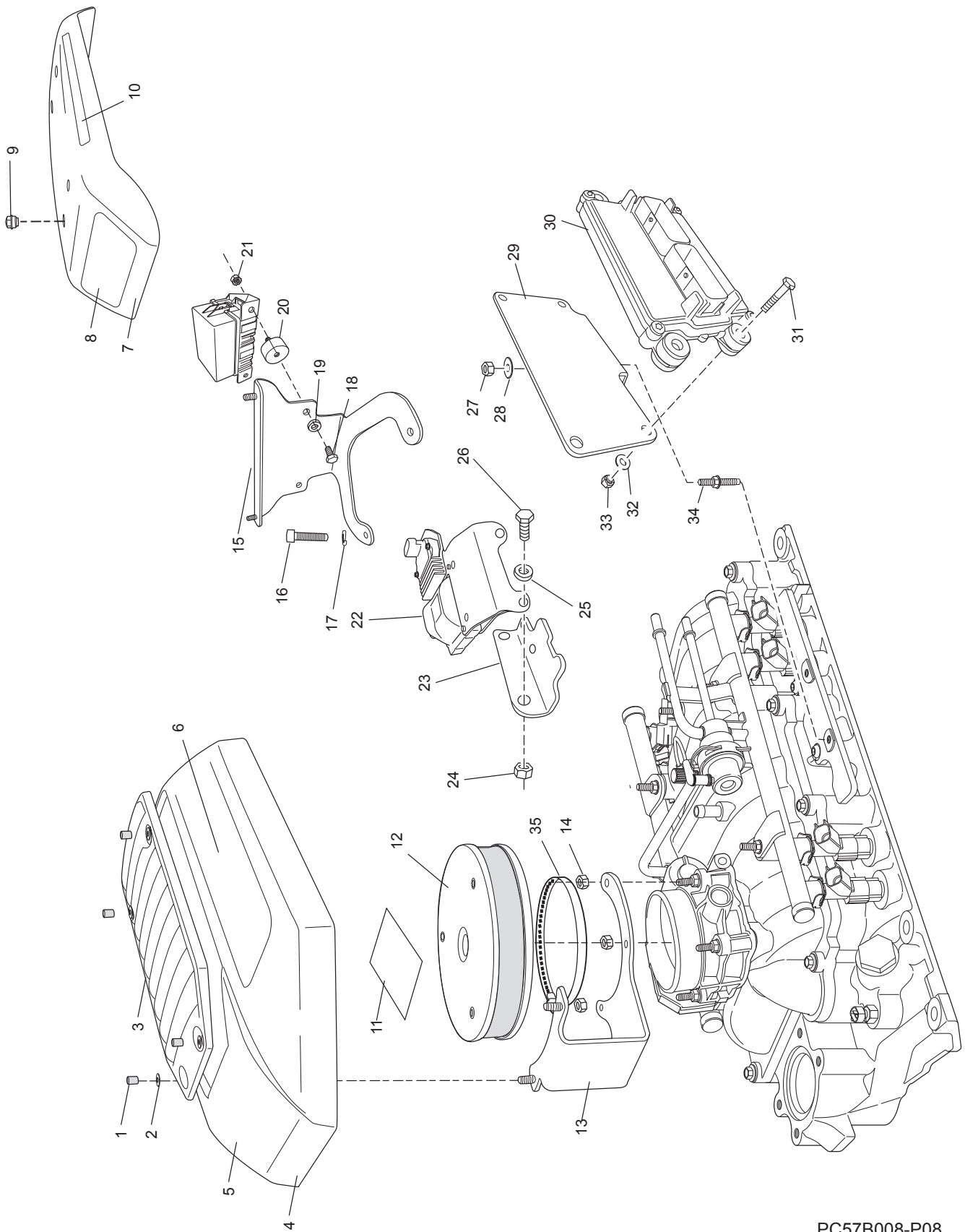


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## INTAKE MANIFOLD ASSEMBLY - FIGURE 3

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA035043	1	<b>Throttle Body Assembly, 4-Bolt - DBW</b>	
2	NSS	3	<b>Washer</b> , throttle body attaching stud	
3	R095040	3	<b>Stud</b> , throttle body attaching	
4	R088002	1	<b>Regulator</b> , fuel pressure	
5	TBD	1	<b>Retainer</b> , fuel pressure regulator	
6	98222018	1	<b>Bolt</b> , fuel rail attaching	
7	RA086002	1	<b>Fuel Rail Assembly</b>	
8	470806	1	<b>Cap</b> , fuel pressure service port	
9	NSS	8	<b>O-Ring</b> , fuel injector (top)	
10	TBD	8	<b>Clip</b> , fuel injector retaining	
11	NSS	8	<b>O-Ring</b> , fuel injector (bottom)	
12	RA087007	8	<b>Fuel Injector Assembly</b>	
13	R128003	2	<b>Cover</b> , vacuum port	
14	R095041	4	<b>Stud</b> , fuel rail and MAP sensor attaching	
15	R020039	1	<b>Sensor</b> , manifold absolute pressure	
16	RK120018	1	<b>Spark Plug Wire Set</b>	
16	RK120023	1	<b>Spark Plug Wire Set</b>	XX-5XXxC-XX
17	RM0271	1	<b>Gasket</b> , upper intake manifold to lower	
18	RA108009	1	<b>Cap</b> , distributor	
19	NSS	2	<b>Plate</b> , component attaching	
20	NSS	4	<b>Bolt</b> , component attaching plate attaching	
21	R127026A	1	<b>Hold Down</b> , distributor	
22	R009193	1	<b>Bolt</b> , distributor hold down	
23	R103011	1	<b>Rotor</b> , distributor	
24	RA107044	1	<b>Distributor Assembly (LH)</b>	
25	RM0123	1	<b>Gasket</b> , distributor assembly	
26	R002023	1	<b>Intake Manifold</b> , lower	
27	R069069	1	<b>Plug</b> , intake manifold	
28	RM0250	2	<b>Gasket</b> , intake manifold	
29	444705	1	<b>Plug</b> , 1/2" NPT, hex socket, Brass	
30	R020019	1	<b>Sensor</b> , engine coolant temperature	
31	R002024A	1	<b>Intake Manifold</b> , upper	
32	TBD	8	<b>Bolt</b> , upper intake manifold to lower attaching	
33	RM0296	1	<b>Gasket</b> , throttle body to upper manifold	
34	RA120018	1	<b>Coil Wire</b> , Ignition (red)	
34	TBD	1	<b>Coil Wire</b> , Ignition	XX-5XXxC-XX
NI	R020057	1	Cam Position Sensor	

INTAKE MANIFOLD COMPONENTS - FIGURE 4

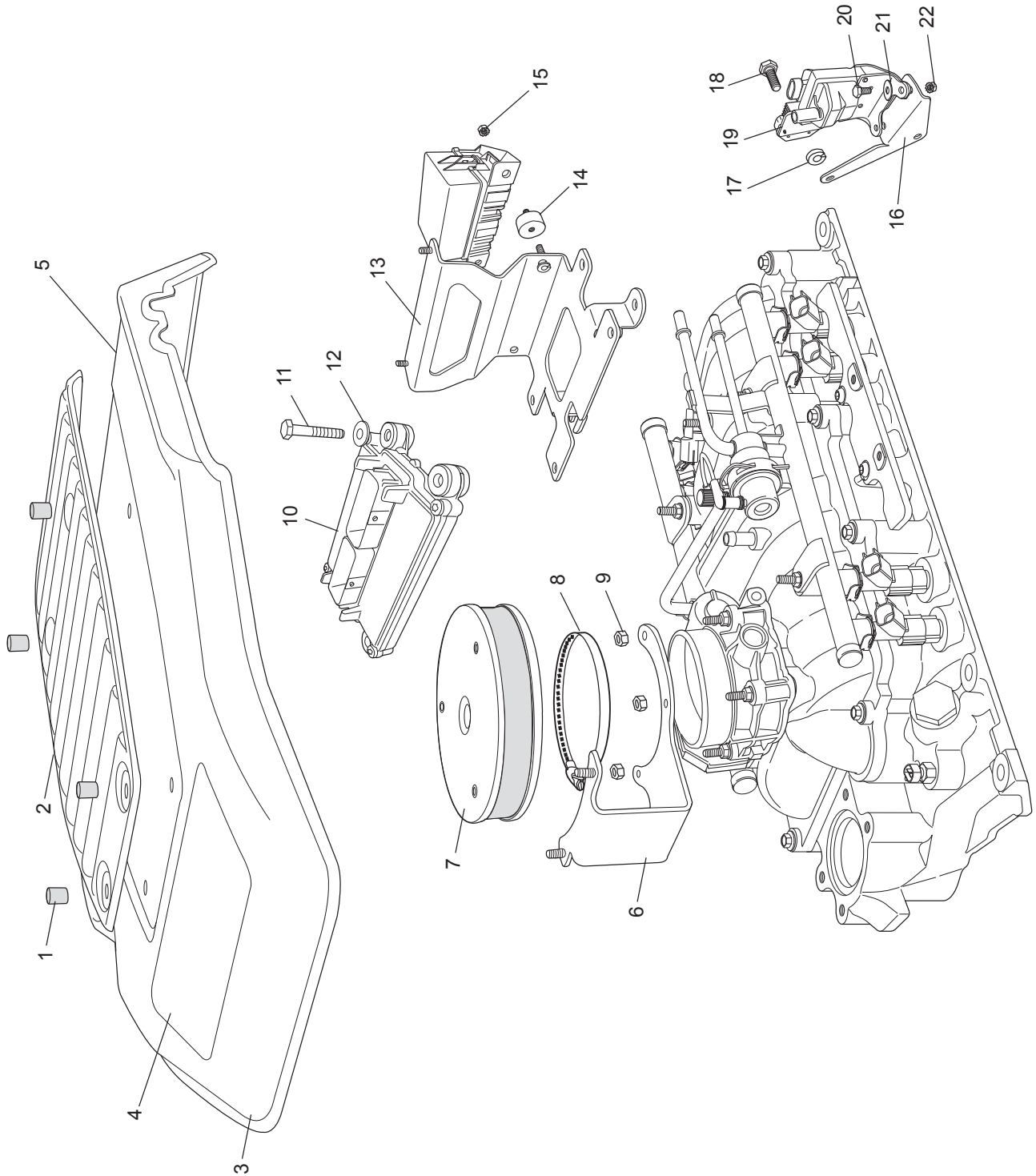


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## INTAKE MANIFOLD COMPONENTS - FIGURE 4

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R017083	4	<b>Nut</b> , engine cover attaching	
2	TBD	4	<b>Washer</b> , engine cover attaching	
3	R060070	1	<b>Insert</b> , cover, engine (Flat Black)	
4	R060060D	1	<b>Cover</b> , engine, RWC (silver)	
4	R060061D	1	<b>Cover</b> , engine, FWC (silver)	
5	R143190	1	<b>Decal</b> , "PCM"	
6	R143191	2	<b>Decal</b> , "EX 343"	
NI	R143193	2	<b>Decal</b> , "EX 343" (FWC)	
7	R060075	1	<b>Cover</b> , engine, 5.0L ProSport (Black)	
8	R143148A	1	<b>Decal</b> , hood, front (5.0L PCM)	
8	R143192	1	<b>Decal</b> , hood, rear (5.0L PCM)	
9	R009194	4	<b>Nut</b> , engine cover attaching	
10	R143149A	2	<b>Decal</b> , hood, side (5.0L PCM)	
11	R143170B	1	<b>Decal</b> , Spec, 5.7L	
11	R143169B	1	<b>Decal</b> , Spec, 5.0L	
12	R145027	1	<b>Flame Arrestor</b>	
13	R090358	1	<b>Bracket</b> , engine cover mounting, front	
14	97224300	3	<b>Nut</b> , Nylock, bracket attaching	
15	R090259	1	<b>Bracket</b> , engine cover mounting, rear	
16	RS6257	2	<b>Bolt</b> , engine cover bracket attaching	
17	93920000	2	<b>Lockwasher</b> , engine cover bracket attaching	
18	RS0251	2	<b>Bolt</b> , Isolator attaching	
19	RS2178	2	<b>Lockwasher</b> , Isolator attaching	
20	R094044	2	<b>Isolator</b> , fuse block mounting	
21	RS1078	2	<b>Nut</b> , KEPS, Fuse Block attaching	
22	RA117011	1	<b>Ignition Coil/Module Assembly</b>	
23	R090249	1	<b>Bracket</b> , ignition coil/module assembly mounting	
24	RS2058	2	<b>Nut</b> , attaching	
25	92100000	2	<b>Washer</b> , attaching	
26	RS0254	2	<b>Bolt</b> , attaching	
27	97224300	2	<b>Nut</b> , NYLOK, ECM bracket attaching	
28	92920000	2	<b>Flat washer</b> , ECM bracket attaching	
29	R090327	1	<b>Bracket</b> , ECM mounting	
30	R116023	1	<b>Engine Control Module See ECM snd Relays - Figure 20</b>	
31	98223035	4	<b>Bolt</b> , ECM attaching	
32	RS2672	4	<b>Flat washer</b> , ECM attaching	
33	97220060	4	<b>Nut</b> , KEPS, ECM attaching	
34	R095041	2	<b>Stud</b> , bracket attaching	
35	RS3866	1	<b>Clamp</b> , flame arrestor	

CES - INTAKE MANIFOLD COMPONENTS - FIGURE 5

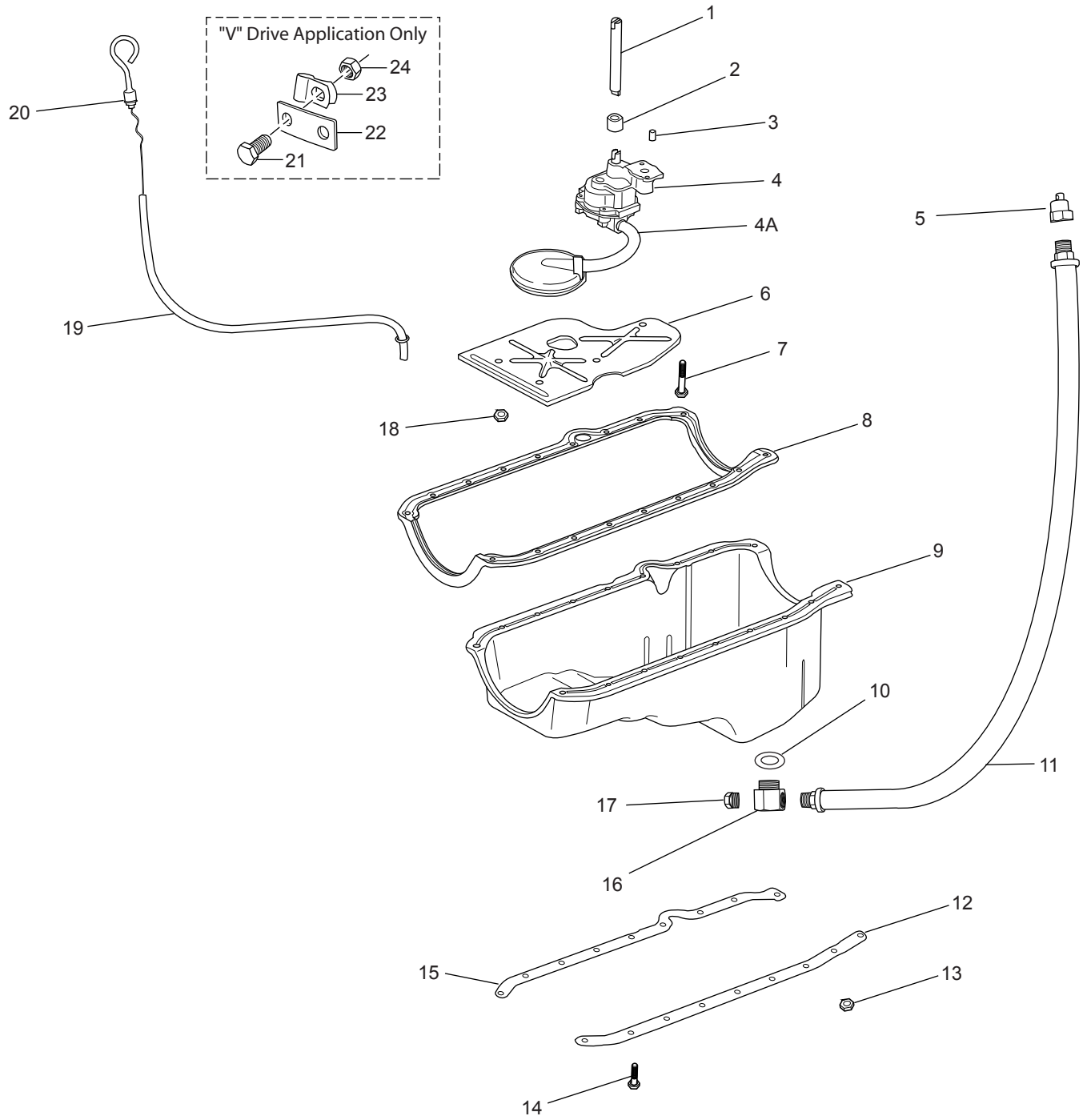




## CES - INTAKE MANIFOLD COMPONENTS - FIGURE 5

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R017083A	4	<b>Nut</b> , engine cover attaching	
2	R060072	1	<b>Insert</b> , cover, engine	
2	R060072A	1	<b>Insert</b> , cover, engine 5.0L	
3	R060071	1	<b>Cover</b> , engine	
3	R060071A	1	<b>Cover</b> , engine, 5.0L	
4	R143196	2	<b>Decal</b> , "EX 343"	
4	R143207A	1	<b>Decal</b> , hood, front (5.0L)	
5	R143146B	1	<b>Decal</b> , Spec, 5.7L	
5	R143208A	1	<b>Decal</b> , Spec, 5.0L	
6	R090358A	1	<b>Bracket</b> , engine cover mounting, front	
7	R145027	1	<b>Flame Arrestor</b>	
8	RS3866	1	<b>Clamp</b> , flame arrestor	
9	97224300	3	<b>Nut</b> , Nylock, bracket attaching	
10	R116024	1	<b>Engine Control Module See CES - ECM snd Relays - Figure 21</b>	
11	98224035	4	<b>Bolt</b> , ECM attaching	
12	92924000	4	<b>Flat washer</b> , ECM attaching	
13	R090353	1	<b>Bracket</b> , ECM mounting	
14	R094044	2	<b>Isolator</b> , fuse block mounting	
15	RS1078	2	<b>Nut</b> , KEPS, Fuse Block attaching	
16	R090357	1	<b>Bracket</b> , ignition coil/module assembly mounting	
17	RS2180	2	<b>Lockwasher</b> , ignition/coil bracket mounting	
18	RS0304	2	<b>Bolt</b> , ignition Coil bracket mounting	
19	RA117011	1	<b>Ignition Coil/Module Assembly</b>	
20	RS0254	2	<b>Bolt</b> , Ignition Coil attaching	
21	92100000	2	<b>Washer</b> , Ignition Coil attaching	
22	RS2058	2	<b>Nut</b> , Ignition Coil attaching	

OIL PAN and OIL PUMP ASSEMBLY - FIGURE 6

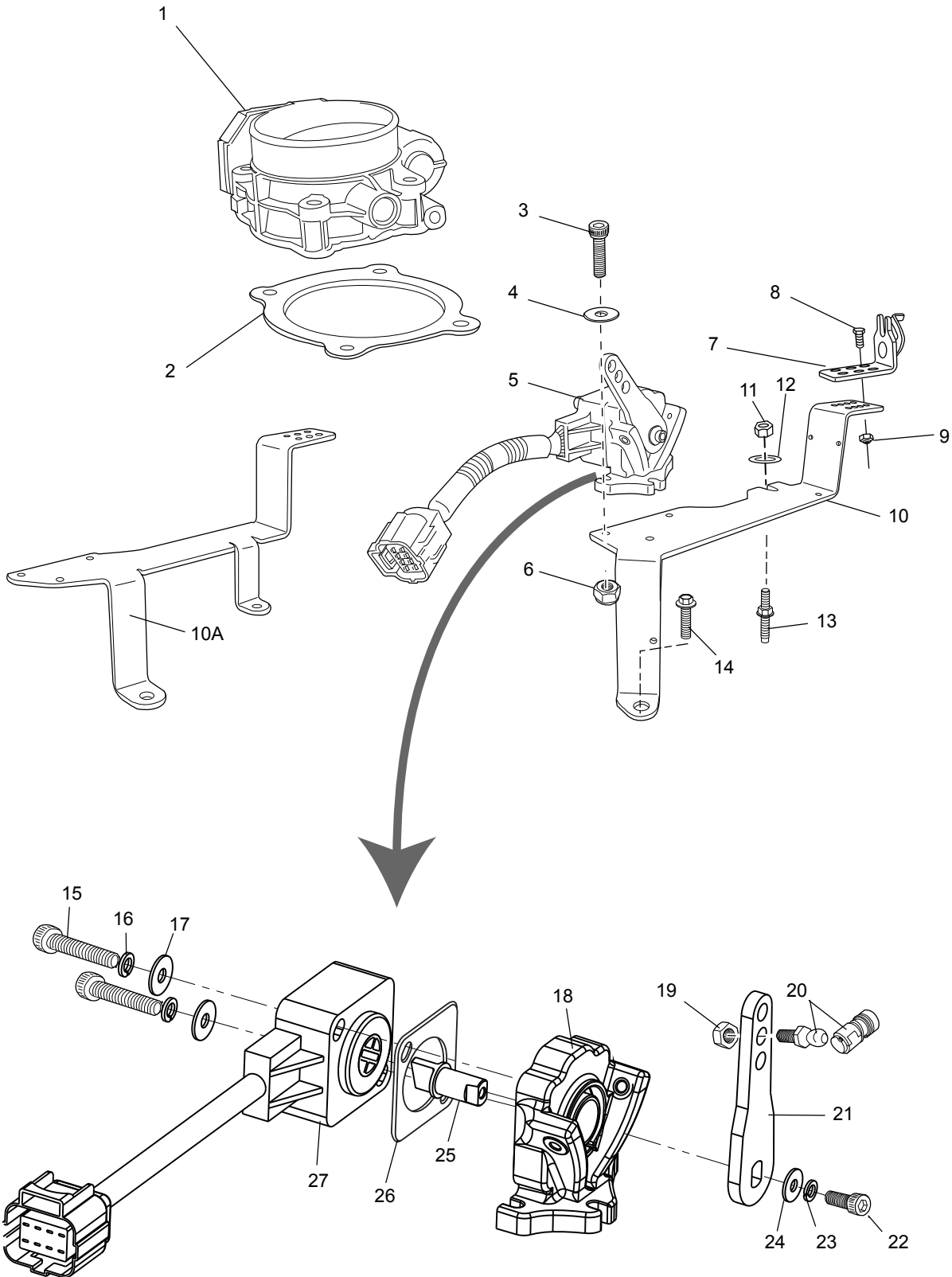


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## OIL PAN and OIL PUMP ASSEMBLY - FIGURE 6

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R058054	1	<b>Shaft</b> , oil pump drive	
2	7100270	1	<b>Retainer</b> , oil pump drive shaft	
3	R022022	2	<b>Pin</b> , oil pump locating	
4	RA070010	1	<b>Oil Pump Assembly</b>	
5	R024066A	1	<b>Fitting</b> , oil pan drain hose	
6	R012028	1	<b>Deflector</b> , crankshaft oil	
7	7100250	1	<b>Bolt</b> , oil pump	
8	RM0249	1	<b>Gasket</b> , oil pan	
9	R005011	1	<b>Oil Pan</b>	
10	RM0245	1	<b>Gasket</b> , oil pan drain hose fitting	
11	R045049	1	<b>Hose</b> , oil pan drain	
12	7090440	1	<b>Reinforcement</b> , oil pan (LH)	
13	95200010	4	<b>Nut</b> , oil pan	
14	R009157	14	<b>Bolt</b> , oil pan	
15	7090550	1	<b>Reinforcement</b> , oil pan (RH)	
16	R024179	1	<b>Fitting</b> , oil pan drain hose	
17	RS3552	1	<b>Plug</b> , oil pan drain hose fitting	
18	7050360	5	<b>Nut</b> , crankshaft oil deflector	
19	R041065	1	<b>Tube</b> , oil level dipstick, direct drive	
19	R041066	1	<b>Tube</b> , oil level dipstick, v-drive	
19	R041087	1	<b>Tube</b> , oil level dipstick, CES, direct drive SN 481018 and higher	
19	R041087	1	<b>Tube</b> , oil level dipstick, Vdrive SN 480993 and higher	04-570V-xx
20	R041036A	AR	<b>Dipstick</b> , oil level , direct drive	
20	R041067A	AR	<b>Dipstick</b> , oil level , v-drive	
20	R041088	AR	<b>Dipstick</b> , oil level , CES, direct drive SN 481018 and higher	
20	R041088	AR	<b>Dipstick</b> , oil level , Vdrive SN 480993 and higher	04-570V-xx
21	RS0302	AR	<b>Bolt</b> , dipstick tube mounting clamp	
22	R090233	AR	<b>Bracket</b> , dipstick tube	
23	R127015	AR	<b>Clamp</b> , dipstick tube mounting	
24	RS1028	AR	<b>Nut</b> , dipstick tube mounting clamp bolt	
NI	RK024179	1	<b>Kit</b> , oil drain (includes items 5,10,11,16,17)	

THROTTLE BODY and RELATED COMPONENTS - FIGURE 7

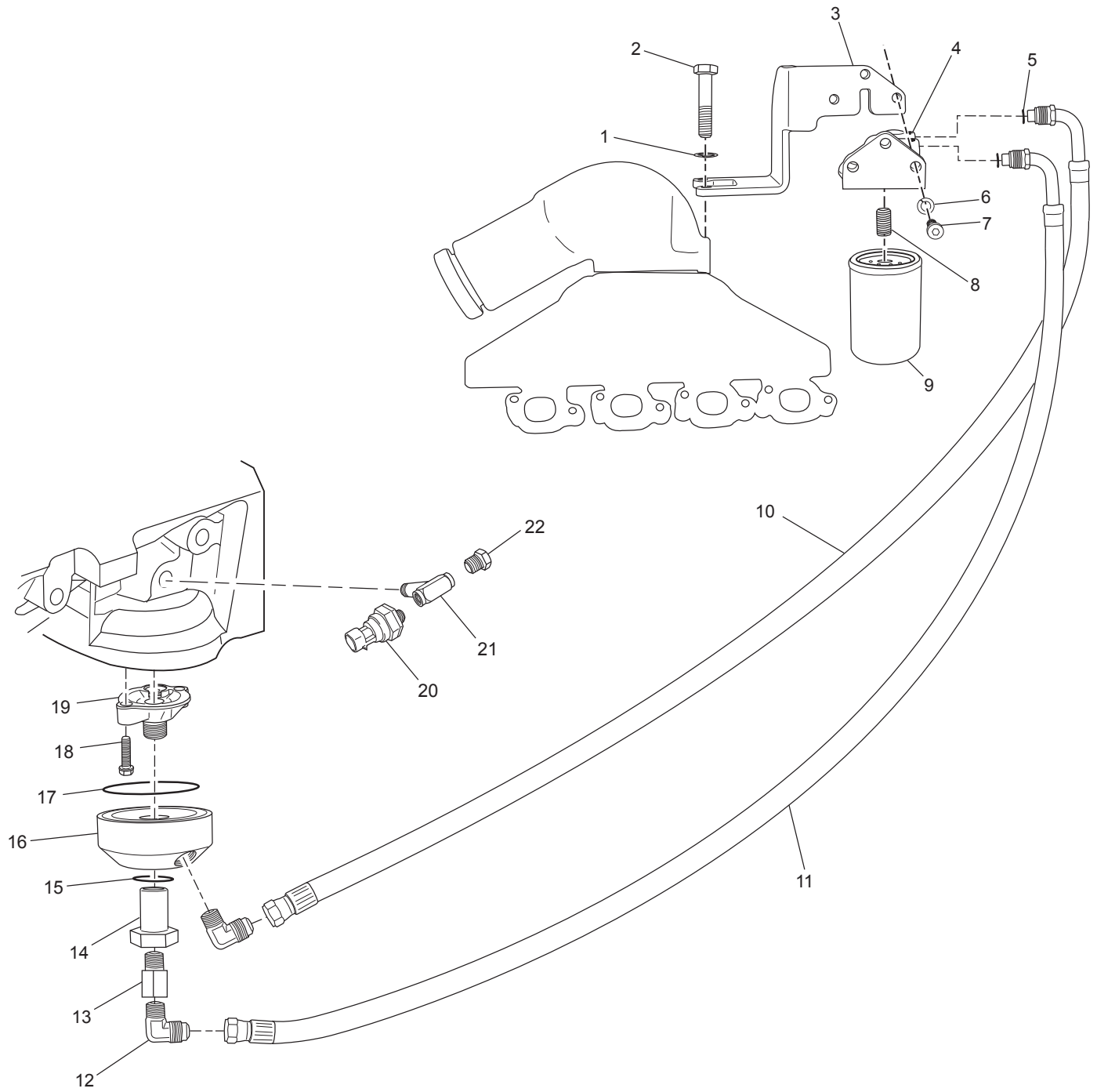


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## THROTTLE BODY and RELATED COMPONENTS - FIGURE 7

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA035043	1	<b>Throttle Body Assembly</b>	
2	RM0296	1	<b>Gasket</b> , throttle body to upper manifold	
3	91864075	3	<b>Bolt</b> , TCP Sensor Assembly attaching	
4	92004000	3	<b>Washer</b> , flat, TCP Sensor Assembly attaching	
5	RA119005	1	<b>Throttle Control Position (TCP) Sensor Assembly</b>	
6	RS2052	3	<b>Nut</b> , TCP Sensor Assembly attaching	
7	R090086	1	<b>Cable Clip</b> , throttle	
8	RS5122	2	<b>Bolt</b> , cable clip attaching	
9	RS2050	2	<b>Nut</b> , cable clip attaching	
10	R090320A	1	<b>Bracket</b> , TCP Assembly/Throttle Clip	
10A	R090356	1	<b>Bracket</b> , TCP Assembly/Throttle Clip	
11	97224300	1	<b>Nut</b> , Nylok, TCP bracket attaching	
12	92920000	1	<b>Washer</b> , flat, TCP bracket attaching	
13	R095041	1	<b>Stud</b> , TCP bracket (fuel rail) attaching	
14	TBD	1	<b>Bolt</b> , TCP bracket attaching (upper to lower intake attaching)	
15	91064113	2	<b>Bolt</b> , TCP Sensor attaching	
16	93040000	2	<b>Lock Washer</b> , TCP Sensor attaching	
17	92004000	2	<b>Flat Washer</b> , TCP Sensor attaching	
18	R109053A	1	<b>Plate Assembly</b> , TCP Sensor	
19	RS1568	1	<b>Nut</b> , ball joint attaching	
20	R178003	1	<b>Ball Joint Assembly</b>	
21	R081009	1	<b>Arm</b> , TCP Sensor	
22	91864050	1	<b>Bolt</b> , TCP Sensor arm attaching	
23	94854500	1	<b>Lock Washer</b> , TCP Sensor arm attaching	
24	94004200	1	<b>Flat Washer</b> , TCP Sensor arm attaching	
25	R058071	1	<b>Shaft</b> , TCP Sensor	
26	R062090	1	<b>Spacer</b> , TCP support	
27	R119005	1	<b>TCP Sensor</b>	

REMOTE OIL FILTER COMPONENTS V-DRIVE - FIGURE 8

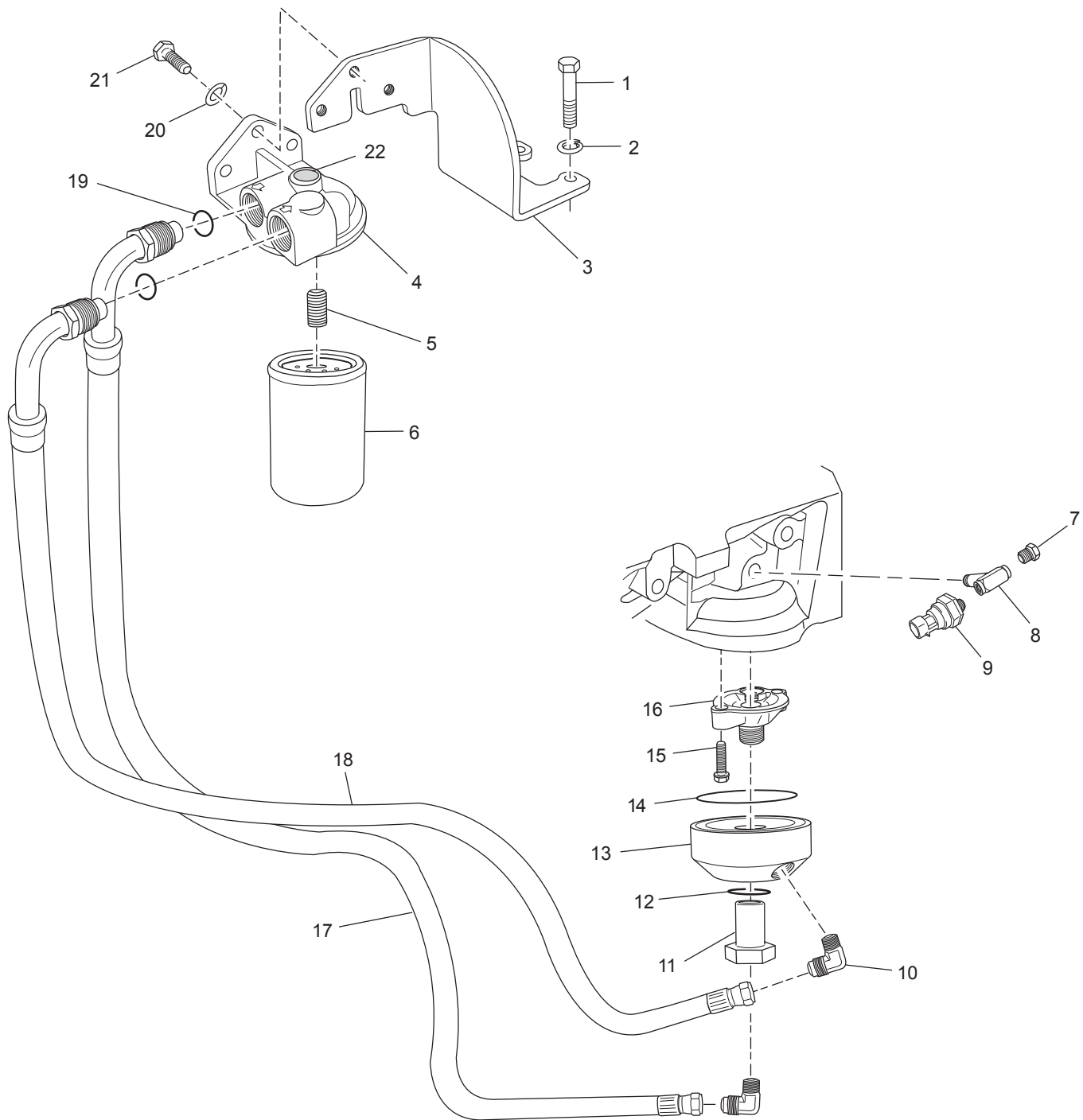


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## REMOTE OIL FILTER COMPONENTS V-DRIVE - FIGURE 8

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS2179	2	<b>Lockwasher</b> , attaching bolt	
2	90205200	2	<b>Bolt</b> , oil filter header mounting bracket attaching	
3	R090257	1	<b>Bracket</b> , oil filter header mounting	
4	R079066	1	<b>Oil Filter Header</b>	
5	R047245	2	<b>O-Ring</b> , oil line	
6	RS2179	3	<b>Lockwasher</b> , oil filter header mounting bolt	
7	99333020	3	<b>Bolt</b> , oil filter header mounting	
8	R024203	1	<b>Nipple</b> , header filter adapter	
9	R077001	1	<b>Filter</b> , oil	
10	RA045120D	1	<b>Hose Assembly</b> , bypass adapter to filter header	
11	RA045120D	1	<b>Hose Assembly</b> , filter header to bypass adapter	
12	R024184	2	<b>Fitting</b> , 90 degree	
13	R024182	1	<b>Adapter</b> , fitting	
14	R017073	1	<b>Fitting</b> , oil bypass adapter attaching	
15	R047202	1	<b>O-ring</b> , oil bypass adapter attaching fitting	
16	R079051	1	<b>Adapter</b> , oil bypass	
17	R047203	1	<b>O-ring</b> , oil bypass adapter	
18	R009089	2	<b>Bolt</b> , oil adapter attaching	
19	RA079028	1	<b>Adapter</b> , oil	
20	R020049	1	<b>Sender</b> , oil pressure	
21	R024205	1	<b>Tee</b> , sender attaching	
22	RS3554	1	<b>Plug</b> , oil pressure tee	

REMOTE OIL FILTER COMPONENTS DIRECT DRIVE - FIGURE 9



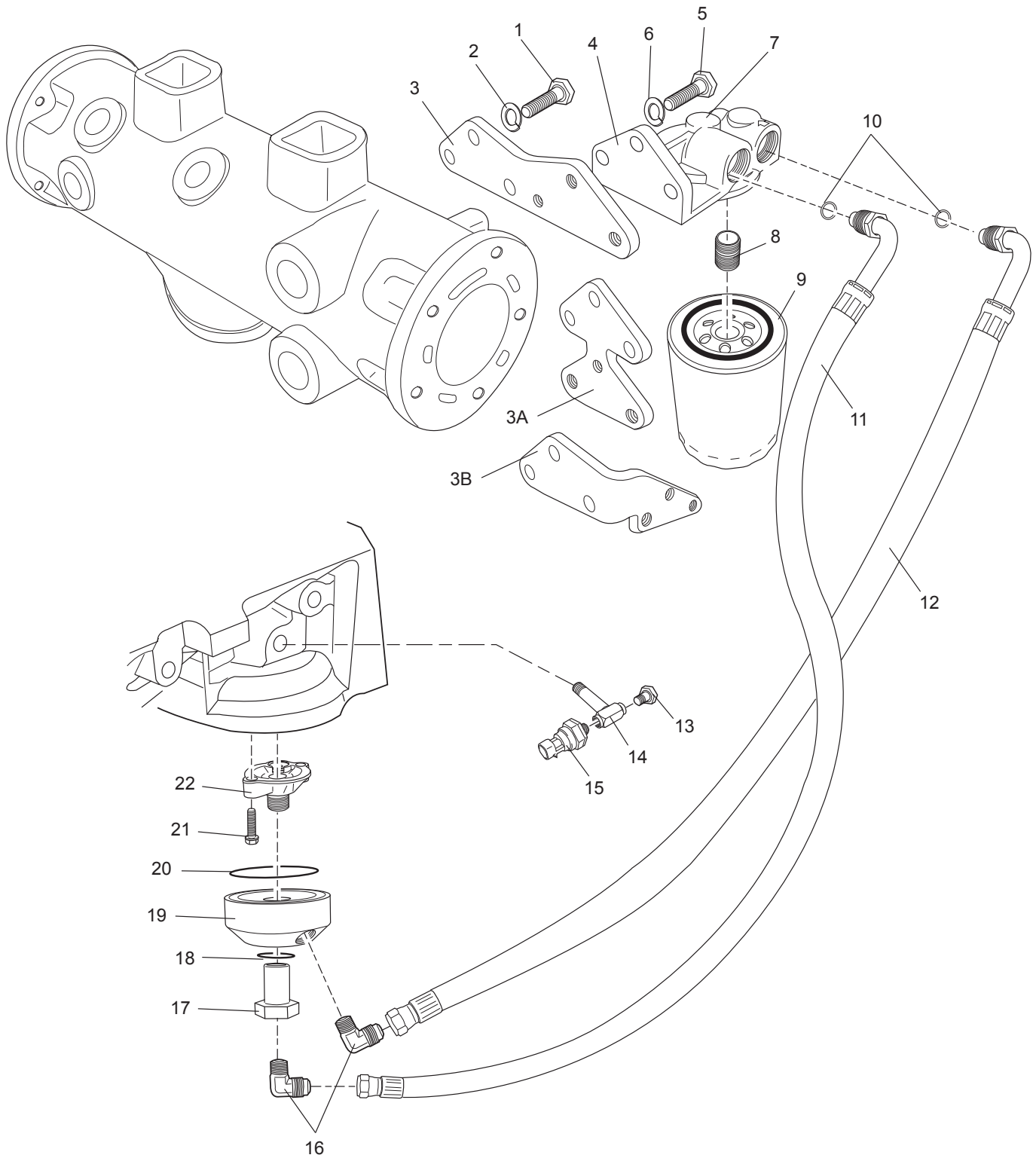
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## REMOTE OIL FILTER COMPONENTS DIRECT DRIVE - FIGURE 9

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS0286	2	<b>Bolt</b> , oil filter header mounting bracket attaching	
2	RS2180	2	<b>Lockwasher</b> , attaching bolt	
3	R090257	1	<b>Bracket</b> , oil filter header mounting	
4	R079066	1	<b>Oil Filter Header</b>	
5	R024203	1	<b>Nipple</b> , header filter adapter	
6	R077001	1	<b>Filter</b> , oil	
7	RS3554	1	<b>Plug</b> , oil pressure tee	
8	R024205	1	<b>Tee</b> , sender attaching	
9	R020049	1	<b>Sender</b> , oil pressure	
10	R024184	2	<b>Fitting</b> , 90 degree	
11	R017073	1	<b>Fitting</b> , oil bypass adapter attaching	
12	R047202	1	<b>O-ring</b> , oil bypass adapter attaching fitting	
13	R079051	1	<b>Adapter</b> , oil bypass	
14	R047203	1	<b>O-ring</b> , oil bypass adapter	
15	R009089	2	<b>Bolt</b> , oil adapter attaching	
16	RA079028	1	<b>Adapter</b> , oil	
17	RA045120D	1	<b>Hose Assembly</b> , filter header to bypass adapter	
18	RA045120D	1	<b>Hose Assembly</b> , bypass adapter to filter header	
19	R047245	2	<b>O-Ring</b> , oil line	
20	RS2179	3	<b>Lockwasher</b> , oil filter header mounting bolt	
21	98333020	3	<b>Bolt</b> , oil filter header mounting	
22	R143175	1	<b>Decal</b> , "Hot", oil header	

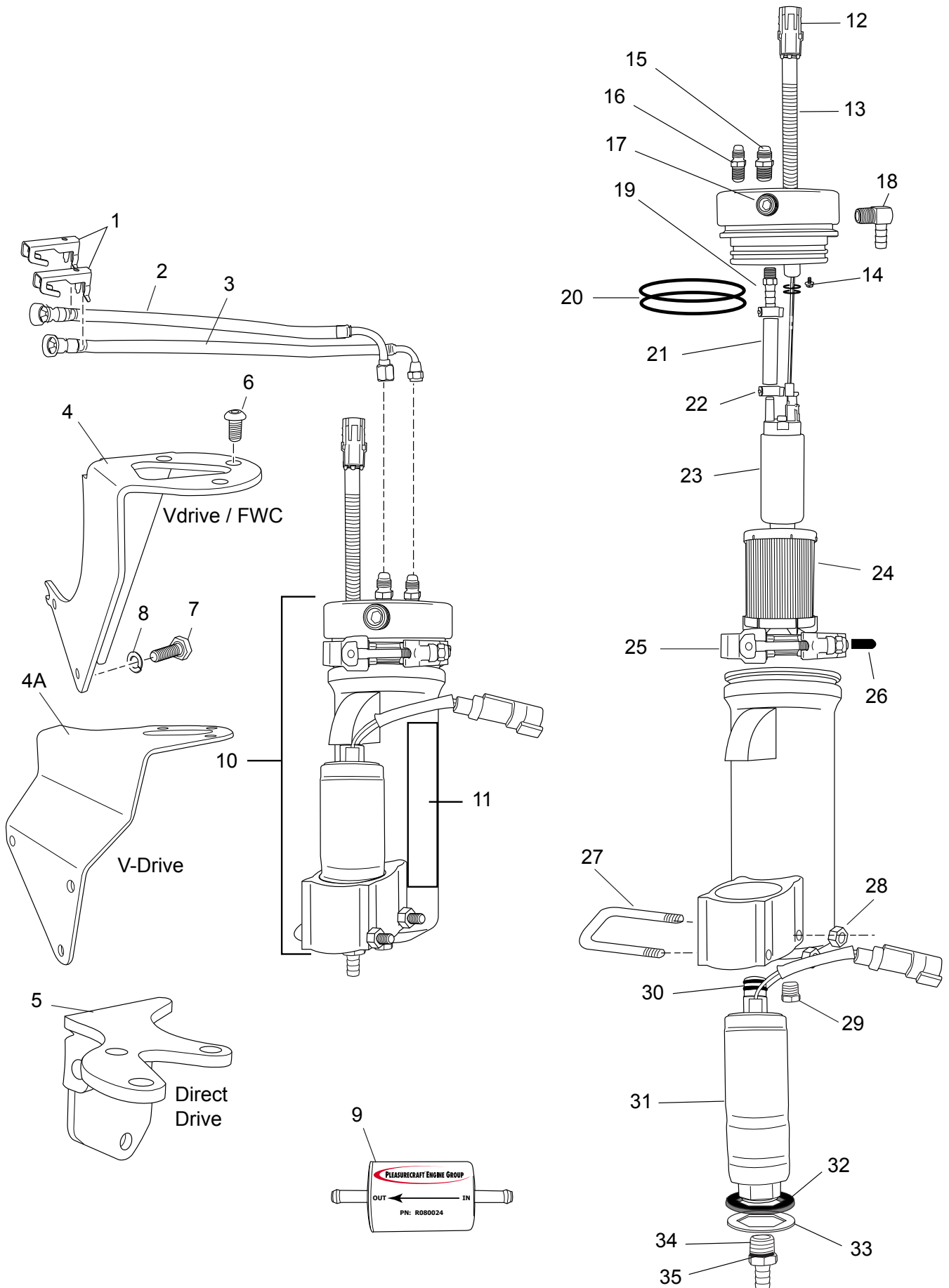
CES REMOTE OIL FILTER COMPONENTS - FIGURE 10



## CES REMOTE OIL FILTER COMPONENTS - FIGURE 10

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS0280	3	<b>Bolt</b> , oil filter header mounting bracket attaching	05-5xxCV-xx
2	RS2179	3	<b>Lockwasher</b> , attaching bolt	
3	R090359	1	<b>Bracket</b> , oil filter header mounting	
3A	R090363	AR	<b>Bracket</b> , oil filter header mounting	
3B	R090364	AR	<b>Bracket</b> , oil filter header mounting	
4	R079066	1	<b>Oil Filter Header</b>	
5	98333020	3	<b>Bolt</b> , oil filter header mounting	
6	RS2179	3	<b>Lockwasher</b> , oil filter header mounting bolt	
7	R143175	1	<b>Decal</b> , "Hot", oil header	
8	R024203	1	<b>Nipple</b> , header filter adapter	
9	R077001	1	<b>Filter</b> , oil	
10	R047245	2	<b>O-Ring</b> , oil line	
11	RA045120F	1	<b>Hose Assembly</b> , filter header to bypass adapter	
12	RA045120E	1	<b>Hose Assembly</b> , bypass adapter to filter header	
13	RS3554	1	<b>Plug</b> , oil pressure tee	
14	R024205	1	<b>Tee</b> , sender attaching	
15	R020049	1	<b>Sender</b> , oil pressure	
16	R024184	2	<b>Fitting</b> , 90 degree	
17	R017073	1	<b>Fitting</b> , oil bypass adapter attaching	
18	R047202	1	<b>O-ring</b> , oil bypass adapter attaching fitting	
19	R079051	1	<b>Adapter</b> , oil bypass	
20	R047203	1	<b>O-ring</b> , oil bypass adapter	
21	R009089	2	<b>Bolt</b> , oil adapter attaching	
22	RA079028	1	<b>Adapter</b> , oil	

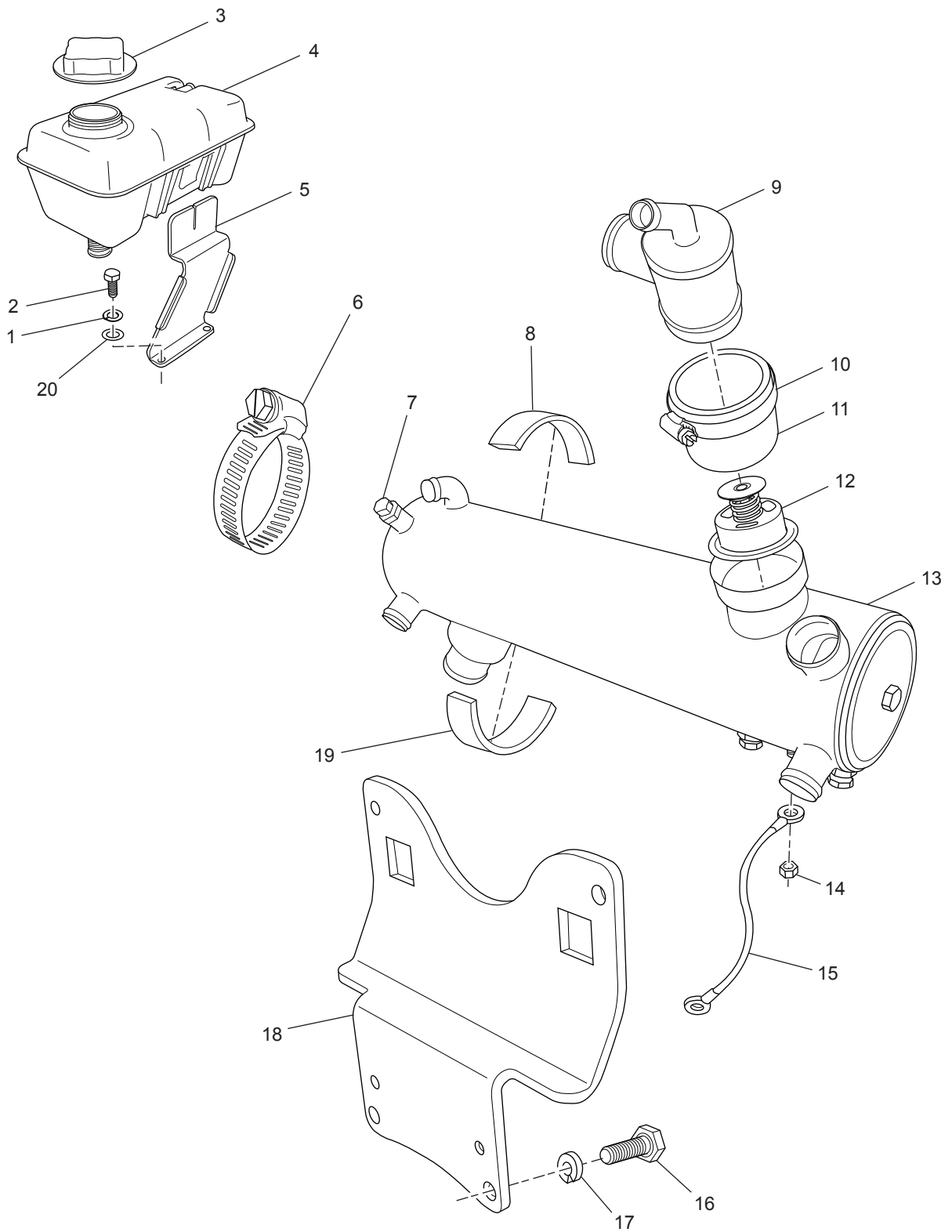
FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 11



## FUEL CONTROL CELL (FCC) COMPONENTS - FIGURE 11

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R127100	2	<b>Locking Clip</b> , fuel line	
2	RA085090	1	<b>Hose Assembly</b> , FCC to fuel rail (inlet)	04-5xxV-xx
2	RA085090A	1	<b>Hose Assembly</b> , FCC to fuel rail (inlet)	
2	RA085090B	1	<b>Hose Assembly</b> , FCC to fuel rail (inlet)	xx-5xxV-xx
3	RA085091	1	<b>Hose Assembly</b> , fuel rail to FCC (return)	04-5xxV-xx
3	RA085091A	1	<b>Hose Assembly</b> , fuel rail to FCC (return)	
3	RA085091B	1	<b>Hose Assembly</b> , fuel rail to FCC (return)	xx-5xxV-xx
4	R090296A	1	<b>Bracket</b> , FCC mounting, vdrv (SN 480303 and higher) and FWC	xx-5xxV-xx
4A	R090204A	1	<b>Bracket</b> , FCC mounting, RWC	xx-5xxV-xx
5	R090179	1	<b>Bracket</b> , FCC mounting, RWC/FWC	xx-5xx-xx, xx-5xxCx-xx
6	90384075	3	<b>Bolt</b> , FCC mounting	
7	RS0304	2	<b>Bolt</b> , FCC mounting bracket	
8	RS2180	2	<b>Lockwasher</b> , FCC mounting bracket	
9	R080024A	1	<b>Filter</b> , primary fuel	
10	RA080034	1	<b>FCC Assembly</b>	
11	R143112C	1	<b>Decal</b> , FCC	
12	7172040	1	<b>Connector</b> , W/P 2-Way Female	
13	R1210085B	1	<b>Harness</b> , 1 piece, FCC high pressure fuel pump	
14	91620025	1	<b>Screw</b> , self-tapping, 1 piece harness retaining	
15	R024175	1	<b>Fitting</b> , FCC head (fuel supply line)	
16	R024163A	1	<b>Fitting</b> , FCC head (fuel return line)	
17	RS3550	1	<b>Plug</b> , FCC head	
18	R024225	1	<b>Fitting</b> , 90 degree	
19	R024219	1	<b>Fitting</b> , FCC internal	
20	R047241	2	<b>O'Ring</b> , FCC bowl-to-head seal	
21	R045098B	1	<b>Hose</b> , FCC internal fuel	
22	R127087	2	<b>Clamp</b> , Oeticker	
23	RA080025A	1	<b>Pump</b> , FCC high pressure fuel	
24	R080026	1	<b>Filter</b> , FCC	
25	R171010	1	<b>Clamp</b> , FCC bowl-to-head retaining	
26	R128002	1	<b>Cover</b> , FCC clamp T-bolt	
27	R127102	1	<b>U-Bolt</b> , low pressure fuel pump retaining	
28	95004300	2	<b>Nut</b> , Nylock, low-pressure fuel pump retaining	
29	RS3554	1	<b>Plug</b> , FCC drain	
30	R047252	2	<b>O'Ring</b> , LPFP seal	
31	RA080032	1	<b>Fuel Pump</b> , low-pressure	
32	R094045	1	<b>Isolator</b> , LPFP mounting	
33	R169064	AR	<b>Shim</b> , LPFP mounting, 11 gage	
33	R169064A	AR	<b>Shim</b> , LPFP mounting, 16 gage	
33	R169064B	AR	<b>Shim</b> , LPFP mounting, 22 gage	
34	R024232	1	<b>Fitting</b> , LPFP to 3/8 Hose barb	
35	R047251	1	<b>O'Ring</b> , seal (p/o item 33)	
NI	R143114	1	<b>Decal</b> , Warning, fuel leaks	
NI	RP080026	1	<b>Kit, Filter and O-Rings</b> , FCC	

HEAT EXCHANGER and COMPONENTS - FIGURE 12

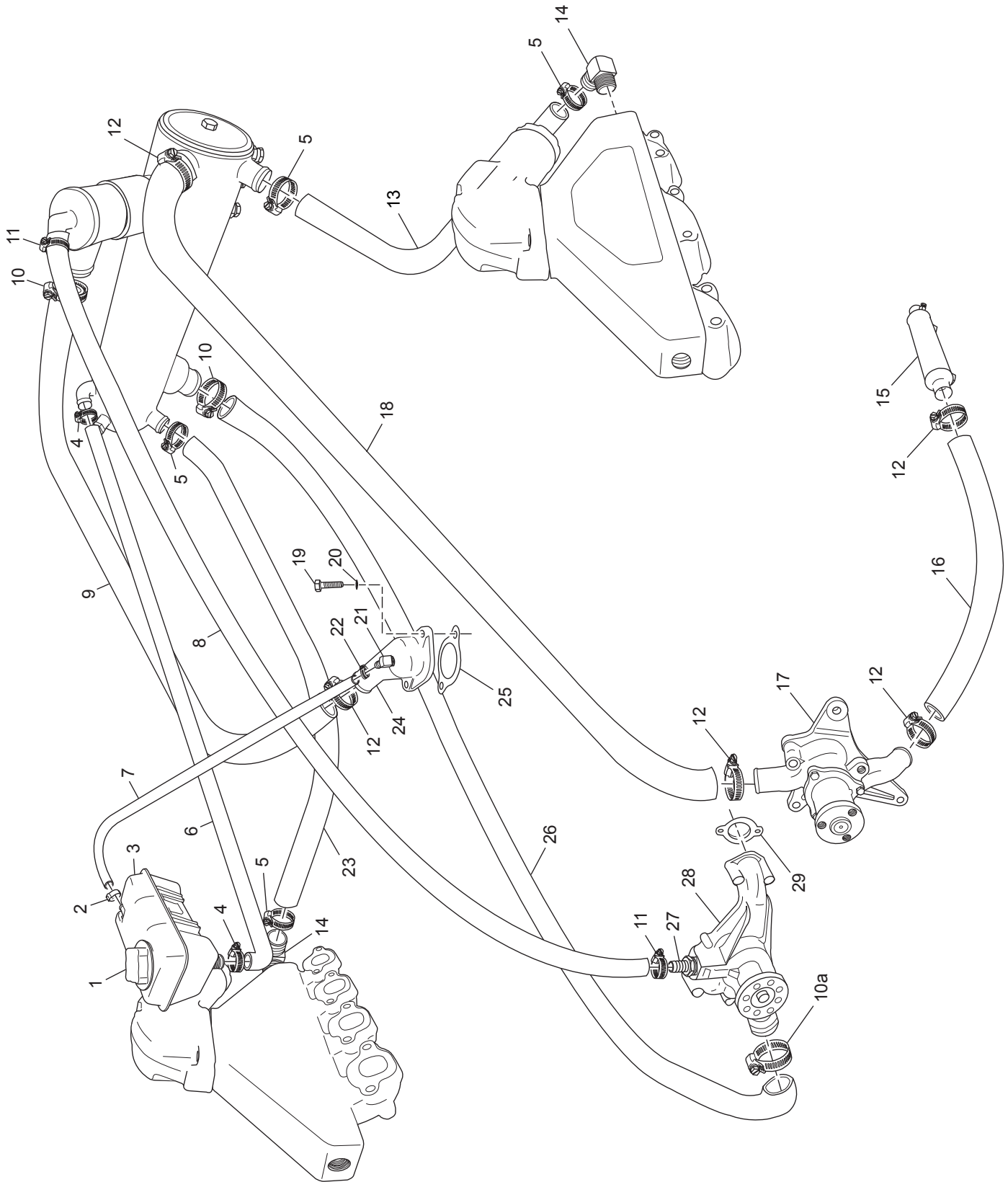


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## HEAT EXCHANGER and COMPONENTS (SERPENTINE BELT SYSTEM) - FIGURE 14

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS7068	2	<b>Lockwasher</b> , mounting bolt	
2	98223016	2	<b>Bolt</b> , degas bottle bracket mounting	
3	R034045	1	<b>Cap</b> , degas bottle	
4	R146001	1	<b>Bottle</b> , degas	
NI	R143169A	1	<b>Decal</b> , specification, 5.0L	
NI	R143170A	1	<b>Decal</b> , specification, 5.7L	
NI	R143153	1	<b>Decal</b> , coolant fill	
5	R090295	1	<b>Bracket</b> , degas bottle mounting	
6	RS3857	2	<b>Clamp</b> , exchanger mounting	
7	R168005	1	<b>Zinc</b> , sacrificial	
8	R094040	2	<b>Isolator</b> , top	
9	R025039	1	<b>Thermostat Housing</b>	
10	RS3860	2	<b>Clamp</b> , thermostat housing	
11	R045162	1	<b>Hose</b> , thermostat housing attaching	
12	R026007	1	<b>Thermostat</b> , (170 degree)	
13	RA147050	1	<b>Heat Exchanger Assembly</b>	
14	RS1078	1	<b>Nut</b> , ground wire stud	
15	R101013	1	<b>Wire</b> , grounding	
16	RS0304	2	<b>Bolt</b> , bracket mounting	
17	RS2180	2	<b>Lockwasher</b> , bracket mounting	
18	R090266	1	<b>Bracket</b> , heat exchanger	
19	R094040	1	<b>Isolator</b> , bottom	
20	RS2672	2	<b>Washer</b> , mounting bolt	
N.I.	TBD	AR	<b>End Cap Kit</b> , exchanger	
NI	R143155	1	<b>Decal</b> , Protective Anode	
NI	R143156	1	<b>Decal</b> , Raw Water Drain	
NI	R143157	1	<b>Decal</b> , Fresh Water Drain	

FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 13



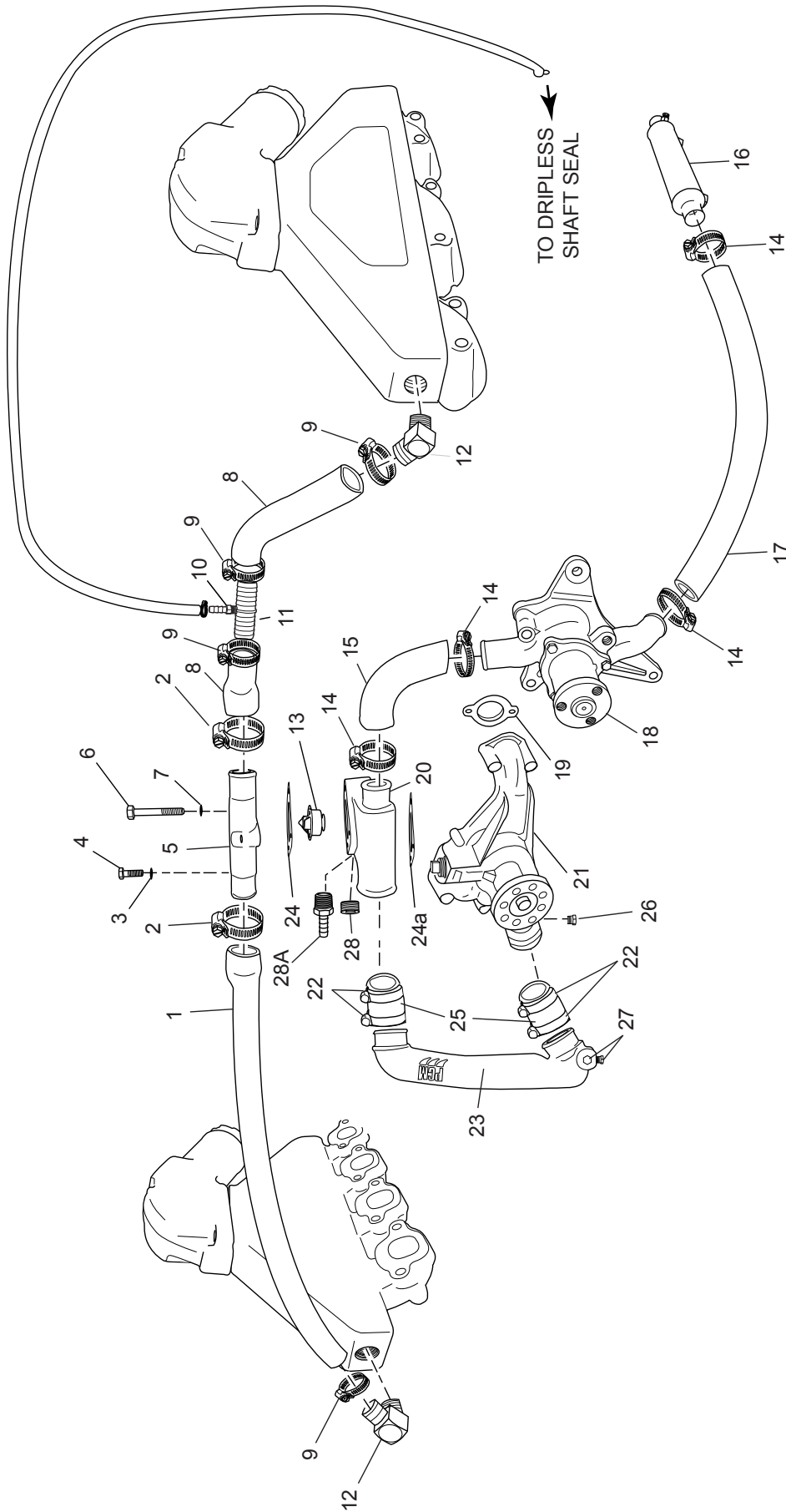
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## FRESH WATER COOLING SYSTEM COMPONENTS - FIGURE 13

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R034045	1	<b>Cap</b> , degas bottle	
2	R127087	1	<b>Clamp</b> , hose (5/8" oetiker)	
3	R146001	1	<b>Bottle</b> , degas	
4	RS3854	2	<b>Clamp</b> , hose (3/4")	
5	RS3851	4	<b>Clamp</b> , hose (1")	
6	R045161	1	<b>Hose</b> , degas bottle to exchanger	
7	R045132	1	<b>Hose</b> , degas bottle to water neck (1/4" X 30")	
8	R045086	1	<b>Hose</b> , water pump to thermostat housing (5/8" X 31")	
9	R045144	1	<b>Hose</b> , water neck to exchanger	
10	RS3858	2	<b>Clamp</b> , hose (1 1/2")	
10a	RS3852	1	<b>Clamp</b> , hose (1 3/4")	
11	RS3852	2	<b>Clamp</b> , hose (5/8")	
12	RS3858	5	<b>Clamp</b> , hose (1 1/4")	
13	R045151	1	<b>Hose</b> , exchanger to exhaust manifold (Port)	
14	R024006A	2	<b>Fitting</b> , 90 degree	
15	R147014	1	<b>Cooler</b> , oil, transmission	
16	R045159	1	<b>Hose</b> , oil cooler to raw water pump (level installation with 1.23:1 transmission)	
16	R045152	1	<b>Hose</b> , oil cooler to raw water pump (angled installation with 1.0:1 transmission)	
17	RA057034	1	<b>Raw Water Pump</b>	
18	R045163	1	<b>Hose</b> , raw water pump to exchanger	
19	RS6531	2	<b>Bolt</b> , water neck attaching	
20	RS2179	2	<b>Lockwasher</b> , water neck attaching	
21	R024055	1	<b>Fitting</b> , 90 degree, water neck	
22	RS3870	1	<b>Clamp</b> , hose (1/4")	
23	R045151	1	<b>Hose</b> , exchanger to exhaust manifold (Starboard)	
24	R025015A	1	<b>Water Neck</b>	
25	RM0121	1	<b>Gasket</b> , water neck	
26	R045146	1	<b>Hose</b> , exchanger to circulation pump	
27	R024217	2	<b>Fitting</b> , straight, barbed; water pump	
28	RA057027	1	<b>Water Pump Assembly</b>	
29	RM0266	2	<b>Gasket</b> , water pump to engine block	
NI	RK147050	AR	<b>Kit</b> , Fresh Water Cooling, Direct Drive (See L591001 for Instructions and Contents)	
NI	RK147050B	AR	<b>Kit</b> , Fresh Water Cooling, V-Drive (See L591002 for Instructions and Contents)	

RAW WATER COOLING SYSTEM COMPONENTS - FIGURE 14

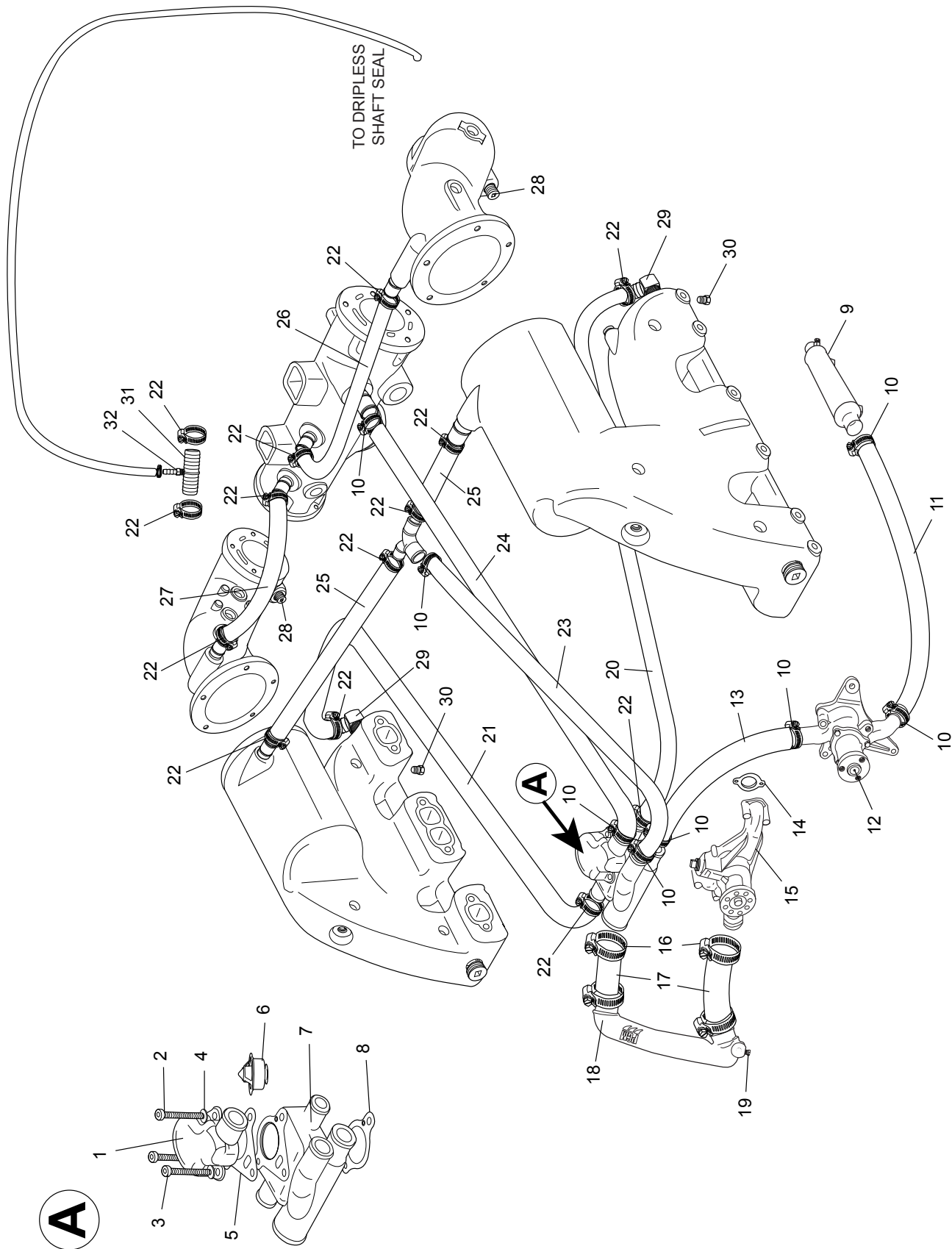


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## RAW WATER COOLING SYSTEM COMPONENTS - FIGURE 14

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R045107	1	<b>Hose</b> , fill riser to exhaust manifold (starboard)	
2	RS3858	6	<b>Clamp</b> , hose	
3	93920000	1	<b>Lockwasher</b> , attaching bolt	
4	98223035	1	<b>Bolt</b> , upper fill riser to lower fill riser attaching	
5	R025033	1	<b>Fill Riser</b> , upper	
6	90205200	2	<b>Bolt</b> , upper fill riser to lower fill riser attaching	
7	RS2180	2	<b>Lockwasher</b> , attaching bolt	
8	R045107	1	<b>Hose</b> , fill riser to exhaust manifold (port)	
9	RS3851	2	<b>Clamp</b> , hose	
10	R024237	1	<b>Fitting</b> , 1/8 NPT X 1/8" hose barb	15-570V-02
11	R024228	1	<b>Connector</b> , 1" union	15-570V-02
NI	RK024228	AR	<b>Kit</b> , Shaft Seal Water Supply (contains items 10 and 11)	15-570V-02
12	R024006A	2	<b>Fitting</b> , 90 degree	
13	R026002	1	<b>Thermostat</b> , coolant (160 degree)	
14	RS3858	3	<b>Clamp</b> , hose (1 1/4")	
15	R045160	1	<b>Hose</b> , raw water pump to fill riser	
16	R147014	1	<b>Cooler</b> , oil, transmission	
17	R045159	1	<b>Hose</b> , oil cooler to raw water pump (level installation with 1.23:1 transmission)	
17	R045152	1	<b>Hose</b> , oil cooler to raw water pump (angled installation with 1.0:1 transmission)	
18	RA057034	1	<b>Raw Water Pump Assembly</b>	
19	RM0203	2	<b>Gasket</b> , water pump to engine block	
20	R025031	1	<b>Fill Riser</b> , lower	
21	RA057027	1	<b>Water Pump Assembly</b>	
22	RS3852	4	<b>Clamp</b> , hose	
23	R024220	AR	<b>Connector</b> , fill riser to water pump (Red)	
23	R024220A	AR	<b>Connector</b> , fill riser to water pump (Black)	
24	RM0258	1	<b>Gasket</b> , upper fill riser to lower fill riser	
24a	RM0121	1	<b>Gasket</b> , lower fill riser to intake manifold	
25	R045169A	2	<b>Hose</b> , Connector to fill riser and water pump	
26	RS3554	1	<b>Plug</b> , water pump drain	
27	RS3552	1	<b>Plug</b> , Connector drain	
28	RS3551	1	<b>Plug</b> , fill riser, lower	
NI	RK147050	AR	<b>Kit</b> , Fresh Water Cooling, Direct Drive (See L591001 for Instructions and Contents)	
NI	RK147050B	AR	<b>Kit</b> , Fresh Water Cooling, V-Drive (See L591002 for Instructions and Contents)	

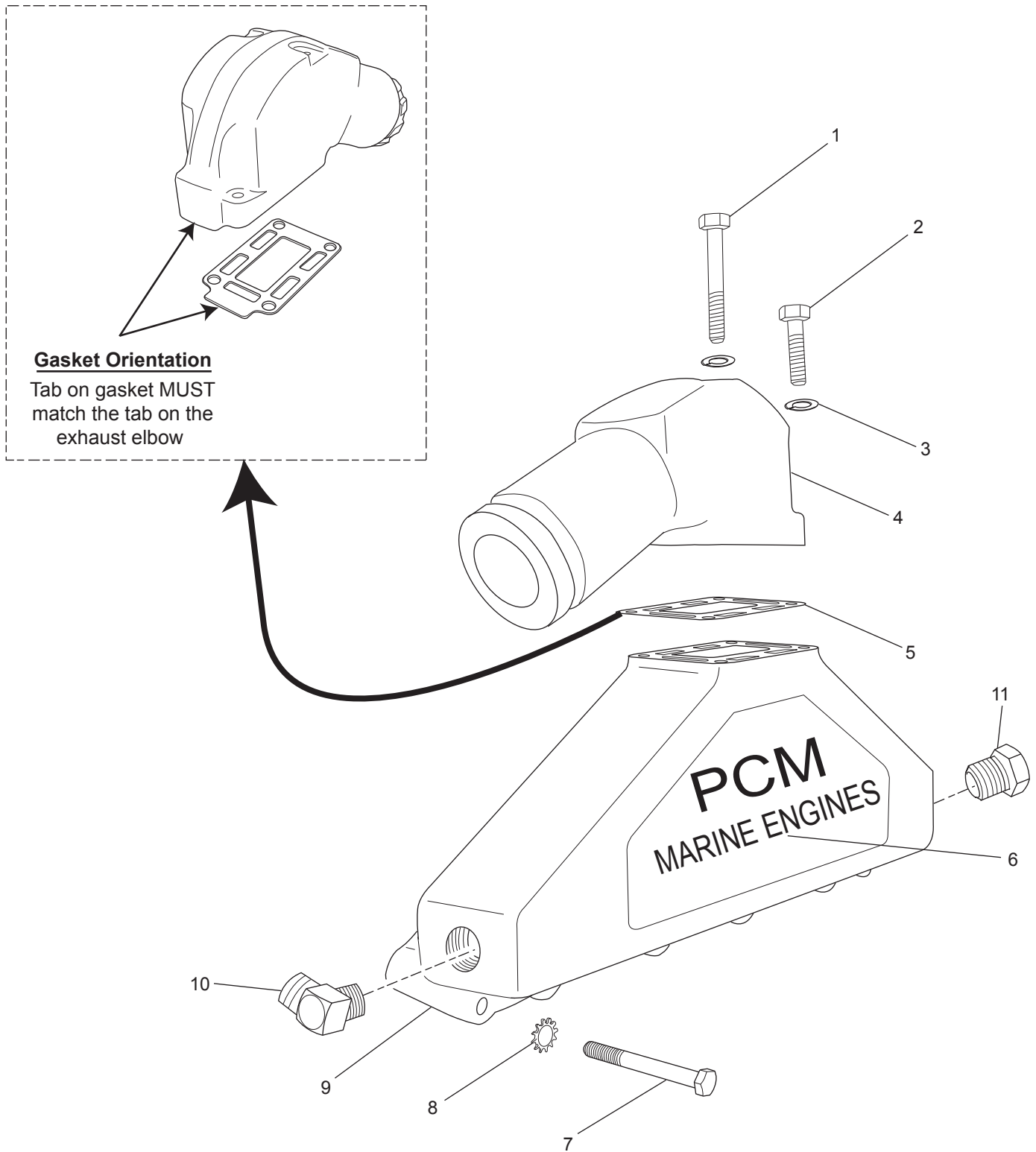
CES - RAW WATER COOLING SYSTEM COMPONENTS - FIGURE 15



## CES - RAW WATER COOLING SYSTEM COMPONENTS - FIGURE 15

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R025041	1	<b>Housing</b> , upper t-stat	
2	99333070	2	<b>Bolt</b> , upper to lower t-stat housing attaching	
3	99333025	1	<b>Bolt</b> , upper to lower t-stat housing attaching	
4	93934000	3	<b>Lockwasher</b> , upper to lower t-stat housing attaching	
5	RM0290	1	<b>Gasket</b> , upper to lower t-stat housing	
6	R026002	1	<b>Thermostat</b> , coolant (160 degree)	
7	R025040	1	<b>Housing</b> , upper t-stat	
8	RM0121	2	<b>Gasket</b> , lower t-stat housing to intake manifold	
9	R147014	1	<b>Cooler</b> , oil, transmission	
10	RS3858	8	<b>Clamp</b> , hose (1 1/4")	
11	R045159B	1	<b>Hose</b> , oil cooler to raw water pump (level installation)	
12	RA057034	1	<b>Raw Water Pump Assembly</b>	
13	R045160	1	<b>Hose</b> , raw water pump to lower t-stat housing	
14	RM0203	2	<b>Gasket</b> , water pump to engine block	
15	RA057027	1	<b>Water Pump Assembly</b>	
16	RS3852	4	<b>Clamp</b> , hose	
17	R045169A	2	<b>Hose</b> , Connector to fill riser and water pump	
18	R024220A	1	<b>Connector</b> , fill riser to water pump (Black)	
19	RS3552	1	<b>Plug</b> , Connector drain	
20	R045186	1	<b>Hose</b> , formed, 1", lower t-stat housing to manifold, port	
21	R045187	1	<b>Hose</b> , formed, 1", lower t-stat housing to manifold, stbd	
22	RS3851	14	<b>Clamp</b> , hose	
23	R045180	1	<b>Hose</b> , formed, lower t-stat housing to manifolds	
24	R045181	1	<b>Hose</b> , formed, upper t-stat housing to crossover	
25	R045107	AR	<b>Hose</b> , bulk, 1", manifolds to tee	
26	R045178	1	<b>Hose</b> , formed, corner to crossover (port)	
27	R045179	1	<b>Hose</b> , formed, corner to crossover (stbd)	
28	RS3557	2	<b>Plug</b> , drain, exhaust corner	
29	R024006A	2	<b>Fitting</b> , 90 degree	
30	RS3552	2	<b>Plug</b> , drain, exhaust manifold	
31	R024228	AR	<b>Connector</b> , 1" union	
32	R024237	AR	<b>Fitting</b> , 1/8 NPT X 1/8" hose barb	
NI	RK024228	AR	<b>Kit</b> , Shaft Seal Water Supply (contains items 31 and 32)	

EXHAUST MANIFOLD and COMPONENTS - FIGURE 16

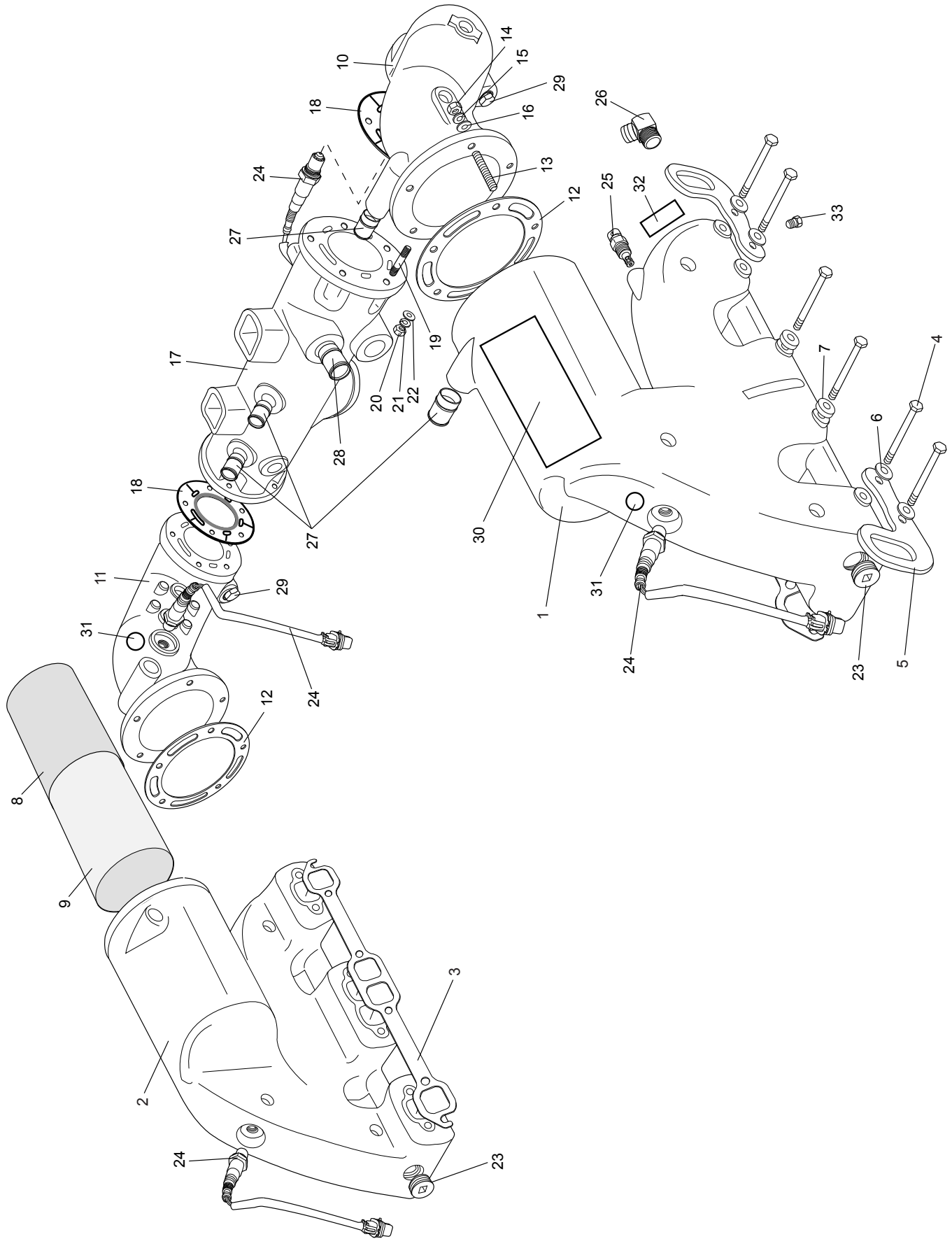


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## EXHAUST MANIFOLD and COMPONENTS - FIGURE 16

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS0387	4	<b>Bolt</b> , exhaust elbow attaching (long)	
2	RS0285	4	<b>Bolt</b> , exhaust elbow attaching (short)	
3	RS2179	8	<b>Lockwasher</b> , exhaust elbow attaching bolt	
4	R029011	2	<b>Exhaust Elbow Assembly</b>	
5	RM0002	2	<b>Gasket</b> , manifold to exhaust elbow	
6	R143002E	2	<b>Decal</b> , exhaust manifold - 5.0L	
6	R143002H	2	<b>Decal</b> , exhaust manifold	
6	R143002L	2	<b>Decal</b> , exhaust manifold, SN 473065 and Above	
7	RS0454	16	<b>Bolt</b> , manifold to cylinder head attaching	
8	RS2425	16	<b>Starwasher</b> , manifold attaching bolt	
9	R028009	2	<b>Exhaust Manifold Assembly</b>	
NI	RM0287	2	Exhaust Manifold Gasket	
10	R024006A	2	<b>Fitting</b> , 90 degree	
NI	RP173091	AR	<b>Kit</b> , Exhaust Service	
			<b>*NOTE:</b> See Fresh Water Cooling section for parts used on Fresh Water Cooled engines.	

CES EXHAUST MANIFOLD and COMPONENTS - FIGURE 17

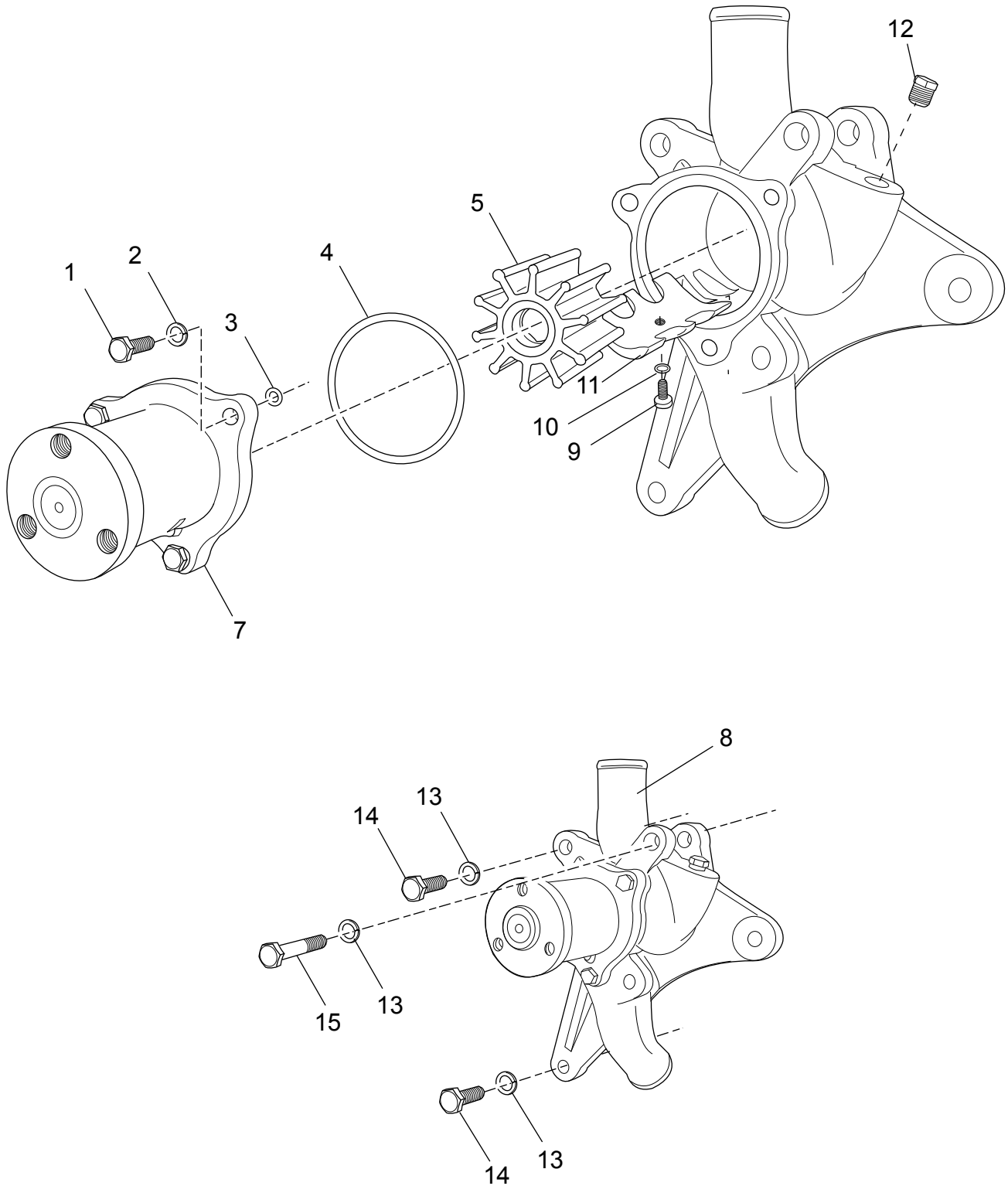




## CES EXHAUST MANIFOLD and COMPONENTS - FIGURE 17

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R028025	1	<b>Exhaust Manifold Assembly</b> - Port	
2	R028026	1	<b>Exhaust Manifold Assembly</b> - Starboard	
3	RM0287	2	<b>Gasket</b> , manifold to cylinder head	
4	90305600	12	<b>Bolt</b> , manifold to cylinder head attaching	
5	R042017	4	<b>Lifting Eye</b>	
6	92300000	8	<b>Flat Washer</b> , manifold to cylinder head attaching	
7	R062092	4	<b>Spacer</b> , manifold to cylinder head attaching	
8	R144001A	2	<b>Catalyst</b>	
9	RM0291	2	<b>Mesh</b> , catalyst support	
10	R133001	1	<b>Exhaust Corner - Port</b>	
11	R133002	1	<b>Exhaust Corner - Starboard</b>	
12	RM0285	2	<b>Gasket</b> , manifold to corner	
13	R031044	10	<b>Stud</b> , exhaust manifold to corner attaching	
14	97334000	10	<b>Nut</b> , corner to manifold attaching	
15	93934000	10	<b>Lock Washer</b> , corner to manifold attaching	
16	92934020	10	<b>Flat Washer</b> , corner to manifold attaching	
17	R133003	1	<b>Exhaust Crossover</b>	
18	RM0286	2	<b>Gasket</b> , corner to crossover	
19	R031045	10	<b>Stud</b> , exhaust corner to crossover attaching	
20	97334000	10	<b>Nut</b> , crossover to corner attaching	
21	93934000	10	<b>Lock Washer</b> , crossover to corner attaching	
22	92934020	10	<b>Flat Washer</b> , crossover to corner attaching	
23	RS3533	2	<b>Plug</b> , exhaust manifold	
24	R020051	4	<b>Sensor</b> , Oxygen	
25	R020019	2	<b>Sensor</b> , Exhaust Manifold Water Temperature	
26	R024006A	2	<b>Fitting</b> , 90 degree	
27	R024239	6	<b>Fitting</b> , 1" hose	
28	R024240	1	<b>Fitting</b> , 1.25" hose	
29	RS3557	2	<b>Plug</b> , Drain, exhaust corner	
30	R143195	2	<b>Decal</b> , "Catanium", each exhaust manifold	
31	R143175	4	<b>Decal</b> , "HOT", each Oxygen Sensor	
32	R143156	2	<b>Decal</b> , "Raw Water Drain"	
33	RS3552	2	<b>Plug</b> , Drain, exhaust manifold	

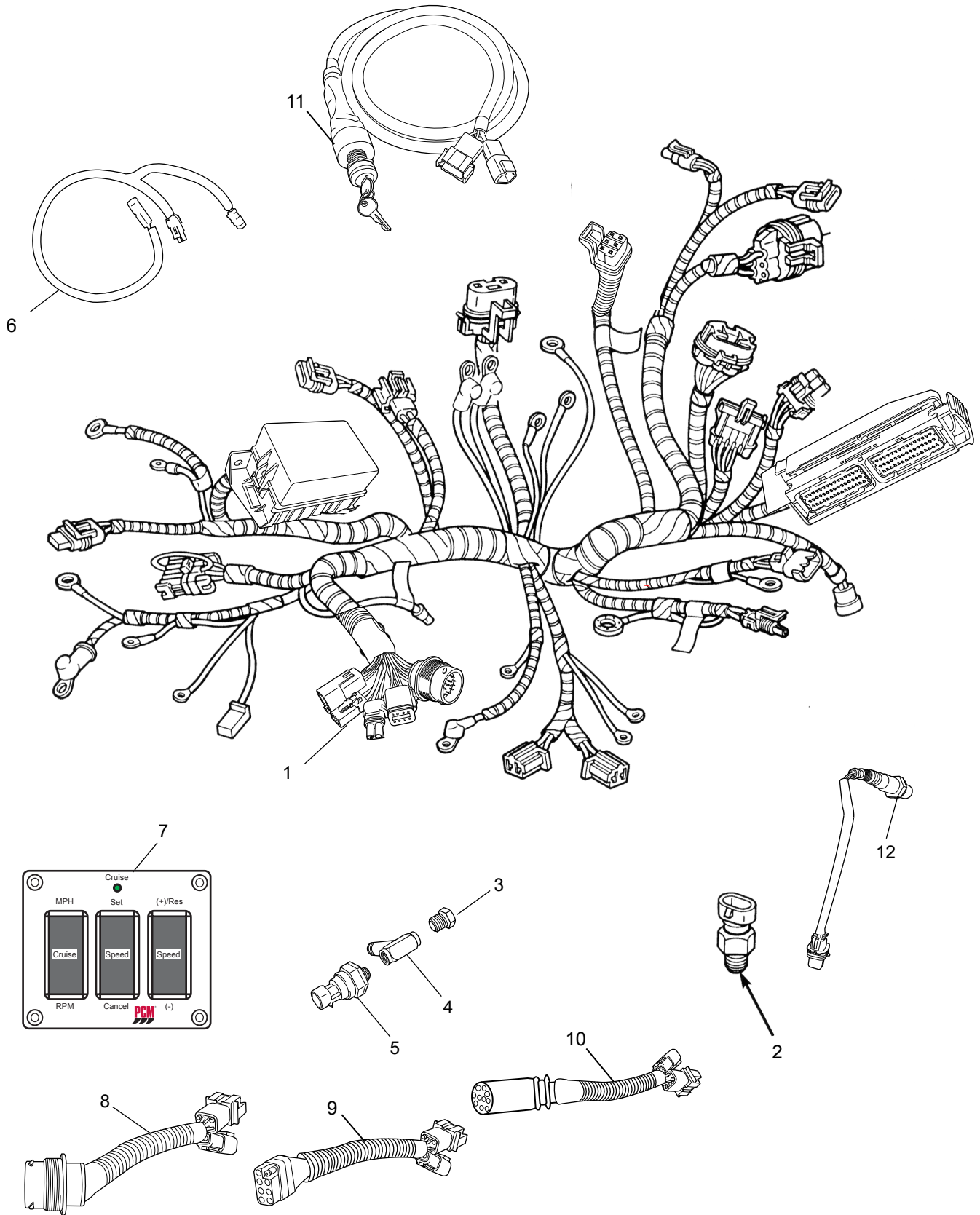
RAW WATER COOLING PUMP - FIGURE 18



## RAW WATER COOLING PUMP - FIGURE 18

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	98224020	3	<b>Bolt</b> , bearing housing attaching	
2	93924000	3	<b>Lockwasher</b> , bearing housing attaching bolt	
3	R047243	3	<b>O-ring</b> , bearing housing attaching bolt	
4	R047242	1	<b>O-ring</b> , bearing housing attaching	
5	RP061022	1	<b>Impeller Kit</b> (includes O-rings and impeller)	
6	R057034	1	<b>Housing</b> , raw water pump	
7	RA134071	1	<b>Bearing Housing Assembly</b>	
8	RA057034	1	<b>Raw Water Pump Assembly</b>	
9	R175056	1	<b>Bolt</b> , raw water pump cam	
10	R047254	1	<b>O-ring</b> , raw water pump cam	
11	R161018	1	<b>Cam</b> , raw water pump	
12	RS3554	1	<b>Plug</b> , brass 1/8 NPT	
13	RS2180	3	<b>Lockwasher</b> , raw water pump attaching	
14	RS0306	2	<b>Bolt</b> , raw water pump attaching	
15	RS0454	1	<b>Bolt</b> , raw water pump attaching	

WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 19

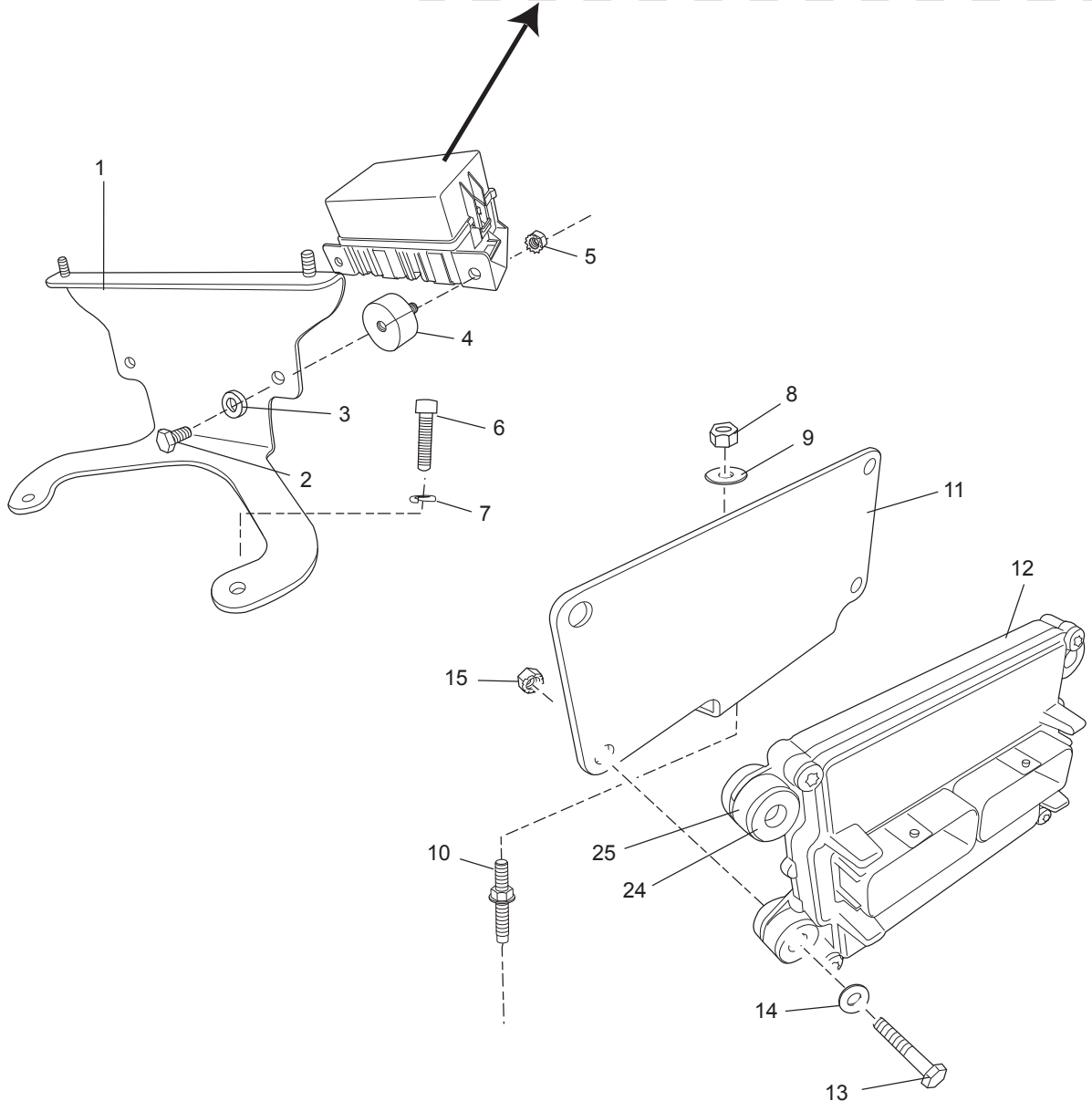
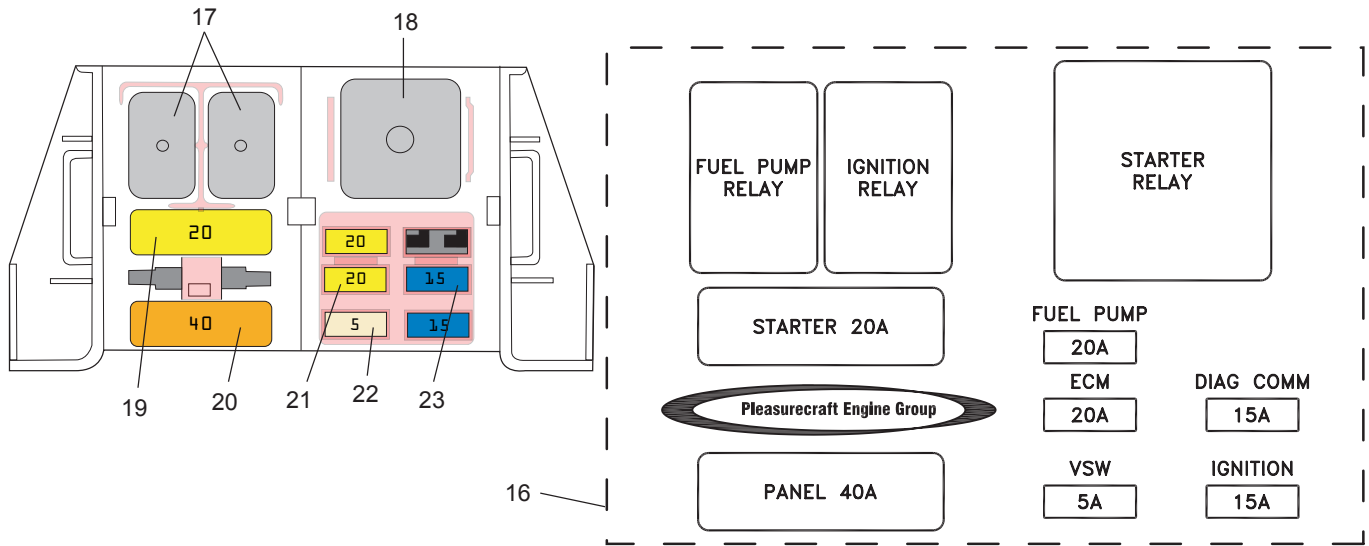


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## WIRING HARNESS ASSEMBLIES and SENDERS - FIGURE 19

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA121090	1	<b>Engine Wiring Harness Assembly</b> ('07) thru SN 473064	
1	RA121090A	1	<b>Engine Wiring Harness Assembly</b> ('08)	
1	RA121090B	1	<b>Engine Wiring Harness Assembly</b> (CES)	XX-5XXxC-XX
1	RA121104	1	<b>Engine Wiring Harness Assembly</b> ('08) w/auto crank SN 480995 and higher	
1	RA121105	1	<b>Engine Wiring Harness Assembly</b> (CES) w/auto crank SN 485732 and higher	XX-5XXxC-XX
2	R020019	1	<b>Sensor</b> , engine coolant temperature (ECT)	
2	R020019	2	<b>Sensor</b> , engine coolant temperature (EMWT)	XX-5XXxC-XX
3	RS3554	1	<b>Plug</b> , oil pressure tee	
4	R024205	1	<b>Tee</b> , sender attaching	
5	R020049	1	<b>Sender</b> , oil pressure	
6	RA121062C	AR	<b>Harness</b> , jumper (V-drive applications)	
NI	R153018A	1	<b>100 amp Fused Wire</b> , starter to circuit breaker	
7	RA152008	AR	<b>Panel</b> , switch (Speed Control)	
8	RA121098	AR	<b>Harness</b> , Adapter to 14-pin boat harness	
9	RA121094	AR	<b>Harness</b> , Adapter to 8-pin (female) boat harness	
NI	RA121094A	AR	<b>Harness</b> , Adapter to 8-pin (male) boat harness	
10	RA121093	AR	<b>Harness</b> , Adapter to 10-pin boat harness	
NI	RA121093A	AR	<b>Harness</b> , Adapter to 10-pin boat harness, w/VDO sensor leads	
NI	RA121091B	AR	<b>Harness</b> , Speed Control (14 foot)	
NI	RA121092	AR	<b>Harness</b> , Engine to Dash, Un-Terminated (25 foot)	
NI	RA121092C	AR	<b>Harness</b> , Engine to Dash, Un-Term., w/VDO sensor leads(25 ft)	
11	RT0091	AR	<b>Harness</b> , Test w/Key Switch	
12	R02051	4	<b>Sensor</b> , O2	XX-5XXxC-XX

ECM and RELAYS - FIGURE 20

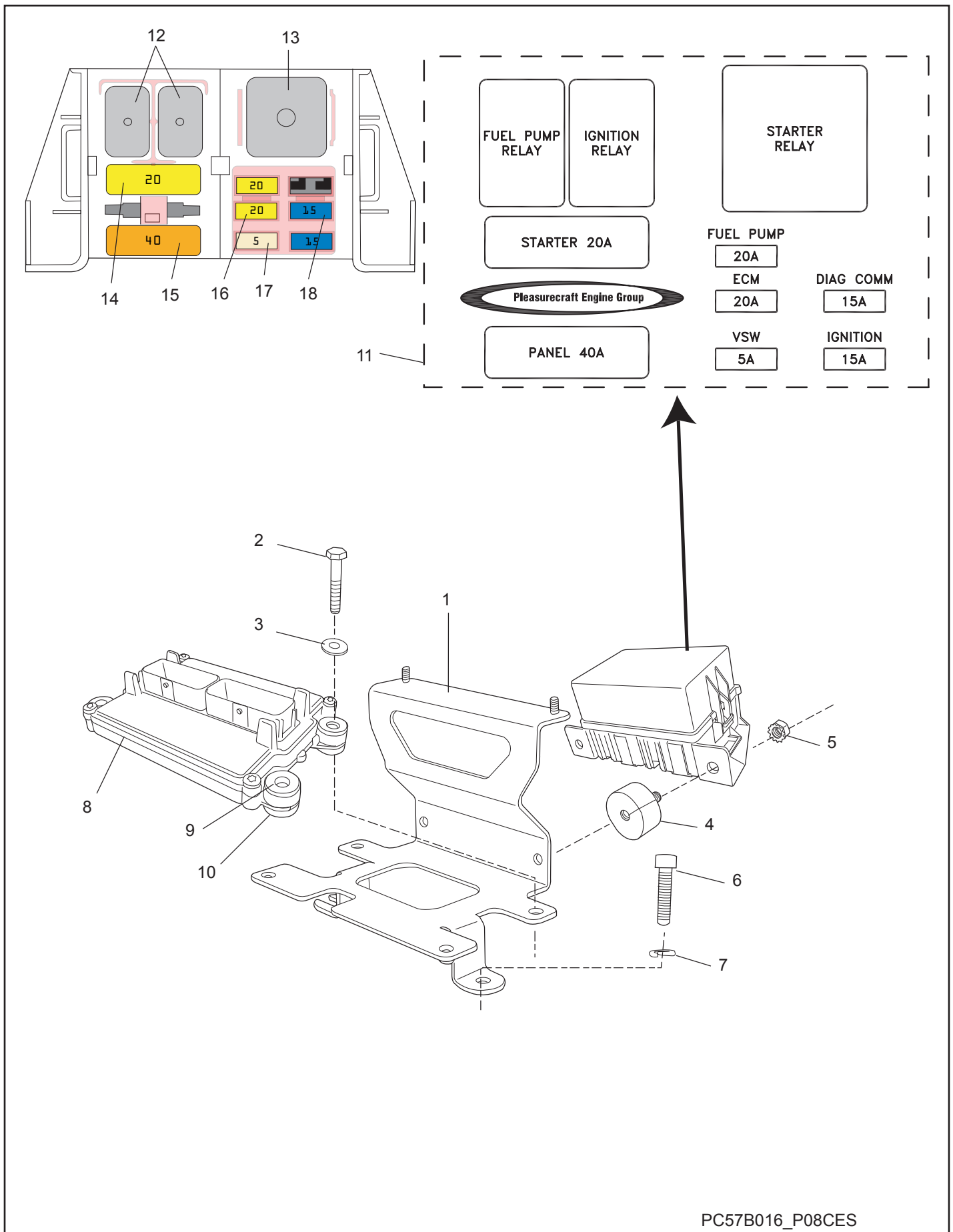


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## ECM and RELAYS - FIGURE 20

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090259	1	<b>Bracket</b> , hood/relay/fuse block	
2	RS0251	2	<b>Bolt</b> , Isolator attaching	
3	RS2178	2	<b>Lockwasher</b> , Isolator attaching	
4	R094044	2	<b>Isolator</b> , fuse block mounting	
5	RS1078	2	<b>Nut</b> , KEPS, Fuse Block attaching	
6	RS6257	1	<b>Bolt</b> , relay/fuse block bracket attaching	
7	93920000	1	<b>Lockwasher</b> , relay/fuse block bracket attaching	
8	97224300	2	<b>Nut</b> , NYLOK, ECM bracket attaching	
9	92920000	2	<b>Flat washer</b> , ECM bracket attaching	
10	R095041	2	<b>Stud</b> , ECM bracket attaching	
11	R090327	1	<b>Bracket</b> , ECM mounting	
12	R116023 -	1	<b>Engine Control Module (5.0L - LH) Direct Drive</b> SN 473065 thru 480994	02-500-XX, 19-500-XX,
12	R116023 -	1	<b>Engine Control Module (5.0L - LH) V-Drive</b> SN 473065 thru 480994	02-500V-XX, 19-500V-XX
12	R116023 -	1	<b>Engine Control Module (5.0L - RH) Direct Drive</b> SN 473065 thru 480994	XX-501-XX
12	R116023 -	1	<b>Engine Control Module (5.0L - RH) V-Drive</b> SN 473065 thru 480994	XX-501V-XX
12	R116023 -	1	<b>Engine Control Module (5.0L - LH) Direct Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.0L - LH) V-Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.0L - RH) Direct Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.0L - RH) V-Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.7L - LH) Direct Drive</b> SN 473065 thru 480994	02-570-XX, 03-570-XX, 04-570-01, 05-570-XX, 13-570-01, 4-570-XX, 15-570-01, 16-570-01, 19-570-XX
12	R116023 -	1	<b>Engine Control Module (5.7L - LH) V-Drive</b> SN 473065 thru 480994	02-570V-XX, 03-570V-XX, 04-570V-XX, 05-570V-01, 09-570V-XX, 13-570V-03, 14-570V-XX, 15-570V-XX, 16-570V-01, 17-570V-01, 19-570V-XX
12	R116023 -	1	<b>Engine Control Module (5.7L - RH) Direct Drive</b> SN 473065 thru 480994	XX-571-XX
12	R116023 -	1	<b>Engine Control Module (5.7L - RH) V-Drive</b> SN 473065 thru 480994	XX-571V-XX
12	R116023 -	1	<b>Engine Control Module (5.7L - LH) Direct Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.7L - LH) V-Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.7L - RH) Direct Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
12	R116023 -	1	<b>Engine Control Module (5.7L - RH) V-Drive</b> SN 480995 and Above - <b>Auto Crank</b>	
13	98223035	4	<b>Bolt</b> , ECM attaching	
14	RS2672	4	<b>Flat washer</b> , ECM attaching	
15	97220060	4	<b>Nut</b> , KEPS, ECM attaching	
16	R143186	1	<b>Decal</b> , main fuse box	
17	R130015	2	<b>Relay</b> , Fuel Pump and Ignition	
18	R130016	1	<b>Relay</b> , Starter	
19	R153019C	1	<b>Fuse</b> , Starter, 20 Amp	
20	R153019F	1	<b>Fuse</b> , Panel, 40 Amp	
21	R153017B	2	<b>Fuses</b> , 20 amp	
22	R153017A	2	<b>Fuses</b> , 15 amp	
23	R153017C	1	<b>Fuse</b> , 5 amp	
24	R176025	4	<b>Sleeve</b> , ECM Isolator Retaining	
25	R094046	4	<b>Isolator</b> , ECM Mounting	

CES ECM and RELAYS - FIGURE 21



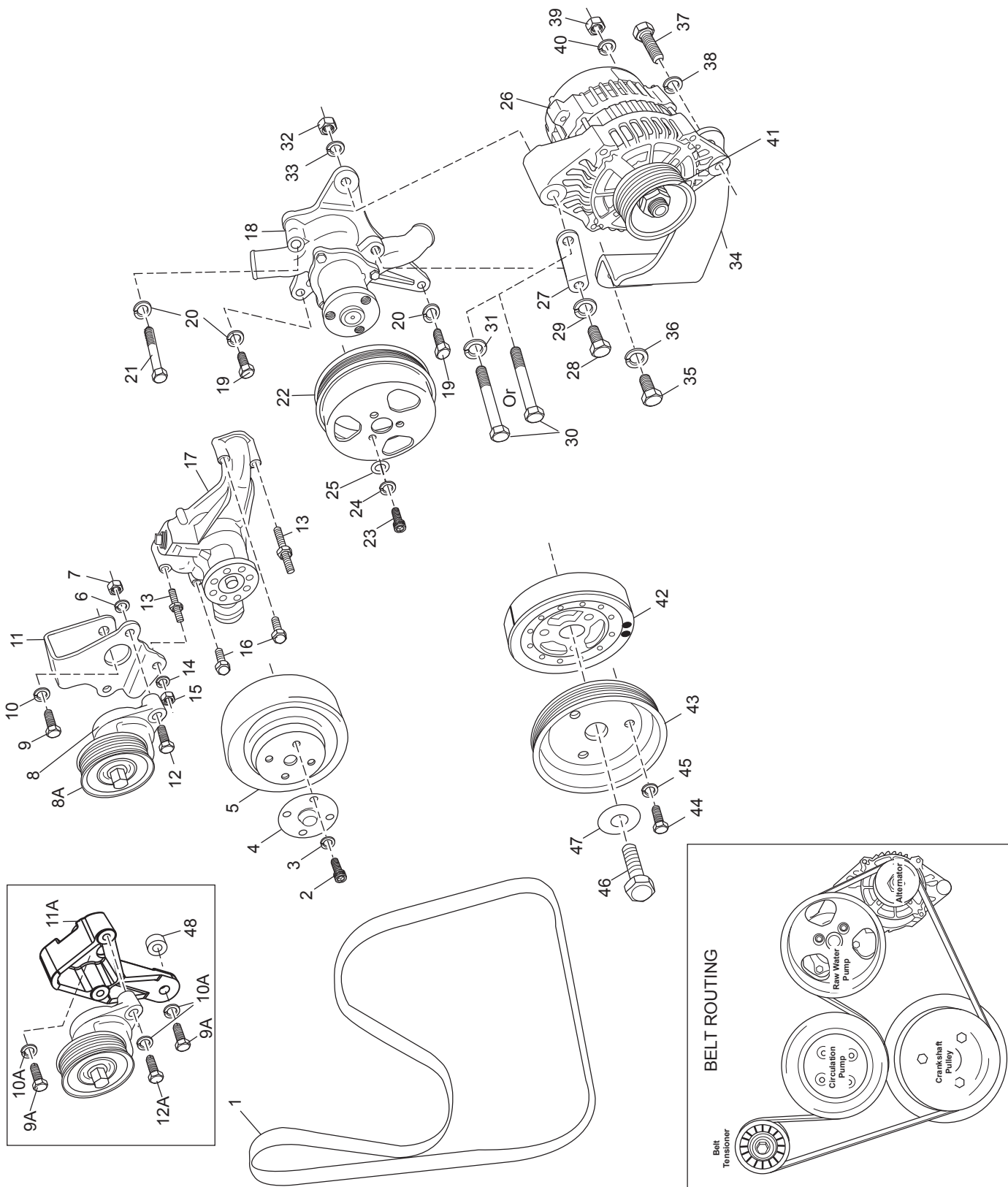
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## CES ECM and RELAYS - FIGURE 21

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090353	1	<b>Bracket</b> , ECM mounting	
2	98224035	4	<b>Bolt</b> , ECM attaching	
3	92924000	4	<b>Flat washer</b> , ECM attaching	
4	R094044	2	<b>Isolator</b> , fuse block mounting	
5	RS1078	2	<b>Nut</b> , KEPS, Fuse Block attaching	
6	RS6257	1	<b>Bolt</b> , ECM / relay/fuse block bracket attaching	
7	93920000	1	<b>Lockwasher</b> , ECM / relay/fuse block bracket attaching	
8	R116024	1	<b>Engine Control Module (5.0L - LH) Direct Drive</b>	
8	R116024	1	<b>Engine Control Module (5.0L - LH) V-Drive</b>	
8	R116024	1	<b>Engine Control Module (5.0L - RH) Direct Drive</b>	
8	R116024	1	<b>Engine Control Module (5.0L - RH) V-Drive</b>	
8	R116024	1	<b>Engine Control Module (5.0L - LH) Direct Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.0L - LH) V-Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.0L - RH) Direct Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.0L - RH) V-Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.7L - LH) Direct Drive</b>	
8	R116024	1	<b>Engine Control Module (5.7L - LH) V-Drive</b>	
8	R116024	1	<b>Engine Control Module (5.7L - RH) Direct Drive</b>	
8	R116024	1	<b>Engine Control Module (5.7L - RH) V-Drive</b>	
8	R116024	1	<b>Engine Control Module (5.7L - LH) Direct Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.7L - LH) V-Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.7L - RH) Direct Drive</b> Auto Crank, SN 485732 and higher	
8	R116024	1	<b>Engine Control Module (5.7L - RH) V-Drive</b> Auto Crank, SN 485732 and higher	
9	R176025	4	<b>Sleeve</b> , ECM Isolator Retaining	
10	R094046	4	<b>Isolator</b> , ECM Mounting	
11	R143186	1	<b>Decal</b> , main fuse box	
12	R130015	2	<b>Relay</b> , Fuel Pump and Ignition	
13	R130016	1	<b>Relay</b> , Starter	
14	R153019C	1	<b>Fuse</b> , Starter, 20 Amp	
15	R153019F	1	<b>Fuse</b> , Panel, 40 Amp	
16	R153017B	2	<b>Fuses</b> , 20 amp	
17	R153017A	2	<b>Fuses</b> , 15 amp	
18	R153017C	1	<b>Fuse</b> , 5 amp	

ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 22

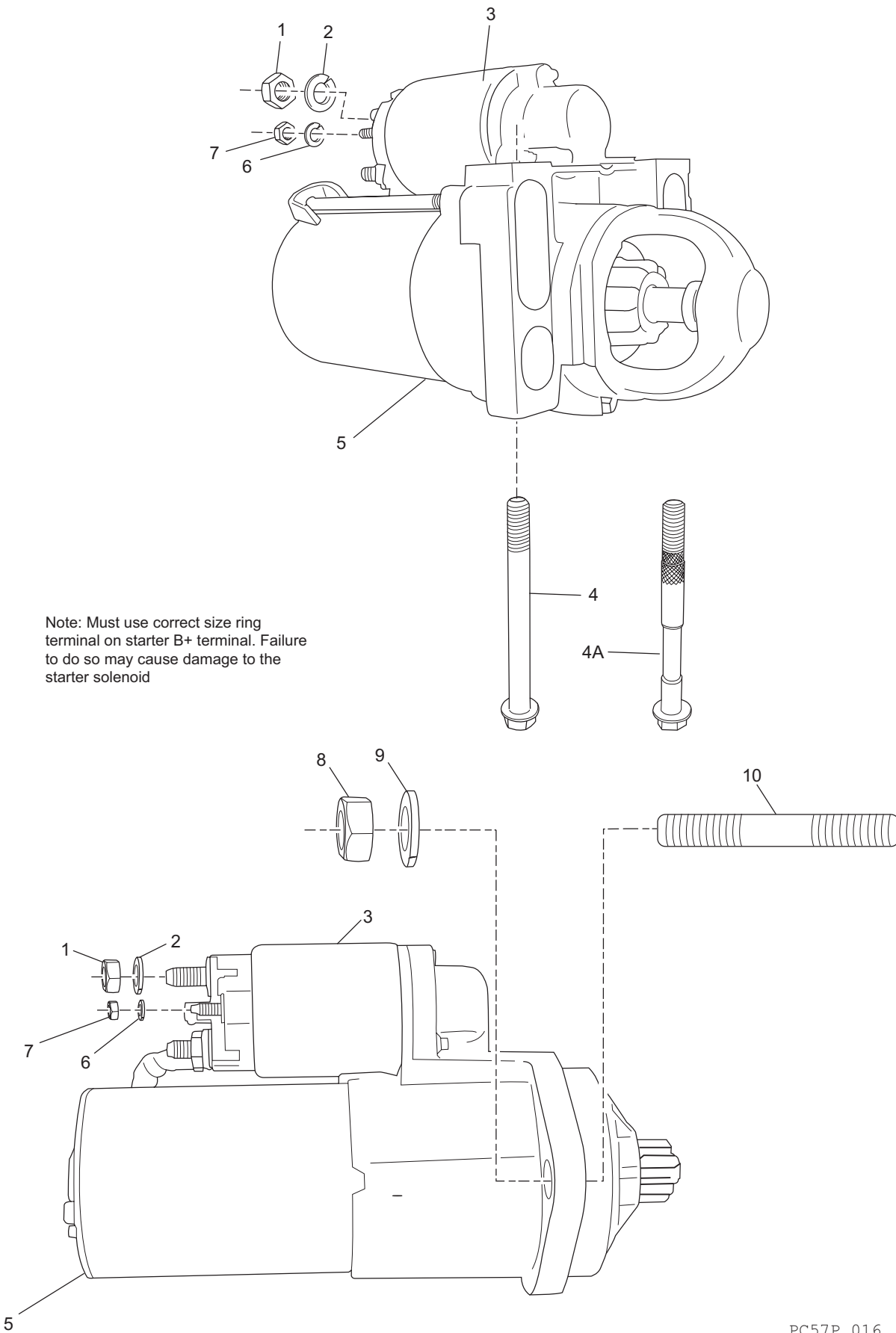


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## ACCESSORY DRIVE SYSTEM COMPONENTS - FIGURE 22

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R066028	1	<b>Belt</b> , serpentine drive	
2	90274075	4	<b>Bolt</b> , water pump pulley attaching	
3	RS2307	4	<b>Lockwasher</b> , water pump pulley attaching bolt	
4	R096147	1	<b>Cover</b> , water pump pulley	
5	R065053	1	<b>Pulley</b> , water pump (5.7L: Red)	
5	R065053A	1	<b>Pulley</b> , water pump (5.0L: Black)	
6	RS2180	2	<b>Lockwasher</b> , belt tensioner attaching	
7	RS1028	2	<b>Nut</b> , belt tensioner attaching	
8	RA068001	1	<b>Belt Tensioner Assembly</b>	
8A	R065057	1	<b>Pulley</b> , Belt Tensioner	
9	RS0304	1	<b>Bolt</b> , tensioner bracket attaching	
9A	TBD	1	<b>Bolt</b> , cast tensioner bracket attaching	
10	RS2180	1	<b>Lockwasher</b> , tensioner bracket attaching	
10A	TBD	1	<b>Lockwasher</b> , cast tensioner bracket attaching	
11	R090287	1	<b>Bracket</b> , belt tensioner mounting	
11A	R090287A	1	<b>Bracket, Cast</b> , belt tensioner mounting (replaces R090287)	
12	RS0307	2	<b>Bolt</b> , belt tensioner attaching	
12A	TBD	2	<b>Bolt</b> , cast belt tensioner attaching	
13	R095026	2	<b>Stud</b> , water pump mounting	
14	RS2179	1	<b>Lockwasher</b> , belt tensioner attaching	
15	RS1527	1	<b>Nut</b> , belt tensioner attaching	
16	90305275	2	<b>Bolt</b> , water pump mounting	
17	RA057027	1	<b>Water Pump Assembly</b>	
18	RA057034	1	<b>Raw Water Pump Assembly</b>	
19	RS0305	2	<b>Bolt</b> , raw water pump attaching	
20	RS2180	3	<b>Lockwasher</b> , raw water pump attaching	
21	90305300	1	<b>Bolt</b> , raw water pump attaching	
22	R065052	1	<b>Pulley</b> , raw water pump	
23	99335016	3	<b>Bolt</b> , RWP pulley attaching	
24	93934000	3	<b>Lockwasher</b> , RWP pulley attaching	
25	92934000	3	<b>Flatwasher</b> , RWP pulley attaching	
26	RA097007C	1	<b>Alternator Assembly, 70A</b>	
26	RA097009	1	<b>Alternator Assembly, 100A</b>	
NI	RF097009B	AR	<b>Retrofit Kit</b> , 100A Alternator (5.7L)	
NI	R121081A	AR	<b>Harness</b> , Jumper, adapt 70A engine harness to 100A alt.	
NI	R101015	1	<b>Ground Lead</b> , Alternator (54", 5.0/5.7/8.1L)	
NI	R101017	1	<b>Wire</b> , Charge, Alternator (5.0/5.7L)	
NI	R153018A	1	<b>Wire</b> , Fused, starter to circuit breaker (5.0/5.7/6.0L)	
27	R090289	1	<b>Bracket</b> , Alternator, Strap, upper mounting	
28	RS0304	1	<b>Bolt</b> , Alternator strap mounting	
29	RS2180	1	<b>Lockwasher</b> , Alternator strap mounting	
30	RS0454	1	<b>Bolt</b> , Alternator mounting, upper, through bolt mount	
30	RS0311	1	<b>Bolt</b> , Alternator mounting, upper, tapped mount	
31	RS2180	1	<b>Lockwasher</b> , Alternator mounting bolt, upper, tapped mnt.	
32	RS1028	1	<b>Nut</b> , Alternator mounting bolt, upper, through mount	
33	RS2180	1	<b>Lockwasher</b> , Alternator mounting bolt, upper, through mnt.	
34	R090288	1	<b>Bracket</b> , Alternator mounting, lower	
35	RS0304	1	<b>Bolt</b> , Alternator bracket attaching, lower	
36	RS2180	1	<b>Lockwasher</b> , Alternator bracket attaching bolt, lower	
37	98333025	1	<b>Bolt</b> , Alternator mounting, lower	
38	RS2179	1	<b>Lockwasher</b> , Alternator mounting bolt, lower	
39	97220060	1	<b>Nut</b> , KEPS, Alternator Positive Post, 70A	
39	97330060	1	<b>Nut</b> , KEPS, Alternator Positive Post, 100A	
40	92920000	1	<b>Washer</b> , Flat, Alternator Positive Post 70A (only)	
41	R065055	1	<b>Pulley</b> , Alternator (5.X/6.0), serpentine	
42	R064010A	1	<b>Balancer</b> , crankshaft	
43	R06505	1	<b>Pulley</b> , crank, serpentine	
44	90315100	3	<b>Bolt</b> , drive belt pulley attaching	
45	RS2180	3	<b>Lockwasher</b> , drive belt pulley attaching bolt	
46	R009091	1	<b>Bolt</b> , crankshaft balancer	
47	R096074	1	<b>Washer</b> , crankshaft balancer	
48	R062089	1	<b>Spacer</b> , tensioner bracket (V-drive)	xx-570V-xx

STARTER ASSEMBLY COMPONENTS - FIGURE 23



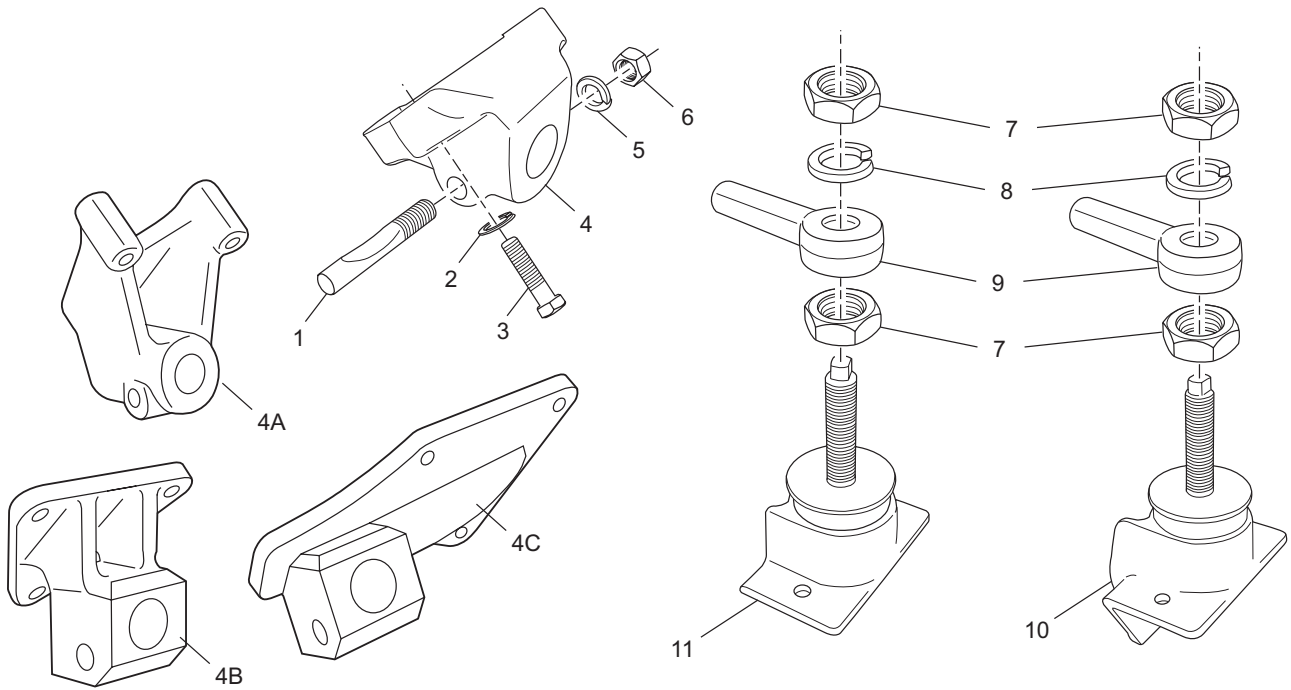
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## STARTER ASSEMBLY COMPONENTS - FIGURE 23

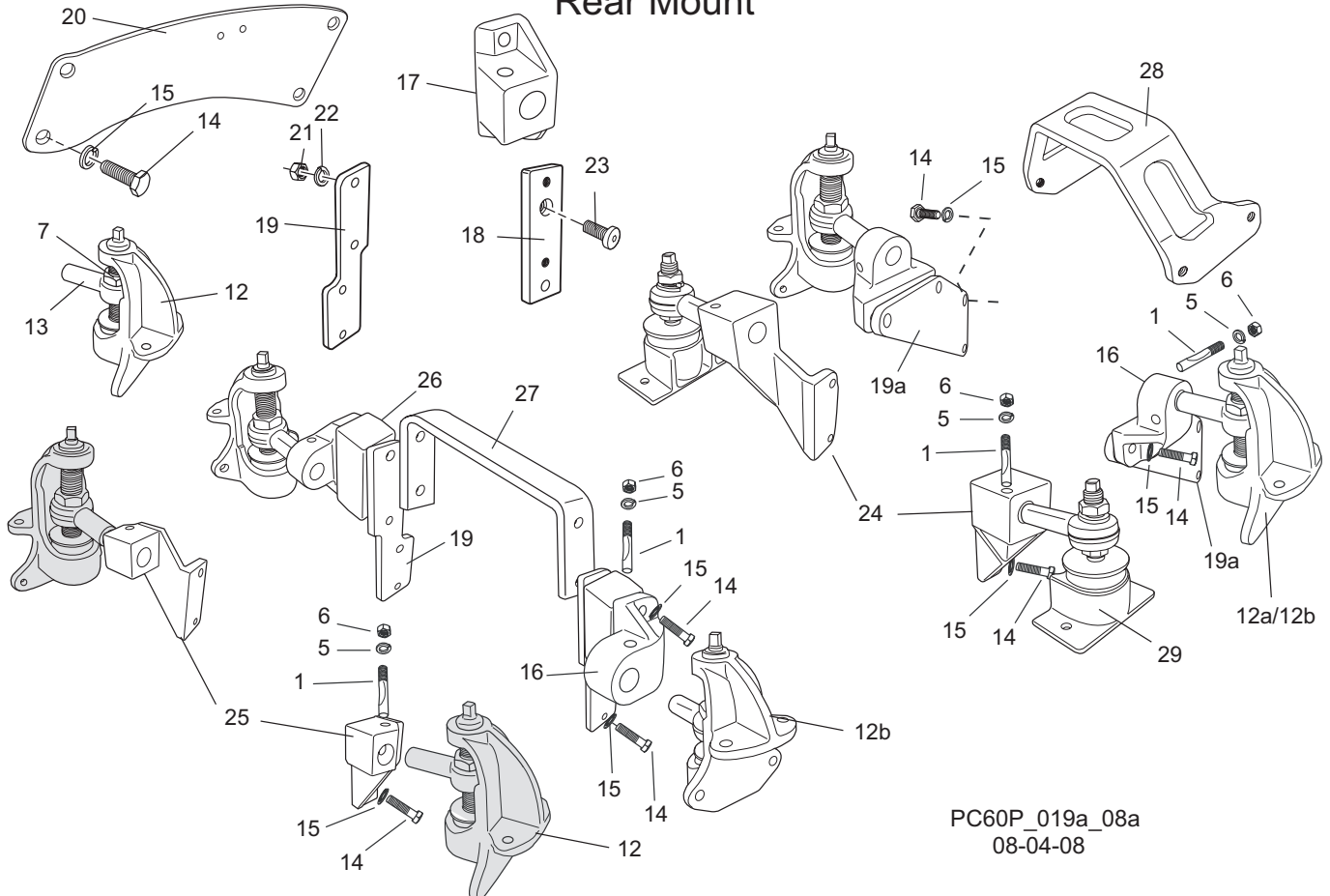
ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RS7018	1	<b>Nut</b> , solenoid terminal	
2	RS7080	1	<b>Lockwasher</b> , solenoid terminal	
3	RU0050B	1	<b>Solenoid</b> , starter	
4	R009167	2	<b>Bolt</b> , starter mounting	
4A	R009167A	AR	<b>Bolt</b> , starter mounting, special offset	
5	RA122015	1	<b>Starter Motor Assembly</b> (bottom mount)	
5	RA122009	AR	<b>Starter Motor Assembly</b> (top mount)	
6	93003000	1	<b>Lockwasher</b> , solenoid terminal	
7	RS7036	1	<b>Nut</b> , solenoid terminal	
8	RS1029	2	<b>Nut</b> , starter mounting (top mount)	
9	RS2181	2	<b>Lockwasher</b> , starter mounting (top mount)	
10	R031018	2	<b>Stud</b> , starter mounting (top mount)	

ENGINE and TRANSMISSION MOUNTS - FIGURE 24

Engine Mount Group  
Front Mount



Engine Mount Group  
Rear Mount



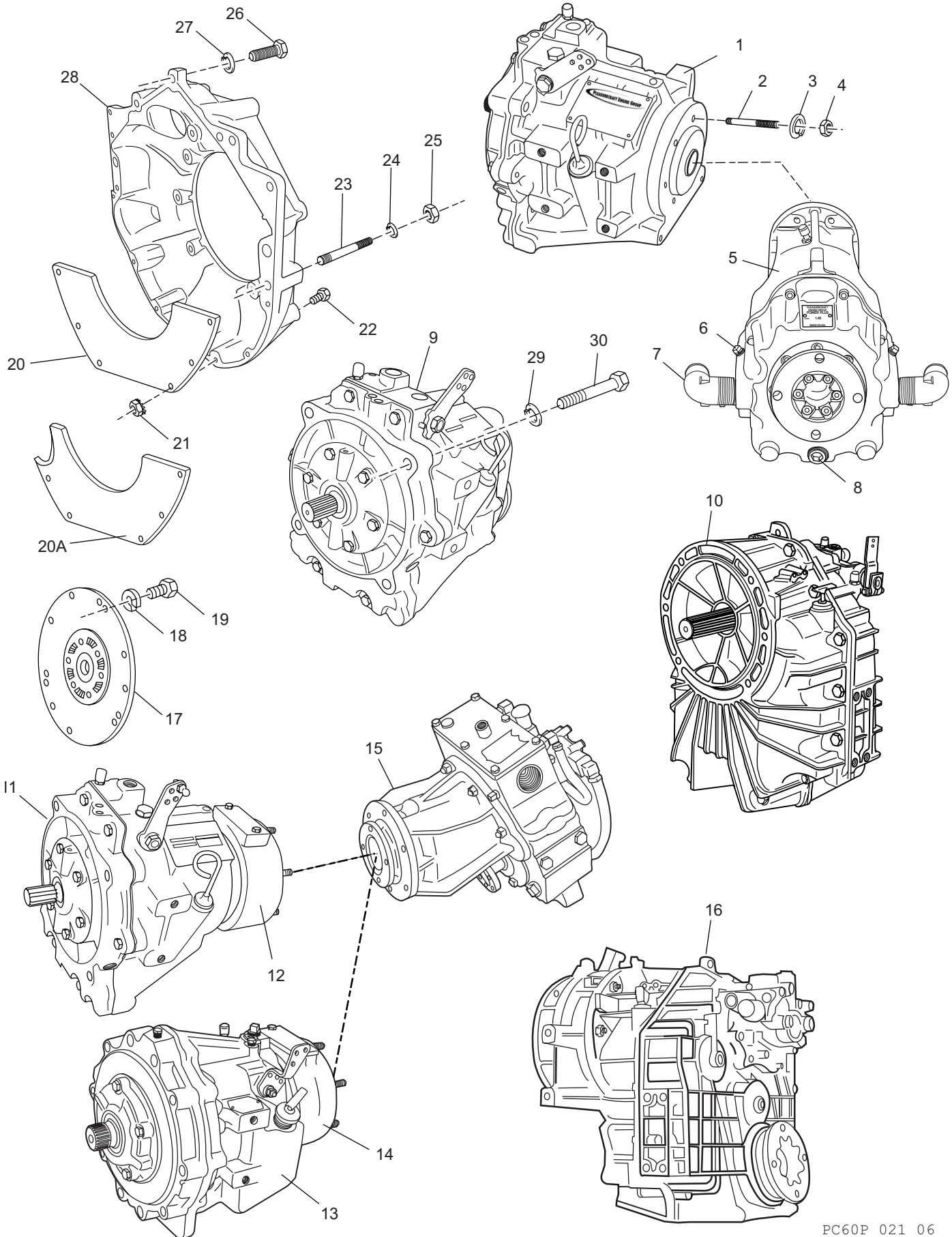
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## ENGINE and TRANSMISSION MOUNTS - FIGURE 24

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R095020	2	<b>Bolt</b> , trunnion clamp	
2	RS2180	6	<b>Lockwasher</b> , engine mount attaching bolt	
3	RS0306	6	<b>Bolt</b> , engine mount attaching (R090071)	
3	RS0311	4	<b>Bolt</b> , engine mount attaching (R090071A)	
NI	RS3442	2	<b>Stud</b> , engine mount attaching (R090071A)	
NI	RS1028	2	<b>Nut</b> , engine mount attaching (R090071A)	
4	R090071	2	<b>Mount</b> , engine front, short	
4A	R090071A	AR	<b>Mount</b> , engine front, tall	04-5xxV-xx
4B	R090071C	AR	<b>Mount</b> , engine front	
4C	R090317	AR	<b>Mount</b> , engine front, 5.7 to 5.8 footprint (star)	
4C	R090316	AR	<b>Mount</b> , engine front, 5.7 to 5.8 footprint (port)	
5	RS2181	2	<b>Lockwasher</b> , trunnion clamp bolt	
6	RS1529	2	<b>Nut</b> , trunnion clamp bolt	
7	RS1075	4	<b>Nut</b> , adjustment and lock	
8	RS2186	2	<b>Lockwasher</b> , adjusting nut	
9	R091001	2	<b>Trunnion, long</b>	
9	R091007	2	<b>Trunnion, short</b>	
10	RC091001	2	<b>Trunnion Assembly</b>	
11	RA092016	2	<b>Trunnion Assembly</b>	
12	RA092011	2	<b>Trunnion Assembly</b> , tall (1.23:1 STD / V-drive) Used with item #17 - R090145 mount	04-5xxV-xx
12a	RA092011A	2	<b>Trunnion Assembly</b> , tall (1.23:1 STD / V-drive) Used with item #16 - R090205 mount	
12b	RA091003	2	<b>Trunnion Assembly</b> , short (1.0:1 STD) Used with item #17 - R090145 mount	04-5xxV-xx, 05-5xxV-xx
12c	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	<b>Trunnion</b> , 2.125" (use with R090205)	
14	RS0327	4	<b>Bolt</b> , rear mount attaching (R109054, R090318/318A-lower)	
14	RS0328	4	<b>Bolt</b> , rear mount attaching (R090145, R090350/351/354/355)	
14	RS0329	4	<b>Bolt</b> , rear mount attaching (R090205)	
14	RS0330	4	<b>Bolt</b> , rear mount attaching (R090318A, upper)	
14	RS0334	4	<b>Bolt</b> , rear mount attaching (R090318, upper)	
15	RS2181	4	<b>Lockwasher</b> , rear mount attaching bolt	
16	R090205	2	<b>Mount</b> , rear	
17	R090145	2	<b>Mount</b> , rear	
NI	R090343	1	<b>Mount</b> , rear, port	15-570V-02, 15-570V-04
NI	R090344	1	<b>Mount</b> , rear, starboard	15-570V-02, 15-570V-04
18	R169062	AR	<b>Shim</b> , Mount, rear	03-570-01, 03-570-02, 03-572-01, 15-570V-01, 15-570V-03
NI	R090217A	1	<b>Mount</b> , rear, port (Hurth)	09-570V-01, 09-570V-02
NI	R090218A	1	<b>Mount</b> , rear, starboard (Hurth)	09-570V-01, 09-570V-02
NI	R109042	AR	<b>Shim</b> , Mount, rear (2 per side) (Hurth)	09-570V-01, 09-570V-02
NI	R169063A	AR	<b>Spacer</b> , Mount, rear, 2" offset	19-570-01, 19-570-02, 19-572-01, 19-572-02
19	R090318	2	<b>Mount</b> , PCM V-DRV	
19a	R090318A	2	<b>Mount</b> , PCM V-DRV	
20	R109054	2	<b>Plate</b> , brace, PCM V-DRV used when there is no mount	15-570V-02, 15-570V-04
21	RS1029	4	<b>Nut</b> , rear mount attaching (R090318)	
22	RS2181	4	<b>Lockwasher</b> , rear mount attaching (R090318)	
23	90465100	2	<b>Bolt</b> , shim mount attaching (R169062)	03-570-01, 03-570-02, 03-572-01, 15-570V-01, 15-570V-03
24	R090354	1	<b>Mount</b> , rear, transmission, PCM V-DRV, port	
24	R090355	1	<b>Mount</b> , rear, transmission, PCM V-DRV, starboard	
25	R090350	1	<b>Mount</b> , rear, transmission, PCM V-DRV, port	04-5xxV-xx
25	R090351	1	<b>Mount</b> , rear, transmission, PCM V-DRV, starboard	04-5xxV-xx
26	R169063	2	<b>Spacer</b> , Mount, rear, 2"	04-5xxV-xx
27	R090371	1	<b>Bracket</b> , PCM VDRV mount support	04-5xxV-xx
28	R090370	1	<b>Bracket</b> , PCM VDRV mount support	
29	RA092016	2	<b>Trunnion Assembly, with R091001 trunnion</b>	



BELL HOUSING ASSEMBLY - FIGURE 25



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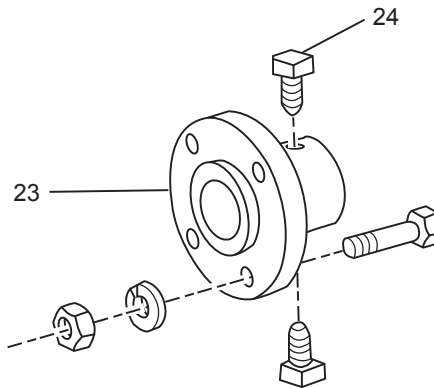
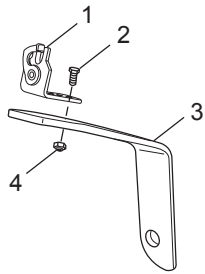


## BELL HOUSING ASSEMBLY - FIGURE 25

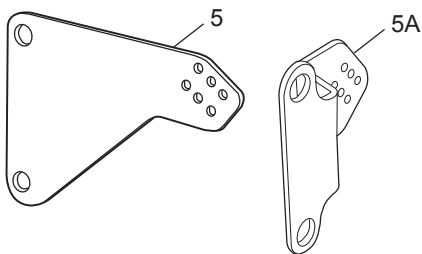
ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	RA157015	AR	<b>Transmission Assembly</b> , IRM40S, PCM to PCM V-DRV	04-570-02
2	R031035	8	<b>Stud</b> , PCM V-DRV to transmission attaching	
3	RS2179	8	<b>Lockwasher</b> , PCM V-DRV to transmission attaching	
4	RS7026	8	<b>Nut</b> , PCM V-DRV to transmission attaching	
5	RA156011B	AR	<b>PCM Power-Plus V-Drive Assembly</b> , 1.48:1	
NI	R190250	AR	<b>Gear Lube</b> , synthetic SAE 50, PCM V-DRV (1 qt.)	
6	R041091	2	<b>Plug</b> , brass, oil fill/drain, PCM V-DRV	
7	97854	2	<b>Fitting</b> , brass elbow 90°,PCM V-DRV	
8	RS3633	1	<b>Plug</b> , brass, raw water drain, 1/2" square socket	
9	RA157017	AR	<b>Transmission Assembly</b> , IRM40A, 1.23:1 PCM	
10	RA156009	AR	<b>Transmission Assembly</b> , 630V, HURTH, 1.29:1	
10	RA156009A	AR	<b>Transmission Assembly</b> , 630V, HURTH, 1.5:1	
11	RA157016	AR	<b>Transmission Assembly</b> , IRM40I, 1.0:1 PCM	
12	R079056	AR	<b>Adapter</b> , V-Drive, PCM to Walter	
NI	RM0293	AR	<b>Gasket</b> , V-Drive, PCM to Walter	
13	RA157001	AR	<b>Transmission Assembly</b> , 1.0:1 Warner (71C)	
13	RA157003	AR	<b>Transmission Assembly</b> , 1.0:1 Warner (72C)	
13	RA157001A	AR	<b>Transmission Assembly</b> , (71C w/v-drive adapter))	
14	R079072	AR	<b>Adapter</b> , V-Drive, Warner to Walter	
15	RA156004	AR	<b>V-Drive Assembly</b> , Walters, 1.46:1	
16	RA156010	AR	<b>Transmission Assembly</b> , 90VTS, ZF 2-speed	
NI	RK104013	AR	<b>Connector Kit</b> , ZF 2-speed	
17	R140004	1	<b>Plate</b> , damper (Warner Transmissions, 5.0/5.7L)	
17	R140016	1	<b>Plate</b> , damper (PCM Transmissions)	
17	R140019	1	<b>Plate</b> , damper (Hurth Transmission/2-speed)	
18	RS2180	4	<b>Lockwasher</b> , damper plate attaching bolt	
19	R009092	4	<b>Bolt</b> , damper plate attaching	
20	R019008	1	<b>Cover</b> , dust (use w/top mount starter)	
20A	R019008A	1	<b>Cover</b> , dust (use w/bottom mount starter)	
21	RS1078	2	<b>Nut</b> , dust cover attaching	
22	RS0256	2	<b>Bolt</b> , dust cover attaching	
23	R031033	2	<b>Stud</b> , bellhousing attaching	
24	RS2180	2	<b>Lockwasher</b> , bellhousing attaching	
25	RS1028	2	<b>Nut</b> , bellhousing attaching	
26	98443050	3	<b>Bolt</b> , bellhousing attaching	
27	93940000	3	<b>Lockwasher</b> , bellhousing attaching	
28	R142014	1	<b>Bellhousing</b> , top or bottom mount starter	
28	R142006B	1	<b>Bellhousing</b> , bottom mount starter, only	
NI	R019010	1	<b>Cover</b> , dust, top mount starter (used w/R019008A)	
NI	RS0327	2	<b>Bolt</b> , dust cover attaching	
NI	RS2181	2	<b>Lockwasher</b> , dust cover attaching <b>** PCM **</b>	
29	RS2180	4	<b>Lockwasher</b> , transmission attaching bolt	
30	RS0329	4	<b>Bolt</b> , transmission attaching <b>**Velvet Drive **</b>	
NI	96541	2	<b>Stud</b> , transmission mounting (4")	
NI	RS2181	6	<b>Lockwasher</b> , transmission mounting	
NI	RS1029	2	<b>Nut</b> , transmission mounting stud	
NI	RS0337	4	<b>Bolt</b> , transmission mounting <b>**Hurth Gears**</b>	
NI	R031018	2	<b>Stud</b> , transmission mounting (1 5/8")	
NI	RS2181	6	<b>Lockwasher</b> , transmission mounting	
NI	RS1029	2	<b>Nut</b> , transmission mounting stud	
NI	RS0329	4	<b>Bolt</b> , transmission mounting	

TRANSMISSION AND RELATED COMPONENTS (1.23:1 FWC) - FIGURE 26

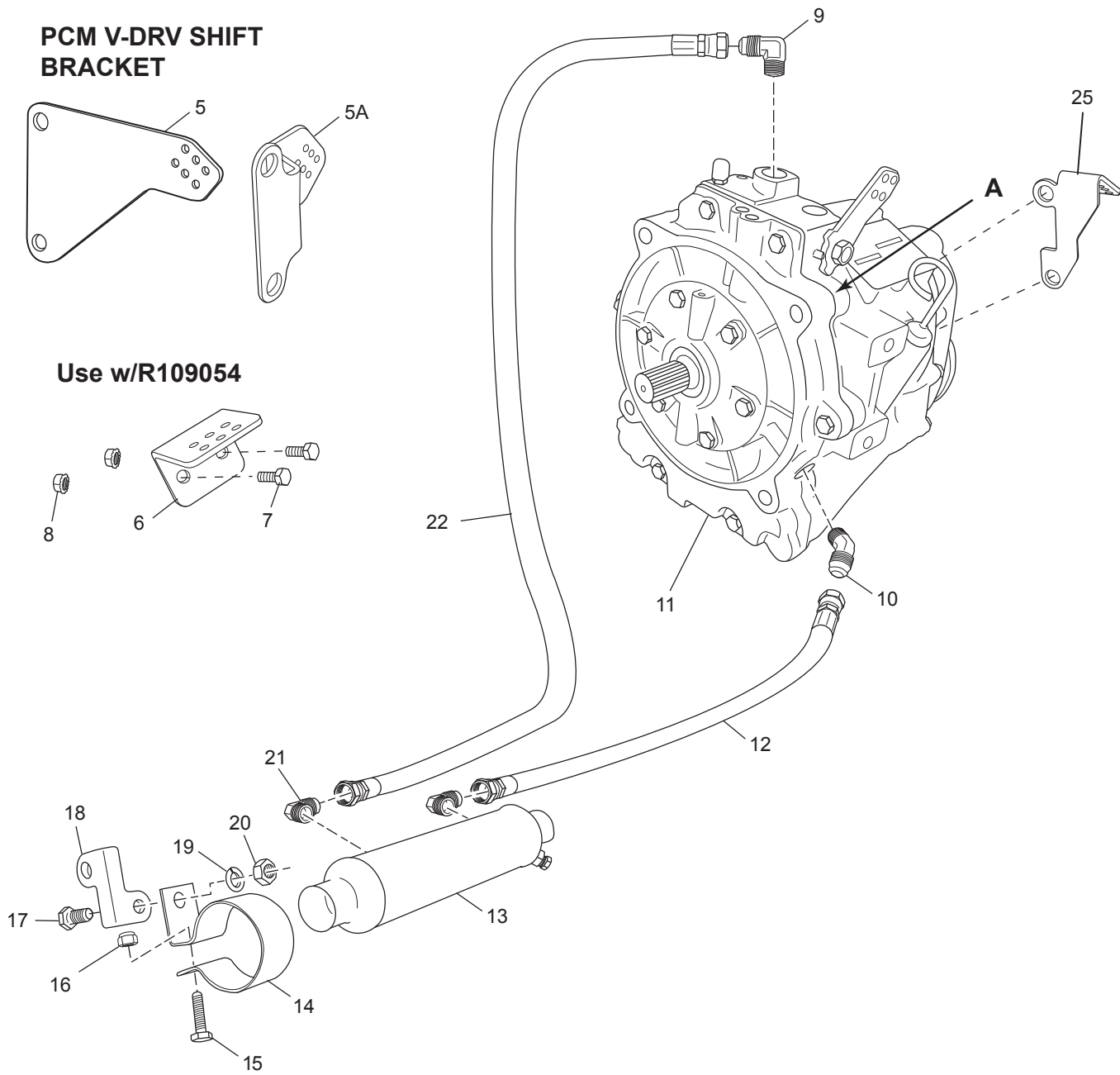
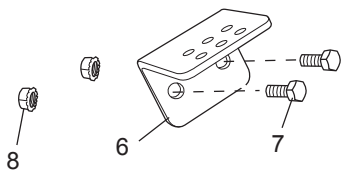
**A - FRONT MOUNT  
SHIFT BRACKET**



**PCM V-DRV SHIFT  
BRACKET**



**Use w/R109054**

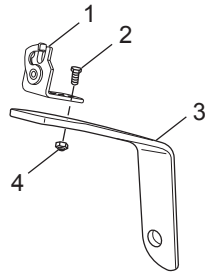


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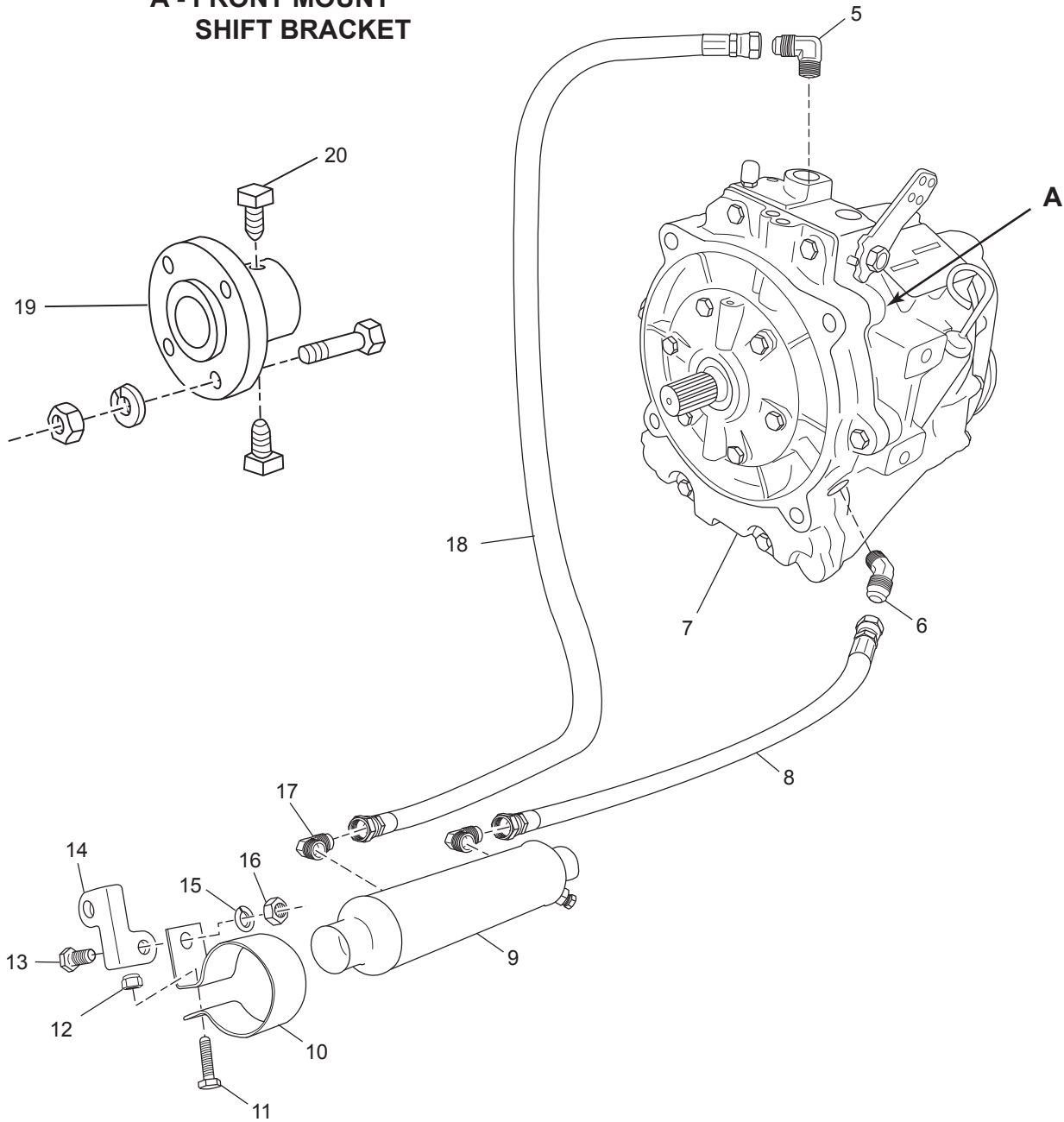
## TRANSMISSION AND RELATED COMPONENTS (1.23:1 FWC) - FIGURE 26

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090086	1	<b>Cable Clip</b> , single cable	
2	RS5122	2	<b>Bolt</b> , cable clip attaching	
3	R090143	1	<b>Bracket</b> , shift (RWC)	
3	R090143A	1	<b>Bracket</b> , shift (FWC)	
4	RS2055	2	<b>Nut</b> , cable clip attaching bolt	
5	R090319	1	<b>Bracket</b> , shift (PCM V-DRV)	
5A	R090319A	1	<b>Bracket</b> , shift (PCM V-DRV) SN 474384 and higher	
6	R090348	1	<b>Bracket</b> , shift (PCM V-DRV, attaches to R109054)	
7	RS5124	2	<b>Bolt</b> , bracket attaching	
8	RS1078	2	<b>Nut</b> , KEPS, bracket attaching bolt	
9	R024010	1	<b>Fitting</b> , 90 degree	
10	R024053	1	<b>Fitting</b> , 45 degree	
11	RA157017	1	<b>Transmission</b> , 1.23:1	
12	RA045007S	1	<b>Hose Assembly</b> , cooler to transmission	
13	R147014	1	<b>Oil Cooler Assembly</b> , transmission	
14	R090010	1	<b>Clamp</b> , oil cooler assembly mounting	
15	RS0256	1	<b>Bolt</b> , oil cooler attaching	
16	RS1078	1	<b>Nut</b> , oil cooler attaching	
17	RS0302	1	<b>Bolt</b> , oil cooler clamp attaching	
18	R090013A	1	<b>Bracket</b> , oil cooler mounting	
19	RS2180	1	<b>Lockwasher</b> , oil cooler clamp attaching bolt	
20	RS1028	1	<b>Nut</b> , oil cooler clamp attaching bolt	
21	R024010	2	<b>Fitting</b> , 90 degree	
22	RA045007T	1	<b>Hose Assembly</b> , transmission to cooler	
23	R148010	OPT	<b>Coupler</b> , prop shaft (4" X 1" shaft)	
23	R148011	OPT	<b>Coupler</b> , prop shaft (4" X 1 1/8" shaft)	
24	2000090	2	<b>Screw</b> , set - coupler	
25	R090352	1	<b>Bracket</b> , shift, rear entry	

TRANSMISSION AND RELATED COMPONENTS (1.23:1 RWC) - FIGURE 27



**A - FRONT MOUNT  
SHIFT BRACKET**

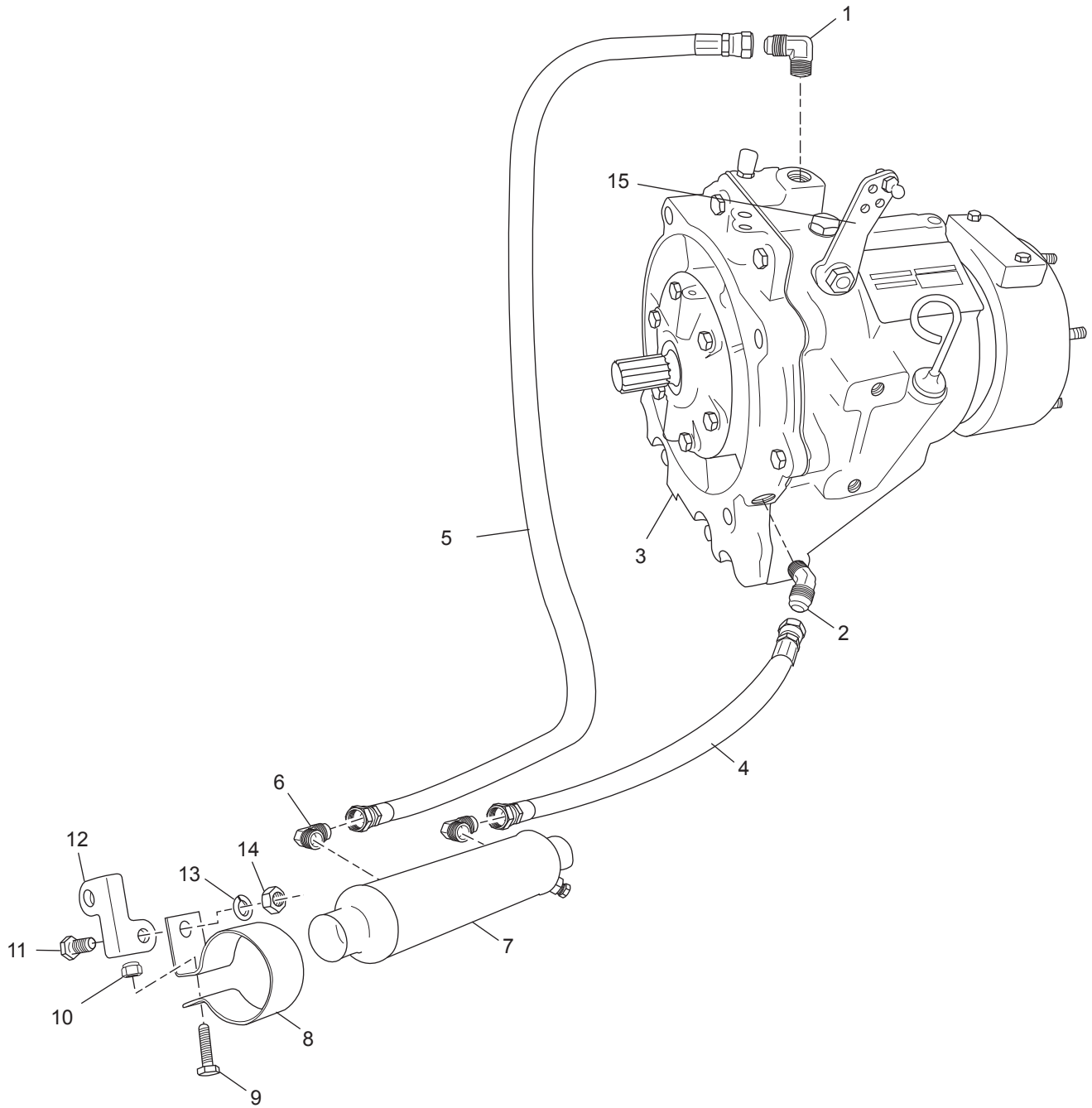


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## TRANSMISSION AND RELATED COMPONENTS (1.23:1 RWC) - FIGURE 27

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R090086	1	<b>Cable Clip</b> , single cable	
2	RS5122	2	<b>Bolt</b> , cable clip attaching	
3	R090143	1	<b>Bracket</b> , shift (RWC)	
3	R090143A	1	<b>Bracket</b> , shift (FWC)	
4	RS2055	2	<b>Nut</b> , cable clip attaching bolt	
5	R024010	1	<b>Fitting</b> , 90 degree	
6	R024053	1	<b>Fitting</b> , 45 degree	
7	RA157017	1	<b>Transmission</b> , 1.23:1	
8	RA045007S	1	<b>Hose Assembly</b> , cooler to transmission	
9	R147014	1	<b>Cooler Assembly</b> , transmission	
10	R090010	1	<b>Clamp</b> , cooler assembly mounting	
11	RS0256	1	<b>Bolt</b> , cooler attaching	
12	RS1078	1	<b>Nut</b> , cooler attaching	
13	RS0302	1	<b>Bolt</b> , cooler clamp attaching	
14	R090013A	1	<b>Bracket</b> , cooler mounting	
15	RS2180	1	<b>Lockwasher</b> , cooler clamp attaching bolt	
16	RS1028	1	<b>Nut</b> , oil cooler clamp attaching bolt	
17	R024010	2	<b>Fitting</b> , 90 degree	
18	RA045007T	1	<b>Hose Assembly</b> , transmission to cooler	
19	R148010	OPT	<b>Coupler</b> , prop shaft (4" X 1" shaft)	
19	R148011	OPT	<b>Coupler</b> , prop shaft (4" X 1 1/8" shaft)	
20	2000090	2	<b>Screw</b> , set - coupler	

TRANSMISSION AND RELATED COMPONENTS (1.0:1 "V" - DRIVE) - FIGURE 28

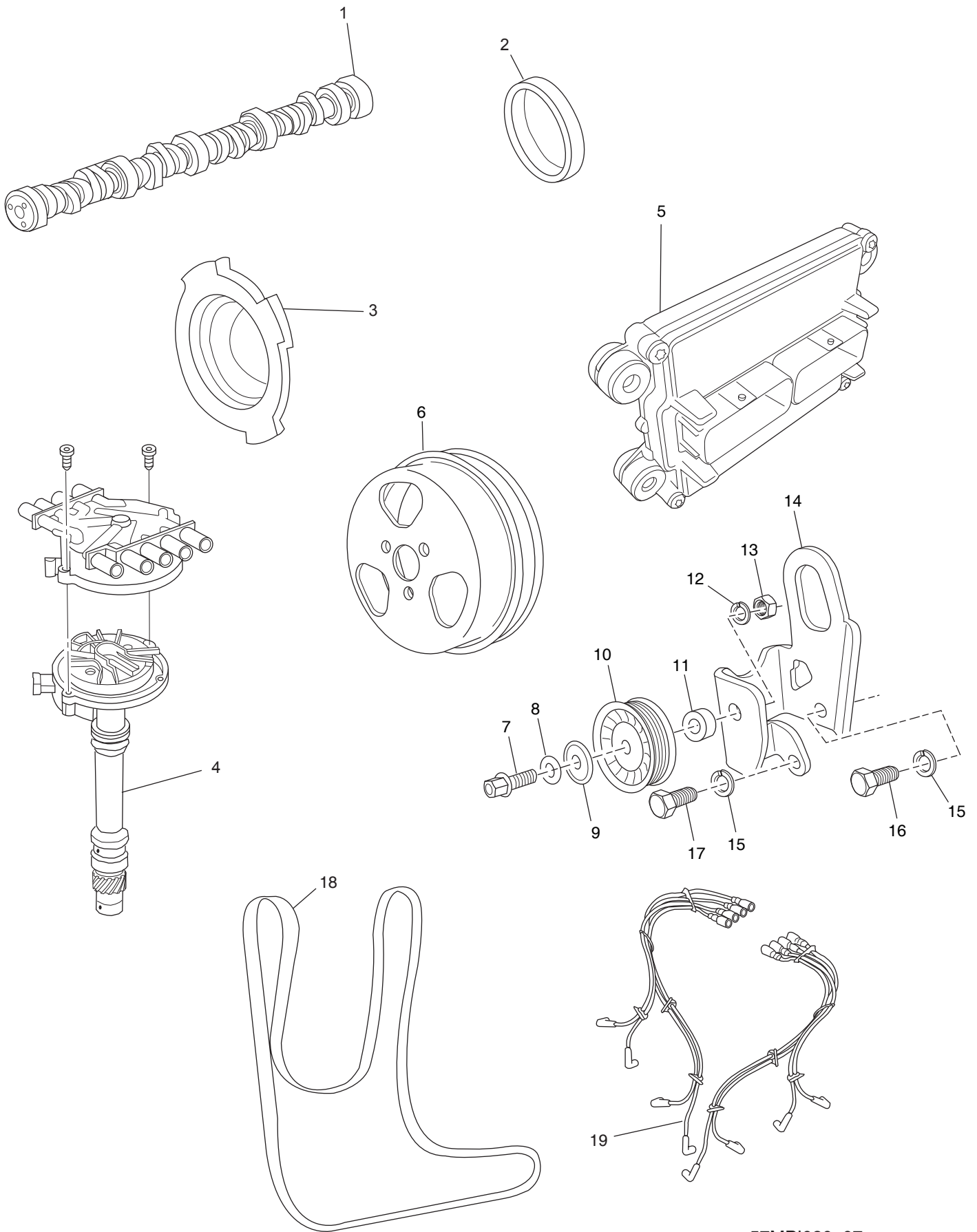


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## TRANSMISSION AND RELATED COMPONENTS (1.0:1 "V" - DRIVE) - FIGURE 28

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
1	R024010	1	<b>Fitting</b> , 90 degree	
2	R024053	1	<b>Fitting</b> , 45 degree	
3	RA157016	1	<b>Transmission</b> , 1.0:1, (w/R079056 Adapter)	
4	RA045007S	1	<b>Hose Assembly</b> , cooler to transmission	
5	RA045007T	1	<b>Hose Assembly</b> , transmission to cooler	
6	R024010	2	<b>Fitting</b> , 90 degree	
7	R147014	1	<b>Cooler Assembly</b> , transmission	
8	R090010	1	<b>Clamp</b> , cooler assembly mounting	
9	RS0256	1	<b>Bolt</b> , cooler attaching	
10	RS1078	1	<b>Nut</b> , cooler attaching	
11	RS0302	1	<b>Bolt</b> , cooler clamp attaching	
12	R090013A	1	<b>Bracket</b> , cooler mounting	
13	RS2180	1	<b>Lockwasher</b> , cooler clamp attaching bolt	
14	RS1028	1	<b>Nut</b> , oil cooler clamp attaching bolt	
15	R166020	1	<b>Shift Bracket Arm</b>	

RIGHT HAND ROTATION ENGINE COMPONENTS - FIGURE 29



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## RIGHT HAND ROTATION ENGINE COMPONENTS - FIGURE 29

ITEM	PART NO.	QTY.	DESCRIPTION	MODEL ID
*	CALL	1	<b>Base Engine Assembly (RH)</b>	
NI	98511	1	<b>Drive Damper Assembly, (ALL RH rotation)</b>	
1	RA050022	1	<b>Camshaft, engine (RH)</b>	
2	R047175	1	<b>Seal, crankshaft rear oil (RH)</b>	
3	R056001A	1	<b>Ring, crankshaft position sensor reductor (RH)</b>	
4	RA107045	1	<b>Distributor Assembly (RH)</b>	
5	R116023	1	<b>Engine Control Module (5.0L - RH) (direct drive)</b>	
	-			
5	R116023	1	<b>Engine Control Module (5.0L - RH) (v-drive)</b>	
	-			
5	R116023	1	<b>Engine Control Module (5.7L - RH) (direct drive)</b>	
	-			
5	R116023	1	<b>Engine Control Module (5.7L - RH) (v-drive)</b>	
	-			
6	R065052A	1	<b>Pulley, raw water pump (RH)</b>	
7	98443050	1	<b>Bolt, Idler Pulley attaching</b>	
8	92940000	1	<b>Flat Washer, Idler Pulley attaching</b>	
9	R096145	1	<b>Flat Washer, Idler Pulley attaching</b>	
10	R065054	1	<b>Pulley, Idler</b>	
11	R062083	1	<b>Spacer, Idler Pulley</b>	
12	93940000	1	<b>Lock Washer, Idler Pulley attaching</b>	
13	L00908	1	<b>Nut, Idler Pulley attaching</b>	
14	R090307	1	<b>Bracket, Idler pulley 5.7 (RH)</b>	
15	RS2180	2	<b>Lock Washer, Idler bracket attaching</b>	
16	RS0304	1	<b>Bolt, Idler bracket attaching, upper</b>	
17	RS0306	1	<b>Bolt, Idler bracket attaching, lower</b>	
18	R066029A	1	<b>Belt, serpentine drive, 5.0/5.7L (RH)</b>	
19	RK120020	1	<b>Spark Plug Wire Set (RH)</b>	