

Service Parts

Residential/Commercial Generator Sets



Models:

15/30REYG

15/30RESA

30RESAL

KOHLER[®]
POWER SYSTEMS

9001
KOHLER
POWER SYSTEMS
NATIONALLY REGISTERED

TP-6729 12/11b

Common Replacement Parts

Figure 1 identifies common replacement parts for your generator set. Refer to the groups on the following pages for a complete list of maintenance and service parts.

Description	Part Number	Quantity On Unit	
		15 kW	30 kW
Element, air cleaner	GM16944	1	1
Element, oil filter	GM28351	1	1
Belt, Poly-6V (39 in.)	GM28352		1
Belt, Poly-6V (40.75 in.)	GM28353	1	
PCB Assy., Relay board 12V	GM29671	1	1
Hose, upper radiator	GM33021	1	1
Hose, lower radiator	GM33022	1	1
Spark plug	GM35826	4	4
Belt, timing	GM38753	1	1
Thermostat	GM38758	1	1

Figure 1 Common Replacement Parts

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Introduction

This manual lists service replacement parts for 15/30REYG and 15/30RESA(L) generator sets.

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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.

Specification Number Index. Lists the generator set specs and groups.

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

Kit Sections. List modules and accessories and their parts.

Appendices. Include Abbreviations, Common Hardware Application Guidelines, General Torque Specifications, Common Hardware Identification, and Common Hardware List.

Numbering System Significance

This manual uses the following numbering systems:

Specification Number. The product identification number located on the generator set nameplate. Specification numbers break down into groups.

Group Number. A unique number representing a parts group needed to assemble a generator set function. For example, Group 101 is the Air Intake group.

Variation or Module Number. A group might have several variations. Each variation performs the same function with different parts lists. For example, a 50 Hz generator alternator and a 60 Hz generator alternator both perform the same function; however, 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 generator set nameplate to **identify the generator set spec number**.
2. Locate a second generator set nameplate listing accessories to **identify installed modules**. On some models the accessory nameplate is mounted inside the generator junction box.
3. **Turn to the Specification Number Index.** The first column lists the generator set spec numbers. The headings identify the groups of parts that make up the generator set.
4. **Identify the group** most likely to include the service part number.
5. **Find the group variation number** at the intersection of the spec number row and the group column. Note the variation number.
6. **Page forward to locate the group** identified in step 4 or find the appropriate page in the Table of Contents.
7. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
8. Select **the part number that corresponds to your group variation**. The first column lists the illustration item number. Find the variation identified in the Specification Number Index or the module number found on the generator set nameplate 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 or, if contacting the factory, use the Common Hardware List in the appendix to identify the common hardware part number and specifications. See Common Hardware Application Guidelines in the appendix for mating hardware instructions.

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. Use the Common Hardware List in the appendix to identify the common hardware hardness.

Specification Number Index

Group Title	<i>Engine Block/Lower End</i>	<i>Engine Head/Upper End</i>	<i>Breather</i>	<i>Fan Drive</i>	<i>Backplate</i>	<i>Fan Spacer</i>	<i>Alternator</i>	<i>Intake Manifold Plug</i>	<i>Electrical</i>	<i>Fuel Kit</i>			
Group No.	1	2	3	4	5	6	7	8	9	10			
Spec No.	Variation Number												
15REYG													
GM69190-GA2	1	1	1	1	1	1	1	1	1	1			
GM69190-GA7	3	3	1	1	1	1	1	1	1	3			
15RESA													
GM69190-GA1	1	1	1	1	1	1	1	1	1	1			
GM69190-GA6	3	3	1	1	1	1	1	1	1	3			
30REYG													
GM69190-GA4	2	2	1	2	1	2	2	1	1	2			
GM69190-GA9	4	4	1	2	1	2	2	1	1	4			
GM74628-GA2	4	4	1	2	1	2	2	1	1	5			
30RESA													
GM69190-GA3	2	2	1	2	1	2	2	1	1	2			
GM69190-GA8	4	4	1	2	1	2	2	1	1	4			
GM74628-GA1	4	4	1	2	1	2	2	1	1	5			
30RESAL													
30RESAL-SA1	4	4	1	2	1	2	2	1	1	5			
30RESAL-SA2	4	4	1	2	1	2	2	1	1	5			

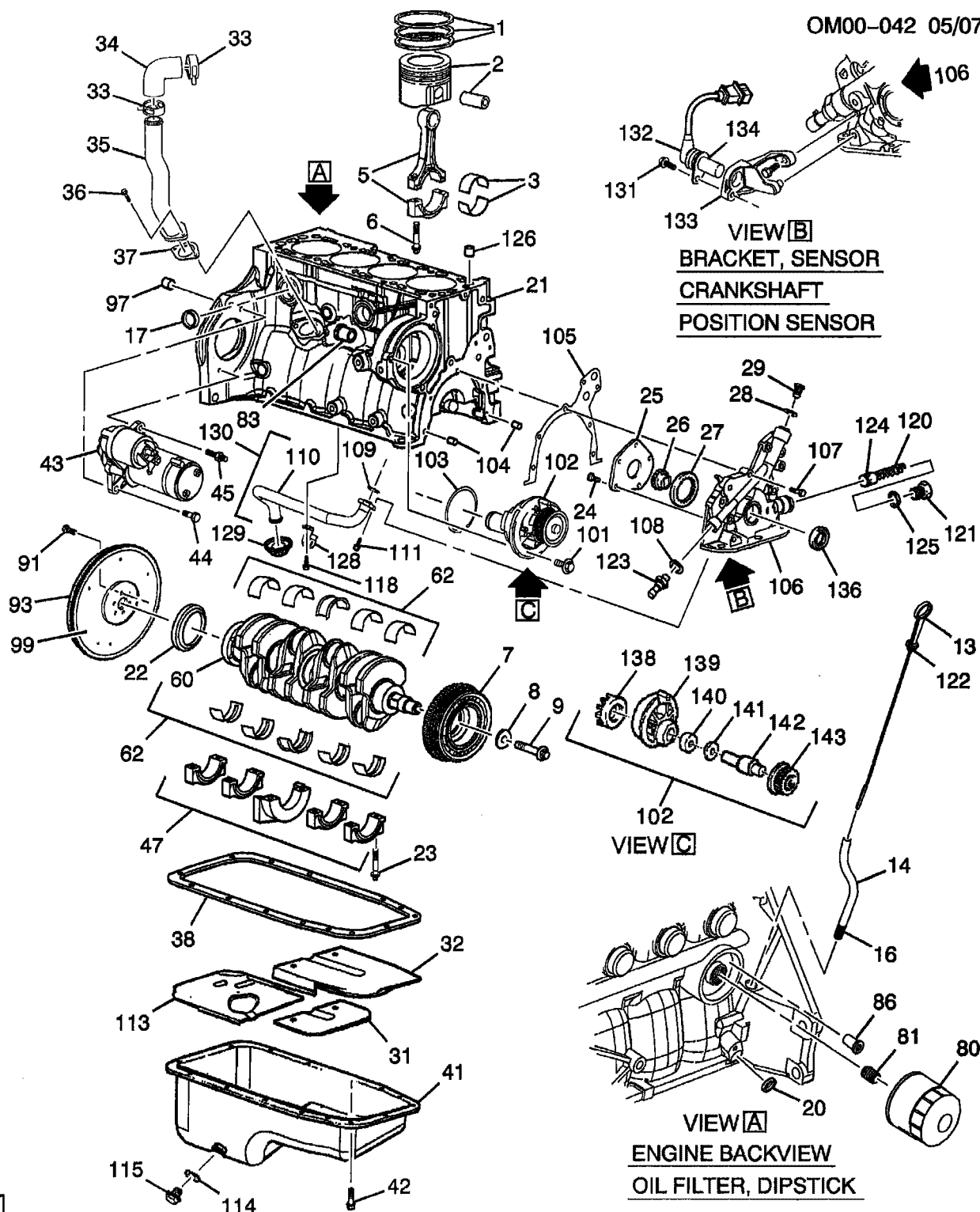
Specification Number Index

Group Title	Air Intake	Fuel System	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Sound Enclosure	Literature			
Group No.	101	103	104	105	107	109	201	301	501	701			
Spec No.	Variation Number												
15REYG													
GM69190-GA2	*	1	*	1	1	*	*	*	*	421			
GM69190-GA7	*	1	*	3	1	*	*	*	*	421			
15RESA													
GM69190-GA1	*	1	*	1	1	*	*	*	*	419			
GM69190-GA6	*	1	*	3	1	*	*	*	*	419			
30REYG													
GM69190-GA4	*	1	*	2	1	*	*	*	*	422			
GM69190-GA9	*	1	*	4	1	*	*	*	*	422			
GM74628-GA2	*	1	*	5	1	*	*	*	*	422			
30RESA													
GM69190-GA3	*	1	*	2	1	*	*	*	*	420			
GM69190-GA8	*	1	*	4	1	*	*	*	*	420			
GM74628-GA1	*	1	*	5	1	*	*	*	*	420			
30RESAL													
30RESAL-SA1	1	1	1	5	1	1	1	1	1	441			
30RESAL-SA2	1	1	1	5	1	1	1	1	1	441			

* Configured group. Refer to the generator set nameplate for the module number.
Turn to the respective group on the following pages for parts breakdowns.

Group 1: Engine Block/Lower End

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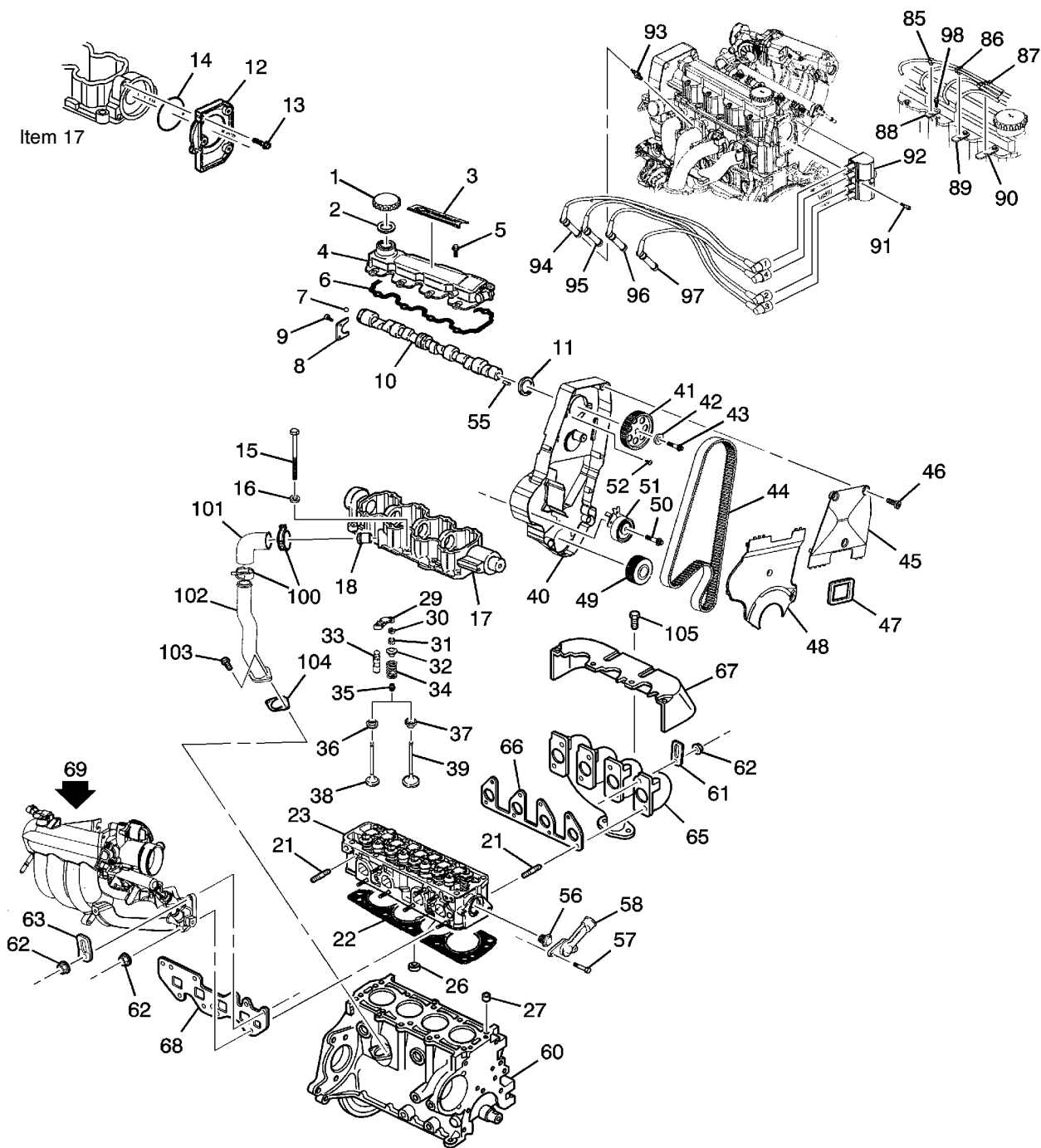
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Group 1: Engine Block/Lower End

Item	Part Number	Description	Qty.			
			Var.			
			1	2	3	4
1	GM38640	Ring kit, piston (part of item 2)	4	4	4	4
2	GM38641	Piston w/pin (includes item 1)	1	1	1	1
3	GM38642	Bearing kit, connecting rod, std	1	1	1	1
3	GM38643	Brng kit, con rod, 0.25 mm OS	1	1	1	1
5	GM38644	Rod, connecting (includes item 6)	4	4	4	4
6	GM38645	Bolt, con rod (part of item 5)	8	8	8	8
7	GM38646	Pulley, crankshaft	1	1	1	1
8	GM38647	Washer, crankshaft pulley	1	1	1	1
9	GM75241	Bolt, crankshaft pulley	1	1	1	1
13	GM38649	Indicator, oil level	1	1	1	1
14	GM38650	Tube, oil level	1	1	1	1
16	GM16430	Sealer, oil level ind. tube	1	1	1	1
17	GM38651	Plug, engine block cool hole	7	7	7	7
20	GM38652	Plug, engine block cool hole	1	1	1	1
21		Block, engine (includes block, piston, rings)	1	1	1	1
22	GM38654	Seal, crankshaft oil	1	1	1	1
23	GM38655	Bolt, crankshaft bearing cap	10	10	10	10
24	GM75024	Bolt, oil pump cvr (part of 106)	5	5	5	5
25	GM38657	Cover, oil pump (part of 106)	1	1	1	1
26	GM38658	Gear, oil pump (part of 106)	1	1	1	1
27	GM38659	Gear, oil pmp drv (part of 106)	1	1	1	1
28	GM38660	Seal, oil pump housing	1	1	1	1
29	GM75277	Plug, oil pump housing	1	1	1	1
31	-	See item 113				
32	GM38662	Baffle, oil pan	1	1	1	1
33	GM38663	Clamp, PVC hose	1	1	1	1
34	GM38664	Hose, PVC	1	1	1	1
35	GM38665	Tube, PVC	1	1	1	1
36	GM75243	Bolt, PVC tube	2	2	2	2
37	GM38667	Gasket, PVC tube	1	1	1	1
38	GM38668	Gasket, oil pan	1	1	1	1
41	GM75250	Pan, oil (incl. 31, 113, 114, 115)	1	1	1	1
42	GM75249	Bolt, oil pan	5	5	5	5
43	GM62221	Starter	1	1	1	1
44	GM75216	Bolt, starter	1	1	1	1
45	GM38673	Stud, starter	1	1	1	1
60	GM38674	Crankshaft	1	1	1	1
62	GM38675	Bearing kit, crankshaft (position #1, 2, 4, 5, std, brown)	4	4	4	4
62	GM38676	Bearing kit, crankshaft (pos #1,2,4,5, OS 0.25 mm, grn)	4	4	4	4
62	GM38677	Bearing kit, crankshaft (position #1, 2, 3, 4, 5, std, brown/blue)	4	4	4	4

Item	Part Number	Description	Qty.			
			Var.			
			1	2	3	4
62	GM38678	Bearing kit, crankshaft (position #1, 2, 3, 4, 5, 0.50 mm, green/blue)	4	4	4	4
62	GM38679	Bearing kit, crankshaft (pos. #3, std., brown)	4	4	4	4
62	GM38680	Bearing kit, crankshaft (pos. #3, std., green)	4	4	4	4
80	GM28351	Element, oil filter	1	1	1	1
81	GM38681	Fitting, oil filter	1	1	1	1
83	GM38683	Plug, water pump hole	1	1	1	1
86	GM38684	Valve, oil filter bypass	1	1	1	1
91	GM38685	Bolt, flywheel	6	6	6	6
93	GM38686	Gear, ring (part of item 99)	1	1	1	1
97	GM38687	Pin	2	2	2	2
99	GM75256	Flywheel	1	1	1	1
101	GM75244	Bolt, water pump cover	3	3	3	3
102	GM75257	Pump, water	1	1	1	1
103	GM38691	Seal, water pump cover	1	1	1	1
104	GM38692	Pin	1	1	1	1
105	GM38693	Gasket, oil pump	1	1	1	1
106	GM38694	Pump, oil (incl. 24-27, 121, 125)	1	1	1	1
107	GM38695	Bolt, oil pump	6	6	6	6
108	GM38696	Seal	1	1	1	1
109	GM38697	Seal, oil pump suction pipe	1	1	1	1
110	GM38698	Pipe, oil pmp suct (part of 130)	1	1	1	1
111	GM75242	Bolt, oil pump screen	2	2	2	2
113	GM38662	Baffle, oil pan	1	1	1	1
114	GM38696	Seal, oil pan drn plg (part of 41)	1	1	1	1
115	GM38700	Plug, oil pan drn (part of item 41)	1	1	1	1
118	GM38699	Bolt, oil pump screen bracket	1	1	1	1
120	GM38701	Spring, oil pressure relief valve (part of item 106)	1	1	1	1
121	GM38702	Plug, oil pressure relief valve bore	1	1	1	1
122	-	Seal (part of item 13)	1	1	1	1
123	GM38704	Switch, engine oil pressure	1	1	1	1
124	GM38705	Valve, oil pressure relief	1	1	1	1
125	GM75025	Gasket, oil pres relief vlv bore plug	1	1	1	1
126	GM38707	Pin, cylinder head	2	2	2	2
128	GM38708	Bracket, oil pump screen	1	1	1	1
130	GM38709	Screen, oil pmp (incl. 110, 129)	1	1	1	1
131	GM75245	Bolt, crankshaft posn sensor brkt	1	1	1	1
132	GM38711	Sensor, crankshaft position	1	1	1	1
133	GM38712	Bracket, crsht pos. snsr lead clip	1	1	1	1
134	GM38713	Bolt, crankshaft position sensor	3	3	3	3
136	GM38714	Seal, oil pump	1	1	1	1
138	GM75238	Impeller, water pump	1	1	1	1
139	GM75275	Housing, water pump	1	1	1	1
140	GM75218	Seal, water pump	1	1	1	1
141	GM75217	Seat, water pump seal	1	1	1	1
142	GM75107	Bearing, water pump drv shaft	1	1	1	1
143	GM75276	Sprocket, water pump	1	1	1	1

Group 2: Engine Head/Upper End



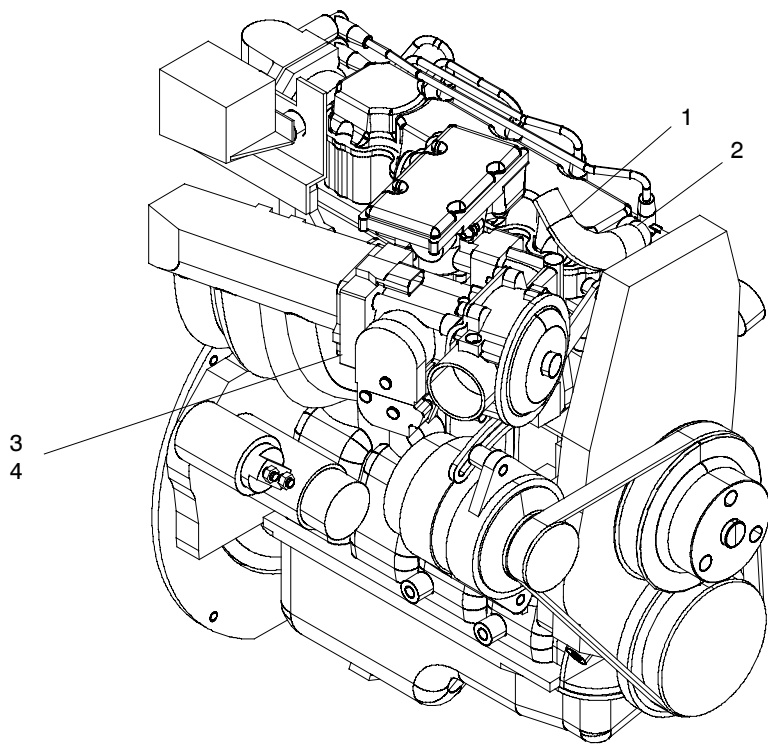
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Group 2: Engine Head/Upper End

Item	Part Number	Description	Qty.			
			Var.			
			1	2	3	4
1	GM38715	Cap, oil fill	1	1	1	1
2	GM38703	Seal, oil fill cap	1	1	1	1
3	-	Not sold as a service part	1	1	1	1
4	GM38716	Cover, camshaft housing	1	1	1	1
5	GM38717	Bolt, camshaft housing cover	8	8	8	8
6	GM38718	Gasket, camshaft housing cvr	1	1	1	1
7	GM38719	Ball, camshaft (part of item 10)	1	1	1	1
8	GM38720	Retainer, camshaft	1	1	1	1
9	GM38721	Bolt, camshaft retainer	2	2	2	2
10	GM38773	Camshaft (incl. items 7, 55)	1	1	1	1
11	GM38722	Seal, camshaft	1	1	1	1
12	GM38723	Cover, camshaft housing	1	1	1	1
13	GM38724	Bolt, camshaft rear cover	3	3	3	3
14	GM38725	Seal, camshaft hsg cover bolt	1	1	1	1
15	GM38726	Bolt, cylinder head	10	10	10	10
16	-	Not used	1	1	1	1
17	GM75255	Housing, camshaft	1	1	1	1
18	GM38729	Tube, PVC	1	1	1	1
21	GM38730	Stud, intake manifold, M8 x 96	4	4	4	4
21	GM38731	Stud, intake manifold, M8 x 28	9	9	9	9
22	GM38732	Gasket, cylinder head	1	1	1	1
23	GM75247	Head, cylinder	1	1	1	1
26	GM38734	Seat, intake valve, 0.4 mm OS	4	4	4	4
26	GM38735	Seat, exhaust vlv, 0.4 mm OS	4	4	4	4
26	GM38736	Seat, exhaust valve, standard	4	4	4	4
26	GM38737	Seat, exhaust vlv, 0.2 mm OS	4	4	4	4
26	GM38738	Seat, intake valve, standard	4	4	4	4
26	GM38739	Seat, intake valve, 0.2 mm OS	4	4	4	4
27	GM38707	Pin, cylinder head	2	2	2	2
29	GM38740	Arm, valve rocker	8	8	8	8
30	GM38741	Se al Cap, valve stem	8	8	8	8
30	GM38742	Se al Seat, valve spring	8	8	8	8
31	GM75254	Key, valve stem	16	16	16	16
32	GM38744	Cap, valve spring	4	4	4	4
33	GM38745	Adjuster	8	8	8	8
34	GM38746	Spring, valve	8	8	8	8
35	GM38747	Seal, valve stem	8	8	8	8
36	GM38748	Rotator, valve	4	4	4	4
37	GM38741	Seat, valve spring GM38742	8	8	8	8
38	GM38749	Valve, exhaust	4	4	4	4
39	GM38750	Valve, intake	1	1	1	1
40	GM40996	Timing case	1	1	1	1

Item	Part Number	Description	Qty.			
			Var.			
			1	2	3	4
41	GM38751	Sprocket, camshaft	1	1	1	1
42	GM38727	Washer, camshaft sprocket	1	1	1	1
43	GM75246	Bolt, camshaft sprocket	1	1	1	1
44	GM38753	Belt, timing	1	1	1	1
45	GM38754	Cover, timing belt front	1	1	1	1
46	GM38670	Bolt, engine front cover	6	6	6	6
47	-	Not serviced				
48	GM38755	Cover, timing belt upper front	1	1	1	1
49	GM74549	Sprocket, crankshaft	1	1	1	1
50	GM75253	Bolt, Tmg Belt Tensr	1	1	1	1
51	GM75251	Tensioner, timing belt	1	1	1	1
52	GM18911	Bolt, tmg belt rr cover	4	4	4	4
55	GM38707	Pin, camshaft housing				
	GM92144	(part of item 10)	1	2	2	2
56	GM38758	Thermostat				
		(includes seal and item 58)	1	1	1	1
57	GM38759	Bolt, thermostat housing	2	2	2	2
58	-	See item 56				
60		Engine, 1.6 L	1	1	1	1
61	-	Not serviced				
62	GM38761	Nut, exhaust manifold	8	8	8	8
63	-	Not serviced				
65	GM38762	Manifold, exhaust	1	1	1	1
66	GM28349	Gasket, exhaust manifold	1	1	1	1
67	GM75248	Shield, exhaust manifold	1	1	1	1
68	GM38764	Gasket, intake manifold	1	1	1	1
69	GM75258	Manifold, intake	1	1	1	1
85	GM38765	Retainer, spark plug wire	1	1	1	1
86	GM38766	Retainer, spark plug wire	1	1	1	1
87	GM38767	Retainer, spark plug wire	1	1	1	1
88	GM38768	Bracket, spark plug wire ret.	1	1	1	1
89	GM38769	Bracket, spark plug wire ret.	1	1	1	1
90	GM38770	Bracket, spark plug wire ret.	1	1	1	1
91	GM38710	Bolt, ignition coil bracket	1	1	1	1
92	GM38771	Coil, ignition	1	1	1	1
93	GM35826	Spark plug	4	4	4	4
94	GM28356	Wire, spark plug #1 cylinder	1	1	1	1
95	GM28357	Wire, spark plug #2 cylinder	1	1	1	1
96	GM28358	Wire, spark plug #3 cylinder	1	1	1	1
97	GM28359	Wire, spark plug #4 cylinder	1	1	1	1
98	GM38710	Bolt, ignition coil bracket	1	1	1	1
100	GM38663	Clamp, PVC hose	1	1	1	1
101	GM38664	Hose, PVC	1	1	1	1
102	GM38665	Tube, PVC	1	1	1	1
103	GM75243	Bolt, PVC tube	2	2	2	2
104	GM38667	Gasket, PVC tube	1	1	1	1
105	GM75252	Bolt, exh. manifold heat shield	5	5	5	5

Group 3: Breather

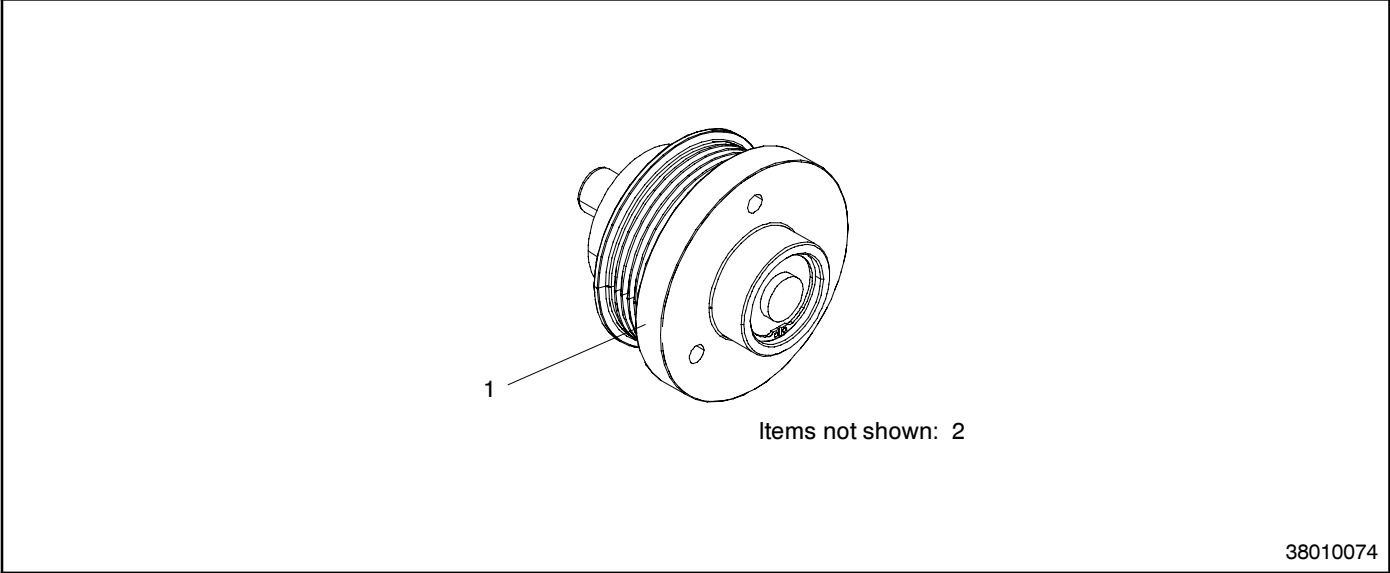


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Item	Part Number	Description	Qty.
			Var.
			1
1	GM39219	Hose, vent	1
2	GM28893	Clamp, hose, 1 1/4 in.	1
3	GM39228	Hose, vacuum 7/32 x 12 in. (adapter to valve cover)	1
4	GM39223	Fitting, vac M16-1.5-6H	1

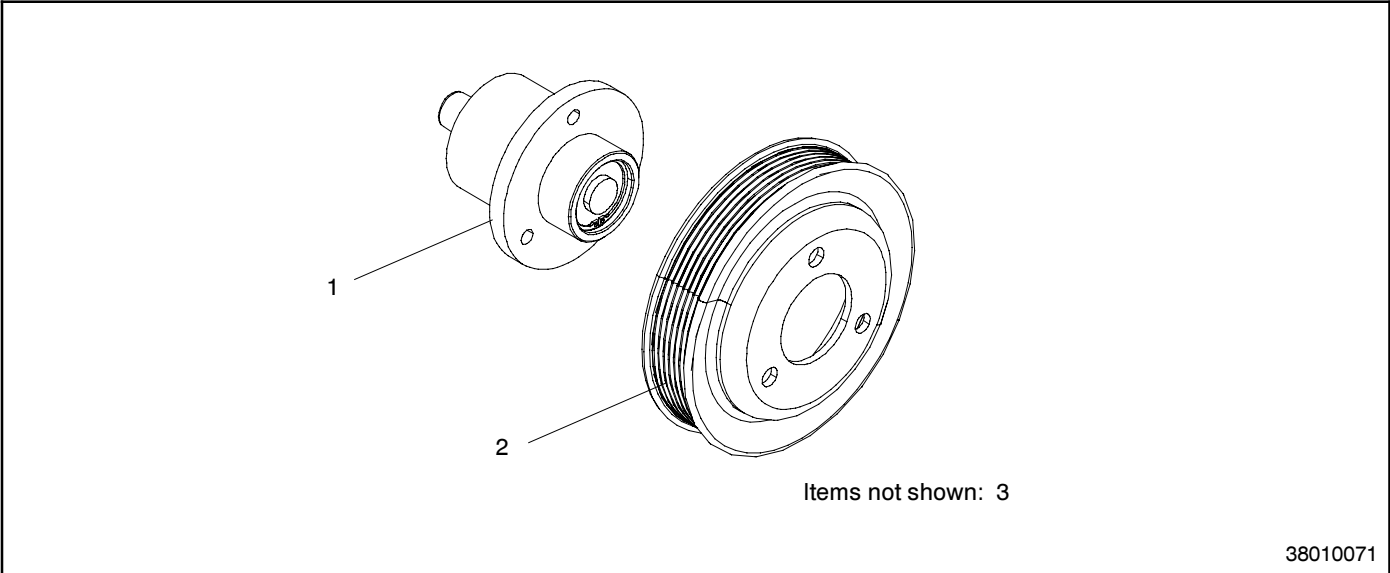
Group 4: Fan Drive

15 kW



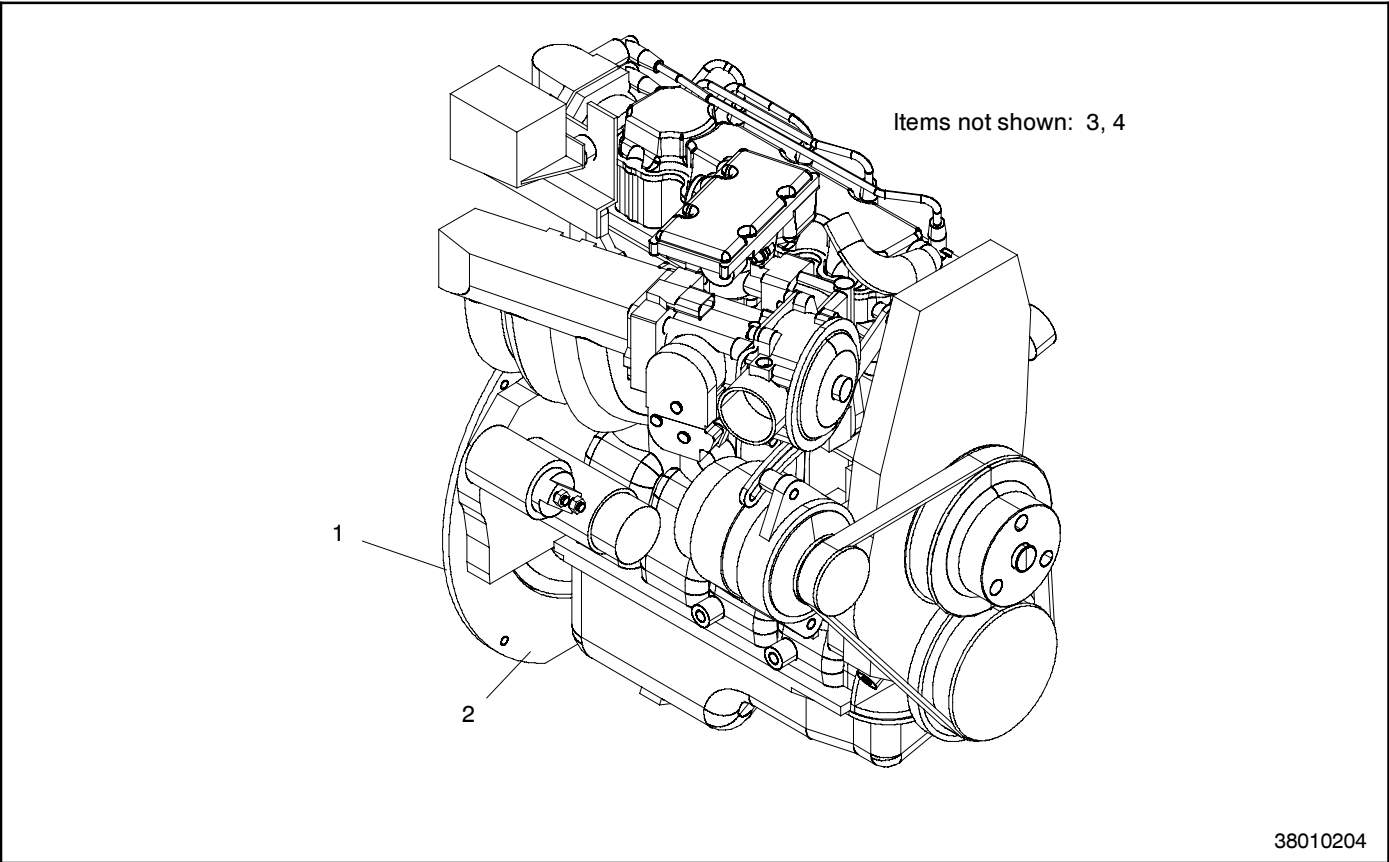
Item	Part Number	Description	Qty.
			Var. 1
1	GM39238	Base/hub assembly	1
2	GM72321	Bolt, M8-1.25 x 20 flange head	2

30 kW



Item	Part Number	Description	Qty.
			Var. 2
1	GM39239	Base/hub assembly	1
2	GM39235	Pulley	1
3	GM72321	Bolt, M8-1.25 x 20 flange head	2

Group 5: Backplate



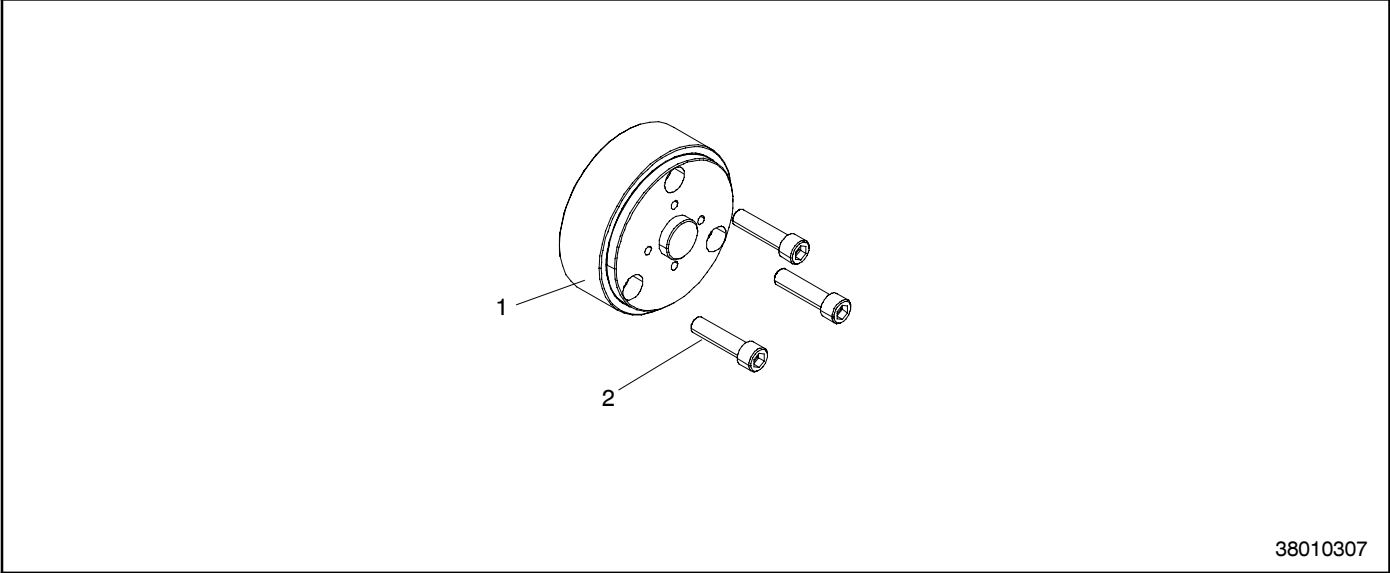
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Item	Part Number	Description	Qty.
			Var.
1	GM39209	Backplate	1
2	GM39210	Plate, ring gear cover	1
3	GM75202	Bolt, M12-1.75 x 30 Skt Hd	5
4	#	Bolt, 1/4-20x1/2 Flange Hd Ser	4

Common hardware; procure locally.

Group 6: Fan Spacer

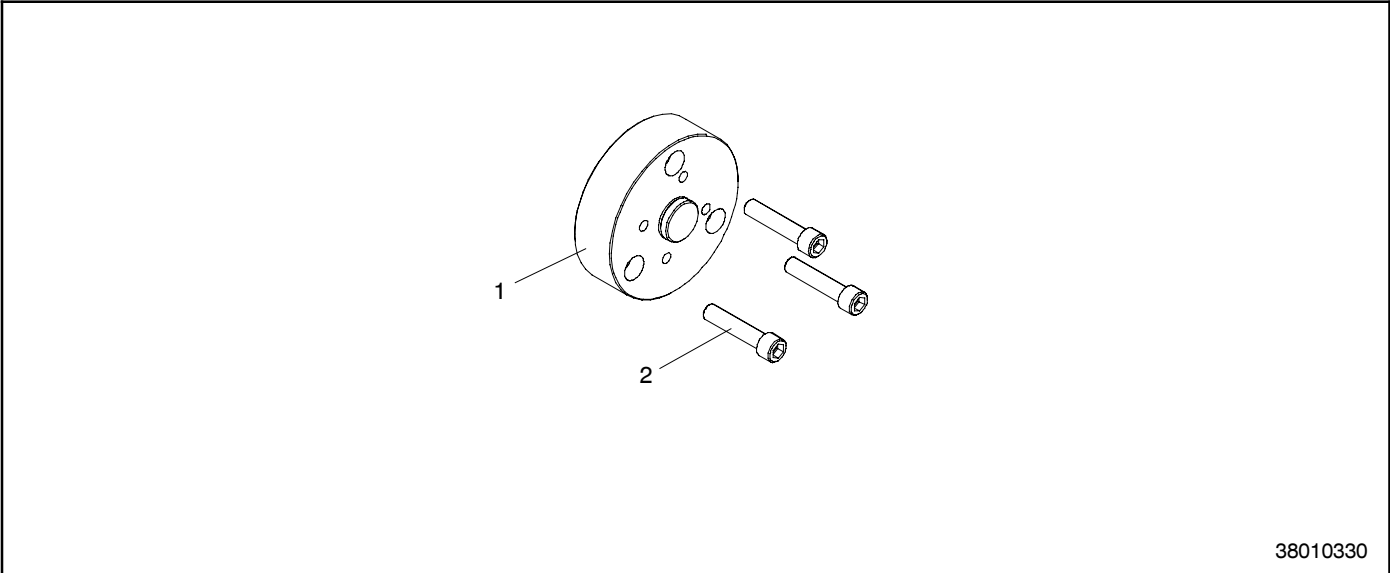
15 kW



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Item	Part Number	Description	Qty.
			Var. 1
1	GM39240	Spacer, fan	1
2	GM75197	Bolt, 3/8-16 x 1 1/2 SktHd Gr8	3

30 kW

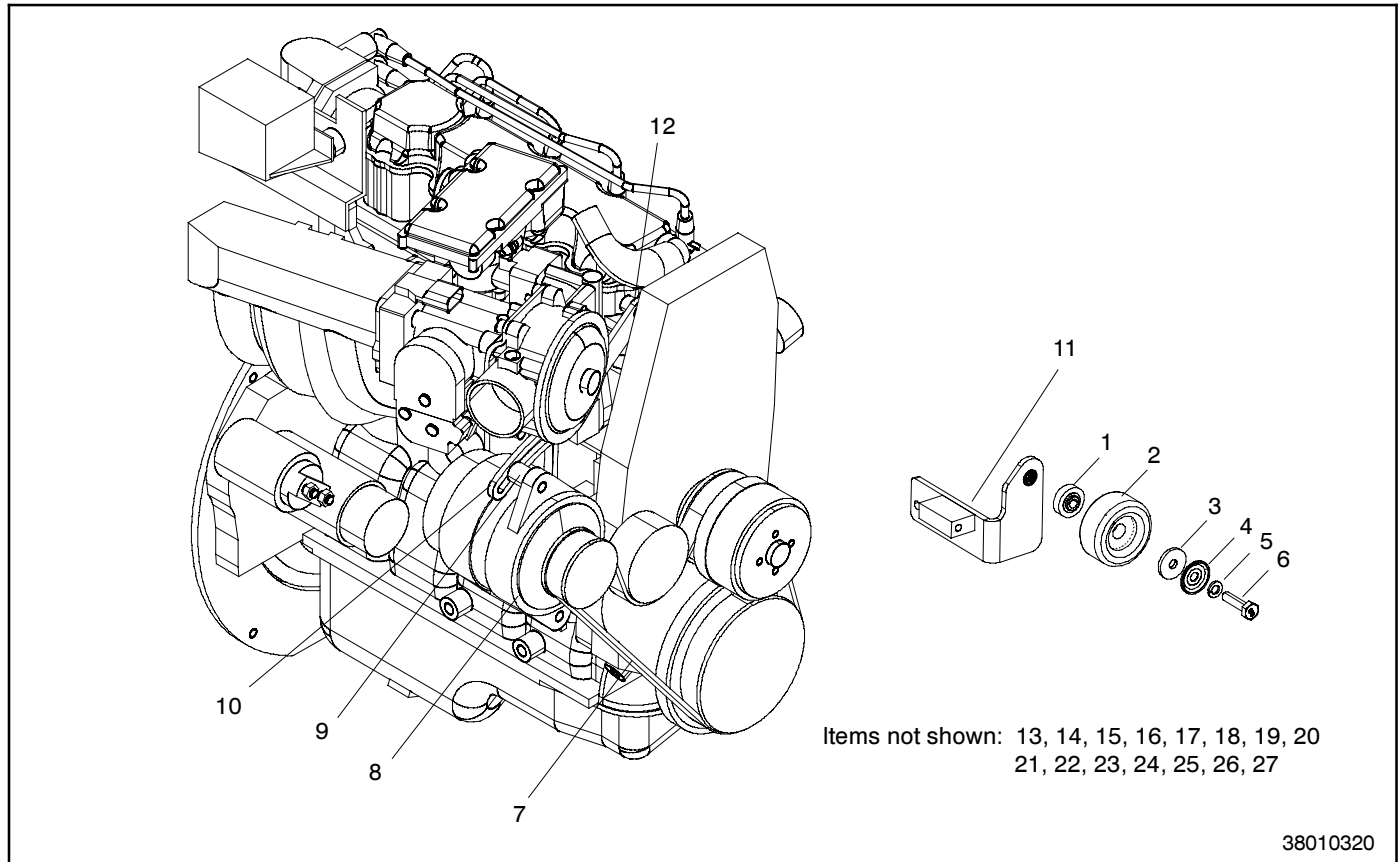


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Item	Part Number	Description	Qty.
			Var. 2
1	GM75121	Spacer, Fan 1.125 Long	1
2	GM75203	Bolt, 3/8-16x1-3/4 SktHd	3

Group 7: Alternator

15 kW

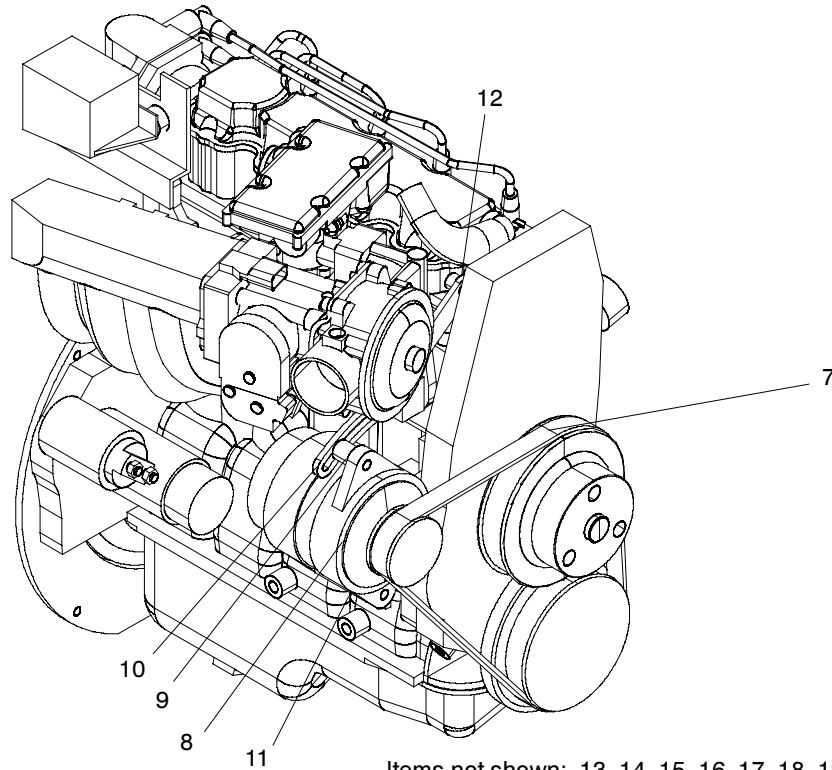


38010320

Item	Part Number	Description	Qty. Var.
1	GM39237	Spacer, idler, .370 L x 1.378 OD	1
2	GM39234	Pulley, idler	1
3	GM23422	Washer, idler	1
4	GM39236	Dust shield, idler	1
5	GM72313	Washer, lock M10	1
6	GM73559	Bolt	1
7	GM28353	Belt, Poly-6V (40.75")	1
8	GM16180	Alternator, 70 amp	1
9	GM39216	Spacer, alternator adj. strap	1
10	GM39215	Strap, alternator adjust	1
11	GM39217	Bracket, mount	1
12	GM39214	Bracket, anchor alt. strap	1
13	GM39213	Wire, ground	1
14	GM75193	Nut, M8-1.25	1
15	GM72311	Bolt, M8-1.25 x 20 hxd gr 8.8	2
16	GM75194	Washer, Flat 5/16 USS	1
17	GM61733	Washer	4
18	GM75195	Washer, Flat 5/16 SAE	1
19	#	Bolt, M8-1.25 x 50 HxHd Gr 8.8	1
20	GM72313	Washer, lock M10	2
21	GM24190	Washer, flat 3/8 SAE	1
22	#	Bolt, M10-1.50 x 15 HxHd Gr8.8	1
23	GM69518	Bolt, M8 x 1.25 x 25 hex head, gr. 8.8	1
24	#	Bolt, M8-1.25 x 110 HxHd Gr8.8	1
25	#	Bolt, M10-1.50 x 25 HxHd Gr8.8	2
26	#	Nut, Lock M8-1.25	1
27	#	Washer, Star 3/8	1

Group 7: Alternator

30 kW

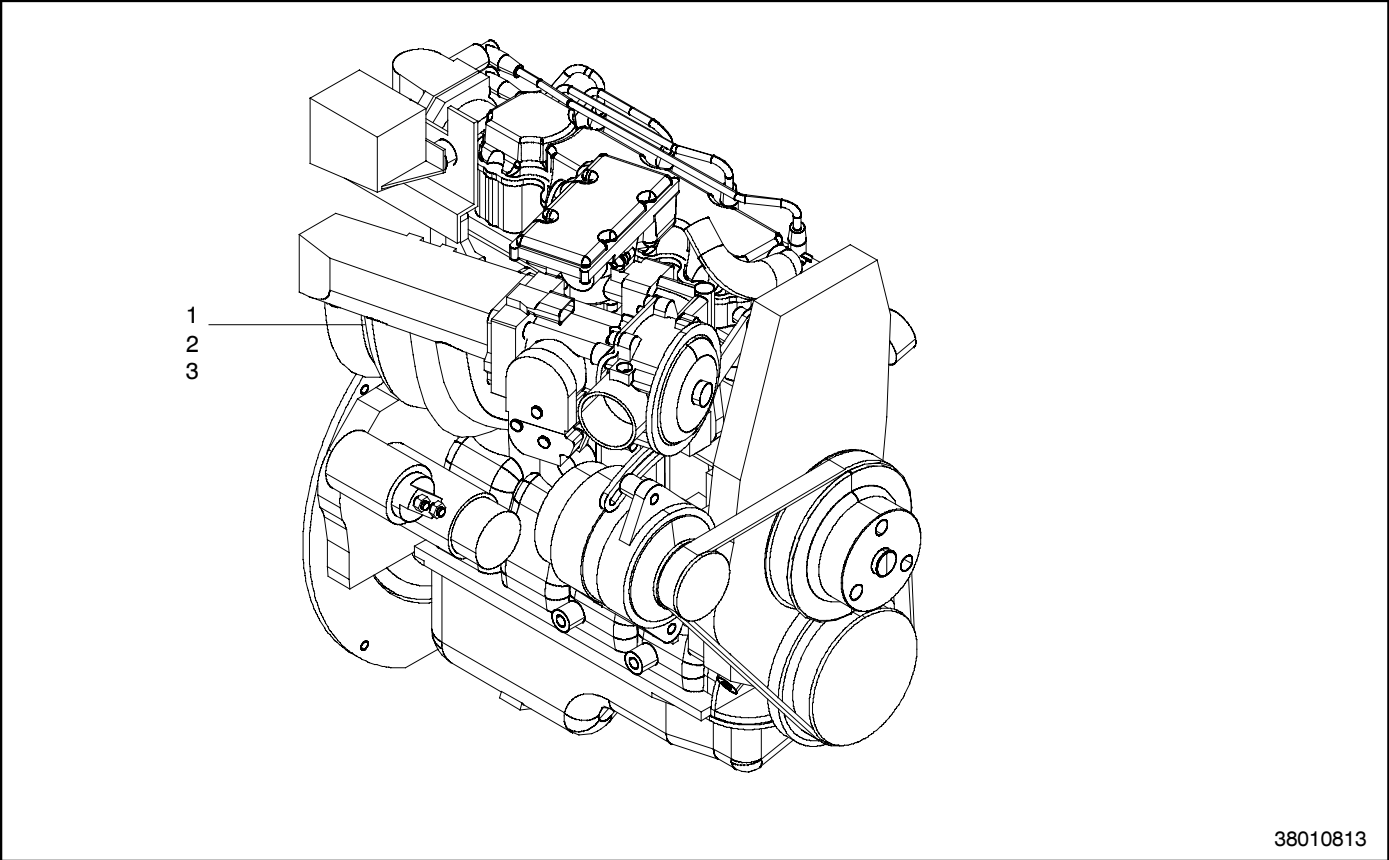


Items not shown: 13, 14, 15, 16, 17, 18, 19, 20
21, 22, 23, 24, 25, 26, 27

38010319

Item	Part Number	Description	Qty.
			Var. 2
7	GM28352	Belt, Poly-6V (39")	1
8	GM16180	Alternator, 70 amp	1
9	GM39216	Spacer, alternator adj. strap	1
10	GM39215	Strap, alternator adjust	1
11	GM39217	Bracket, mount	1
12	GM39214	Bracket, anchor alt. strap	1
13	GM39213	Wire, ground	1
14	GM75193	Nut, M8-1.25	1
15	GM72311	Bolt, M8-1.25 x 20 HxHd gr 8.8	2
16	GM75194	Washer, Flat 5/16 USS	1
17	GM61733	Washer	4
18	GM75195	Washer, Flat 5/16 SAE	1
19	#	Bolt, M8-1.25 x 50 HxHd Gr 8.8	1
20	GM72313	Washer, lock M10	2
21	GM24190	Washer, flat 3/8 SAE	1
22	#	Bolt, M10-1.50 x 15 HxHd Gr8.8	1
23	GM69518	Bolt, M8 x 1.25 x 25 hex head, gr. 8.8	1
24	#	Bolt, M8-1.25 x 110 HxHd Gr8.8	1
25	#	Bolt, M10-1.50 x 25 HxHd Gr8.8	2
26	#	Nut, Lock M8-1.25	1
27	#	Washer, Star 3/8	1

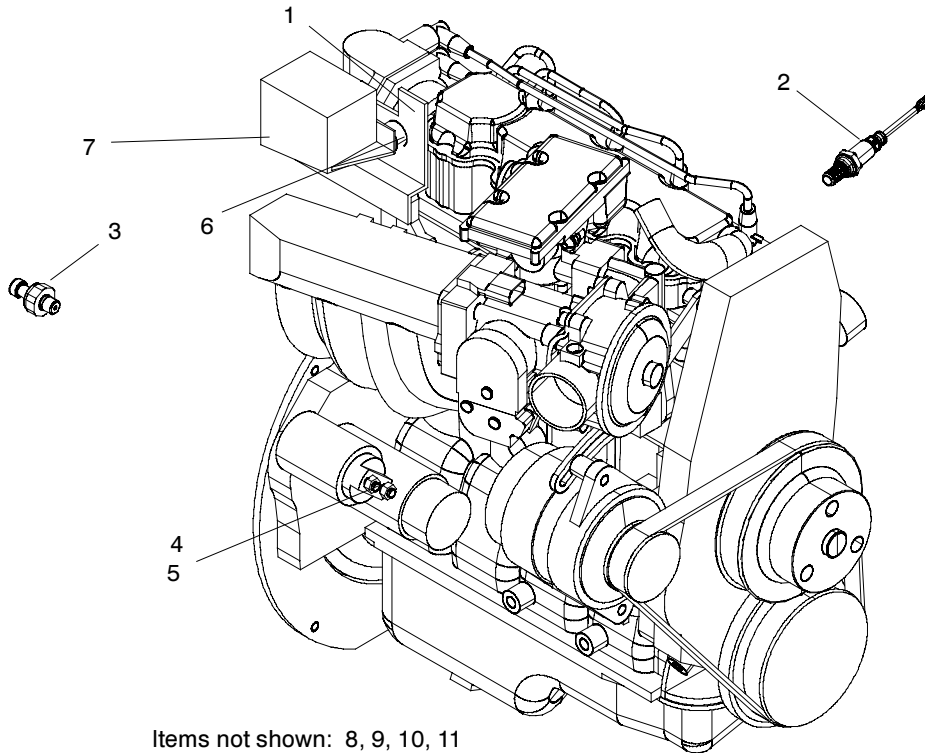
Group 8: Intake Manifold Plug



38010813

Item	Part Number	Description	Qty.
			Var. 1
1	GM75190	Plug, Injector Hole	4
2	GM39233	Plug, map sensor port	1
3	GM16226	Plug, 1/8"	1

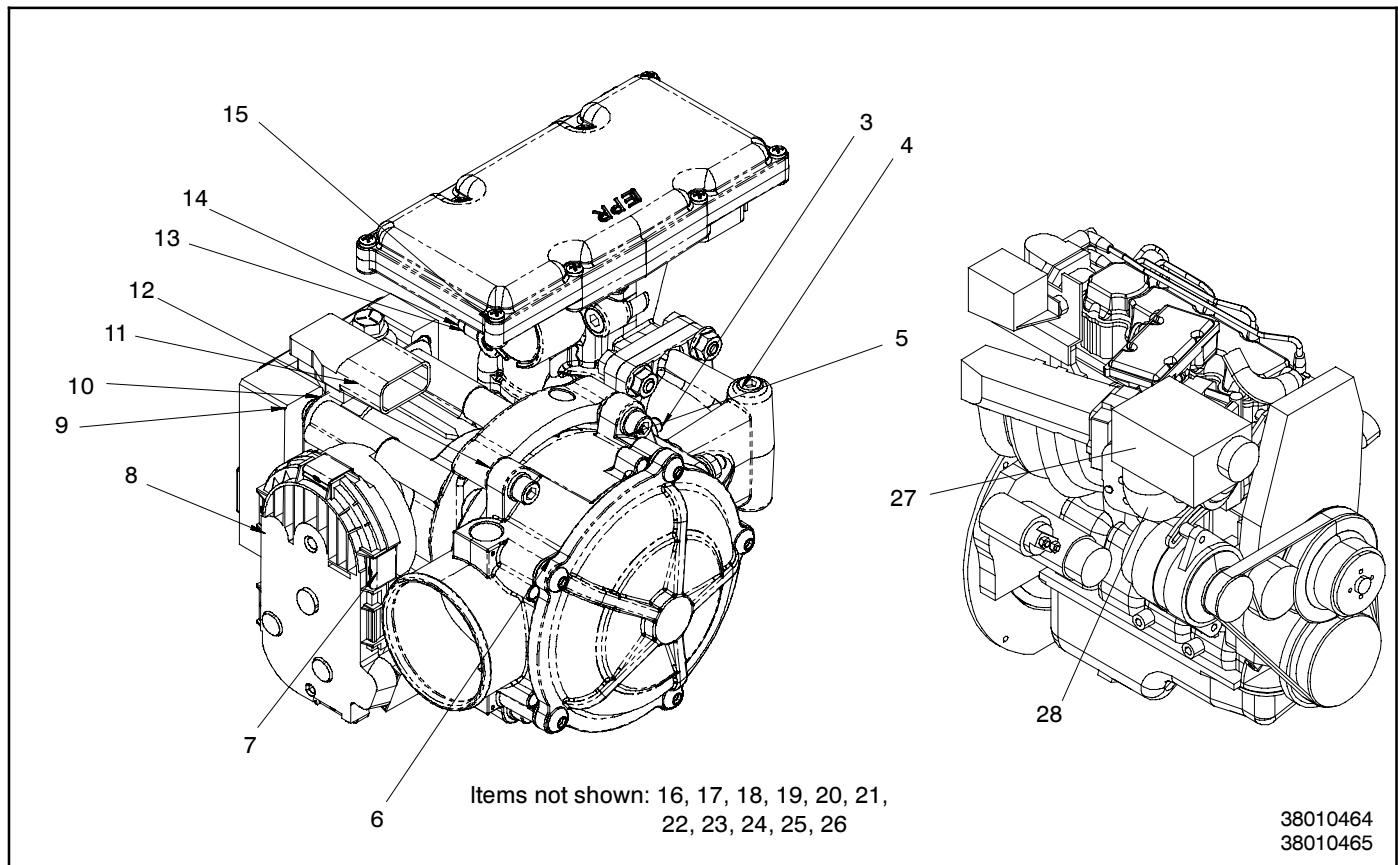
Group 9: Electrical



38010332

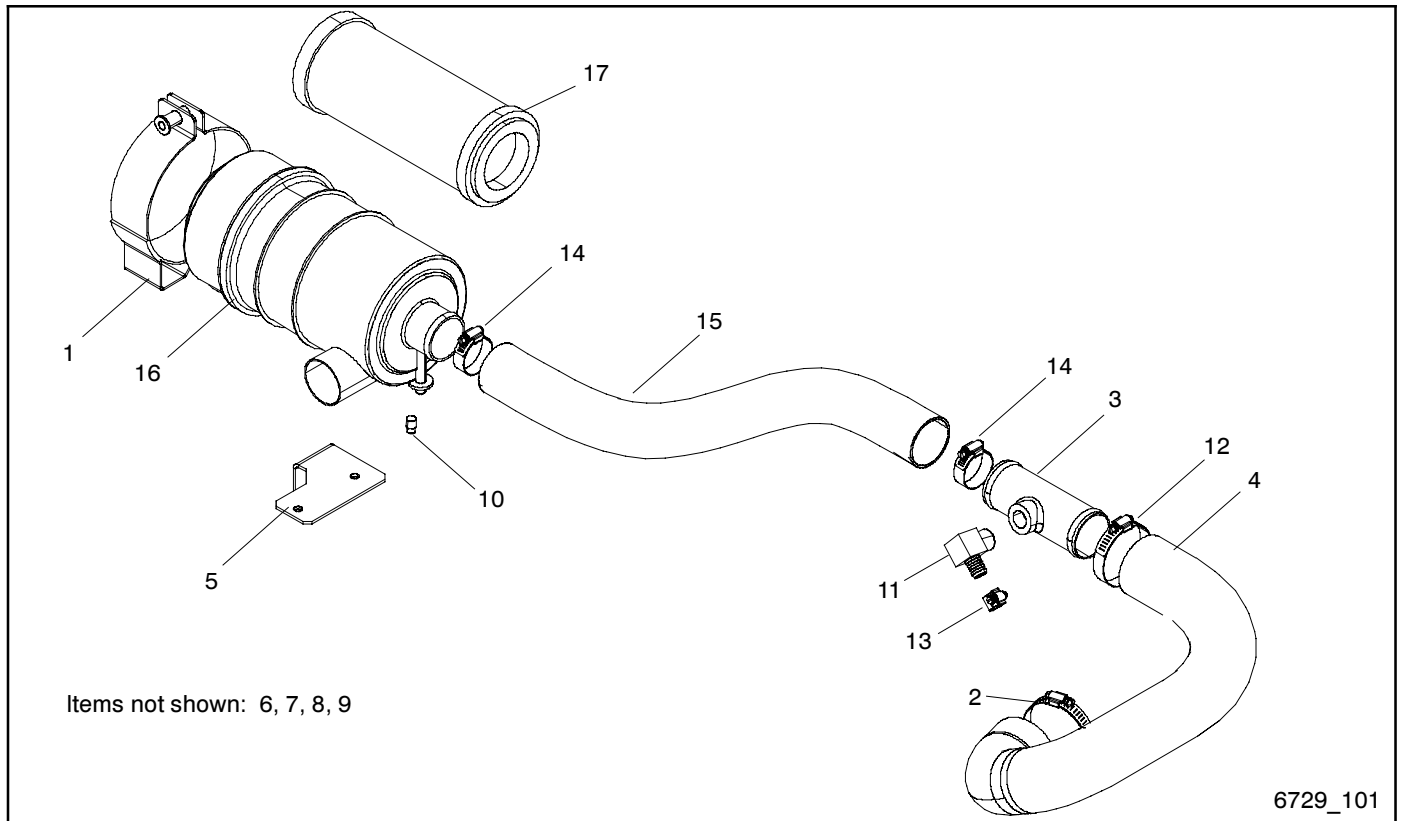
Item	Part Number	Description	Qty.
			Var.
1	GM79391	Bracket, Fuse Box/Lift Eye	1
2	GM72292	Sensor, O2	1
3	GM75166	Sender, Oil Press	1
4	GM72312	Nut, M8-1.25 flange serrated	1
5	GM72328	Nut	1
6	GM29604	Isolator, relay box	2
7	GM75136	Harness, Stationary, IEPR	1
8	GM72293	Clamp, p cush M8 hole 1.25d #20	1
9	GM75103	Nut, Flange 1/4-20 Serrated	2
10	GM72319	Bolt, M6-1.0 x 15 flange head	1
11	#	Bolt, 1/4-20x3/8 Flange Hd Ser	2

Group 10: Fuel Kit



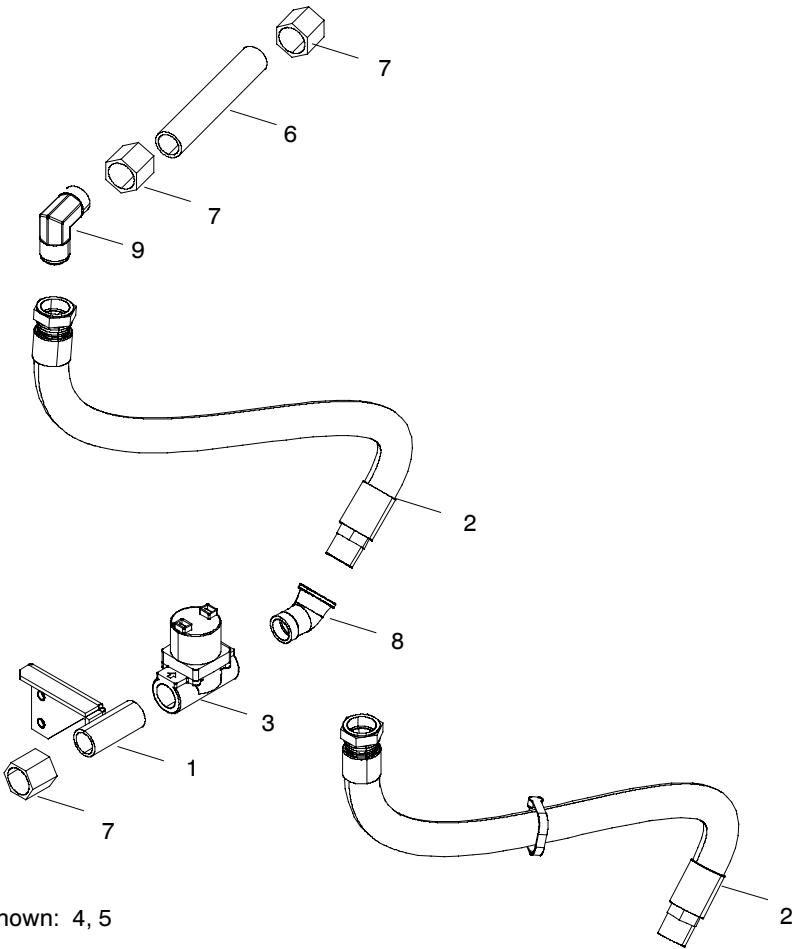
Item	Part Number	Description	Qty.				
			Var.				
			1	2	3	4	5
3	GM72323	Stud, M5-.80 x 25	4	4	4	4	4
4	GM75146	Adapter, 90 degree	1	1	1	1	1
5	GM28963	Washer, lock M6	4	4	4	4	4
6	GM75141	Mixer	1	1	1	1	1
7	GM39222	Throttle body, Bosch 40 mm	1	1	1	1	1
8	GM39229	Gasket, intake manifold	1	1	1	1	1
9	GM39230	Adapter, intake/Bosch TB	1	1	1	1	1
10	GM28360	Gasket, TB	1	1	1	1	1
11	GM39227	Sensor, T-Map	1	1	1	1	1
12	GM75140	Adapter, E100 Mixer to Bosch40	1	1	1	1	1
13	GM69508	Adapter, EPR, 3/4 NPT	1	1	1	1	1
14	GM69524	Bolt, M4 x .70 x 16 sht hd	4	4	4	4	4
15	GM75214	19I-EPR	1	1	1	1	1
15	GM75215	19I-EPR	1	1	1	1	1
16	GM39231	Plug	1	1	1	1	1
17	GM75127	O-ring, -134 Buna-N, UL, 40mm	1	1	1	1	1
18	GM69787	Plug	4	4	4	4	4
19	GM75149	Spacer, Ring 40mm Throttle	1	1	1	1	1
20	GM75192	Bolt, M6-1.0x25 SktHd	8	8	8	8	8
21	#	Bolt 1/4-20x5/8 Flange Hd Ser	1	1	1	1	1
22	GM75206	Bolt, M6 X 1.0 x 85mm Skthd	4	4	4	4	4
23	GM75151	Screw, Tabulated M4 X 12	2	2	2	2	2
24	GM75152	Spacer, 6.5MM 1.6L	2	2	2	2	2
25	GM75204	Bolt, M5-.80x35 Skt Hd	4	4	4	4	4
26	GM72324	Nut, M5-.80 flange	8	8	8	8	8
27	GM75769	Resonsator, Air Intake					1
28	GM75770	Elbow, 90 deg. Rubber					1

Group 101: Air Intake



Item	Part Number	Description	Quantity				
			Module/Variation				1
			GM69243-MA1	GM69243-MA2	GM74942-MA1	GM74942-MA2	
1	226956	Mount, air cleaner (5.72 in. ID)	1	1	1	1	1
2	250081	Clamp, hose, 2.06/3 in.	1	1	1	1	1
3	GM32867	Tube, air intake	1	1	1	1	1
4	GM69244	Hose, molded air intake	1	1			
4	GM74863	Hose, molded air intake			1	1	1
5	GM69277	Bracket, air cleaner mounting	1	1	1	1	1
6	M125A-06-80	Washer, plain	2	2	2	2	2
7	M6923-08-80	Nut, Hex 8mm	2	2	2	2	2
8	M933-06012-60	Screw	2	2	2	2	2
9	M933-08016-60	Screw, hex cap	2	2	2	2	2
10	X-75-1	Plug, pipe (1/8 in. NPTF)	1	1	1	1	1
11	X-391-19	Connector, 90 deg. (5/8 in. ID)	1	1	1	1	1
12	X-426-16	Clamp, hose, 1.81/2.75 in.	1	1	1	1	1
13	X-426-3	Clamp, hose, .56/1.06 in.	1	1	1	1	1
14	X-426-6	Clamp, hose, 1.56/2.5 in.	2	2	2	2	2
15	X-581-3	Hose, flexible air	1	1	1	1	1
16	A-226955	Air cleaner assembly	1		1		
16	GM36199	Air cleaner assembly		1		1	1
17	GM16944	Element, air cleaner	1	1	1	1	1
17	GM66601	Element, inner	1	1	1	1	1

Group 103: Fuel System



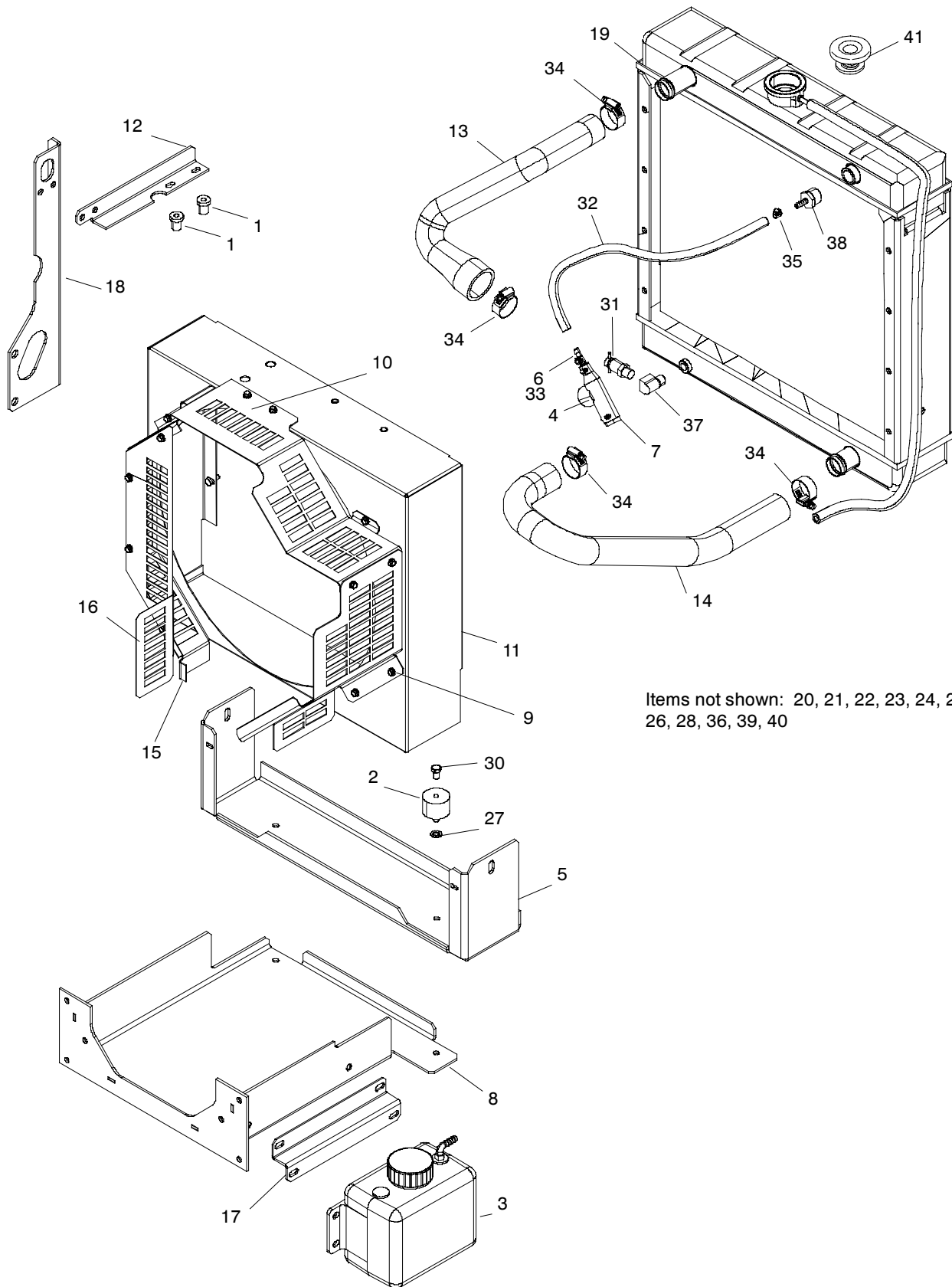
Items not shown: 4, 5

6729_103

Group 103: Fuel System

Item	Part Number	Description	Quantity
			Variation
1	GM23248	Bracket, fuel valve	1
2	GM41863	Line, flexible fuel (gaseous)	2
3	GM71053	Valve, gas shut-off	1
4	M6923-08-80	Nut, Hex 8mm	2
5	M933-08020-60	Screw, hex cap	2
6	X-206-15	Pipe, Nipple (3/4 in. NPT x 6 in.)	1
7	X-216-13	Coupling, pipe (3/4 in.)	3
8	X-274-15	Elbow, street (45 deg x 3/4 in. NPT)	1
9	X-447-18	Elbow, Male Tube (90 deg)	1

Group 104: Cooling System



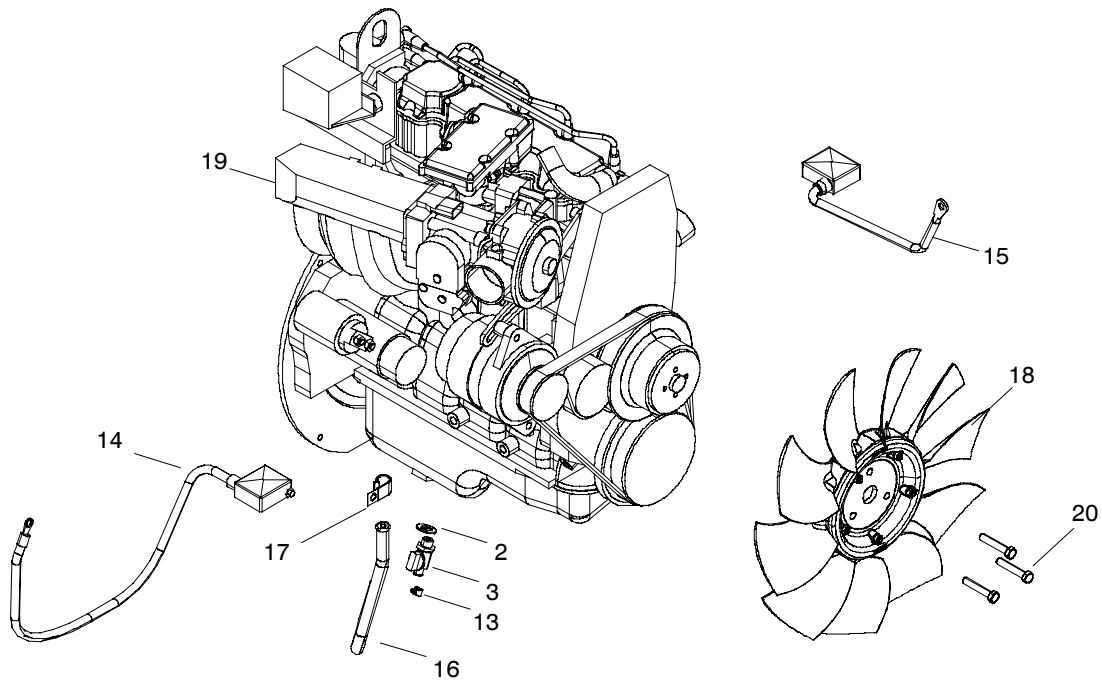
Items not shown: 20, 21, 22, 23, 24, 25, 26, 28, 36, 39, 40

6729_104

Group 104: Cooling System

Item	Part Number	Description	Quantity	
			Module GM69192-MA1	Variation 1
1	227418	Nut, well, 1/4-20	2	2
2	239497	Vibromount	2	2
3	256971	Bottle, overflow	1	1
4	GM28530	Tee, coolant vent	1	1
5	GM28570	Support, radiator	1	1
6	GM28691	Connector, hose	1	1
7	GM28706	Plug, hose	1	1
8	GM32863	Support, radiator	1	1
9	GM32864	Guard, belt (rh)	1	1
10	GM32866	Guard, belt (top)	1	1
11	GM32873	Shroud, fan	1	1
12	GM32874	Bracket, shroud support	1	1
13	GM33021	Hose, upper radiator	1	1
14	GM33022	Hose, lower radiator	1	1
15	GM35332	Guard, belt (l.h.)	1	1
16	GM35333	Guard, belt (rear)	1	1
17	GM38357	Bracket, water bottle	1	1
18	GM50759	Bracket, shroud support	1	1
19	GM52727	Radiator/CAC assembly	1	1
20	M125A-06-80	Washer, plain	6	6
21	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	4	4
22	M6923-08-80	Nut, Hex 8mm	10	10
23	M933-06016-60	Screw, hex cap, m6x16mm, js500 full thrd	6	6
24	M933-08016-60	Screw, hex cap	2	2
25	M933-08020-60	Screw, hex cap	12	12
26	M933-10025-60	Screw, hex cap, fully thrd M10 x 25mm	2	2
27	X-22-5	WASHER, LOCK .326 ID x .62 OD	2	2
28	X-25-40	Washer, plain, .281 ID x .625 in. OD	2	2
29	X-25-75	Washer, plain, .344 ID x .875 in. OD	2	2
30	X-125-33	Bolt, Hex Cap 5/16-18 x 1/2 in.	2	2
31	X-256-3	Valve, drain (1/4 in. NPTF)	1	1
32	X-386-6	Fuel line, flexible	1	1
33	X-426-12	Clamp, hose, .69/1.25 in.	1	1
34	X-426-19	Clamp, hose, 1.00/2.00 in.	4	4
35	X-426-9	Clamp, hose, .25/.70 in.	3	3
36	X-465-7	Bolt, hex cap	2	2
37	X-555-1	Elbow, street (90 deg x 1/4 in. NPFT)	1	1
38	X-582-25	Connector, hose + Vibra Seal 6.4	1	1
39	X-6210-7	Nut, flange spirallock, 5/16-18	2	2
40	X-6216-1	Screw, Phillips hex crimpite	15	15
41	GM54994	Cap, radiator	1	1

Group 105: Engine



Items not shown: 5, 6, 7, 8, 9, 10, 11, 12

6729_105

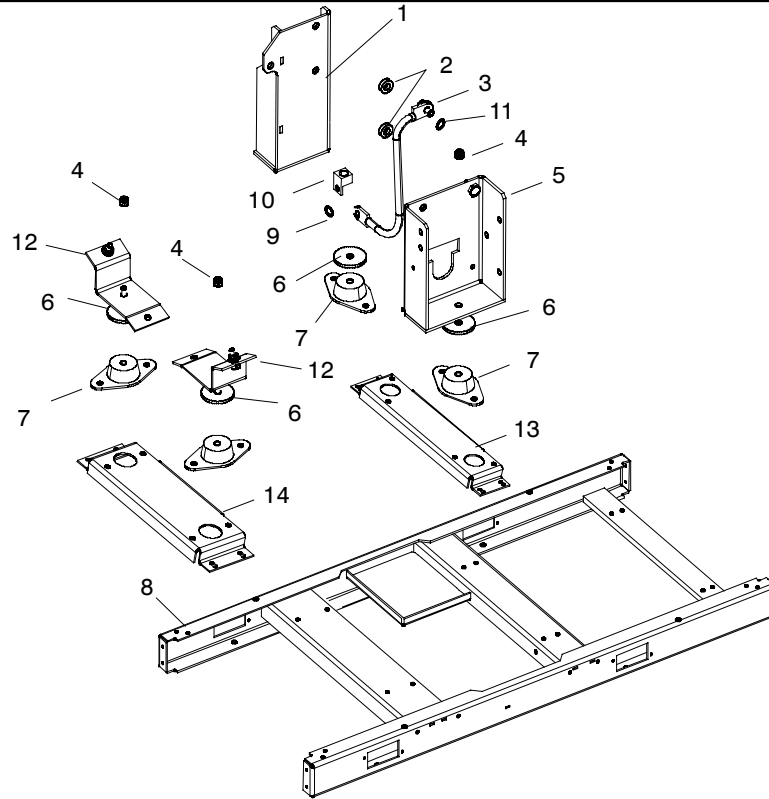
Group 105: Engine

Item	Part Number	Description	Quantity				
			Variation				
			1	2	3	4	5
2	359422	Washer, sealing (30.1 mm OD)	1	1	1	1	1
3	344826	Valve, oil drain (M14 x 1.50)	1	1	1	1	1
5	M125A-06-80	Washer, plain	3	3	3	3	
6	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	1	1	1	1	1
7	M6923-06-80	Nut, Hex 6mm	1	1	1	1	1
8	M933-06020-60	Screw, hex cap	1	1	1	1	1
9	M933-06040-60	Screw, hex cap	3	3	3	3	
10	M933-10020-60	Screw, hex cap	1	1	1	1	1
11	X-22-14	Washer, lock, .391 ID x .975 in. OD	1	1	1	1	1
12	X-25-40	Washer, plain, .281 ID x .625 in. OD	1	1	1	1	1
13	X-426-9	Clamp, hose, .25/.70 in.	1	1	1	1	1
14	X-545-37	Cable, battery (No.2 x 34 in.) red+	1	1	1	1	1
15	X-545-46	Cable, battery (No.2 x 16 in.) black-	1	1	1	1	1
16	X-612-27	Hose, Rubber, Straight, .375 in. ID	1	1	1	1	1
17	X-6084-1	Clip, J	1	1	1	1	1
18	225771	Fan, pusher	1		1		
18	GM55065	Fan		1		1	1
19	GM67153-1	Engine, GM 1.6L Gaseous Fueled, 1800 RPM	1				
19	GM67154-1	Engine, GM 1.6L Gaseous Fueled, 3600 RPM		1			
19	GM65436-1	Engine, GM 1.6L 1800 rpm			1		
19	GM65437-1	Engine, GM 1.6L 3600 rpm				1	
19	GM74627-1	Engine, GM 1.6L 3600 rpm					1
20	X-125-3	Bolt, Hex Cap	4		4		
20	X-6238-6	Bolt, Hex Cap (3/8-16 x 2 in.) Gr5		3		3	3

Group 107: Nameplate and Decals

Item	Part Number	Description	Quantity
			Variation 1
1	224233	Decal, 1-800 number	1
2	238162	Decal, pos. Battery connection	1
3	239796	Decal, warning	1
4	249808	Decal, warning rotating parts	1
5	249809	Decal, caution hot engine	1
6	249810	Decal, warning hot coolant	1
7	258815	Decal, warning voltage backfeed	1
8	273780	Decal, warning explosion	1
9	290435	Decal	1
10	294520	Decal, danger, high voltage	1
11	GM14167	Decal, drain	2
12	GM15300	Decal, exhaust piping	1
13	GM20577	Decal, fuel type	1
14	GM38522	Decal, fuse panel	1
15	X-6246-11	Decal	1

Group 109: Skid and Plant Mounting



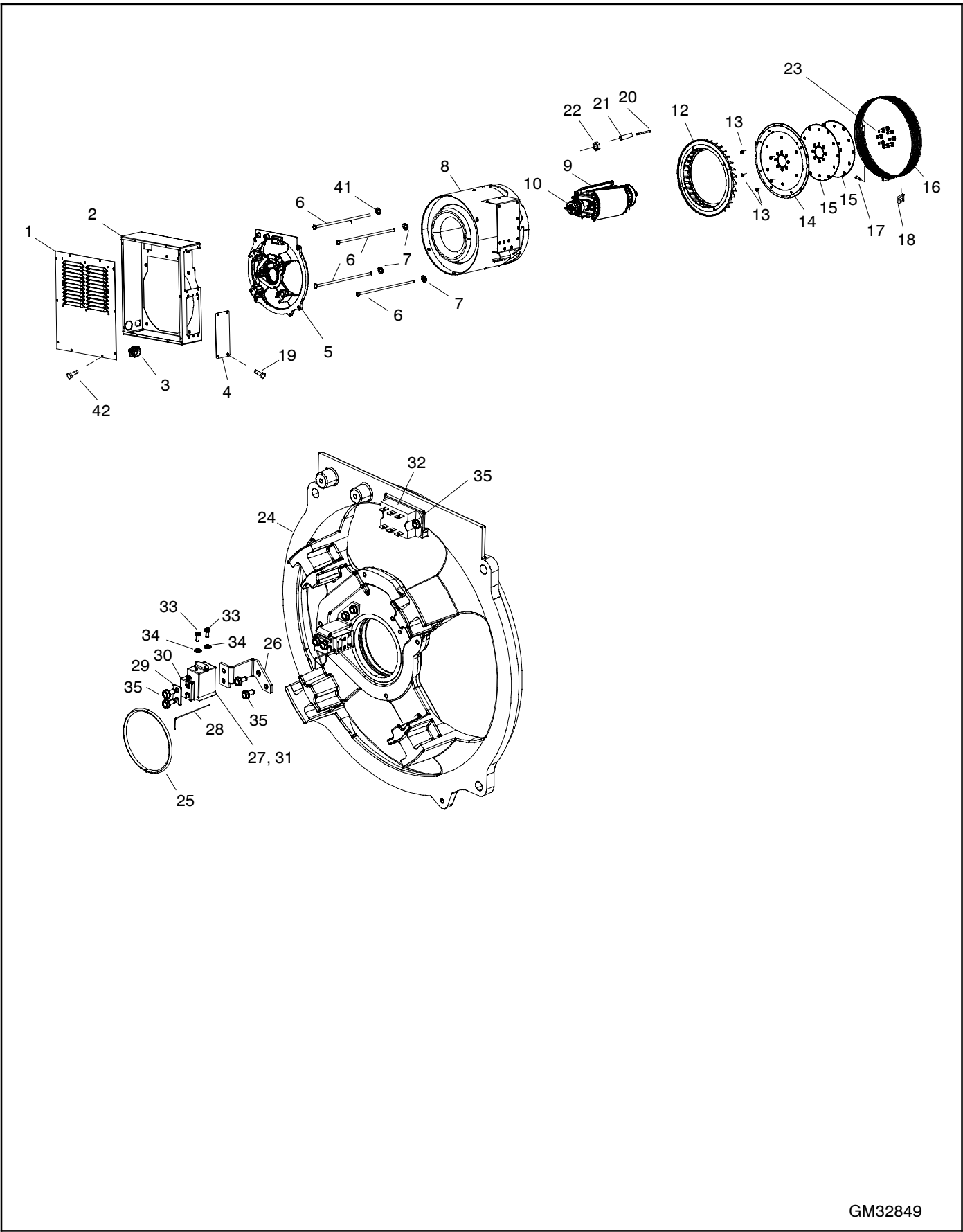
6319_109a

Item	Part Number	Description	Quantity					
			Module/Variation					
			GM47452-MA1	GM47452-MA2	GM47452-MA3	GM47452-MA4	GM47452-MA5	GM47452-MA6
1	GM32859	Support, engine, LH	1	1	1	1	1	1
2	X-400-198	Spacer, 0.437 ID x 0.875 OD x 0.25 in.	3	3	3	3	3	3
3	290418	Strap, ground, 8 in.	1	1	1	1	1	1
4	M982-08-80	Nut, hex elastic stop	4	4	4	4	4	4
5	GM32858	Support, engine, RH	1	1	1	1	1	1
6	X-25-96	Washer, plain, 0.406 ID x 2 in. OD	4	4	4	4	4	4
7	229127	Vibromount	4	4	4	4	4	4
8	GM32986-KCB	Skid	1					
8	GM32986-BLK	Skid		1				
8	GM74989-KCB	Skid				1		
8	GM74989-BLK	Skid					1	
8	GM84141**	Skid						1
9	X-22-16	Washer, lock, 0.326 ID x 0.883 in.	1	1	1	1	1	1
10	X-377-12	Connector, cable	1	1	1	1	1	1
11	X-22-14	Washer, lock, 0.391 ID x 0.975 OD	2	2	2	2	2	2
12	GM23751	Bracket, generator mounting	2	2	2	2	2	2
13	GM49119	Bracket, engine mounting, front			1			1
14	GM49120	Bracket, engine mounting, rear			1			1

** Add a suffix to this color dependant part number before ordering.
See chart below to identify the color suffix.

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 8)
GM47452-MA6-CAS	-CAS	GM84141-CAS
GM47452-MA6-KCB	-KCB	GM84141-KCB

Group 201: Generator and Mounting

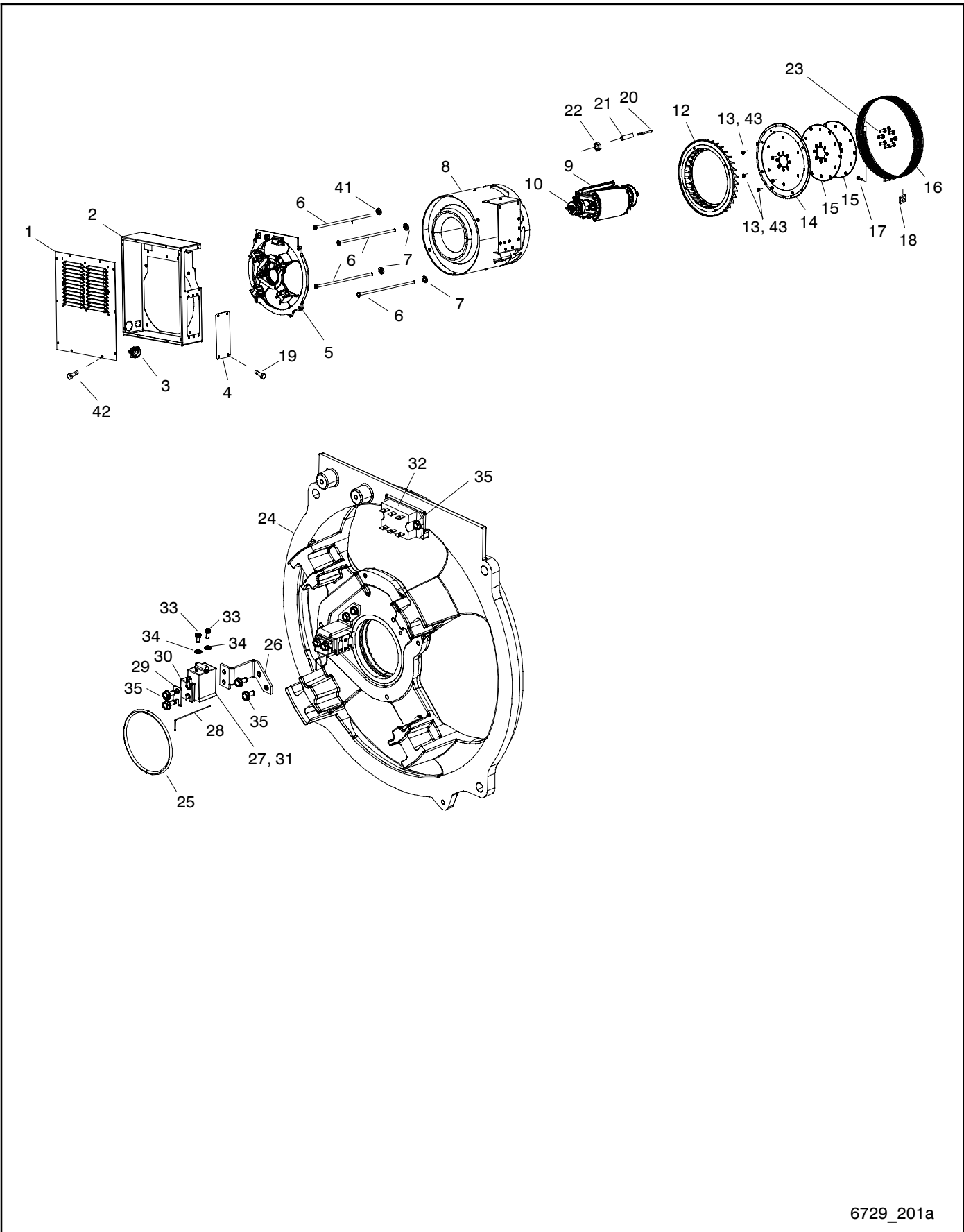


GM32849

Group 201: Generator and Mounting

Item	Part Number	Description	Quantity Module						
			GM32849-MA1	GM32849-MA2	GM32849-MA3	GM32849-MA4	GM32849-MA5	GM32849-MA6	GM32849-MA12
1	GM32852	Louver panel, junction box	1	1	1	1	1	1	1
2	GM39727	Box, junction	1	1	1	1	1	1	1
3	X-6266-1	Connector, cable	1	1	1	1	1	1	1
4	GM32853	Cover, circuit breaker	1	1	1	1	1	1	1
5	GM26308	End bracket assembly (includes items 24-35)	1	1	1	1	1	1	1
6	X-6051-16	Screw, hex head machine	4	4					4
6	X-6051-17	Screw, hex head machine			4	4	4	4	
7	X-801-3	Washer, hardened, 0.406 ID x 0.812 in. OD	3	3	3	3	3	3	3
8	GM25984	Stator assembly	1						1
8	GM38802	Stator assembly		1					
8	GM28517	Stator assembly			1				
8	GM28522	Stator assembly				1			
8	GM28518	Stator assembly					1		
8	GM28523	Stator assembly						1	
9	GM24176	Rotor assembly (includes item 10, 11)	1	1					1
9	GM24647	Rotor assembly (includes item 10, 11)			1	1			
9	GM24501	Rotor assembly (includes item 10, 11)					1	1	
10	X-758-15	Bearing, ball	1	1	1	1	1	1	1
12	225214	Fan, generator	1	1	1	1	1	1	1
13	M933-07025-60	Screw, hex cap	6	6	6	6	6	6	6
14	GM28588	Disc, drive	1	1	1	1	1	1	1
15	257014	Disc, drive, 4P SAE 8 in. flywheel	2	2	2	2	2	2	2
16	229109	Guard, generator fan	1	1	1	1	1	1	1
17	X-67-125	Screw, hex washer, thread-forming	1	1	1	1	1	1	1
18	257442	Clip, speed	1	1	1	1	1	1	1
19	X-67-64	Screw, self-tapping	4	4	4	4	4	4	4
20	X-6284-2	Screw, slotted pan head machine	4	4	4	4	4	4	4
21	X-400-189	Spacer, 0.215 ID x 0.312 OD x 1.2 in.	4	4	4	4	4	4	4
22	X-6351-7	Nut, flange whiz lock, M5-0.8	4	4	4	4	4	4	4
23	X-6238-11	Bolt, hex cap	8	8	8	8	8	8	8
24	GM24810	Bracket, end	1	1	1	1	1	1	1
25	229110	O-ring, 2.859 in. ID	1	1	1	1	1	1	1
26	GM28383	Bracket, brush holder	2	2	2	2	2	2	2
27	GM60538	Spring, stainless steel	4	4	4	4	4	4	4
28	238247	Retainer, wire	2	2	2	2	2	2	2
29	238248	Shim, brush holder	2	2	2	2	2	2	2
30	239247	Holder, brush	2	2	2	2	2	2	2
31	239282	Brush	4	4	4	4	4	4	4
32	GM28483	SCR module	1	1	1	1	1	1	1
33	X-49-1	Screw, pan head 6-32 x 5/16	4	4	4	4	4	4	4
34	X-22-6	Washer, lock, 0.146 ID x 0.285 in. OD	4	4	4	4	4	4	4
35	X-67-64	Screw, self-tapping	10	10	10	10	10	10	10
41	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	1	1	1	1	1	1	1
42	X-6216-1	Screw, Phillips hex crimp-tite	10	10	10	10	10	10	10

Group 201: Generator and Mounting, continued

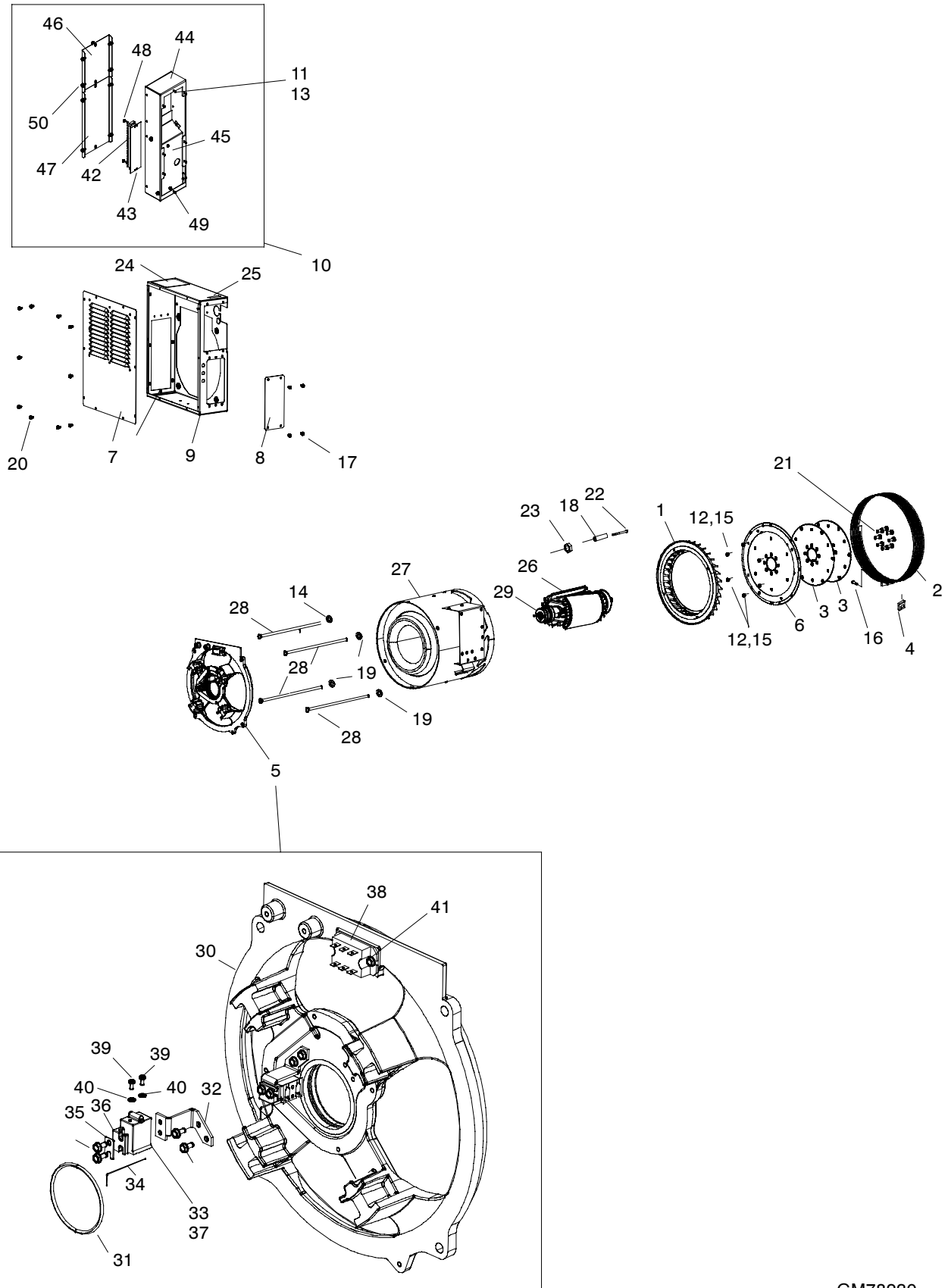


6729_201a

Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity					
			Module					
			GM69379-MA1	GM69379-MA2	GM69379-MA3	GM69379-MA4	GM69379-MA5	GM69379-MA6
								1
1	GM32852	Louver panel, junction box	1	1	1	1	1	1
2	GM39727	Box, junction	1	1	1	1	1	1
3	X-6266-1	Connector, cable	1	1	1	1	1	1
4	GM32853	Cover, circuit breaker	1	1	1	1	1	1
5	GM26308	End bracket assembly (includes items 24-35)	1	1	1	1	1	1
6	X-6051-16	Screw, hex head machine	4	4				
6	X-6051-17	Screw, hex head machine			4	4	4	4
7	X-801-3	Washer, hardened, 0.406 ID x 0.812 in. OD	3	3	3	3	3	3
8	GM69369	Stator assembly	1					
8	GM69370	Stator assembly		1				
8	GC69371	Stator assembly			1			
8	GC69372	Stator assembly				1		
8	GC69373	Stator assembly					1	1
8	GC69374	Stator assembly						1
9	GM65443	Rotor assembly (includes item 10)	1	1				
9	GC65447	Rotor assembly (includes item 10)			1	1		
9	GC65446	Rotor assembly (includes item 10)					1	1
10	X-758-15	Bearing, ball	1	1	1	1	1	1
12	225214	Fan, generator	1	1	1	1	1	1
13	M933-07020-60	Screw, hex cap	6	6	6	6	6	6
14	GM28588	Disc, drive	1	1	1	1	1	1
15	257014	Disc, drive, 4P SAE 8 in. flywheel	2	2	2	2	2	2
16	229109	Guard, generator fan	1	1	1	1	1	1
17	X-67-125	Screw, hex washer, thread-forming	1	1	1	1	1	1
18	257442	Clip, speed	1	1	1	1	1	1
19	X-67-64	Screw, self-tapping	4	4	4	4	4	4
20	X-6284-2	Screw, slotted pan head machine	4	4	4	4	4	4
21	X-400-189	Spacer, 0.215 ID x 0.312 OD x 1.2 in.	4	4	4	4	4	4
22	X-6351-7	Nut, flange whiz lock, M5-0.8	4	4	4	4	4	4
23	X-6238-11	Bolt, hex cap	8	8	8	8	8	8
24	GM24810	Bracket, end	1	1	1	1	1	1
25	229110	O-ring, 2.859 in. ID	1	1	1	1	1	1
26	GM28383	Bracket, brush holder	2	2	2	2	2	2
27	GM60538	Spring, stainless steel	4	4	4	4	4	4
28	238247	Retainer, wire	2	2	2	2	2	2
29	238248	Shim, brush holder	2	2	2	2	2	2
30	239247	Holder, brush	2	2	2	2	2	2
31	239282	Brush	4	4	4	4	4	4
32	GM28483	SCR module	1	1	1	1	1	1
33	X-49-1	Screw, pan head 6-32 x 5/16	4	4	4	4	4	4
34	X-22-6	Washer, lock, 0.146 ID x 0.285 in. OD	4	4	4	4	4	4
35	X-67-64	Screw, self-tapping	10	10	10	10	10	10
41	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	1	1	1	1	1	1
42	X-6216-1	Screw, Phillips hex crimp-tite	10	10	10	10	10	10
43	X-25-40	Washer, plain, .281 ID x .625 in.OD	6	6	6	6	6	6

Group 201: Generator and Mounting, continued

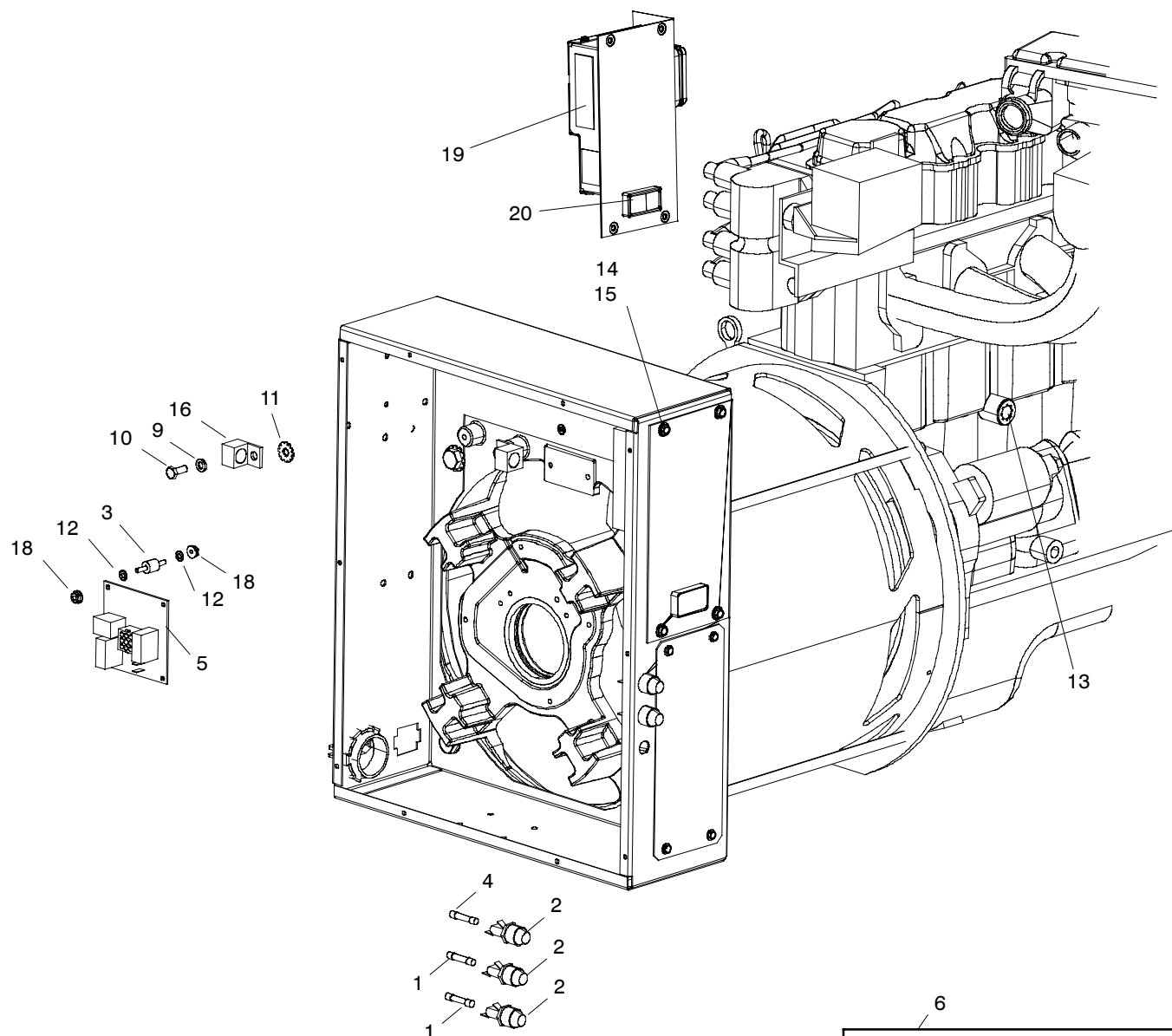


GM78230

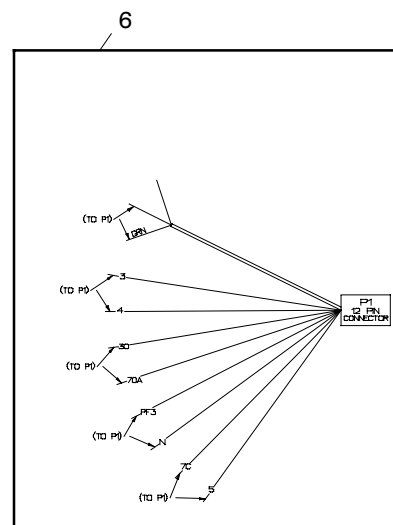
Group 201: Generator and Mounting, continued

Item	Part Number	Description	Quantity					
			Module					
			GM78230-MA1	GM78230-MA2	GM78230-MA3	GM78230-MA4	GM78230-MA5	GM78230-MA6
1	225214	Fan, generator	1	1	1	1	1	1
2	229109	Guard, generator fan	1	1	1	1	1	1
3	257014	Disc, drive, 4P SAE 8 in. flywheel	2	2	2	2	2	2
4	257442	Clip, speed	1	1	1	1	1	1
5	GM26308	End bracket assembly (includes items 30-41)	1	1	1	1	1	1
6	GM28588	Disc, drive	1	1	1	1	1	1
7	GM32852	Louver panel, junction box	1	1	1	1	1	1
8	GM32853	Cover, circuit breaker	1	1	1	1	1	1
9	GM39727	Box, junction	1	1	1	1	1	1
10	GM78219	Box Assembly, Connection (includes items 42-50)	1	1	1	1	1	1
11	M125A-04-80	Washer, plain	8	8	8	8	8	8
12	M933-07020-60	Screw, hex cap	6	6	6	6	6	6
13	M934-04-50	Nut, Hex 4mm	8	8	8	8	8	8
14	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	1	1	1	1	1	1
15	X-25-40	Washer, plain, .281 ID x .625 in.OD	6	6	6	6	6	6
16	X-67-125	Screw, hex washer, thread-forming	1	1	1	1	1	1
17	X-67-64	Screw, self-tapping	4	4	4	4	4	4
18	X-400-189	Spacer, 0.215 ID x 0.312 OD x 1.2 in.	4	4	4	4	4	4
19	X-801-3	Washer, hardened, 0.406 ID x 0.812 in. OD	3	3	3	3	3	3
20	X-6216-1	Screw, Phillips hex crimpitite	10	10	10	10	10	10
21	X-6238-11	Bolt, hex cap	8	8	8	8	8	8
22	X-6284-2	Screw, slotted pan head machine	4	4	4	4	4	4
23	X-6351-7	Nut, flange whiz lock, M5-0.8	4	4	4	4	4	4
24	GM35838	Decal, 4 Wire Reconnection	1		1		1	
24	229883	Decal, 12 Wire Reconnection		1		1		1
25	GM20172	Decal, Unbalanced Load		1		1		1
26	GM65443	Rotor assembly (includes item 29)	1	1				
26	GC65447	Rotor assembly (includes item 29)			1	1		
26	GC65446	Rotor assembly (includes item 29)					1	1
27	GM69369	Stator assembly	1					
27	GM69370	Stator assembly		1				
27	GC69371	Stator assembly			1			
27	GC69372	Stator assembly				1		
27	GC69373	Stator assembly					1	
27	GC69374	Stator assembly						1
28	X-6051-16	Screw, hex head machine	4	4				
28	X-6051-17	Screw, hex head machine			4	4	4	4
29	X-758-15	Bearing, ball	1	1	1	1	1	1
30	GM24810	Bracket, end	1	1	1	1	1	1
31	229110	O-ring, 2.859 in. ID	1	1	1	1	1	1
32	GM28383	Bracket, brush holder	2	2	2	2	2	2
33	GM60538	Spring, stainless steel	4	4	4	4	4	4
34	238247	Retainer, wire	2	2	2	2	2	2
35	238248	Shim, brush holder	2	2	2	2	2	2
36	239247	Holder, brush	2	2	2	2	2	2
37	239282	Brush	4	4	4	4	4	4
38	GM28483	SCR module	1	1	1	1	1	1
39	X-49-1	Screw, pan head 6-32 x 5/16	4	4	4	4	4	4
40	X-22-6	Washer, lock, 0.146 ID x 0.285 in. OD	4	4	4	4	4	4
41	X-67-64	Screw, self-tapping	10	10	10	10	10	10
42	241621	Strip, terminal	1	1	1	1	1	1
43	352530	Strip, marker	1	1	1	1	1	1
44	GM78208	Box, Customer Connection	1	1	1	1	1	1
45	GM78209	Panel, Inner	1	1	1	1	1	1
46	GM78210	Cover, Top	1	1	1	1	1	1
47	GM78211	Cover, Bottom	1	1	1	1	1	1
48	M7985A-04016-20	Screw, Pan Head Machine	2	2	2	2	2	2
49	M934-04-50	Nut, Hex 4mm	2	2	2	2	2	2
50	X-6216-1	Screw, Phillips hex crimpitite	16	16	16	16	16	16

Group 301: Control and Harness



8 Harness, Engine Wiring (not shown)

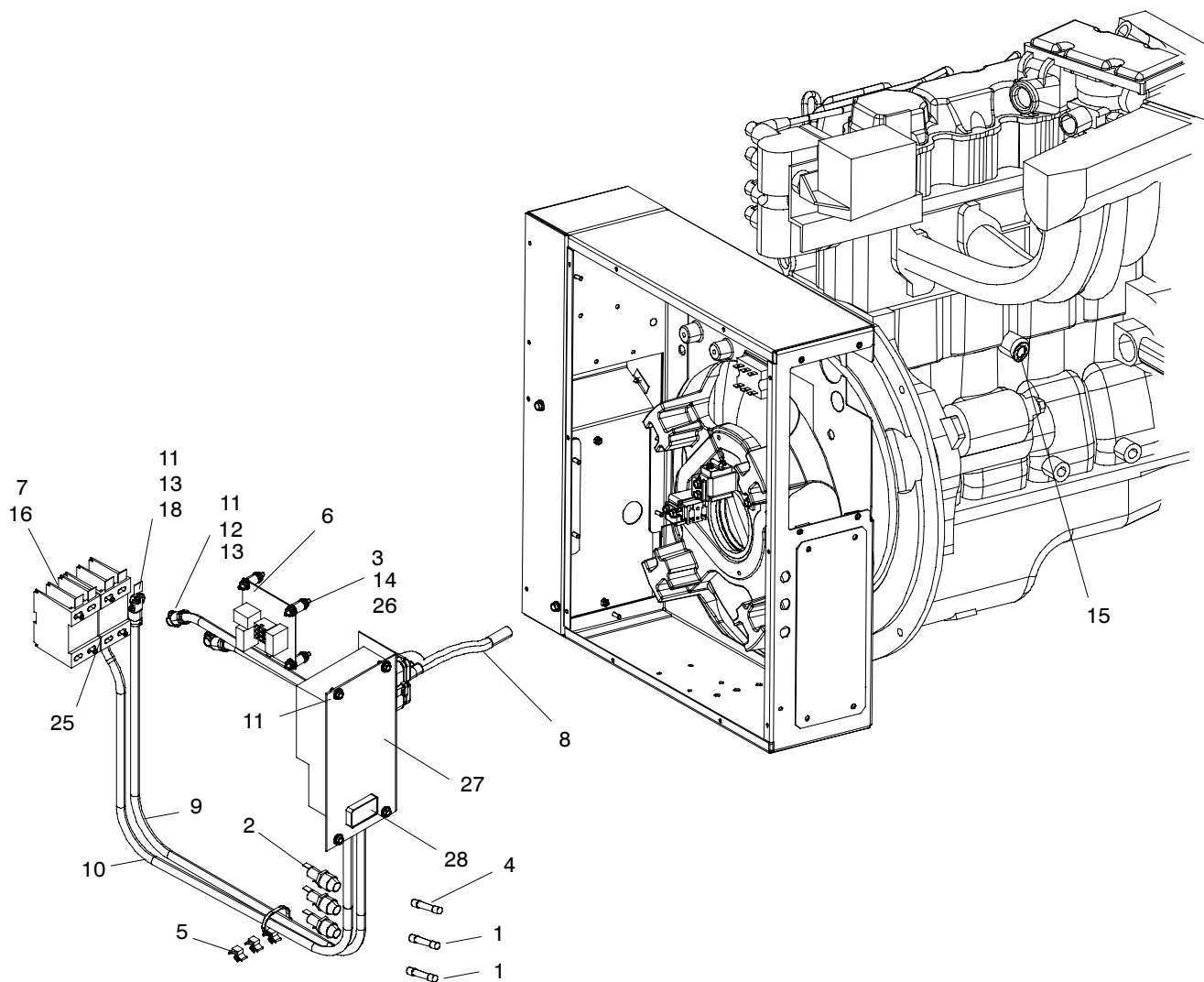


6319_301_2a

Group 301: Control and Harness

Item	Part Number	Description	Quantity	
			Module GM69195-MA1	Variation 1
1	223316	Fuse, 10 A, 250 V	2	2
2	238426	Fuse holder, .25 x 1.25 in.	3	3
3	282829	Vibromount	4	4
4	358337	Fuse, 10 A, 250 V	1	1
5	GM29671	PCB assy., relay board 12v	1	1
6	GM32324	Harness, pigtail	1	1
8	GM63945	Harness, engine GM 1.6L standby	1	1
9	M125A-06-80	Washer, plain	2	2
10	M933-06016-60	Screw, hex cap, M6x16mm, js500 full thrd	2	2
11	X-22-12	Washer, lock .262 ID x .743 in. OD	2	2
12	X-22-20	Washer, lock, .172 ID x .373 in. OD	8	8
13	X-22-4	Washer, lock, .521 ID x .884 in. OD	1	1
14	X-25-36	Washer, plain, .219 ID x .5 in. OD	4	4
15	X-67-64	Screw, self-tapping	4	4
16	X-377-11	Connector, cable	2	2
17	X-468-1	Cable tie	1	1
18	X-6210-4	Nut, flange whiz, 8-32	8	8
19	GM34969	Controller, ADC2100 Service Replacement	1	1
20	GM28708	Switch, Rocker On-Off-On	1	1

Group 301: Control and Harness, continued

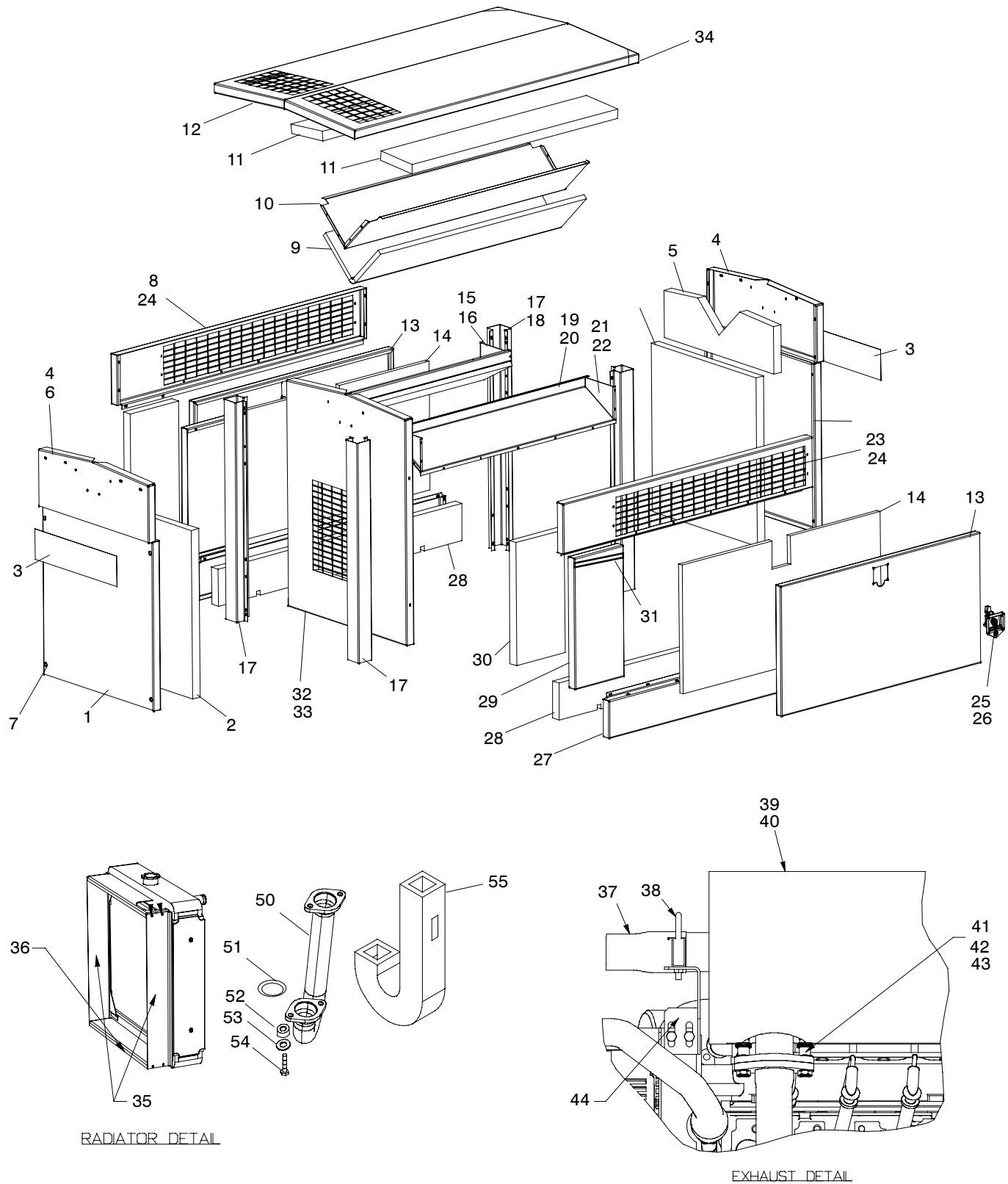


GM78207

Group 301: Control and Harness, continued

Item	Part Number	Description	Quantity
			Module GM78207-MA1
1	223316	Fuse, 10 A, 250 V	2
2	238426	Fuse holder, .25 x 1.25 in.	3
3	282829	Vibromount	4
4	358337	Fuse, 10 A, 250 V	1
5	361567	Base, tie wrap snapin	3
6	GM29671	PCB Assy Relay Board 12V	1
7	GM48755	Terminal Block, Generator	2
8	GM78309	HARNESS, ENGINE GM1.6L STANDBY	1
9	LB-0656-1515	Lead	1
10	LB-0658-1515	Lead	1
11	M125A-06-80	Washer, Plain	7
12	M933-06016-60	Screw, hex cap, M6x16mm, js500 full thrd	2
13	X-22-12	Washer, lock.262 IDx.743 in.OD	3
14	X-22-20	Washer, lock, .172 ID x .373 in.OD	8
15	X-22-4	Washer, lock, .521 ID x .884 in.OD	1
16	X-67-156	Screw, Tapping	4
17	X-67-64	Screw, self-tapping	4
18	X-81-8	Nut, hex, 1/4-20	1
25	X-6210-2	Nut, flange spiralock, 1/4-20	1
26	X-6210-4	Nut, flange whiz, 8-32	8
27	GM34969	Controller, ADC2100 Service Replacement	1
28	GM28708	Switch, Rocker On-Off-On	1

Group 501: Sound Enclosure



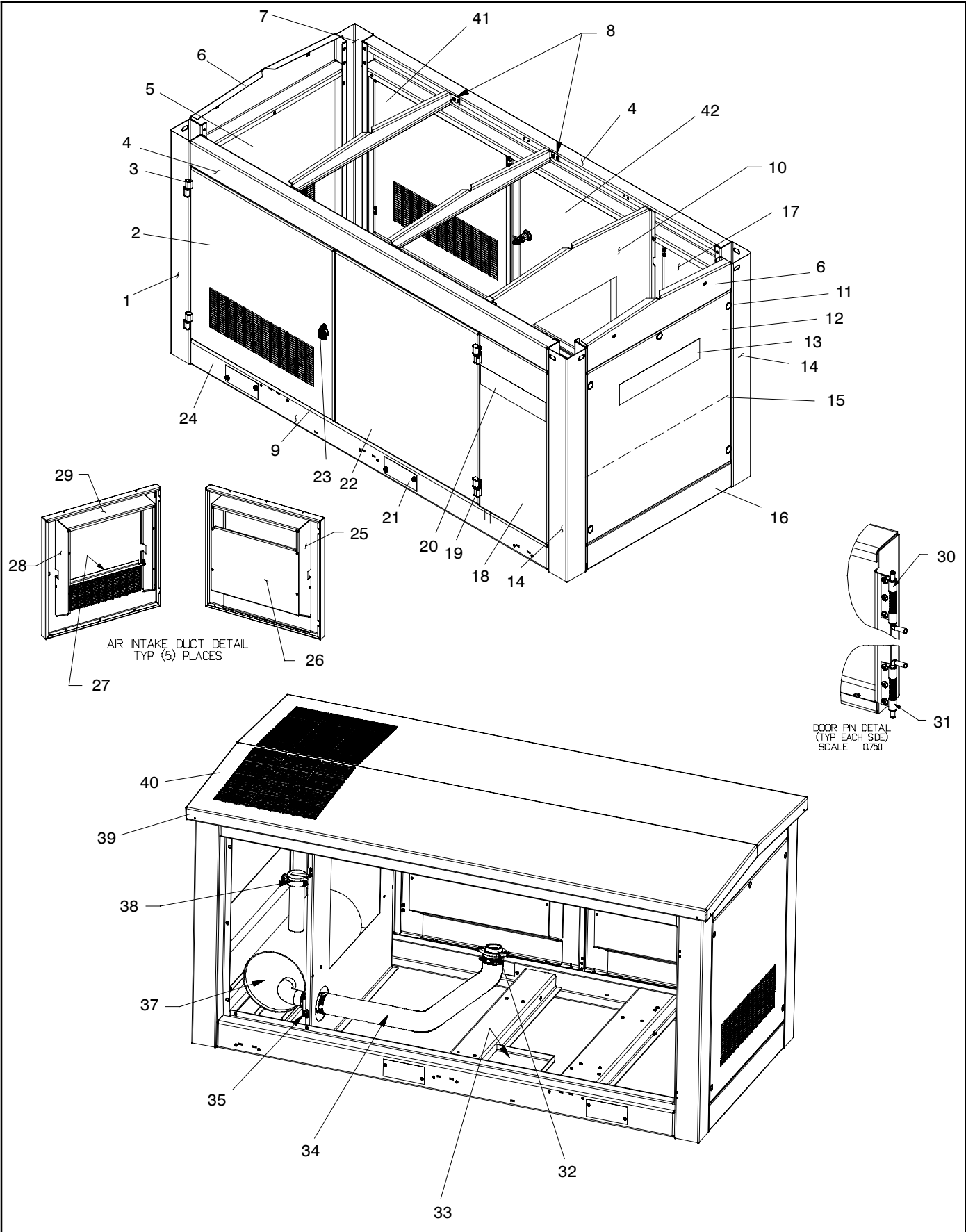
Items 16, 18, 20, 22, 24, 33,
45-49 are not shown.

6319_501

Group 501: Sound Enclosure

Item	Part Number	Description	Quantity Module			Item	Part Number	Description	Quantity Module		
			GM36247-KA1	GM36247-KA2	GM36247-KA3				GM36247-KA1	GM36247-KA2	GM36247-KA3
1	GM36240	Panel, end	2	2		30	GM37521	Foam, acoustic	2	2	2
1	GM47528	Panel, end			2	31	X-6348-2	Decal	2	2	2
2	GM37518	Foam, acoustic	2	2	2	32	GM36243	Panel, inner	1	1	1
3	X-6275-3	Logo, Kohler	2	2	2	33	GM37517	Foam, acoustic (not shown)	1	1	1
4	GM36241	Support, roof	2	2		34	GM42840	Corner, sound shield	4	4	
4	GM47529	Support, roof			2	34	GM47251	Corner, sound shield			4
5	GM37520	Foam, acoustic	1	1	1	35	GM30500	Flange, radiator side	2		
6	GM39399	Foam, acoustic	1	1	1	36	GM30501	Flange, radiator bottom	2		
7	X-301-24	Plug, button	8	8	8	37	GM39403	Elbow, exhaust	1		
8	GM36237	Rail, upper right	1	1		37	GM39402	Elbow, exhaust		1	1
8	GM47525	Rail, upper right			1	38	GM41094	Clamp, muffler, 1.88 dia.	1		
9	GM37524	Foam, acoustic	1	1	1	38	GM41095	Clamp, muffler		1	1
10	GM36246	Baffle, air intake	1	1	1	39	GM28536	Silencer	1		
11	GM37525	Foam, acoustic	2	2	2	39	GM28535	Silencer		1	1
12	GM36242	Roof, sound housing	1	1		40	GM28703	Insulator, silencer	1		
12	GM47530	Roof, sound housing			1	40	GM28704	Insulator, silencer		1	1
13	GM36244	Door, sound housing	2	2		41	GM29398	Gasket	1	1	1
13	GM47531	Door, sound housing			2	42	X-400-91	Spacer, .406 ID x .625 OD x .5 in.	2	2	2
14	GM37519	Foam, acoustic	2	2	2	43	X-801-3	Washer, hardened,			
15	GM28750	Support, duct, RS	2	2	2			0.406 ID x 0.812 in. OD	4	4	4
16	GM39401	Foam, acoustic (not shown)	2	2	2	44	GM39092	Bracket, silencer support	1	1	1
17	GM36236	Support, corner housing	4	4		45	257442	Clip, speed (not shown)	2	2	2
17	GM47524	Support, corner housing			4	46	GM15299	Decal, rainproof (not shown)	1	1	1
18	GM37539	Foam, acoustic (not shown)	4	4	4	47	GM39404	Panel, exhaust deflector			
19	GM36245	Duct, air intake	2	2	2			(not shown)	1	1	
20	GM37523	Foam, acoustic (not shown)	2	2	2	47	GM47532	Panel, exhaust deflector			1
21	GM28755	Support, duct, LS	2	2	2			(not shown)			
22	GM39400	Foam, acoustic (not shown)	2	2	2	48	GM39529	Panel, J-box cover (not shown)	1	1	1
23	GM36238	Rail, upper left	1	1		49	GM47500	Decal, notice orient exhaust pipe			
23	GM47526	Rail, upper left			1			(not shown)	1	1	1
24	GM39398	Foam, acoustic (not shown)	2	2	2	50	GM28534	Pipe, exhaust	1	1	1
25	276918	Latch, key locking	2	2	2	51	GM28711	Gasket, exhaust manifold	1	1	1
26	GM37674	Key	4	4	4	52	X-400-91	Spacer, .406 ID x .625 OD x .5 in.	2	2	2
27	GM36235	Rail, lower	2	2		53	X-801-3	Washer, hardened,			
27	GM47523	Rail, lower			2			0.406 ID x 0.812 in. OD	2	2	2
28	GM37522	Foam, acoustic	2	2	2	54	M931-10040-82	Screw, hex cap	2	2	2
29	GM36239	Panel, side	2	2		55	GM28705	Insulating blanket, exhaust pipe	1	1	1
29	GM47527	Panel, side			2						

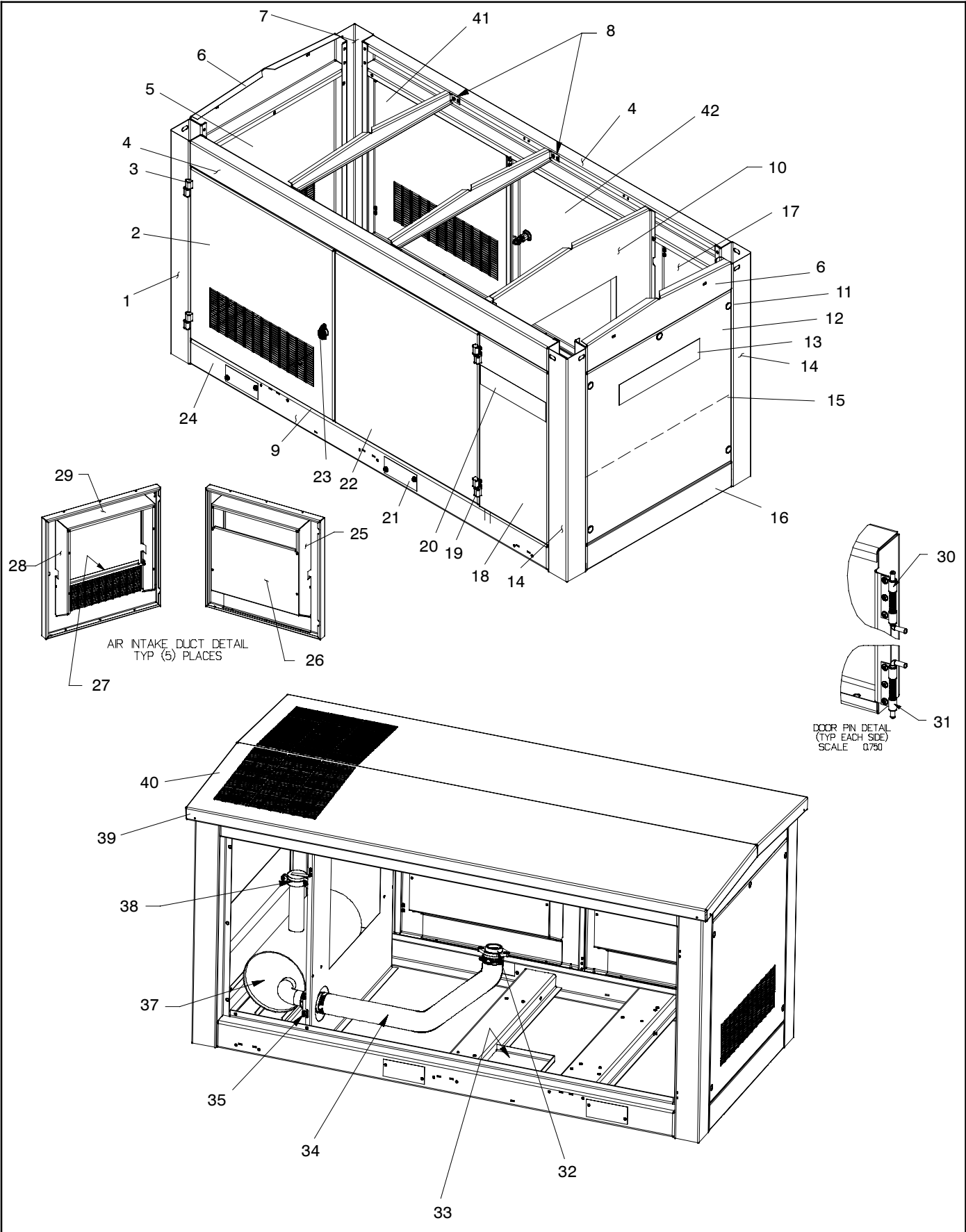
Group 501: Sound Enclosure, continued



Group 501: Sound Enclosure, continued

Item	Part Number	Description	Quantity				
			Module/Variation				
			GM47220-KA1	GM47220-KA2	GM60815-KA1	GM60815-KA2	1
1	GM47360	Channel, corner, rear RH	1		1		
1	GM47677	Channel, corner, rear RH		1		1	1
2	GM47211	Door	1		1		
2	GM47669	Door		1		1	1
3	GM40018	Hinge	4	4	4	4	4
4	GM47209	Rail, side	2		2		
4	GM47667	Rail, side		2		2	2
5	GM47213	Panel, rear	1		1		
5	GM47671	Panel, rear		1		1	1
6	GM47361	Rail, upper end	2		2		
6	GM47678	Rail, upper end		2		2	2
7	GM47359	Channel corner, rear LH	1		1		
7	GM47676	Channel corner, rear LH		1		1	1
8	GM58957	Support, roof	2	2	2	2	2
9	GM60103	Bumper service kit (includes 4 bumpers)	1	1	1	1	1
10	GM47215	Panel, rad. inner	1	1	1	1	1
11	X-301-24	Plug, button	10	10	10	10	10
12	GM47439	Panel, front	1		1		
12	GM47680	Panel, front		1		1	1
13	X-6275-3	Logo, Kohler	2	2	2	2	2
14	GM47358	Channel, corner, front	2		2		
14	GM47675	Channel, corner, front		2		2	2
15	GM58953	Brace, door	1	1	3	3	1
16	GM47438	Rail, end	2		2		
16	GM47679	Rail, end		2		2	2
17	GM60437	Panel, side RH	1		1		
17	GM60438	Panel, side RH		1		1	1
18	GM47212	Panel, side LH	1		1		
18	GM47670	Panel, side LH		1		1	1
19	GM40019	Hinge	4	4	4	4	4
20	X-6348-13	Decal, Kohler Power Systems	2	2	2	2	2
21	GM49270-KCB	Cover, skid rail	4		4		
21	GM49270-BLK	Cover, skid rail		4		4	4
22	GM47210	Door	1				
22	GM47668	Door		1			1
22	GM60613	Door			1		
22	GM62672	Door				1	
23	GM47709	Latch, locking	2	2	2	2	2
24	GM47219-KCB	Skid	1		1		
24	GM47219-BLK	Skid		1		1	1
25	GM39989	Duct, side	5	5	3	3	5
26	GM39976	Duct, bottom	5	5	3	3	5
27	GM58954	Brace, door	5	5	3	3	5
28	GM39975	Duct, side	5	5	3	3	5
29	GM39974	Duct, top	4	4	3	3	4
29	GM74865	Duct, top (front right door only)	1	1			1
30	GM42042	Latch, cane bolt, LH	2	2	2	2	2
31	GM42041	Latch, cane bolt, RH	2	2	2	2	2
32	GM74199	Gasket, exhaust	1	1	1	1	1
33	GM47450	Bracket, battery	1	1	1	1	1
34	GM78094	Tube, Flex Exhaust	1	1	1	1	1
34	GM78076	Sleeve, Exhaust	1	1	1	1	1
35	GM41095	Clamp, muffler 2.13 dia.	1	1	1	1	1
37	GM47218	Silencer	1	1	1	1	1
38	276254	Cap, rain (fits 2.00 in. tube)	1	1	1	1	1
38	GM60810	Pipe, Tail			1	1	
38	GM41095	Clamp, muffler 2.13 dia.			1	1	
39	GM42840	Corner, sound shield (KCB)	4		4		
39	GM47251	Corner, sound shield		4		4	4
40	GM47214	Roof	1		1		
40	GM47672	Roof		1		1	1
41	GM47210	Door	1		1		
41	GM47668	Door		1		1	1
42	GM47211	Door	1				
42	GM47669	Door		1			1
42	GM62673	Door			1		
42	GM62674	Door				1	

Group 501: Sound Enclosure, continued



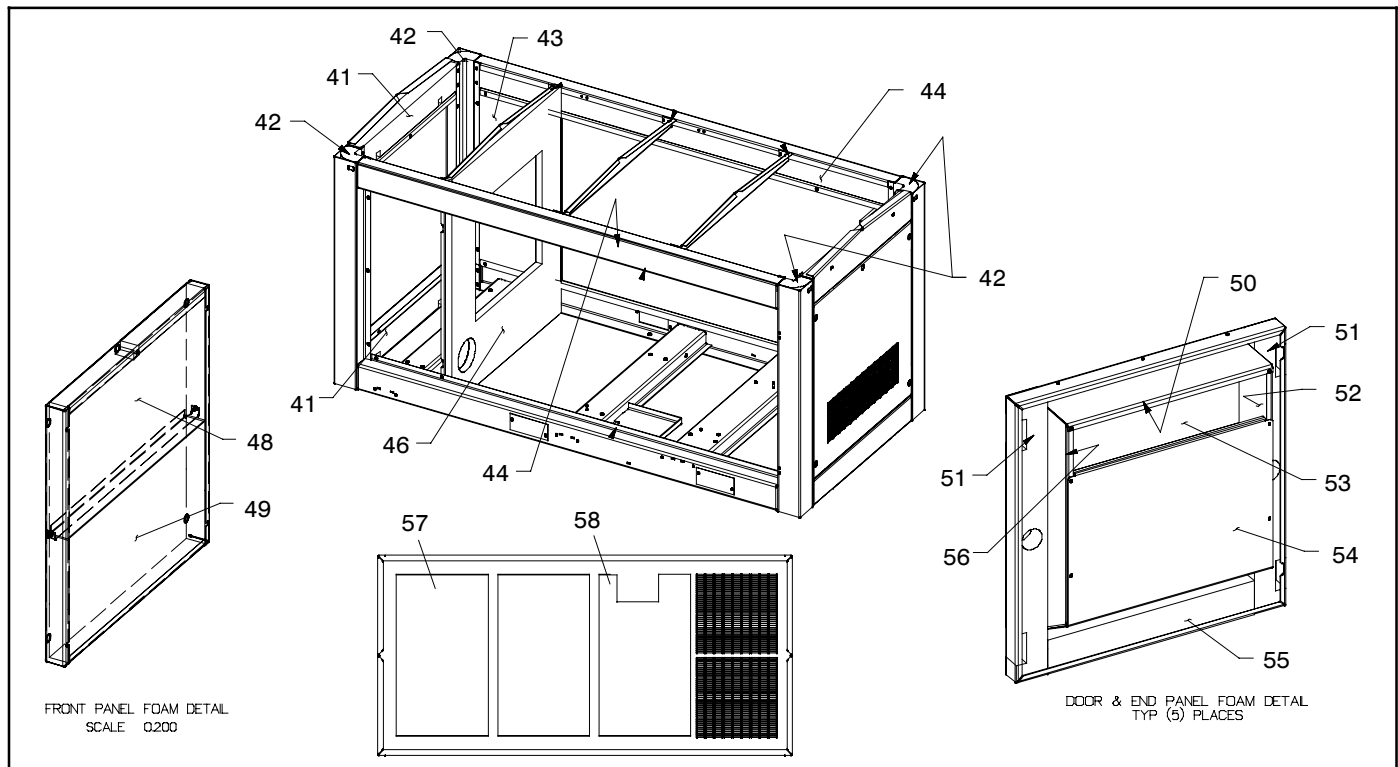
Group 501: Sound Enclosure, continued

Item	Part Number	Description	Quantity	
			Module/ Variation	
			GM84107-KA1	GM84107-KA2
1	GM84116**	Channel, corner, rear RH	1	1
2	GM84110**	Door	1	1
3	GM40018	Hinge	4	4
4	GM84115**	Rail, side	2	2
5	GM84114**	Panel, rear	1	1
6	GM84121**	Rail, upper end	2	2
7	GM84117**	Channel corner, rear LH	1	1
8	GM58957	Support, roof	2	2
9	GM60103	Bumper service kit (includes 4 bumpers)	1	1
10	GM47215	Panel, rad. inner	1	1
11	X-301-24	Plug, button	10	10
12	GM84113**	Panel, front	1	1
13	X-6275-3	Logo, Kohler	2	2
14	GM84118**	Channel, corner, front	2	2
15	GM58953	Brace, door	3	3
16	GM84122**	Rail, end	2	2
17	GM84120**	Panel, side RH	1	1
18	GM84119**	Panel, side LH	1	1
19	GM40019	Hinge	4	4
20	X-6348-13	Decal, Kohler Power Systems	2	2
21	GM84123**	Cover, skid rail	4	4
22	GM84111**	Door	1	
22	GM84109**	Door		1
23	GM47709	Latch, locking	2	2
24	GM84124**	Skid	1	1
25	GM39989	Duct, side	3	3
26	GM39976	Duct, bottom	3	3
27	GM58954	Brace, door	3	3
28	GM39975	Duct, side	3	3
29	GM39974	Duct, top	3	3
29	GM74865	Duct, top (front right door only)		1
30	GM42042	Latch, cane bolt, LH	2	2
31	GM42041	Latch, cane bolt, RH	2	2
32	GM74199	Gasket, exhaust	1	1
33	GM47450	Bracket, battery	1	1
34	GM78094	Tube, Flex Exhaust	1	1
34	GM78076	Sleeve, Exhaust	1	1
35	GM41095	Clamp, muffler 2.13 dia.	1	1
37	GM47218	Silencer	1	1
38	276254	Cap, rain (fits 2.00 in. tube)	1	1
38	GM60810	Pipe, Tail		1
38	GM41095	Clamp, muffler 2.13 dia.		1
40	GM84108**	Roof	1	1
41	GM84109**	Door	1	1
42	GM84112**	Door	1	
42	GM84110**	Door		1

** Add a suffix to this color dependant part number before ordering.
See chart below to identify the color suffix.

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 1)
GM84107-KA1-CAS	-CAS	GM84116-CAS
GM84107-KA1-KCB	-KCB	GM84116-KCB
GM84107-KA2-CAS	-CAS	GM84116-CAS
GM84107-KA2-KCB	-KCB	GM84116-KCB

Group 501: Sound Enclosure, continued



Item	Part Number	Description	Quantity	
			Module/ Variation	
			GM84107-KA2	GM84107-KA1
	GM47451	Foam, acoustic kit		1
	GM60813	Foam, acoustic kit	1	
41	GM47444	Foam, acoustic end rail	4	4
42	GM40008	Foam, acoustic	4	4
43	GM47442	Foam, acoustic side panel	2	2
44	GM47443	Foam, acoustic side rail	2	2
46	GM47362	Foam, acoustic	1	1
48	GM47441	Foam, acoustic front panel, top	1	3
49	GM58955	Foam, acoustic front panel, bottom	1	3
50	GM40012	Foam, acoustic	4	3
50	GM74864	Foam, acoustic (front right door only)	1	
51	GM47448	Foam, acoustic rear panel, side	10	6
52	GM40014	Foam, acoustic	5	3
53	GM40011	Foam, acoustic	5	3
54	GM40015	Foam, acoustic	5	3
55	GM47449	Foam, acoustic door, bottom	5	3
56	GM40013	Foam, acoustic	5	3
57	GM47447	Foam, acoustic roof	2	3
58	GM74900	Foam, acoustic	1	

Group 701: Literature

Item	Part Number	Description	Quantity				
			Variation				
			419	420	421	422	441
1	TP-6479	Warranty, 5-Yr Lmted, 8.5-30RES/TRES/RESA	1	1			1
1	TP-5374	Warranty 1-Year Limited, Industrial			1	1	
2	TP-6724	S/M PSI/GM 1.6-8.1L Emission-Certified	1	1	1	1	1
3	TP-6725	I/M 15/30RESA, Res/Coml	1	1			1
3	TP-6727	I/M 15/30REYG			1	1	
4	TP-6726	O/M 15/30RESA, Res/Coml	1	1			1
4	TP-6728	O/M 15/30REYG			1	1	
5	TP-6729	P/C 15/30REYG/RESA	1	1	1	1	1
6	TP-6198	S/M 15/30RES/RYG, Res/Coml	1	1	1	1	1
7	TP-6719	W/D 15/30RESA/REYG, Res/Coml	1	1	1	1	1

Parts List: Accessories

Qty.	Description	Part No.
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Block Heater

Block Heater, 1000W, 120V GM32877-KA1

1	Bracket, block heater	GM32987
1	Heater, block	GM28585
1	Connector, hose	GM28690
1	Connector, hose + vibra seal	X-582-2
1	Hose, 0.63 in. ID	X-312-51
1	Hose, 0.63 ID	X-312-52
2	Clamp, hose, 0.5/1 in.	X-426-10
2	Clamp, hose, 0.56/1.06 in.	X-426-3
1	Tag, hang	279047
1	Conduit, convoluted	X-6003-79
1	Shield, heat	GM39629

Block Heater, 1000W, 240V GM32877-KA2

1	Bracket, block heater	GM32987
1	Heater, block	358327
1	Connector, hose	GM28690
1	Connector, hose + vibra seal	X-582-2
1	Hose, 0.63 in. ID	X-312-51
1	Hose, 0.63 ID	X-312-52
2	Clamp, hose, 0.5/1 in.	X-426-10
2	Clamp, hose, 0.56/1.06 in.	X-426-3
1	Conduit, convoluted	X-6003-79
1	Tag, hang	279047
1	Shield, heat	GM39629

Circuit Breakers

Line Circuit Breaker, 70A, 2P, 240V GM33030-KA3

1	Cover, circuit breaker	GM32854
1	Breaker, circuit	GM28743
4	Screw, machine	X-49-2
1	Decal, power breaker	GM15301

Line Circuit Breaker, 125A, 2P, 240V GM33030-KA4

1	Breaker, circuit	GM28792
1	Cover, circuit breaker	GM32854
1	Bracket, breaker mounting	GM35334
4	Screw, self-tapping	X-67-64
1	Decal, power breaker	GM15301

Line Circuit Breaker, 40A, 3P, 600V GM33030-KA9

3	Boot	238915
1	Circuit breaker	269252
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 50A, 3P, 600V GM33030-KA11

3	Boot	238915
1	Circuit breaker, 50A, 480V, 3-pole	269249
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Qty.	Description	Part No.
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Line Circuit Breaker, 25A, 3P, 600V GM33030-KA12

3	Boot	238915
1	Circuit breaker, 25A, 600V, 3-pole	225168
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 60A, 3P, 600V GM33030-KA13

3	Boot	238915
1	Circuit breaker, 60A, 600V, 3-pole	253224
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 80A, 3P, 480V GM33030-KA14

3	Boot	238915
1	Circuit breaker, 80A, 480V, 3-pole	253225
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 90A, 3P, 480V GM33030-KA15

3	Boot	238915
1	Circuit breaker, 90A, 600V, 3-pole	344905
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 65A, 3P, 480V GM33030-KA16

3	Boot	238915
1	Circuit breaker, 65A, 600V, 3-pole	226769
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 55A, 3P, 480V GM33030-KA17

3	Boot	238915
1	Circuit breaker, 55A, 600V, 3-pole	226768
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 30A, 3P, 480V GM33030-KA18

3	Boot	238915
1	Circuit breaker, 30A, 600V, 3-pole	269250
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Line Circuit Breaker, 100A, 2P, 240V GM33030-KA19

1	Breaker, circuit	GM22482
1	Cover, circuit breaker	GM32854
1	Bracket, breaker mounting	GM35334
4	Screw, self-tapping	X-67-64
1	Decal, power breaker	GM15301

Line Circuit Breaker, 70A, 3P, 600V GM33030-KA32

3	Boot	238915
1	Circuit breaker, 70A, 600V, 3-pole	258381
1	Cover, circuit breaker	GM32860
6	Screw, pan head, 6-32 x 3/16	X-49-21
1	Decal, power breaker	GM15301

Parts List: Accessories

Qty.	Description	Part No.
Line Circuit Breaker, 70A, 2P, 240V GM78290-KA1		
1	Decal, Power Breaker	GM15301
1	Breaker, Circuit	GM28743
1	Cover, Circuit Breaker	GM32854
Line Circuit Breaker, 100A, 2P, 240V GM78290-KA2		
1	Decal, Power Breaker	GM15301
1	Breaker, Circuit	GM22482
1	Cover, Circuit Breaker	GM32854
1	Bracket, Breaker Mounting	GM80863
Line Circuit Breaker, 125A, 2P, 240V GM78290-KA3		
1	Decal, Power Breaker	GM15301
1	Breaker, Circuit	GM28792
1	Cover, Circuit Breaker	GM32854
1	Bracket, Breaker Mounting	GM80863
Line Circuit Breaker, 50A, 3P, 480V GM78290-KA4		
2	Boot	238915
1	Breaker, Circuit	269249
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM32854
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 80A, 3P, 480V GM78290-KA5		
3	Boot	238915
1	Breaker, Circuit	253225
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 90A, 3P, 480V GM78290-KA6		
3	Boot	238915
1	Breaker, Circuit	344905
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 25A, 3P, 600V GM78290-KA7		
3	Boot	238915
1	Breaker, Circuit	225168
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 30A, 3P, 600V GM78290-KA8		
3	Boot	238915
1	Breaker, Circuit	225168
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 40A, 3P, 600V GM78290-KA9		
3	Boot	238915
1	Breaker, Circuit	269252
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 55A, 3P, 600V GM78290-KA10		
3	Boot	238915
1	Breaker, Circuit	226768
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774
Line Circuit Breaker, 60A, 3P, 600V GM78290-KA11		
3	Boot	238915
1	Breaker, Circuit	253224
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774

Qty.	Description	Part No.
Line Circuit Breaker, 65A, 3P, 600V GM78290-KA12		
3	Boot	238915
1	Breaker, Circuit	226769
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774

Line Circuit Breaker, 70A, 3P, 600V GM78290-KA13		
3	Boot	238915
1	Breaker, Circuit	258381
1	Decal, Power Breaker	GM15301
1	Cover, Circuit Breaker	GM78774

Electrical System

Battery, 1/12V, 675CCA, Wet		PA-324553
1	Battery, wet charged, 12V, 675CCA	324367

Battery, 1/12V, 525CCA, Wet		GM48808-KA1
1	Battery, wet charged, 12V, 675CCA	GM48784

Parts List: Accessories, continued

Qty.	Description	Part No.
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Battery Charger, Float w/Alarms, 12V, 10A PAD-292863

1	TT Float/Equalize Battery Charger, Ind.	TT-680
1	Charger, assembly (includes the following parts)	D-292863
1	PCB assembly, battery charger alarm	B-262374
1	PCB assembly, battery charger control	C-262377
2	Washer, lock, 0.172 ID x 0.595 in. OD	X-22-18
3	Washer, lock, 0.146 ID x 0.53 in. OD	X-22-25
14	Washer, lock, 0.146 ID x 0.285 in. OD	X-22-6
2	Terminal, ring, male, 16-14 AWG	X-283-1
2	Terminal, ring, male, 10-12 AWG	X-283-11
3	Terminal, ring, male, 16-14 AWG	X-283-2
16	Screw, pan head, 6-32 x 1/4	X-49-25
4	Screw, pan head, 6-32 x 1/2	X-49-26
3	Screw, slotted pan head machine	X-49-39
2	Screw, pan head, 6-32 x 3/4	X-49-6
2	Screw, pan head, 10-32 x 1/2	X-50-1
2	Screw, pan head, 10-24 x 3/4	X-50-3
2	Screw, pan head, 8-32 x 3/4	X-51-11
2	Screw, pan head, 8/32 x 1/2	X-51-15
4	Screw, pan head, 1/4-20 x 3/4	X-51-30
1	Screw, slotted round head machine	X-51-53
2	Tubing, heat shrink	X-6079-2
2	Screw, Phillips hex crimpite	X-6216-1
2	Nut, hex machine screw, 6-32	X-71-2
1	Decal, connection	233966
1	Diagram, wiring	233967
1	Fuse, 5A, 250V	239298
2	Clip, speed	257442
1	Fuse, 25A, 125V	262389
1	Transformer, 120/240V, 29.5V	262394
1	Decal, warning connection	262397
1	Clip, cable	262399
2	Fuse holder	263156
8	Spacer	287948
1	Lamp, 120V, 0.33W	291208
1	Decal	292387
1	Heatsink	292938
1	Strip, terminal	292940
1	Ammeter, 0-15A, DC	292941
1	Voltmeter, 0-25V, DC	292942
1	Module, SCR	292945
1	Resistor, 0.04/0.05 ohm, 35W	292947
1	Fuse, 7A, 250V	292948
1	Wiring harness, 12/24V float chargers	292958
1	Marker, strip	299090
1	Marker, strip	292962
2	Retainer	295010
1	Terminal block (NRP)	295314
4	Nut, captive, 6-32	298810
1	Box, battery charger	GM39656
1	Door, battery charger, silkscreened	325596
1	Nameplate, battery charger	325609
1	Cable tie	X-468-12
4	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12

Qty.	Description	Part No.
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Battery Charger, Float, 12V, 10A PAD-292862

1	TT Float/Equalize Battery Charger, Ind.	TT-680
1	Charger assembly, battery (includes the following parts)	D-292862
1	PCB assembly, battery charger control	C-262377
2	Washer, lock, 0.172 ID x 0.595 in. OD	X-22-18
3	Washer, lock, 0.146 ID x 0.53 in. OD	X-22-25
10	Washer, lock, 0.146 ID x 0.285 in. OD	X-22-6
2	Terminal, ring, male, 16-14 AWG	X-283-1
2	Terminal, ring, male, 10-12 AWG	X-283-11
3	Terminal, ring, male, 16-14 AWG	X-283-2
8	Screw, pan head, 6-32 x 1/4	X-49-25
4	Screw, pan head, 6-32 x 1/2	X-49-26
3	Screw, slotted pan head machine	X-49-39
2	Screw, pan head, 6-32 x 3/4	X-49-6
2	Screw, pan head, 10-32 x 1/2	X-50-1
2	Screw, pan head, 10-24 x 3/4	X-50-3
2	Screw, pan head, 8-32 x 3/4	X-51-11
2	Screw, pan head, 8/32 x 1/2	X-51-15
4	Screw, pan head, 1/4-20 x 3/4	X-51-30
1	Screw, slotted round head machine	X-51-53
2	Tubing, heat shrink	X-6079-2
2	Screw, Phillips hex crimpite	X-6216-1
2	Nut, hex machine screw, 6-32	X-71-2
1	Decal, connection	233966
1	Diagram, wiring	233967
1	Fuse, 5A, 250V	239298
2	Clip, speed	257442
1	Fuse, 25A, 125V	262389
1	Transformer, 120/240V, 29.5V	262394
1	Decal, warning connection	262397
1	Clip, cable	262399
2	Fuse holder	263156
4	Spacer	287948
1	Lamp, 120V, 0.33W	291208
1	Decal	292387
1	Heatsink	292938
1	Strip, terminal	292940
1	Ammeter, 0-15A, DC	292941
1	Voltmeter, 0-25V, DC	292942
1	Module, SCR	292945
1	Resistor, 0.04/0.05 ohm, 35W	292947
1	Fuse, 7A, 250V	292948
1	Wiring harness, 12/24V float chargers	292958
1	Marker, strip	299090
1	Marker, strip	292962
2	Retainer	295010
1	Terminal block (NRP)	295314
4	Nut, captive, 6-32	298810
1	Box, battery charger	GM39656
1	Door, battery charger, silkscreened	325596
1	Nameplate, battery charger	325608
1	Cable tie	X-468-12
4	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12

Battery Charger GM32878-KA1

1	Charger, battery 12V 6A float equalizers	GM28341
1	Bracket, battery charger mounting	GM32862

Battery Charger GM32878-KA2

1	Charger, battery 12V 6A float equalizers	GM28341
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Battery Heater, 120VAC, 110W PA-358225

2	Cable tie	GM89022-KP1 and X-468-1
1	Heater, battery wrap	336814
1	Heater, battery pad	336825
1	TT Battery Heater, 8.5-30kW Ind/Res/Coml	TT-1221

Parts List: Accessories, continued

Qty.	Description	Part No.
Run/Common Fault Relay, 12V GM30414-KA1		
1	PCB Assy, relay board 12V w/opt relay	GM29779
1	Harness, wiring relay board	GM30539
1	Installation instructions	TT-1423
Run/Common Fault Relay GM78339-KA1		
1	PCB Assy, relay board 12V w/opt relay	GM29779
1	Harness, wiring relay board	GM78342
Remote Digital Gauge GM32337-KP2		
1	Gauge, digital can J-1939	GM30565
1	Harness, remote	GM48148
1	TT ADC 2100 Controller Replacement	TT-1364
1	TT Remote Digital Gauge, 8.5-40 kW	TT-1439
Harness, 15 Ft., Remote Panel GM32333-KP1		
1	Harness, extension	GM30248
Harness, 25 Ft., Remote Panel GM32333-KP2		
1	Harness, extension GM32333-KP7-QS/	GM32323
Harness, 100 Ft., Remote Panel GM32333-KP4		
1	Harness, extension GM32333-KP8-QS/	GM47391
Harness, 12 In., Pigtail GM32332-KP1		
1	Harness, pigtail	GM32324

Qty.	Description	Part No.
Enclosure		
Weather, Enclosed Silencer, UL2200 GM28601-KA1		
4	Cover, skid rail	254758-KCB
4	Corner channel, weather enclosure	GM28595
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28536
1	Roof, weather enclosure	GM28593
2	Door, weather enclosure	GM31236
1	End panel, weather enclosure	GM28596
1	End panel, weather enclosure	GM28597
2	Side panel, weather enclosure	GM28598
1	Insulating blanket, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM33003
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 1.87 in.	GM41094
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82

Parts List: Accessories, continued

Qty.	Description	Part No.
Weather, Enclosed Silencer, UL2200 GM28601-KA2		
4	Cover, skid rail	254758
4	Corner channel, weather enclosure	GM28595
24	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28535
1	Roof, weather enclosure	GM28593
2	Door, weather enclosure	GM31236
1	End panel, weather enclosure	GM28596
1	End panel, weather enclosure	GM28597
2	Side panel, weather enclosure	GM28598
1	Insulating blanket, silencer	GM28704
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30498
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
1	Bracket, silencer support	GM39092
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM33003
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 2.13 in.	GM41095
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
2	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10040-82
4	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM7199
2	Screw, hex cap	M931-10040-82

Qty.	Description	Part No.
Weather, 15RESL (Sage) GM28601-KA3		
4	Cover, skid rail	254758-BLK
4	Corner channel, weather enclosure	GM47534
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28536
1	Roof, weather enclosure	GM47533
2	Door, weather enclosure	GM47538
1	End panel, weather enclosure	GM47535
1	End panel, weather enclosure	GM47536
2	Side panel, weather enclosure	GM47537
1	Insulating blanket, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM33003
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 1.87 in.	GM41094
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield	GM47251
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82

Parts List: Accessories, continued

Qty.	Description	Part No.
Weather, Enclosed Silencer, UL2200 GM28601-KA4		
4	Cover, skid rail	254758-KCB
4	Corner channel, weather enclosure	GM28595
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28536
1	Roof, weather enclosure	GM74982
2	Door, weather enclosure	GM75388
1	End panel, weather enclosure	GM74984
1	End panel, weather enclosure	GM74986
2	Side panel, weather enclosure	GM28598
1	Insulating blanket, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM74988
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 1.87 in.	GM41094
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82

Qty.	Description	Part No.
Weather, Enclosed Silencer, UL2200 GM28601-KA5		
4	Cover, skid rail	254758
4	Corner channel, weather enclosure	GM28595
24	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28535
1	Roof, weather enclosure	GM74982
2	Door, weather enclosure	GM75388
1	End panel, weather enclosure	GM74984
1	End panel, weather enclosure	GM74986
2	Side panel, weather enclosure	GM28598
1	Insulating blanket, silencer	GM28704
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30498
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
1	Bracket, silencer support	GM39092
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM74988
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 2.13 in.	GM41095
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
2	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10040-82
4	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82

Parts List: Accessories, continued

Qty.	Description	Part No.
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Weather, 15RESL (Sage)		GM28601-KA6
4	Cover, skid rail	254758-BLK
4	Corner channel, weather enclosure	GM47534
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28536
1	Roof, weather enclosure	GM74983
2	Door, weather enclosure	GM75389
1	End panel, weather enclosure	GM74985
1	End panel, weather enclosure	GM74987
2	Side panel, weather enclosure	GM47537
1	Insulating blanket, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM74988
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 1.87 in.	GM41094
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield	GM47251
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82

Enclosure, Sound Shield **GM36247-KA1**
See Group 501: Housing for parts list.

Enclosure, Sound Shield **GM36247-KA2**
See Group 501: Housing for parts list.

Enclosure, Sound Shield **GM36247-KA3**
See Group 501: Housing for parts list.

Sound Shield Conversion		GM33821-KA1
6	Insert, threaded (metric), 6 mm	GM11040-2
1	Panel, discharge duct, right side	GM33814
1	Panel, discharge duct, left side	GM33815
1	Panel, discharge duct, front	GM33816
1	Panel, discharge duct, top	GM33817
1	Foam, acoustic (GM 15-30 kW 1.6L)	GM37549
6	Washer, nylon	X-6278-14
22	Screw, hex seal washer head, drill	X-794-4
1	Decal, Caution Hot Engine	249809

Qty.	Description	Part No.
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Sound Shield Conversion (Sage)		GM33821-KA2
6	Insert, threaded (metric), 6 mm	GM11040-2
1	Panel, discharge duct, right side	GM47539
1	Panel, discharge duct, left side	GM47540
1	Panel, discharge duct, front	GM47541
1	Panel, discharge duct, top	GM47542
1	Foam, acoustic (GM 15-30 kW 1.6L)	GM37549
6	Washer, nylon	X-6278-14
22	Screw, hex seal washer head, drill	X-794-4
1	Decal, Caution Hot Engine	249809

Enclosure, Weather/Sound Attenuated		GM39265-KA1
2	Decal, caution hot engine	249809
4	Cover, skid rail	254758
1	Clamp, muffler, 1.88 in.	GM41094
30	Insert, threaded (metric), 6mm	GM11040-2
1	Decal, rainproof enclosure	GM15299
1	Silencer	GM28536
1	Roof, weather enclosure	GM28593
4	Corner channel, weather enclosure	GM28595
1	End panel, weather enclosure	GM28596
1	End panel, weather enclosure	GM28597
2	Side panel, weather enclosure	GM28598
1	Insulator, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mtg.	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
4	Bushing, molded	GM31074-1
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Door, weather enclosure	GM31236
1	Plate, cover	GM33003
1	Panel, discharge duct, right side	GM33814
1	Panel, discharge duct, left side	GM33815
1	Panel, discharge duct, front	GM33816
1	Panel, discharge duct, top	GM33817
1	Foam, Acoustic (GM 15-30 kW 1.6L)	GM37549
1	Foam, acoustic	GM37552
1	Corner, sound shield	GM42840
6	Washer, nylon	X-6278-14
2	Decal	X-6348-2
38	Rivet, pop, 0.187 in.	X-781-19
8	Screw, hex washer head, drill	X-794-1
12	Screw, hex washer head, drill	X-794-2
20	Screw, hex seal washer head, drill	X-794-4

Parts List: Accessories, continued

Qty.	Description	Part No.
Weather, Enclosed Silencer, UL2200 GM84098-KA1		
4	Cover, skid rail	GM84105**
4	Corner channel, weather enclosure	GM84100**
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28536
1	Roof, weather enclosure	GM84099**
2	Door, weather enclosure	GM84104**
1	End panel, weather enclosure	GM84101**
1	End panel, weather enclosure (w/holes)	GM84102**
2	Side panel, weather enclosure	GM84103**
1	Insulating blanket, silencer	GM28703
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30499
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM84106**
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 1.87 in.	GM41094
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82
**	Add a suffix to this color dependant part number before ordering. See chart below to identify the color suffix.	

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example
GM84098-KA1-CAS	-CAS	GM84099-CAS
GM84098-KA1-KCB	-KCB	GM84099-KCB
GM84098-KA2-KCB	-KCB	GM84099-KCB

Qty.	Description	Part No.
Weather, Enclosed Silencer, UL2200 GM84098-KA2		
4	Cover, skid rail	GM84105**
4	Corner channel, weather enclosure	GM84100**
32	Insert, threaded (metric), 6 mm	GM11040-2
1	Silencer	GM28535
1	Roof, weather enclosure	GM84099**
2	Door, weather enclosure	GM84104**
1	End panel, weather enclosure	GM84101**
1	End panel, weather enclosure (w/holes)	GM84102**
2	Side panel, weather enclosure	GM84103**
1	Insulating blanket, silencer	GM28707
2	Duct, weather enclosure side	GM28749
2	Support, duct, right side	GM28750
4	Bracket, mounting	GM28751
2	Support, duct, left side	GM28755
1	Gasket	GM29398
1	Elbow, exhaust	GM30498
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
8	Screw, hex washer head, drill	X-794-1
38	Rivet, pop, 0.187 in.	X-781-19
4	Latch, lockable, black	GM31202
4	Key, latch	GM42778
2	Decal	X-6348-2
1	Plate, cover	GM84106**
12	Screw, hex washer head, drill	X-794-2
1	Clamp, muffler, 2.13 in.	GM41095
4	Bushing, molded	GM31074-1
1	Decal, rainproof enclosure	GM15299
1	Foam, acoustic	GM37552
2	Decal, caution hot engine	249809
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
2	Screw, hex cap	M931-10050-82
8	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
4	Corner, sound shield (KCB)	GM42840
1	Wood base	PFS-2070
2	Pad, corrugated	PHS-9048
4	Washer, plain, 0.406 ID x 2 in. OD	X-25-96
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM74199
2	Screw, hex cap	M931-10040-82
**	Add a suffix to this color dependant part number before ordering. See chart below to identify the color suffix.	

Fuel System

Flex Fuel, Gas 3/4 In.	GM28754-KA1
1 Fuel line, flexible	326260

Natural Gas Strainer	PA-290275
1 Strainer, gas	292485

Additional Gas Solenoid Valve	GM39123-KA1
1 Bracket, fuel valve	254456
1 Valve assembly, gas	254859
1 Fuel line, flexible	GM41863
1 Harness, additional gas solenoid valve	GM39124
1 Elbow, pipe NPT	X-215-27
1 Elbow, oil line	X-447-18

Parts List: Accessories, continued

Qty.	Description	Part No.
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Additional Gas Solenoid Valve		GM39123-KA2
1	Bracket, fuel valve	254456
1	Valve assembly, gas	GM42530
1	Fuel line, flexible	GM41863
1	Harness, additional gas solenoid valve	GM46019
1	Elbow, pipe NPT	X-215-27
1	Elbow, oil line	X-447-18

Additional Gas Solenoid Valve		GM70488-KA1
1	Valve assembly, gas	GM42530
1	Harness, additional gas solenoid valve	GM46019

Skid End Caps		GM35032-KP1
2	End cap, skid	GM35313
8	Screw, hex washer head, drill	X-794-1

Guard, Rodent		GM34362-KA1
1	Screen, air inlet guard	GM29351
8	Washer, plain	X-25-57
8	Screw, machine	X-49-36

Air Cleaner Restriction Indicator		PA-326237
1	TT Air Cleaner Restriction, 20-2000 kW	TT-1207
1	Gauge, restriction	273113

Oil Makeup/Low Level Shutdown		GM65412-KA1
1	Valve, oil drain (M14 x 1.50)	344826
1	Washer, Sealing (30.1mm OD)	359422
2	O-ring, ISO 6149 (11.3mm ID)	365499
1	Gauge, oil level	GM65413
1	Bracket, oil level	GM65414
1	Bracket, oil tank	GM65415
1	Bottle, oil	GM65453
1	Decal, check oil	GM66054
1	Tee, run M14 x 1.5	GM67070
1	TT oil makeup, 30RES/RYG, RGEN30, RES	TT-1521
1	Bushing, reducing (1/2 x in. npt)	X-202-41
4	Washer, lock, .326 ID x .883 in. ID	X-22-16
2	Washer, lock, .20 ID x .373 in. OD	X-22-9
1	Fuel line, flexible	X-386-109
2	Connector, 90 deg. (in. ID hose)	X-391-21
1	Connector, 90 deg. (3/8 in. ID hose)	X-391-42
1	Fuel line, flexible	X-422-15
1	Line, flex fuel	X-422-38
6	Clamp, hose, .5/1 in.	X-426-10
1	Connector, hose + vibra seal	X-582-5

Oil Makeup/Low Level Shutdown		GM65412-KA2
1	Valve, oil drain (M14 x 1.50)	344826
1	Washer, Sealing (30.1mm OD)	359422
2	O-ring, ISO 6149 (11.3mm ID)	365499
1	Gauge, oil level	GM65413-P
1	Bracket, oil level	GM65414
1	Bracket, oil tank	GM65415
1	Bottle, oil	GM65453
1	Decal, check oil	GM66054
1	Tee, run M14 x 1.5	GM67070
1	TT oil makeup, 30RES/RYG, RGEN30, RES	TT-1521
1	Bushing, reducing (1/2 x in. npt)	X-202-41
4	Washer, lock, .326 ID x .883 in. ID	X-22-16
2	Washer, lock, .20 ID x .373 in. OD	X-22-9
1	Fuel line, flexible	X-386-109
2	Connector, 90 deg. (in. ID hose)	X-391-21
1	Connector, 90 deg. (3/8 in. ID hose)	X-391-42
1	Fuel line, flexible	X-422-15
1	Line, flex fuel	X-422-38
6	Clamp, hose, .5/1 in.	X-426-10
1	Connector, hose + vibra seal	X-582-5

Qty.	Description	Part No.
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Oil Makeup/Low Level Shutdown		GM65412-KA3
1	Valve, oil drain (M14 x 1.50)	344826
1	Washer, Sealing (30.1mm od)	359422
2	O-ring, ISO 6149 (11.3mm ID)	365499
1	Gauge, Oil Level	GM65413-P
1	Bracket, Oil Level	GM65414
1	Bottle, Oil	GM65453
1	Decal, Check Oil	GM66054
1	Tee, Run M14 x 1.5	GM67070
1	Bracket, Oil Tank	GM80948
1	TT Oil Makeup Kit, 30kW, Res/Coml	TT-1521
1	Bushing, reducing (1/2 x 3/4"npt)	X-202-41
1	Fuel line, flexible	X-386-109
2	Connector, 90 deg. (1/2"ID hose)	X-391-21
1	Connector, 90 deg. (3/8"ID hose)	X-391-42
1	Fuel line, flexible	X-422-15
1	Line, Flex Fuel	X-422-38
6	Clamp, hose, .69/1.25 in. (NRP)	X-426-12
1	Connector, hose + Vibra Seal	X-582-5

Silencer, Critical, 2 in. NPT, SIEO		PA-324064
1	Silencer, critical SIEO, 2 in. NPT	276257

Rain Cap		PA-225243
1	Cap, rain	276254

Rain Cap		PA-256851
1	Cap, vertical exhaust	276126

Silencer, Engine Mounted		GM32879-KP1
1	Silencer	GM28536
1	Insulating blanket, silencer	GM28703
1	Elbow, exhaust	GM30499
1	Gasket	GM29398
1	Clamp, muffler	GM41094
2	Screw, hex cap	M931-10050-60
2	Nut, hex, 10 mm	M6923-10-80
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM28711
2	Screw, hex cap	M931-10040-82
4	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3

Silencer, Engine Mounted		GM32879-KP2
1	Silencer	GM28535
1	Insulating blanket, silencer	GM28704
1	Elbow, exhaust	GM30498
1	Gasket	GM29398
1	Clamp, muffler, 2.13 in.	GM41095
2	Screw, hex cap	M933-10035-60
2	Screw, hex cap	M931-10050-82
2	Nut, hex, 10 mm	M6923-10-80
1	Bracket, silencer support	GM39092
4	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM28711
2	Screw, hex cap	M931-10040-82
4	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3

Parts List: Accessories, continued

Qty.	Description	Part No.
Exhaust, Flex		GM33818-KP1
1	Adapter, flexible exhaust	324089
1	Gasket	GM29398
1	Pipe, exhaust	GM33820
1	Clamp, muffler, 2.12 in.	X-722-5
2	Screw, hex cap	M933-10035-60
2	Nut, hex, 10 mm	M6923-10-80
1	Insulator, pipe	GM28705
1	Pipe, exhaust	GM28534
1	Gasket, exhaust manifold	GM28711
2	Screw, hex cap	M931-10040-82
2	Spacer, 0.406 ID x 0.625 OD x 0.5 in.	X-400-91
4	Washer, hardened, 0.406 ID x 0.812 in. OD	X-801-3
Flex Exhaust, Engine Mtd. Silencer		GM33818-KP2
1	Adapter, flexible exhaust	324089
1	Clamp, muffler, 2.12 in.	X-722-5
Flex Exhaust, Engine Mtd. Silencer		GM33818-KP3
1	Adapter, flexible exhaust	276242
1	Clamp, muffler, 1.87 in.	277706
Duct Flange		GM33819-KP1
2	Flange, radiator side	GM30500
1	Flange, radiator bottom	GM30501
1	Flange, radiator top	GM30502
4	Washer, plain, 0.281 ID x 0.625 in. OD	X-25-40
4	Bolt, hex cap	X-465-2
8	Rivet, pop, 0.187 in.	X-781-19
Maintenance Service Kits		
(includes oil, oil filter, air filter, spark plugs, and instructions (TT-1445))		
1	Kit, Residential Maint (30RES)	GM62348

Notes

Appendix A Abbreviations

The following list contains abbreviations that may appear in this publication.

A, amp	ampere	cfm	cubic feet per minute	est.	estimated
ABDC	after bottom dead center	CG	center of gravity	E-Stop	emergency stop
AC	alternating current	CID	cubic inch displacement	etc.	et cetera (and so forth)
A/D	analog to digital	CL	centerline	exh.	exhaust
ADC	advanced digital control; analog to digital converter	cm	centimeter	ext.	external
adj.	adjust, adjustment	CMOS	complementary metal oxide substrate (semiconductor)	F	Fahrenheit, female
ADV	advertising dimensional drawing	cogen.	cogeneration	fglass.	fiberglass
Ah	amp-hour	com	communications (port)	FHM	flat head machine (screw)
AHWT	anticipatory high water temperature	coml	commercial	fl. oz.	fluid ounce
AISI	American Iron and Steel Institute	Coml/Rec	Commercial/Recreational	flex.	flexible
ALOP	anticipatory low oil pressure	conn.	connection	freq.	frequency
alt.	alternator	cont.	continued	FS	full scale
Al	aluminum	CPVC	chlorinated polyvinyl chloride	ft.	foot, feet
ANSI	American National Standards Institute (formerly American Standards Association, ASA)	crit.	critical	ft. lb.	foot pounds (torque)
AO	anticipatory only	CRT	cathode ray tube	ft./min.	feet per minute
APDC	Air Pollution Control District	CSA	Canadian Standards Association	ftp	file transfer protocol
API	American Petroleum Institute	CT	current transformer	g	gram
approx.	approximate, approximately	Cu	copper	ga.	gauge (meters, wire size)
AQMD	Air Quality Management District	cUL	Canadian Underwriter's Laboratories	gal.	gallon
AR	as required, as requested	CUL	Canadian Underwriter's Laboratories	gen.	generator
AS	as supplied, as stated, as suggested	cu. in.	cubic inch	genset	generator set
ASE	American Society of Engineers	cw.	clockwise	GFI	ground fault interrupter
ASME	American Society of Mechanical Engineers	CWC	city water-cooled	GND, ⊕	ground
assy.	assembly	cyl.	cylinder	gov.	governor
ASTM	American Society for Testing Materials	D/A	digital to analog	gph	gallons per hour
ATDC	after top dead center	DAC	digital to analog converter	gpm	gallons per minute
ATS	automatic transfer switch	dB	decibel	gr.	grade, gross
auto.	automatic	dB(A)	decibel (A weighted)	GRD	equipment ground
aux.	auxiliary	DC	direct current	gr. wt.	gross weight
avg.	average	DCR	direct current resistance	H x W x D	height by width by depth
AVR	automatic voltage regulator	deg., °	degree	HC	hex cap
AWG	American Wire Gauge	dept.	department	HCHT	high cylinder head temperature
AWM	appliance wiring material	DFMEA	Design Failure Mode and Effects Analysis	HD	heavy duty
bat.	battery	dia.	diameter	HET	high exhaust temp., high engine temp.
BBDC	before bottom dead center	DI/EO	dual inlet/end outlet	hex	hexagon
BC	battery charger, battery charging	DIN	Deutsches Institut für Normung e. V. (also Deutsche Industrie Normenausschuss)	Hg	mercury (element)
BCA	battery charging alternator	DIP	dual inline package	HH	hex head
BCI	Battery Council International	DPDT	double-pole, double-throw	HHC	hex head cap
BDC	before dead center	DPST	double-pole, single-throw	HP	horsepower
BHP	brake horsepower	DS	disconnect switch	hr.	hour
blk.	black (paint color), block (engine)	DVR	digital voltage regulator	HS	heat shrink
blk. htr.	block heater	E, emer.	emergency (power source)	hsg.	housing
BMEP	brake mean effective pressure	ECM	electronic control module, engine control module	HVAC	heating, ventilation, and air conditioning
bps	bits per second	EDI	electronic data interchange	HWT	high water temperature
br.	brass	EFR	emergency frequency relay	Hz	hertz (cycles per second)
BTDC	before top dead center	e.g.	for example (<i>exempli gratia</i>)	IC	integrated circuit
Btu	British thermal unit	EG	electronic governor	ID	inside diameter, identification
Btu/min.	British thermal units per minute	EGSA	Electrical Generating Systems Association	IEC	International Electrotechnical Commission
C	Celsius, centigrade	EIA	Electronic Industries Association	IEEE	Institute of Electrical and Electronics Engineers
cal.	calorie	EI/EO	end inlet/end outlet	IMS	improved motor starting
CAN	controller area network	EMI	electromagnetic interference	in.	inch
CARB	California Air Resources Board	emiss.	emission	in. H ₂ O	inches of water
CB	circuit breaker	eng.	engine	in. Hg	inches of mercury
cc	cubic centimeter	EPA	Environmental Protection Agency	in. lb.	inch pounds
CCA	cold cranking amps	ER	emergency power system	Inc.	incorporated
ccw.	counterclockwise	ES	engineering special, engineered special	ind.	industrial
CEC	Canadian Electrical Code	ESD	electrostatic discharge	int.	internal
cert.	certificate, certification, certified			int./ext.	internal/external
cfh	cubic feet per hour			I/O	input/output
				IP	iron pipe
				ISO	International Organization for Standardization
				J	joule
				JIS	Japanese Industry Standard

k	kilo (1000)	MTBO	mean time between overhauls	rms	root mean square
K	kelvin	mtg.	mounting	rnd.	round
kA	kiloampere	MTU	Motoren-und Turbinen-Union	ROM	read only memory
KB	kilobyte (2 ¹⁰ bytes)	MW	megawatt	rot.	rotate, rotating
KBus	Kohler communication protocol	mW	milliwatt	rpm	revolutions per minute
kg	kilogram	μF	microfarad	RS	right side
kg/cm ²	kilograms per square centimeter	N, norm.	normal (power source)	RTU	remote terminal unit
kgm	kilogram-meter	NA	not available, not applicable	RTV	room temperature vulcanization
kg/m ³	kilograms per cubic meter	nat. gas	natural gas	RW	read/write
kHz	kilohertz	NBS	National Bureau of Standards	SAE	Society of Automotive Engineers
kJ	kilojoule	NC	normally closed	scfm	standard cubic feet per minute
km	kilometer	NEC	National Electrical Code	SCR	silicon controlled rectifier
kOhm, kΩ	kilo-ohm	NEMA	National Electrical Manufacturers Association	s, sec.	second
kPa	kilopascal	NFPA	National Fire Protection Association	SI	<i>Système international d'unités</i> , International System of Units
kph	kilometers per hour	Nm	newton meter	SI/EO	side in/end out
kV	kilovolt	NO	normally open	sil.	silencer
kVA	kilovolt ampere	no., nos.	number, numbers	SN	serial number
kVAR	kilovolt ampere reactive	NPS	National Pipe, Straight	SNMP	simple network management protocol
kW	kilowatt	NPSC	National Pipe, Straight-coupling	SPDT	single-pole, double-throw
kWh	kilowatt-hour	NPT	National Standard taper pipe thread per general use	SPST	single-pole, single-throw
kWm	kilowatt mechanical	NPTF	National Pipe, Taper-Fine	spec	specification
kWth	kilowatt-thermal	NR	not required, normal relay	specs	specification(s)
L	liter	ns	nanosecond	sq.	square
LAN	local area network	OC	overcrank	sq. cm	square centimeter
L x W x H	length by width by height	OD	outside diameter	sq. in.	square inch
lb.	pound, pounds	OEM	original equipment manufacturer	SS	stainless steel
lbm/ft ³	pounds mass per cubic feet	OF	overfrequency	std.	standard
LCB	line circuit breaker	opt.	option, optional	stl.	steel
LCD	liquid crystal display	OS	oversize, overspeed	tach.	tachometer
ld. shd.	load shed	OSHA	Occupational Safety and Health Administration	TD	time delay
LED	light emitting diode	OV	overvoltage	TDC	top dead center
Lph	liters per hour	oz.	ounce	TDEC	time delay engine cooldown
Lpm	liters per minute	p., pp.	page, pages	TDEN	time delay emergency to normal
LOP	low oil pressure	PC	personal computer	TDES	time delay engine start
LP	liquefied petroleum	PCB	printed circuit board	TDNE	time delay normal to emergency
LPG	liquefied petroleum gas	pF	picofarad	TDOE	time delay off to emergency
LS	left side	PF	power factor	TDON	time delay off to normal
L _{wa}	sound power level, A weighted	ph., ∅	phase	temp.	temperature
LWL	low water level	PHC	Phillips® head Crimptite® (screw)	term.	terminal
LWT	low water temperature	PHH	Phillips® hex head (screw)	THD	total harmonic distortion
m	meter, milli (1/1000)	PHM	pan head machine (screw)	TIF	telephone influence factor
M	mega (10 ⁶ when used with SI units), male	PLC	programmable logic control	TIR	total indicator reading
m ³	cubic meter	PMG	permanent magnet generator	tol.	tolerance
m ³ /hr.	cubic meters per hour	pot	potentiometer, potential	turbo.	turbocharger
m ³ /min.	cubic meters per minute	ppm	parts per million	typ.	typical (same in multiple locations)
mA	milliampere	PROM	programmable read-only memory	UF	underfrequency
man.	manual	psi	pounds per square inch	UHF	ultrahigh frequency
max.	maximum	psig	pounds per square inch gauge	UL	Underwriter's Laboratories, Inc.
MB	megabyte (2 ²⁰ bytes)	pt.	pint	UNC	unified coarse thread (was NC)
MCCB	molded-case circuit breaker	PTC	positive temperature coefficient	UNF	unified fine thread (was NF)
MCM	one thousand circular mils	PTO	power takeoff	univ.	universal
meggar	megohmmeter	PVC	polyvinyl chloride	US	undersize, underspeed
MHz	megahertz	qt.	quart, quarts	UV	ultraviolet, undervoltage
mi.	mile	qty.	quantity	V	volt
mil	one one-thousandth of an inch	R	replacement (emergency)	VAC	volts alternating current
min.	minimum, minute	rad.	radiator, radius	VAR	voltampere reactive
misc.	miscellaneous	RAM	random access memory	VDC	volts direct current
MJ	megajoule	RDO	relay driver output	VFD	vacuum fluorescent display
mJ	millijoule	ref.	reference	VGA	video graphics adapter
mm	millimeter	rem.	remote	VHF	very high frequency
mOhm, mΩ	milliohm	Res/Coml	Residential/Commercial	W	watt
MOhm, MΩ	megohm	RFI	radio frequency interference	WCR	withstand and closing rating
MOV	metal oxide varistor	RH	round head	w/	with
MPa	megapascal	RHM	round head machine (screw)	w/o	without
mpg	miles per gallon	rly.	relay	wt.	weight
mph	miles per hour			xfrm	transformer
MS	military standard				
ms	millisecond				
m/sec.	meters per second				
MTBF	mean time between failure				

Appendix B Common Hardware Application Guidelines

Use the information below and on the following pages to identify proper fastening techniques when no specific reference for reassembly is made.

Bolt/Screw Length: When bolt/screw length is not given, use Figure 1 as a guide. As a general rule, a minimum length of one thread beyond the nut and a maximum length of 1/2 the bolt/screw diameter beyond the nut is the preferred method.

Washers and Nuts: Use split lock washers as a bolt locking device where specified. Use SAE flat washers with whiz nuts, spirallock nuts, or standard nuts and preloading (torque) of the bolt in all other applications.

See Appendix C, General Torque Specifications, and other torque specifications in the service literature.

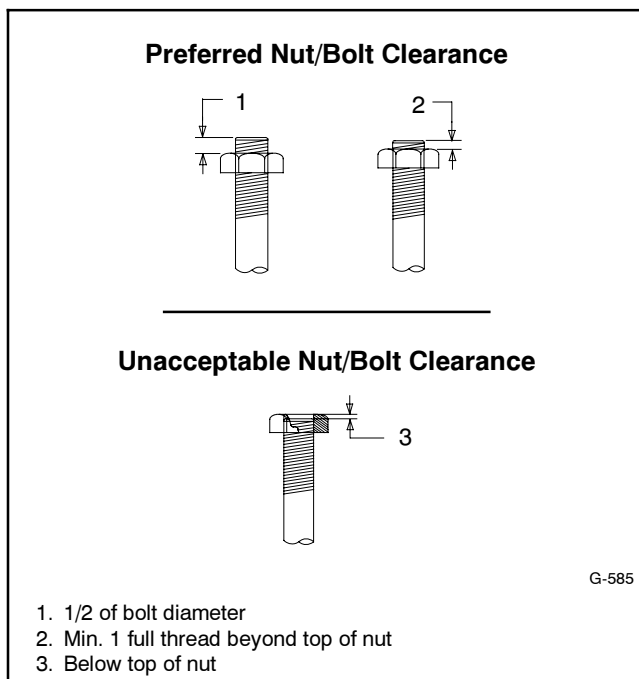


Figure 1 Acceptable Bolt Lengths

Steps for common hardware application:

1. Determine entry hole type: round or slotted.
2. Determine exit hole type: fixed female thread (weld nut), round, or slotted.

For round and slotted exit holes, determine if hardware is greater than 1/2 inch in diameter, or 1/2 inch in diameter or less. Hardware that is *greater than 1/2 inch* in diameter takes a standard nut and SAE washer. Hardware *1/2 inch or less* in diameter can take a properly torqued whiz nut or spirallock nut. See Figure 2.

3. Follow these SAE washer rules after determining exit hole type:
 - a. Always use a washer between hardware and a slot.
 - b. Always use a washer under a nut (see 2 above for exception).
 - c. Use a washer under a bolt when the female thread is fixed (weld nut).
4. Refer to Figure 2, which depicts the preceding hardware configuration possibilities.

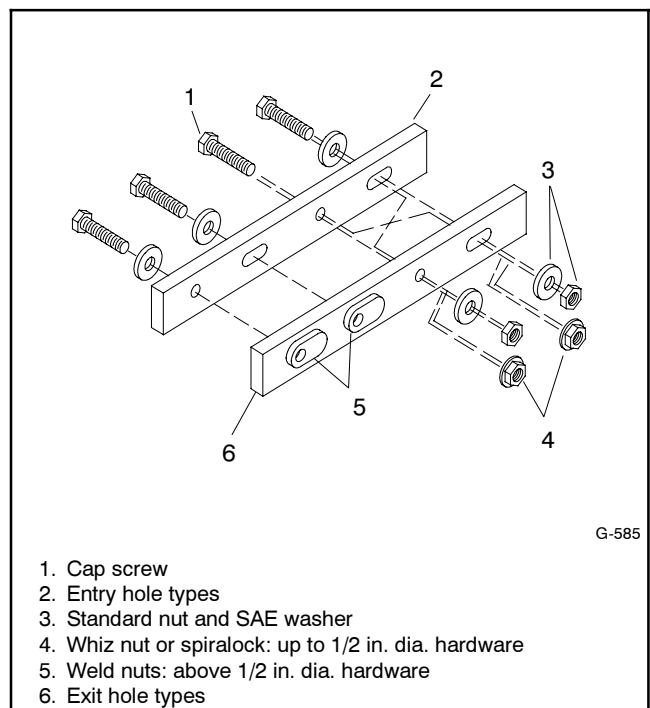


Figure 2 Acceptable Hardware Combinations

Appendix C General Torque Specifications

American Standard Fasteners Torque Specifications					
Size	Torque Measurement	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 2 or 5
		Grade 2	Grade 5	Grade 8	
8-32	Nm (in. lb.)	1.8 (16)	2.3 (20)	—	See Note 3
10-24	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	
10-32	Nm (in. lb.)	2.9 (26)	3.6 (32)	—	
1/4-20	Nm (in. lb.)	6.8 (60)	10.8 (96)	14.9 (132)	
1/4-28	Nm (in. lb.)	8.1 (72)	12.2 (108)	16.3 (144)	
5/16-18	Nm (in. lb.)	13.6 (120)	21.7 (192)	29.8 (264)	
5/16-24	Nm (in. lb.)	14.9 (132)	23.1 (204)	32.5 (288)	
3/8-16	Nm (ft. lb.)	24.0 (18)	38.0 (28)	53.0 (39)	
3/8-24	Nm (ft. lb.)	27.0 (20)	42.0 (31)	60.0 (44)	
7/16-14	Nm (ft. lb.)	39.0 (29)	60.0 (44)	85.0 (63)	
7/16-20	Nm (ft. lb.)	43.0 (32)	68.0 (50)	95.0 (70)	
1/2-13	Nm (ft. lb.)	60.0 (44)	92.0 (68)	130.0 (96)	
1/2-20	Nm (ft. lb.)	66.0 (49)	103.0 (76)	146.0 (108)	
9/16-12	Nm (ft. lb.)	81.0 (60)	133.0 (98)	187.0 (138)	
9/16-18	Nm (ft. lb.)	91.0 (67)	148.0 (109)	209.0 (154)	
5/8-11	Nm (ft. lb.)	113.0 (83)	183.0 (135)	259.0 (191)	
5/8-18	Nm (ft. lb.)	128.0 (94)	208.0 (153)	293.0 (216)	
3/4-10	Nm (ft. lb.)	199.0 (147)	325.0 (240)	458.0 (338)	
3/4-16	Nm (ft. lb.)	222.0 (164)	363.0 (268)	513.0 (378)	
1-8	Nm (ft. lb.)	259.0 (191)	721.0 (532)	1109.0 (818)	
1-12	Nm (ft. lb.)	283.0 (209)	789.0 (582)	1214.0 (895)	

Metric Fasteners Torque Specifications, Measured in Nm (ft. lb.)				
Size (mm)	Assembled into Cast Iron or Steel			Assembled into Aluminum Grade 5.8 or 8.8
	Grade 5.8	Grade 8.8	Grade 10.9	
M6 x 1.00	6.2 (4.6)	9.5 (7)	13.6 (10)	See Note 3
M8 x 1.25	15.0 (11)	23.0 (17)	33.0 (24)	
M8 x 1.00	16.0 (11)	24.0 (18)	34.0 (25)	
M10 x 1.50	30.0 (22)	45.0 (34)	65.0 (48)	
M10 x 1.25	31.0 (23)	47.0 (35)	68.0 (50)	
M12 x 1.75	53.0 (39)	80.0 (59)	115.0 (85)	
M12 x 1.50	56.0 (41)	85.0 (63)	122.0 (90)	
M14 x 2.00	83.0 (61)	126.0 (93)	180.0 (133)	
M14 x 1.50	87.0 (64)	133.0 (98)	190.0 (140)	
M16 x 2.00	127.0 (94)	194.0 (143)	278.0 (205)	
M16 x 1.50	132.0 (97)	201.0 (148)	287.0 (212)	
M18 x 2.50	179.0 (132)	273.0 (201)	390.0 (288)	
M18 x 1.50	189.0 (140)	289.0 (213)	413.0 (305)	

Notes:

1. The torque values above are general guidelines. Always use the torque values specified in the service manuals and/or assembly drawings when they differ from the above torque values.
2. The torque values above are based on new plated threads. Increase torque values by 15% if non-plated threads are used.
3. Hardware threaded into aluminum must have either two diameters of thread engagement or a 30% or more reduction in the torque to prevent stripped threads.
4. Torque values are calculated as equivalent stress loading on American hardware with an approximate preload of 90% of the yield strength and a friction coefficient of 0.125.

Appendix D 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 E 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-465-2	1/4-20 x .62	X-6238-21	3/8-24 x 4.00		X-6210-3	6-32	Whiz	
X-465-16	1/4-20 x .75	X-6238-22	3/8-24 x 4.50		X-6210-4	8-32	Whiz	
X-465-18	1/4-20 x .88				X-6210-5	10-24	Whiz	
X-465-7	1/4-20 x 1.00	X-6024-5	7/16-14 x .75		X-6210-1	10-32	Whiz	
X-465-8	1/4-20 x 1.25	X-6024-2	7/16-14 x 1.00					
X-465-9	1/4-20 x 1.50	X-6024-8	7/16-14 x 1.25		X-6210-2	1/4-20	Spiralock	
X-465-10	1/4-20 x 1.75	X-6024-3	7/16-14 x 1.50		X-6210-6	1/4-28	Spiralock	
X-465-11	1/4-20 x 2.00	X-6024-4	7/16-14 x 2.00	X-6210-7	5/16-18	Spiralock		
X-465-12	1/4-20 x 2.25	X-6024-11	7/16-14 x 2.75	X-6210-8	5/16-24	Spiralock		
X-465-14	1/4-20 x 2.75	X-6024-12	7/16-14 x 6.50	X-6210-9	3/8-16	Spiralock		
X-465-21	1/4-20 x 5.00	X-129-15	1/2-13 x .75	X-6210-10	3/8-24	Spiralock		
X-465-25	1/4-28 x .38	X-129-17	1/2-13 x 1.00	X-6210-11	7/16-14	Spiralock		
X-465-20	1/4-28 x 1.00	X-129-18	1/2-13 x 1.25	X-6210-12	1/2-13	Spiralock		
		X-129-19	1/2-13 x 1.50	X-6210-15	7/16-20	Spiralock		
X-125-33	5/16-18 x .50	X-129-20	1/2-13 x 1.75	X-6210-14	1/2-20	Spiralock		
X-125-23	5/16-18 x .62	X-129-21	1/2-13 x 2.00					
X-125-3	5/16-18 x .75	X-129-22	1/2-13 x 2.25	X-85-3	5/8-11	Standard		
X-125-31	5/16-18 x .88	X-129-23	1/2-13 x 2.50	X-88-12	3/4-10	Standard		
X-125-5	5/16-18 x 1.00	X-129-24	1/2-13 x 2.75	X-89-2	1/2-20	Standard		
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
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

Flat Head Machine Screws

M965A-04012-SS	M4-0.70 x 12
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.

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KOHLER CO. Kohler, Wisconsin 53044
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales/service outlet in the
US and Canada, phone 1-800-544-2444
KohlerPower.com

Kohler Power Systems
Asia Pacific Headquarters
7 Jurong Pier Road
Singapore 619159
Phone (65) 6264-6422, Fax (65) 6264-6455