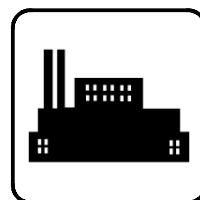


Service Parts

Industrial Generator Sets



Models:

350- 500REOV
350- 500REOV
450- 600REOV
550/600REOV

See Group 701: Literature, inside this manual for
part numbers of engine and controller parts catalogs

Common Replacement Parts

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

Description	Part Number/Quantity On Model					
	350REOVZ 350REOVZC	400REOVZ 400REOVZB	500REOVZ	450REOVZB	500REOVZB	550REOVZ 600REOVZ 600REOVZB
Air Cleaner element (standard duty)	272982	272982	GM25540	GM25540	GM25540	GM25540
Air Cleaner element (heavy duty)	**	**	**	**	**	**
Belt, alternator	GM25525	GM25525	GM25526	GM41468	GM41468	GM41468
Belt, drive	GM25541	GM25528	GM25523	GM41361*	GM51834	GM65913
Belt, drive	—	—	—	GM52474*	—	—
Coolant, 50/50 Blend EG Gallon (case of 4)	GM109949	GM109949	GM109949	GM109949	GM109949	GM109949
Filter, coolant	GM25533	GM25533	GM25533	GM25533	GM25533	GM25533
Filter, fuel	GM25554	GM25554	GM25537 (2)	GM41469	GM41469	GM41469
Filter/Separator, fuel	GM25552	GM25552	—	GM41512	GM41512	GM41512
Filter, oil	GM25504 (2)	GM25504 (2)	GM25508 (2)	GM25508 (2)	GM25508 (2)	GM25508 (2)
Filter, oi (bypass)	GM25506	GM25506	GM25506	GM25506	GM25506	GM25506
Oil, Synthetic Gallon 5W40 (case of 4)	GM103165	GM103165	GM103165	GM103165	GM103165	GM103165
Thermostat	GM25550	GM25550	GM25550	GM41551	GM41551	GM41551
Thermostat seal	GM25531	GM25531	GM25531	—	—	—
Thermostat seal	—	—	GM25530	—	—	—

* Use belt GM41361 on units with engine serial number before 9184.
 ** Refer to the generator set nameplate to identify the module number installed on your generator set. See the Group 101 for the parts list of the module.

Figure 1 Common Replacement Parts

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Notes

Introduction

This manual lists service replacement parts for 350- 600REOVZ, 350- 500REOVZC, and 450- 600REOVZB generator sets.

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

This manual includes the following main sections:

Table of Contents. Lists the sections of the manual.

Introduction (and other information sections).

Contains introductory material about part numbers, illustrations, and hardware.

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	Air Intake	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Controller and Mounting	Literature
Group No.	101	104	105	107	109	201	301	701
Spec No.	Variation Number							
350REOZV								
GM25343-GA2	*	*	1	1	*	*	†	7
350REOZVC								
GM37380-GA2	*	*	8	3	*	*	†	17
400REOZV								
GM25343-GA1	*	*	2	1	*	*	†	8
400REOZVC								
GM37380-GA1	*	*	5	3	*	*	†	13
450REOZVB								
GM36226-GA1	*	*	6	4	*	*	†	10
GM36226-GA4	*	*	10	4	*	*	†	10
500REOZV								
GM24701-GA1	*	*	3	2	*	*	†	1
GM24701-GA2	*	*	4	2	*	*	†	1
GM30674-GA1	*	*	3	2	*	*	†	1
GM30674-GA2	*	*	4	2	*	*	†	1
500REOZVB								
GM36226-GA2	*	*	7	4	*	*	†	9
GM36226-GA3	*	*	9	4	*	*	†	9
GM36226-GA5	*	*	11	4	*	*	†	9
500REOZVC								
GM80027-GA1	*	*	13	6	*	*	†	23
GM80027-GA3	*	*	15	6	*	*	†	23
550REOZV								
GM59244-GA2	*	*	12	5	*	*	†	276
550REOZVB								
GM80027-GA2	*	*	14	6	*	*	†	24
GM80027-GA4	*	*	16	6	*	*	†	24
600REOZV								
GM59244-GA1	*	*	12	5	*	*	†	273

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

† Configured group. Refer to the generator set nameplate for the module number.
See controller parts catalog for controller parts lists.

Specification Number Index

Group Title	<i>Air Intake</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Skid and Plant Mounting</i>	<i>Generator and Mounting</i>	<i>Controller and Mounting</i>	<i>Literature</i>
Group No.	101	104	105	107	109	201	301	701
Spec No.	Variation Number							
600REOZVB								
GM78621-GA1	*	*	12	6	*	*	†	25
GM114579-GA1	*	*	17	6	*	*	†	25

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

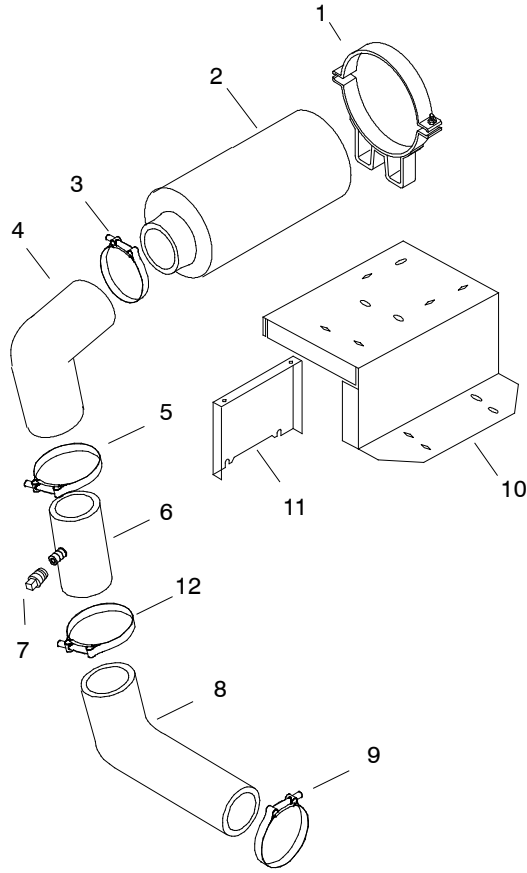
† Configured group. Refer to the generator set nameplate for the module number.
See controller parts catalog for controller parts lists.

Notes

Group 101: Air Intake

350/400 kW Standard Duty

450-600 kW standard duty parts are shown in the engine parts catalog.
See Group 701 Literature on page 48 of this manual for the part number of the engine parts catalog.

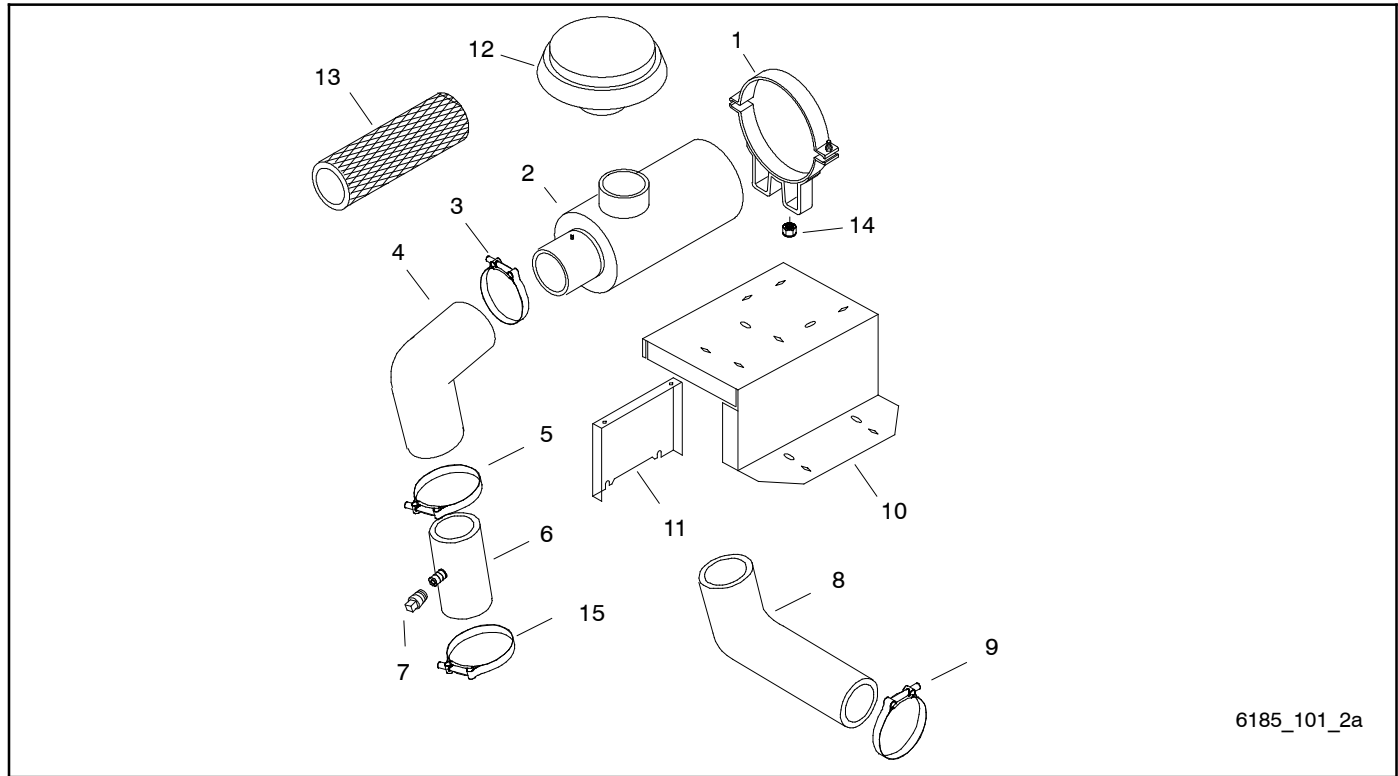


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Item	Part Number	Description	Quantity			
			Module Number			
			GM25360-MA1	GM25360-MA2	GM38412-MA1	GM38412-MA2
1	343530	Clamp, air cleaner, 11.00 in. ID	2	2	2	2
2	272982	Air cleaner, industrial	1	1	1	1
3	280998	Clamp, hose, 7.50/7.81 in.	1	1	1	1
4	GM23198	Hose, 90 deg. reducer, 7.00 in. to 6.00 in.	1	1	1	1
5	272960	Clamp, hose, 6.56/6.87 in.	1	1	1	1
6	274623	Tube assembly	1	1	1	1
7	X-268-7	Cap, pipe, 1/8 in. NPT	1	1	1	1
8	GM20562	Hose, molded air intake, 4.00 in. ID	1	1		
8	GM38818	Hose, air intake			1	1
9	324555	Clamp, hose, 4.63/4.94 in.	1	1	1	1
10	GM20563	Bracket, air cleaner mounting	1	1		
10	GM38304	Bracket, air cleaner mounting			1	1
11	GM25330	Bracket, air cleaner mounting		1	1	
11	GM25331	Bracket, air cleaner mounting	1			1
12	272960	Clamp, hose, 6.56/6.87 in.	1	1	1	1

Group 101: Air Intake, continued

350/400 kW Heavy Duty



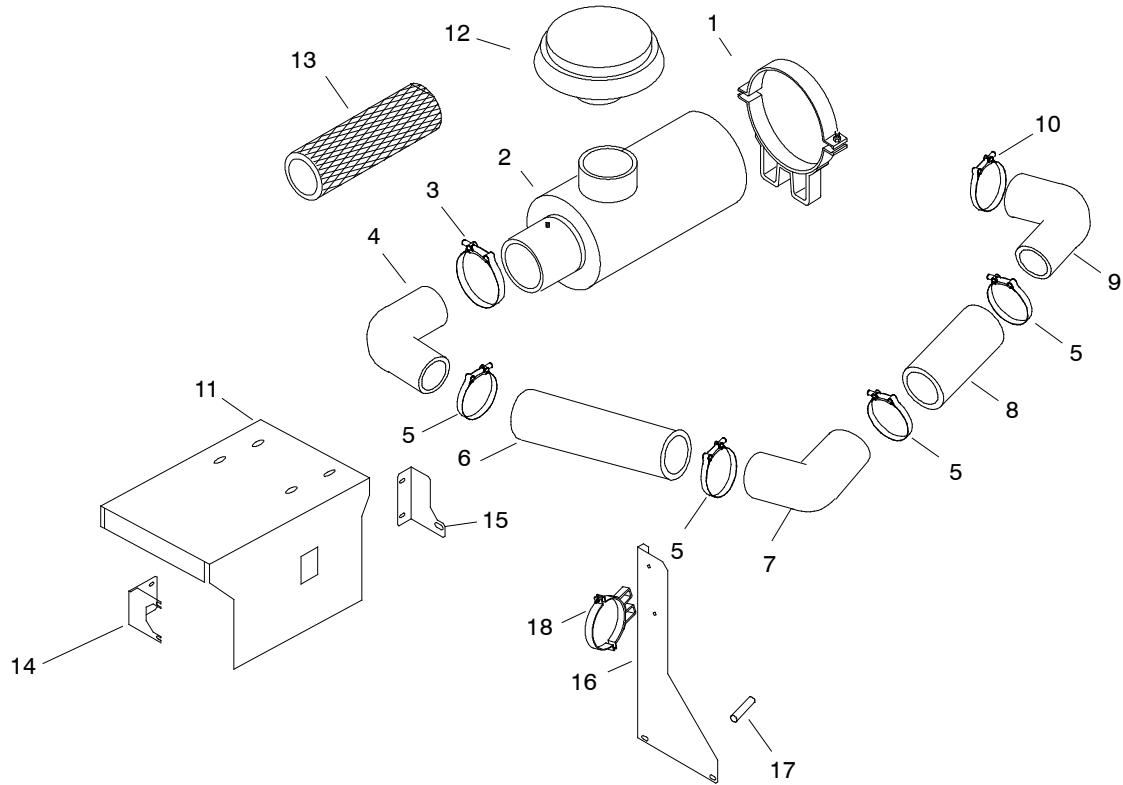
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Item	Part Number	Description	Quantity					
			Module Number					
			GM25560-MA1	GM25560-MA2	GM38413-MA1	GM38413-MA2	GM69944-MA1	GM69944-MA2
1	291666	Mount, air cleaner, 16.00 in. ID	2	2	2	2		
1	291501	Mount, Air Cleaner/Exhaust (15.00")					2	2
2	A-279713	Air cleaner assembly (use kit GM74611-S)*	1	1	1	1		
2	GM69933	Air cleaner assembly					1	1
3	272960	Clamp, hose, 6.56/6.87 in.	1	1	1	1	1	1
4	272627	Hose, 90 deg. elbow, 6.00 in. ID	1	1	1	1	1	1
5	254013	Clamp, hose, 6.25/6.56 in.	1	1	1	1	1	1
6	279754	Tube assembly	1	1	1	1	1	1
7	X-268-7	Cap, pipe, 1/8 in. NPT	1	1	1	1	1	1
8	GM20562	Hose, molded air intake, 4.00 in. ID	1	1				
8	GM38818	Hose, air intake			1	1	1	1
9	324555	Clamp, hose, 4.63/4.94 in.	1	1	1	1	1	1
10	GM20563	Bracket, air cleaner mounting	1	1				
10	GM38304	Bracket, air cleaner mounting			1	1		
10	GM70303	Bracket, air cleaner mounting					1	1
11	GM25330	Bracket, air cleaner mounting	1		1			1
11	GM25331	Bracket, air cleaner mounting		1		1	1	
12	272674	Cap, rain	1	1	1	1	1	1
13	279736	Element, air cleaner	1	1	1	1		
13	279737	Element, air cleaner (secondary)	1	1	1	1		
13	GM69999	Element, Primary (Outer)					1	1
13	GM70000	Element, Secondary (Inner)					1	1
14	M982-10-80	Nut, hex elastic stop	4	4	4	4	4	4
15	272960	Clamp, hose, 6.56/6.87 in.	1	1	1	1	1	1

* GM69933 air cleaner does not fit up exactly like the old A-279713. Order service kit GM74611-S to replace A-279713. GM74611-S includes item 1 mounts 291501 (2), item 6 tube GM10757, and air cleaner assy. GM69933.

Group 101: Air Intake, continued

450/500 kW Heavy Duty

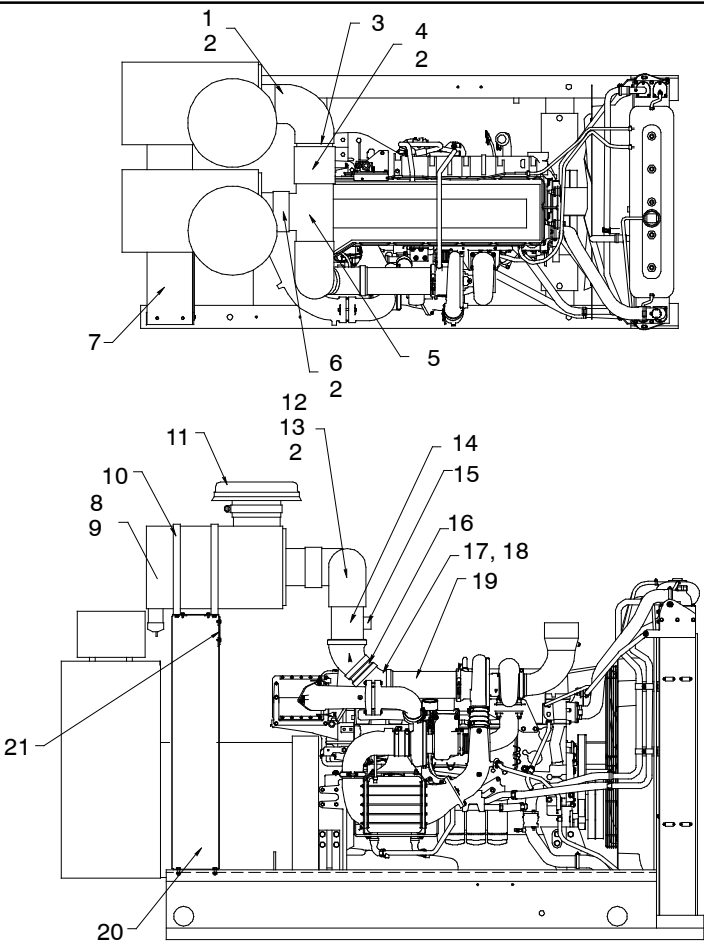


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Item	Part Number	Description	Quantity		
			GM26771-MA1	GM38454-MA1	GM69934-MA1
1	279715	Mount, air cleaner, 18.00 in. ID	2	2	2
2	A-279714	Air cleaner assembly	1	1	
2	GM69932	Air cleaner assembly			1
3	279717	Clamp, hose, 8.63/8.94 in.	1	1	1
4	279716	Hose, 90 deg. reducer, 8.00 in. to 7.00 in.	1	1	1
5	280998	Clamp, hose, 7.5/7.81 in.	4	4	4
6	X-522-110	Tube, steel	1		
6	GM39728	Tube assembly		1	1
7	291678	Hose, 90 deg. elbow, 7.00 in. ID	1		
7	347958	Hose, 45 deg. elbow, 7.00 in. ID		1	1
8	X-522-96	Tube, steel	1		
8	GM39725	Tube, air intake		1	1
9	328610	Hose, 45 deg. reducer, 7.00 in. to 6.00 in.		1	1
9	272663	Hose, 90 deg. reducer, 7.00 in. to 6.00 in.	1		
10	272960	Clamp, hose, 6.56/6.87 in.	1	1	1
11	GM25963	Bracket, mounting, H.D.A.C.	1		
11	GM38450	Bracket, HD air cleaner		1	1
12	279722	Cap, rain	1	1	
12	272675	Cap, rain			1
13	279738	Element, air cleaner	1	1	
13	279739	Element, air cleaner, inner	1	1	
13	GM69997	Element, Primary (Outer)			1
13	GM69998	Element, Secondary (Inner)			1
14	GM25964	Bracket, support, right side	1		
14	GM38451	Bracket		1	1
15	GM25965	Bracket, support, left side	1		
15	GM38452	Bracket		1	1
16	GM26038	Bracket, tube support	1		
17	X-400-131	Spacer, 0.406 ID x 0.625 OD x 1.968 in.	2		
18	GM22548	Mount, air cleaner	1		

Group 101: Air Intake, continued

550/600 kW Heavy Duty



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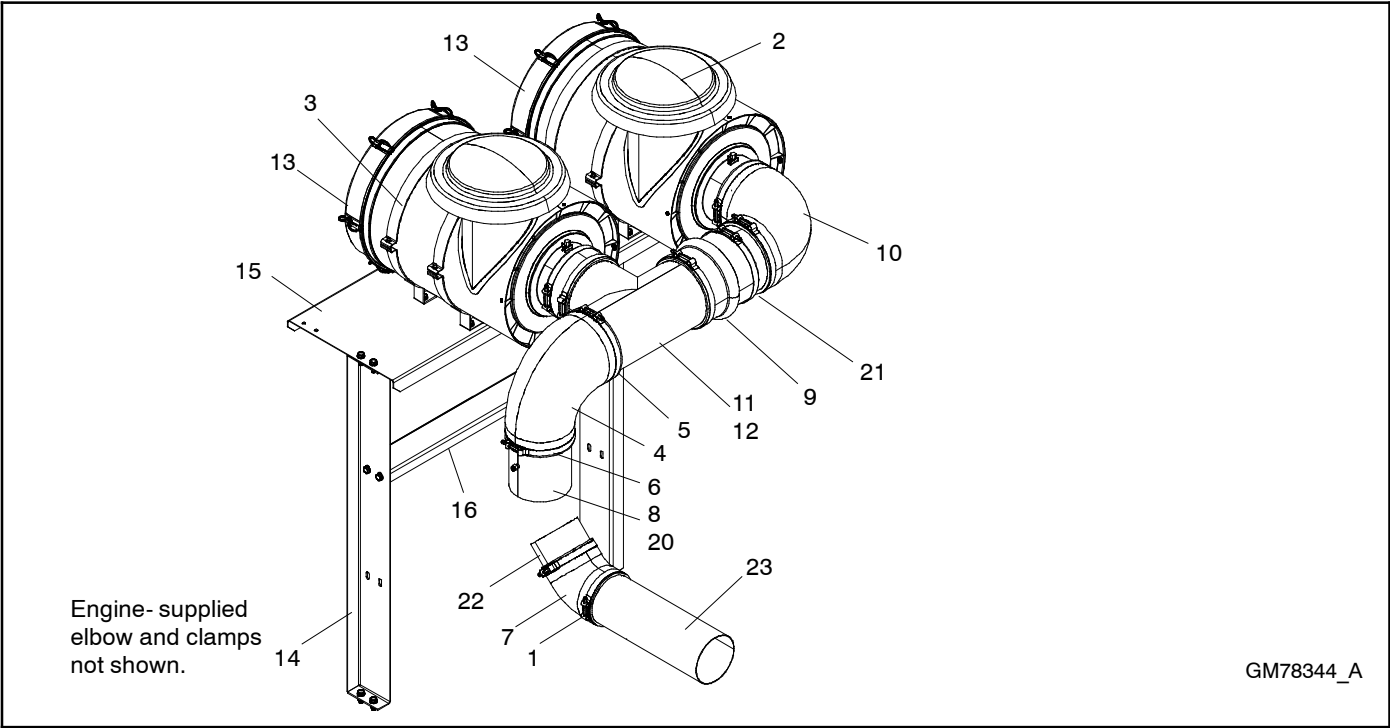
Group 101: Air Intake, continued

550/600 kW Heavy Duty

Item	Part Number	Description	Quantity	
			Module Number	
			GM59307-MA1	GM69935-MA1
1	GM23519	Hose, 90 deg. elbow, 8.00 in. ID	1	1
2	279717	Clamp, hose, 8.63/8.94 in.	7	
2	279743	Clamp, hose, 8.38/8.69 in.		7
3	X-522-106	Tube, steel	1	1
4	GM23518	Hose, hump, 8.00 in. ID	1	1
5	GM64583	Tee, steel tube	1	1
6	GM28302	Hose, straight air, 8.00 in. ID	1	1
7	GM64518	Bracket, HD air cleaner	1	1
8	A-279714	Air cleaner assembly	2	
8	GM69932	Air cleaner assembly		2
9	279738	Element, air cleaner	2	
9	279739	Element, inner air cleaner	2	
9	GM69997	Element, Primary (Outer)		2
9	GM69998	Element, Secondary (Inner)		2
10	279715	Mount, air cleaner/exhaust, 18.00 in. ID	4	4
11	279722	Cap, rain	1	
11	272675	Cap, rain		1
12	279716	Hose, 90 deg. reducer, 8.00 - 7.00 in. ID	1	1
13	280998	Clamp, hose, 7.5/7.81 in.	1	1
14	274819	Tube, air restriction, 7 in. OD	1	1
15	X-6214-10	Cap	1	1
16	X-522-58	Tube, steel	1	1
17	347806	Hose, 45 deg. elbow, 6.00 in. ID	1	1
18	254013	Clamp, hose, 6.25/6.56 in.	2	2
19	X-522-85	Tube, steel	1	1
20	GM64517	Bracket, HD air cleaner side	1	2
21	GM64519	Bracket, HD air cleaner front	1	

Group 101: Air Intake, continued

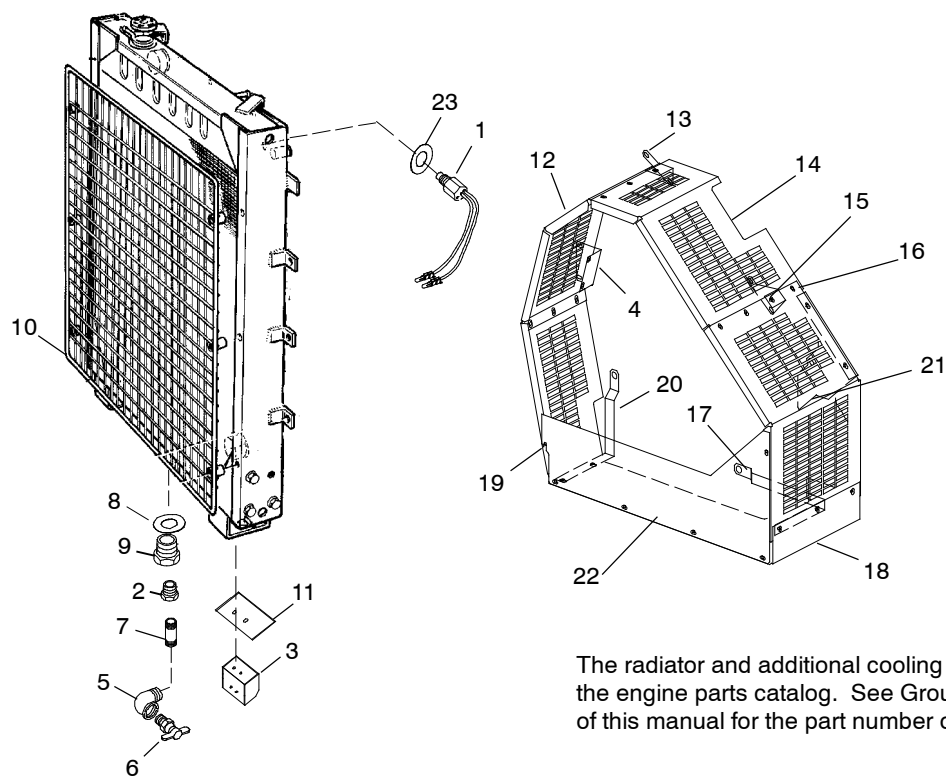
550/600 kW Heavy Duty



Group 101: Air Intake, continued

Item	Part Number	Description	Quantity
			Module Number GM78344-MA1
1	254013	Clamp, hose, 6.25/6.56 in.	2
2	272675	Cap, rain	2
3	279715	Mount, Air Cleaner/Exhaust (18.00" in.)	4
4	279716	Hose, 90 deg. reducer (8.00 - 7.00")	1
5	279743	Clamp, hose, 8.38/8.69 in.	7
6	280998	Clamp, hose, 7.5/7.81 in.	1
7	347806	HOSE, 45 DEG. ELBOW (6.00" id)	1
8	354236	Tube, air restriction, 7 in. OD x 7	1
9	GM23518	Hose, hump (8.00" id)	1
10	GM23519	HOSE, 90 DEG. ELBOW (8.00" id)	1
11	GM28302	Hose, straight air (8.00" id)	1
12	GM64583	Tee, Steel Tube	1
13	GM69932	Air cleaner assembly	2
13	GM69997	Element, Primary (Outer)	2
13	GM69998	Element, Secondary (Inner)	2
14	GM82928	Bracket, Vertical Support	2
15	GM82929	Bracket, Air Cleaner Mount	1
16	GM82930	Support, Air Cleaner	1
20	X-268-7	Cap, pipe (1/8" npt)	1
21	X-522-106	Tube, steel	1
22	X-522-58	Tube, steel	1
23	X-522-85	Tube, steel	1

Group 104: Cooling System



The radiator and additional cooling system parts are shown in the engine parts catalog. See Group 701 Literature on page 54 of this manual for the part number of the engine parts catalog.

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Group 104: Cooling System

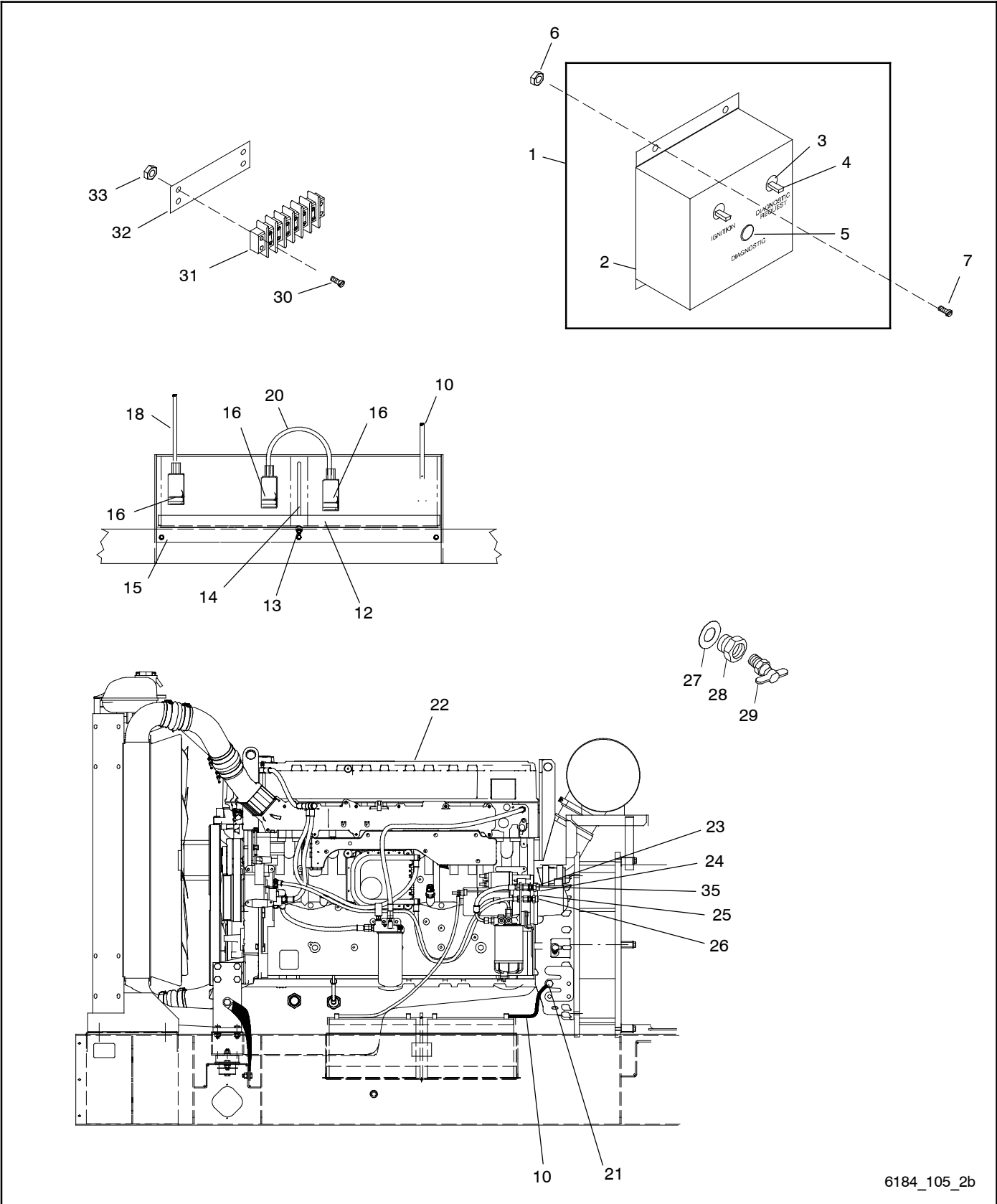
Item	Part Number	Description	Quantity										
			Module Number										
			GM24732-MA1	GM24903-MA1	GM24903-MA2	GM37656-MA1	GM59298-MA1	GM80122-MA1	GM80122-MA2	GM92493-MA1	GM92493-MA2	GM92494-MA1	GM114592-MA1
1	GM30328	Sensor, low fluid		1	1								
2	X-202-28	Bushing, reducing, 3/8 x 1/2 in. NPT		1	1	1	1	1	1	1	1	2	2
3	GM24668	Support, radiator		2	2								
4	GM25872	Bracket, support		1	1								
5	X-211-6	Elbow, street, 90 deg. x 1/4 in. NPT		1	1								
5	X-215-9	Elbow, pipe, 90 deg. x 3/8 in. NPT	1	1	1								
6	278788	Valve, drain 3/8 in.	1	1	1	1	1	1	1	1	1	2	2
7	X-220-24	Pipe, 3/8 in. NPT x 2.50 in.	1										
7	X-216-23	Coupling, pipe, 3/8 in. NPSC				1		1	1				
7	X-204-24	Pipe, 3/8 in. NPT x 2.5 in.				1							
7	X-204-7	Pipe, 3/8 in. NPT x 3.0 in.						1	1				
8	276552	Washer, nylon, 0.878 ID x 1.132 in. OD	1			1		1	1				
8	GM42443	Washer, sealing								1	1	2	
8	X-6427-14	Washer, copper											2
9	249959	Adapter, bushing	1										
9	326471	Adapter, bushing		1	1								
9	GM37659	Adapter, bushing					1						
9	GM40116	Adapter, bushing				1		1	1	1	1	2	2
10	GM23668	Guard, radiator (wire)	1										
10	GM41799	Guard, radiator (wire)				1							
10	GM59297	Guard, radiator (wire)					1						
10	GM61505	Spacer, threaded				6							
11	GM25928	Plate, spacer	4										
11	GM39283	Plate, spacer				4							
12	GM25867	Guard, top right		1	1								
13	GM25871	Bracket, support		1	1								
14	GM25866	Guard, top left		1	1								
15	GM25870	Bracket, support		1	1								
16	GM25865	Guard, left side		1	1								
17	GM25874	Bracket, support		1	1								
18	GM25869	Guard, bottom		1	1								
19	GM25868	Guard, right side		1	1								
20	GM25873	Bracket, support		1	1								
21	GM28321	Bracket, support		1	1								
22	GM28320	Guard, belt front		1	1								
23	X-6278-9	Washer, nylon, 0.48 ID x 0.825 in. OD		1	1								

The radiator and additional cooling system parts are shown in the engine parts catalog.

See Group 701 Literature on page 54 of this manual for the part number of the engine parts catalog.

Group 105: Engine

350/400 kW



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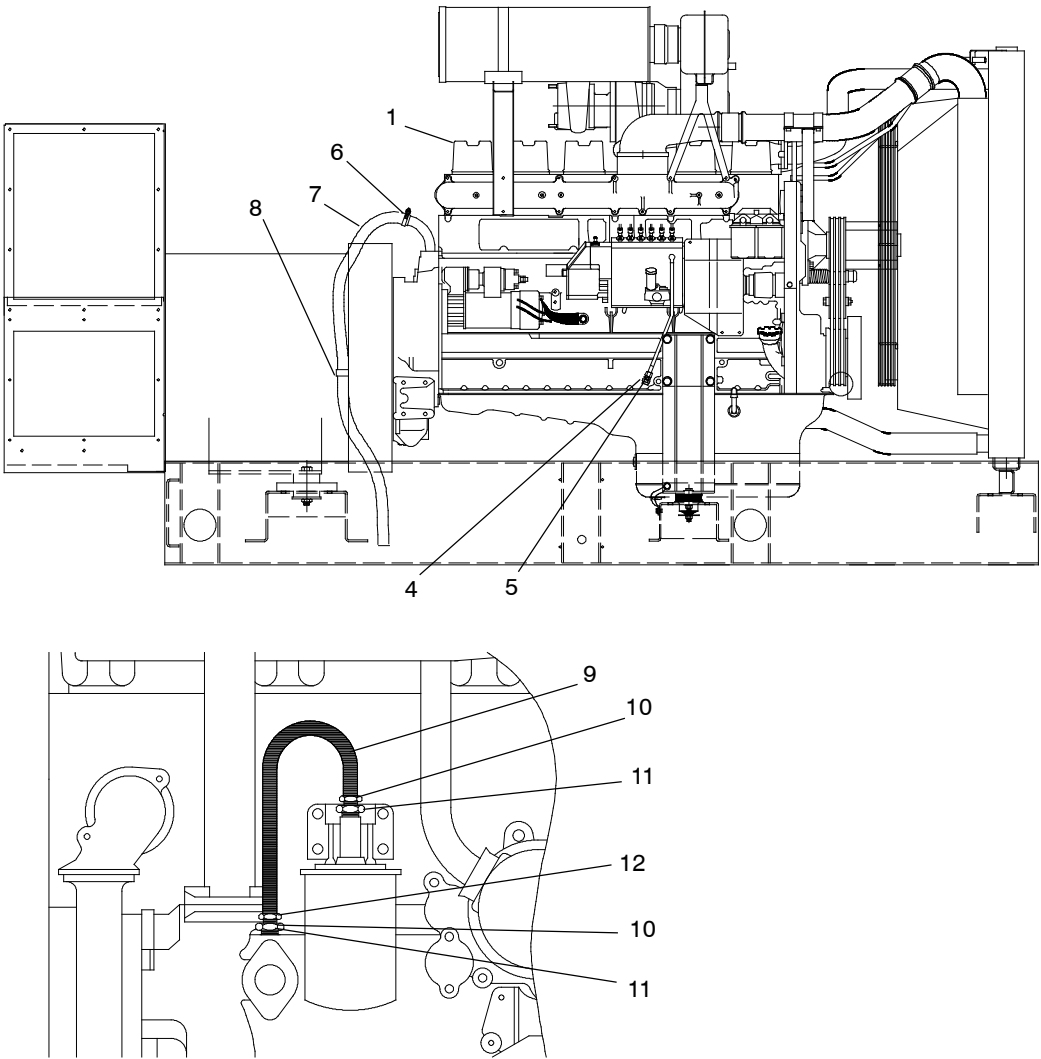
Group 105: Engine

350/400 kW

Item	Part Number	Description	Quantity			
			Variation Number			
			1	2	5	8
1	GM23666	Box assembly (engine light)	1	1		
2	GM23665	Box, silkscreen	1	1		
3	151511	Ring, lock switch	2	2		
4	295030	Switch, toggle, 1-pole	2	2		
5	343684	Lamp	1	1		
6	M934-05-50	Nut, hex, 5 mm	4	4		
7	M7985A-05012-20	Screw, pan head machine	4	4		
9	343221	Clamp, battery	1	1	1	1
10	X-545-167	Cable, battery	1	1	1	1
11	345056	Terminal, battery	1	1		
12	343220	Rack, battery	1	1		
12	GM30631	Rack, battery			1	1
13	M982-08-80	Nut, hex elastic stop	1	1	1	1
14	GM13268	Bolt, angle	1	1	1	1
16	GM20745	Boot, battery lug	3	3	3	3
18	GM22350	Boot, starter terminal	1	1	1	1
18	X-545-150	Cable, battery, no. 0 x 46 in., RED+ (engine serial no. 524983 and before)	1	1	1	1
18	X-545-182	Cable, battery (engine serial no. 524984 and after)	1	1	1	1
20	X-545-73	Cable, battery	1	1	1	1
21	X-22-30	Washer, lock, 0.652 ID x 1.058 in. OD	1	1	1	1
22	GM24425-1	Engine, D350 12.1A65	1			1
22	GM24426-1	Engine, D400 12.1A65		1	1	
23	GM25410	Fitting, fuel	1	1		
23	GM67203	Fitting, fuel			1	1
24	X-268-9	Cap, pipe	1	1	1	1
25	GM25409	Fitting, fuel	1	1		
25	GM67202	Fitting, fuel			1	1
26	X-268-3	Cap, pipe	1	1	1	1
27	276552	Washer, nylon, 0.878 ID x 1.132 in. OD	1	1	1	1
28	GM40116	Bushing, adapter	1	1	1	1
28	X-202-47	Bushing, reducing, 1/4 x 1/2 in. NPT	1	1	1	1
29	X-256-3	Valve, drain	1	1	1	1
30	M798A-04020-20	Screw, pan head machine	2	2		
31	295314	Block, terminal	1	1		
32	299090	Marker, strip	1	1		
33	M934-04-50	Nut, hex, 4 mm	2	2		
35	GM28811	Tag, instruction fuel connection	1	1	1	1

Group 105: Engine, continued

500REOZV



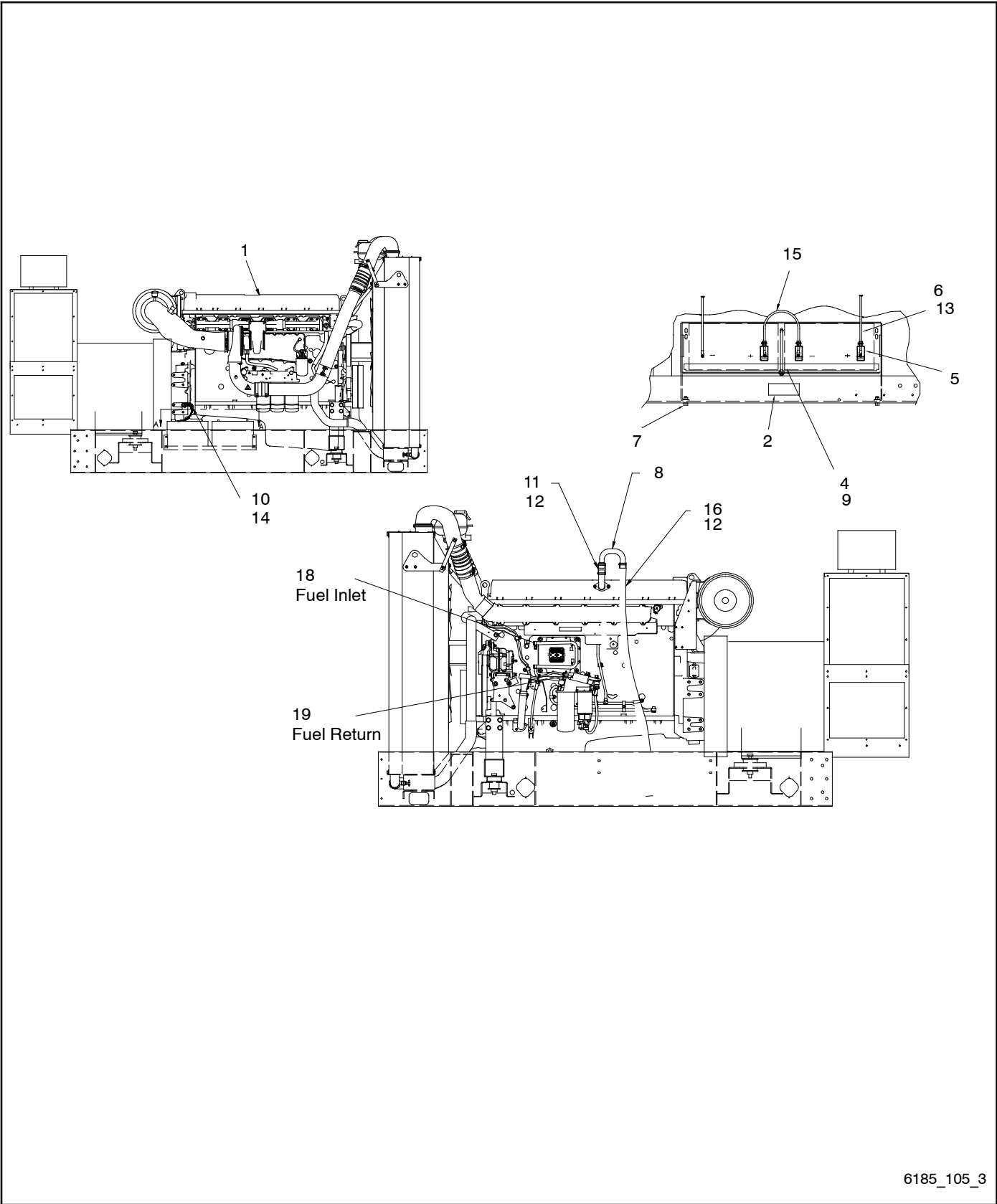
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Item	Part Number	Description	Quantity	
			Variation Number	
			3	4
1	GM24427-1	Engine assembly, D500 16.1A60	1	
1	GM24427-2	Engine assembly, D500 16.1A50		1
4	X-268-9	Cap, pipe, 3/8 in. NPT	2	2
5	GM25408	Fitting, fuel	2	2
6	X-426-8	Clamp, hose, 0.81/1.75 in.	1	1
7	X-6285-12	Hose	1	1
8	X-672-39	Clamp	1	1
9	271261	Fuel line, flexible	1	1
10	GM28295	Adapter, bushing	2	2
11	X-6427-6	Washer, copper, M14	2	2
12	X-296-9	Fitting, half union	1	1

Notes

Group 105: Engine, continued

450/500REOZVB(C) & 550/600REOZV(B)



Group 105: Engine, continued

450/500REOZVB(C) & 550/600REOZV(B)

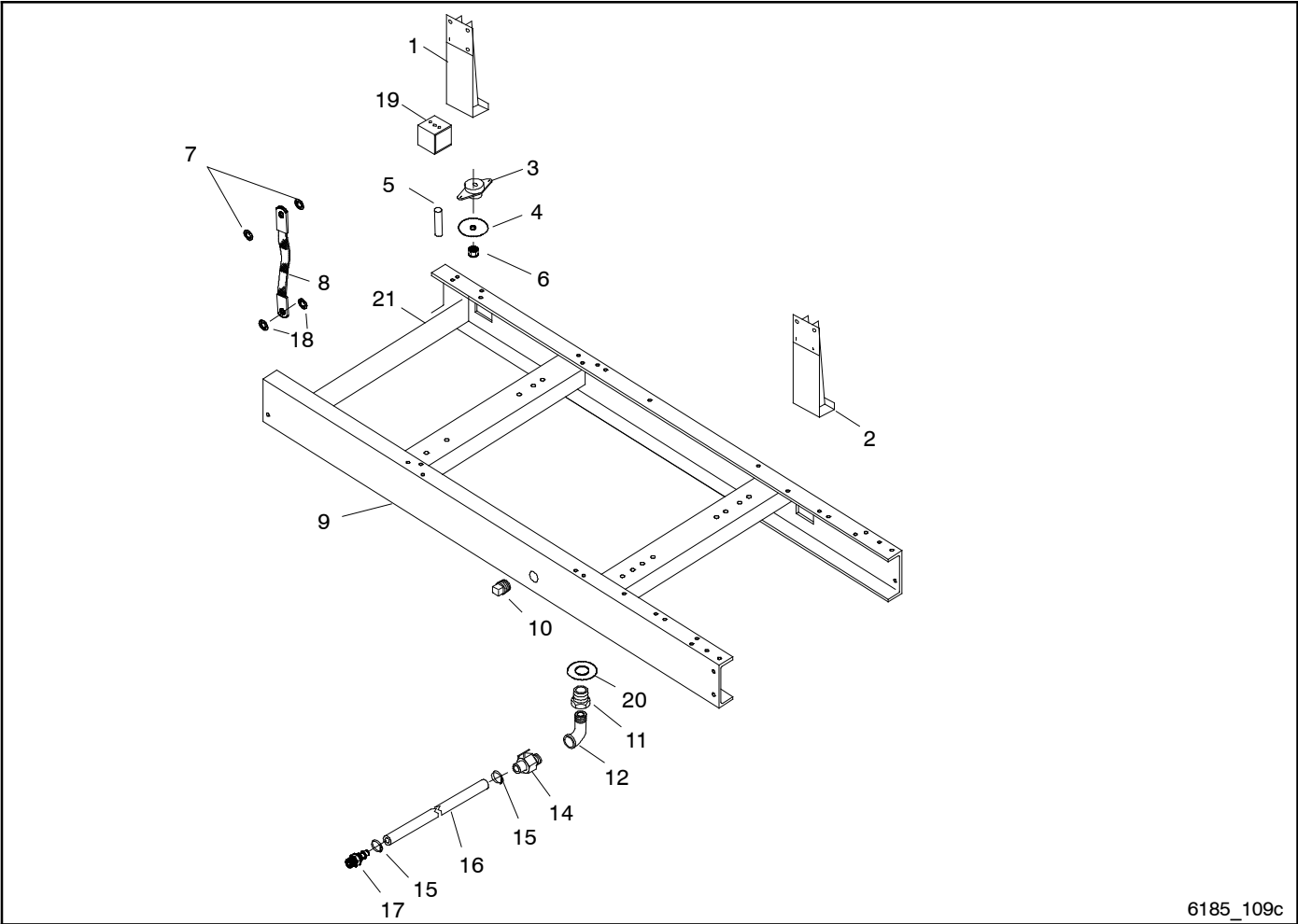
Item	Part Number	Description	Quantity										
			Var.										
6	7	9	10	11	12	13	14	15	16	17			
1	GM36173-1	Engine assembly, D450 16.1A65	1										
1	GM36174-1	Engine assembly, D500 16.1B65		1									
1	GM36174-3	Engine Assy, TAD1641GE, 24V, 50/60Hz, EPA			1								
1	GM36173-3	Engine Assy, TAD1640GE, 24V, 50/60Hz				1							
1	GM36174-4	Engine Assy, TAD1641GE, 24V, 50/60Hz, EPA				1	1						
1	GM57973	Engine Assy, TWD1643GE, 24V, 60Hz				1							
1	GM79790-1	Engine Assy, TAD1642GE, 24V, w/Rad						1					
1	GM79790-7	Engine Assy, TAD1641GE, 24V, 50/60Hz, Non-IBC							1				
1	GM79790-5	Engine Assy, TAD1642GE, 24V, 60Hz, Non-IBC								1			
1	GM114619	Engine Assy, TWD1644GE									1		
2	273780	Decal, warning explosion	1	1	1	1	1	1					1
3	343221	Clamp, battery	1	1	1	1	1	1	1	1	1	1	1
4	GM13268	Bolt, angle	1	1	1	1	1	1	1	1	1	1	1
5	GM20745	Boot, battery lug	3	3	3	3	3	3	1	1	1	1	1
6	GM22350	Boot, starter terminal	1	1	1	1	1						
7	GM30631	Rack, battery	1	1	1	1	1						
7	GM59285	Rack, battery						1					
7	GM63164	Rack, battery						1	1	1	1	1	1
8	GM39540	Tube, vent	1	1	1	1	1						
8	GM114681	Tube, crankcase vent											1
9	M982-08-80	Nut, hex elastic stop	1	1	1	1	1	1	1	1	1	1	1
10	X-22-30	Washer, lock, 0.652 ID x 1.058 in. OD	1	1	1	1	1	1					
10	GM74535	Terminal, ground							1	1	1	1	1
10	X-545-232	Cable, battery (not shown)							1	1	1	1	
11	X-304-14	Hose, straight, 1.5 in. ID	1	1	1	1	1						
12	X-426-8	Clamp, hose, 0.81/1.75 in.	3	3	3	3	3						
12	X-426-15	Clamp, hose, 0.75/1.75 in.											1
13	X-545-129	Cable, battery, no. 0 x 30 in., RED+	1	1	1	1	1		1	1	1	1	
13	X-545-216	Cable, battery, no. 0 x 30 in., RED+						1					1
14	X-545-183	Cable, battery	1	1	1	1	1						
14	X-545-167	Cable, battery						1	1	1	1	1	1
15	X-545-73	Cable, battery, no. 0 x 8 in., BLACK	1	1	1	1	1	1	1	1	1	1	1
16	X-6285-12	Hose	1	1	1	1	1						
16	X-356-41	Hose, radiator											1
17	X-426-12	Clamp, hose, .69/1.25 in. (not shown)						1	1	1	1	1	
17	X-6214-12	Cap (not shown)						1	1	1	1	1	
18	GM67203	Fitting, Pipe Nipple	1	1	1	1	1	1	1	1	1	1	1
19	GM67202	Fitting, Pipe Nipple	1	1	1	1	1	1	1	1	1	1	1
20	X-268-3	Cap, pipe, 1/4 in. NPT (not shown)											1
20	X-268-9	Cap, pipe, 3/8 in. NPT (not shown)											1

Group 107: Nameplate and Decals

Item	Part Number	Description	Quantity					
			Variation Number					
			1	2	3	4	5	6
1	226917	Decal, negative battery connection		1		1	1	1
2	238162	Decal, pos. battery connection						1
2	GM28971	Decal, battery connection	1	1	1	1	1	
3	249808	Decal, warning rotating parts	1	1	1	1	1	1
4	249809	Decal, caution hot engine	2	2	1	1	1	2
5	249810	Decal, warning hot coolant	1	1	1	1	1	1
6	273780	Decal, warning explosion	1		1			1
7	GM15300	Decal, exhaust piping	1	1	1	1	1	1
8	GM19296	Decal, fuel type	1	1	1	1	1	1
9	224233	Decal, 1-800 number	1	1	1	1	1	1
10	255882	Decal, caution standby SVC connection	1	1	1	1	1	2
11	257438	Decal, danger moving rotor	1	1	1	1	1	2
12	294520	Decal, danger high voltage	1	1	1	1	1	2
13	327004	Nameplate, model/ratings, Kohler	1	1	1	1	1	
14	347166	Decal, electrical equipment	1	1				
15	347272	Decal, Power		2	2	2		
16	347273	Decal, System		2	2	2		
17	GM13227	Decal, warning fan force	1	1	1	1	1	
18	GM13228	Decal, warning lifting support	1	1	1	1	1	
19	X-6232-3	Decal, stripes		1	1	1	1	
20	X-6232-6	Decal, stripe	1					2
21	X-6246-1	Decal, Kohler Power Systems	1		1	1	1	2
22	X-6275-7	Logo, Kohler		2	2	2		
22	X-6276-8	Logo, Kohler					2	
23	364116	Decal, caution welding disconnect			1	1	1	2
24	GM39683	Tag, hang lug selection			1	1	1	1
25	GM49352	Tag, hang caution risk of electrical shock					1	1
26	GM60531	Decal, control height					1	1
27	258815	Decal, warning voltage backfeed						2
28	345211	Decal, ground						2
29	GM79042	Decal, Phasing						2
30	GM79043	Decal, Phasing C- B- A						2
31	GM78897	Decal, Lift Warning						1
32	343165	Decal, caution- not a step						1
33	GM20171	Decal, warning fan						1

Notes

Group 109: Skid and Plant Mounting

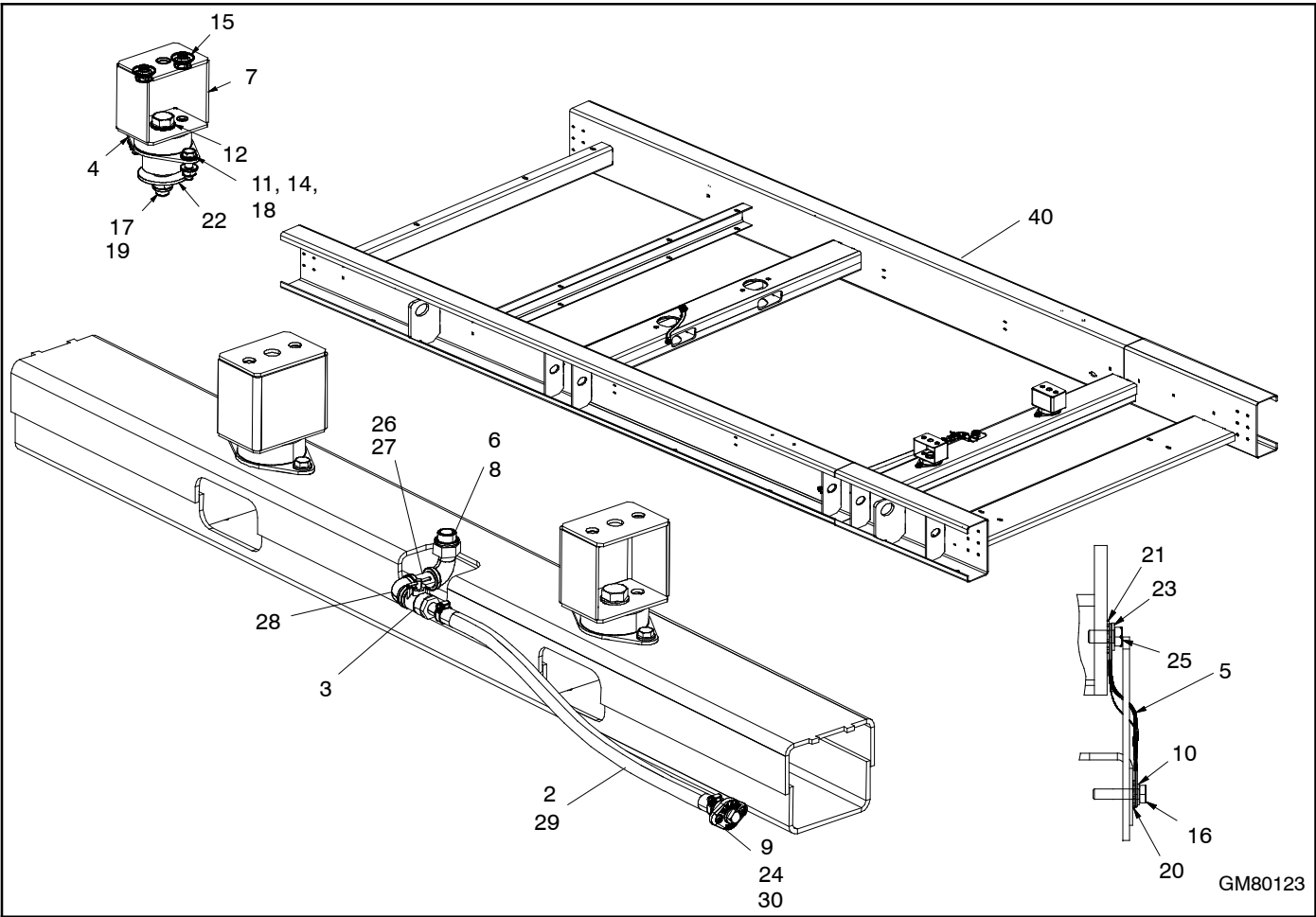


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Group 109: Skid and Plant Mounting

Item	Part Number	Description	Quantity											
			Module Number											
			GM25333-MA1	GM25333-MA2	GM24671-MA1	GM24671-MA2	GM30466-MA1	GM30466-MA2	GM38411-MA1	GM38411-MA2	GM37355-MA1	GM37355-MA2	GM59299-MA1	GM59299-MA2
1	GM25962	Mount, engine			2	2	2	2						
1	GM59322	Support, engine front RH											1	1
1	GM59323	Support, engine front LH											1	1
2	GM59324	Mount, engine rear											2	2
3	324392	Vibromount	2	2					2	2	2	2		
3	324393	Vibromount			2	2	2	2						
4	X-25-103	Washer, plain, 0.531 ID x 2.75 in. OD	2	2					2	2				
4	X-25-151	Washer, plain			2	2	2	2			2	2		
5	X-400-197	Spacer, 0.532 ID x 0.75 OD x 2.88 in.	2	2					2	2				
6	M982-12-80	Nut, hex elastic stop	2	2					2	2			4	4
6	M982-20-80	Nut, hex elastic stop			2	2	2	2			2	2		
7	X-22-26	Washer, lock, 0.521 ID x 1.24 in. OD	2	2	2	2	2	2	2	2	2	2		
8	GM21085	Strap, ground, 16 in.	1	1	1	1	1	1	1	1	1	1		
9	GM25328	Skid	1											
9	GM25334	Skid		1										
9	GM24659	Skid			1									
9	GM24672	Skid				1								
9	GM30464	Skid					1							
9	GM30465	Skid						1						
9	GM38301	Skid							1					
9	GM46197	Skid								1				
9	GM37353	Skid									1			
9	GM37354	Skid										1		
9	GM59305	Skid											1	
9	GM59280	Skid												1
10	X-75-3	Plug, pipe, 1/2 in. NPT	1	1	1	1	1	1	1	1	1	1	1	1
11	GM31185	Adapter, bushing	1	1	1	1	1	1	1	1	1	1	1	1
12	SA-472	Elbow, street, 90 deg. x 3/4 in. NPT	1	1										
12	X-211-3	Elbow, street, 90 deg. x 1/2 in. NPT			1	1								
12	X-211-1	Elbow, street, 90 deg x 1/2 in. NPT					1	1			1	1	1	1
12	X-209-6	Pipe, 1/2 in. NPT x 2 in. (not shown)									1	1	1	1
12	X-215-1	Elbow, pipe, 90 deg. x 1/2 in. NPT (not shown)									1	1	1	1
14	272701	Valve, oil drain, 1/2-14 NPT	1	1	1	1	1	1	1	1	1	1	1	1
15	X-426-3	Clamp, hose, 0.56/1.06 in.	2	2	2	2	2	2	2	2	2	2	2	2
16	X-577-35	Hose, rubber, straight, 0.62 in. ID	1	1	1	1	1	1						
16	X-577-41	Hose, rubber, straight, 0.62 in. ID							1	1				
16	X-577-8	Hose, rubber, straight, 0.62 in. ID									1	1		
16	X-577-40	Hose, rubber, straight, 0.62 in. ID											1	1
17	X-582-1	Connector, hose + vibra seal	1	1	1	1	1	1	1	1	1	1	1	1
18	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	2	2	1	1	1	1	2	2	1	1		
19	GM24709	Bracket, engine mounting	2	2					2	2				
19	GM36228	Bracket, engine mounting									2	2		
19	GM39283	Plate, spacer											2	2
20	GM48870	Washer, sealing (M24)	1	1	1	1	1	1	1	1	1	1	1	1
21	GM28629	Crossmember, skid					1	1	1	1	1	1		

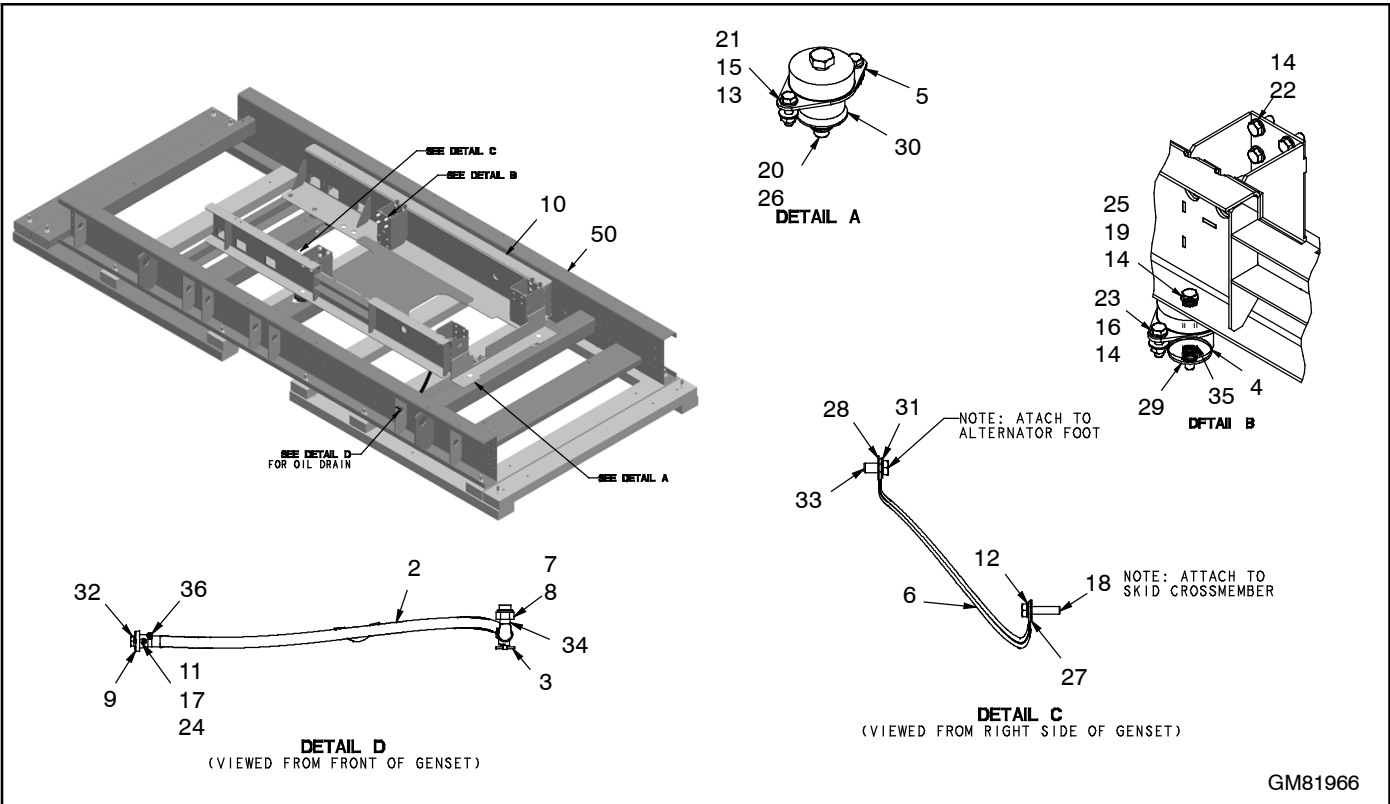
Group 109: Skid and Plant Mounting, continued



Group 109: Skid and Plant Mounting, continued

Item	Part Number	Description	Quantity			
			Module Number			
			GM80123-MA1	GM80123-MA2	GM85366-MA1	GM85366-MA2
2	X-577-18	Hose, rubber, straight, .62 in. ID	1	1	1	1
3	272701	Valve, oil drain (1/2-14 nptf)	1	1	1	1
4	324392	Vibromount	2	2		
4	GM85058	Vibromount			2	2
4	GM85056	Plate, Seismic (not shown)			2	2
4	GM85959-1	Washer, Plain (not shown)			2	2
4	X-25-168	Washer, Plain (not shown)			2	2
5	GM21085	Strap, ground (16 in.)	1	1	1	1
6	GM31185	Adapter Bushing, 1/2 NPT to M24-1.5	1	1	1	1
7	GM36228	Bracket, Engine Mounting	2	2	2	2
8	GM48870	Washer, Sealing (M24)	1	1	1	1
9	GM59015	Fitting, Bulkhead Drain	1	1	1	1
10	M125A-10-80	Washer, Plain, 10.5 ID x 20.0 OD	1	1	1	1
11	M125A-12-80	Washer, Plain	4	4	4	4
12	M125A-20-80	Washer, Plain	2	2		
12	M125A-16-80	Washer, Plain			2	2
14	M6923-12-80	Nut, Hex	4	4	4	4
15	M6923-16-80	Nut, Hex	4	4	4	4
16	M931-10045-60	Screw, hex cap	1	1	1	1
17	M931-20120-60	Screw, hex head	2	2		
17	M931-16100-60	Screw, hex head			2	2
18	M933-12040-60	Screw, Hex Cap	4	4		
18	M931-12045-60	Screw, Hex Cap			4	4
19	M982-20-80	Nut, hex elastic stop	2	2		
19	M982-16-80	Nut, hex elastic stop			2	2
20	X-22-15	Washer,lock,.456 IDx1.058 in.OD	1	1	1	1
21	X-22-26	Washer,lock.521 IDx1.24 in.OD	1	1	1	1
22	X-25-151	Washer, plain, .8 ID x 3 in. OD	2	2	2	2
23	X-25-26	Washer, Plain, .531 IDx1.062 in.OD	1	1	1	1
24	X-75-58	Plug, Pipe	1	1	1	1
25	X-129-19	Bolt, Hex Cap (1/2-13 x 1.5") Gr5	1	1	1	1
26	X-209-6	Pipe (1/2"npt x 2.00")	1	1	1	1
27	X-211-1	Elbow, Street(90 deg x 1/2"nptf)	1	1	1	1
28	X-215-1	Elbow, pipe (90 deg x 1/2"npt)	1	1	1	1
29	X-426-10	Clamp, hose, .5/1 in.	2	2	2	2
30	X-781-22	Rivet, Pop	2	2	2	2
40	GM70188	Skid	1		1	
40	GM83888	Skid		1		1

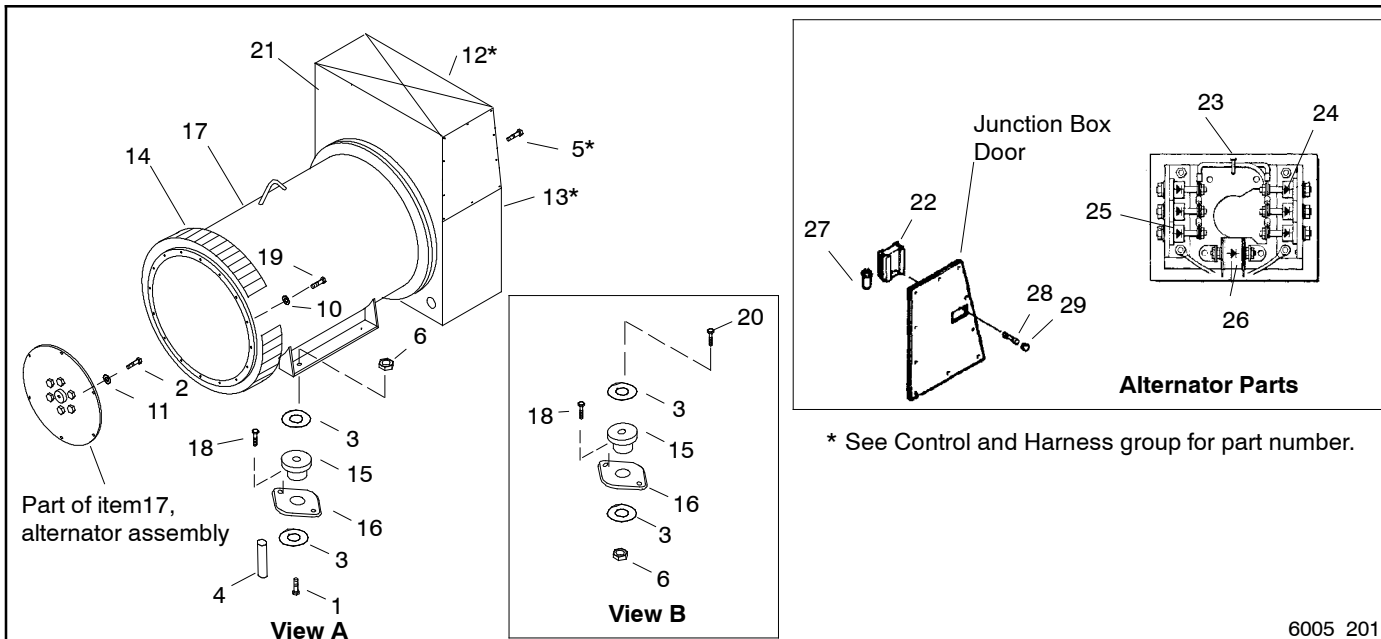
Group 109: Skid and Plant Mounting, continued



Group 109: Skid and Plant Mounting, continued

Item	Part Number	Description	Quantity							
			Module Number							
			GM78120-MA1	GM78120-MA2	GM81966-MA1	GM81966-MA2	GM85367-MA1	GM85367-MA2	GM85368-MA1	GM85368-MA2
2	X-577-35	Hose, rubber, straight, .62 in. ID	1	1	1	1	1	1	1	1
3	272701	Valve, oil drain (1/2-14 nptf)	1	1	1	1	1	1	1	1
4	279577	Mount, Vibration	2	2	2	2				
4	365190	Mount, Vibration					2	2	2	2
4	GM85057	Plate, Seismic (not shown)					2	2	2	2
4	GM85327-1	Washer, Plain (not shown)					2	2	2	2
4	GM85959-2	Washer, Plain (not shown)					2	2	2	2
4	X-25-148	Washer, plain, .641 ID x 3.5 in. OD (not shown)					2	2	2	2
5	324393	Vibromount	2	2	2	2				
5	GM85058	Vibromount					2	2		
5	GM85059	Vibromount							2	2
5	GM85056	Plate, Seismic (not shown)					2	2	2	2
5	GM85959-1	Washer, Plain (not shown)					2	2	2	2
5	X-25-168	Washer, Plain (not shown)					2	2	2	2
6	GM21085	Strap, ground (16 in.)	1	1	1	1	1	1	1	1
7	GM31185	Adapter Bushing, 1/2 NPT to M24-1.5	1	1	1	1	1	1	1	1
8	GM48870	Washer, Sealing (M24)	1	1	1	1	1	1	1	1
9	GM59015	Fitting, Bulkhead Drain	1	1	1	1	1	1	1	1
10	GM83036	Skid	1	1	1	1	1	1	1	1
11	M125A-05-80	Washer, Plain	2	2	2	2	2	2	2	2
12	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	1	1	1	1	1	1	1	1
13	M125A-12-80	Washer, Plain	4	4	4	4	4	4	4	4
14	M125A-16-80	Washer, Plain	6	6	6	6	8	8	8	8
14	X-801-5	Washer, hardened, .656 ID x 1.06 in. OD	8	8	8	8	8	8	8	8
15	M6923-12-80	Nut, Hex	4	4	4	4	4	4	4	4
16	M6923-16-80	Nut, hex	4	4	4	4	4	4	4	4
17	M7985A-05020-20	Screw, Pan Head Machine	2	2	2	2	2	2	2	2
18	M931-10045-60	Screw, hex cap	1	1	1	1	1	1	1	1
19	M931-16150-60	Screw	2	2	2	2				
19	M931-16120-60	Screw, hex cap					2	2	2	2
20	M931-20120-60	Screw, hex head	2	2	2	2				
20	M931-16120-60	Screw, hex cap					2	2	2	2
21	M933-12040-60	Screw, Hex Cap	4	4	4	4				
21	M931-12045-60	Screw, Hex Cap					4	4	4	4
22	M912-16035-60	Screw, Socket Head Cap	8	8	8	8	8	8	8	8
23	M933-16050-60	Screw, Hex Cap	4	4	4	4	4	4	4	4
24	M934-05-50	Nut, Hex 5mm	2	2	2	2	2	2	2	2
25	M934-16-60	Nut, Hex, 16mm, Steel	2	2	2	2				
25	M982-16-80	Nut, Hex Elastic Stop					2	2	2	2
26	M982-20-80	Nut, hex elastic stop	2	2	2	2				
26	M982-16-80	Nut, Hex Elastic Stop					2	2	2	2
27	X-22-15	Washer, lock, .456 ID x 1.058 in. OD	1	1	1	1	1	1	1	1
28	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	1	1	1	1	1	1	1	1
29	X-25-151	Washer, plain, .8 ID x 3 in. OD	2	2	2	2				
29	X-25-132	Washer, plain, .688 ID x 3.25 in. OD					2	2	2	2
30	X-25-166	Washer, Plain	2	2	2	2				
30	X-25-151	Washer, plain, .8 ID x 3 in. OD					2	2	2	2
31	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1	1	1	1	1	1	1	1
32	X-75-58	Plug, Pipe	1	1	1	1	1	1	1	1
33	X-129-17	Bolt, Hex Cap (1/2-13 x 1") Gr5	1	1	1	1	1	1	1	1
34	X-211-1	Elbow, Street (90 deg x 1/2" nptf)	1	1	1	1	1	1	1	1
35	X-400-182	Spacer, .656 ID x 1 OD x 3.94 in.	2	2	2	2				
35	X-400-267	Spacer							2	2
36	X-426-10	Clamp, hose, .5/1 in.	2	2	2	2	2	2	2	2
50	GM83040	Skid Assy, 5M4028, 5M4030, 5M4272			1		1			
50	GM83041	Skid Assy, 5M4032, 5M4164				1		1		
50	GM74523	Skid Assy, 5M4030/5M4272	1						1	
50	GM82945	Skid Assy, 5M4032/4164/4276		1						1

Group 201: Alternator and Mounting



Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
			All Models				All Models
1	M931-20160-60	Screw, hex head	2	17	See chart	Alternator assembly	1
2	M933-12030-82	Screw, hex cap	8	18	#	Screw, hex	4
3	X-25-152	Washer, plain, view A	4	19	M931-10040-82	Screw, hex cap	12
3	X-25-155	Washer, plain, view B	4	20	M931-20140-60	Bolt, hex cap	2
4	X-400-239	Spacer, view A only	2	21	See chart	Junction box assembly	
5	*	Screw, hex flange	13			(includes items on page 36)	1
6	M982-20-80	Nut, hex elastic stop	2	22	GM24876-S	Voltage regulator, DVR2000	1
7	X-750-14	Marker, wire tab no. L1 (not shown)	1	23	347071	Exciter rectifier assembly	
8	X-750-15	Marker, wire tab no. L2 (not shown)	1			(includes items 24- 26)	1
9	X-750-16	Marker, wire tab no. L3 (not shown)	1	24	279773	Diode, standard polarity	1
10	X-801-6	Washer, hardened	12	25	279775	Diode, reversing polarity	1
11	290945	Washer, hardened	8	26	279776	Surge suppressor	1
12	*	Cover, top back	1	27	347160	Capacitor	1
13	*	Cover, louvered	1	28	279778	Fuse, 5-amp	1
14	See chart	Screen	1	29	279779	Fuse cap	1
15	See chart	Vibromount	2	# Common hardware. Procure locally.			
16	361039	Plate, generator mounting, view A	2	* See Control and Harness group on pages 48- 53 for part number.			
16	361733	Plate, generator mounting, view B	2				

Group 201: Alternator and Mounting

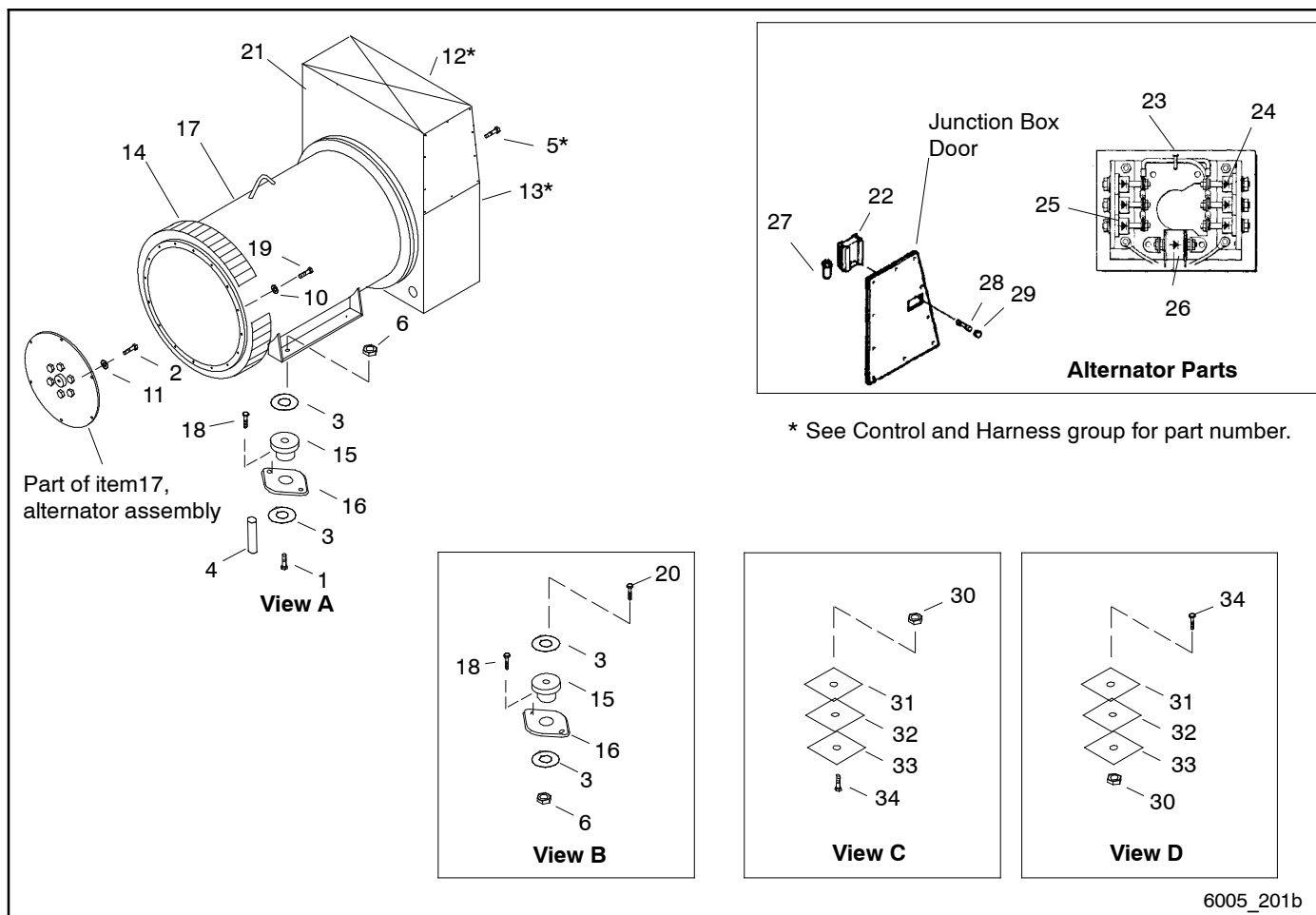
Alternator Part Numbers

Use these tables to identify items 14, 15, 17, and 21 on the previous page.

Module No.	Model	Alternator Description	Mounting View	Item 17, Alternator Assembly	Item 14, Screen
GM24833-MA1	350/400, 50/60 Hz	4M4019, reconnect.	View A	A-328098	328902
GM24833-MA2	350/400, 50/60 Hz	4M4021, reconnect.	View A	A-328099	328902
GM24833-MA8	350, 60 Hz	4M4158, 380 V	View A	A-328116	328902
GM24833-MA12	350/400, 50/60 Hz	4M4266, 600 V	View A	A-328127	328902
GM24833-MA16	350/400, 50/60 Hz	5M4019, reconnect.	View B	A-328101	328903
GM24833-MA17	350/400, 60 Hz	5M4162, 380 V	View B	A-328662	328903
GM24833-MA18	350/400, 60 Hz	5M4272, 600 V	View B	A-328663	328903
GM24833-MA15	400, 60 Hz	5M4019, reconnect.	View B	A-354635	328903
GM24833-MA9	400, 60 Hz	5M4160, 380 V	View B	A-328117	328903
GM24833-MA3	500, 50/60 Hz	5M4024, reconnect.	View B	A-361851	328903
GM24833-MA4	500, 50/60 Hz	5M4027, reconnect.	View B	A-361852	328903
GM24833-MA5	500, 50/60 Hz	5M4028, reconnect.	View B	A-361749	328903
GM24833-MA6	500, 50/60 Hz	5M4030, reconnect.	View B	A-361750	328903
GM24833-MA7	500, 50/60 Hz	5M4032, reconnect.	View A	A-361751	328903
GM24833-MA10	500, 60 Hz	5M4162, 380 V	View B	A-361856	328903
GM24833-MA11	500, 60 Hz	5M4164, 380 V	View A	A-361752	328903
GM24833-MA13	500, 60 Hz	5M4270, 600 V	View B	A-361854	328903
GM24833-MA14	500, 60 Hz	5M4272, 600 V	View B	A-361753	328903
GM24833-MA19	400, 50/60 Hz	5M4024, reconnect.	View B	A-361851	328903
GM24833-MA20	400, 50/60 Hz	5M4027, reconnect.	View B	A-361852	328903
GM24833-MA21	400, 60 Hz	5M4160, 380 V	View B	A-361855	328903
GM24833-MA22	400, 60 Hz	5M4162, 380 V	View B	A-361856	328903
GM24833-MA23	400, 60 Hz	5M4272, 600 V	View B	A-361753	328903
GM24833-MA24	350/400, 50/60 Hz	4M4019, reconnect.	View B	GM42815	328902
GM24833-MA25	350/400, 50/60 Hz	4M4021, reconnect.	View B	GM42816	328902
GM24833-MA26	350, 50/60 Hz	4M4158, 380 V	View B	GM42841	328902
GM24833-MA27	350/400, 50/60 Hz	4M4266, 600 V	View B	GM42842	328902

Module No.	Model	Alternator Description	Mounting View	Item 15, Vibromount	Item 21 Junction Box
GM24833-MA1	350/400, 50/60 Hz	4M4019, reconnect.	View A	361919	—
GM24833-MA2	350/400, 50/60 Hz	4M4021, reconnect.	View A	361919	—
GM24833-MA8	350, 60 Hz	4M4158, 380 V	View A	361919	—
GM24833-MA12	350/400, 50/60 Hz	4M4266, 600 V	View A	361919	—
GM24833-MA16	350/400, 50/60 Hz	5M4019, reconnect.	View B	365190	—
GM24833-MA17	350/400, 60 Hz	5M4162, 380 V	View B	365190	—
GM24833-MA18	350/400, 60 Hz	5M4272, 600 V	View B	365190	—
GM24833-MA15	400, 60 Hz	5M4019, reconnect.	View B	365190	—
GM24833-MA9	400, 60 Hz	5M4160, 380 V	View B	365190	—
GM24833-MA3	500, 50/60 Hz	5M4024, reconnect.	View B	365190	GM17025-7
GM24833-MA4	500, 50/60 Hz	5M4027, reconnect.	View B	365190	GM17025-7
GM24833-MA5	500, 50/60 Hz	5M4028, reconnect.	View B	365190	GM17025-7
GM24833-MA6	500, 50/60 Hz	5M4030, reconnect.	View B	365190	GM17025-7
GM24833-MA7	500, 50/60 Hz	5M4032, reconnect.	View A	361054	GM17025-7
GM24833-MA10	500, 60 Hz	5M4162, 380 V	View B	365190	GM17025-7
GM24833-MA11	500, 60 Hz	5M4164, 380 V	View A	361054	GM17025-7
GM24833-MA13	500, 60 Hz	5M4270, 600 V	View B	365190	GM17025-7
GM24833-MA14	500, 60 Hz	5M4272, 600 V	View B	365190	GM17025-7
GM24833-MA19	400, 50/60 Hz	5M4024, reconnect.	View B	365190	GM17025-10
GM24833-MA20	400, 50/60 Hz	5M4027, reconnect.	View B	365190	GM17025-10
GM24833-MA21	400, 60 Hz	5M4160, 380 V	View B	365190	GM17025-12
GM24833-MA22	400, 60 Hz	5M4162, 380 V	View B	365190	GM17025-12
GM24833-MA23	400, 60 Hz	5M4272, 600 V	View B	365190	GM17025-12
GM24833-MA24	350/400, 50/60 Hz	4M4019, reconnect.	View B	365190	GM17025-10
GM24833-MA25	350/400, 50/60 Hz	4M4021, reconnect.	View B	365190	GM17025-10
GM24833-MA26	350, 50/60 Hz	4M4158, 380 V	View B	365190	GM17025-12
GM24833-MA27	350/400, 50/60 Hz	4M4266, 600 V	View B	365190	GM17025-12

Group 201: Alternator and Mounting, continued



Item	Part Number	Description	Qty. All Models
1	M931-20160-60	Screw, hex head	2
2	M933-12030-82	Screw, hex cap	8
3	X-25-152	Washer, plain, view A	4
3	X-25-155	Washer, plain, view B	4
4	X-400-239	Spacer, view A only	2
5	*	Screw, hex flange	13
6	M982-20-80	Nut, hex elastic stop	2
7	X-750-14	Marker, wire tab no. L1 (not shown)	1
8	X-750-15	Marker, wire tab no. L2 (not shown)	1
9	X-750-16	Marker, wire tab no. L3 (not shown)	1
10	X-801-6	Washer, hardened	12
11	290945	Washer, hardened	8
12	*	Cover, top back	1
13	*	Cover, louvered	1
14	328903	Screen	1
15	See chart	Vibromount	2
16	361039	Plate, generator mounting, view A	2
16	361733	Plate, generator mounting, view B	2

Item	Part Number	Description	Qty. All Models
17	See chart	Alternator assembly	1
18	#	Screw, hex	4
19	M931-10040-82	Screw, hex cap	12
20	M931-20140-60	Bolt, hex cap	2
21	See Chart	Junction box assembly (includes items on page 36)	1
22	GM24876-S	Voltage regulator, DVR2000	1
23	347071	Exciter rectifier assembly (includes items 24-26)	1
24	279773	Diode, standard polarity	1
25	279775	Diode, reversing polarity	1
26	279776	Surge suppressor	1
27	347160	Capacitor	1
28	279778	Fuse, 5-amp	1
29	279779	Fuse cap	1
30	M982-20-80	Nut, hex elastic stop	4
31	365410	Shim	8
32	365411	Shim	8
33	365412	Shim	8
34	M931-20065-60	Screw, hex cap	4

Common hardware. Procure locally.

* See Control and Harness group on pages 48-53 for part number.

Group 201: Alternator and Mounting, continued

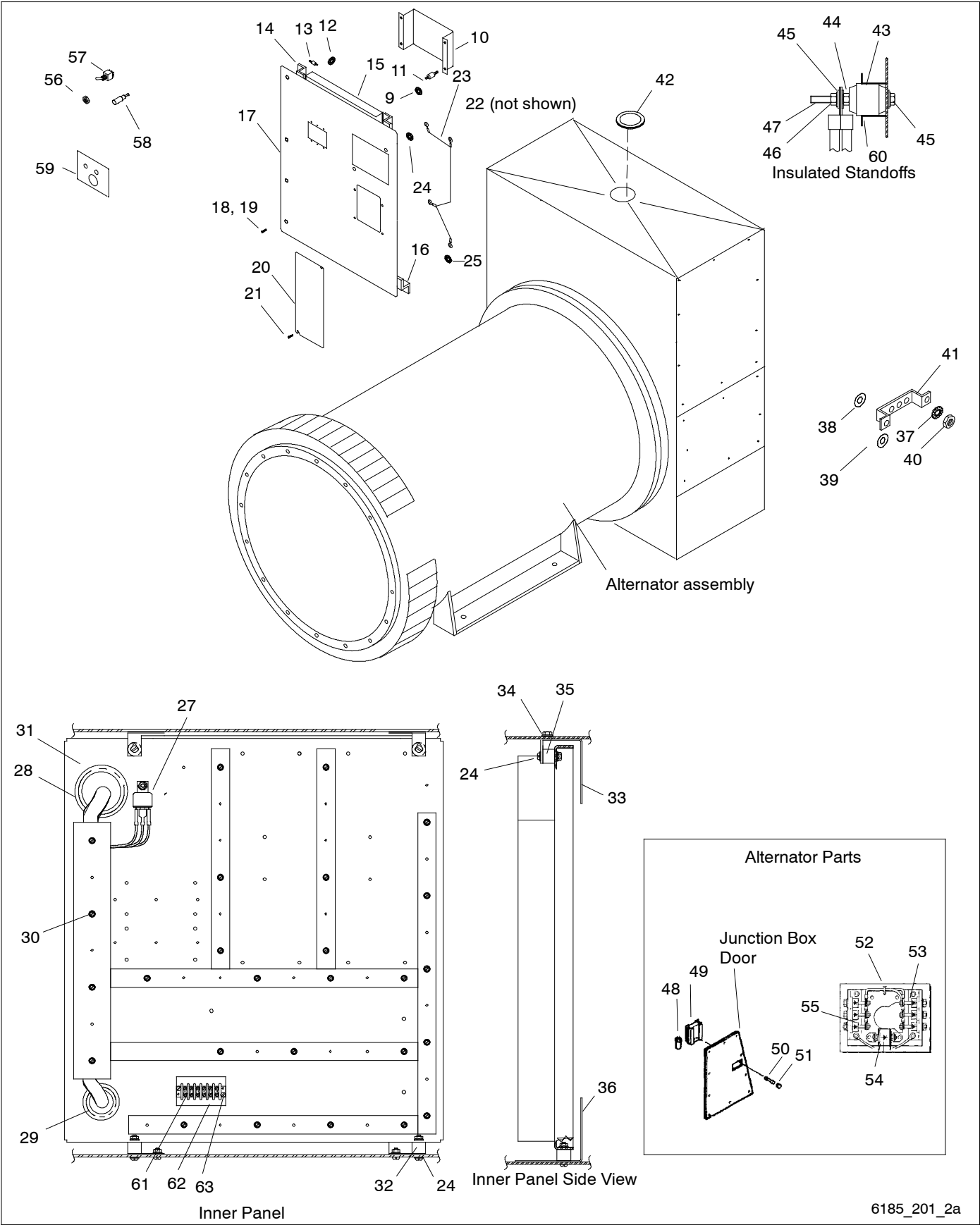
Alternator Part Numbers

Use these tables to identify items 15 and 17 on the previous page.

Module No.	Model	Alternator Description	Mounting View	Item 15, Vibromount	Item 17, Alternator Assembly	Item 21, Junction Box
GM37629-MA1	450/500, 50/60 Hz	5M4024, reconnect.	View B	365190	A-361851	GM17025-11
GM37629-MA2	450/500, 50/60 Hz	5M4027, reconnect.	View B	365190	A-361852	GM17025-11
GM37629-MA3	450/500, 50/60 Hz	5M4028, reconnect.	View B	365190	A-361749	GM17025-11
GM37629-MA4	500, 50/60 Hz	5M4030, reconnect.	View B	365190	A-361750	GM17025-11
GM37629-MA5	500, 50/60 Hz	5M4032, reconnect.	View A	361054	A-361751	GM17025-11
GM37629-MA6	450, 60 Hz	5M4160, 380 V	View B	365190	A-361855	GM17025-13
GM37629-MA7	500, 60 Hz	5M4162, 380 V	View B	365190	A-361856	GM17025-13
GM37629-MA8	500, 60 Hz	5M4164, 380 V	View A	361054	A-361752	GM17025-13
GM37629-MA9	450/500, 60 Hz	5M4270, 600 V	View B	365190	A-361854	GM17025-13
GM37629-MA10	450/500, 60 Hz	5M4272, 600 V	View B	365190	A-361753	GM17025-13
GM59247-MA1	600, 60 Hz	5M4030, reconnect.	View C	-	A-361750	GM17025-11
GM59247-MA2	600, 60 Hz	5M4032, reconnect.	View D	-	A-361751	GM17025-11
GM59247-MA3	600, 60 Hz	5M4164, 380 V	View D	-	A-361752	GM17025-13
GM59247-MA4	600, 60 Hz	5M4272, 600 V	View C	-	A-361753	GM17025-13
GM59247-MA5	600, 60 Hz	5M4276, 600 V	View D	-	A-361754	GM17025-13
GM59247-MA6	550, 60 Hz	5M4028, reconnect.	View C	-	A-361749	GM17025-11

Group 201: Alternator and Mounting, continued

Junction Box Assembly



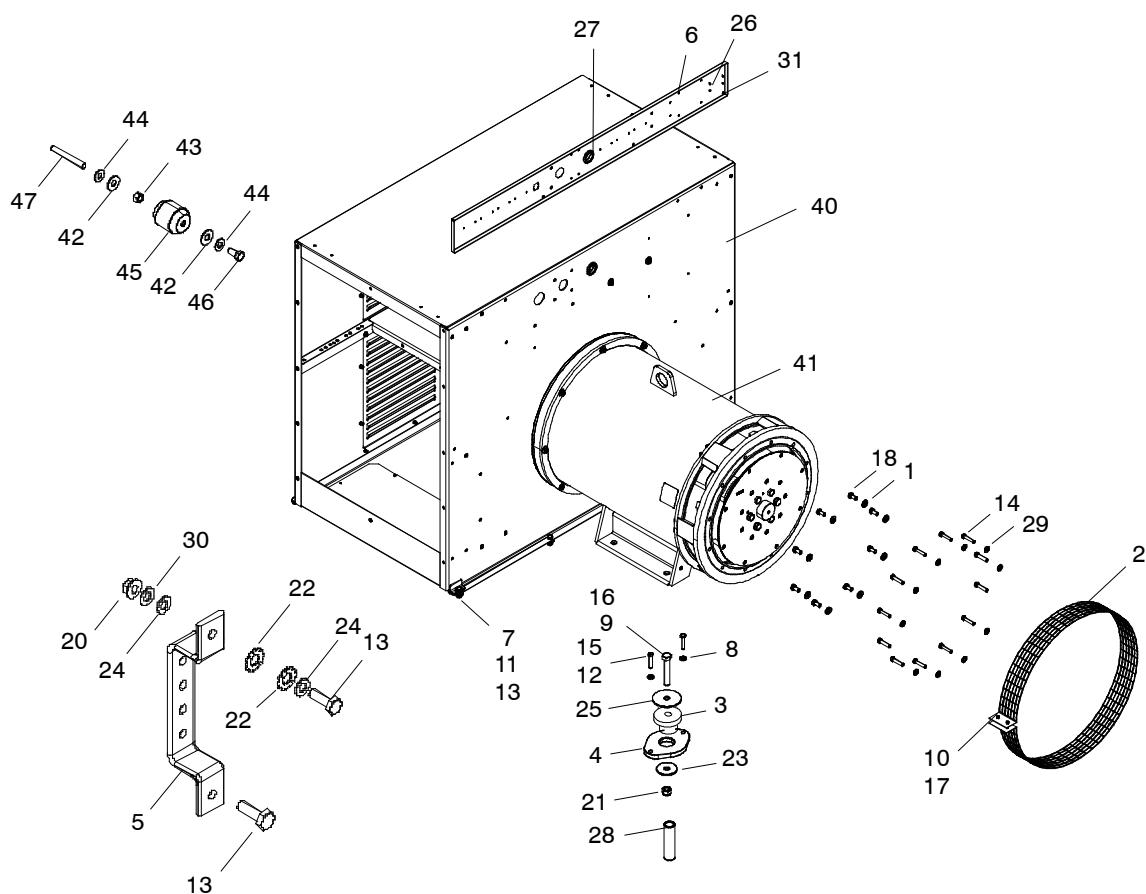
Group 201: Alternator and Mounting, continued

Junction Box Assembly

Item	Part Number	Description	Quantity				
			Junction Box				
			GM17025-7	GM17025-10	GM17025-11	GM17025-12	GM17025-13
9	X-22-18	Washer, lock, 0.172 ID x 0.595 in.	4				
10	GM24744	Bracket, governor mounting	1				
11	282829	Vibromount	4				
12	X-22-18	Washer, lock, 0.172 ID x 0.595 in.	12	12	12	12	12
13	282829	Vibromount	6	6	6	6	6
14	GM13562	Bracket, door panel mounting, top	2	2	2	2	2
15	GM13563	Panel, inner door	1	1	1	1	1
16	GM13561	Bracket, door panel mtg., bottom	1	1	1	1	1
17	GM13564	Door, junction box	1	1	1	1	1
18	X-6217-10	Screw, hex flange machine	14	14	14	14	14
19	295009	Retainer	10	10	10	10	10
20	GM13565	Cover, access	1	1	1	1	1
21	X-50-2	Screw, slotted pan head machine	6	6	6	6	6
22	361567	Tie wrap	2	2	2	2	2
23	GM21264	Harness, ground	1	1	1	1	1
24	X-22-12	Washer, lock, 0.262 ID x 0.743 in.	10	10	10	10	10
25	X-22-13	Washer, lock, 0.20 ID x 0.595 in. OD	1	1	1	1	1
27	272684	Relay		1		1	
28	X-634-23	Bushing, 1.968 x 2.50 in. NPT	1	1	1	1	1
29	X-634-16	Bushing, 1.312 x 1.50 in. NPT	1	1	1	1	1
30	X-67-43	Screw, thread-cutting	27	27	27	27	27
31	361186	Panel, junction box, inner	1	1	1	1	1
32	229353	Mount, controller	2	2	2	2	2
33	GM15336	Bracket, inner panel mounting	1				
33	GM41599	Bracket, inner panel mounting		1	1	1	1
34	X-6217-10	Screw, hex flange machine	3	3	3	3	3
35	229353	Mount, controller	2	2	2	2	2
36	361478	Retainer, inner panel	2	2	2	2	2
37	X-22-14	Washer, lock, 0.391 ID x 0.975 in.	4	4	4	4	4
38	X-25-118	Washer, plain, 0.406 ID x 1 in. OD	4	4	4	4	4
39	X-6086-6	Washer, spring, 0.39 ID x 0.81 in.	2	2	2	2	2
40	X-83-7	Nut, hex, zinc, 3/8-16	2	2	2	2	2
41	361271	Bus, ground	1	1	1	1	1
42	X-634-23	Bushing, 1.968 x 2.50 in. NPT	1	1	1	1	1
43	X-6128-29	Insulator, standoff, 3/8-16 x 2 in.	3	3	3		
44	X-83-7	Nut, hex, 3/8-16, zinc	6	6	6		
45	X-25-118	Washer, plain, 0.406 ID x 1 in. OD	9	9	9		
46	X-6086-6	Washer, spring, 0.39 ID x 0.81 in.	6	6	6		
47	X-6274-7	Rod, threaded	3	3	3		
48	347160	Capacitor	1	1	1	1	1
49	Not used	Voltage regulator, DVR2000	1	1	1	1	1
50	279778	Fuse, 5-amp	1	1	1	1	1
51	279779	Fuse cap	1	1	1	1	1
52	347071	Exciter rectifier assembly	1	1	1	1	1
53	279773	Diode, standard polarity	1	1	1	1	1
54	279776	Surge suppressor	1	1	1	1	1
55	279775	Diode, reversing polarity	1	1	1	1	1
57	345327	Switch, pushbutton		2	1	2	1
58	343684	Lamp		1		1	
59	GM39917	Plate, diagnostic silkscreen		1		1	
59	GM40181	Plate, diagnostic silkscreen			1		1
60	GM41600	Bracket, insulator		1	1		
61	295314	Terminal block	1	1		1	
62	299090	Marker, strip	1	1		1	
63	X-49-6	Screw, pan head, 6-32 x 3/4	2	2		2	

Group 201: Alternator and Mounting, continued

GM77952-



Item 19 not shown.

GM77952

Group 201: Alternator and Mounting, continued

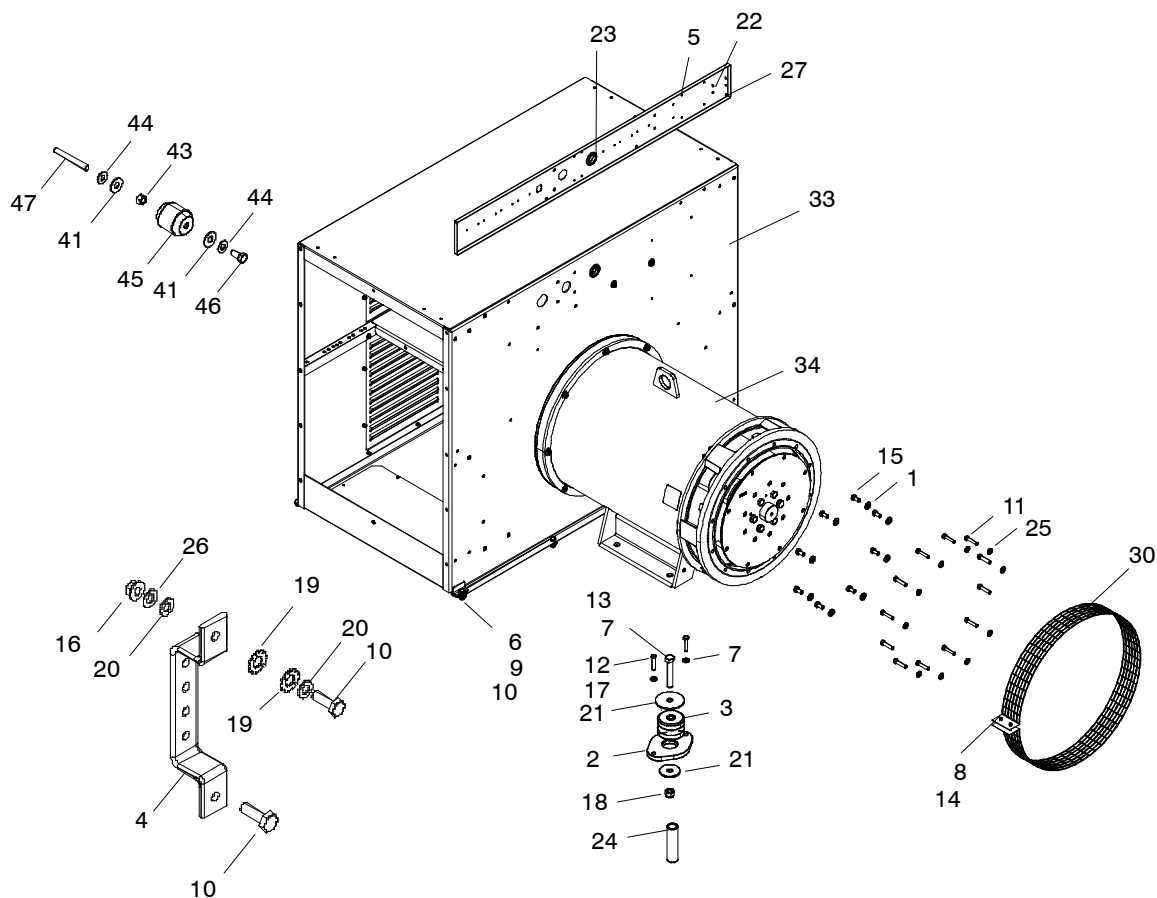
Item	Part Number	Description	Quantity					
			Module					
			GM77952-MA1	GM77952-MA2	GM77952-MA3	GM77952-MA4	GM77952-MA5	GM77952-MA6
1	290945	Washer, hardened, .531 IDx1.06 in.OD	8	8	8	8	8	8
2	328903	Screen	1	1	1	1	1	1
3	354634	Vibromount	2	2	2	2	2	2
4	354717	Plate, generator mounting	2	2	2	2	2	2
5	361271	Bus, ground	1	1	1	1	1	1
6	GM75910	Panel, Component Mtg.	1	1	1	1	1	1
7	M125A-10-80	Washer, Plain	7	7	7	7	7	7
8	M125A-12-80	Washer, Plain	4	4	4	4	4	4
9	M125A-16-80	Washer, Plain	4	4	4	4	4	4
10	M6923-06-80	Nut, Hex 6mm	2	2	2	2	2	2
11	M6923-10-80	Nut, Hex	8	8	8	8	8	8
12	M6923-12-80	Nut, hex	4	4	4	4	4	4
13	M931-10040-60	Screw, Hex Head	10	10	10	10	10	10
14	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12
15	M931-12055-60	Screw, Hex Cap	4	4	4	4	4	4
16	M931-16120-60	Screw, Hex Cap	2	2	2	2	2	2
17	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2
18	M933-12030-82	Screw, Hex Head	8	8	8	8	8	8
19	M933-16050-60	Screw, Hex Head	2	2	2	2	2	2
20	M934-10-60	Nut, hex 10mm	3	3	3	3	3	3
21	M982-16-80	Nut, hex elastic stop	4	4	4	4	4	4
22	X-22-15	Washer, lock	6	6	6	6	6	6
23	X-25-112	Washer, plain	4	4	4	4	4	4
24	X-25-118	Washer, plain	4	4	4	4	4	4
25	X-25-150	Washer, plain	2	2	2	2	2	2
26	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4
27	X-284-25	Grommet	1	1	1	1	1	1
28	X-400-251	Spacer	2	2	2	2	2	2
29	X-801-6	Washer,hardened, .469 ID x .922 in. OD	12	12	12	12	12	12
30	X-6086-6	Washer,spring	2	2	2	2	2	2
31	X-6210-2	Nut, flange spiralock, 1/4-20	8	8	8	8	8	8
40	GM75930-2**	Junction Box Assembly 5M (See page 46)	1	1	1	1	1	1
41	GM77506-4	Alternator Assy, 5M4030, Recon, SAE14	1					
41	GM77506-5	Alternator Assy, 5M4032, Recon, SAE14		1				
41	GM77506-9	Alternator Assy, 5M4164, 380V, SAE14			1			
41	GM77506-11	Alternator Assy, 5M4272, 600V, SAE14				1		
41	GM77506-12	Alternator Assy, 5M4276, 600V, SAE14					1	
41	GM77506-3	Alternator Assy, 5M4028, Recon, SAE14						1
42	X-25-118	Washer, plain, .406 ID x 1 in. OD	6	6				6
43	X-83-7	Nut, hex, 3/8-16, zinc	3	3				3
44	X-6086-6	Washer,spring, .39 ID x .81 in. OD	6	6				6
45	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3	3				3
46	X-6238-10	Bolt, Hex Cap	3	3				3
47	X-6274-7	Stud	3	3				3

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 40)
GM77952- MA1- BLK	- BLK	GM75930- 2- BLK
GM77952- MA2- BLK	- BLK	GM75930- 2- BLK
GM77952- MA3- BLK	- BLK	GM75930- 2- BLK
GM77952- MA4- BLK	- BLK	GM75930- 2- BLK
GM77952- MA5- BLK	- BLK	GM75930- 2- BLK
GM77952- MA6- BLK	- BLK	GM75930- 2- BLK

Group 201: Alternator and Mounting, continued

GM80124-



GM80124_A

Group 201: Alternator and Mounting, continued

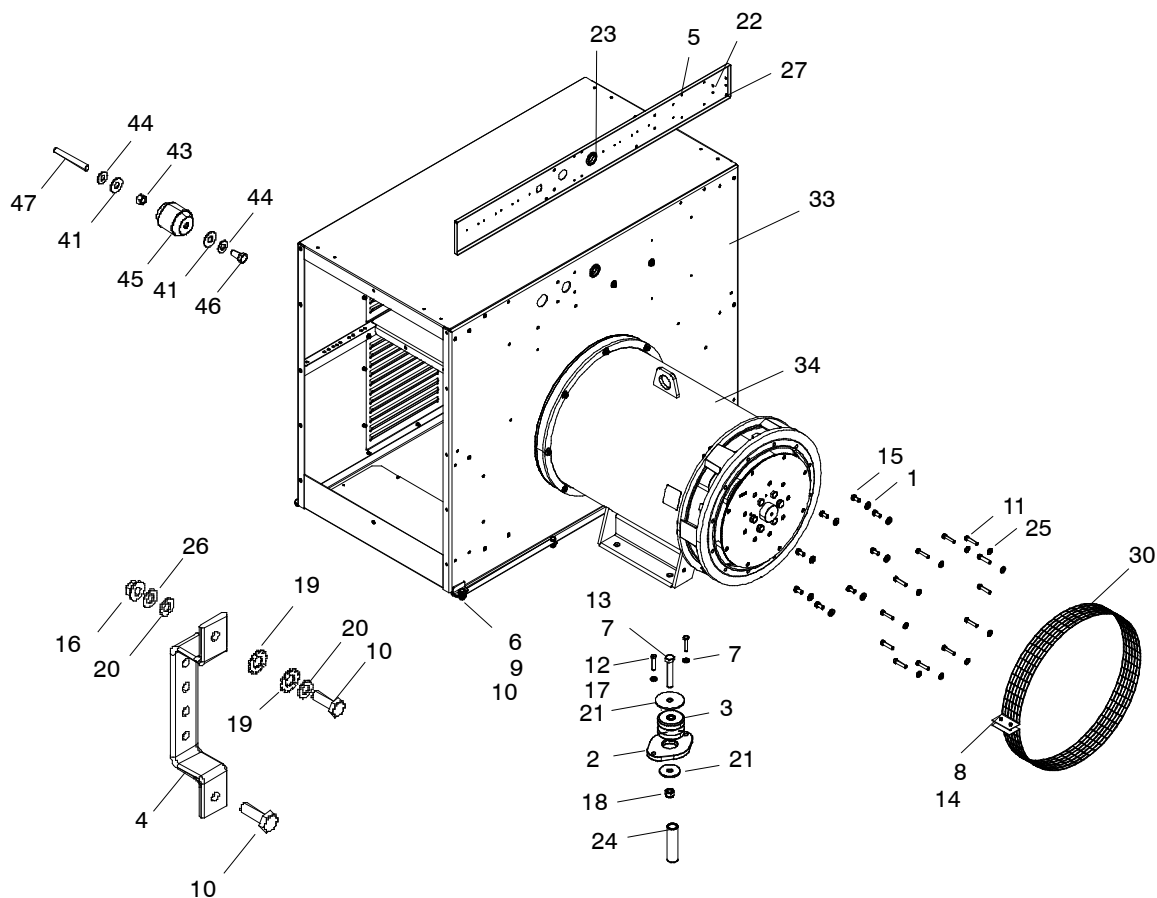
Item	Part Number	Description	Quantity								
			Module								
			GM80124-MA1	GM80124-MA2	GM80124-MA3	GM80124-MA4	GM80124-MA5	GM80124-MA6	GM80124-MA7	GM80124-MA8	GM80124-MA9
1	290945	Washer, hardened, .531 ID x 1.06 in. OD	8	8	8	8	8	8	8	8	8
2	361039	Plate, generator mounting	2	2	2	2	2	2	2	2	2
3	361054	Vibromount	2	2	2	2	2	2	2	2	2
4	361271	Bus, ground	1	1	1	1	1	1	1	1	1
5	GM75910	Panel, Component Mtg.	1	1	1	1	1	1	1	1	1
6	M125A-10-80	Washer, Plain	7	7	7	7	7	7	7	7	7
7	M125A-20-80	Washer, Plain	6	6	6	6	6	6	6	6	6
8	M6923-06-80	Nut, Hex 6mm	2	2	2	2	2	2	2	2	2
9	M6923-10-80	Nut, Hex	8	8	8	8	8	8	8	8	8
10	M931-10040-60	Screw, Hex Cap	10	10	10	10	10	10	10	10	10
11	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12	12	12	12
12	M931-20090-60	Screw, Hex Cap	4	4	4	4	4	4	4	4	4
13	M931-20160-60	Screw, Hex Head	2	2	2	2	2	2	2	2	2
14	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2	2	2	2
15	M933-12030-82	Screw, Hex Cap	8	8	8	8	8	8	8	8	8
16	M934-10-60	Nut, hex	3	3	3	3	3	3	3	3	3
17	M934-20-80	Nut, hex	4	4	4	4	4	4	4	4	4
18	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2	2	2	2
19	X-22-15	Washer, lock	6	6	6	6	6	6	6	6	6
20	X-25-118	Washer, plain, .406 ID x 1 in. OD	4	4	4	4	4	4	4	4	4
21	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD	4	4	4	4	4	4	4	4	4
22	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4	4	4	4
23	X-284-25	Grommet	1	1	1	1	1	1	1	1	1
24	X-400-239	Spacer	2	2	2	2	2	2	2	2	2
25	X-801-6	Washer, hardened, .469 ID x .922 in. OD	12	12	12	12	12	12	12	12	12
26	X-6086-6	Washer, spring	2	2	2	2	2	2	2	2	2
27	X-6210-2	Nut, flange spirallock, 1/4-20	8	8	8	8	8	8	8	8	8
30	328903	Screen	1	1	1	1	1	1	1	1	1
33	GM75930-2**	Junction Box Assembly 5M (See page 46)	1	1	1	1	1	1	1	1	1
34	GM77506-1	Alternator Assy, 5M4024, Reconn, SAE14	1								
34	GM77506-2	Alternator Assy, 5M4027, Reconn, SAE14		1							
34	GM77506-3	Alternator Assy, 5M4028, Reconn, SAE14			1						
34	GM77506-4	Alternator Assy, 5M4030, Reconn, SAE14				1					
34	GM77506-5	Alternator Assy, 5M4032, Reconn, SAE14					1				
34	GM77506-8	Alternator Assy, 5M4162, 380V, SAE14						1			
34	GM77506-9	Alternator Assy, 5M4164, 380V, SAE14							1		
34	GM77506-10	Alternator Assy, 5M4270, 600V, SAE14								1	
34	GM77506-11	Alternator Assy, 5M4272, 600V, SAE14									1
41	X-25-118	Washer, plain, .406 ID x 1 in. OD	6	6	6	6	6				
43	X-83-7	Nut, hex, 3/8-16, zinc	3	3	3	3	3				
44	X-6086-6	Washer, spring, .39 ID x .81 in. OD	6	6	6	6	6				
45	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3	3	3	3	3				
46	X-6238-10	Bolt, Hex Cap	3	3	3	3	3				
47	X-6274-7	Stud	3	3	3	3	3				

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 33)
GM80124- MA1- BLK	- BLK	GM75930- 2- BLK
GM80124- MA2- BLK	- BLK	GM75930- 2- BLK
GM80124- MA3- BLK	- BLK	GM75930- 2- BLK
GM80124- MA4- BLK	- BLK	GM75930- 2- BLK
GM80124- MA5- BLK	- BLK	GM75930- 2- BLK
GM80124- MA6- BLK	- BLK	GM75930- 2- BLK
GM80124- MA7- BLK	- BLK	GM75930- 2- BLK
GM80124- MA8- BLK	- BLK	GM75930- 2- BLK
GM80124- MA9- BLK	- BLK	GM75930- 2- BLK

Group 201: Alternator and Mounting, continued

GM85364-



GM80124_A

Group 201: Alternator and Mounting, continued

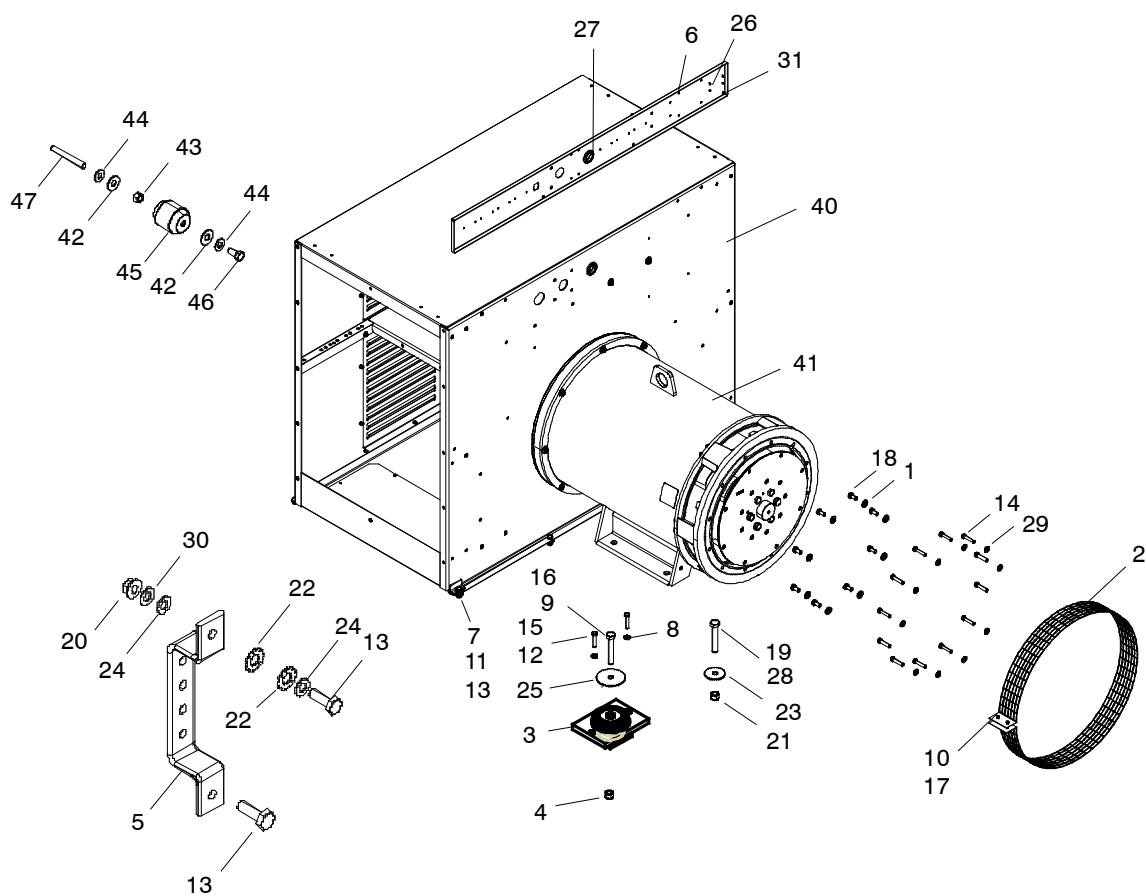
Item	Part Number	Description	Quantity								
			Module								
			GM85364-MA1	GM85364-MA2	GM85364-MA3	GM85364-MA4	GM85364-MA5	GM85364-MA6	GM85364-MA7	GM85364-MA8	GM85364-MA9
1	290945	Washer, hardened, .531 IDx1.06 in. OD	8	8	8	8	8	8	8	8	8
2	GM85053	Plate, Seismic	2	2	2	2	2	2	2	2	2
3	361054	Vibromount	2	2	2	2	2	2	2	2	2
4	361271	Bus, ground	1	1	1	1	1	1	1	1	1
5	GM75910	Panel, Component Mtg.	1	1	1	1	1	1	1	1	1
6	M125A-10-80	Washer, Plain	7	7	7	7	7	7	7	7	7
7	M125A-20-80	Washer, Plain	6	6	6	6	6	6	6	6	6
8	M6923-06-80	Nut, Hex 6mm	2	2	2	2	2	2	2	2	2
9	M6923-10-80	Nut, Hex	8	8	8	8	8	8	8	8	8
10	M931-10040-60	Screw, Hex Cap	10	10	10	10	10	10	10	10	10
11	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12	12	12	12
12	M931-20090-60	Screw, Hex Cap	4	4	4	4	4	4	4	4	4
13	M931-20160-60	Screw, Hex Head	2	2	2	2	2	2	2	2	2
14	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2	2	2	2
15	M933-12030-82	Screw, Hex Cap	8	8	8	8	8	8	8	8	8
16	M934-10-60	Nut, hex	3	3	3	3	3	3	3	3	3
17	M934-20-80	Nut, hex	4	4	4	4	4	4	4	4	4
18	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2	2	2	2
19	X-22-15	Washer, lock	6	6	6	6	6	6	6	6	6
20	X-25-118	Washer, plain, .406 ID x 1 in. OD	4	4	4	4	4	4	4	4	4
21	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD	4	4	4	4	4	4	4	4	4
22	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4	4	4	4
23	X-284-25	Grommet	1	1	1	1	1	1	1	1	1
24	X-400-239	Spacer	2	2	2	2	2	2	2	2	2
25	X-801-6	Washer, hardened, .469 ID x .922 in. OD	12	12	12	12	12	12	12	12	12
26	X-6086-6	Washer, spring	2	2	2	2	2	2	2	2	2
27	X-6210-2	Nut, flange spirallock, 1/4-20	8	8	8	8	8	8	8	8	8
30	328903	Screen	1	1	1	1	1	1	1	1	1
33	GM75930-2**	Junction Box Assembly 5M (See page 46)	1	1	1	1	1	1	1	1	1
34	GM77506-1	Alternator Assy, 5M4024, Reconn, SAE14		1							
34	GM77506-2	Alternator Assy, 5M4027, Reconn, SAE14			1						
34	GM77506-3	Alternator Assy, 5M4028, Reconn, SAE14				1					
34	GM77506-4	Alternator Assy, 5M4030, Reconn, SAE14					1				
34	GM77506-5	Alternator Assy, 5M4032, Reconn, SAE14						1			
34	GM77506-8	Alternator Assy, 5M4162, 380V, SAE14						1			
34	GM77506-9	Alternator Assy, 5M4164, 380V, SAE14							1		
34	GM77506-10	Alternator Assy, 5M4270, 600V, SAE14								1	
34	GM77506-11	Alternator Assy, 5M4272, 600V, SAE14									1
41	X-25-118	Washer, plain, .406 ID x 1 in. OD	6	6	6	6	6				
43	X-83-7	Nut, hex, 3/8-16, zinc	3	3	3	3	3				
44	X-6086-6	Washer, spring, .39 ID x .81 in. OD	6	6	6	6	6				
45	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3	3	3	3	3				
46	X-6238-10	Bolt, Hex Cap	3	3	3	3	3				
47	X-6274-7	Stud	3	3	3	3	3				

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 33)
GM85364- MA1- BLK	- BLK	GM75930- 2- BLK
GM85364- MA2- BLK	- BLK	GM75930- 2- BLK
GM85364- MA3- BLK	- BLK	GM75930- 2- BLK
GM85364- MA4- BLK	- BLK	GM75930- 2- BLK
GM85364- MA5- BLK	- BLK	GM75930- 2- BLK
GM85364- MA6- BLK	- BLK	GM75930- 2- BLK
GM85364- MA7- BLK	- BLK	GM75930- 2- BLK
GM85364- MA8- BLK	- BLK	GM75930- 2- BLK
GM85364- MA9- BLK	- BLK	GM75930- 2- BLK

Group 201: Alternator and Mounting, continued

GM85365-



GM85365

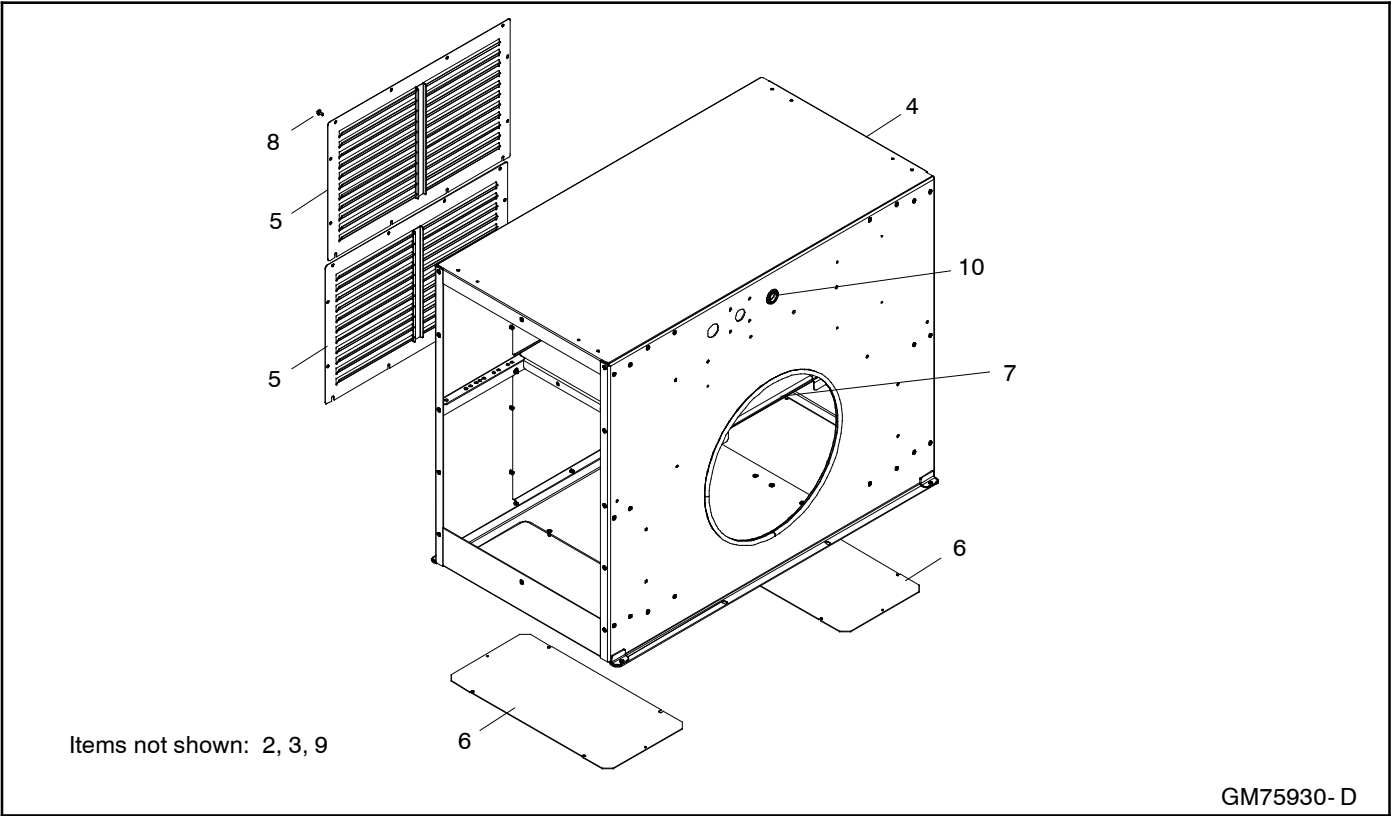
Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity					
			Module					
			GM85365-MA1	GM85365-MA2	GM85365-MA3	GM85365-MA4	GM85365-MA5	GM85365-MA6
1	290945	Washer, hardened, .531 IDx1.06 in.OD	8	8	8	8	8	8
2	328903	Screen	1	1	1	1	1	1
3	GM84170	Alternator Mount, Seismic	2	2	2	2	2	2
4	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2
5	361271	Bus, ground	1	1	1	1	1	1
6	GM75910	Panel, Component Mtg.	1	1	1	1	1	1
7	M125A-10-80	Washer, Plain	7	7	7	7	7	7
8	M125A-12-80	Washer, Plain	4	4	4	4	4	4
9	M125A-16-80	Washer, Plain	2	2	2	2	2	2
10	M6923-06-80	Nut, Hex 6mm	2	2	2	2	2	2
11	M6923-10-80	Nut, Hex	8	8	8	8	8	8
12	M6923-12-80	Nut, hex	4	4	4	4	4	4
13	M931-10040-60	Screw, Hex Head	10	10	10	10	10	10
14	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12
15	M931-12055-60	Screw, Hex Cap	4	4	4	4	4	4
16	M931-20140-60	Screw, Hex Cap	2	2	2	2	2	2
17	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2
18	M933-12030-82	Screw, Hex Head	8	8	8	8	8	8
19	M933-16050-60	Screw, Hex Head	2	2	2	2	2	2
20	M934-10-60	Nut, hex 10mm	3	3	3	3	3	3
21	M982-16-80	Nut, hex elastic stop	2	2	2	2	2	2
22	X-22-15	Washer, lock	6	6	6	6	6	6
23	X-25-112	Washer, plain	2	2	2	2	2	2
24	X-25-118	Washer, plain	4	4	4	4	4	4
25	X-25-150	Washer, plain	2	2	2	2	2	2
26	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4
27	X-284-25	Grommet	1	1	1	1	1	1
28	M125A-20-80	Washer, Plain	2	2	2	2	2	2
29	X-801-6	Washer,hardened, .469 ID x .922 in. OD	12	12	12	12	12	12
30	X-6086-6	Washer,spring	2	2	2	2	2	2
31	X-6210-2	Nut, flange spiralock, 1/4-20	8	8	8	8	8	8
40	GM75930-2**	Junction Box Assembly 5M (See page 46)	1	1	1	1	1	1
41	GM77506-4	Alternator Assy, 5M4030, Recon, SAE14	1					
41	GM77506-5	Alternator Assy, 5M4032, Recon, SAE14		1				
41	GM77506-9	Alternator Assy, 5M4164, 380V, SAE14			1			
41	GM77506-11	Alternator Assy, 5M4272, 600V, SAE14				1		
41	GM77506-12	Alternator Assy, 5M4276, 600V, SAE14					1	
41	GM77506-3	Alternator Assy, 5M4028, Recon, SAE14						1
42	X-25-118	Washer, plain, .406 ID x 1 in. OD	6	6				6
43	X-83-7	Nut, hex, 3/8-16, zinc	3	3				3
44	X-6086-6	Washer,spring, .39 ID x .81 in. OD	6	6				6
45	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3	3				3
46	X-6238-10	Bolt, Hex Cap	3	3				3
47	X-6274-7	Stud	3	3				3

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 40)
GM85365- MA1- BLK	- BLK	GM75930- 2- BLK
GM85365- MA2- BLK	- BLK	GM75930- 2- BLK
GM85365- MA3- BLK	- BLK	GM75930- 2- BLK
GM85365- MA4- BLK	- BLK	GM75930- 2- BLK
GM85365- MA5- BLK	- BLK	GM75930- 2- BLK
GM85365- MA6- BLK	- BLK	GM75930- 2- BLK

Alternator and Mounting, continued



Item	Part Number	Description	Quantity		
			GM75930-1	Module Number GM75930-2	GM75930-3
2	361567	Base, tie wrap snapin	5	5	5
3	GM11040-7	Insert, Threaded (M6 x 1.0 Hex)	76	76	76
4	GM75889**	Box, Junction (4M)	1		
4	GM75890**	Box, Junction (5M)		1	
4	GM75891**	Box, Junction (7M)			1
5	GM75892	Panel, J-Box (Louvered)	2	2	2
6	GM75895	Panel, J-Box (Cable Entry)	2	2	2
7	GM78489	Guard, Shelf 4M	1		
7	GM78490	Guard, Shelf 5M/7M		1	1
8	M6921-06016-60	Screw, Hex Flange M6x16mm fly thrd js500	32	32	32
9	X-284-2	Grommet, round (2 in. dia.)	1	1	1
10	X-284-25	Grommet, round	1	1	1

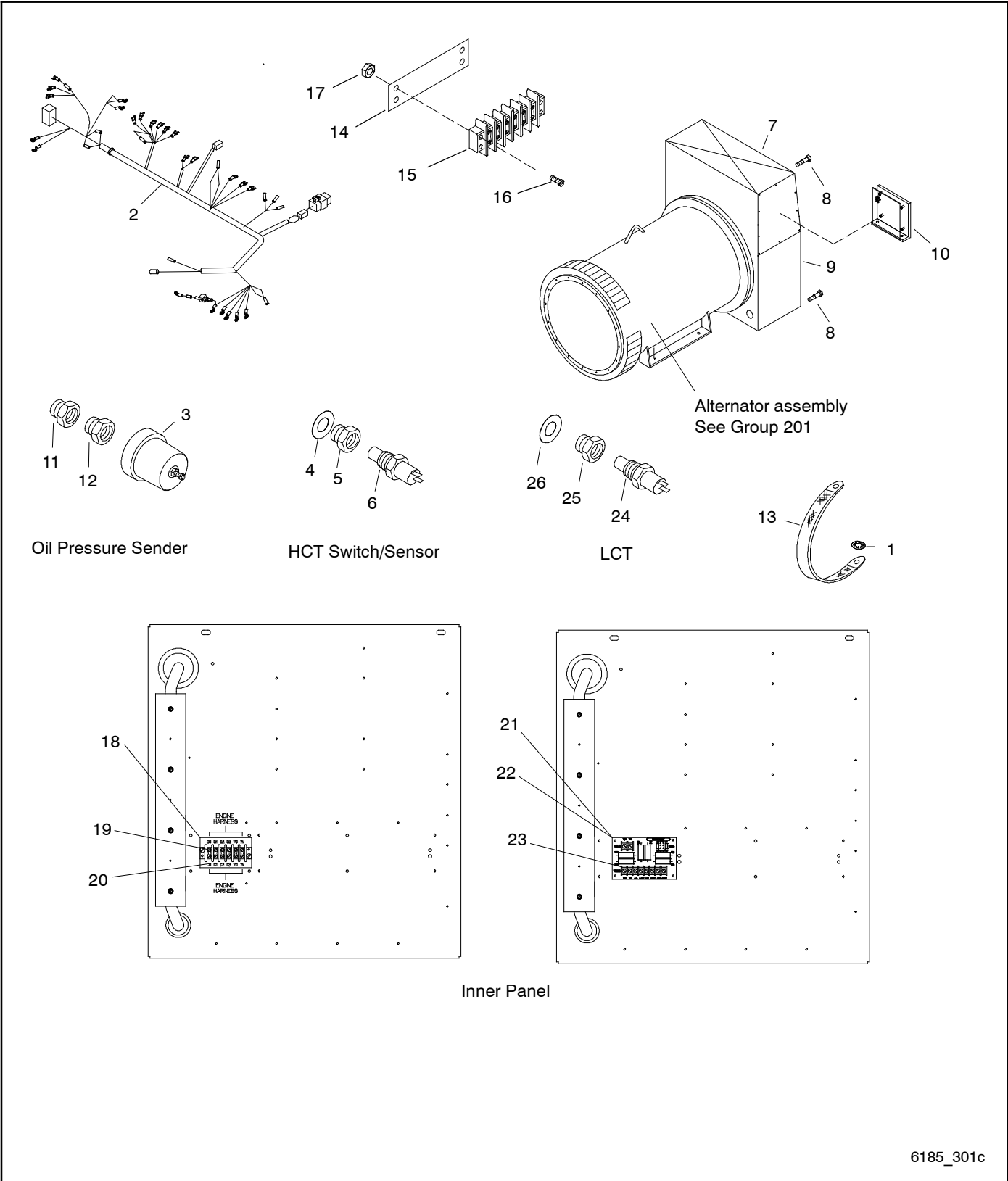
** Use the Kit number and chart below to identify the color suffix.
Add a suffix to this color dependant part number before ordering.

Module No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 4)
GM75930- 1- BLK	- BLK	GM75889- BLK
GM75930- 2- BLK	- BLK	GM75890- BLK
GM75930- 3- BLK	- BLK	GM75891- BLK

Notes

Group 301: Control and Harness

350/400 kW



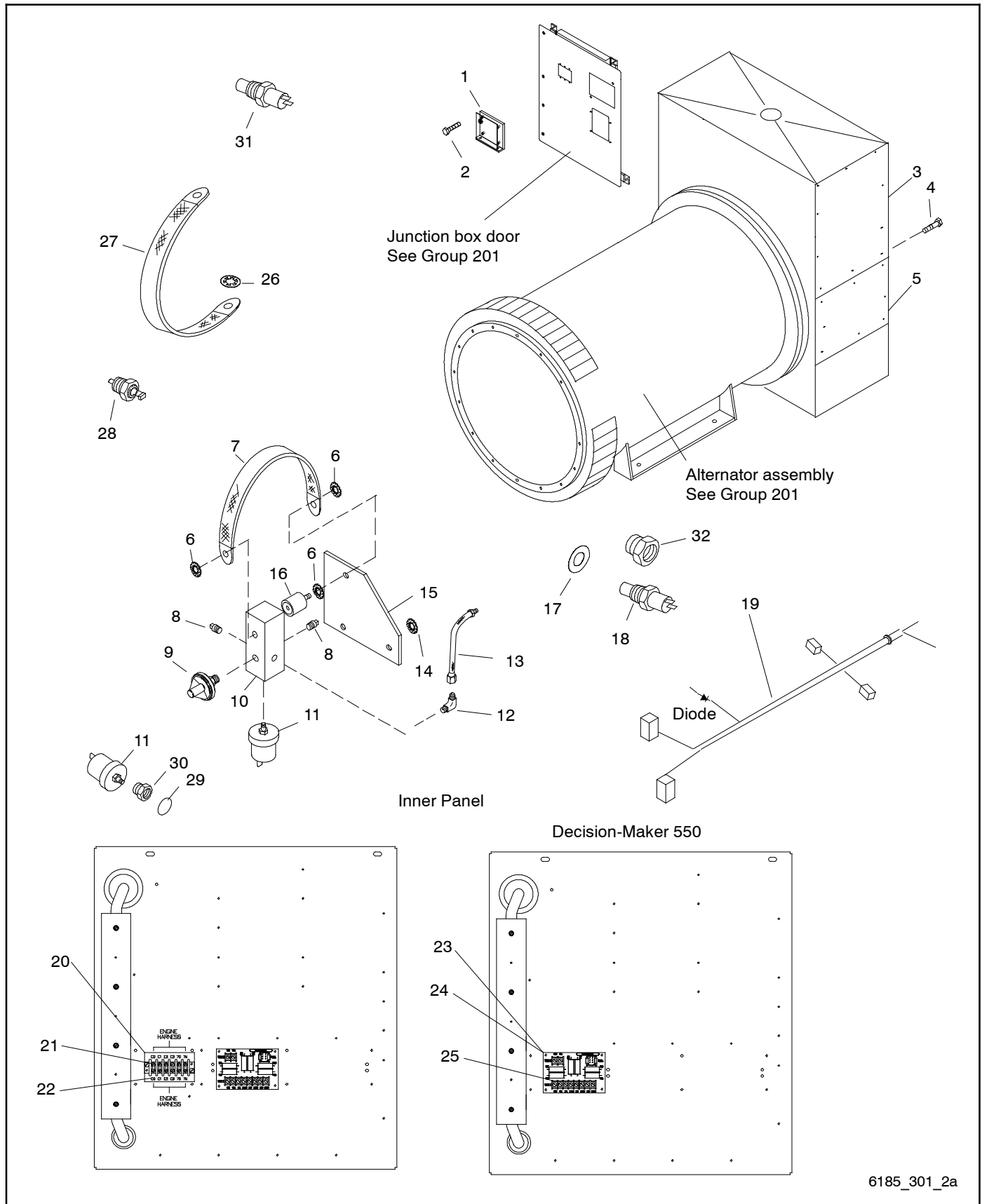
Group 301: Control and Harness

350/400 kW

Item	Part Number	Description	Quantity								
			Module Number								
			Non-550 Controller						500 Controller		
			GM25465-MA1	GM25465-MA2	GM25465-MA3	GM25465-MA4	GM38414-MA1	GM38414-MA2	GM25825-MA1	GM25825-MA2	GM38415-MA1
1	X-22-14	Washer, lock, 0.326 ID x 0.883 in. OD	1	1	1	1	1	1	1	1	1
2	GM24849	Harness, engine	1	1							
2	GM47409	Harness, engine			1	1					
2	GM24850	Harness, engine							1	1	
2	GM38455	Harness, engine					1				
2	GM38456	Harness, engine									1
2	GM40753	Harness, engine						1			
3	343473	Sender, oil pressure	1	1	1	1	1	1			
4	X-6427-8	Washer, copper	1	1	1	1	1	1			
6	GM25422	Switch, sensor	1	1	1	1	1				
6	GM38523	Sender, temperature						1			
7	328896-BLK	Cover, top back	1		1				1		
7	328897-BLK	Cover, top back		1		1				1	
7	361184-BLK	Panel, junction box					1	1			1
8	X-6217-10	Screw, hex flange machine	13	13	13	13	22	22	13	13	22
9	328899-BLK	Cover, louvered	1		1				1		
9	328900-BLK	Cover, louvered		1		1				1	
9	361826-BLK	Panel, junction box					1	1			1
10	GM11718	PCB assembly, Marathon excitation interface							1	1	1
11	225127	Adapter, bushing	1	1	1	1	1	1			
12	D-228	Bushing, reducing, 1/8 x 3/8 in. NPT	1	1	1	1	1	1			
13	287363	Strap, ground, 8 in.	1	1	1	1	1	1	1	1	1
14	299090	Marker, strip	1	1	1	1			1	1	
15	295314	Terminal block	1	1	1	1			1	1	
16	M7985A-04020-20	Screw, pan head machine	2	2	2	2			2	2	
17	M934-04-50	Nut, hex, 4 mm	2	2	2	2			2	2	
18	295314	Terminal block					1	1			
19	255080	Marker, strip					1	1			
20	X-49-6	Screw, pan head, 6-32 x 3/4					2	2			
21	GM13980	PCB assembly, CT burden resistor									1
22	X-70-12	Nut, hex machine screw, 8-32									4
23	X-712-9	Spacer, 0.25 OD, .5 in.									4
24	GM51705	Switch, low water temp.				1		1	1	1	1
25	X-202-41	Bushing, reducer 1/2 x 3/4 in. NPT				1		1	1	1	1
26	GM10025	Plug, freeze				1		1	1	1	1

Group 301: Control and Harness, continued

450-600 kW



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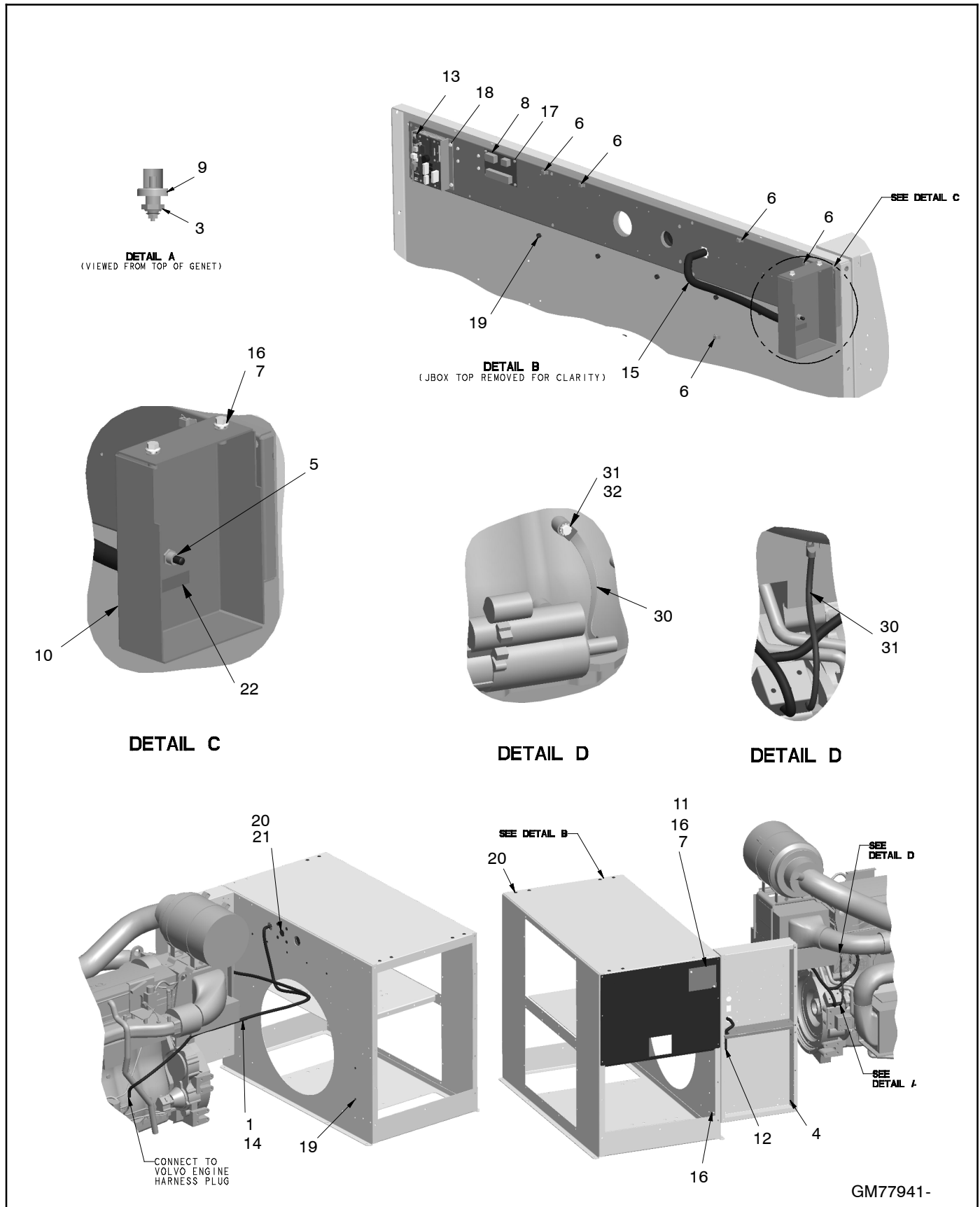
Group 301: Control and Harness, continued

450- 600 kW

Item	Part Number	Description	Quantity							
			Module Number							
			550 Controller			Non-500 Controller				
			GM25491-MA1	GM38419-MA1	GM59270-MA1	GM24871-MA1	GM37633-MA1	GM39461-MA1	GM59312-MA1	
1	GM11718	PCB assembly, Marathon excitation interface	1	1	1					
2	M965A-06012-20	Screw, pan head machine	4	4	4					
3	361184-BLK	Panel, J-box front	1	1	1	1	1	1	1	
4	X-6217-10	Screw, hex flange machine	22	22	22	22	22	22	22	
5	361826-BLK	Panel, junction	1	1	1	1	1	1	1	
6	X-22-12	Washer, lock, 0.262 ID x 0.743 in. OD				3				
7	223033	Strap, ground, 5 in.				1				
8	X-75-4	Plug, pipe, 1/8 in. NPT				2				
9	328309	Switch assembly, pressure (LOP)				1				
10	267548	Block, oil gauge				1				
11	343473	Sender, oil pressure				1	1			
12	X-447-10	Elbow, oil line, 90 deg. + vibra seal				1				
13	270727	Fuel line, flexible				1				
14	X-22-16	Washer, lock, 0.326 ID x 0.883 in. OD				1				
15	GM24875	Bracket, manifold				1				
16	259632	Bumper				1				
17	X-6427-8	Washer, copper				1				
18	GM31045-2	Switch/sensor (coolant temp. sender)	1							
18	GM25422	Switch/sensor (HCT)				1				
18	274988	Sender, coolant temp.					1			
19	GM24838	Harness, engine	1							
19	GM24837	Harness, engine				1				
19	GM37373	Harness, engine		1	1		1			
19	GM37374	Harness, engine								
19	GM49814	Harness, engine						1	1	
20	255080	Marker, strip				1	1	1	1	
21	295314	Terminal block				1	1	1	1	
22	X-49-6	Screw, cross recess pan head machine				2	2	2	2	
23	X-70-12	Nut, hex machine screw, 8-32	4	4	4					
24	X-712-9	Spacer, 0.25 OD, 0.5 in.	4	4	4					
25	GM13980	PCB assembly, CT burden resistor	1	1	1					
26	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	1	1		1	1	1	1	
26	M6797A-12-80	Washer, lock			1					
27	266581	Strap, ground, 8 in.	1			1				
27	X-6046-10	Strap, ground, 11 in.		1			1	1		
27	GM21085	Strap, ground, 16 in.							1	
27	X-545-165	Cable, Battery			1					
28	GM16788	Sensor, oil pressure	1							
29	365498	O-ring					1			
30	365220	Adapter, bushing					1			
31	255264	Switch, low water temp.		1	1		1	1	1	
31	GM37421	Plug, freeze (not shown)		1	1		1	1	1	
32	GM38866	Adapter, bushing					1			
33	X-545-160	Cable, battery (alternator pos. connection to battery pos. connect.)	1			1	1			
34	238915	Boot	1			1				

Group 301: Control and Harness, continued

450-600 kW



Group 301: Control and Harness, continued

Item	Part Number	Description	Quantity Module											
			GM77941-MA1	GM77941-MA2	GM77955-MA1	GM77955-MA2	GM77955-MA3	GM77955-MA4	GM104398-MA1	GM104398-MA2	GM105024-MA2	GM105024-MA3	GM110959-MA2	GM110960-MA3
1	GM77978	Harness, A/C Control Box	1	1					1	1			1	
3	226717	Sender, water	1	1					1	1			1	
3	255264	Switch, Low Water Temp.			1	1	1	1						1
4	324861	Coupling, black plastic	12	12	12	12	12	12	12	12	12	12	12	12
5	345327	Switch, pushbutton	1	1	1	1	1	1	1	1			1	1
6	361567	Base, tie wrap snapin	5	5	5	5	5	5	5	5	5	5	5	5
7	GM11040-7	Insert, Threaded (M6 x 1.0 Hex)	4	4	4	4	4	4	4	4				
8	GM13980	PCB Assy CT Burden Resistor	1	1	1	1	1	1	1	1	1	1	1	1
9	GM37421	Plug, Freeze	1	1	1	1	1	1	1	1	1	1	1	1
10	GM77901	Bracket, Mtg (Diagnostic)	1	1	1	1	1	1	1	1			1	1
11	GM77909	Cover, Diagnostic	1	1	1	1	1	1	1	1			1	1
12	GM77980	Harness, Control Box 500-600 kW	1	1					1	1			1	
12	GM77982	Harness, Control Box 500-600 kW			1	1	1							
12	GM79874	Harness, Control Box 500- 600 kW				1		1						1
12	GM114916	Harness, APM603, Pedestal, Volvo									1	1		
13	GM79677	Board, Assy Marathon Interface	1	1	1	1	1	1	1	1			1	1
13	GM88453	Board, Assy 4D Activator									1	1		
14	GM79872	Harness, Engine 500-600 Volvo	1	1	1	1	1	1	1	1				
14	GM110260	Harness, Engine 500-600 kW Volvo									1	1	1	1
15	GM79873	Harness, Diagnostic 500-600 kW Volvo	1	1	1	1	1	1	1	1			1	1
16	M6921-06016-60	Screw, Hex Flnge M6x16mm fly thrd	10	10	10	10	10	10	10	10				
16	GM78761-1	Screw, Sheetmetal									6	6	8	8
17	M7985A-04010-20	Screw, Pan Head Machined	4	4	4	4	4	4	4	4	4	4	4	4
18	X-67-156	Screw, Tapping	4	4	4	4	4	4	4	4	4	4	4	4
19	X-301-34	Plug,button	7	7	7	7	7	7	7	7	7	7	7	7
20	X-301-47	Plug, Button	10	10	10	10	10	10	10	10	10	10	10	10
21	X-301-48	Plug, Button	1	1	1	1	1	1	1	1	1	1	1	1
22	X-6333-11	Decal, Marker	1	1	1	1	1	1	1	1			1	1
30	X- 545- 165	Cable, Battery		1			1	1		1	1		1	1
31	M6797A- 12- 80	Washer, Lock		1			1	1		1	1		1	1
32	X- 75- 10	Plug, Pipe 3/8in. NPT (not shown)									1	1		

Group 701: Literature

Item	Part Number	Description	Quantity								
			Variation Number								
			1	7	8	9	10	13	17	273	276
1	TP-5374	Warranty, 1-Year Limited, Industrial	1	1	1	1	1	1	1	1	1
2	TP-5578	O/I/S/M Marathon Alternator Magna Max DVR	1	1	1	1	1	1	1	1	1
3	TP-6356	S/M Controllers, 20- 2800 kW, Industrial	1	1	1	1	1	1	1	1	1
3	TP-6373	S/M Pilot-Excited PM Alternator, 350- 2800 kW, Industrial	1	1	1	1	1	1	1	1	1
4	TP-5700	I/M 20- 3250 kW, Industrial	1	1	1	1	1	1	1	1	1
5	TP-6161	20- 2250kW, Industrial	1	1	1	1	1	1	1	1	1
5	TP-6750	O/M DEC6000 Controller				1				1	1
6	TP-6009	P/C Controllers, Industrial	1	1	1	1	1	1	1	1	1
6	TP-6746	P/C DEC 6000 & DPS System				1				1	1
7	TP-6200	O/M 20- 3250 kW, DecMaker550, Ver 2.10+	1	1	1	1	1	1	1	1	1
9	TP-6140	O/I/M Controller Setup and Application, Decision-Maker 550	1	1	1	1	1	1	1	1	1
10	TP-6185	P/C 350- 600REOZV/B/C	1	1	1	1	1	1	1	1	1
11	TP-6202	W/D 200- 500REOZV	1	1	1		1	1	1		
11	TP-6777	W/D 500REOZVB & 550/600REOZV, Ind.				1				1	1
12	TP-6199	O/I/S/M Marathon DVR2000E	1	1	1	1	1	1	1	1	1
13	TP-6203	O/M D200- 250/D500, 200- 250/500REOZV	1								
13	TP-6218	O/M Kohler D300- D500 Engine, 275- 500 kW		1	1	1	1	1	1		
13	TP-6662	O/M Volvo, TWD1643GE, 600 kW								1	1
14	TP-6191	P/C D500 Engine, 500REOZV	1								
14	TP-6190	P/C D300/D350/D400 12.1A65 Engine, 275- 400REOZV		1	1			1	1		
14	TP-6348	P/C D450/D500, 450/500REOZVB				1	1			1	1
15	TP-6207	S/M D500 16.1A65 Engine, 500REOZV	1								
15	TP-6206	S/M D300/D350/D400 12.1A65 Engine, 275- 400REOZV		1	1			1	1		
16	TP-6351	S/M D450/D500 Engine, 450/500REOZVB				1	1				
16	TP-6663	S/M Volvo, TWD1643GE, 600 kW								1	1
17	TP-6247	O/M Diagnostic Tool Package				1	1			1	1
18	TP-6747	O/I/M DPS System Installation and Setup				1				1	1

Item	Part Number	Description	Quantity		
			Variation Number		
			23	24	25
1	TP-5374	Warranty, 1-Year Limited, Industrial	1	1	1
2	TP-5578	O/I/S/M Marathon Alternator Magna Max DVR	1	1	1
3	TP-6356	S/M Controllers, 20- 2800 kW, Industrial	1	1	1
3	TP-6373	S/M Pilot-Excited PM Alternator, 350- 2800 kW, Industrial	1	1	1
4	TP-5700	I/M 20- 3250 kW, Industrial	1	1	1
5	TP-6694	O/M APM402/DEC 3000 Controller	1	1	1
5	TP-6750	O/M DEC6000 Controller	1	1	1
6	TP-6746	P/C DEC 6000 & DPS System	1	1	1
6	TP-6780	P/C DEC 550 Controller (J- Box Panel Mt)	1	1	1
6	TP-6781	P/C APM402/DEC 3000 Controller	1	1	1
7	TP-6200	O/M 20- 3250 kW, DecMaker550, Ver 2.10+	1	1	1
9	TP-6140	O/I/M Controller Setup and Application, Decision-Maker 550	1	1	1
10	TP-6185	P/C 350- 600REOZV/B/C	1	1	1
11	TP-6777	W/D 500REOZVB & 550/600REOZV, Ind.	1	1	1
13	TP-6662	O/M Volvo, TWD1643GE, 600 kW	1	1	1
14	TP-6348	P/C D450/D500, 450/500REOZVB	1	1	1
16	TP-6663	S/M Volvo, TWD1643GE, 600 kW	1	1	1
17	TP-6247	O/M Diagnostic Tool Pkg, 275- 600REOZV/B/C	1	1	1
18	TP-6747	O/I/M DPS System Installation and Setup	1	1	1

Kit List

This section lists the part numbers of modules/kits not listed in the group parts lists. Refer to the generator set nameplate or the list below to identify the module/kit number installed on your generator set. See the sections following this page for the parts list of the module/kit.

	350/400 kW	450/500 kW	500 kW	550/600 kW
Cooling Systems				
Heater, block				
90- 120 V	GM24963-KA1	—	—	—
190- 208 V	GM24963-KA2	GM37370-KA1	GM25561-KA1	GM59311-KA1
190- 208 V		GM79186-KA1		GM79187-KA1
210- 240 V	GM24963-KA3	GM37370-KA2	GM25561-KA2	GM59311-KA2
210- 240 V		GM79186-KA2		GM79187-KA2
380- 480 V	GM24963-KA4	GM37370-KA3	GM25561-KA3	GM59311-KA3
380- 480 V		GM79186-KA3		GM79187-KA3
Duct flange, radiator	GM23644-KA1	GM38343-KA1	GM25830-KA1	GM60621-KA1
Electrical System				
Battery, 2/12 V, 925CCA, Wet	324588	324588	324588	324588

Touch-Up Paint

Gloss and textured paint is available from Aftermarket Parts.

Description	Part Number
Paint, Gloss KCB, 12oz spray can	GM71383
Paint, Gloss KCB, 1 gallon can	GM71387
Paint, Textured KCB, 12oz spray can	GM82834
Paint, Textured KCB, 1 gallon can	GM82835
Paint, Textured Black, 12 oz spray can	GM82836
Paint, Tank touch up	GM82837

Cooling System Kits

Qty.	Description	Part No.
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Block Heater, 90- 120 V		GM24963-KA1
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Block, heater, 2500 W, 120 V (includes items *)	GM20133
1	*Block heater service element	GM29477
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM38834
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	361358
1	O-ring	365500
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13
2	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-1
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant, 29 in.	X-6367-12
1	Hose, coolant, 26 in.	X-6367-6
4	Screw, slotted hex head machine	X-97-13

Block Heater, 190- 208 V		GM24963-KA2
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Block, heater, 2500 W, 208 V (includes items *)	GM20134
1	*Block heater service element	GM29478
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM38834
1	Tag, hang block heater not reconnectable	GM39752
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Adapter bushing	361358
1	O-ring	365500
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13
2	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-1
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant, 29 in.	X-6367-12
1	Hose, coolant, 26 in.	X-6367-6
4	Screw, slotted hex head machine	X-97-13

Qty.	Description	Part No.
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Block Heater, 210- 240 V		GM24963-KA3
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Heater, block 240 V (includes items *)	GM20135
1	*Block heater service element	GM29474
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM38834
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	361358
1	O-ring	365500
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13
2	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-1
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant, 29 in.	X-6367-12
1	Hose, coolant, 26 in.	X-6367-6
4	Screw, slotted hex head machine	X-97-13

Block Heater, 380- 480 V		GM24963-KA4
1	Box, block heater control	354316
1	Label, wiring diagram	354328
1	Heater, block 480 V (includes items *)	GM20136
1	*Block heater service element	GM29479
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM38834
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	361358
1	O-ring	365500
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13
2	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-1
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant, 29 in.	X-6367-12
1	Hose, coolant, 26 in.	X-6367-6
4	Screw, slotted hex head machine	X-97-13

Cooling System Kits

Qty.	Description	Part No.
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Block Heater, 190-208 V		GM25561-KA1
1	Heater, block, weatherproof, 208 V (includes items *)	GM19667
1	*Block heater service element	GM29480
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
3	Elbow, street, 45 deg. x 1/2 in. NPT	227642
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	Bracket, block heater	GM38834
1	Adapter, bushing	361286
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Bushing, adapter	GM22380
1	O-ring, 26.7 mm ID	GM24573
2	O-ring, 41.0 mm ID	GM24576
1	Adapter, bushing	GM28443
1	Tag, hang block heater not reconnectable	GM39752
1	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 4.00 in.	X-209-18
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-3
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-10
1	Hose, coolant, 35 in.	X-6367-11
1	Hose, coolant, 40 in.	X-6367-7
4	Screw, slotted hex washer head, machine	X-97-13

Block Heater, 210-240 V		GM25561-KA2
1	Heater, block, weatherproof, 240 V	GM19668
1	*Block heater service element	GM29481
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
3	Elbow, street, 45 deg. x 1/2 in. NPT	227642
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	Bracket, block heater	GM38834
1	Adapter, bushing	361286
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Bushing, adapter	GM22380
1	O-ring, 26.7 mm ID	GM24573
2	O-ring, 41.0 mm ID	GM24576
1	Adapter, bushing	GM28443
1	Tag, hang block heater not reconnectable	GM39752
1	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 4.00 in.	X-209-18
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-3
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-10
1	Hose, coolant, 35 in.	X-6367-11
1	Hose, coolant, 40 in.	X-6367-7
4	Screw, slotted hex washer head, machine	X-97-13

Qty.	Description	Part No.
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Block Heater, 380-480 V		GM25561-KA3
1	Heater, block, weatherproof, 480 V	GM19669
1	*Block heater service element	GM29482
1	*Thermostat	GM29529
1	Strap, ground, 5 in.	223033
3	Elbow, street, 45 deg. x 1/2 in. NPT	227642
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Thermostat, block heater	279813
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	Bracket, block heater	GM38834
1	Adapter, bushing	361286
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Bushing, adapter	GM22380
1	O-ring, 26.7 mm ID	GM24573
2	O-ring, 41.0 mm ID	GM24576
1	Adapter, bushing	GM28443
1	Tag, hang block heater not reconnectable	GM39752
1	Pipe, 1/2 in. NPT x 3.00 in.	X-209-11
1	Pipe, 1/2 in. NPT x 4.00 in.	X-209-18
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-3
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-10
1	Hose, coolant, 35 in.	X-6367-11
1	Hose, coolant, 40 in.	X-6367-7
4	Screw, slotted hex washer head, machine	X-97-13

Block Heater, 190-208 V		GM37370-KA1
1	Block, heater, 4000 W, 208 V (includes items *)	GM19667
1	*Block heater service element	GM29480
1	*Thermostat	GM29529
1	Box, block heater control	354316
1	Label, wiring diagram	354328
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	GM23320
4	Gasket, washer	297001
1	O-ring	365499
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM51263
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Plug, freeze	GM37422
1	Adapter bushing	GM40116
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
2	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Elbow, pipe, 45 deg. x 1/2 in. NPT	X-225-7
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street	227642
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 46 in.	X-6367-8
4	Screw, slotted hex head machine	X-97-13
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow, street, 90 deg. x 1/2 in. NPTF	X-211-1
1	Connector, hose + vibra seal	X-582-15
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Tag, hang block heater not reconnectable	GM39752

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 210-240 V

GM37370-KA2

1	Block, heater, 4000 W, 240 V (includes items *)	GM19668
1	*Block heater service element	GM29481
1	*Thermostat	GM29529
1	Box, block heater control	354316
1	Label, wiring diagram	354328
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	GM23320
4	Gasket, washer	297001
1	O-ring	365499
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM51263
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Plug, freeze	GM37422
1	Adapter bushing	GM40116
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
2	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Elbow, pipe, 45 deg. x 1/2 in. NPT	X-225-7
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street	227642
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 46 in.	X-6367-8
4	Screw, slotted hex head machine	X-97-13
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow,street, 90 deg. x 1/2 in. NPTF	X-211-1
1	Connector, hose + vibra seal	X-582-15
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Tag, hang block heater not reconnectable	GM39752

Qty.	Description	Part No.
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Block Heater, 380/480 V

GM37370-KA3

1	Block, heater, 4000 W, 480 V (includes items *)	GM19669
1	*Block heater service element	GM29482
1	Box, block heater control	354316
1	Label, wiring diagram	354328
1	Strap, ground, 5 in.	223033
4	Bumper	GM38784-2
1	Tag, hang	279047
1	Tag, instruction	279280
1	Thermostat, block heater	GM23320
4	Gasket, washer	297001
1	O-ring	365499
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Bracket, block heater	GM51263
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Plug, freeze	GM37422
1	Adapter bushing	GM40116
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
2	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Elbow, pipe, 45 deg. x 1/2 in. NPT	X-225-7
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, street	227642
4	Washer, lock, 0.262 ID x 0.469 in. OD	X-22-11
8	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 46 in.	X-6367-8
4	Screw, slotted hex head machine	X-97-13
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow,street, 90 deg. x 1/2 in. NPTF	X-211-1
1	Connector, hose + vibra seal	X-582-15
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Tag, hang block heater not reconnectable	GM39752

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 190- 208 V		GM59311-KA1
1	Block, heater, 4000 W, 208 V (includes items *)	GM19667
1	*Block heater service element	GM29480
1	*Thermostat	GM29529
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Strap, ground, 5 in.	223033
1	Tag, hang	279047
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	O-ring	GM16112
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Thermostat assembly	GM24738
8	Bumper	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow,street, 90 deg. x 1/2 in. NPTF	X-211-1
16	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Connector, hose + vibra seal	X-582-15
1	Hose, coolant 44 in.	X-6367-1
1	Hose, coolant 52 in.	X-6367-2
4	Screw, slotted hex head machine	X-97-13

Block Heater, 210- 240 V		GM59311-KA2
1	Block, heater, 4000 W, 240 V (includes items *)	GM19668
1	*Block heater service element	GM29481
1	*Thermostat	GM29529
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Strap, ground, 5 in.	223033
1	Tag, hang	279047
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	O-ring	GM16112
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Thermostat assembly	GM24738
8	Bumper	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow,street, 90 deg. x 1/2 in. NPTF	X-211-1
16	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Connector, hose + vibra seal	X-582-15
1	Hose, coolant 44 in.	X-6367-1
1	Hose, coolant 52 in.	X-6367-2
4	Screw, slotted hex head machine	X-97-13

Qty.	Description	Part No.
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Block Heater, 380- 480 V		GM59311-KA3
1	Block, heater, 4000 W, 480 V (includes items *)	GM19669
1	*Block heater service element	GM29482
1	Elbow, street, 90 deg. x 1 in. NPTF	151385
1	Strap, ground, 5 in.	223033
1	Tag, hang	279047
4	Gasket, washer	297001
1	Box, block heater control	354316
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	Label, wiring diagram	354328
1	O-ring	GM16112
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Thermostat assembly	GM24738
8	Bumper	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow,street, 90 deg. x 1/2 in. NPTF	X-211-1
16	Washer, lock, 0.262 ID x 0.743 in. OD	X-22-12
2	Washer, lock, 0.391 ID x 0.975 in. OD	X-22-14
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Connector, hose + vibra seal	X-582-15
1	Hose, coolant 44 in.	X-6367-1
1	Hose, coolant 52 in.	X-6367-2
4	Screw, slotted hex head machine	X-97-13

Block Heater, 4000W, 208V, 1Ph		GM79186-KA1
1	Block, heater (208 V, 4000W)	GM79182
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM82984
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe (1/2"npt x 5.50") brass	X-209-25
2	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-1
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 40 in.	X-6367-7

Block Heater, 4000W, 240V, 1Ph		GM79186-KA2
1	Block, heater (240 V, 4000W)	GM79183
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM82984
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe (1/2"npt x 5.50") brass	X-209-25
2	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-1
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 40 in.	X-6367-7

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 4000W, 480V, 1Ph

1	Block, heater (480 V, 4000W)	GM79184
2	Valve, shutoff, 1/2-14 NPT	GM19670
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM82984
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe 3/8 in. NPT x 1.5 in.	X-204-8
1	Pipe (1/2"npt x 5.50") brass	X-209-25
2	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5
1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-1
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant	X-6367-14
1	Hose, coolant 40 in.	X-6367-7

Block Heater, 4000W, 208V, 1Ph

1	Block, heater (208 V, 4000W)	GM79182
1	Tag, hang	279047
2	Valve, shutoff, 1/2-14 NPT	GM19670
4	Vibromount	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe (3/8"npt x 4.50")	X-204-21
2	Pipe, 1/2 in. NPT x 1.19 in.	X-209-2
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow, pipe (45 deg x 1/2"npt)	X-225-7
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant 40 in.	X-6367-7
1	Hose, coolant 46 in.	X-6367-8

Block Heater, 4000W, 240V, 1Ph

1	Block, heater (240 V, 4000W)	GM79183
1	Tag, hang	279047
2	Valve, shutoff, 1/2-14 NPT	GM19670
4	Vibromount	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe (3/8"npt x 4.50")	X-204-21
2	Pipe, 1/2 in. NPT x 1.19 in.	X-209-2
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow, pipe (45 deg x 1/2"npt)	X-225-7
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant 40 in.	X-6367-7
1	Hose, coolant 46 in.	X-6367-8

GM79186-KA3

GM79187-KA1

GM79187-KA2

Qty.	Description	Part No.
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Block Heater, 4000W, 480V, 1Ph

1	Block, heater (480 V, 4000W)	GM79184
1	Tag, hang	279047
2	Valve, shutoff, 1/2-14 NPT	GM19670
4	Vibromount	GM38784-2
1	Tag, hang block heater not reconnectable	GM39752
1	Adapter bushing	GM40116
1	Washer, sealing	GM42443
1	Bracket, block heater	GM64627
1	Plate, block heater	GM66740
1	Tee, pipe 3/8 x 3/8 x 1/2 in. NPT	X-203-14
1	Pipe (3/8"npt x 4.50")	X-204-21
2	Pipe, 1/2 in. NPT x 1.19 in.	X-209-2
1	Pipe, 1/2 in. NPT x 5.50 in., brass	X-209-25
1	Elbow, pipe (45 deg x 1/2"npt)	X-225-7
4	Clamp, hose, 0.69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-7
1	Hose, coolant 40 in.	X-6367-7
1	Hose, coolant 46 in.	X-6367-8

GM79187-KA3

Duct Flange, Radiator

2	Frame, air duct, sides	GM23645
2	Frame, air duct, top/bottom	GM23646

GM23644-KA1

Duct Flange, Radiator

2	Frame, air duct, sides	GM25831
2	Frame, air duct, top/bottom	GM25832

GM25830-KA1

Duct Flange, Radiator

2	Frame, air duct, sides	GM38344
2	Frame, air duct, top/bottom	GM38345

GM38343-KA1

Duct Flange, Radiator

2	Frame, air duct, sides	GM60619
2	Frame, air duct, top/bottom	GM60620

GM60621-KA1

Electrical System Kit

Qty.	Description	Part No.
Battery, 2/12 V, 925CCA, Wet		
2	Battery, Opt Duty 925CCA, GRP31 12 V Wet	GM106375

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	EPS	emergency power system	Inc.	incorporated
ccw.	counterclockwise	ER	emergency relay	ind.	industrial
CEC	Canadian Electrical Code	ES	engineering special, engineered special	int.	internal
cert.	certificate, certification, certified	ESD	electrostatic discharge	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.	power source	VAR	voltampere reactive
misc.	miscellaneous	RAM	radiator, radius	VDC	volts direct current
MJ	megajoule	RDO	random access memory	VFD	vacuum fluorescent display
mJ	millijoule	ref.	relay driver output	VGA	video graphics adapter
mm	millimeter	rem.	reference	VHF	very high frequency
mOhm, mΩ	milliohm	Res/Coml	remote	W	watt
MOhm, MΩ	megohm	RFI	Residential/Commercial	WCR	withstand and closing rating
MOV	metal oxide varistor	RH	radio frequency interference	w/	with
MPa	megapascal	RHM	round head	w/o	without
mpg	miles per gallon	rfly.	round head machine (screw)	wt.	weight
mph	miles per hour		relay	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.

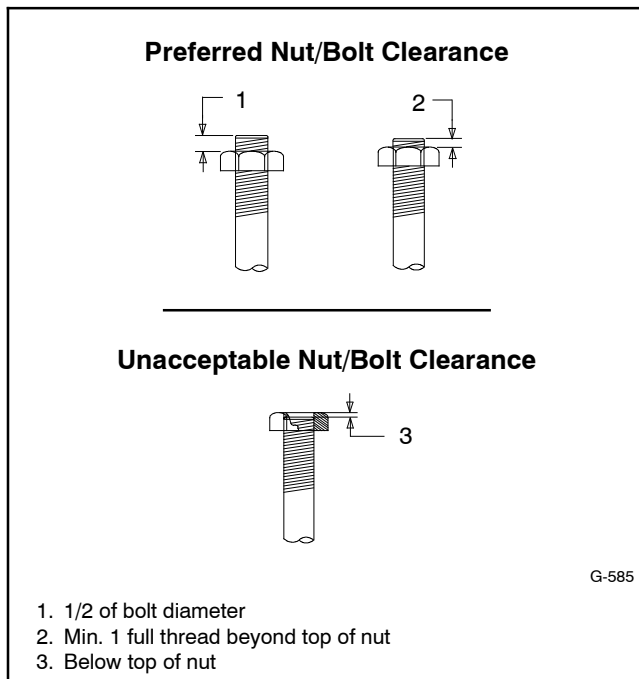


Figure 1 Acceptable Bolt Lengths

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.

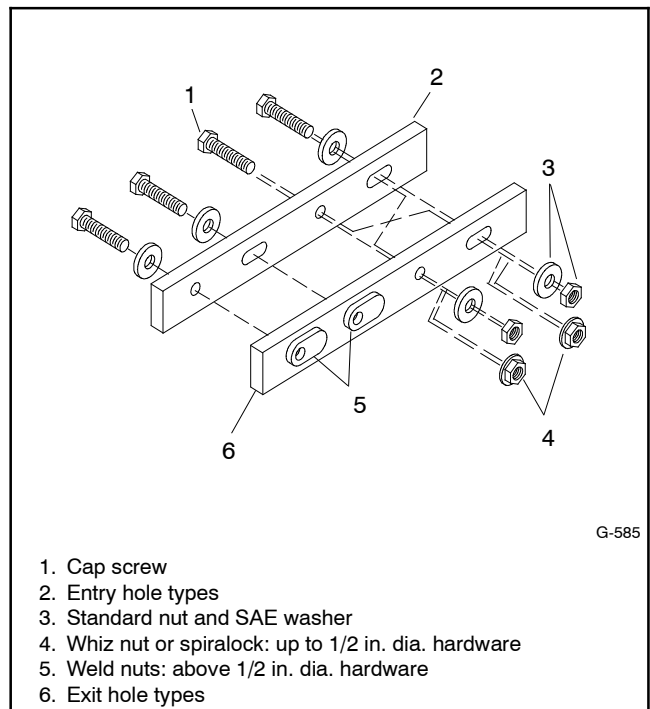


Figure 2 Acceptable Hardware Combinations

Appendix C General Torque Specifications

American Standard Fasteners Torque Specifications					
Size	Assembled into Cast Iron or Steel			Assembled into Aluminum	
	Grade 2		Grade 5		
8-32	2.0 Nm (18 in. lb.)		3.1 Nm (27 in. lb.)	-	
10-24	3.2 Nm (28 in. lb.)		4.9 Nm (43 in. lb.)	-	
10-32	3.6 Nm (32 in. lb.)		5.5 Nm (49 in. lb.)	-	
12-24	5.0 Nm (44 in. lb.)		7.7 Nm (68 in. lb.)	-	
1/4-20	7.6 Nm (67 in. lb.)		11.6 Nm (103 in. lb.)	16.5 Nm (146 in. lb.)	
1/4-28	8.6 Nm (76 in. lb.)		13.2 Nm (117 in. lb.)	18.8 Nm (166 in. lb.)	
5/16-18	15.5 Nm (137 in. lb.)		24.0 Nm (212 in. lb.)	33.9 Nm (300 in. lb.)	
5/16-24	17.1 Nm (151 in. lb.)		26.4 Nm (234 in. lb.)	40 Nm (28 ft. lb.)	
3/8-16	27 Nm (243 in. lb.)	42 Nm (31 ft. lb.)	60 Nm (44 ft. lb.)		
3/8-24	31 Nm (274 in. lb.)	47 Nm (35 ft. lb.)	68 Nm (50 ft. lb.)		
7/16-14	43 Nm (32 ft. lb.)	68 Nm (50 ft. lb.)	96 Nm (71 ft. lb.)		
7/16-20	49 Nm (36 ft. lb.)	76 Nm (56 ft. lb.)	107 Nm (79 ft. lb.)		
1/2-13	66 Nm (49 ft. lb.)	103 Nm (76 ft. lb.)	146 Nm (108 ft. lb.)		
1/2-20	75 Nm (55 ft. lb.)	117 Nm (86 ft. lb.)	164 Nm (121 ft. lb.)		
9/16-12	96 Nm (71 ft. lb.)	149 Nm (110 ft. lb.)	210 Nm (155 ft. lb.)		
9/16-18	107 Nm (79 ft. lb.)	165 Nm (122 ft. lb.)	235 Nm (173 ft. lb.)		
5/8-11	133 Nm (98 ft. lb.)	206 Nm (152 ft. lb.)	290 Nm (214 ft. lb.)		
5/8-18	150 Nm (111 ft. lb.)	232 Nm (171 ft. lb.)	328 Nm (242 ft. lb.)		
3/4-10	-	365 Nm (269 ft. lb.)	515 Nm (380 ft. lb.)		
3/4-16	-	405 Nm (299 ft. lb.)	572 Nm (422 ft. lb.)		
1-8	-	881 Nm (650 ft. lb.)	1245 Nm (918 ft. lb.)		
1-12	-	961 Nm (709 ft. lb.)	1357 Nm (1001 ft. lb.)		

See Note 3

Metric Fasteners Torque Specifications, Measured in Nm (ft. lb.)					
Size (mm)	Assembled into Cast Iron or Steel				Assembled into Aluminum
	Grade 5.8	Grade 8.8	Grade 10.9	Grade 12.9	
Mxxx-04xxx-xx	1.9 (1.4)	2.9 (2.1)	4.3 (3.2)	4.3 (3.2)	
Mxxx-05xxx-xx	3.8 (2.8)	5.8 (4.3)	8.5 (6.3)	8.5 (6.3)	
Mxxx-06xxx-xx	6.5 (4.8)	10.4 (7.7)	14.7 (11)	17.6 (13)	
Mxxx-08xxx-xx	16 (12)	25 (17)	36 (26)	43 (31)	
Mxxx-08xxx-xxF	17 (13)	27 (20)	38 (28)	46 (34)	
Mxxx-10xxx-xx	31 (23)	50 (37)	70 (52)	85 (62)	
Mxxx-10xxx-xxF	33 (24)	53 (39)	74 (55)	89 (66)	
Mxxx-12xxx-xx	55 (40)	87 (64)	123 (91)	147 (109)	
Mxxx-12xxx-xxF	60 (44)	95 (70)	134 (99)	161 (119)	
Mxxx-14xxx-xx	87 (64)	135 (103)	196 (145)	236 (174)	
Mxxx-14xxx-xxF	94 (69)	151 (111)	212 (156)	254 (188)	
Mxxx-16xxx-xx	135 (100)	217 (160)	305 (225)	365 (270)	
Mxxx-16xxx-xxF	145 (107)	231 (171)	325 (240)	390 (288)	
Mxxx-18xxx-xx	187 (138)	299 (221)	421 (310)	505 (373)	
Mxxx-18xxx-xxF	210 (155)	336 (248)	473 (349)	567 (419)	
Mxxx-20xxx-xx	264 (195)	423 (312)	595 (439)	714 (526)	
Mxxx-20xxx-xxF	293 (216)	469 (346)	660 (487)	792 (584)	
Mxxx-22xxx-xx	360 (266)	576 (425)	811 (598)	973 (718)	
Mxxx-22xxx-xxF	396 (292)	633 (467)	890 (657)	1068 (788)	
Mxxx-24xxx-xx	457 (337)	731 (539)	1028 (758)	1233 (910)	
Mxxx-24xxx-xxF	498 (367)	797 (588)	1121 (827)	1345 (992)	
Mxxx-27xxx-xx	-	1072 (790)	1507 (1112)	1809 (1334)	
Mxxx-27xxx-xxF	-	1156 (853)	1626 (1199)	1952 (1439)	
Mxxx-30xxx-xx	-	1453 (1072)	2043 (1507)	2452 (1809)	

See Note 3

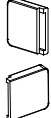
Notes:

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. At minimum, hardware threaded into aluminum must have two diameters of thread engagement. Hardware threaded into steel and cast iron must have 1.25 diameters of thread.
4. Torque values are calculated as equivalent stress loading on American hardware with an approximate preload of 75% of proof strength and a friction coefficient of 0.2.

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	

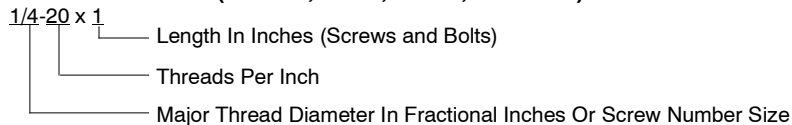
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	
Hose Clamp Covers	
Black, EPDM rubber used on worm gear clamps	

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

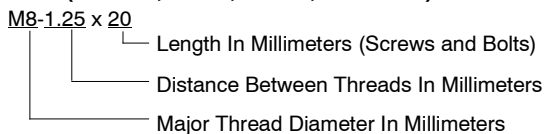
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

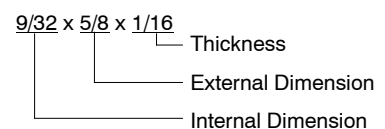
American Standard (Screws, Bolts, Studs, and Nuts)



Metric (Screws, Bolts, Studs, and Nuts)



Plain Washers



Lock Washers



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-465-16	1/4-20 x .75	X-6238-22	3/8-24 x 4.50				
X-465-18	1/4-20 x .88						
X-465-7	1/4-20 x 1.00	X-6024-5	7/16-14 x .75		X-6210-3	6-32	Whiz
X-465-8	1/4-20 x 1.25	X-6024-2	7/16-14 x 1.00		X-6210-4	8-32	Whiz
X-465-9	1/4-20 x 1.50	X-6024-8	7/16-14 x 1.25		X-6210-5	10-24	Whiz
X-465-10	1/4-20 x 1.75	X-6024-3	7/16-14 x 1.50		X-6210-1	10-32	Whiz
X-465-11	1/4-20 x 2.00	X-6024-4	7/16-14 x 2.00		X-6210-2	1/4-20	Spiralock
X-465-12	1/4-20 x 2.25	X-6024-11	7/16-14 x 2.75	X-6210-6	1/4-28	Spiralock	
X-465-14	1/4-20 x 2.75	X-6024-12	7/16-14 x 6.50	X-6210-7	5/16-18	Spiralock	
X-465-21	1/4-20 x 5.00			X-6210-8	5/16-24	Spiralock	
X-465-25	1/4-28 x .38	X-129-15	1/2-13 x .75	X-6210-9	3/8-16	Spiralock	
X-465-20	1/4-28 x 1.00	X-129-17	1/2-13 x 1.00	X-6210-10	3/8-24	Spiralock	
		X-129-18	1/2-13 x 1.25	X-6210-11	7/16-14	Spiralock	
		X-129-19	1/2-13 x 1.50	X-6210-12	1/2-13	Spiralock	
X-125-33	5/16-18 x .50	X-129-20	1/2-13 x 1.75	X-6210-15	7/16-20	Spiralock	
X-125-23	5/16-18 x .62	X-129-21	1/2-13 x 2.00	X-6210-14	1/2-20	Spiralock	
X-125-3	5/16-18 x .75	X-129-22	1/2-13 x 2.25				
X-125-31	5/16-18 x .88	X-129-23	1/2-13 x 2.50	X-85-3	5/8-11	Standard	
X-125-5	5/16-18 x 1.00	X-129-24	1/2-13 x 2.75	X-88-12	3/4-10	Standard	
X-125-24	5/16-18 x 1.25	X-129-25	1/2-13 x 3.00	X-89-2	1/2-20	Standard	
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-125-22	5/16-18 x 4.50	X-129-45	1/2-20 x 1.25				
X-125-32	5/16-18 x 5.00	X-129-52	1/2-20 x 1.50				
X-125-35	5/16-18 x 5.50						
X-125-36	5/16-18 x 6.00	X-6021-3	5/8-11 x 1.00				
X-125-40	5/16-18 x 6.50	X-6021-4	5/8-11 x 1.25				
		X-6021-2	5/8-11 x 1.50				
X-125-43	5/16-24 x 1.75	X-6021-1	5/8-11 x 1.75				
X-125-44	5/16-24 x 2.50	273049	5/8-11 x 2.00				
X-125-30	5/16-24 x .75	X-6021-5	5/8-11 x 2.25				
X-125-39	5/16-24 x 2.00	X-6021-6	5/8-11 x 2.50				
X-125-38	5/16-24 x 2.75	X-6021-7	5/8-11 x 2.75				
		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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