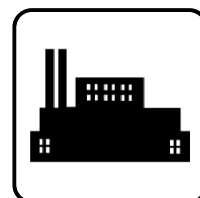


Service Parts

Engine



Engine Models:

John Deere

6135HF485

6135HFG75

6135HFG84

Generator Models:

350-500REOZJ

350-500REOZJB

KOHLER®

Power Systems _____

9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED

TP-6786 1/15c

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Introduction

This manual lists service replacement parts for John Deere engine models 6135HF.

At the time of print this manual applied to the engine models listed in the Model Index. On occasion this manual may apply to engines not listed in the Model Index.

Information in this publication represents data available at the time of print. The generator set manufacturer reserves the right to change this publication and the products represented without notice and without any obligation or liability whatsoever.

This manual includes the following main sections:

Table of Contents. Lists the sections of the manual.

Introduction (and other information sections). Contains introductory material about part numbers, illustrations, and hardware.

Index. Lists the engine models and groups.

Group Parts Lists. List the part numbers of parts in the groups.

Numbering System Significance

This manual uses the following numbering systems:

Engine Model. The product identification number located on the engine nameplate. Engines break down into groups.

Group Number. A unique number representing a parts group needed to assemble an engine function. For example, Group 1 is the Air Intake group.

Variation Number. A group might have several variations. Each variation performs the same function with different parts lists. For example, a 12-volt alternator and 24-volt alternator both perform the same function, but, with different parts. Each difference requires a group variation or module number.

Part Number. The part number identifies an individual assembly, subassembly, component, or accessory kit.

Illustrations

Illustrations (or exploded-view drawings) best representing the widest range of variations accompany most groups in this manual. Illustrations do not depict all details and may not show all parts. Do not use illustrations for assembly or disassembly.

How to Find Part Numbers

Use the following steps to locate a service replacement part.

1. Locate the engine nameplate to **identify the engine model number**.
2. **Turn to the Model Index.** The first column lists the engine model numbers. The headings identify the groups of parts that make up the engine.
3. **Identify the group** most likely to include the service part number.
4. **Find the group variation number** at the intersection of the model row and the group column. Note the variation number.
5. **Page forward to locate the group** identified in step 3 or find the appropriate page in the Table of Contents.
6. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
7. Select **the part number that corresponds to your group variation**. The first column lists the illustration item number. Find the variation identified in the Model Index in the appropriate column on the right side of the parts list table. Find the quantity used at the intersection of the item number row and the variation column. A blank space at the intersection means the variation/module does not use that part number.

Hardware References

Many common hardware items do not appear in parts manuals or will appear as common hardware entries. A common hardware entry lists the size of the hardware. For example, an item that appears as "Hardware, 3/8-16" in the text means that the piece is 3/8-16 size. Obtain common hardware locally.

Some hardware items require a specific size or some other characteristic. In that case, use the part number listed in the text.

When replacing hardware, do not substitute inferior grade hardware. Replacement hardware grade should be equal to or better than the grade of the manufacturer's original hardware.

Specification Number Index

Group Title	<i>Air Intake</i>	<i>Water Pump</i>	<i>Thermostat Housing</i>	<i>Thermostat Cover</i>	<i>Thermostat</i>	<i>Fan Belt</i>	<i>Fan Drive</i>	<i>Crankshaft Damper</i>	<i>Vent Tube</i>	<i>Valve Train</i>	<i>Rocker Arm Cover</i>	<i>Fuel Injection System</i>	<i>Fuel Transfer Pump</i>	<i>Fuel Filter</i>
Group No.	1	2	3	4	5	6	7	8	10	12	13	14	15	18
Variation Number														

Spec. No.														
350/400 kW (6135HF485)														
GM76156-GA1	1730	2007	3906	2106	2202	2421	234G	6802	2908	4903	1104	1676	3701 or 3711*	3525
GM76156-GA2	1730	2007	3906	2106	2202	2421	234G	6802	2908	4903	1104	1676	3701 or 3711*	3525
GM85455-GA1	1730	2007	3906	2106	2202	2421	234G	6802	2908	4903	1104	1676	3701 or 3711*	3525
GM85455-GA2	1730	2007	3906	2106	2202	2421	234G	6802	2908	4903	1104	1676	3701 or 3711*	3525
350/400 kW (6135HFG84)														
GM85455-GA4	1732	2007	3907	2106	2202	2421	234G	6814	2908	4903	1104	1676	3711	3525
GM85455-GA5	1732	2007	3907	2106	2202	2421	234G	6814	2908	4903	1104	1676	3711	3525
500 kW (6135HFG75)														
GM76157-GA2	1732	2007	3907	2106	2202	2421	234G	6814	2908	4903	1104	1676	3711	3525
GM85455-GA3	1732	2007	3907	2106	2202	2421	234G	6814	2908	4903	1104	1676	3711	3525

* Engine serial number 018524 and after use variation code 3711.

Group Title	<i>Crankshaft</i>	<i>Crankshaft Pulley</i>	<i>Piston & Connecting Rod</i>	<i>Flywheel</i>	<i>Flywheel Housing</i>	<i>Cylinder Head & Camshaft</i>	<i>Exhaust Manifold</i>	<i>Exhaust Outlet</i>	<i>Oil Filler</i>	<i>Dipstick</i>	<i>Oil Pan</i>	<i>Oil Filter</i>	<i>Oil Pump</i>
Group No.	19	20	21	22	23	24	25	26	27	28	29	30	31
Variation Number													

Spec. No.													
350/400 kW (6135HF485)													
GM76156-GA1	4702	1341	4803	1506	1401	5107	2804	6405	1204	4003	1915	5912	5002
GM76156-GA2	4702	1341	4803	1506	1401	5107	2804	6405	1204	4003	1915	5912	5002
GM85455-GA1	4702	1341	4803	1506	1401	5107	2804	6405	1204	4003	1915	5912	5002
GM85455-GA2	4702	1341	4803	1506	1401	5107	2804	6405	1204	4003	1915	5912	5002
350/400 kW (6135HFG84)													
GM85455-GA4	4702	1398	4803	1506	1414	5113	2814	-	1204	4003	1915	5917	5002
GM85455-GA5	4702	1398	4803	1506	1414	5113	2814	-	1204	4003	1915	5917	5002
500 kW (6135HFG75)													
GM76157-GA2	4702	1398	4803	1506	1414	5107	2814	-	1204	4003	1915	5917	5002
GM85455-GA3	4702	1398	4803	1506	1414	5107	2814	-	1204	4003	1915	5917	5002

Specification Number Index

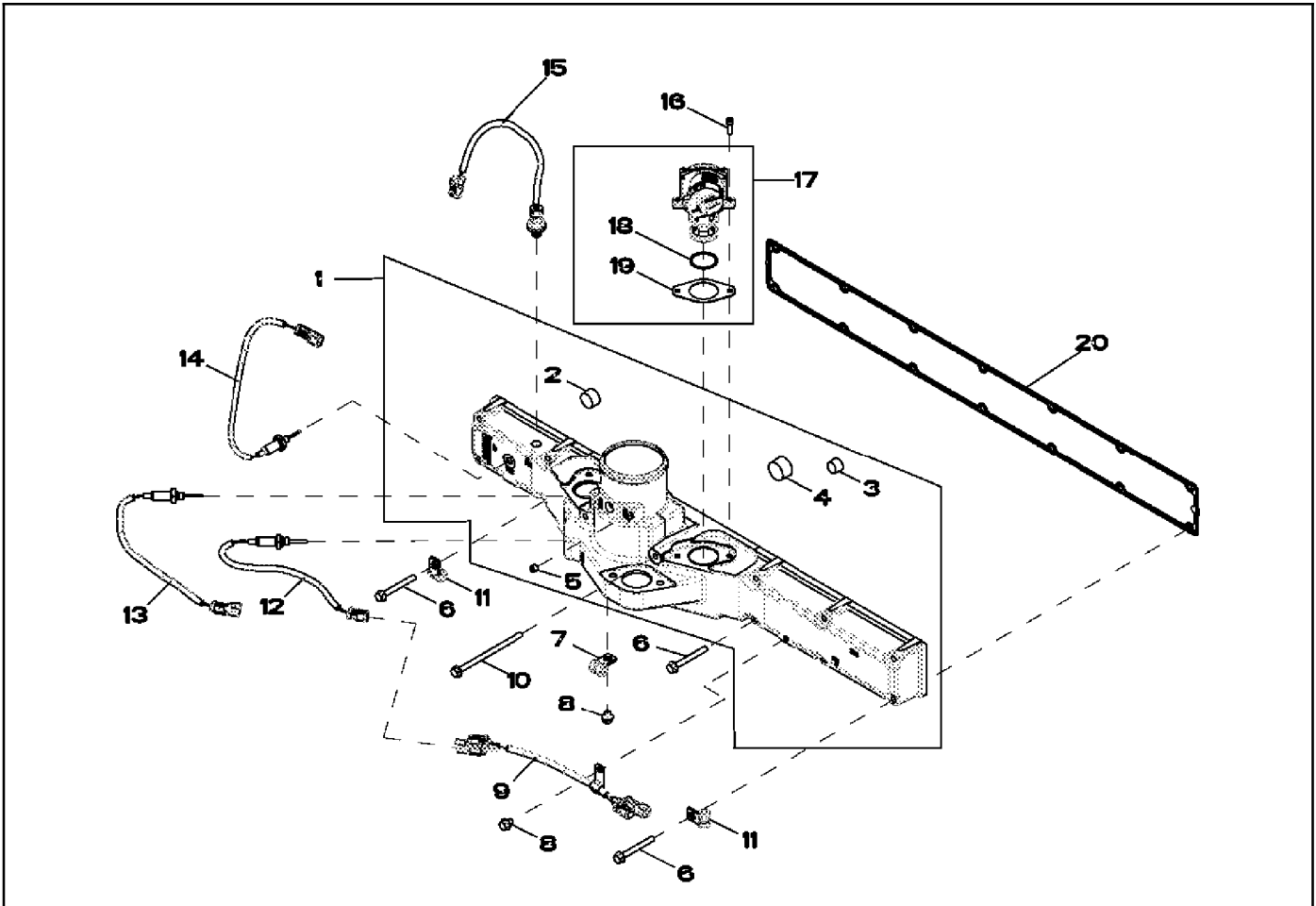
Group Title												
	<i>Cylinder Block</i>	<i>Timing Gear Cover</i>	<i>Turbocharger & Oil Lines</i>	<i>Starter Motor</i>	<i>Alternator</i>	<i>Alternator Brackets</i>	<i>Cylinder Head Gasket Set</i>	<i>Overhaul Gasket Set</i>	<i>Wiring Harness</i>	<i>Turbo Air Inlet</i>	<i>Exhaust Gas Recirculation</i>	
Group No.	32	34	35	36	37	38	40	41	43	45	47	
	Variation Number											

Spec No.											
350/400 kW (6135HF485)											
GM76156-GA1	4606	7701	6550	3014	3119	6201	9901	9901	8417	5403	8901
GM76156-GA2	4606	7701	6550	3014	3119	6201	9901	9901	8417	5403	8901
GM85455-GA1	4606	7701	6550	3014	3119	6201	9901	9901	8417	5403	8901
GM85455-GA2	4606	7701	6550	3014	3119	6201	9901	9901	8417	5403	8901
350/400 kW (6135HFG84)											
GM85455-GA4	4606	7701	6579	3014	3119	6201	9901	9901	8429	-	-
GM85455-GA5	4606	7701	6579	3014	3119	6201	9901	9901	8429	-	-
500 kW (6135HFG75)											
GM76157-GA2	4606	7701	6562	3014	3119	6201	9901	-	8429	-	8901
GM85455-GA3	4606	7701	6562	3014	3119	6201	9901	-	8429	-	8901

Group Title												
	<i>Electronic Sensors</i>	<i>Oil Pressure Sensor</i>	<i>Lift Straps</i>	<i>Short Block</i>								
Group No.	48	49	50	51								
	Variation Number											

Spec No.											
350/400 kW (6135HF485)											
GM76156-GA1	4422	7601	9811	9901							
GM76156-GA2	4422	7601	9811	9901							
GM85455-GA1	4422	7601	9811	9901							
GM85455-GA2	4422	7601	9811	9901							
350/400 kW (6135HFG84)											
GM85455-GA4	4422	7601	9811	9901							
GM85455-GA5	4422	7601	9811	9901							
500 kW (6135HFG75)											
GM76157-GA2	4422	7601	9811	9901							
GM85455-GA3	4422	7601	9811	9901							

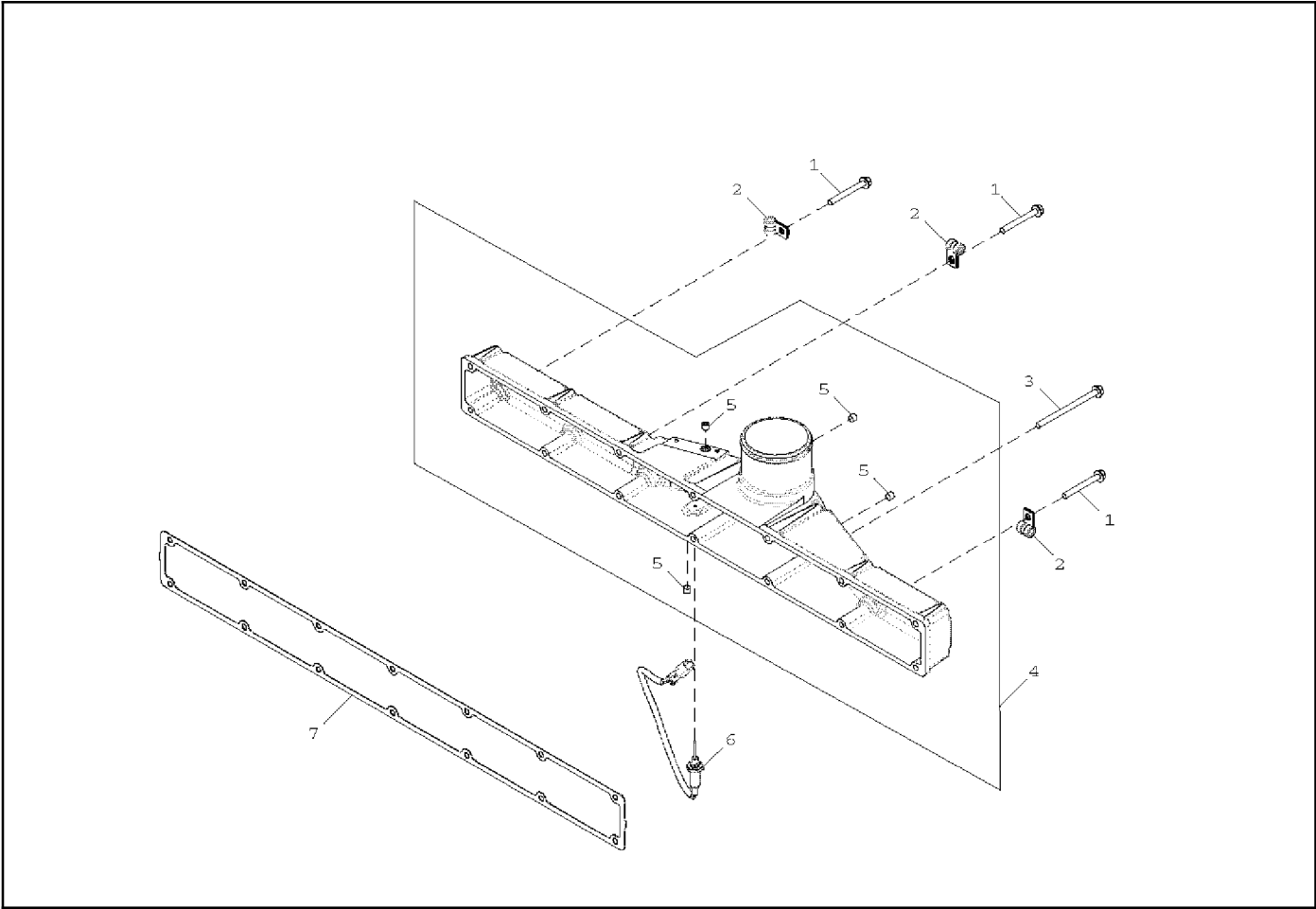
Group 1: Air Intake



Item	Part Number	Description	Qty.
			Variation 1730
1	GM80481	Manifold	1
2	GM53024	Plug, pipe	2
3	#	Pipe Plug	2
4	#	Pipe Plug	1
5	GM18873	Pipe plug	1
6	#	Screw, M8 x 70	10
7	GM80499	Clamp	1
8	GM50033	Cap screw	2
9	GM80415	Wiring Harness	1
10	#	Screw, M8 x 140	4
11	GM50293	Clamp	2
12	GM80418	Sensor	1
13	GM80417	Sensor	1
14	GM80417	Sensor	1
15	GM80419	Manifold Air Press. Sensor	1
16	#	Screw, M6 x 20	4
17	GM80480	Exhaust Gas Recycling Valve	2
18	GM49878	O-ring	2
19	GM49849	Gasket	1
20	GM80342	Gasket	1

Common hardware; procure locally.

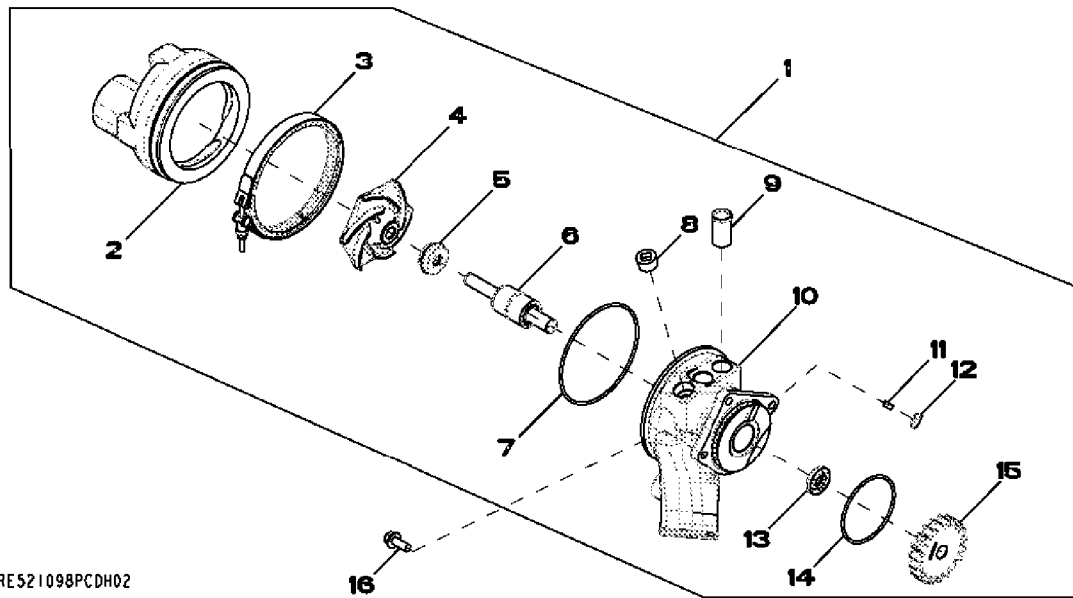
Group 1: Air Intake



Item	Part Number	Description	Qty.
			Variation 1732
1	#	Screw, M8 X 70	10
2	GM50293	Clamp	3
3	#	Screw, M8 X 120	4
4	GM83044	Air Intake	1
5	GM18873	Pipe Plug	4
6	GM80417	Sensor	1
7	GM83045	Gasket	1

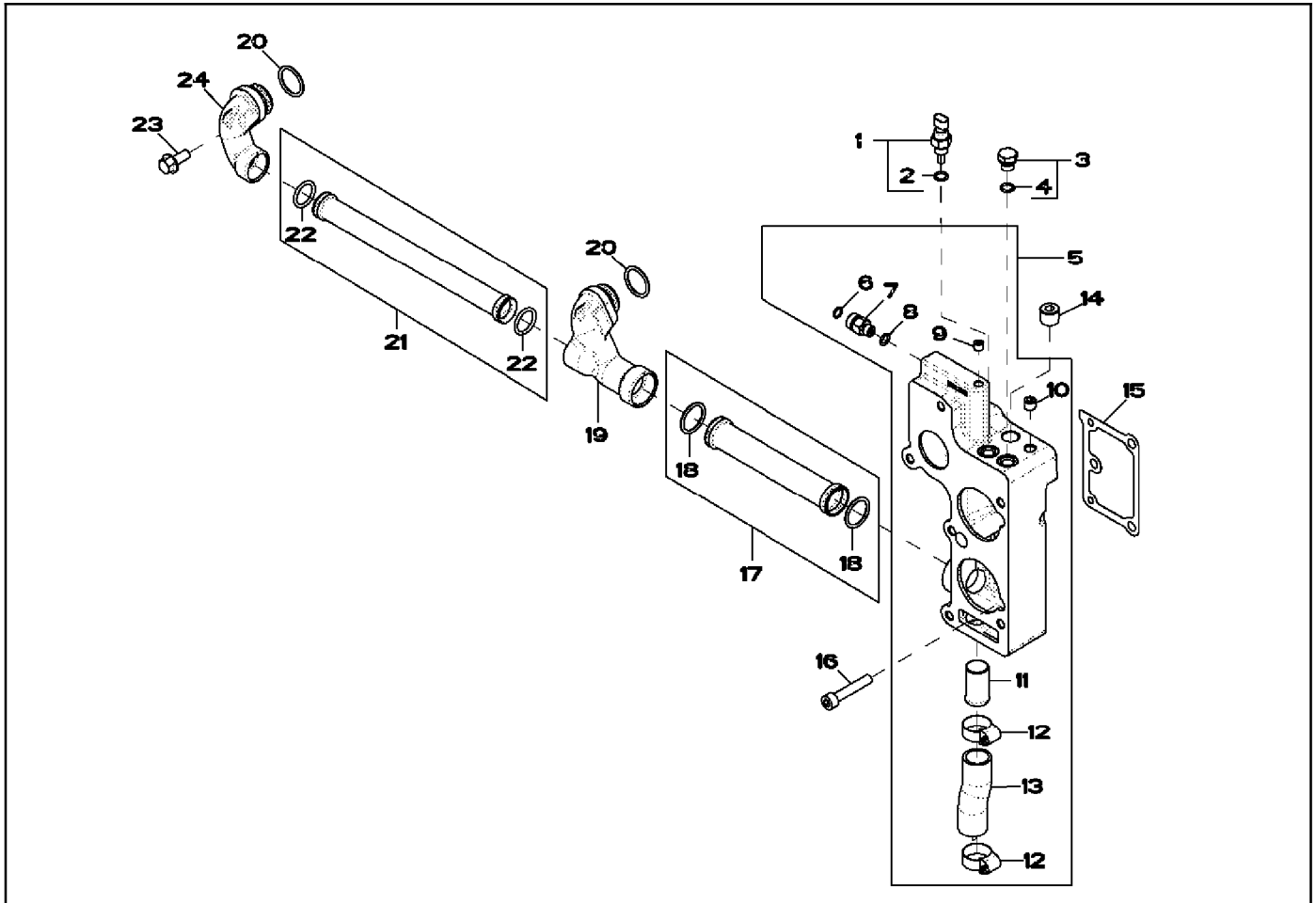
Common hardware; procure locally.

Group 2: Water Pump



Item	Part Number	Description	Qty.
			Variation 2007
1	GM80483	Water Pump	1
2	-	Housing (order pump assy.)	1
3	GM80263	Clamp	1
4	-	Impeller (not sold separately)	1
5	-	Seal (not sold separately)	1
6	-	Bearing (not sold separately)	1
7	GM80238	O-Ring	1
8	GM53024	Plug, pipe	2
9	GM80370	Tube	2
10	-	Water Pump Connection (not sold separately)	1
11	GM17443	Filter	1
12	-	Plug (not sold separately)	1
13	-	Seal (not sold separately)	1
14	GM80369	O-Ring	1
15	-	Gear (not sold separately)	1
16	GM80243	Screw	3

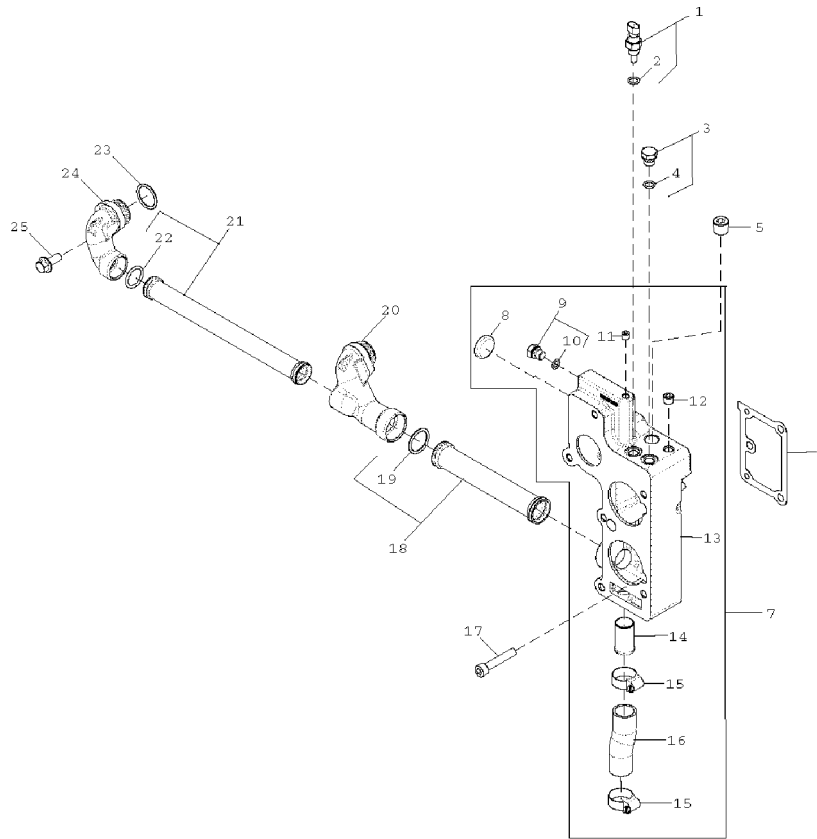
Group 3: Thermostat Housing



Item	Part Number	Description	Qty.
			Variation 3906
1	GM50195	Sensor	1
2	GM21508	O-ring	1
3	360013	Plug	1
4	GM21508	O-ring	1
5	GM80421	Housing	1
6	360555	O-ring	1
7	GM49819	Fitting, adapter	1
8	360178	O-ring	1
9	GM18873	Pipe plug	2
10	#	Pipe Plug	1
11	GM80370	Tube	1
12	336705	Clamp, Hose	2
13	GM80336	Hose	1
14	GM18862	Pipe plug, 1/2"	1
15	GM80345	Gasket	1
16	#	Screw, M10 x 55	3
17	GM49935	Tube	1
18	GM46594	O-ring	2
19	GM80333	Coolant Manifold	1
20	GM46594	O-ring	2
21	GM80420	Tube	1
22	GM80232	O-Ring	2
23	#	Screw, M10 x 25	2
24	GM80334	Manifold	1

Common hardware; procure locally.

Group 3: Thermostat Housing, continued

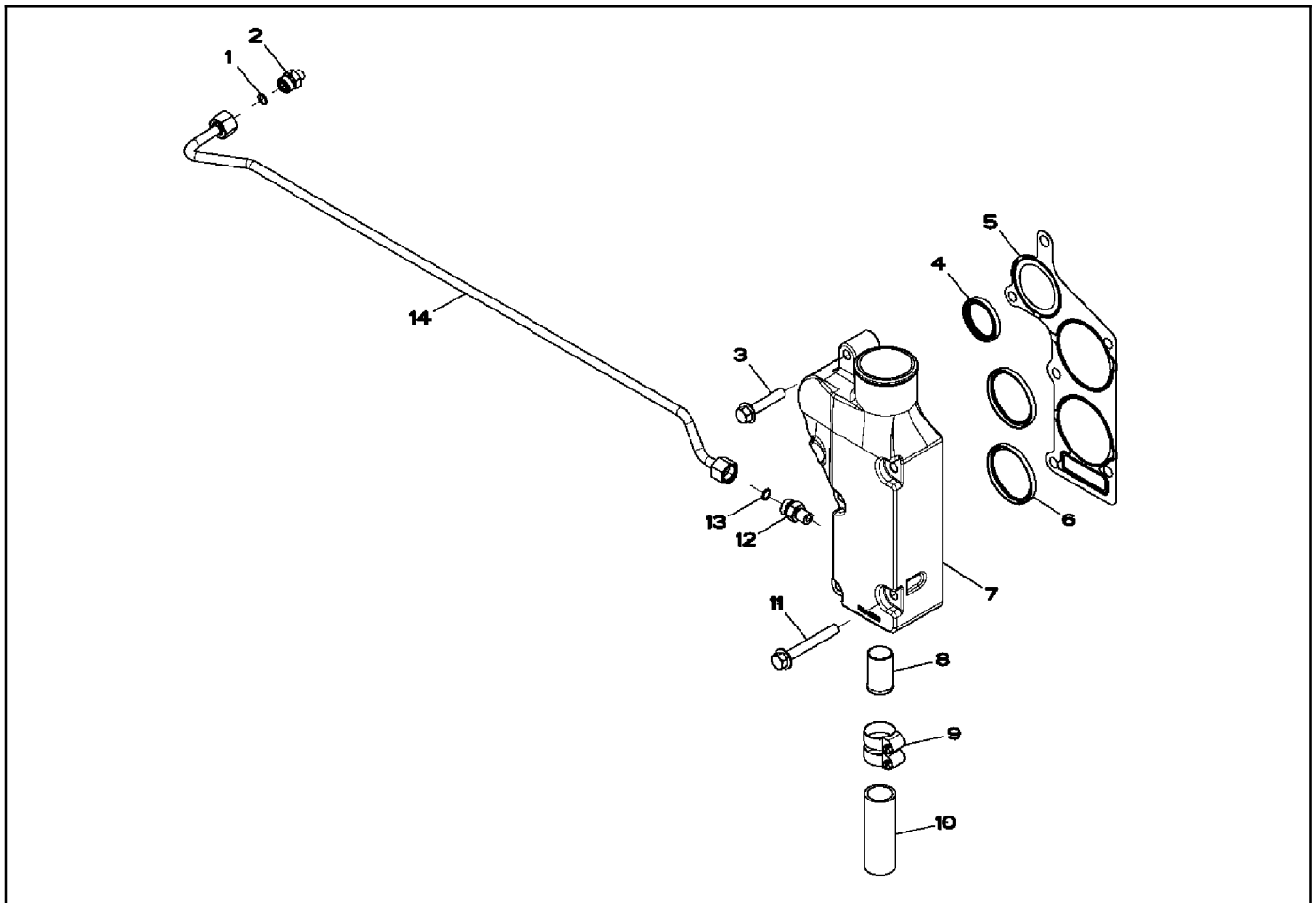


3907_RE502116_PCD

Item	Part Number	Description	Qty.
			Variation 3907
1	GM50195	Sensor	1
2	GM21508	O-Ring, 11.300 X 2.200 MM	1
3	360013	Fitting Plug	1
4	GM21508	O-Ring, 11.300 X 2.200 MM	1
5	GM18862	Pipe plug, 1/2"	1
6	GM80345	Gasket	1
7	GM83049	Housing	1
8	360093	Plug	1
9	360015	Fitting Plug	1
10	360178	O-Ring, 9.300 X 2.200 MM	1
11	GM18873	Pipe Plug	2
12	#	Pipe Plug, 1/4"	1
13	GM83050	Housing	1
14	GM80370	Tube	1
15	336705	Clamp	1
16	GM80336	Hose	1
17	#	Screw, M10 X 55	3
18	GM49935	Tube	1
19	GM46594	O-Ring	2
20	GM80333	Coolant Manifold	1
21	GM80420	Tube	1
22	GM80232	O-Ring	2
23	GM46594	O-Ring	2
24	GM80334	Manifold	1
25	#	Screw, M10 X 25	2

Common hardware; procure locally.

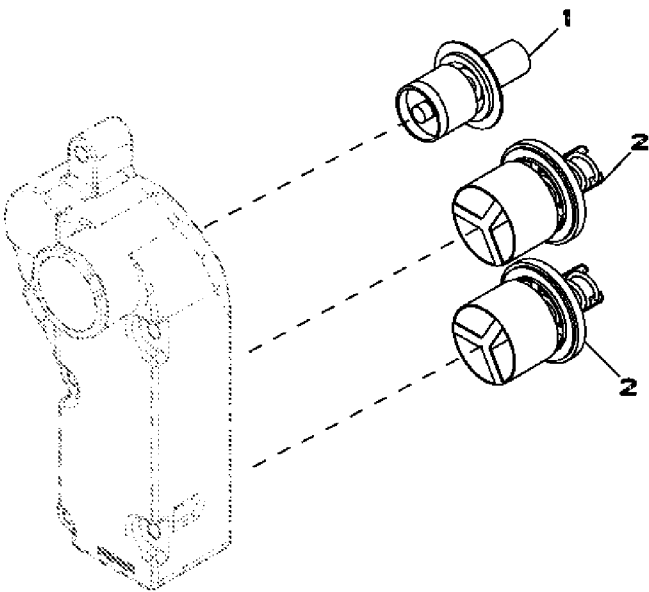
Group 4: Thermostat Cover



Item	Part Number	Description	Qty.
			Variation 2106
1	360555	O-ring	1
2	GM80241	Adapter Fitting	1
3	#	Screw, M10 x 50	2
4	GM80426	Seal	1
5	GM80350	Gasket	1
6	GM80425	Seal	2
7	GM80422	Housing	1
8	GM80370	Tube	1
9	GM18881	Clamp	2
10	GM80330	Hose	1
11	#	Screw	4
12	360006	Adapter	1
13	360555	O-ring	1
14	GM80427	Line	1

Common hardware; procure locally.

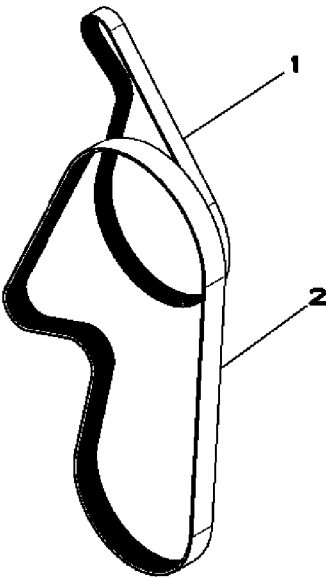
Group 5: Thermostat



RE 526646PCDA02

Item	Part Number	Description	Qty.
			Variation 2202
1	GM80423	Thermostat	1
2	GM80424	Thermostat	2

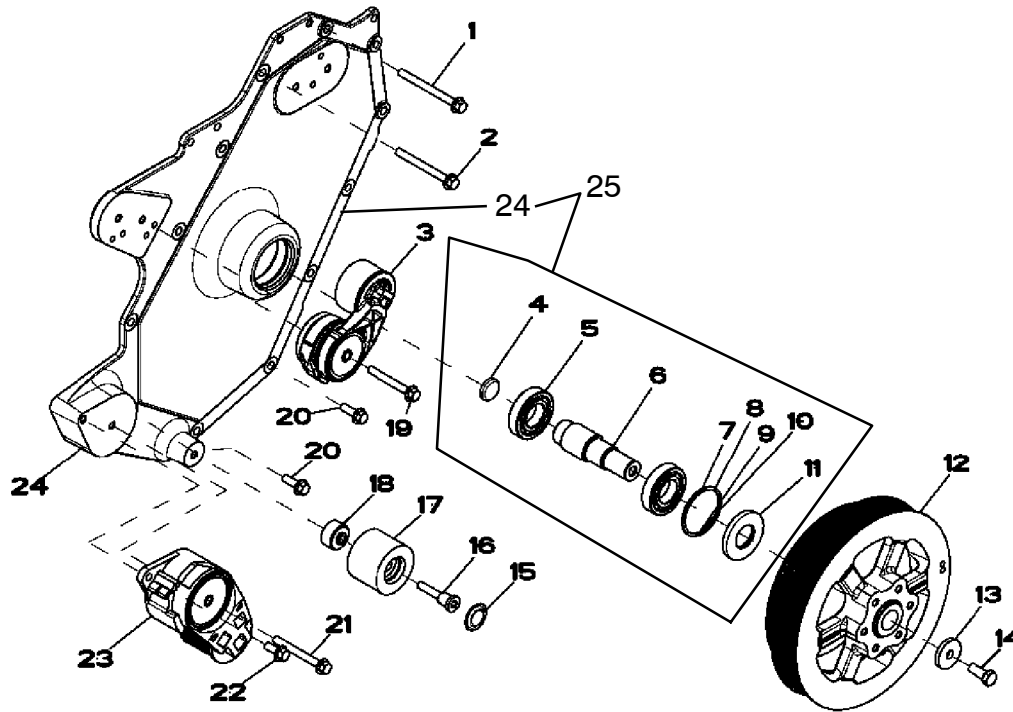
Group 6: Fan Belt



RG26356PCDA01

Item	Part Number	Description	Qty.
			Variation 2421
1	GM80275	V-Belt (1159 MM)	1
2	GM80277	V-Belt (1922 MM)	1

Group 7: Fan Drive

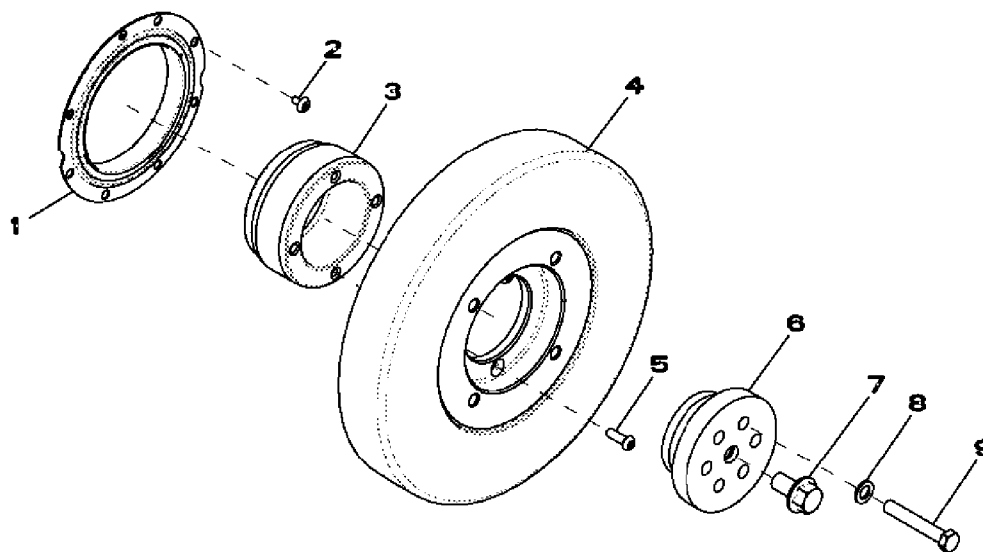


RG32844PCDA01

Item	Part Number	Description	Qty.
			Variation 234G
1	#	Screw, M12 x 110	1
2	GM70547	Screw	6
3	GM80385	Belt Tensioner	1
4	360093	Plug	1
5	GM80244	Ball Bearing	2
6	GM80378	Shaft	1
7	GM80373	Snap Ring (red)	1
8	GM80376	Snap Ring (white)	1
9	GM80374	Snap Ring (green)	1
10	GM80375	Snap Ring (blue)	1
11	GM80386	Seal	1
12	GM80272	Pulley	1
13	GM80495	Washer	1
14	336753	Screw, hex head	1
15	GM80382	Cover	1
16	GM80269	Screw	1
17	GM80388	Idler	1
18	GM23835	Spacer	1
19	M931-10080-82	Screw, hex cap M10 x 80mm	1
20	M933-10030-82	Screw, hex cap M10 x 30mm	2
21	#	Screw, M10 x 90	1
22	#	Screw, M10 x 25	1
23	GM80384	Tightener	1
24	GM80302	Cover	1
25	GM83046	Housing (includes items 4-11, 24)	1

Common hardware; procure locally.

Group 8: Crankshaft Damper

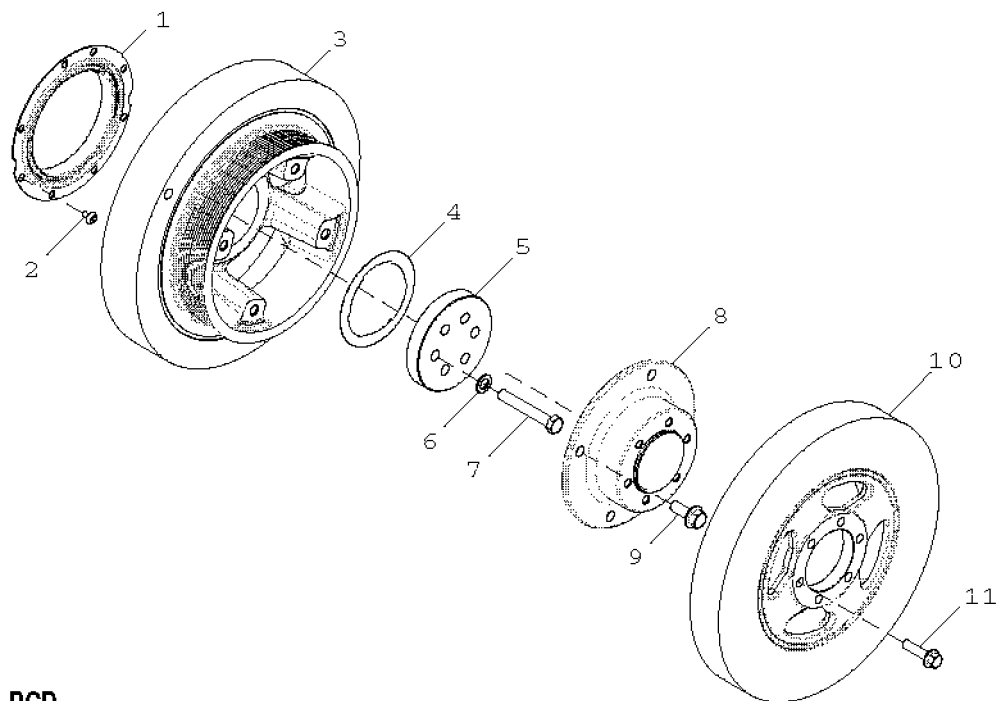


RE531491PCDE02

Item	Part Number	Description	Qty.
			Variation 6802
1	GM80484	Seal	1
2	GM77151	Screw	8
3	GM83067	Hub	1
4	GM80393	Torsional Damper	1
5	GM83068	Torx Head Bolt, M8 x125 x 25	2
6	GM80262	Hub	1
7	#	Screw, M16 x 30	1
8	224089	Washer	6
9	#	Cap Screw, M12 x 75	6

Common hardware; procure locally.

Group 8: Crankshaft Damper, continued

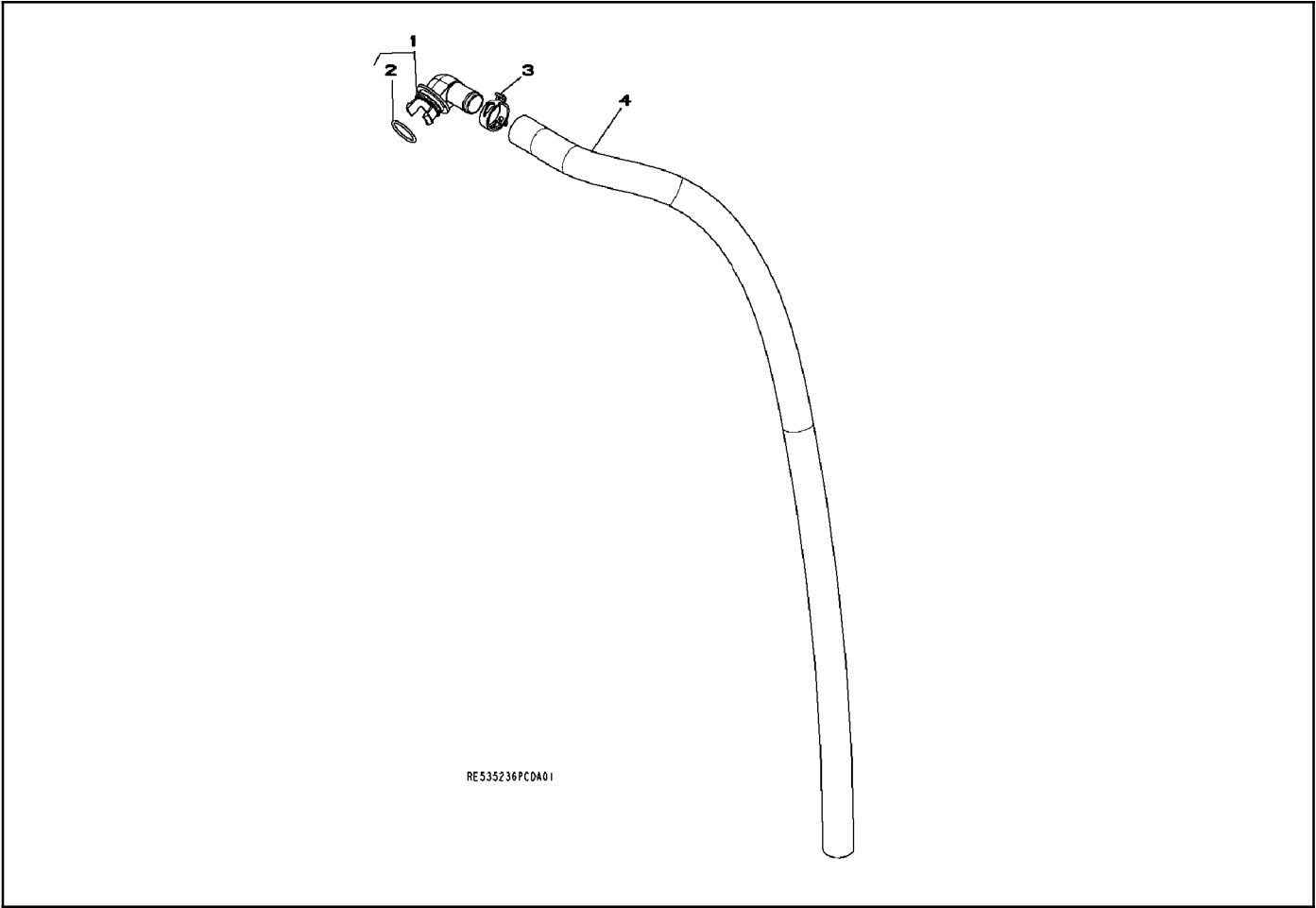


6814_RE548706_PCD

Item	Part Number	Description	Qty.
			Variation 6814
1	GM80484	Seal	1
2	GM77151	Screw	8
3	GM83061	Torsional Damper	1
4	GM83062	Shim	1
5	GM83063	Spacer	1
6	224089	Washer	6
7	-	Cap Screw	6
8	GM83064	Adapter	1
9	#	Screw, M12 X 30	4
10	GM50231	Torsional Damper	1
11	#	Screw	6

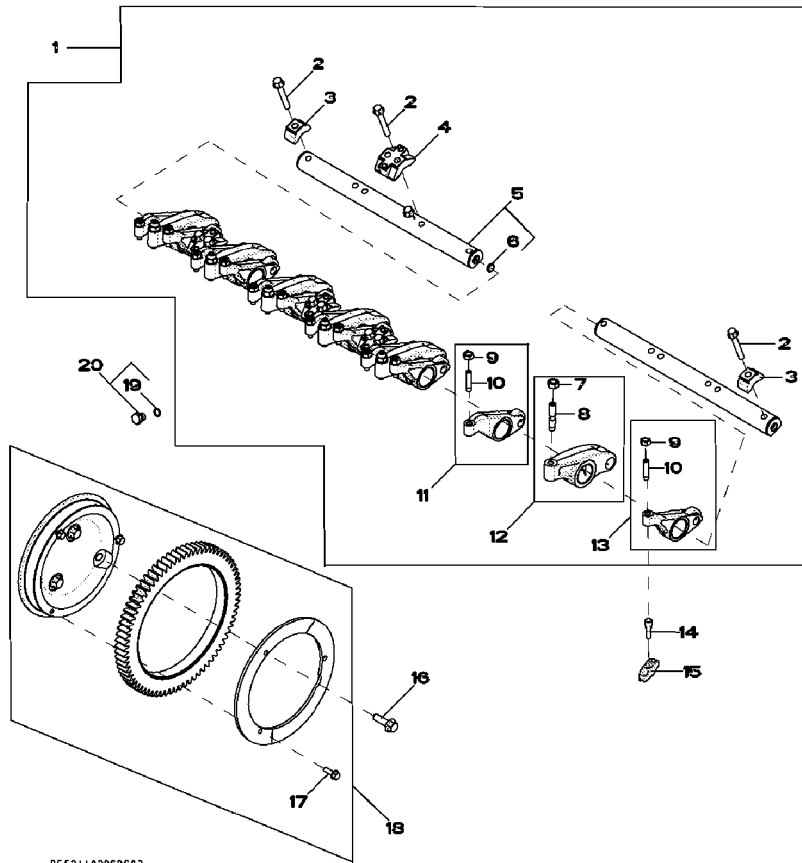
Common hardware; procure locally.

Group 10: Vent Tube



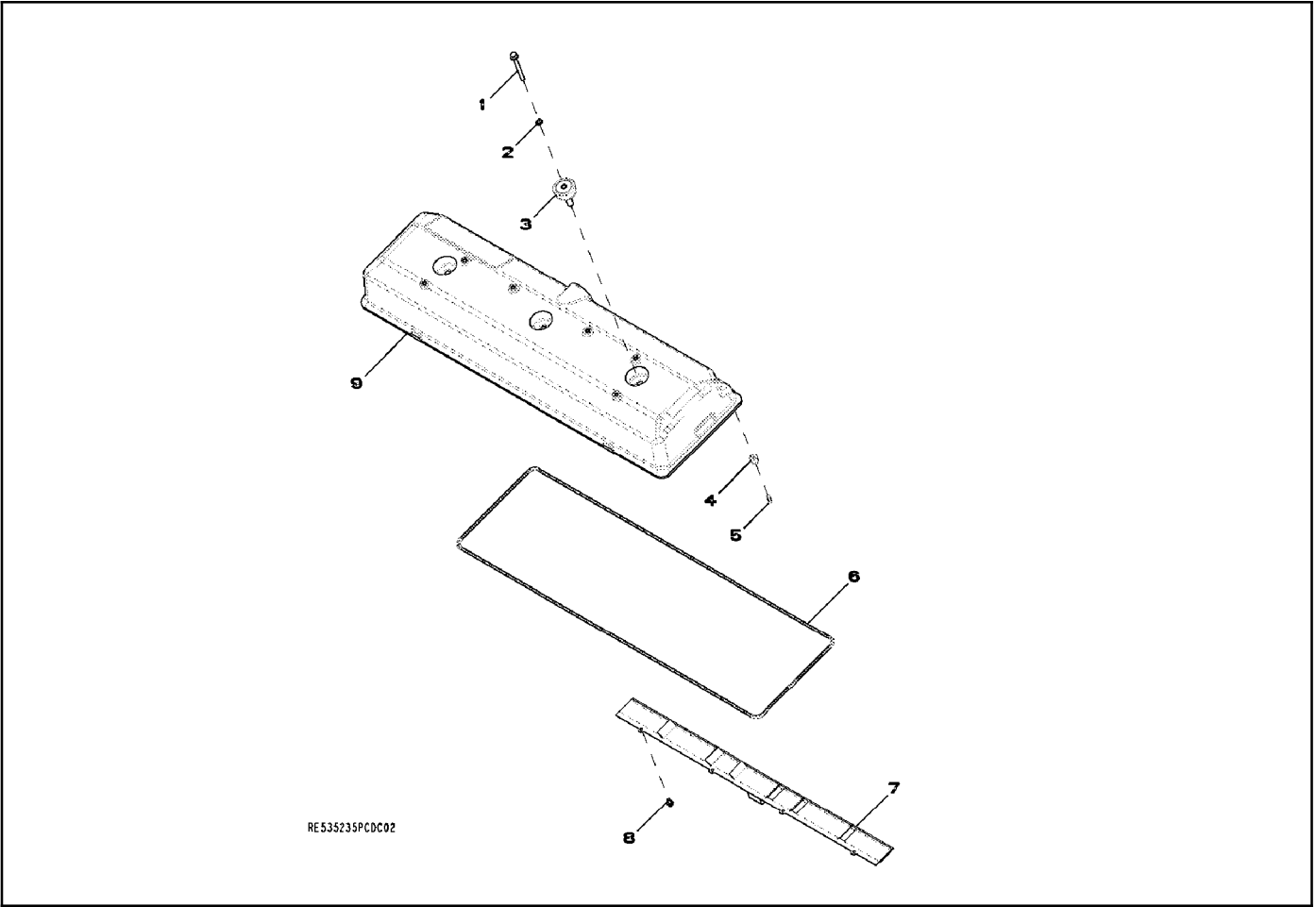
Item	Part Number	Description	Qty.
			Variation 2908
1	GM50285	Fitting, elbow	1
2	360170	O-ring	1
3	GM79815	Clamp	1
4	GM79814	Hose	1

Group 12: Valve Mechanism, Rocker Arm



Item	Part Number	Description	Qty.
			Variation 4903
1	GM80474	Rocker Arm	1
2	GM80282	Screw	12
3	GM80297	Clamp	2
4	GM80298	Clamp	5
5	GM80397	Rocker Arm Shaft	2
6	GM80221	Plug	2
7	GM80270	Nut	6
8	GM80249	Screw	6
9	GM80287	Nut	12
10	GM80252	Screw	12
11	GM80395	Rocker Arm (Exhaust)	6
12	GM80391	Rocker Arm (Injector)	6
13	GM80396	Rocker Arm (Intake)	6

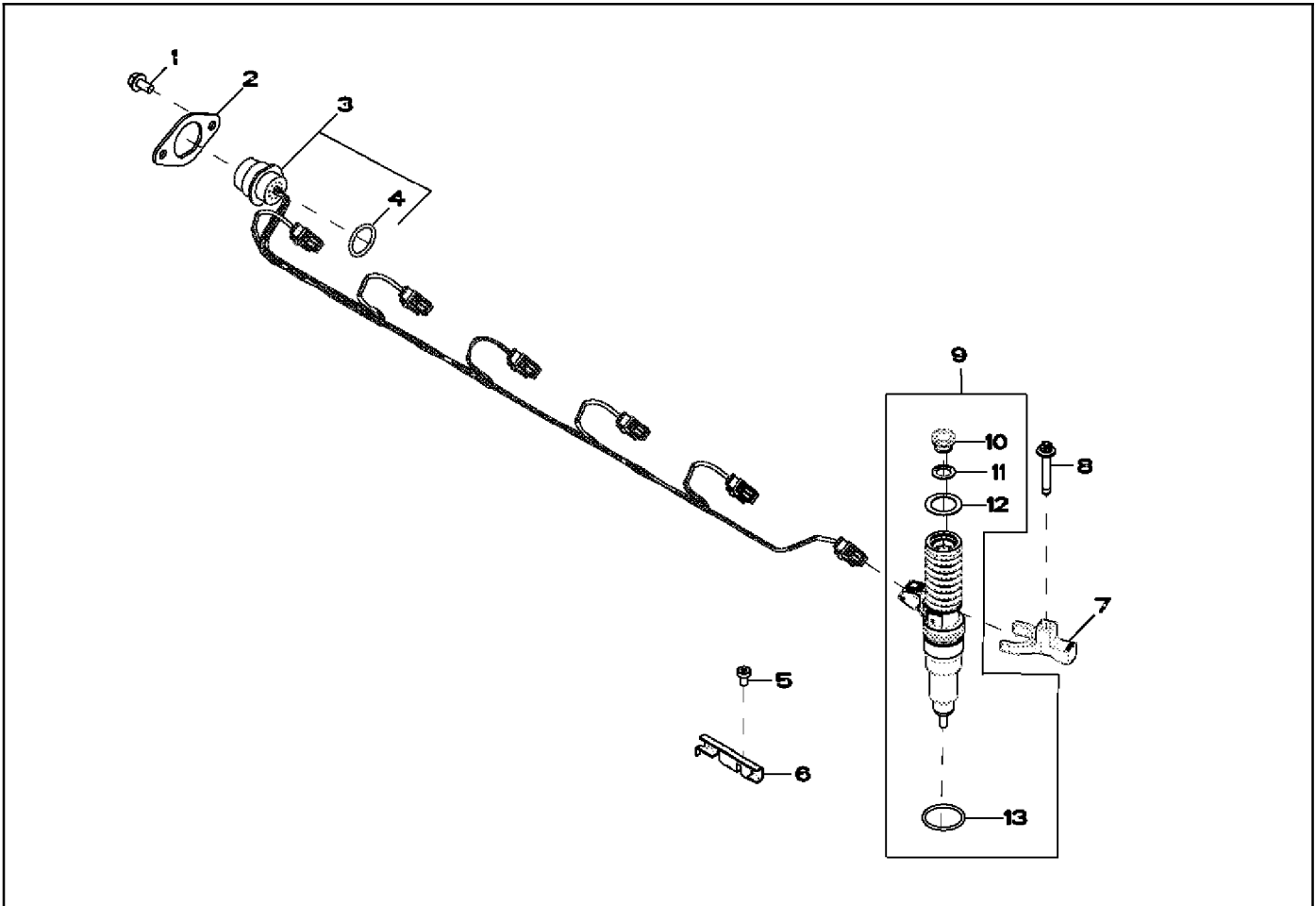
Group 13: Rocker Arm Cover



Item	Part Number	Description	Qty.
			Variation 1104
1	#	Screw, M8 x 80	3
2	GM80349	Sealing Washer	3
3	GM80492	Isolator	3
4	GM80295	Grommet	2
5	GM80253	Needle Roller	2
6	GM80329	Gasket	1
7	GM80457	Panel	1
8	GM50057	Screw	4
9	GM80343	Valve Cover	1

Common hardware; procure locally.

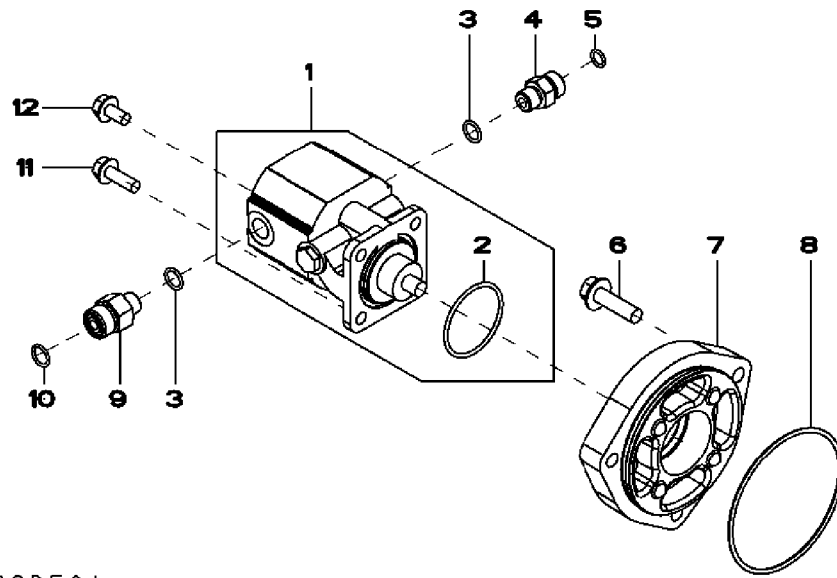
Group 14: Fuel Injection System



Item	Part Number	Description	Qty.
			Variation 1676
1	#	Screw, M8 x 16	2
2	GM80266	Bracket	1
3	GM80471	Wiring Harness	1
4	224028	O-ring	1
5	GM80414	Socket Head Screw	5
6	GM80320	Clip	5
7	GM80306	Clamp	6
8	GM80359	Screw	6
9	GM80467	Electronic Unit Injector	6
10	GM80300	Socket	1
11	GM80346	Pad	1
12	GM80301	Snap Ring	1
13	GM80274	Packing	1

Common hardware; procure locally.

Group 15: Fuel Transfer Pump

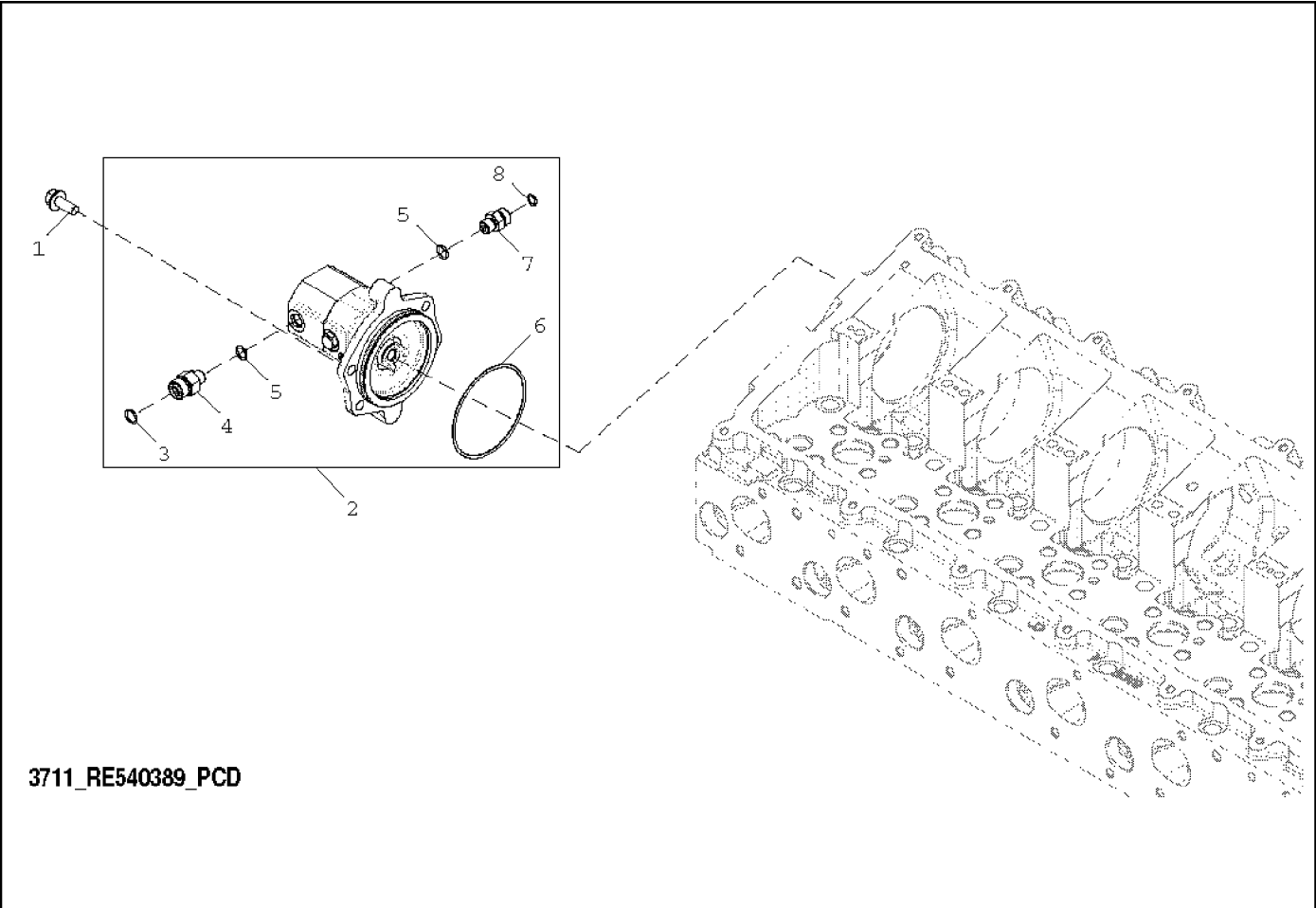


RG26717PCDE01

Item	Part Number	Description	Qty.
			Variation 3701
1	GM80465	Fuel Pump	1
2	GM80496	O-Ring	1
3	GM80497	O-Ring	2
4	GM67272	Adapter fitting	1
5	360555	O-ring	1
6	M933-10035-82	Screw, hex cap M10 x 35mm	3
7	GM80258	Bracket	1
8	GM80293	O-Ring	1
9	GM80224	Adapter Fitting	1
10	GM80494	O-Ring	1
11	#	Screw, M8 x 25	2
12	#	Screw, M8 x 16	2

Common hardware; procure locally.

Group 15: Fuel Transfer Pump, continued

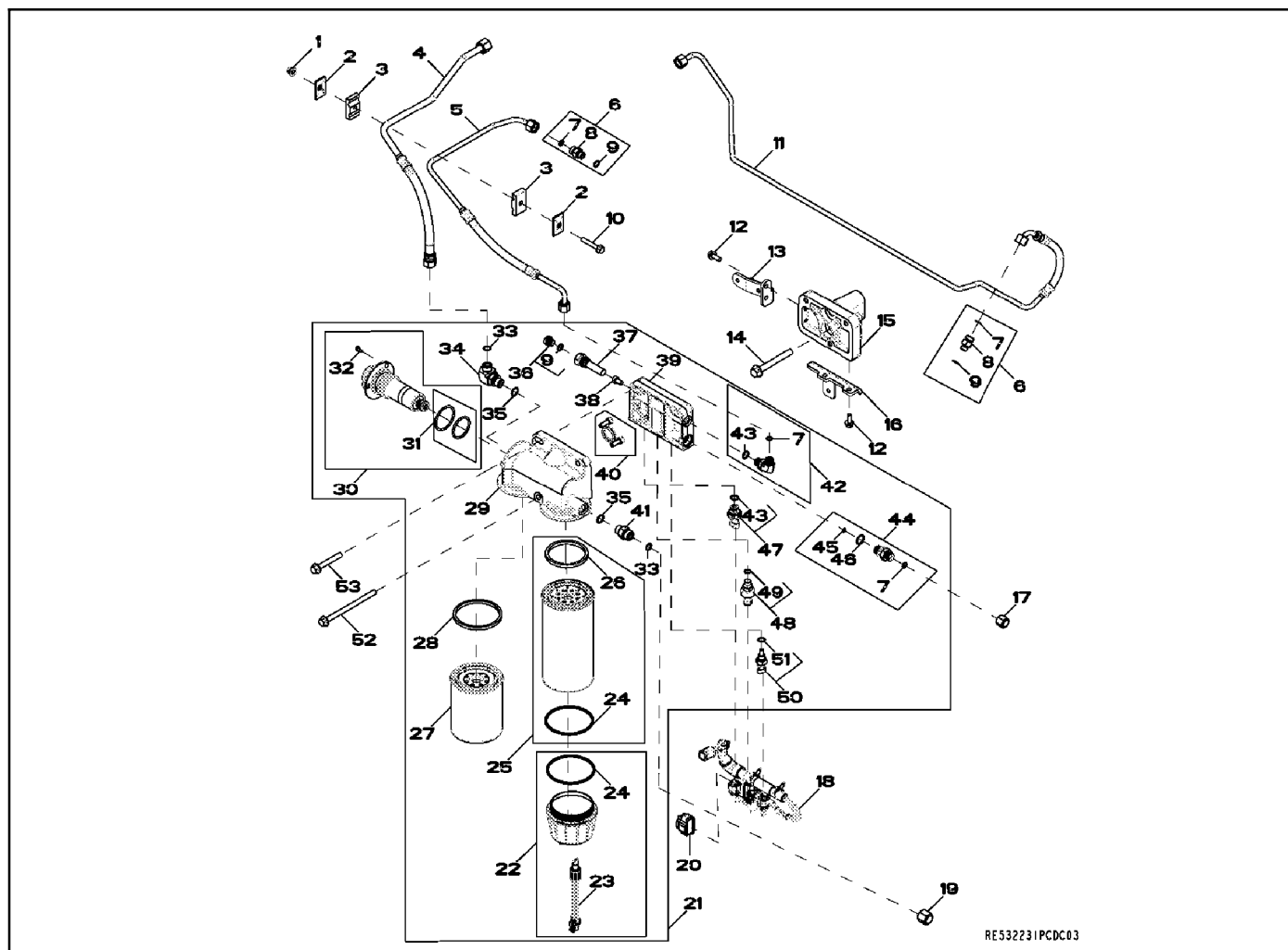


3711_RE540389_PCD

Item	Part Number	Description	Qty.
			Variation 3711
1	#	Screw, M10 X 25	4
2	GM83055	Fuel Pump	1
3	GM80494	O-Ring	1
4	GM83056	Adapter Fitting	1
5	GM80497	O-Ring	2
6	GM80293	O-Ring	1
7	GM83057	Adapter Fitting	1
8	360165	O-Ring	1

Common hardware; procure locally.

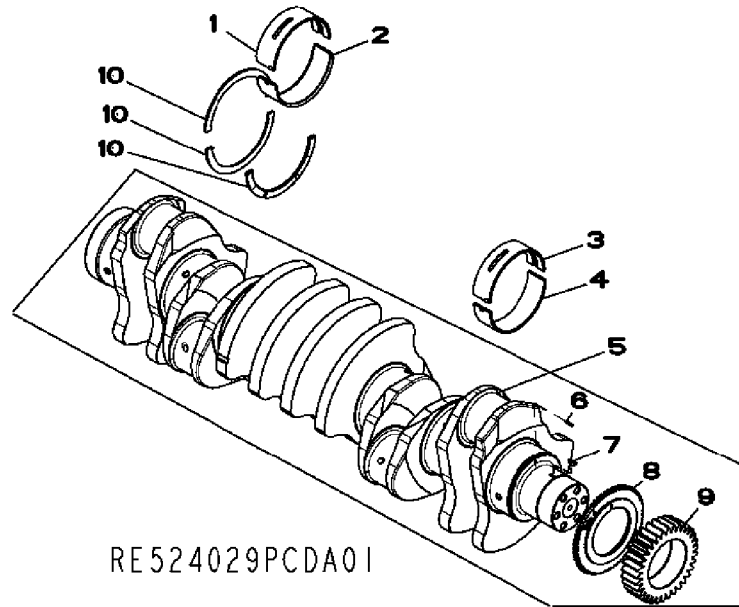
Group 18: Fuel Filter



Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Variation 3525				Variation 3525
1	#	Lock Nut, M8	1	27	GM80469	Filter Element	1
2	GM80240	Plate	2	28	GM80364	Packing	1
3	GM80239	Clamp	2	29	GM80464	Filter Head	1
4	GM80455	Fuel Line	1	30	GM80482	Fuel Pump	1
5	GM80458	Fuel Line	1	31	GM80462	O-Ring	1
6	GM52807	Fitting	2	32	GM80223	Screw	3
7	360165	O-ring	4	33	GM80494	O-Ring	2
8	GM50106	Fitting, adapter	1	34	GM80228	Elbow Fitting	1
9	GM50114	O-ring	3	35	GM80381	O-Ring	2
10	#	Screw, M8 x 50	1	36	GM52830	Drain plug	1
11	GM80488	Fuel Line	1	37	GM80412	Valve	1
12	#	Screw, M8 x 20	4	38	GM80303	Insert	1
13	GM80352	Bracket	1	39	GM80353	Manifold	1
14	#	Screw, M12 x 100	2	40	GM80466	Manifold Kit	1
15	GM80354	Bracket	1	41	GM80227	Adapter Fitting	1
16	GM80355	Bracket	1	42	GM52838	Adapter	1
17	GM80225	Fitting	1	43	GM50115	O-ring	2
18	GM80472	Wiring Harness	1	44	GM80468	Check Valve	1
19	GM80226	Fitting	1	45	223858	O-ring	1
20	#	Electrical Connector Assy	1	46	GM80367	O-Ring	1
21	GM80487	Fuel Filter	1	47	GM80461	Pressure Sensor	1
22	GM80459	Sediment Bowl	1	48	GM80383	Pressure Sensor	1
23	GM80429	Sensor	1	49	GM18757	O-ring	1
24	GM80357	Packing	2	50	GM50195	Sensor	1
25	GM80460	Filter Element	1	51	GM21508	O-ring	1
26	GM80365	Packing	1	52	#	Screw, M10 x 150	1
				53	#	Screw, M10 x 70	2

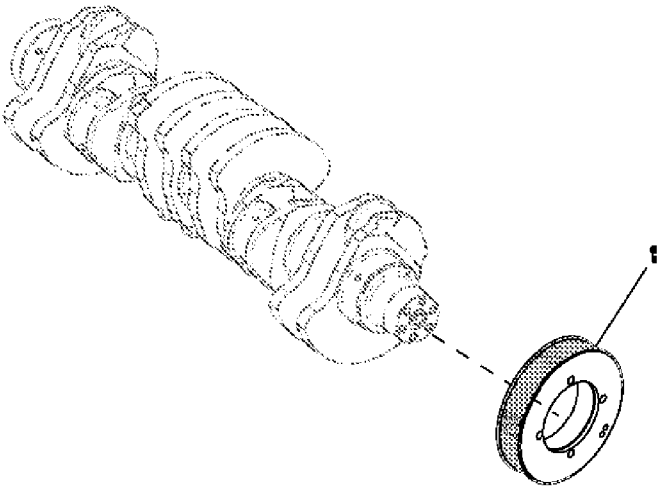
Common hardware; procure locally.

Group 19: Crankshaft



Item	Part Number	Description	Qty.
			Variation 4702
1	GM80439	Bearing Kit, Main Thrust	1
2	-	Bearing	1
3	GM80438	Bearing Kit, Main	6
4	-	Bearing	6
5	GM80402	Crankshaft	1
6	GM80222	Spring Pin	1
7	360503	Shaft key	1
8	GM80265	Wheel Speed Sensor	1
9	GM80318	Gear	1
10	GM80446	Washer Kit, Thrust (Std.)	1
10	GM80452	Thrust Washer US 0.180 MM (.007)	1

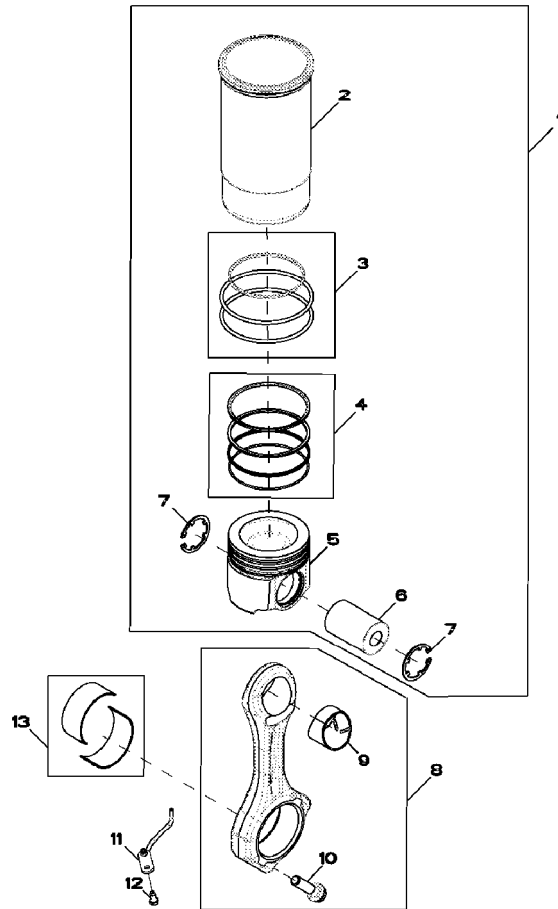
Group 20: Crankshaft Pulley



RE535091PCDA01

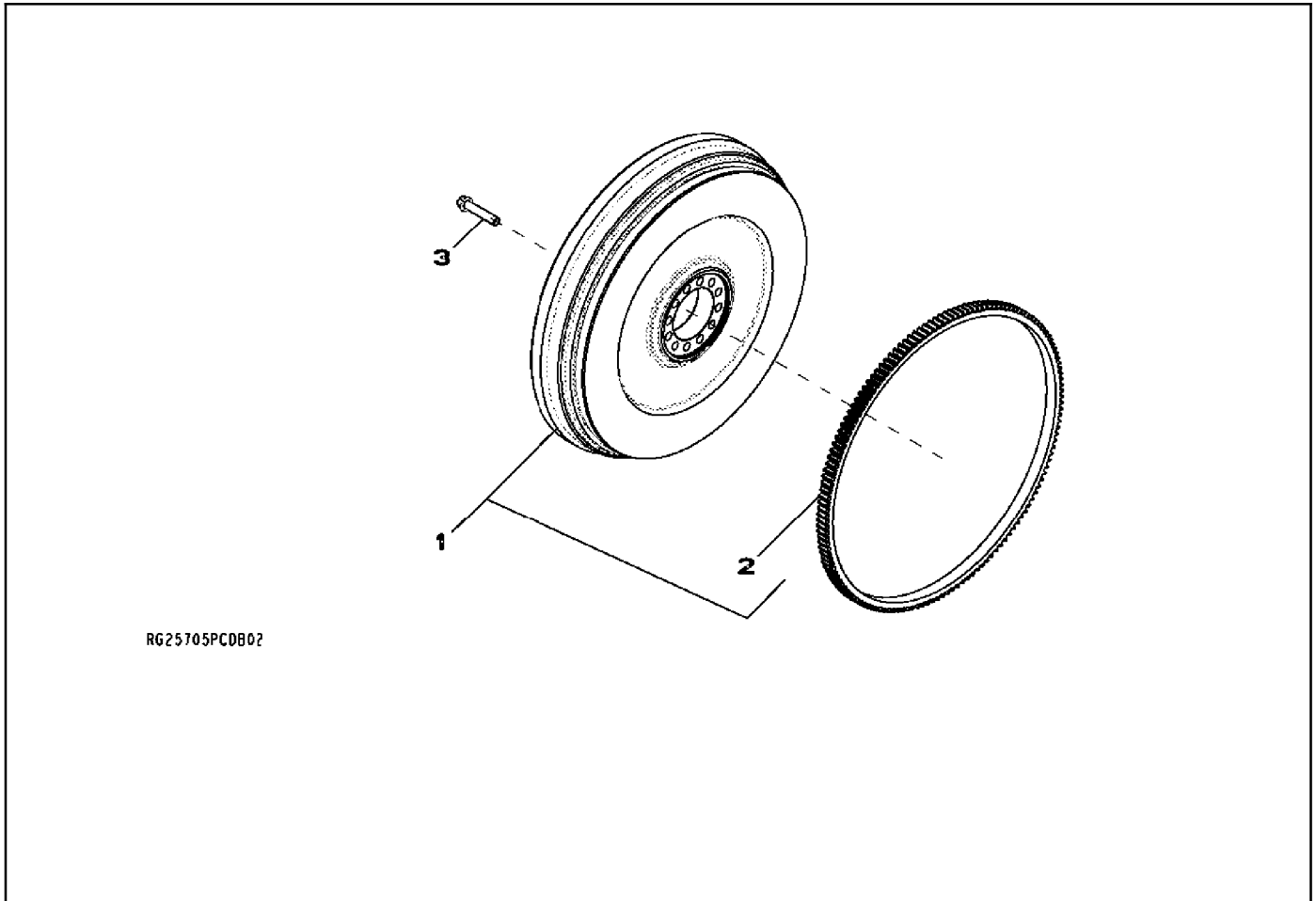
Item	Part Number	Description	Qty.	
			Variation	
			1341	1398
1	GM80308	Pulley	1	
1	-	Pulley (See Group 8)		1

Group 21: Piston & Connecting Rod



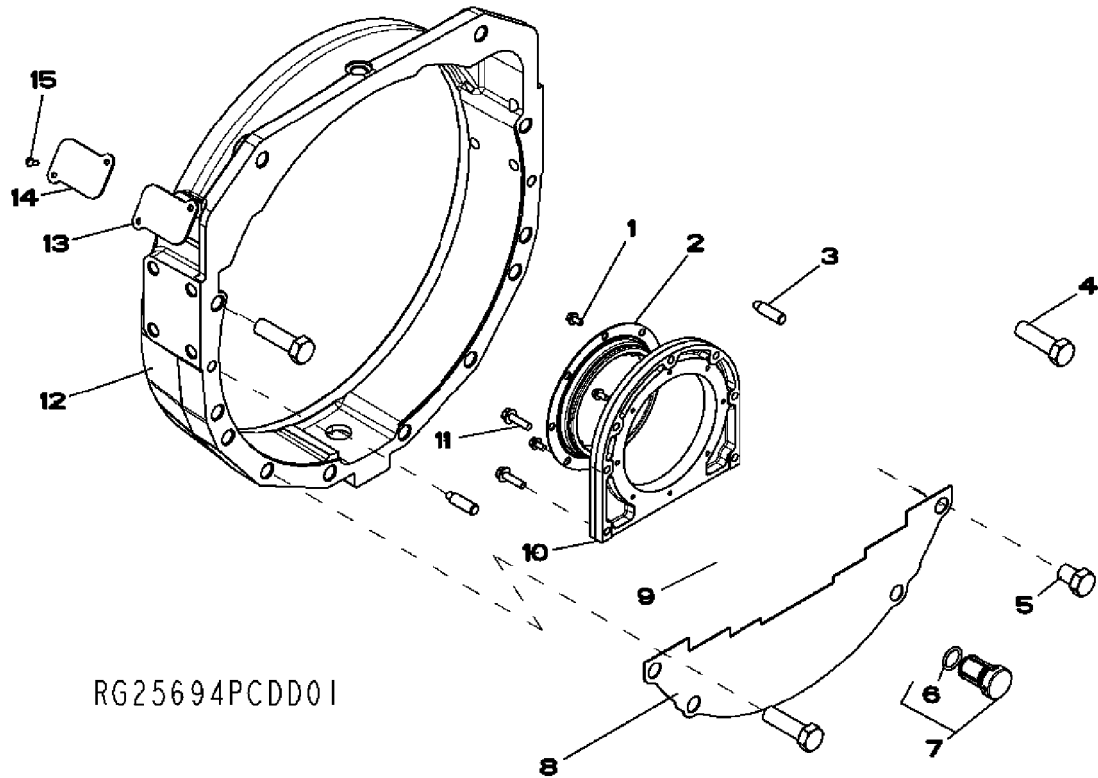
Item	Part Number	Description	Qty.
			Variation 4803
1	GM80441	Piston-Liner Kit	6
2	-	Cylinder Liner (Order Piston-Liner Kit)	1
3	GM80235	O-Ring Kit	1
4	GM80436	Piston Ring Kit	1
5	-	Piston (Order Piston-Liner Kit)	1
6	GM80310	Piston Pin	1
7	GM80230	Snap Ring	2
8	GM80394	Connecting Rod	6
9	-	Bushing (Order Connecting Rod)	1
10	GM80296	Cap Screw	2
11	GM80433	Nozzle	6
12	GM80435	Self-Locking Screw	6
13	GM80440	Bearing Kit, Connecting Rod	6
13	GM80450	Bearing Kit, Conn Rod 0.25 MM US	6
13	GM80451	Bearing Kit, Conn Rod 0.50 MM US	6

Group 22: Flywheel



Item	Part Number	Description	Qty.
			Variation 1506
1	GM80479	Flywheel	1
2	GM80380	Gear	1
3	GM80255	Cap Screw	12

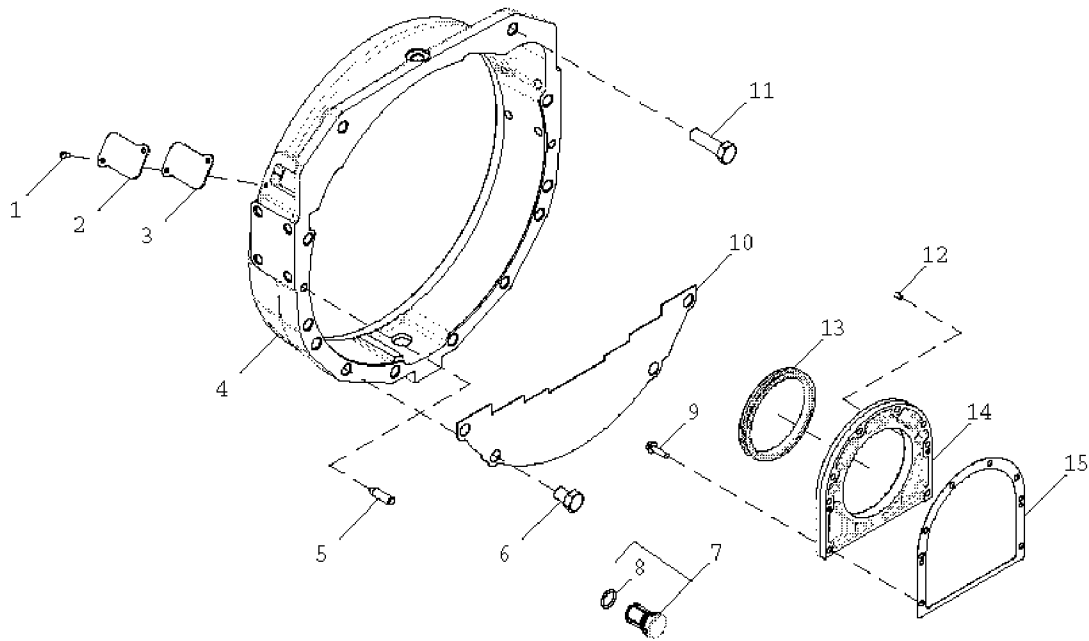
Group 23: Flywheeling Housing



Item	Part Number	Description	Qty.
			Variation 1401
1	GM80268	Screw	8
2	GM80478	Seal	1
3	352707	Dowel Pin	2
4	#	Cap Screw	6
5	#	Cap Screw	4
6	223747	O-ring	1
7	223683	Plug	1
8	GM80273	Cover	1
9	GM80323	Gasket	1
10	GM80250	Housing	1
11	#	Screw, M8 x 30	7
12	GM80264	Housing (SAE 1)	1
13	GM52593	Gasket	1
14	GM80317	Cover	1
15	GM80220	Screw	2

Common hardware; procure locally.

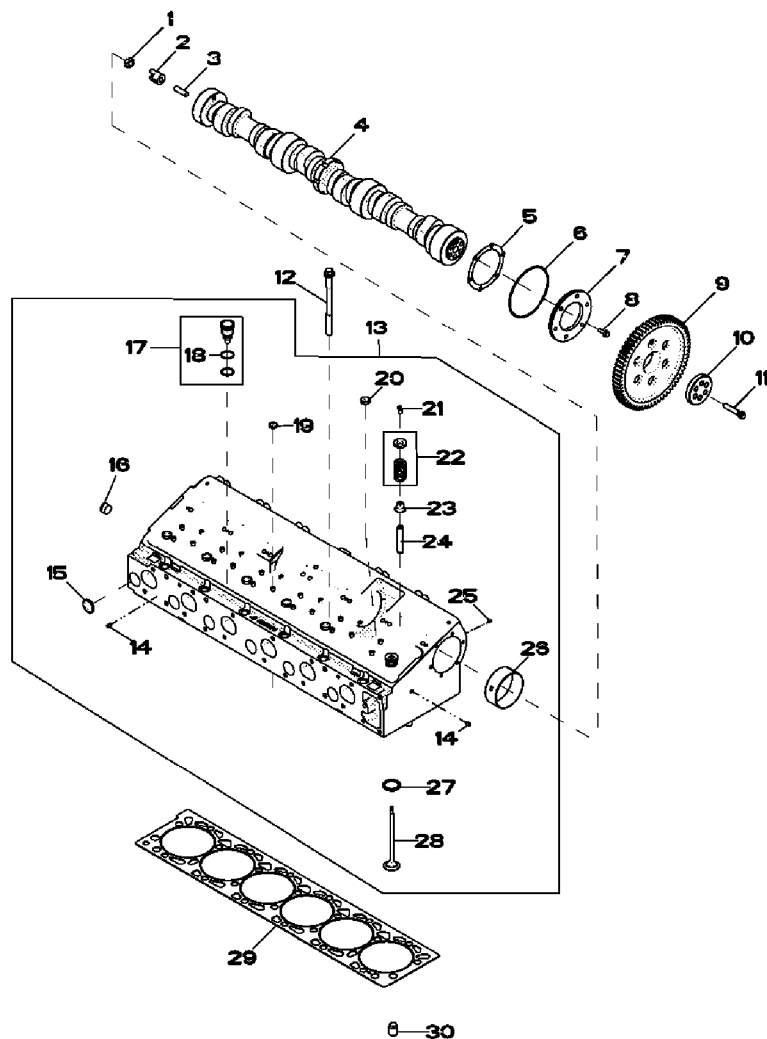
Group 23: Flywheeling Housing



Item	Part Number	Description	Qty.
			Variation 1414
1	GM80220	Screw, 0.216 X 1/2"	2
2	GM80317	Cover	1
3	GM52593	Gasket	1
4	GM80264	Housing	1
5	352707	Dowel Pin	2
6	#	Cap Screw, 3/4 X 1"	4
7	223683	Plug	1
8	223747	O-Ring	1
9	#	Screw, M8 X 30	8
10	GM80273	Cover	1
11	#	Cap Screw, 3/4 X 2-1/2"	6
12	223731	Dowel Pin	2
13	GM79799	Seal	1
14	GM83042	Housing	1
15	GM83043	Gasket	1

Common hardware; procure locally.

Group 24: Cylinder Head & Camshaft

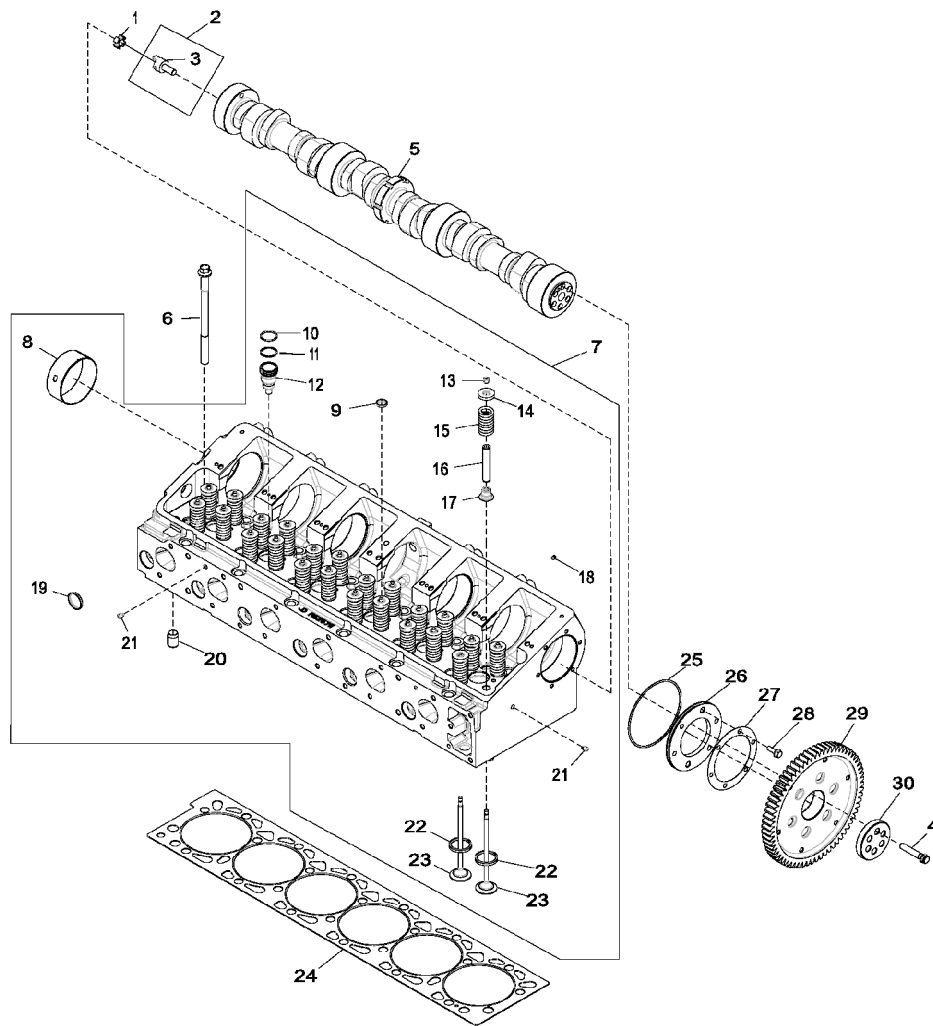


RE521103PCD602

Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Variation 5107				Variation 5107
1	GM80299	Spider	1	16	GM53024	Plug, pipe	1
2	GM80257	Coupling	1	17	GM80449	Sleeve	6
3	GM80256	Shaft	1	18	360170	O-ring	1
4	GM80341	Camshaft	1	19	GM63925	Plug	6
5	GM80290	Gasket	1	20	223409	Plug	6
6	GM80377	O-Ring	1	21	GM50173	Retainer	48
7	GM80260	Ring	1	22	GM80389	Kit, Valve Spring/Rotator	12
8	#	Screw, M8 x 25	6	23	GM80406	Seal	24
9	GM80251	Gear	1	24	GM80309	Guide	24
10	GM80363	Spacer	1	25	352704	Plug	1
11	360081	Cap Screw	6	26	GM80335	Bushing	4
12	GM80445	Kit, Cylinder Head Bolts	1	27	GM80311	Valve Seat Insert	24
13	GM80442	Cylinder Head	1	28	GM80312	Valve	24
14	GM80351	Plug	3	29	GM80400	Engine Cyl. Head Gasket	1
15	GM80245	Plug	5	30	GM80254	Dowel Pin	2

Common hardware; procure locally.

Group 24: Cylinder Head & Camshaft

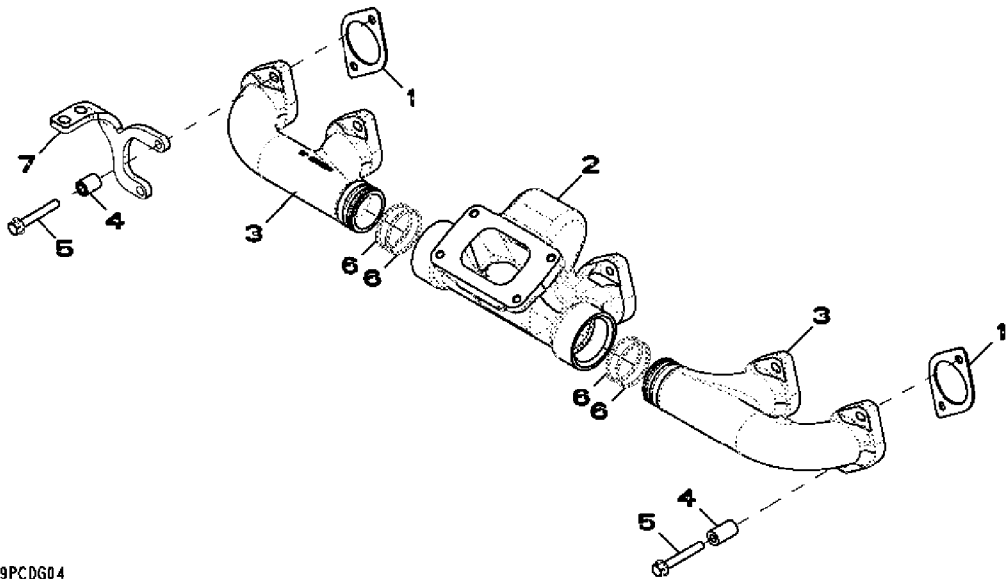


5113_RE559624

Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Variation 5113				Variation 5113
1	GM80299	Spider	1	16	GM80309	Guide	24
2	GM80256	Shaft	1	17	GM80406	Seal	24
3	GM80257	Coupling	1	18	352704	Plug	1
4	360081	Cap Screw	6	19	GM80245	Plug	5
5	GM95166	Camshaft	1	20	GM80254	Dowel Pin	2
6	GM95167	Cap Screw	26	21	GM80351	Plug	3
7	GM95168	Cylinder Head	1	22	GM80311	Valve Seat Insert	24
8	GM95169	Bushing	4	23	GM80312	Valve	24
9	GM63925	Plug	6	24	GM80400	Engine Cyl. Head Gasket	1
10	360170	O-ring	1	25	GM80377	O-Ring	1
11	GM95170	O-ring	1	26	GM80260	Ring	1
12	GM80449	Sleeve	6	27	GM80290	Gasket	1
13	GM50173	Retainer	48	28	#	Screw, M8 x 25	6
14	GM80389	Kit, Valve Spring/Rotator	24	29	GM95172	Gear	1
15	GM95171	Spring	24	30	GM80363	Spacer	1

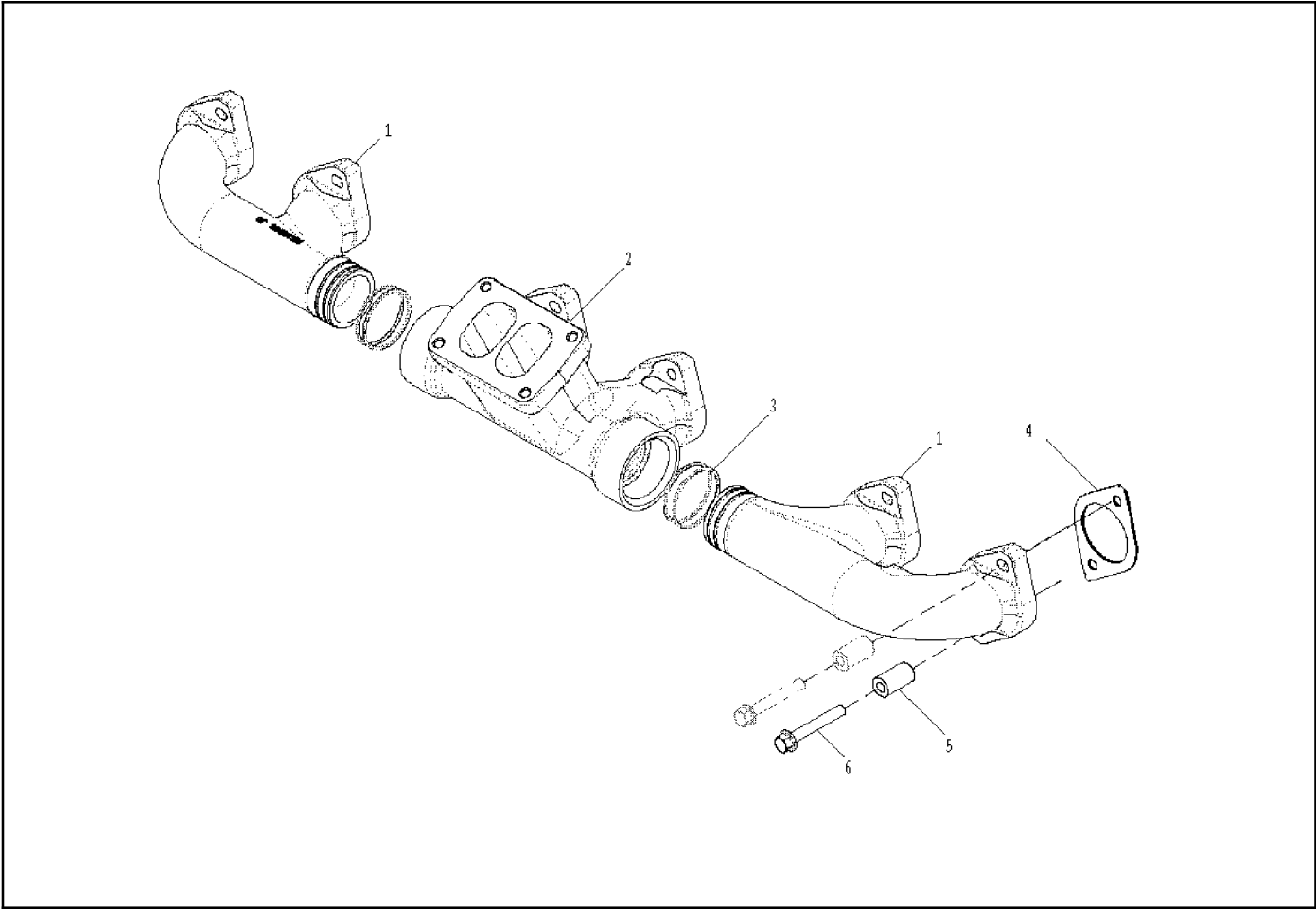
Group 25: Exhaust Manifold

RE521099PCDG04



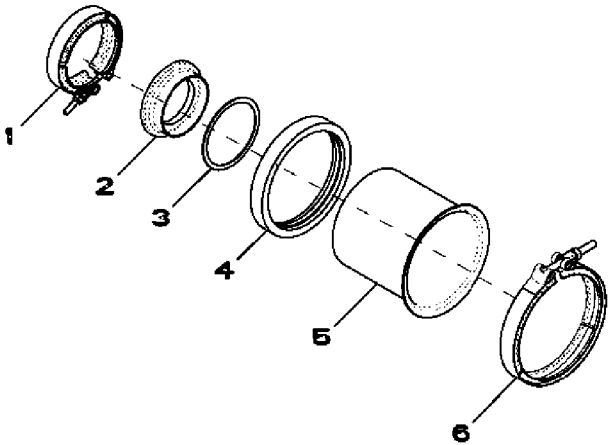
Item	Part Number	Description	Qty.
			Variation 2804
1	GM80361	Gasket	6
2	GM80313	Exhaust Manifold	1
3	GM80339	Exhaust Manifold	2
4	GM80379	Spacer	10
5	GM80282	Screw	1
6	GM80344	Ring	4
7	GM80362	Bracket	1

Group 25: Exhaust Manifold, continued



Item	Part Number	Description	Qty.
			Variation 2814
1	GM80339	Exhaust Manifold	2
2	GM83047	Exhaust Manifold	1
3	GM80344	Ring	4
4	GM80361	Gasket	6
5	GM80379	Spacer	12
6	GM80282	Screw	12

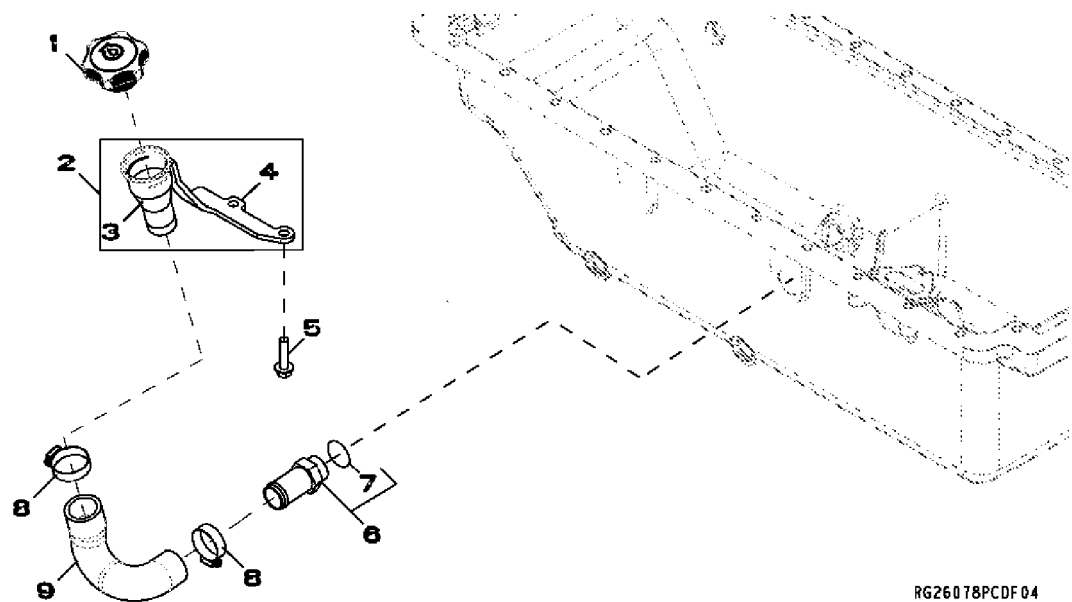
Group 26: Exhaust Outlet



RE528362PCDB02

Item	Part Number	Description	Qty.
			Variation 6405
1	GM80416	Clamp	1
2	GM80331	Flange	1
3	GM80332	Gasket	1
4	GM80279	Adapter Fitting	1
5	GM80324	Exhaust Pipe	1
6	GM80454	Clamp	1

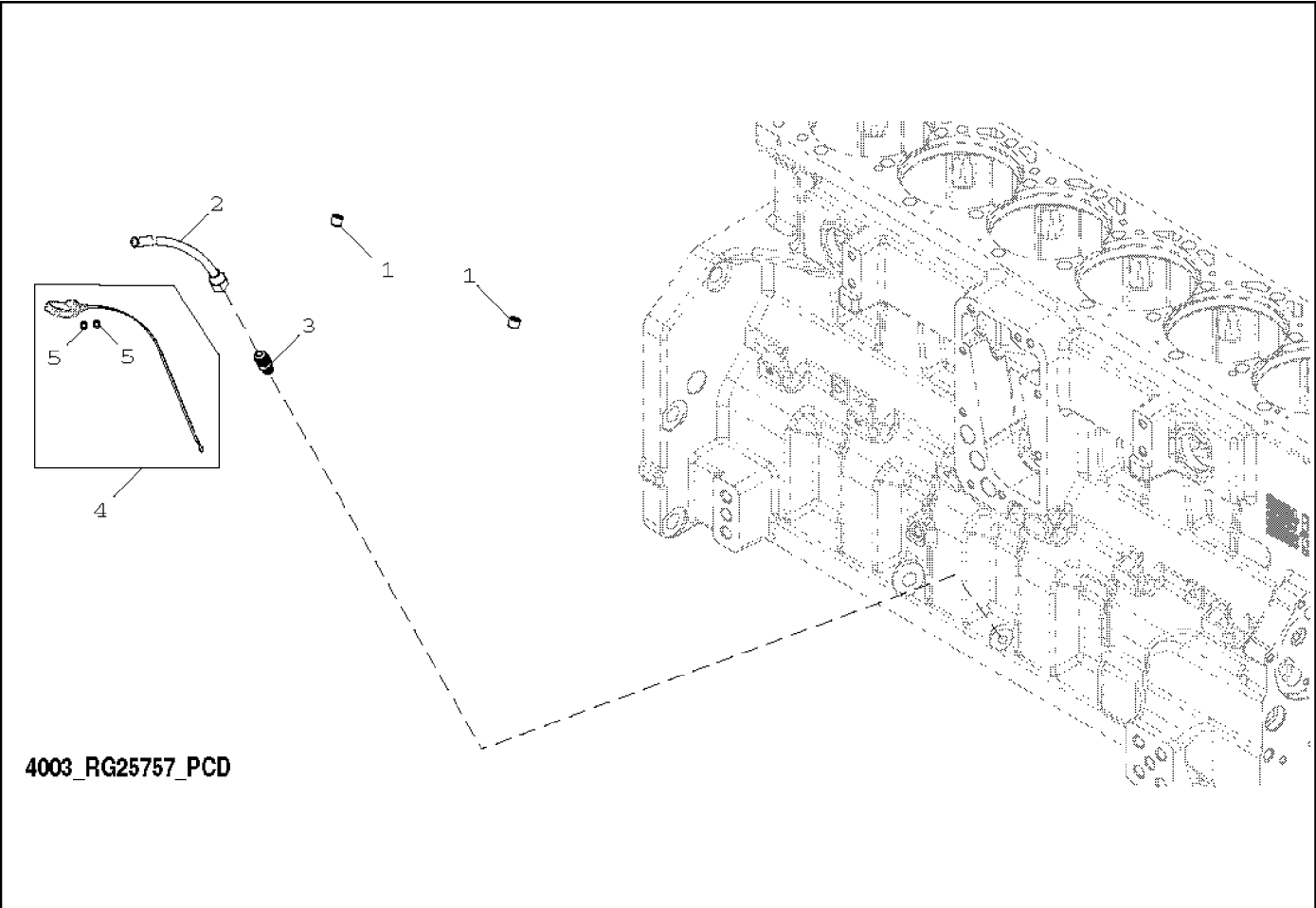
Group 27: Oil Filler



Item	Part Number	Description	Qty.
			Variation 1204
1	GM80473	Filler Cap	1
2	GM80390	Tube	1
3	GM18688	Dipstick tube	1
4	-	Bracket (not sold separately)	1
5	#	Screw, M10 x 40	2
6	GM80237	Hose Fitting	1
7	GM80284	O-Ring	1
8	GM80234	Clamp	2
9	GM80276	Hose	1

Common hardware; procure locally.

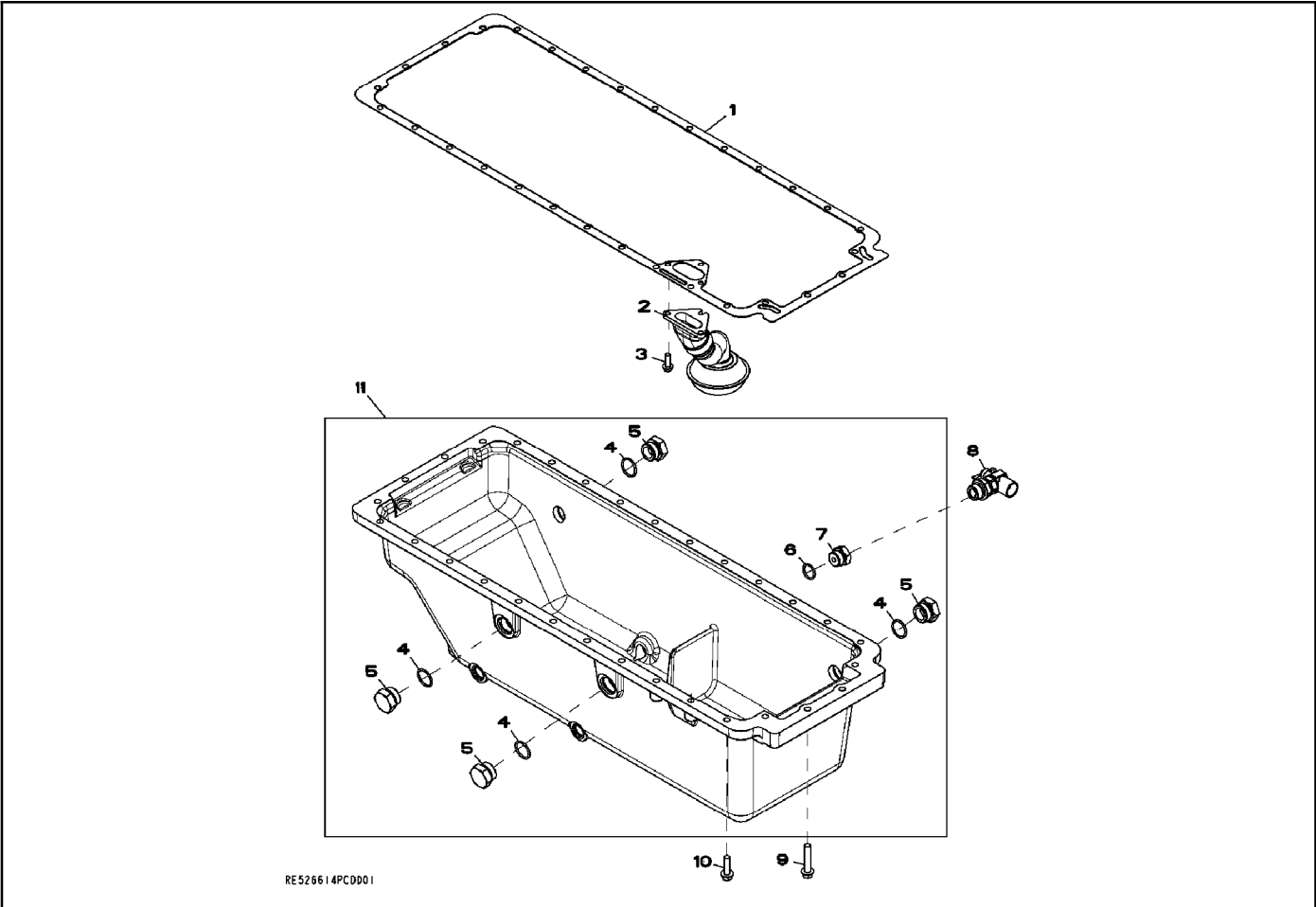
Group 28: Dipstick



Item	Part Number	Description	Qty.
			Variation 4003
1	#	Pipe Plug, 1/4"	2
2	GM80413	Dipstick Tube	1
3	GM18658	Adapter Fitting	1
4	GM83051	Dipstick	1
5	GM83052	O-Ring	2

Common hardware; procure locally.

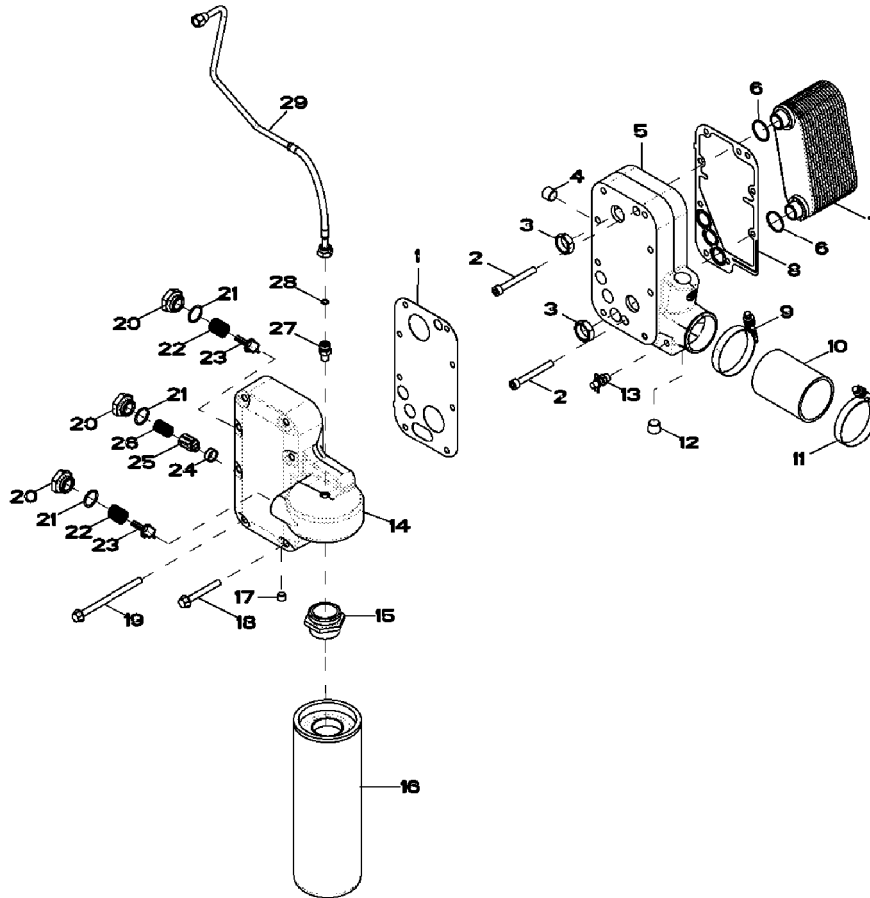
Group 29: Oil Pan



Item	Part Number	Description	Qty.
			Variation 1915
1	GM80321	Gasket	1
2	GM80432	Oil Pump Intake	1
3	#	Screw	3
4	GM80284	O-Ring	4
5	GM80285	Fitting Plug	4
6	GM80368	O-Ring	4
7	223748	Pipe Plug	4
8	GM80392	Drain Valve	1
9	#	Screw, M10 x 55	8
10	M933-10035-82	Screw, hex cap M10 x 35mm	20
11	GM80401	Oil Pan	1

Common hardware; procure locally.

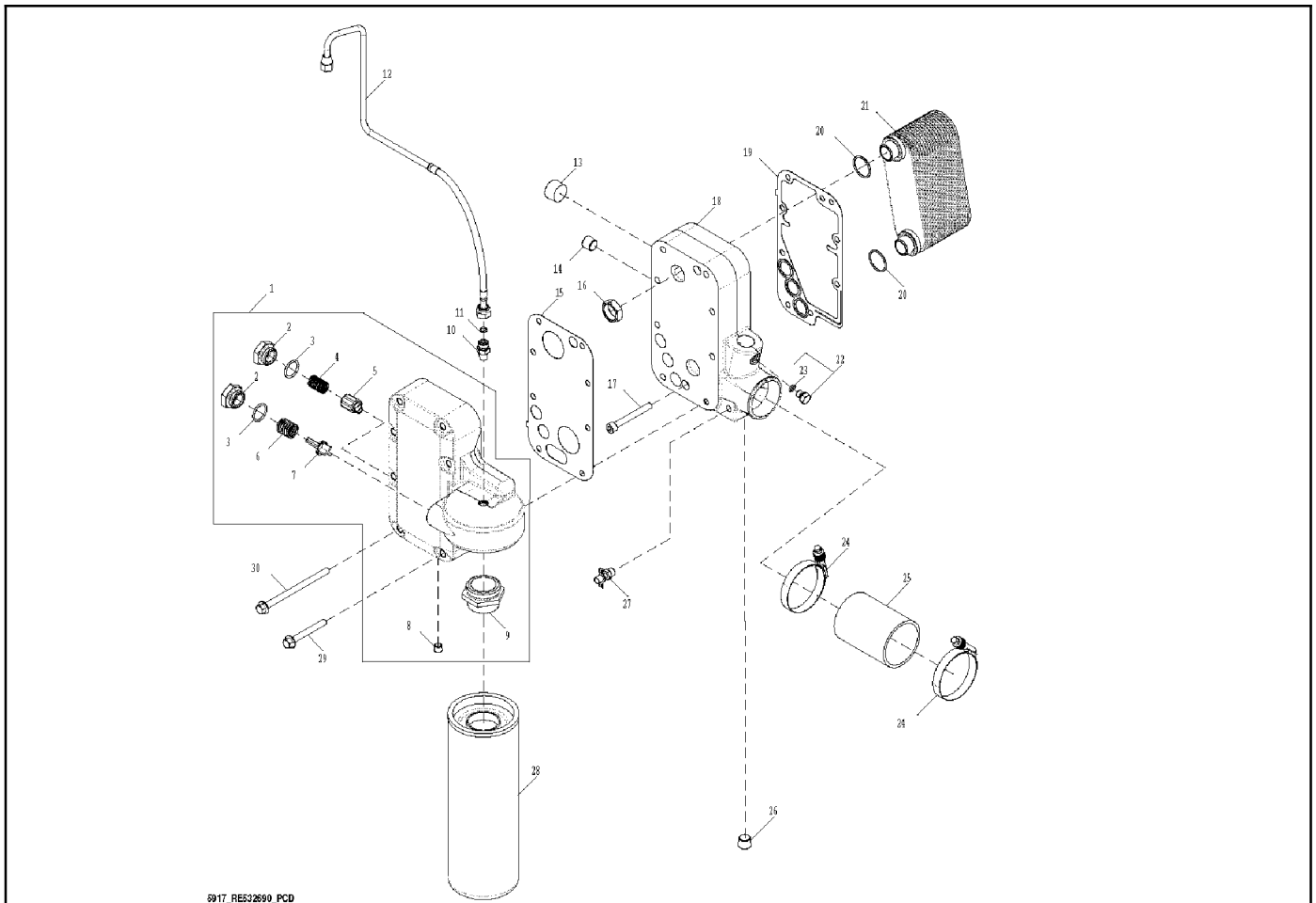
Group 30: Oil Filter



Item	Part Number	Description	Qty.
			Variation 5912
1	GM80289	Gasket	1
2	#	Screw, M10 x 85	2
3	GM80281	Nut	2
4	GM18862	Pipe plug, 1/2"	1
5	GM80307	Housing	1
6	GM80278	O-Ring	2
7	GM80387	Oil Cooler	1
8	GM80288	Gasket	1
9	GM18851	Clamp	1
10	GM80259	Hose	1
11	GM18851	Clamp	1
12	GM18862	Pipe plug, 1/2"	1
13	223435	Drain valve	1
14	-	Housing (not sold separately)	1
15	GM80267	Adapter Fitting	1
16	GM80434	Oil Filter	1
17	#	Pipe Plug	1
18	M931-10080-82	Screw, hex cap M10 x 80mm	1
19	#	Screw, M10 x 150	7
20	GM80291	Fitting Plug	3
21	223989	O-ring	3
22	352811	Spring, bypass	2
23	352722	Valve	2
24	GM80292	Bushing	1
25	352767	Relief valve	1
26	GM80271	Compression Spring	1
27	360006	Adapter	1
28	360555	O-ring	1
29	GM80407	Line	1

Common hardware; procure locally.

Group 30: Oil Filter, continued

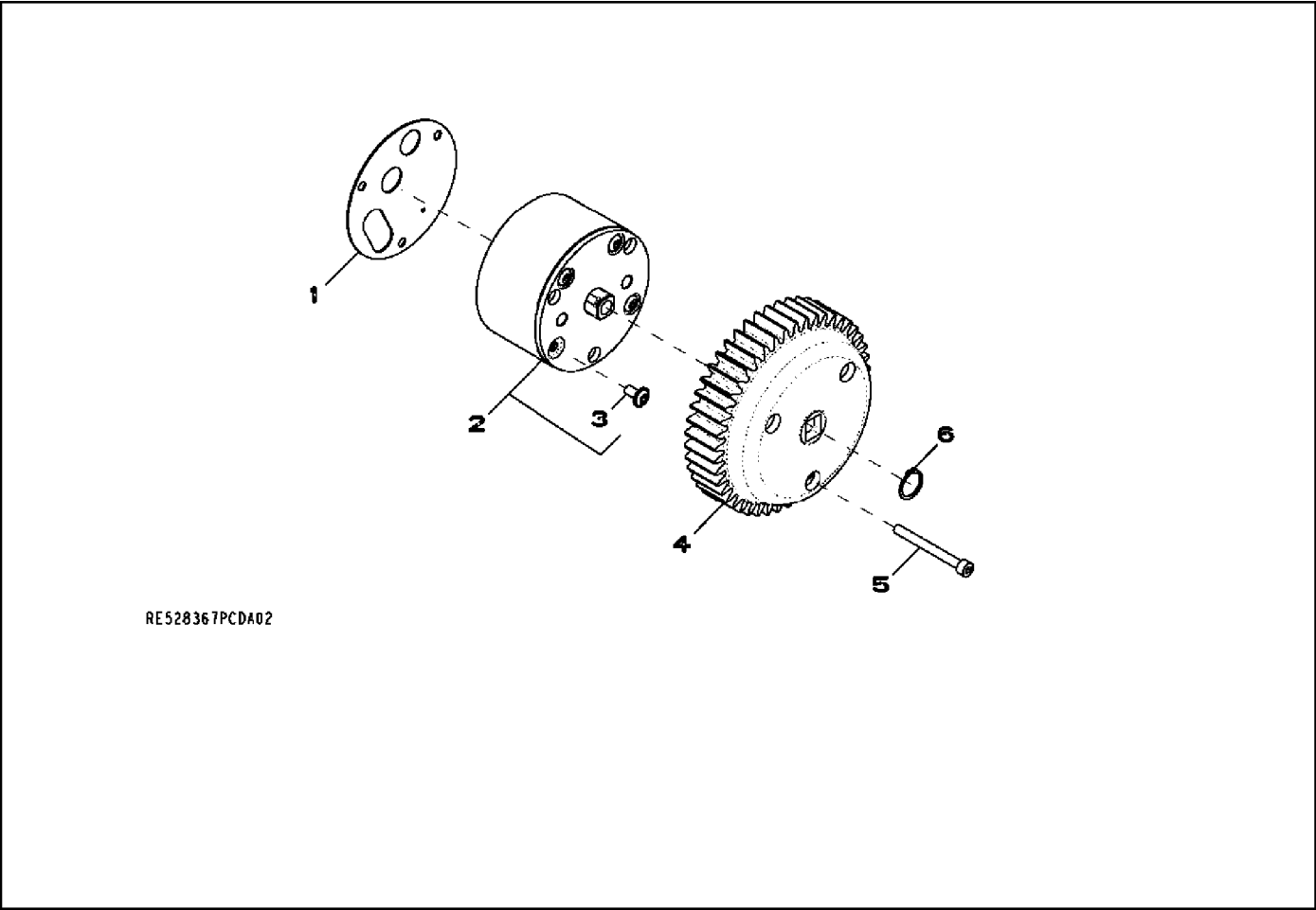


5917 RES22690 PCD

Item	Part Number	Description	Qty.
			Variation 5917
1	GM83053	Filter Housing	1
2	GM80291	Fitting Plug	3
3	223989	O-Ring	3
4	GM80271	Compression Spring	1
5	352767	Pressure Relief Valve	1
6	352811	Spring	2
7	352722	Valve	2
8	#	Pipe Plug, 1/4"	1
9	GM80267	Adapter Fitting	1
10	360006	Adapter Fitting	1
11	360555	O-Ring	1
12	GM83054	Oil Line	1
13	#	Pipe Plug, 1"	1
14	GM18862	Pipe Plug	1
15	GM80289	Gasket	1
16	GM80281	Nut	2
17	#	Screw, M10 X 85	2
18	GM80307	Housing	1
19	GM80288	Gasket	1
20	GM80278	O-Ring	2
21	GM80387	Oil Cooler	1
22	360015	Fitting Plug	1
23	360178	O-Ring, 9.3 X 2.2 MM	1
24	GM18851	Clamp	2
25	GM80259	Radiator Hose	1
26	GM18862	Pipe Plug	1
27	223435	Drain Valve	1
28	GM80434	Oil Filter	1
29	M931-10080-82	Screw, M10 X 80	1
30	#	Screw, M10 X 150	7

Common hardware; procure locally.

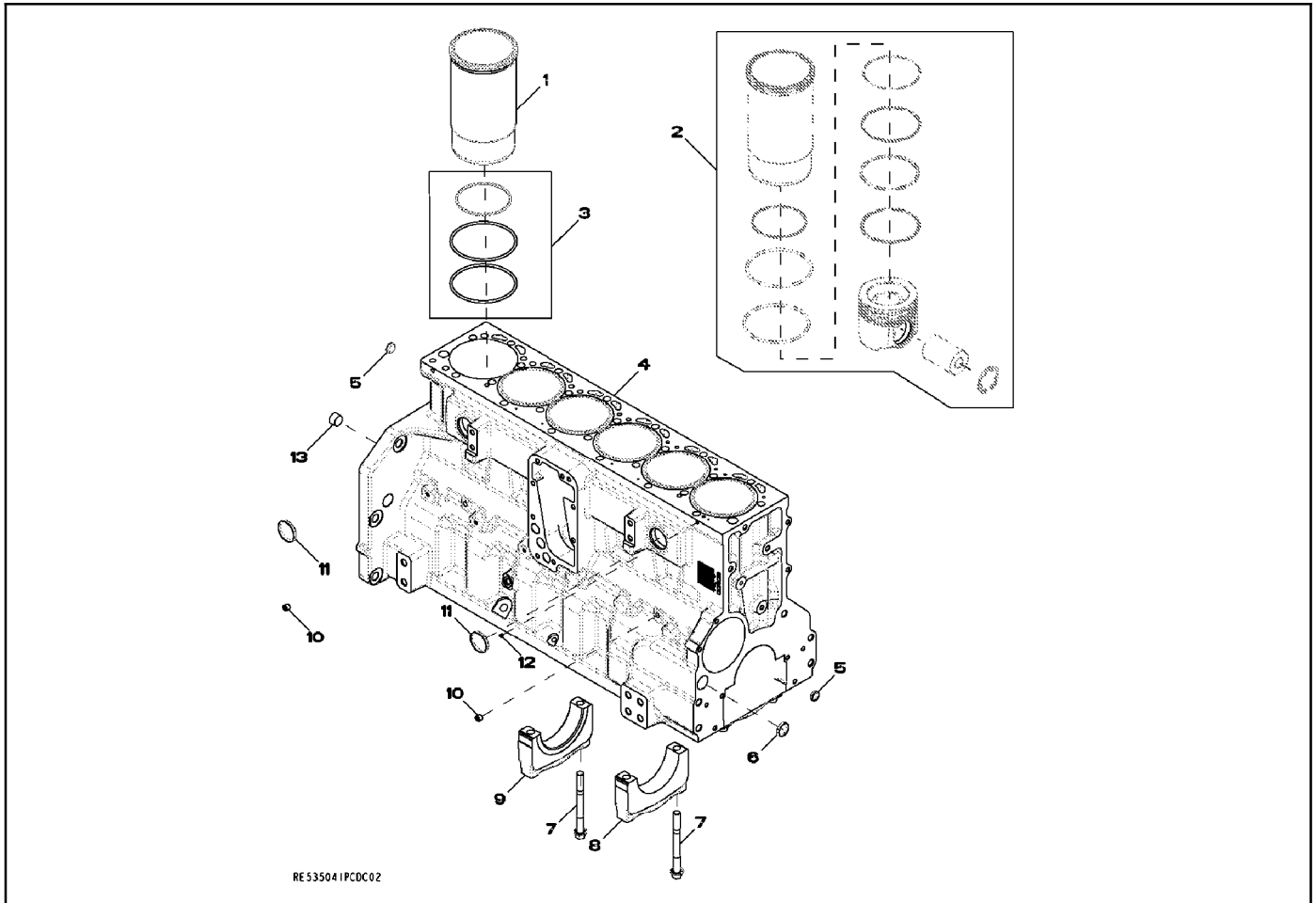
Group 31: Oil Pump



Item	Part Number	Description	Qty.
			Variation 5002
1	GM80294	Gasket	1
2	GM80428	Oil Pump	1
3	#	Screw, M8 x 16	4
4	GM80477	Gear	1
5	#	Screw, M8 x 80	3
6	GM80229	Snap Ring	1

Common hardware; procure locally.

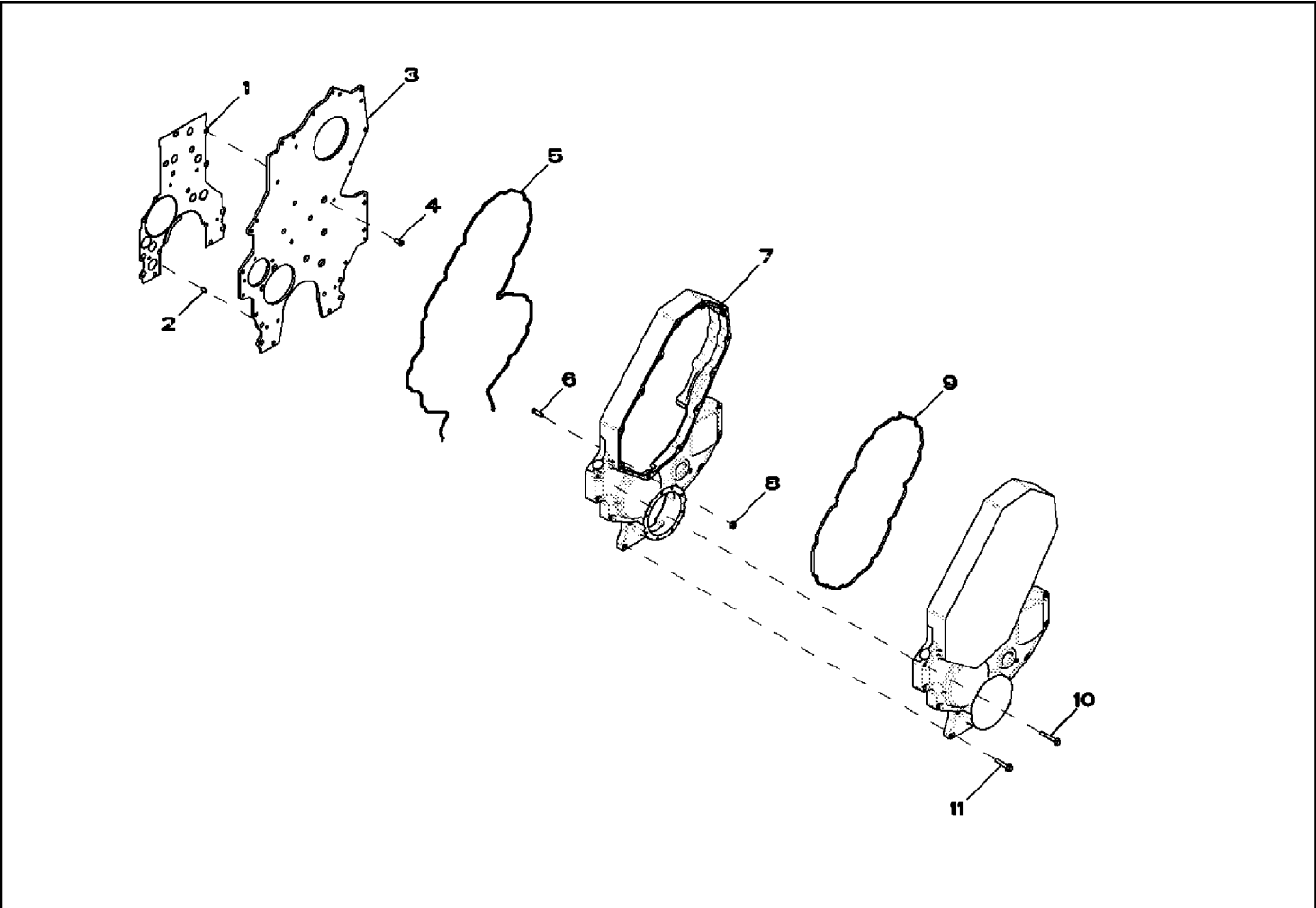
Group 32: Cylinder Block



Item	Part Number	Description	Qty.
			Variation 4606
1	-	Cylinder Liner (Order Piston-Liner Kit)	1
2	GM80441	Piston-Liner Kit	6
3	GM80235	O-Ring Kit	1
4	-	Cylinder Block (Order Short Block Assembly)	1
5	GM63925	Plug	2
6	360093	Plug	1
7	GM80316	Cap Screw	14
8	GM80314	Bearing Cap Main	6
9	GM80315	Bearing Cap Thrust	1
10	#	Pipe Plug	2
11	GM80304	Plug	2
12	352704	Plug	1
13	GM53024	Plug, pipe	1

Common hardware; procure locally.

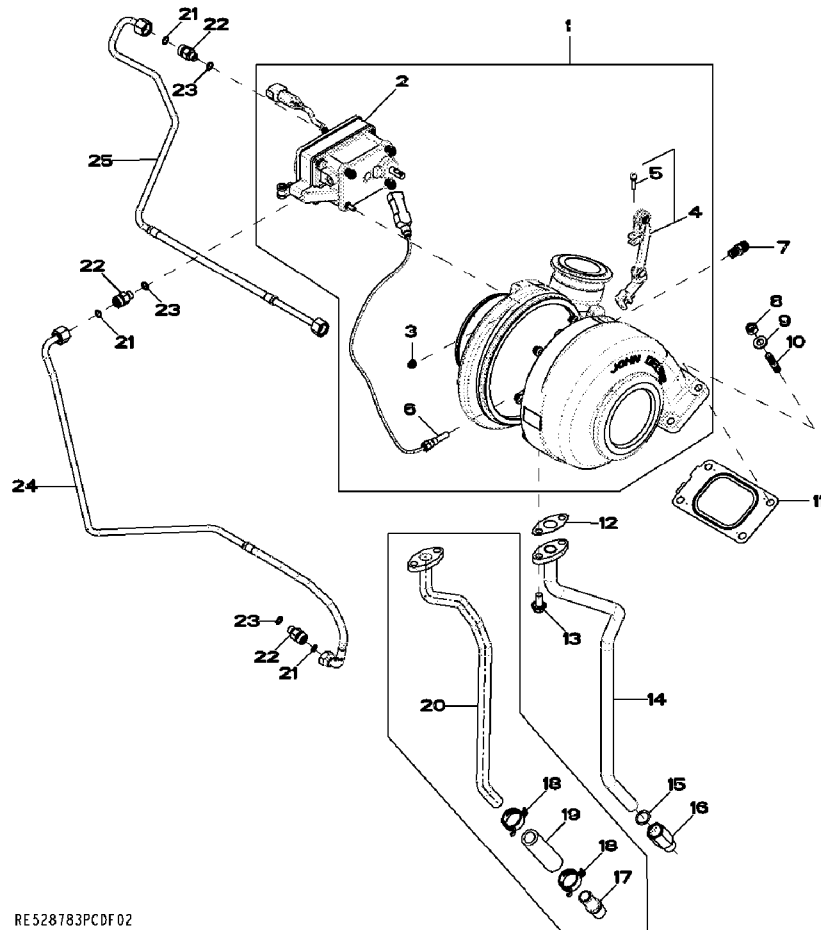
Group 34: Timing Gear Cover



Item	Part Number	Description	Qty.
			Variation 7701
1	GM80360	Gasket	1
2	223737	Dowel pin	2
3	GM80358	Plate	1
4	#	Screw, M10 x 25	5
5	GM80347	V-Ring Seal	1
6	GM80261	Bolt	1
7	GM80325	Cover	1
8	GM30375	Flange Nut, M10	1
9	GM80348	V-Ring Seal	1
10	#	Screw, M10 x 70	1
11	#	Screw, M10 x 55	9

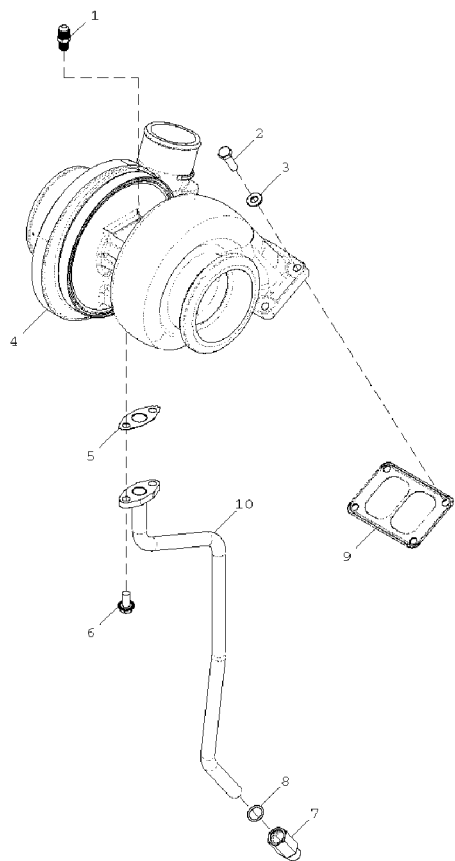
Common hardware; procure locally.

Group 35: Turbocharger



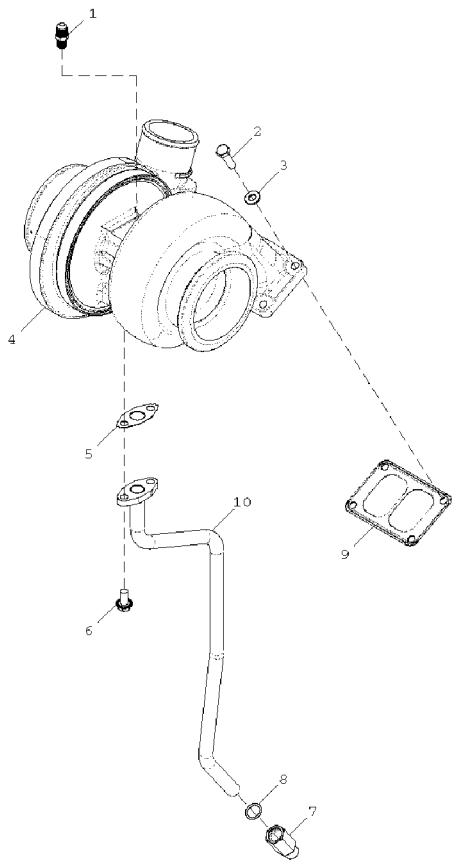
Item	Part Number	Description	Qty.
			Variation 6550
1	GM80475	Turbocharger	1
2	GM80404	Actuator	1
3	GM49824	Nut	4
4	GM80405	Linkage	1
5	GM50062	Screw with washer	2
6	GM50015	Sensor	1
7	GM18658	Fitting	1
8	GM80491	Nut	4
9	222767	Washer, Hardened	4
10	GM80372	Stud	4
11	GM80366	Gasket	1
12	GM80328	Gasket	1
13	GM80247	Screw, M10 x 20	2
14	GM80453	Oil Tube	1
15	223851	O-ring	1
16	223753	Adapter	1
17	223461	Hose fitting	1
18	GM50270	Hose clamp	2
19	224055	Hose	1
20	GM80408	Line	1
21	360555	O-ring	3
22	GM49819	Fitting, adapter	3
23	360178	O-ring	3
24	GM80409	Line	1
25	GM80410	Line	1

Group 35: Turbocharger



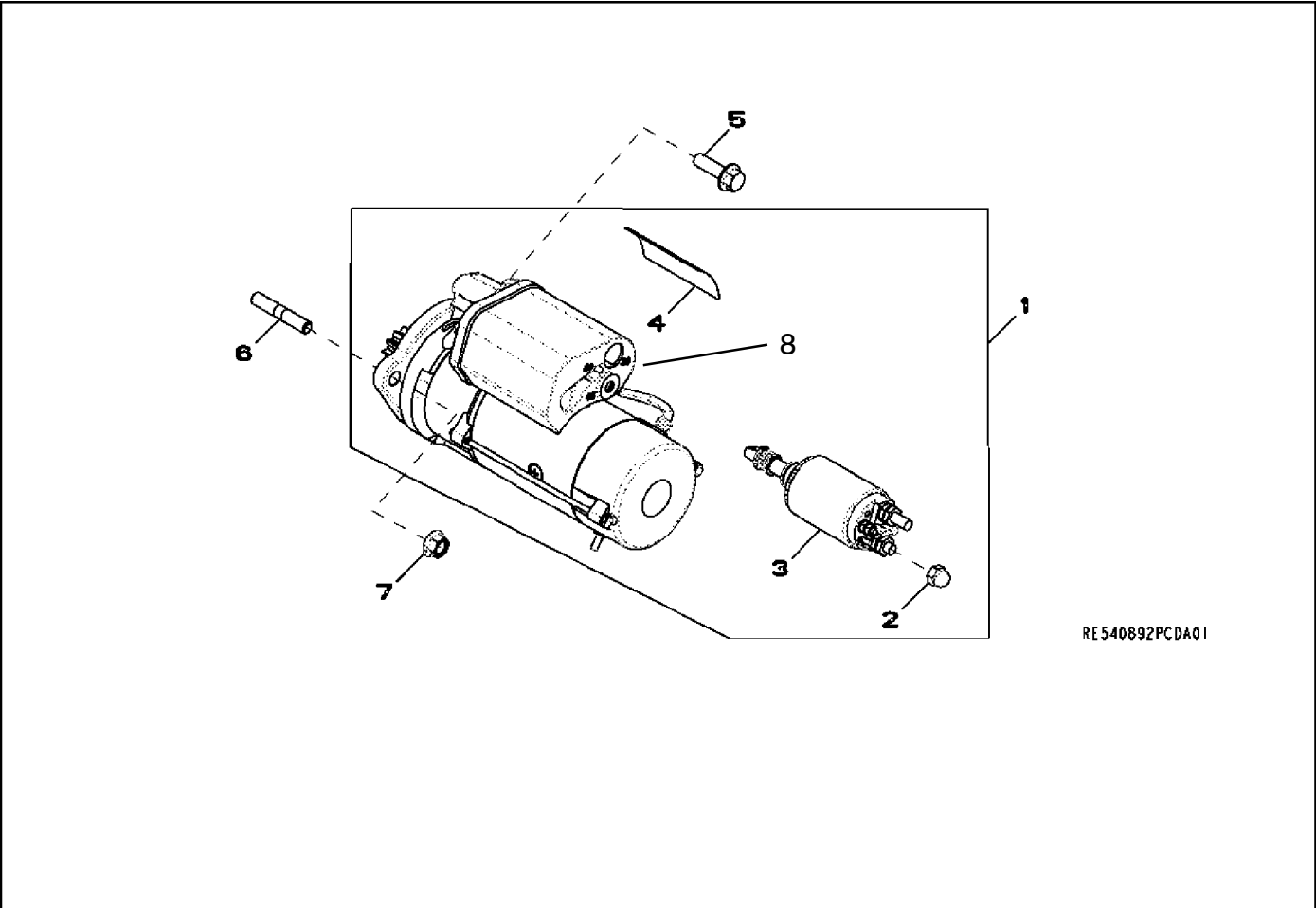
Item	Part Number	Description	Qty.
			Variation 6562
1	GM18658	Adapter Fitting	1
2	GM18696	Cap Screw	4
3	222767	Washer, 10.700 X 21 X 2.500 MM	4
4	GM83058	Turbocharger	1
5	GM80328	Gasket	1
6	GM80247	Screw	2
7	223753	Adapter Fitting	1
8	223851	O-Ring	1
9	GM83059	Gasket	1
10	GM83060	Oil Line	1

Group 35: Turbocharger



Item	Part Number	Description	Qty.
			Variation 6579
1	GM18658	Adapter Fitting	1
2	GM18696	Cap Screw	4
3	222767	Washer, 10.700 X 21 X 2.500 MM	4
4	GM95163	Turbocharger	1
5	GM80328	Gasket	1
6	GM80247	Screw	2
7	223753	Adapter Fitting	1
8	223851	O-Ring	1
9	GM95164	Gasket	1
10	GM95165	Oil Line	1

Group 36: Starter Motor

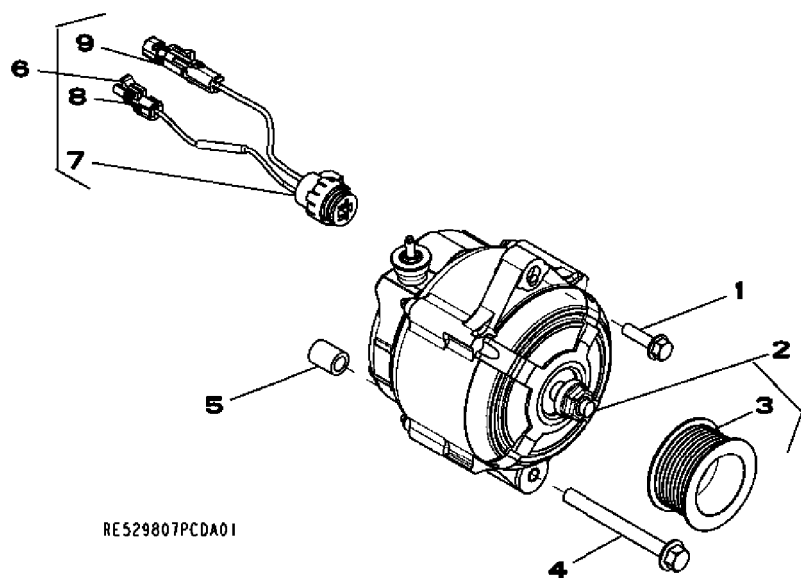


RE540892PCDA01

Item	Part Number	Description	Qty.
			Variation 3014
1	GM80485	Starter Motor Kit	1
2	GM80280	Nut	1
3	GM80486	Solenoid	1
4	GM17554	Label	1
5	#	Bolt, M12 x 40	1
6	GM80231	Stud	2
7	#	Flange Nut, M12	2
8	GM83048	Cover	1

Common hardware; procure locally.

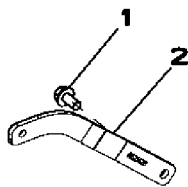
Group 37: Alternator



Item	Part Number	Description	Qty.
			Variation 3119
1	#	Screw, M8 x 30	1
2	GM18868	Alternator	1
2	GM80236	Diode (not shown)	1
3	GM18677	Pulley	1
4	GM70547	Screw	1
5	GM80242	Bushing	1
6	GM18840	Harness, wiring	1
7	#	Elec. Connector Terminal	1
8	GM32805	Connector	1
9	GM32804	Connector	1

Common hardware; procure locally.

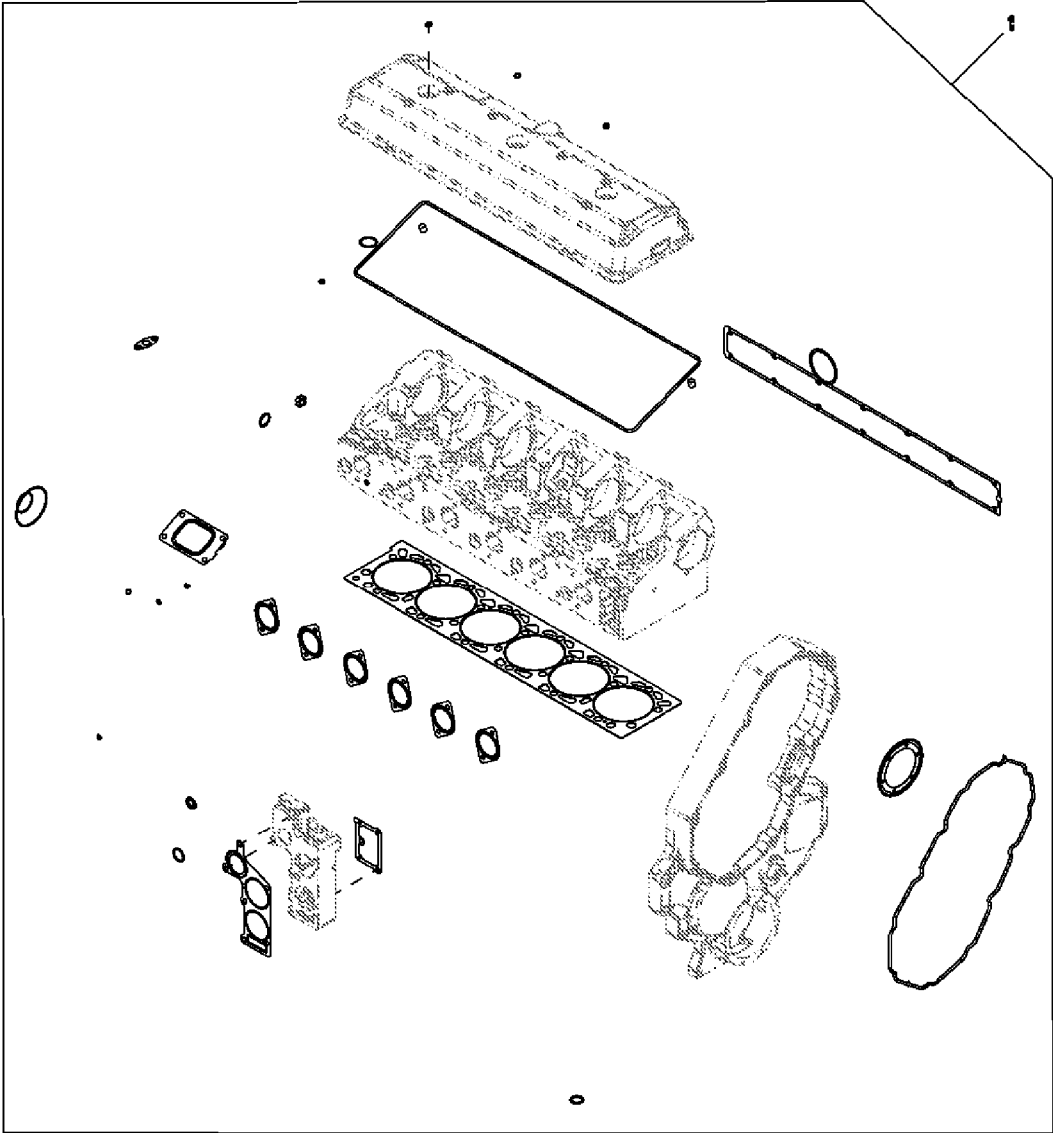
Group 38: Alternator Brackets



RG25788PCDD01

Item	Part Number	Description	Qty.
			Variation 6201
1	GM32765	Screw	1
2	GM80283	Adjusting Strap	1

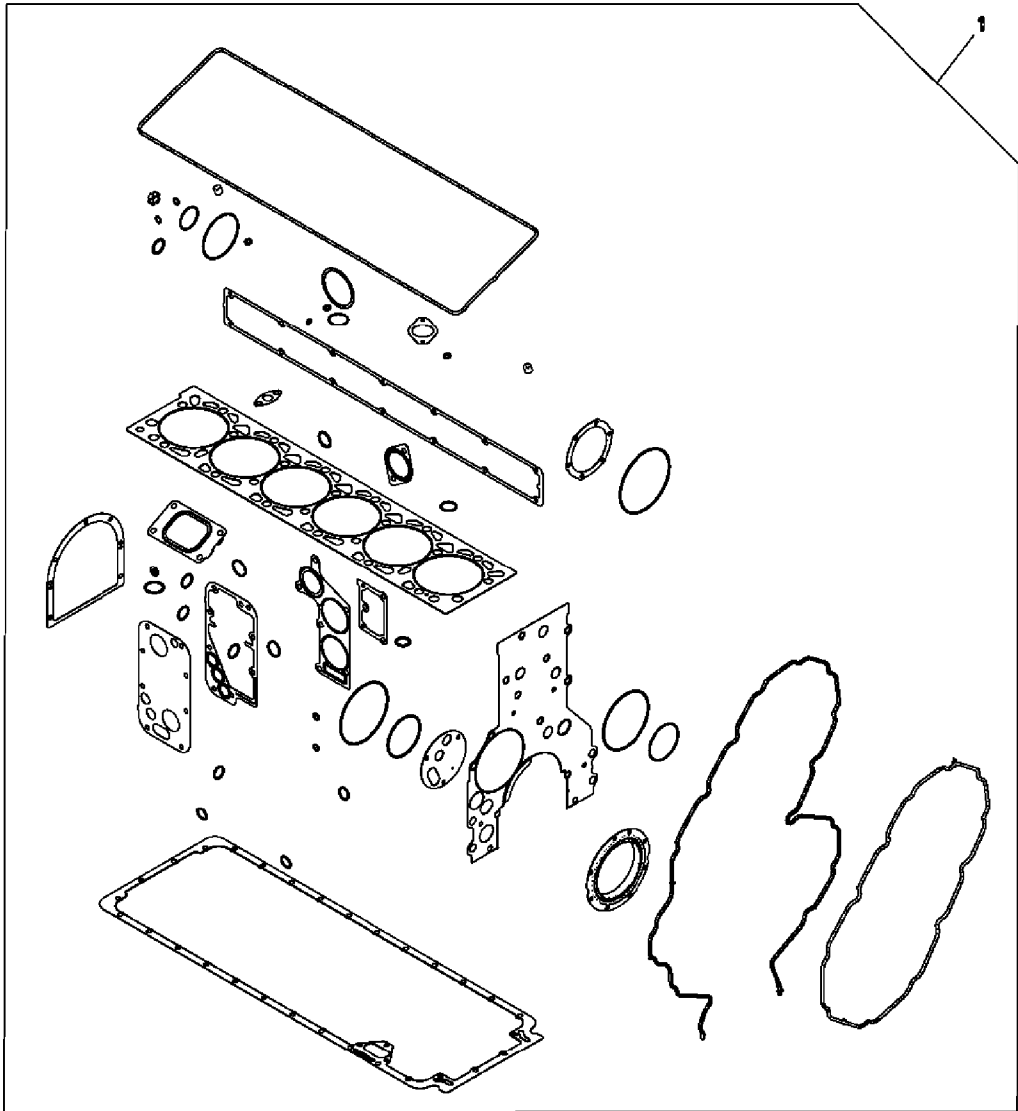
Group 40: Cylinder Head Gasket Set



RES30816PCDB01

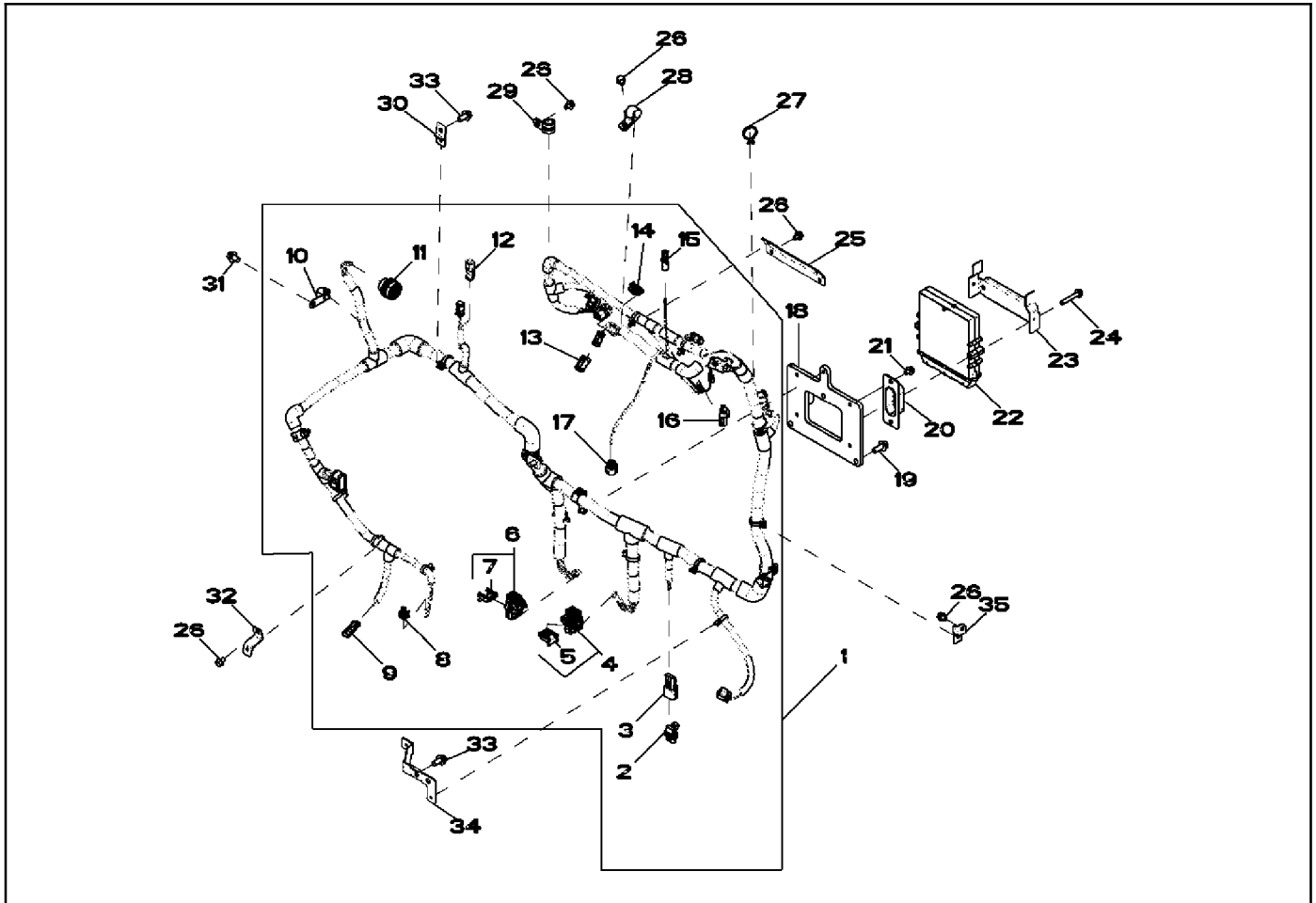
Item	Part Number	Description	Qty.
			Variation 9901
1	GM80444	Gasket Kit, Cylinder Head	1

Group 41: Overhaul Gasket Set



Item	Part Number	Description	Qty.
			Variation 9901
1	GM80443	Gasket Kit, Engine Rebuild	1

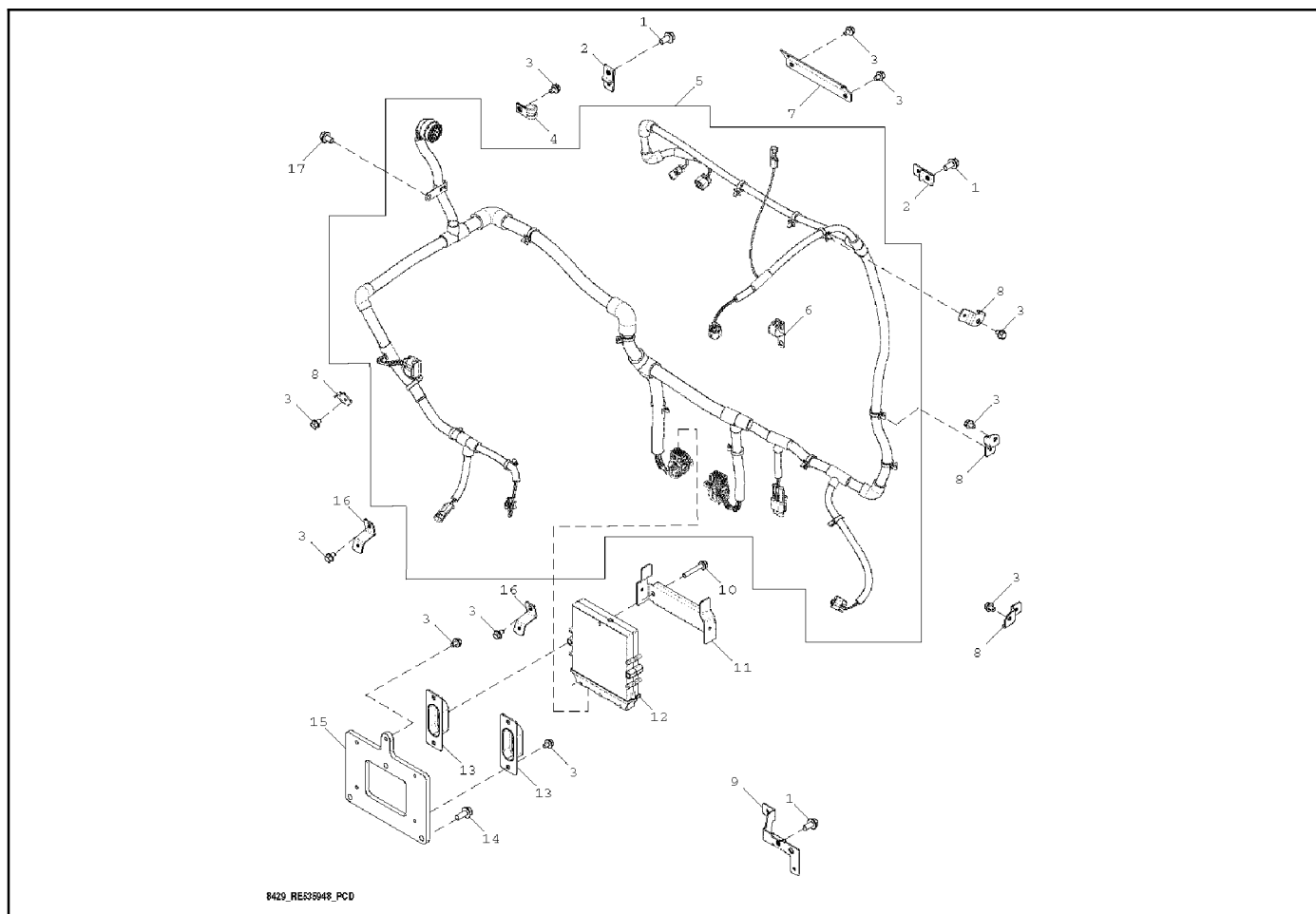
Group 43: Wiring Harness



Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Variation 8417				Variation 8417
1	GM80463	Wiring Harness	1	18	GM80338	Hanger	1
2	GM50700	Connector	1	19	#	Screw, M10 x 25	3
3	GM32770	Connector	1	20	GM50053	Isolator	2
4	#	Elec. Connector Housing	1	21	GM50033	Cap screw	4
5	#	Electrical Connector Cap	1	22	GM80398	Engine Controller	1
6	GM63499	Connector, 32 Position (LH-Blue)	1	23	GM67278	Strap	1
7	#	Electrical Connector Cap	1	24	#	Screw, M8 x 50	2
8	#	Elec. Connector Housing	1	25	GM80326	Bracket	1
9	#	Electrical Connector Assy	1	26	GM50033	Cap screw	12
10	#	Elec. Connector Accessory	2	27	GM80286	Tie Band	3
11	#	Electrical Connector Assy	1	28	GM80493	Clamp	1
12	#	Electrical Connector Assy	1	29	GM80498	Clamp	1
13	#	Elec. Connector Housing	1	30	GM80340	Bracket	2
14	#	Elec. Connector Housing	1	31	#	Screw, M10 x 16	1
15	GM32804	Connector	1	32	GM80337	Bracket	2
16	#	Elec. Connector Housing	2	33	GM32765	Screw	3
17	#	Elec. Connector Housing	3	34	GM80356	Bracket	1
				35	GM80327	Bracket	4

Common hardware; procure locally.

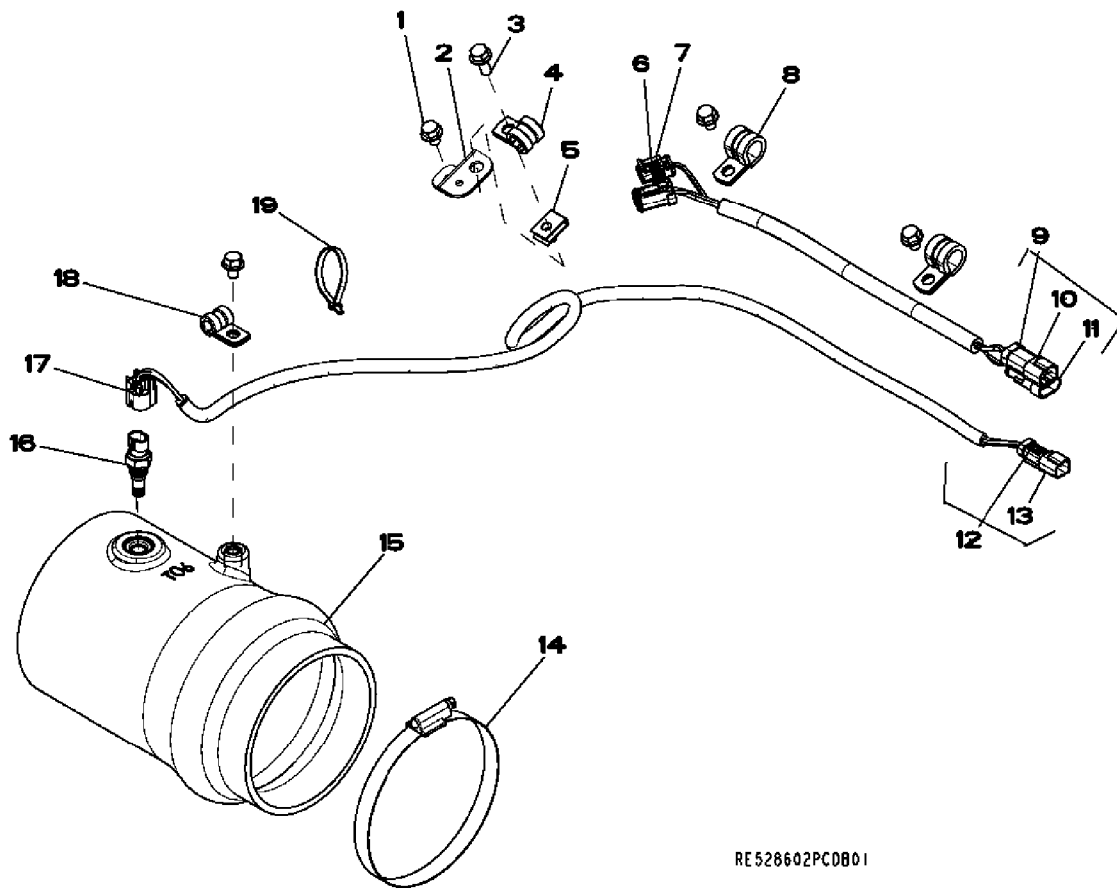
Group 43: Wiring Harness, continued



Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			Variation 8429				Variation 8429
1	GM32765	Screw	3	9	GM80356	Bracket	1
2	GM80340	Bracket	2	10	#	Screw, M8 X 50	2
3	GM50033	Cap Screw	15	11	GM67278	Strap	1
4	GM50086	Clamp	1	12	GM80398	Engine Controller	1
5	GM83065	Wiring Harness	1	13	GM50053	Isolator	2
6	GM83066	Clamp	1	14	#	Screw, M10 X 25	3
7	GM80326	Bracket	1	15	GM80338	Hanger	1
8	GM80327	Bracket	4	16	GM80337	Bracket	2
				17	#	Screw, M10 X 16	1

Common hardware; procure locally.

Group 45: Turbo Air Inlet

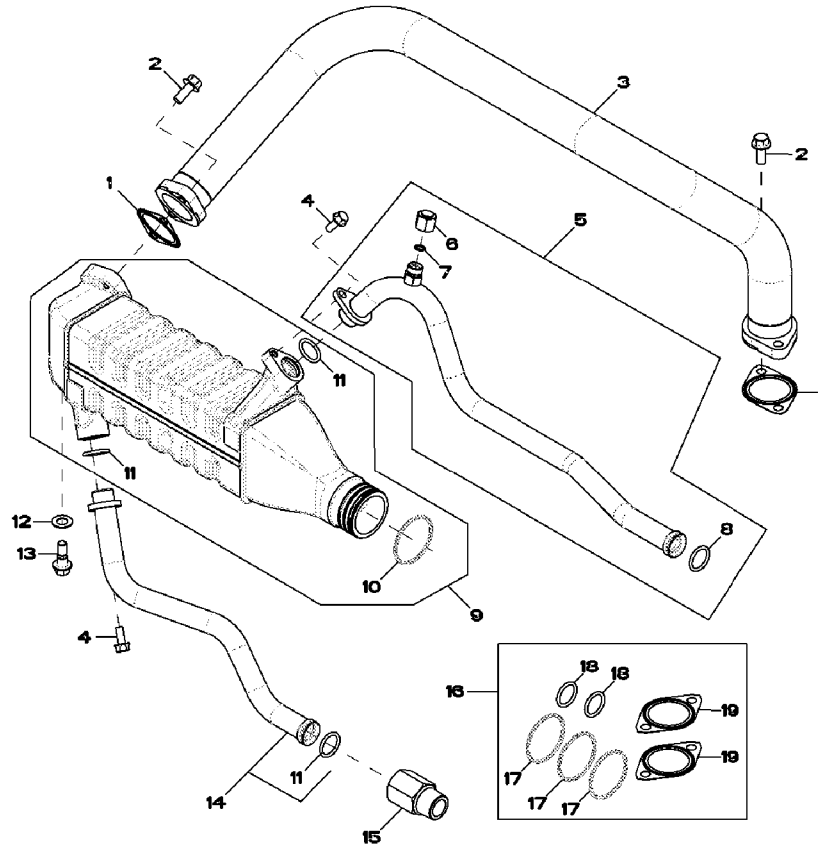


RE528602PC0801

Item	Part Number	Description	Qty.
			Variation 5403
1	GM50033	Cap screw	4
2	GM50186	Bracket	1
3	GM24536	Screw	1
4	GM50086	Clamp	1
5	GM80246	Nut	1
6	#	Elec. Connector Housing	1
7	#	Elec. Connector Housing	1
8	GM80498	Clamp	2
9	GM80448	Wiring Harness	1
10	#	Elec. Connector Housing	1
11	#	Elec. Connector Housing	1
12	GM80447	Wiring Harness	1
13	#	Electrical Connector Assy	1
14	GM80490	Clamp	1
15	GM80430	Hose	1
16	GM50034	Thermocouple (air temperature)	1
16	GM21508	O-ring	1
17	#	Elec. Connector Housing	1
18	GM50293	Clamp	1
19	GM80248	Tie Band	1

Common hardware; procure locally.

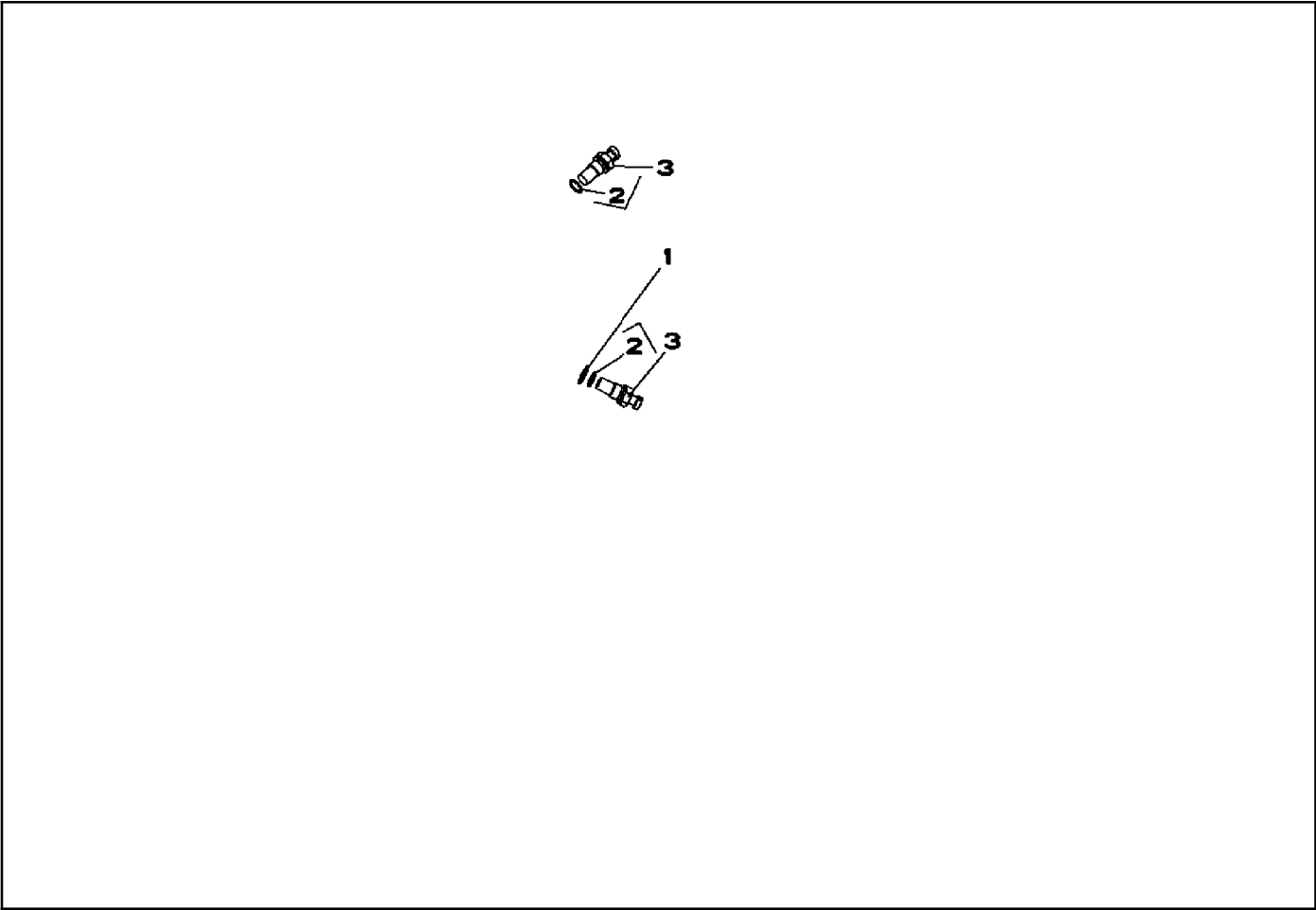
Group 47: Exhaust Gas Recirculation



Item	Part Number	Description	Qty.
			Variation 8901
1	GM80319	Gasket	2
2	#	Screw, M10 x 25	4
3	GM80403	Pipe	1
4	#	Screw, M8 x 20	2
5	GM80470	Line	1
6	GM80225	Fitting	1
7	360555	O-ring	1
8	GM80232	O-Ring	3
9	GM80399	Heat Exchanger	1
10	GM80344	Ring	3
11	GM80232	O-Ring	2
12	#	Washer	2
13	GM80489	Screw	2
14	GM80456	Line	1
15	GM80431	Fitting	1
16	GM80437	Kit, ECR Service	1
17	GM80344	Ring	3
18	GM80232	O-Ring	2
19	GM80319	Gasket	2

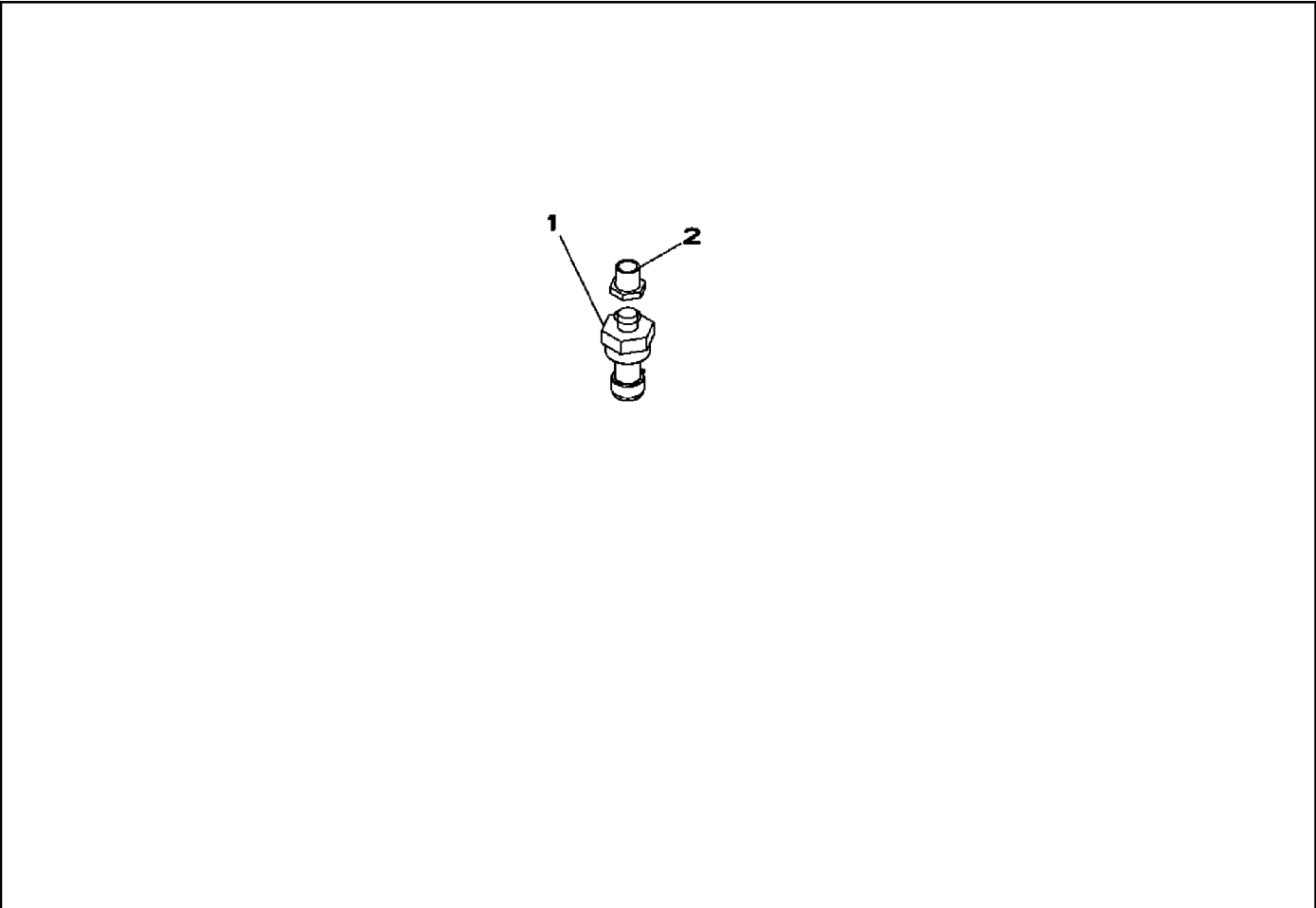
Common hardware; procure locally.

Group 48: Electronic Sensors (Tachometer)



Item	Part Number	Description	Qty.
			Variation 4422
1	GM80371	Washer	1
2	360180	O-ring, 17.3 X 2.2 MM	2
3	GM49939	Sensor (crankshaft,camshaft)	2

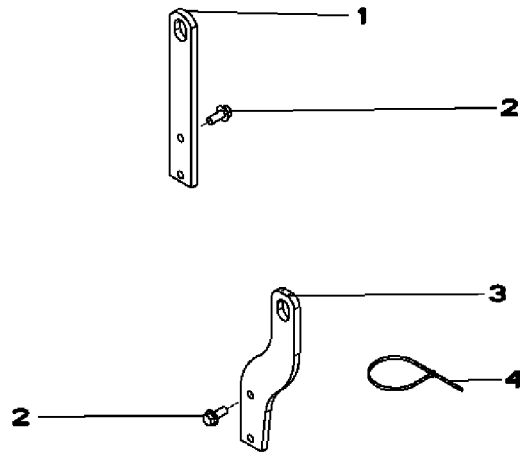
Group 49: Oil Pressure Sensor



Item	Part Number	Description	Qty.
			Variation 7601
1	GM32919	Sensor, pressure	1
2	#	Pipe Bushing	1

Common hardware; procure locally.

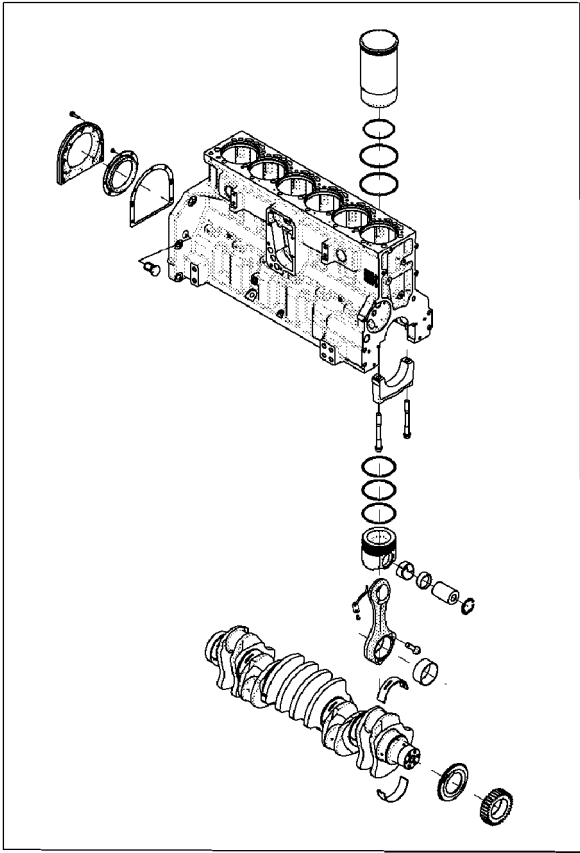
Group 50: Lift Straps



Item	Part Number	Description	Qty.
			Variation 9811
1	GM80322	Strap	1
2	#	Screw, M12 x 30	4
3	GM80305	Strap	1
4	GM80248	Tie Band	1

Common hardware; procure locally.

Group 51: Short Block



RE535214PCDA01

Item	Part Number	Description	Qty.
			Variation 9901
1	GM80476	Short Block Assembly	1

Appendix A Common Hardware Identification

Screw/Bolts/Studs	
Head Styles	
Hex Head or Machine Head	
Hex Head or Machine Head with Washer	
Flat Head (FHM)	
Round Head (RHM)	
Pan Head	
Hex Socket Head Cap or Allen™ Head Cap	
Hex Socket Head or Allen™ Head Shoulder Bolt	
Sheet Metal Screw	
Stud	
Drive Styles	
Hex	
Hex and Slotted	
Phillips®	
Slotted	
Hex Socket	

Nuts	
Nut Styles	
Hex Head	
Lock or Elastic	
Square	
Cap or Acorn	
Wing	
Washers	
Washer Styles	
Plain	
Split Lock or Spring	
Spring or Wave	
External Tooth Lock	
Internal Tooth Lock	
Internal-External Tooth Lock	

Hardness Grades	
American Standard	
Grade 2	 
Grade 5	 
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	

Allen™ head screw is a trademark of Holo-Krome Co.

Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

American Standard (Screws, Bolts, Studs, and Nuts)

1/4-20 x 1
 — Length In Inches (Screws and Bolts)
 — Threads Per Inch
 — Major Thread Diameter In Fractional Inches Or Screw Number Size

Metric (Screws, Bolts, Studs, and Nuts)

M8-1.25 x 20
 — Length In Millimeters (Screws and Bolts)
 — Distance Between Threads In Millimeters
 — Major Thread Diameter In Millimeters

Plain Washers

9/32 x 5/8 x 1/16
 — Thickness
 — External Dimension
 — Internal Dimension

Lock Washers

5/8
 — Internal Dimension

Appendix B Common Hardware List

The Common Hardware List lists part numbers and dimensions for common hardware items.

American Standard

Part No.	Dimensions	Part No.	Dimensions	Part No.	Dimensions	Type			
Hex Head Bolts (Grade 5)		Hex Head Bolts, cont.		Hex Nuts					
X-465-17	1/4-20 x .38	X-6238-14	3/8-24 x .75	X-6009-1	1-8	Standard			
X-465-6	1/4-20 x .50	X-6238-16	3/8-24 x 1.25		X-6210-3	6-32	Whiz		
X-465-2	1/4-20 x .62	X-6238-21	3/8-24 x 4.00			X-6210-4	8-32	Whiz	
X-465-16	1/4-20 x .75	X-6238-22	3/8-24 x 4.50			X-6210-5	10-24	Whiz	
X-465-18	1/4-20 x .88					X-6210-1	10-32	Whiz	
X-465-7	1/4-20 x 1.00	X-6024-5	7/16-14 x .75		X-6210-2	1/4-20	Spiralock		
X-465-8	1/4-20 x 1.25	X-6024-2	7/16-14 x 1.00			X-6210-6	1/4-28	Spiralock	
X-465-9	1/4-20 x 1.50	X-6024-8	7/16-14 x 1.25			X-6210-7	5/16-18	Spiralock	
X-465-10	1/4-20 x 1.75	X-6024-3	7/16-14 x 1.50			X-6210-8	5/16-24	Spiralock	
X-465-11	1/4-20 x 2.00	X-6024-4	7/16-14 x 2.00			X-6210-9	3/8-16	Spiralock	
X-465-12	1/4-20 x 2.25	X-6024-11	7/16-14 x 2.75			X-6210-10	3/8-24	Spiralock	
X-465-14	1/4-20 x 2.75	X-6024-12	7/16-14 x 6.50		X-6210-11	7/16-14	Spiralock		
X-465-21	1/4-20 x 5.00	X-129-15	1/2-13 x .75		X-6210-12	1/2-13	Spiralock		
X-465-25	1/4-28 x .38	X-129-17	1/2-13 x 1.00		X-6210-15	7/16-20	Spiralock		
X-465-20	1/4-28 x 1.00	X-129-18	1/2-13 x 1.25	X-6210-14	1/2-20	Spiralock			
		X-129-19	1/2-13 x 1.50						
X-125-33	5/16-18 x .50	X-129-20	1/2-13 x 1.75	X-85-3	5/8-11	Standard			
X-125-23	5/16-18 x .62	X-129-21	1/2-13 x 2.00		X-88-12	3/4-10	Standard		
X-125-3	5/16-18 x .75	X-129-22	1/2-13 x 2.25			X-89-2	1/2-20	Standard	
X-125-31	5/16-18 x .88	X-129-23	1/2-13 x 2.50						
X-125-5	5/16-18 x 1.00	X-129-24	1/2-13 x 2.75						
X-125-24	5/16-18 x 1.25	X-129-25	1/2-13 x 3.00						
X-125-34	5/16-18 x 1.50	X-129-27	1/2-13 x 3.50						
X-125-25	5/16-18 x 1.75	X-129-29	1/2-13 x 4.00						
X-125-26	5/16-18 x 2.00	X-129-30	1/2-13 x 4.50						
230578	5/16-18 x 2.25	X-463-9	1/2-13 x 5.50						
X-125-29	5/16-18 x 2.50	X-129-44	1/2-13 x 6.00						
X-125-27	5/16-18 x 2.75								
X-125-28	5/16-18 x 3.00	X-129-51	1/2-20 x .75		X-25-46	.125	.250	.022	#4
X-125-22	5/16-18 x 4.50	X-129-45	1/2-20 x 1.25		X-25-9	.156	.375	.049	#6
X-125-32	5/16-18 x 5.00	X-129-52	1/2-20 x 1.50	X-25-48	.188	.438	.049	#8	
X-125-35	5/16-18 x 5.50			X-25-36	.219	.500	.049	#10	
X-125-36	5/16-18 x 6.00	X-6021-3	5/8-11 x 1.00	X-25-40	.281	.625	.065	1/4	
X-125-40	5/16-18 x 6.50	X-6021-4	5/8-11 x 1.25	X-25-85	.344	.687	.065	5/16	
		X-6021-2	5/8-11 x 1.50	X-25-37	.406	.812	.065	3/8	
X-125-43	5/16-24 x 1.75	X-6021-1	5/8-11 x 1.75	X-25-34	.469	.922	.065	7/16	
X-125-44	5/16-24 x 2.50	273049	5/8-11 x 2.00	X-25-26	.531	1.062	.095	1/2	
X-125-30	5/16-24 x .75	X-6021-5	5/8-11 x 2.25	X-25-15	.656	1.312	.095	5/8	
X-125-39	5/16-24 x 2.00	X-6021-6	5/8-11 x 2.50	X-25-29	.812	1.469	.134	3/4	
X-125-38	5/16-24 x 2.75	X-6021-7	5/8-11 x 2.75	X-25-127	1.062	2.000	.134	1	
		X-6021-12	5/8-11 x 3.75						
X-6238-2	3/8-16 x .62	X-6021-11	5/8-11 x 4.50						
X-6238-10	3/8-16 x .75	X-6021-10	5/8-11 x 6.00						
X-6238-3	3/8-16 x .88								
X-6238-11	3/8-16 x 1.00	X-6021-9	5/8-18 x 2.50						
X-6238-4	3/8-16 x 1.25								
X-6238-5	3/8-16 x 1.50	X-6239-1	3/4-10 x 1.00						
X-6238-1	3/8-16 x 1.75	X-6239-8	3/4-10 x 1.25						
X-6238-6	3/8-16 x 2.00	X-6239-2	3/4-10 x 1.50						
X-6238-17	3/8-16 x 2.25	X-6239-3	3/4-10 x 2.00						
X-6238-7	3/8-16 x 2.50	X-6239-4	3/4-10 x 2.50						
X-6238-8	3/8-16 x 2.75	X-6239-5	3/4-10 x 3.00						
X-6238-9	3/8-16 x 3.00	X-6239-6	3/4-10 x 3.50						
X-6238-19	3/8-16 x 3.25								
X-6238-12	3/8-16 x 3.50	X-792-1	1-8 x 2.25						
X-6238-20	3/8-16 x 3.75	X-792-5	1-8 x 3.00						
X-6238-13	3/8-16 x 4.50	X-792-8	1-8 x 5.00						
X-6238-18	3/8-16 x 5.50								
X-6238-25	3/8-16 x 6.50								

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No. Dimensions Hex Head Bolts (Partial Thread)

M931-05055-60	M5-0.80 x 55
M931-06040-60	M6-1.00 x 40
M931-06055-60	M6-1.00 x 55
M931-06060-60	M6-1.00 x 60
M931-06060-SS	M6-1.00 x 60
M931-06070-60	M6-1.00 x 70
M931-06070-SS	M6-1.00 x 70
M931-06075-60	M6-1.00 x 75
M931-06090-60	M6-1.00 x 90
M931-06145-60	M6-1.00 x 145
M931-06150-60	M6-1.00 x 150

M931-08035-60	M8-1.25 x 35
M931-08040-60	M8-1.25 x 40
M931-08045-60	M8-1.25 x 45
M931-08050-60	M8-1.25 x 50
M931-08055-60	M8-1.25 x 55
M931-08055-82	M8-1.25 x 55*
M931-08060-60	M8-1.25 x 60
M931-08070-60	M8-1.25 x 70
M931-08070-82	M8-1.25 x 70*
M931-08075-60	M8-1.25 x 75
M931-08080-60	M8-1.25 x 80
M931-08090-60	M8-1.25 x 90
M931-08095-60	M8-1.25 x 95
M931-08100-60	M8-1.25 x 100
M931-08110-60	M8-1.25 x 110
M931-08120-60	M8-1.25 x 120
M931-08130-60	M8-1.25 x 130
M931-08140-60	M8-1.25 x 140
M931-08150-60	M8-1.25 x 150
M931-08200-60	M8-1.25 x 200

M931-10040-82	M10-1.25 x 40*
M931-10040-60	M10-1.50 x 40
M931-10045-60	M10-1.50 x 45
M931-10050-60	M10-1.50 x 50
M931-10050-82	M10-1.25 x 50*
M931-10055-60	M10-1.50 x 55
M931-10060-60	M10-1.50 x 60
M931-10065-60	M10-1.50 x 65
M931-10070-60	M10-1.50 x 70
M931-10080-60	M10-1.50 x 80
M931-10080-82	M10-1.25 x 80*
M931-10090-60	M10-1.50 x 90
M931-10090-82	M10-1.50 x 90*
M931-10100-60	M10-1.50 x 100
M931-10110-60	M10-1.50 x 110
M931-10120-60	M10-1.50 x 120
M931-10130-60	M10-1.50 x 130
M931-10140-60	M10-1.50 x 140
M931-10180-60	M10-1.50 x 180
M931-10235-60	M10-1.50 x 235
M931-10260-60	M10-1.50 x 260
M960-10330-60	M10-1.25 x 330

M931-12045-60	M12-1.75 x 45
M960-12050-60	M12-1.25 x 50
M960-12050-82	M12-1.25 x 50*
M931-12050-60	M12-1.75 x 50
M931-12050-82	M12-1.75 x 50*
M931-12055-60	M12-1.75 x 55
M931-12060-60	M12-1.75 x 60
M931-12060-82	M12-1.75 x 60*
M931-12065-60	M12-1.75 x 65
M931-12075-60	M12-1.75 x 75
M931-12080-60	M12-1.75 x 80
M931-12090-60	M12-1.75 x 90
M931-12100-60	M12-1.75 x 100
M931-12110-60	M12-1.75 x 110

Part No. Dimensions Hex Head Bolts (Partial Thread), continued

M960-16090-60	M16-1.50 x 90
M931-16090-60	M16-2.00 x 90
M931-16100-60	M16-2.00 x 100
M931-16100-82	M16-2.00 x 100*
M931-16120-60	M16-2.00 x 120
M931-16150-60	M16-2.00 x 150
M931-20065-60	M20-2.50 x 65
M931-20090-60	M20-2.50 x 90
M931-20100-60	M20-2.50 x 100
M931-20120-60	M20-2.50 x 120
M931-20140-60	M20-2.50 x 140
M931-20160-60	M20-2.50 x 160

M931-22090-60	M22-2.50 x 90
M931-22120-60	M22-2.50 x 120
M931-22160-60	M22-2.50 x 160

M931-24090-60	M24-3.00 x 90
M931-24120-60	M24-3.00 x 120
M931-24160-60	M24-3.00 x 160
M931-24200-60	M24-3.00 x 200

Hex Head Bolts (Full Thread)

M933-04006-60	M4-0.70 x 6
M933-05030-60	M5-0.80 x 30
M933-05035-60	M5-0.80 x 35
M933-05050-60	M5-0.80 x 50

M933-06010-60	M6-1.00 x 10
M933-06012-60	M6-1.00 x 12
M933-06014-60	M6-1.00 x 14
M933-06016-60	M6-1.00 x 16
M933-06020-60	M6-1.00 x 20
M933-06025-60	M6-1.00 x 25
M933-06030-60	M6-1.00 x 30
M933-06040-60	M6-1.00 x 40
M933-06050-60	M6-1.00 x 50

M933-07025-60	M7-1.00 x 25
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M933-08010-60	M8-1.25 x 10
M933-08012-60	M8-1.25 x 12
M933-08016-60	M8-1.25 x 16
M933-08020-60	M8-1.25 x 20
M933-08025-60	M8-1.25 x 25
M933-08030-60	M8-1.25 x 30
M933-08030-82	M8-1.25 x 30*

M933-10012-60	M10-1.50 x 12
M961-10020-60	M10-1.25 x 20
M933-10020-60	M10-1.50 x 20
M933-10025-60	M10-1.50 x 25
M961-10025-60	M10-1.25 x 25
M933-10025-82	M10-1.50 x 25*
M961-10030-60	M10-1.25 x 30
M933-10030-60	M10-1.50 x 30
M933-10030-82	M10-1.50 x 30*
M961-10035-60	M10-1.25 x 35
M933-10035-60	M10-1.50 x 35
M933-10035-82	M10-1.50 x 35*
M961-10040-60	M10-1.25 x 40

Part No. Dimensions Hex Head Bolts (Full Thread), continued

M933-12016-60	M12-1.75 x 16
M933-12020-60	M12-1.75 x 20
M961-12020-60F	M12-1.50 x 20
M933-12025-60	M12-1.75 x 25
M933-12025-82	M12-1.75 x 25*
M961-12030-60	M12-1.25 x 30
M933-12030-82	M12-1.75 x 30*
M961-12030-82F	M12-1.50 x 30*
M933-12030-60	M12-1.75 x 30
M933-12035-60	M12-1.75 x 35
M961-12040-82	M12-1.25 x 40*
M933-12040-60	M12-1.75 x 40
M933-12040-82	M12-1.75 x 40*

M961-14025-60	M14-1.50 x 25
M933-14025-60	M14-2.00 x 25
M961-14050-82	M14-1.50 x 50*

M961-16025-60	M16-1.50 x 25
M933-16025-60	M16-2.00 x 25
M961-16030-82	M16-1.50 x 30*
M933-16030-82	M16-2.00 x 30*
M933-16035-60	M16-2.00 x 35
M961-16040-60	M16-1.50 x 40
M933-16040-60	M16-2.00 x 40
M961-16045-82	M16-1.50 x 45*
M933-16045-82	M16-2.00 x 45*
M933-16050-60	M16-2.00 x 50
M933-16050-82	M16-2.00 x 50*
M933-16060-60	M16-2.00 x 60
M933-16070-60	M16-2.00 x 70

M933-18035-60	M18-2.50 x 35
M933-18050-60	M18-2.50 x 50
M933-18060-60	M18-2.50 x 60

M933-20050-60	M20-2.50 x 50
M933-20055-60	M20-2.50 x 55

M933-24060-60	M24-3.00 x 60
M933-24065-60	M24-3.00 x 65
M933-24070-60	M24-3.00 x 70

Pan Head Machine Screws

M7985A-03010-20	M3-0.50 x 10
M7985A-03012-20	M3-0.50 x 12

M7985A-04010-20	M4-0.70 x 10
M7985A-04016-20	M4-0.70 x 16
M7985A-04020-20	M4-0.70 x 20
M7985A-04050-20	M4-0.70 x 50
M7985A-04100-20	M4-0.70 x 100

M7985A-05010-20	M5-0.80 x 10
M7985A-05012-20	M5-0.80 x 12
M7985A-05016-20	M5-0.80 x 16
M7985A-05020-20	M5-0.80 x 20
M7985A-05025-20	M5-0.80 x 25
M7985A-05030-20	M5-0.80 x 30
M7985A-05080-20	M5-0.80 x 80
M7985A-05100-20	M5-0.80 x 100

M7985A-06100-20	M6-1.00 x 100
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Flat Head Machine Screws

M965A-04012-SS	M4-0.70 x 12
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M965A-05012-SS	M5-0.80 x 12
M965A-05016-20	M5-0.80 x 16
M965A-06012-20	M6-1.00 x 12

* This metric hex bolt's hardness is grade 10.9.

Metric, continued

Part No.	Dimensions	Type
Hex Nuts		
M934-03-50	M3-0.50	Standard
M934-04-50	M4-0.70	Standard
M934-04-B	M4-0.70	Brass
M934-05-50	M5-0.80	Standard
M934-06-60	M6-1.00	Standard
M934-06-64	M6-1.00	Std. (green)
M6923-06-80	M6-1.00	Spiralock
M982-06-80	M6-1.00	Elastic Stop
M934-08-60	M8-1.25	Standard
M6923-08-80	M8-1.25	Spiralock
M982-08-80	M8-1.25	Elastic Stop
M934-10-60	M10-1.50	Standard
M934-10-60F	M10-1.25	Standard
M6923-10-80	M10-1.50	Spiralock
M6923-10-62	M10-1.50	Spiralock†
M982-10-80	M10-1.50	Elastic Stop
M934-12-60	M12-1.75	Standard
M934-12-60F	M12-1.25	Standard
M6923-12-80	M12-1.75	Spiralock
M982-12-80	M12-1.75	Elastic Stop
M982-14-60	M14-2.00	Elastic Stop
M6923-16-80	M16-2.00	Spiralock
M982-16-80	M16-2.00	Elastic Stop
M934-18-80	M18-2.5	Standard
M982-18-60	M18-2.50	Elastic Stop
M934-20-80	M20-2.50	Standard
M982-20-80	M20-2.50	Elastic Stop
M934-22-60	M22-2.50	Standard
M934-24-80	M24-3.00	Standard
M982-24-60	M24-3.00	Elastic Stop
M934-30-80	M30-3.50	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
M125A-03-80	3.2	7.0	0.5	M3
M125A-04-80	4.3	9.0	0.8	M4
M125A-05-80	5.3	10.0	1.0	M5
M125A-06-80	6.4	12.0	1.6	M6
M125A-08-80	8.4	16.0	1.6	M8
M125A-10-80	10.5	20.0	2.0	M10
M125A-12-80	13.0	24.0	2.5	M12
M125A-14-80	15.0	28.0	2.5	M14
M125A-16-80	17.0	30.0	3.0	M16
M125A-18-80	19.0	34.0	3.0	M18
M125A-20-80	21.0	37.0	3.0	M20
M125A-24-80	25.0	44.0	4.0	M24

† This metric hex nut's hardness is grade 8.

TP-6786 1/15c

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