

Service Parts



Generator Sets

Models:

20DSJB
20-230DSEJB
80-200DSEJC

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

See MP-6009 Parts Catalog Industrial Controllers
for controller parts



Table of Contents

Introduction	3
Numbering System Significance	3
Illustrations	3
How to Find Part Numbers	3
Hardware References	4
Specification Number Index	5
Group 101: Air Intake	8
Standard Duty	8
Heavy Duty	10
Group 104: Cooling System	12
Group 105: Engine	22
20DSJB & 20-230DSEJB	22
80-180DSEJC	24
Group 107: Nameplate and Decals	27
Group 109: Skid and Plant Mounting	28
Group 201: Generator and Mounting	30
Permanent Magnet-Excited Alternators	30
Wound Field Alternators	36
Wound Field Alternators, U.L. 2200	42
Control and Harness	48
Permanent Magnet-Excited Alternators With Non-550 Controller	48
Permanent Magnet-Excited Alternators With 550 Controller	50
Wound Field Alternators Alternators With Non-550 Controller	52
Wound Field Alternators Alternators With 550 Controller	54
Group 701: Literature	56
Kit List	57
Cooling System Kits	58
Appendix A Abbreviations	67
Appendix B Common Hardware Application Guidelines	69
Appendix C General Torque Specifications	70
Appendix D Common Hardware Identification	71
Appendix E Common Hardware List	72

Introduction

This manual lists service replacement parts for generator set models as listed on the front cover.

Information in this publication represents data available at the time of print. The manufacturer of DDC/MTU products 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							
20DSJB								
GM19369-GA1S	*	*	1	1	*	*	†	133
GM19369-GA2S	*	*	2	1	*	*	†	133
20DSEJB								
GM19369-GA3S	*	*	3	1	*	*	†	135
GM19369-GA4S	*	*	4	1	*	*	†	135
GM19369-GA9S	*	*	35	1	*	*	†	133
30DSEJB								
GM19369-GA5S	*	*	3	1	*	*	†	137
GM19369-GA6S	*	*	4	1	*	*	†	137
GM19369-GA10S	*	*	35	1	*	*	†	133
40DSEJB								
GM19369-GA7S	*	*	3	1	*	*	†	139
GM19369-GA8S	*	*	4	1	*	*	†	139
GM19369-GA11S	*	*	35	1	*	*	†	133
50DSEJB								
GM21199-GA1S	*	*	17	3	*	*	†	157
GM21199-GA2S	*	*	18	3	*	*	†	157
GM21199-GA3S	*	*	19	3	*	*	†	157
GM21199-GA4S	*	*	20	3	*	*	†	157
GM21199-GA15S	*	*	36	3	*	*	†	205
GM21199-GA16S	*	*	37	3	*	*	†	205

- * 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 MP-6009 P/C Controllers for controller parts lists.

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
Spec No.	Variation Number							
60DSEJB								
GM21199-GA5S	*	*	17	3	*	*	†	159
GM21199-GA6S	*	*	18	3	*	*	†	159
GM21199-GA7S	*	*	19	3	*	*	†	159
GM21199-GA8S	*	*	20	3	*	*	†	159
GM21199-GA13S	*	*	29	3	*	*	†	159
GM21199-GA14S	*	*	30	3	*	*	†	159
GM21199-GA17S	*	*	36	3	*	*	†	207
GM21199-GA18S	*	*	37	3	*	*	†	207
80DSEJB								
GM21199-GA9S	*	*	21	1	*	*	†	161
GM21199-GA10S	*	*	22	1	*	*	†	161
GM21199-GA11S	*	*	23	1	*	*	†	161
GM21199-GA12S	*	*	24	1	*	*	†	161
80DSEJC								
GM30990-GAS1	*	*	38	4	*	*	†	209
GM30990-GAS2	*	*	39	4	*	*	†	209
100DSEJB								
GM21528-GA1S	*	*	25	1	*	*	†	149
GM21528-GA2S	*	*	26	1	*	*	†	149
GM21528-GA3S	*	*	27	1	*	*	†	149
GM21528-GA4S	*	*	28	1	*	*	†	149
GM31029-GA1S	*	*	31	1	*	*	†	149
GM31029-GA2S	*	*	32	1	*	*	†	149
GM31029-GA3S	*	*	33	1	*	*	†	149
GM31029-GA4S	*	*	34	1	*	*	†	149
100DSEJC								
GM30990-GAS3	*	*	40	4	*	*	†	211
GM30990-GAS4	*	*	41	4	*	*	†	211

* 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 MP-6009 P/C Controllers for controller parts lists.

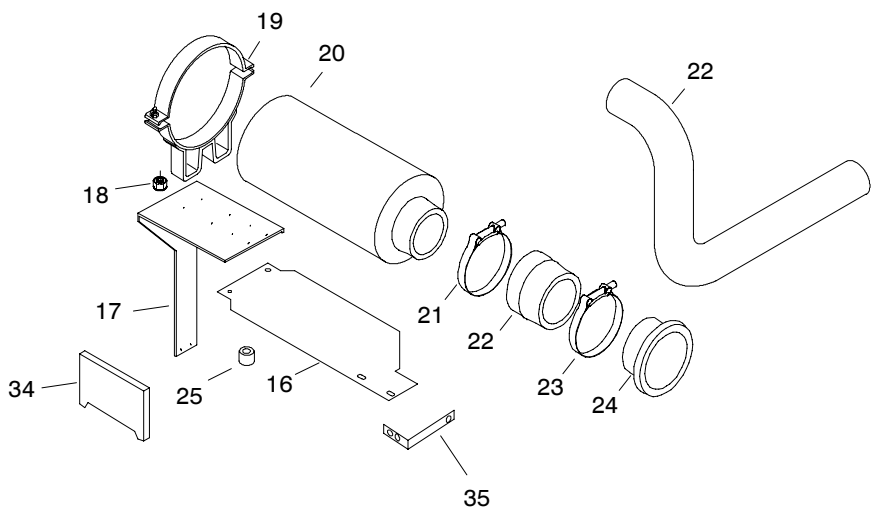
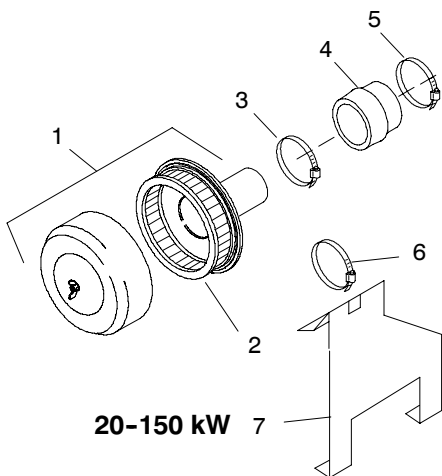
Specification Number Index

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							
125DSEJB								
GM21528-GA5S	*	*	25	1	*	*	†	151
GM21528-GA6S	*	*	26	1	*	*	†	151
GM21528-GA7S	*	*	27	1	*	*	†	151
GM21528-GA8S	*	*	28	1	*	*	†	151
GM31029-GA5S	*	*	31	1	*	*	†	149
GM31029-GA6S	*	*	32	1	*	*	†	149
GM31029-GA7S	*	*	33	1	*	*	†	149
GM31029-GA8S	*	*	34	1	*	*	†	149
135DSEJC								
GM31000-GA1S	*	*	42	4	*	*	†	213
GM31000-GA2S	*	*	43	4	*	*	†	213
150DSEJB								
GM20148-GA1S	*	*	5	1	*	*	†	147
GM20148-GA2S	*	*	6	1	*	*	†	147
GM20148-GA3S	*	*	7	1	*	*	†	147
GM20148-GA4S	*	*	8	1	*	*	†	147
150DSEJC								
GM31000-GA3S	*	*	44	4	*	*	†	215
GM31000-GA4S	*	*	45	4	*	*	†	215
180DSEJB								
GM19534-GA1S	*	*	9	1	*	*	†	141
GM19534-GA2S	*	*	10	1	*	*	†	141
GM19534-GA3S	*	*	11	1	*	*	†	141
GM19534-GA4S	*	*	12	1	*	*	†	141
180DSEJC								
GM31000-GA5S	*	*	46	4	*	*	†	217
GM31000-GA6S	*	*	47	4	*	*	†	217
200DSEJB								
GM19534-GA5S	*	*	13	2	*	*	†	143
GM19534-GA6S	*	*	14	2	*	*	†	143
200DSEJC								
GM39060-GA1S	*	*	48	2	*	*	†	243
230DSEJB								
GM19534-GA7S	*	*	15	2	*	*	†	145
GM19534-GA8S	*	*	16	2	*	*	†	145
GM19534-GA9S	*	*	13	2	*	*	†	145
GM19534-GA10S	*	*	14	2	*	*	†	145

- * 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 MP-6009 P/C Controllers for controller parts lists.

Group 101: Air Intake

Standard Duty



Group 101: Air Intake

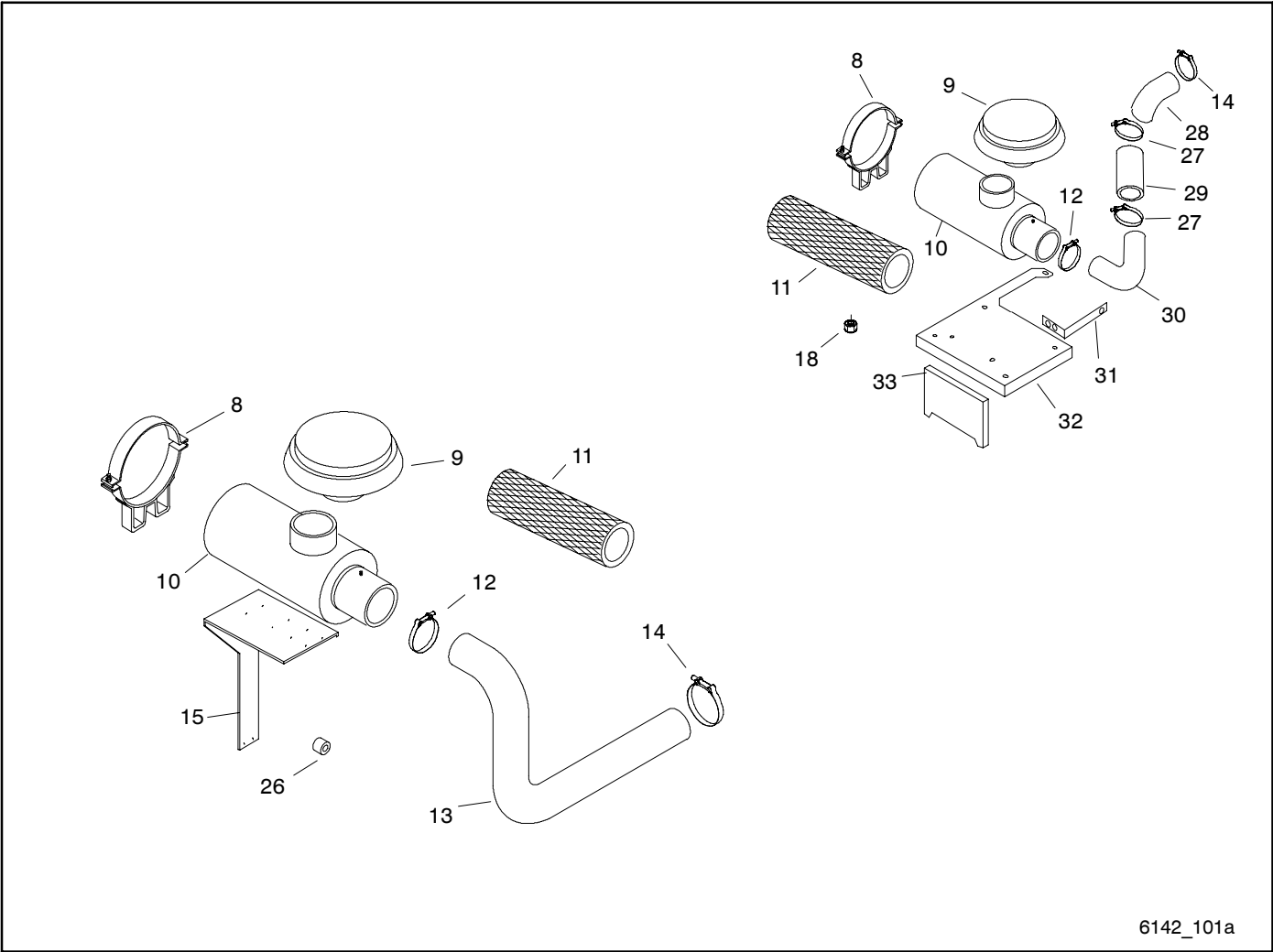
Standard Duty

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity							
			Module							
			GM19374-MA1	GM19374-MA2	GM19374-MA3	GM19539-MA1	GM20783-MA1	GM20783-MA2	GM30996-MA1	GM39064-MA1
1	A-253104	Air cleaner	1							
1	A-273699	Air cleaner, John Deere		1	1					
1	A-273700	Air cleaner, John Deere					1	1		
1	GM35762	Air cleaner							1	
2	253107	Element, air cleaner	1	1	1					
2	253108	Element, air cleaner					1	1	1	
3	X-426-1	Clamp, hose, 2.81/3.75 in.	1	1	1					
3	274545	Clamp, hose, 4.31/4.62 in.					1	1	1	
4	328006	Hose, reducer, 3.00 in. to 2.50 in. ID	1	1						
4	X-507-1	Hose, straight, 3 in. ID			1					
4	352335	Hose, reducer, 4.00 in. to 3.00 in. ID					1		1	
4	X-6350-1	Hose, radiator, straight, 4 in. ID						1		
5	X-426-1	Clamp, hose, 2.81/3.75 in.			1		1		1	
5	250081	Clamp, hose, 2.06/3 in.	1	1						
5	274545	Clamp, hose, 4.31/4.62 in.						1		
6	X-426-5	Clamp, hose, 3.56/4.5 in.					1	1	1	
7	352336	Bracket, mounting					1	1		
7	GM22483	Bracket, mounting		1						
7	GM36225	Bracket, mounting							1	
8	279380	Mount, air cleaner				2				
8	254012	Band, mounting					2			
16	GM11970	Shield, heat				1				
17	GM11452	Bracket, air cleaner				1				
17	GM39294	Bracket, air cleaner								1
18	M982-10-80	Nut, elastic stop				4				4
19	343218	Clamp				1				2
20	343219	Air cleaner, industrial				1				1
21	254013	Clamp, hose, 6.25/6.56 in.				1				
21	272960	Clamp, hose, 6.56/6.87 in.								1
22	343429	Hose, hump, 6.00 in. ID to 5.00 in. ID				1				
23	291562	Clamp, hose, 5.25/5.56 in.				1				
23	324555	Clamp, hose, 4.63/4.94 in.								1
24	GM11458	Insert, hose reducer, 5.00 in. to 4.00 in.				1				
25	X-400-210	Spacer, .406 ID x .625 OD x 2.344 in.				2				
34	GM39293	Bracket, air cleaner								1
35	GM39292	Bracket, air cleaner								1

Group 101: Air Intake

Heavy Duty



6142_101a

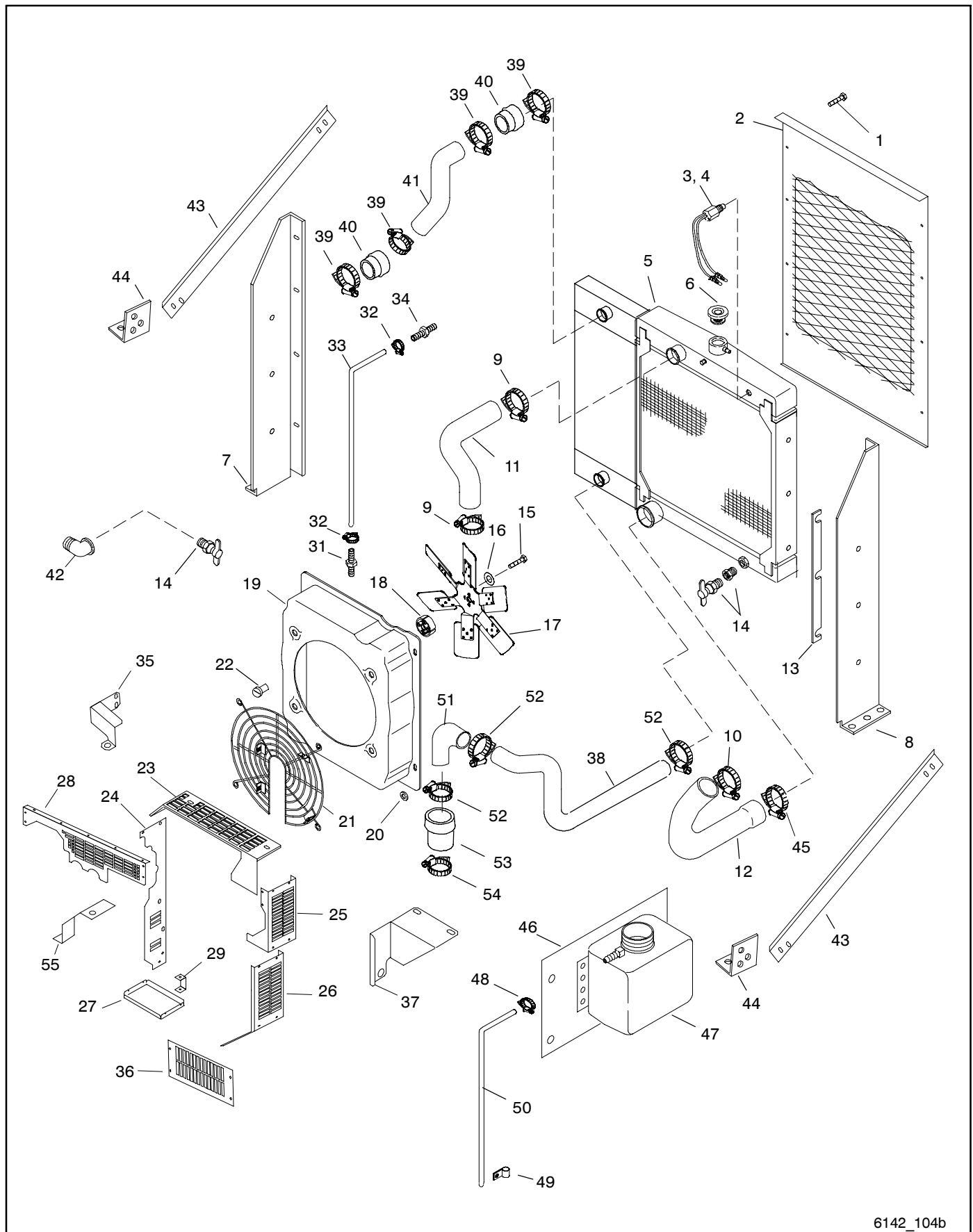
Group 101: Air Intake

Heavy Duty

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity							
			Module							
			GM19375-MA1	GM19375-MA2	GM19540-MA1	GM20784-MA1	GM21224-MA1	GM31008-MA1	GM31008-MA2	GM39065-MA1
8	279380	Mount, air cleaner		2			2			
8	254012	Band, mounting						2	2	2
8	290856	Mount, air cleaner				2				
9	253664	Cap	1	1			1			
9	254010	Cap, rain			1			1	1	1
9	254006	Cap, rain				1				
10	254004	Air cleaner			1			1	1	1
10	A-274721	Air cleaner	1	1			1			
10	A-324360	Air cleaner			1					
11	274726	Element, air cleaner	1	1			1			
11	274729	Element, air cleaner				1				
11	254477	Element, air cleaner			1			1	1	1
12	X-426-5	Clamp, hose, 3.56/4.5 in.	1	1						
12	272960	Clamp, hose, 6.56/6.87 in.			1			1	1	1
12	343049	Clamp, hose, 5.56/5.87 in.				1				
12	336229	Clamp, hose, 3.88/4.19 in.					1			
13	GM19837	Hose, molded	1							
13	GM19838	Hose, molded		1						
13	336227	Hose, molded air intake, 4.00 in. ID			1					
13	352339	Hose, molded, 3.00 in. ID				1				
13	336224	Hose, molded air intake, 3.00 in. ID					1			
13	GM39118	Hose, air intake								1
14	X-426-1	Clamp, hose, 2.81/3.75 in.	1							
14	X-426-2	Clamp, hose, 2.31/3.25 in.		1						
14	324555	Clamp, hose, 4.63/4.94 in.			1					1
14	274824	Clamp, hose, 3.68/4 in.				1				
14	324342	Clamp, hose, 3.43/3.75 in.					1	1		
14	254087	Clamp, hose, 4.44/4.75 in.							1	
15	GM19841	Bracket, mounting	1	1						
15	336244	Bracket, air cleaner			1					
15	GM16953	Bracket, mounting				1				
15	352534	Bracket, mounting					1			
18	M982-10-80	Nut, elastic stop			4					4
26	X-400-198	Spacer, .437 ID x .875 OD x .25 in.					1			
27	254087	Clamp, hose, 4.44/4.75 in.						2	2	
28	GM31007	Hose, air intake (H.D.)						1		
28	GM16619	Hose, air intake (H.D.)							1	
29	X-522-74	Tube, steel						1	1	
30	GM31006	Hose, air intake (H.D.)						1	1	
31	GM31002	Bracket, support HDAC						1	1	
31	GM39292	Bracket, air cleaner								1
32	GM31003	Bracket, mounting HDAC						1	1	
32	GM39294	Bracket, air cleaner								1
33	343173	Bracket, air cleaner support						1	1	
33	GM39293	Bracket, air cleaner								1

Group 104: Cooling System



6142_104b

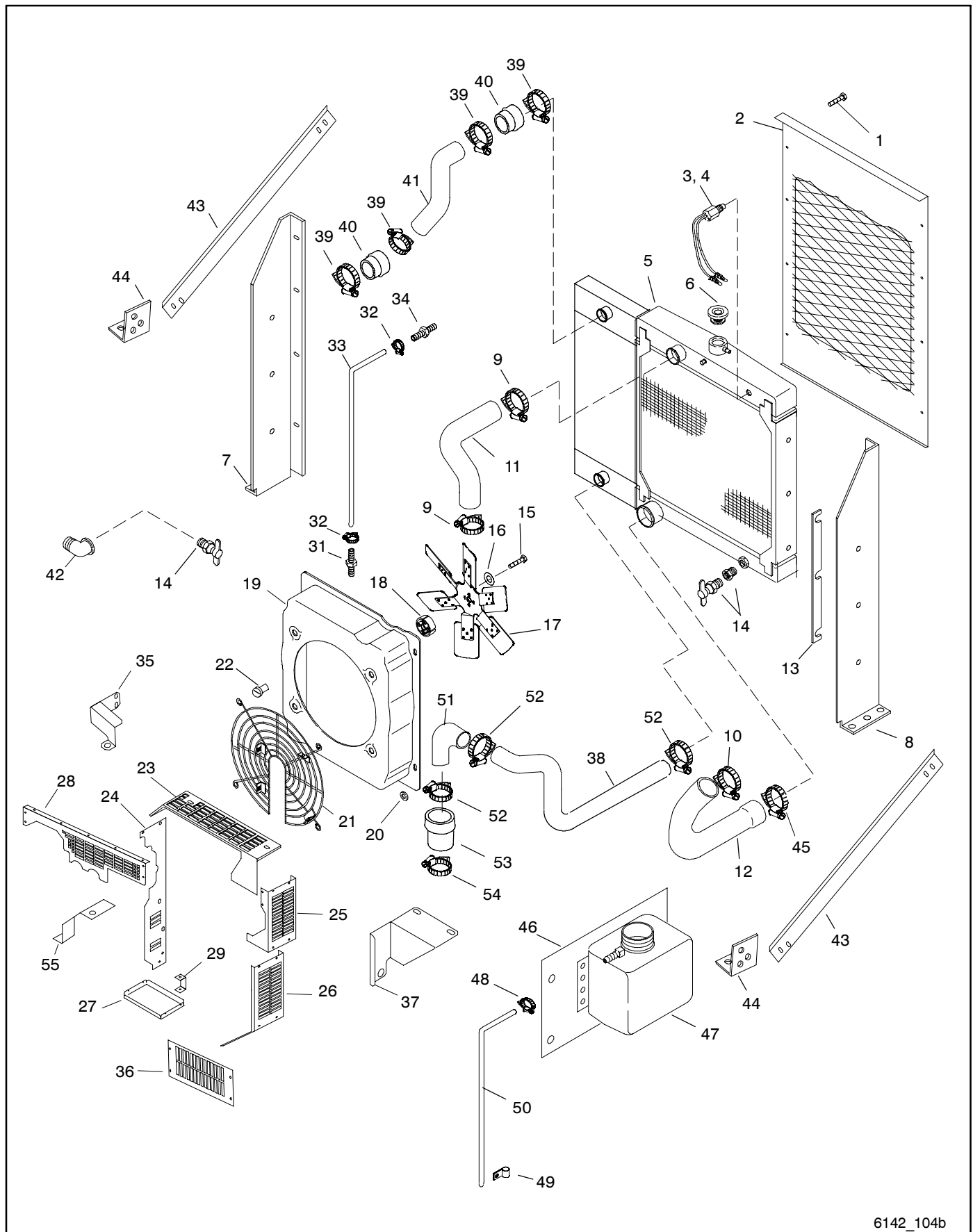
Group 104: Cooling System

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity														
			Module														
			GM19372-MA1	GM19537-MA1	GM19537-MA2	GM19827-MA1	GM20818-MA1	GM21202-MA1	GM21202-MA2	GM22243-MA1	GM30003-MA1	GM30004-MA1	GM30004-MA2	GM30005-MA1	GM37533-MA1	GM30006-MA1	GM30006-MA2
1	X-794-1	Screw, hex washer head, drill	10					10	10	10	10	10	10	10			
2	GM14100	Guard, radiator	1				1							1			
2	GM20049	Guard, radiator		1	1												
2	GM30406	Guard, radiator														1	1
2	GM20050	Guard, radiator				1											
2	GM14100	Guard, radiator						1	1				1	1			
2	GM13843	Guard, radiator								1							
3	365289	Sensor, low fluid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	X-6003-8	Conduit, convoluted		1	1	1	1	1		1	1	1	1	1	1	1	1
5	GM22415	Radiator assembly	1														
5	GM10988	Radiator assembly		1	1												
5	GM29699	Radiator assembly														1	1
5	GM19944	Radiator assembly				1											
5	GM20534	Radiator assembly (charger cooler)					1										
5	GM24430	Radiator assembly						1									
5	GM14096	Radiator assembly							1								
5	GM24868	Radiator assembly								1							
5	GM29696	Radiator assembly									1						
5	GM29697	Radiator assembly										1					
5	GM29698	Radiator assembly											1	1	1		
6	GM22997	Cap, radiator				1		1	1								
6	347715	Cap, radiator		1	1												
6	GM22998	Cap, radiator	1				1					1	1	1	1	1	1
6	GM28677	Cap, radiator								1							
7	GM17067	Support, radiator, left side	1					1	1	1							
7	GM20048	Support, radiator, left side		1	1	1	1										
7	GM29988	Support, radiator, left side										1	1	1	1		
7	GM29990	Support, radiator, left side														1	1
8	GM17066	Support, radiator, right side	1					1	1	1							
8	GM20047	Support, radiator, right side		1	1	1	1										
8	GM29987	Support, radiator, right side										1	1	1	1		
8	GM29989	Support, radiator, right side														1	1
9	250081	Clamp, hose, 2.06/3 in.						1	1	1		1	1				
9	X-426-1	Clamp, hose, 2.81/3.75 in.								1							
9	X-426-2	Clamp, hose, 2.31/3.25 in.		2	2	2										2	2
9	X-426-4	Clamp, hose, 1.31/2.25 in.	2														
9	X-426-6	Clamp, hose, 1.56/2.5 in.		2		2		2	2		2	2	2	2	2	2	2
9	X-426-16	Clamp, hose					2										
10	250081	Clamp, hose, 2.06/3 in.					1	1	1	1	1	1	1	1	1		
10	X-426-6	Clamp, hose, 1.56/2.5 in.	1														
10	X-426-16	Clamp, hose		1	1	1										1	1

Parts list continues on next page.

Group 104: Cooling System, continued



6142_104b

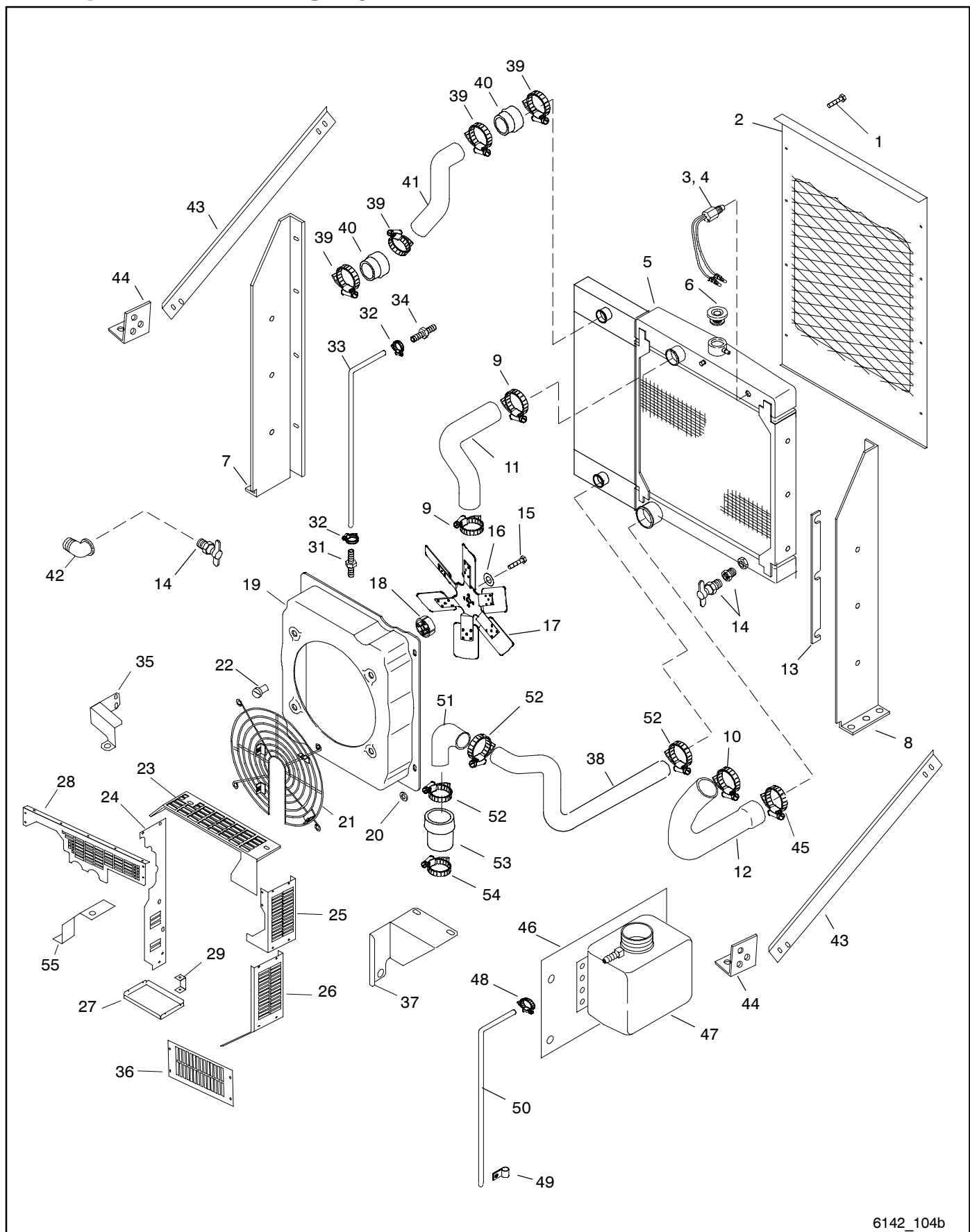
Group 104: Cooling System, continued

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity														
			Module														
			GM19372-MA1	GM19537-MA1	GM19537-MA2	GM19827-MA1	GM20818-MA1	GM21202-MA1	GM21202-MA2	GM22243-MA1	GM30003-MA1	GM30004-MA1	GM30004-MA2	GM30005-MA1	GM37533-MA1	GM30006-MA1	GM30006-MA2
11	336664	Hose, molded coolant, 2.50 in. ID		1	1												
11	GM19031	Hose, upper radiator, 38.0 mm ID	1														
11	GM20051	Hose, molded coolant, 2.50 in. ID				1											
11	GM20688	Hose, upper radiator					1										
11	GM20738	Hose, upper radiator						1	1			1	1				
11	GM29895	Hose, upper radiator												1	1		
11	GM21387	Hose, upper radiator, 44.5 mm ID								1							
11	GM29922	Hose, upper radiator									1						
11	GM29897	Hose, radiator														1	1
12	273418	Hose, lower radiator, 1.88 in. ID	1														
12	336878	Hose, lower radiator, 2.00 in. ID		1	1												
12	GM20052	Hose, lower radiator, 2.00 in. ID				1											
12	GM20687	Hose, lower radiator					1										
12	GM20739	Hose, lower radiator						1	1			1	1				
12	GM21388	Hose, lower radiator, 50.8 mm ID								1				1	1		
12	GM29923	Hose, lower radiator									1						
12	GM29898	Hose, lower radiator														1	1
13	273911	Spacer, radiator support	4								4						
13	324229	Spacer, radiator							2								
14	X-202-47	Bushing, reducing, 1/4 x 1/2 in. NPT		1	1	1	1			1				1	1		
14	X-256-3	Valve, drain, 1/4 in. NPT	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1
15	X-125-27	Screw, hex cap	4								4						
15	X-6238-40	Bolt, hex cap		6	6	6										6	6
15	M931-08130-60	Screw, hex cap								4				4	4		
16	X-801-3	Washer, hardened, .406 ID x .812 in. OD		6	6	6										6	6
16	X-801-4	Washer, hardened, .328 ID x .719 in. OD	4				4	4	4	4	4	4	4	4	4		
17	324045	Fan, pusher	1								1						
17	GM22261	Fan, pusher				1											
17	GM19383	Fan, pusher					1										
17	GM19943	Fan, pusher		1	1											1	
17	GM21245	Fan, pusher						1	1			1	1		1		
17	GM33912	Fan, pusher								1				1	1		
17	324706	Fan, pusher															1
18	222932	Spacer, fan, 1.63 in.	1					1	1		1	1	1				
18	336879	Spacer, fan, 3 in.		1	1	1										1	1
18	GM20545	Spacer, fan					1			1				1	1		
19	222953	Shroud, fan		1	1		1										
19	GM29800	Shroud, fan														1	1
19	324039	Shroud, fan	1														
19	343054	Shroud, fan				1											
19	324076	Shroud, fan						1	1			1	1				
19	276400	Shroud, fan								1							
19	324076	Shroud, fan									1						
19	GM29772	Shroud, fan												1	1		
20	X-25-73	Washer, plain, .266 ID x 1 in. OD	4	8	8			4	4		4	4	4			8	8
20	X-25-75	Washer, plain, .344 ID x .875 in. OD					8			4				4	4		
20	X-25-38	Washer, plain				8											
21	222958	Guard, wire fan	1														
21	336888	Guard, wire fan		1	1											1	1
21	GM22311	Guard, wire fan					1										
21	GM11418	Guard, wire fan				1											
21	GM20740	Guard, wire fan						1	1			1	1				
21	GM29993	Guard, wire fan									1						
22	X-6365-1	Insert, threaded, 5/16-18 in.	4					4	4	4	4	4	4	4	4		
22	X-6365-2	Insert, threaded		6	6	6	6									6	6
23	GM19548	Guard, belt, top		1	1	1										1	1
23	GM19633	Guard, belt, top	1								1						
23	GM24199	Guard, top					1										
23	GM20826	Guard, top					1			1				1			
23	GM32512	Guard, belt, top													1		
23	GM22162	Guard, belt, top						1	1			1	1				

Parts list continues on next page.

Group 104: Cooling System, continued



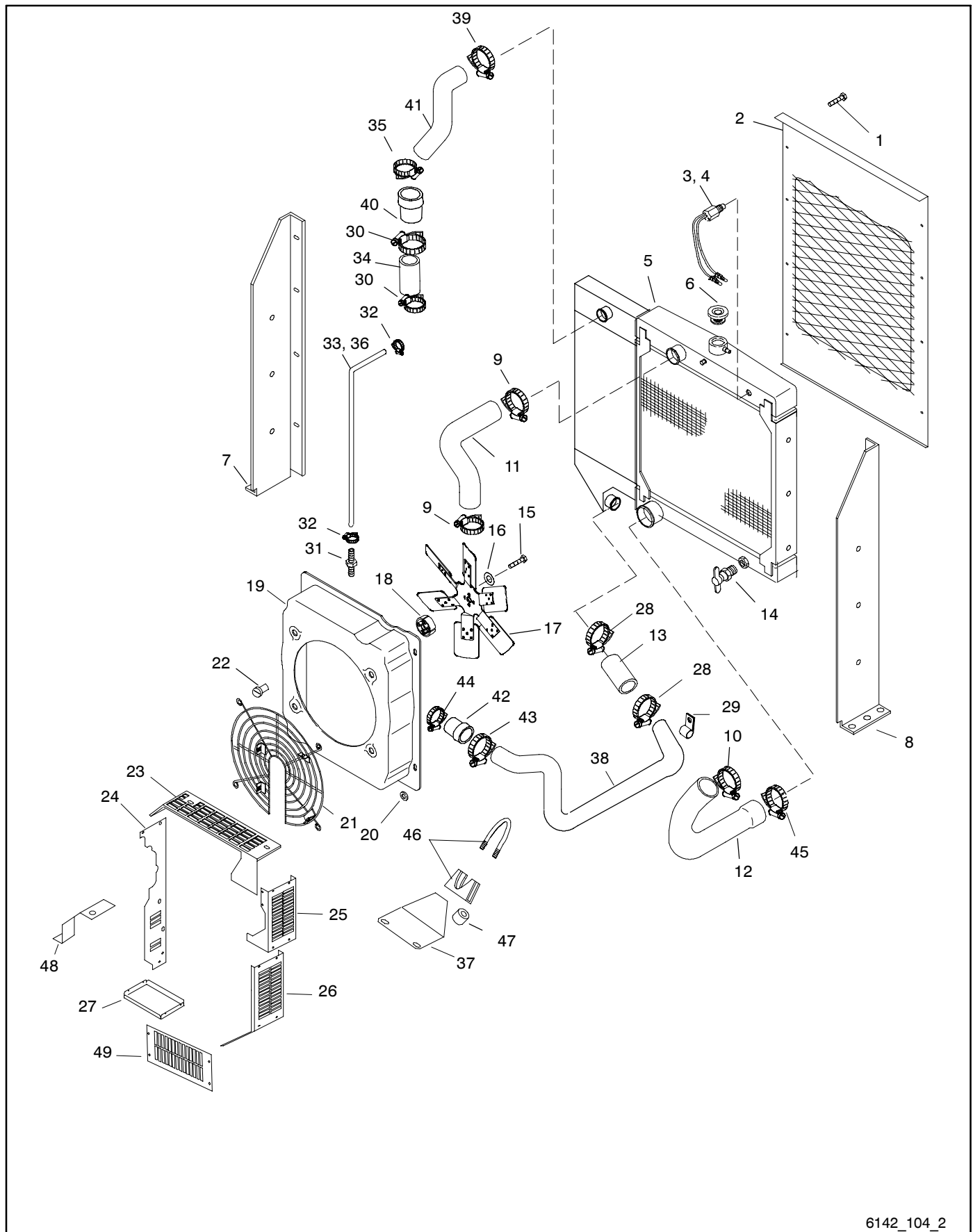
6142_104b

Group 104: Cooling System, continued

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity														
			Module														
			GM19372-MA1	GM19537-MA1	GM19537-MA2	GM19827-MA1	GM20818-MA1	GM21202-MA1	GM21202-MA2	GM22243-MA1	GM30003-MA1	GM30004-MA1	GM30004-MA2	GM30005-MA1	GM37533-MA1	GM30006-MA1	GM30006-MA2
24	GM19567	Guard, belt, left side		1	1	1										1	1
24	GM19632	Guard, belt, left side	1														
24	GM20827	Guard, left side					1			1			1				
24	GM32511	Guard, belt, left side													1		
24	GM22161	Guard, belt, left side						1	1				1	1			
25	GM19550	Guard, belt, right side		1	1	1										1	1
25	GM19630	Guard, belt, right side upper	1								1						
25	GM20825	Guard, belt, right side upper						1						1	1		
25	GM20828	Guard, right side middle						1						1			
25	GM32509	Guard, right side middle													1		
25	GM22160	Guard, belt, right side							1	1				1	1		
26	GM19552	Guard, belt, bottom		1	1	1										1	1
26	GM30964	Guard, belt, bottom															
26	GM32514	Guard, belt, bottom													1		
26	GM19631	Guard, belt, right side lower	1									1				1	
26	GM26179	Guard, belt, right side lower						1							1		
26	GM32510	Guard, belt, right side lower									1					1	
27	GM19634	Guard, belt, bottom	1									1					
27	GM20829	Guard, front lower									1				1	1	
27	GM22163	Guard, belt, bottom top							1	1			1	1			
28	GM19635	Guard, belt, back	1									1					
29	352384	Bracket, belt guard	1									1					
29	GM19553	Bracket, mounting, lower		1	1	1										1	1
29	GM21204	Bracket, belt guard mounting							1	1				1	1		
31	X-582-32	Connector, hose + vibraseal		1	1	1										1	1
32	X-426-9	Clamp, hose, .25/.70 in.		2	2	2										2	2
33	X-6359-7	Hose, rubber, straight, .25 in. ID		1	1	1											
33	X-6359-1	Hose, rubber, straight, .25 in. ID														1	1
34	X-652-3	Connector, hose + vibraseal		1	1	1						1				1	1
35	GM20560	Bracket		1	1	1						1				1	1
36	GM19551	Guard, belt, front		1	1	1						1				1	1
36	GM20824	Guard, belt, front						1									
37	GM19549	Bracket, mounting, top		1	1	1						1				1	1
38	GM20689	Hose, charge air cooler, 3 in.						1									
39	X-426-16	Clamp, hose						4									
40	GM20588	Hose, step						2									
41	GM20690	Tube, lower charge air cooler, 2.25 in.						1									
42	227521	Fitting, 45 deg. street elbow + vibraseal	1														
43	GM22461	Support, radiator			2											2	2
44	GM22462	Bracket, radiator support			2												
44	GM29994	Bracket, radiator support														2	2
45	X-426-6	Clamp, hose, 1.56/2.5 in.	1														
45	X-426-16	Clamp, hose 1.81/2.75 in.		1	1	1	1	1	1				1	1		1	1
45	250081	Clamp, hose									1	1			1	1	
46	GM24910	Bracket, overflow bottle mtg.									1						
47	GM24869	Bottle, overflow									1						
48	X-426-9	Clamp, hose, .25/.70 in.									2						
49	X-672-7	Clamp, insulated									1						
50	X-6371-3	Hose, rubber									1						
51	GM24870	Tube, exhaust elbow						1									
52	X-426-1	Clamp, hose, 2.81/3.75 in.						3									
53	GM24857	Hose, reducer, 3.00 in. to 2.00 in.						1									
54	X-426-16	Clamp, hose, 1.81/2.75 in.						1									
55	GM29504	Guard, battery chg. alternator						1			1				1		
55	GM32513	Guard, battery chg. alternator														1	

Group 104: Cooling System, continued



6142_104_2

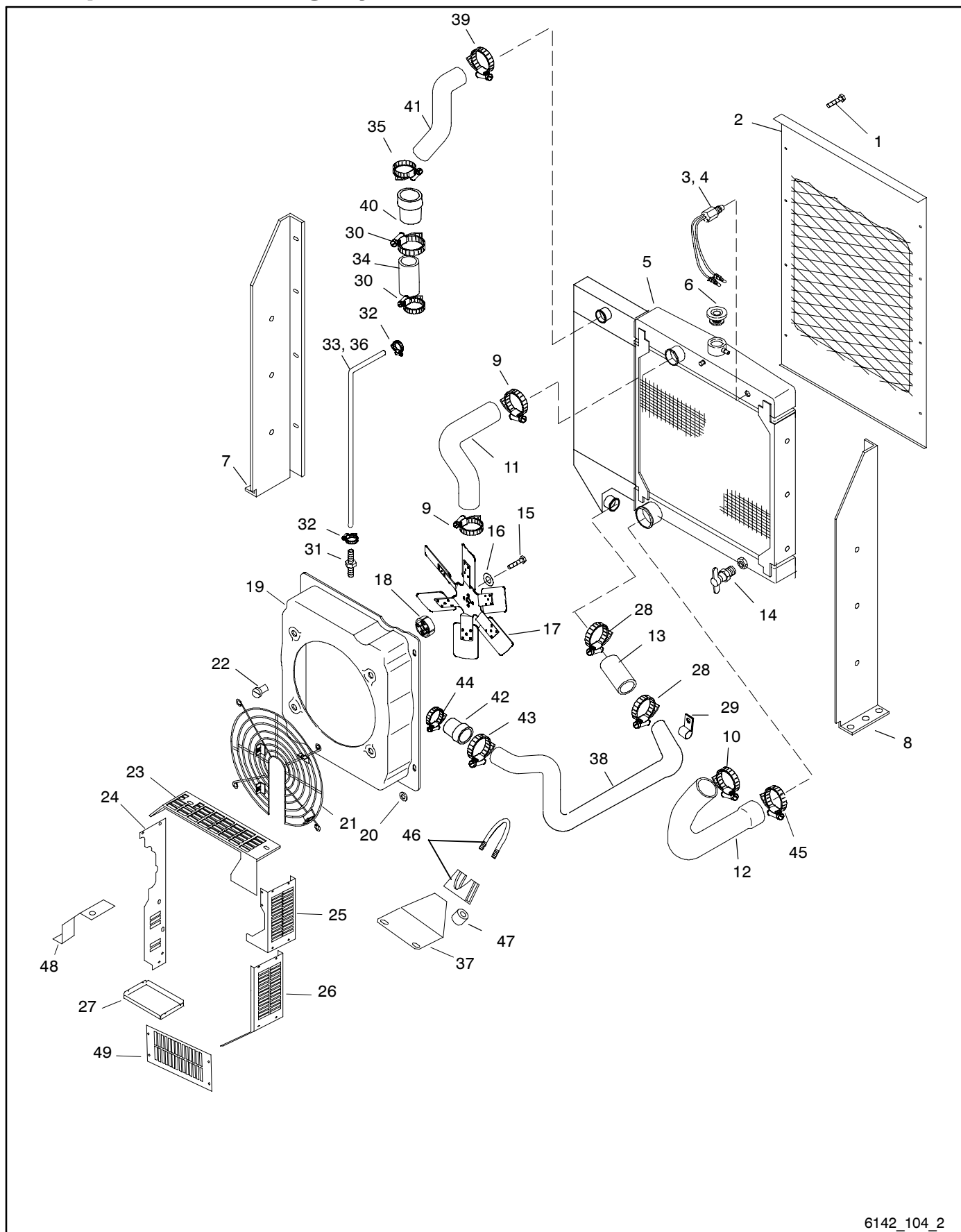
Group 104: Cooling System, continued

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity						
			Module						
			GM30992-MA1	GM31012-MA1	GM31012-MA2	GM37534-MA1	GM37535-MA1	GM37535-MA2	GM39062-MA1
1	X-794-1	Screw, hex washer head, drill	12						10
2	GM14100	Guard, radiator	1			1			
2	GM32060	Guard, radiator		1	1		1	1	
2	GM38873	Guard, radiator							1
3	365289	Sensor, low fluid	1	1	1	1	1	1	1
4	X-6003-8	Conduit, convoluted	1	1	1	1	1	1	1
5	GM30976	Radiator assembly	1			1			
5	GM31838	Radiator/CAC assembly		1			1		
5	GM31839	Radiator/CAC assembly			1			1	
5	GM39205	Radiator/CAC assembly							1
6	GM22998	Cap, radiator	1	1	1	1	1	1	1
7	GM29988	Support, radiator, left side	1			1			
7	GM29990	Support, radiator, left side		1	1		1	1	
7	GM39280	Support, radiator, left side							1
8	GM29987	Support, radiator, right side	1			1			
8	GM29989	Support, radiator, right side		1	1		1	1	
8	GM39279	Support, radiator, right side							1
9	X-426-6	Clamp, hose, 1.56/2.5 in.	2	2	2	2	2	2	2
10	X-426-16	Clamp, hose	1	1	1	1	1	1	1
11	GM29895	Hose, upper radiator	1			1			
11	GM32629	Hose, upper radiator		1	1		1	1	
11	GM39260	Hose, upper radiator							1
12	GM30980	Hose, lower radiator	1			1			
12	GM32044	Hose, lower radiator		1	1		1	1	
12	GM39261	Hose, lower radiator							1
13	X-6380-2	Hose	1			1			
13	X-6380-4	Hose		1	1		1	1	1
14	X-256-3	Valve, drain, 1/4 in. NPT	1	1	1	1	1	1	1
15	M931-08100-60	Screw, hex cap	4	4	4	4	4	4	
15	M931-08120-60	Screw, hex cap							4
16	X-801-4	Washer, hardened, .328 ID x .719 in. OD	4	4	4	4	4	4	4
17	GM33912	Fan, pusher	1			1			
17	GM19383	Fan, pusher		1	1		1	1	
17	GM39049	Fan, pusher							1
18	GM20545	Spacer, fan	1	1	1	1	1	1	
18	GM39311	Spacer, fan							1
19	GM29772	Shroud, fan	1			1			
19	222953	Shroud, fan		1	1		1	1	
19	343054	Shroud, fan							1
19	343422	Bracket, fan shroud (not shown)							2
20	X-25-75	Washer, plain, .344 ID x .875 in. OD	4	4	4	4	4	4	6
21	GM30963	Guard, wire fan	1			1			
21	GM22311	Guard, wire fan		1	1		1	1	
21	GM11418	Guard, wire fan							1
22	X-6365-2	Insert, threaded	4	4	4	4	4	4	6
23	GM24199	Guard, top	1	1	1	1	1	1	
23	GM20826	Guard, belt, top	1	1	1				
23	GM32512	Guard, belt, top				1	1	1	
23	GM39479	Guard, belt, top							1
23	GM39481	Bracket, support (not shown)							1
24	GM20827	Guard, belt, left side	1	1	1				
24	GM32511	Guard, belt, left side				1	1	1	
24	GM39478	Guard, belt, left side							1
24	GM39482	Bracket, support (not shown)							1
25	GM20825	Guard, belt, right side upper	1	1	1	1	1	1	
25	GM39475	Guard, belt, right side upper							1
25	GM20828	Guard, belt, right side middle	1	1	1				
25	GM32509	Guard, belt, right side middle				1	1	1	
25	GM39476	Guard, belt, right side middle							1
25	GM39483	Bracket, support (not shown)							1
26	GM26179	Guard, belt, right side lower	1	1	1				
26	GM32510	Guard, belt, right side lower				1	1	1	
26	GM39477	Guard, belt, right side lower							1

Parts list continues on next page.

Group 104: Cooling System, continued



6142_104_2

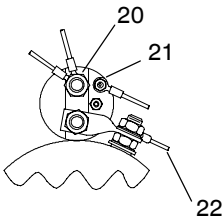
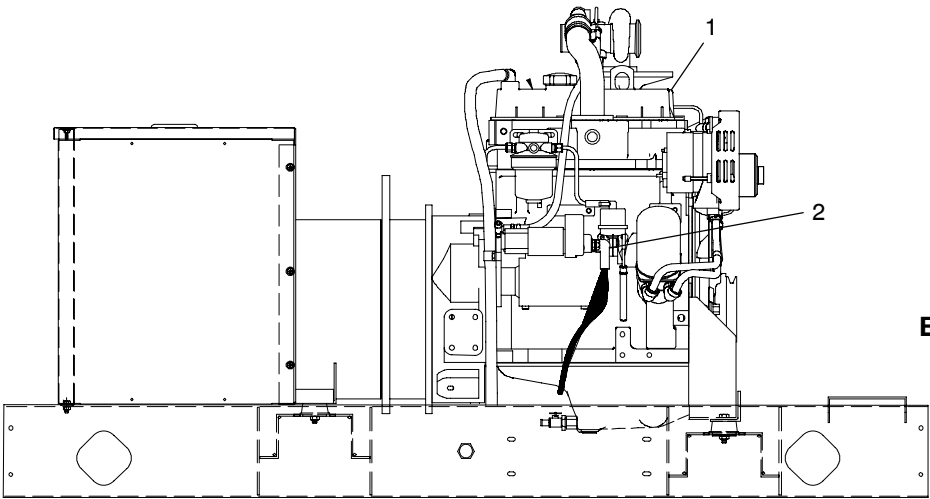
Group 104: Cooling System, continued

Find the installed module number on the generator set nameplate.

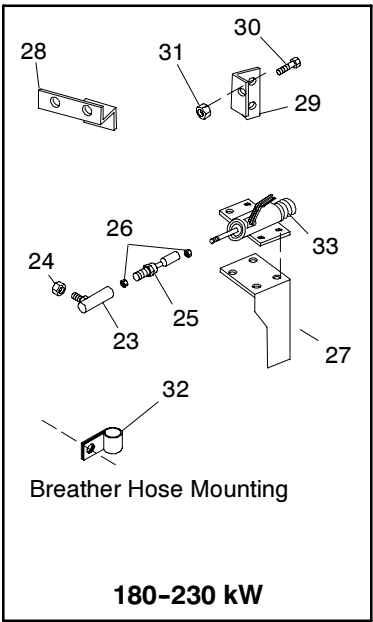
Item	Part Number	Description	Quantity						
			Module						
			GM30992-MA1	GM31012-MA1	GM31012-MA2	GM37534-MA1	GM37535-MA1	GM37535-MA2	GM39062-MA1
27	GM30964	Guard, belt, bottom	1						
27	GM32514	Guard, belt, bottom				1			
27	GM39480	Guard, belt, bottom							1
27	GM39484	Bracket, support (not shown)							1
28	250081	Clamp, hose	2			2			
28	X-426-2	Clamp, hose, 2.31/3.25 in.		2	2				
28	X-426-1	Clamp, hose, 2.81/3.75 in.					2	2	
28	324330	Clamp, hose, 2.94/3.25 in.							2
29	X-414-10	Clamp, non-insulated	1			1			
29	X-414-11	Clamp, non-insulated		1	1		1	1	1
30	X-426-6	Clamp, hose, 1.56/2.5 in.		2	2		2	2	
31	X-652-3	Connector, hose + vibraseal	1	1	1	1	1	1	1
32	X-426-9	Clamp, hose, .25/.70 in.	2	2	2	2	2	2	2
33	X-6359-17	Hose, rubber, straight, .25 in. ID	1	1	1	1	1	1	
33	X-6359-9	Hose, rubber, straight, .25 in. ID							1
34	X-6380-3	Hose		1	1		1	1	
35	X-426-16	Clamp, hose 1.81/2.75 in.	1			1			
35	X-426-1	Clamp, hose, 2.81/3.75 in.		1	1		1	1	1
36	X-582-32	Connector, hose + vibraseal	1	1	1	1	1	1	1
37	GM32630	Shield, heat	1	1	1	1	1	1	1
38	GM30982	Tube, turbo (CAC)	1			1			
38	GM32042	Tube, turbo		1	1		1	1	
38	GM39262	Tube, turbo							1
39	X-426-2	Clamp, hose, 2.31/3.25 in.	1			1			
39	X-426-1	Clamp, hose, 2.81/3.75 in.		1	1		1	1	1
40	GM32039	Adapter, intake hose		1	1		1	1	
41	GM30981	Hose, intake	1			1			
41	GM32038	Hose, intake		1	1		1	1	
41	GM39263	Hose, intake							1
42	GM30983	Hose, step	1			1			
42	GM24857	Hose, reducer, 3 in. to 2 in. ID		1	1		1	1	1
43	250081	Clamp, hose	1			1			
43	X-426-2	Clamp, hose, 2.31/3.25 in.		1	1		1	1	
43	324330	Clamp, hose, 2.94/3.25 in.							1
44	X-426-6	Clamp, hose, 1.56/2.5 in.	1	1	1	1	1	1	
44	249887	Clamp, hose, 2.25/2.56 in.							1
45	X-426-16	Clamp, hose	1	1	1	1	1	1	1
46	X-722-2	Clamp, muffler, 2.62 in.	1			1			
46	286283	Clamp, muffler, 3.12 in.		1	1		1	1	1
47	X-400-198	Spacer	2	2	2	2	2	2	2
48	GM29504	Guard, battery alternator	1	1	1				
48	GM32513	Guard, battery chg. alternator				1	1	1	1
49	GM20824	Guard, belt front		1	1				
49	GM36179	Guard, belt bottom					1	1	

Group 105: Engine

20DSJB & 20-230DSEJB

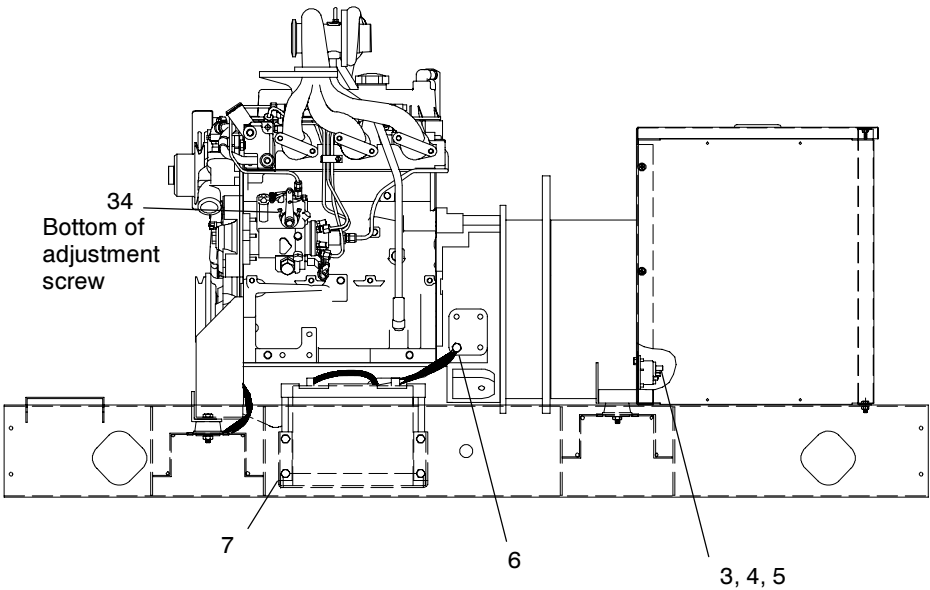


End View of Starter Solenoid, 24 Volt

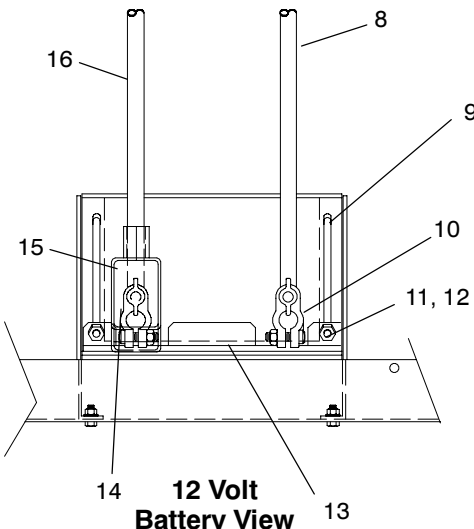


Breather Hose Mounting

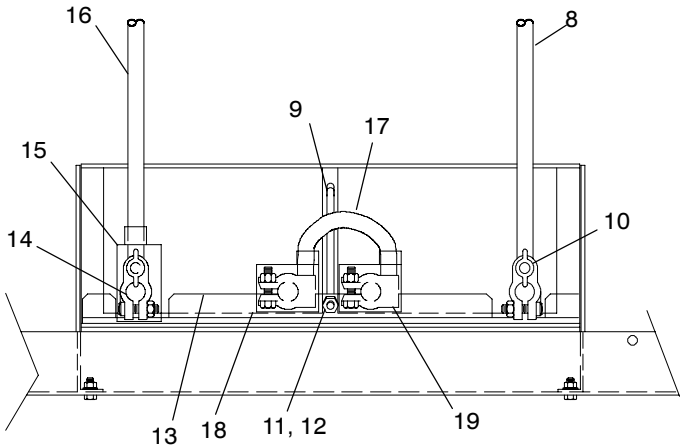
180-230 kW



Bottom of adjustment screw



12 Volt Battery View



24 Volt Battery View

6102_105

Group 105: Engine

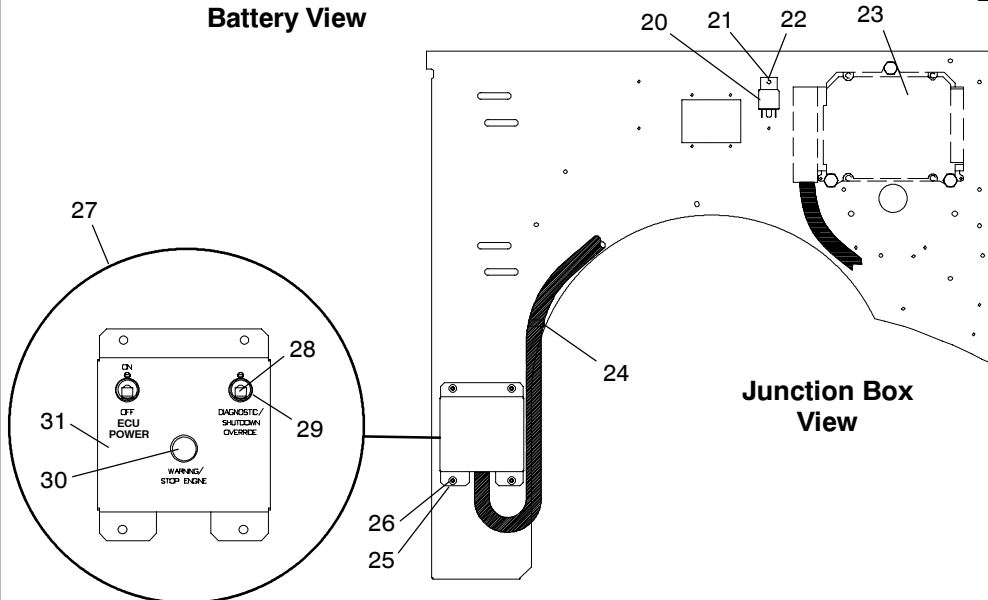
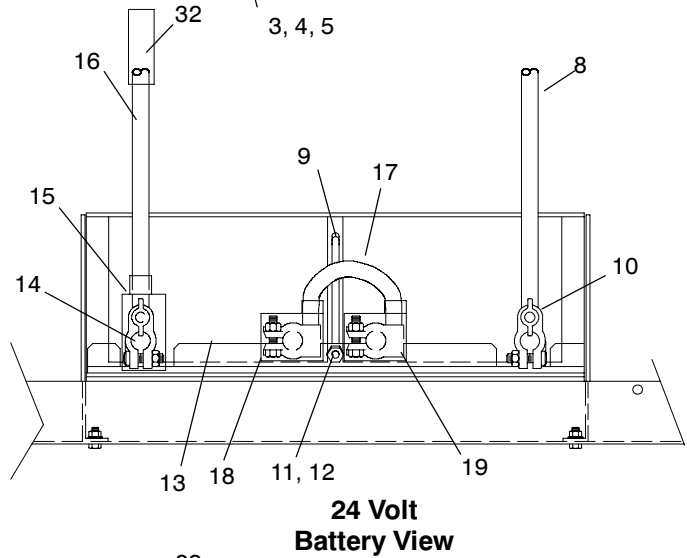
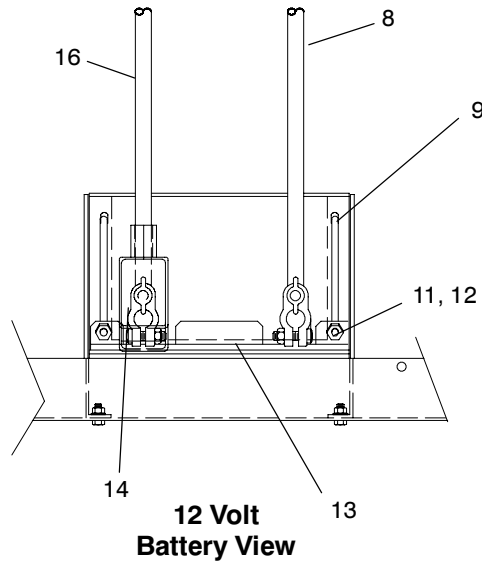
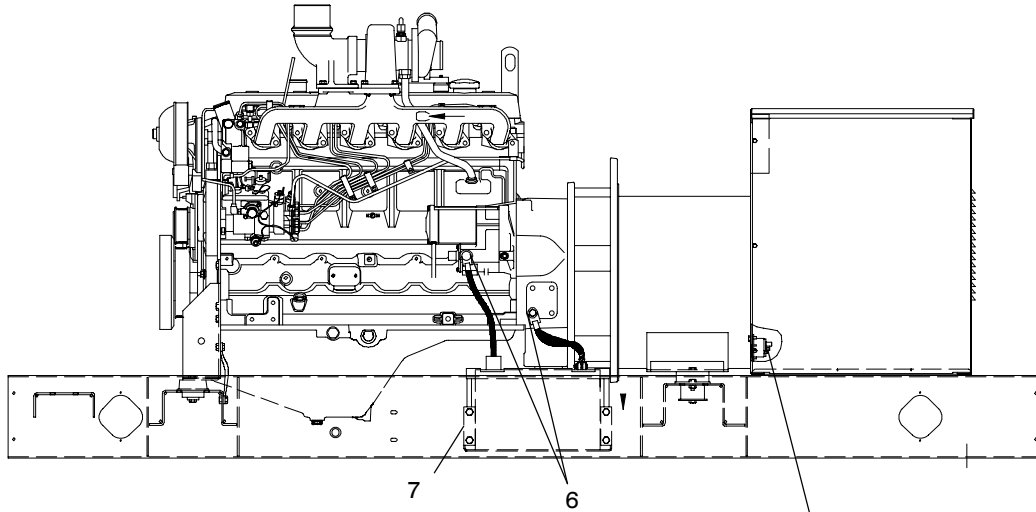
20DSJB & 20-230DSEJB

Internal and some external engine parts are shown in a separate engine parts catalog.
See Group 701: Literature for part numbers of engine parts catalogs.

Item	Part Number	Description	Quantity
1	—	Engine assembly (see chart on page 26)	1
2	GM22350	Boot, starter terminal, 50-230 kW	1
2	GM20743	Boot, starter terminal, 20-40 kW	1
3	291891	Solenoid, 12 V	1
3	268371	Solenoid, 24 V	1
4	X-6214-2	Cap	1
5	X-22-12	Washer, lock, .262 ID x .743 in. OD	2
6	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	1
6	X-22-26	Washer, lock, .521 ID x 1.24 in. OD, 100-150 kW	2
6	X-22-30	Washer, lock, .652 ID x 1.058 in. OD, 200/230 kW	1
7	GM14099	Rack, battery, 12 V	1
7	GM23203	Rack, battery, 12 V 180-230 kW	1
7	GM19543	Rack, battery, 24 V	1
8	X-545-112	Lead, battery cable, No. 2, 16 in., 20-150 kW	1
8	X-545-152	Cable, battery, 180-230 kW	1
9	286316	Bolt, angle, 24 V	1
9	286316	Bolt, angle, 12 V	2
10	345056	Terminal, battery	1
11	X-101-4	Nut, hex elastic stop, 5/16-24, 24 V	1
11	X-101-4	Nut, hex elastic stop, 5/16-24, 12 V	2
12	X-25-44	Washer, plain, 20-40, 100-230 kW, 24 V	1
12	X-25-44	Washer, plain, 20-40, 100-230 kW, 12 V	2
12	X-25-85	Washer, plain, 50-80 kW, 24 V	1
12	X-25-85	Washer, plain, 50-80 kW, 12 V	2
13	324033	Clamp, battery, 12 V 20-80	1
13	336673	Clamp, battery, 12 V 100-230 kW	1
13	343089	Clamp, battery, 24 V	1
14	345039	Terminal, battery	1
15	GM20745	Boot, battery lug, 20-125, 180-230 kW	1
15	GM20744	Boot, battery lug, 150 kW	1
16	X-545-150	Cable, battery, 20 kW, 12 V	1
16	X-545-129	Cable, battery, 50-180 kW	1
17	280133	Lead, battery cable, 8.5 in., 24 V	1
18	GM20748	Boot, battery, 90 deg. right, 50-80, 180-230 kW	1
18	GM20744	Boot, battery lug, 100-150 kW	1
19	GM20744	Boot, battery lug, 50-80, 180-230 kW	1
19	GM20748	Boot, battery, 90 deg. right, 100-150 kW	1
20	X-22-4	Washer, lock, .521 ID x .884 in. OD	1
21	X-22-9	Washer, lock, .20 ID x .373 in. OD	1
22	GM11941	Harness, 24 V starter, lead 10F	1
23	276570	Joint, ball, 180-230 kW	1
24	X-101-7	Nut, hex elastic stop, 1/4-28, 180-230 kW	1
25	273731	Ball joint, 180-230 kW	1
26	X-81-9	Nut, hex jam, 1/4-28, 180-230 kW	2
27	336777	Bracket, solenoid mounting, 180-230 kW	1
28	336779	Bracket, throttle stop, 180-230 kW	1
29	336780	Bracket, throttle, 180-230 kW	1
30	336851	Screw, hex head machine, special thread, 180-230 kW	1
31	X-101-16	Nut, hex elastic stop, 5/16-18, 180-230 kW	1
32	X-672-32	Clamp, insulated, 1.06 in., 180-230 kW	1
33	273716	Solenoid, 180-230 kW	1
33	227262	Solenoid, 24 V, 180-230 kW	1
34	276940	Spacer (added to bottom of adjustment screw) 20-40 kW	1

Group 105: Engine, continued

80-180DSEJC



6102_105

Group 105: Engine, continued

80-180DSEJC

Internal and some external engine parts are shown in a separate engine parts catalog.
See Group 701: Literature for part numbers of engine parts catalogs.

Item	Part Number	Description	Quantity
1	—	Engine assembly (see chart on page 26)	1
2	GM22350	Boot, starter terminal	1
3	291891	Solenoid, 12 V	1
3	268371	Solenoid, 24 V	1
4	X-6214-2	Cap	1
5	X-22-12	Washer, lock, .262 ID x .743 in. OD	2
6	X-22-26	Washer, lock, .521 ID x 1.24 in. OD, 80/100 kW	1
6	X-22-26	Washer, lock, .521 ID x 1.24 in. OD, 135-200 kW	2
7	GM14099	Rack, battery, 12 V, 80/100 kW	1
7	GM23203	Rack, battery, 12 V, 135-180 kW	1
7	GM19543	Rack, battery, 24 V, 80-180 kW	1
7	GM30631	Rack, battery, 200 kW	1
8	X-545-165	Cable, battery, 12 V	1
8	X-545-112	Cable, battery, No. 2, 16 in., 24 V	1
9	286316	Bolt, angle, 24 V	1
9	286316	Bolt, angle, 12 V	2
10	345056	Terminal, battery, 24 V	1
11	X-101-4	Nut, hex elastic stop, 5/16-24, 24 V	1
11	X-101-4	Nut, hex elastic stop, 5/16-24, 12 V	2
12	X-25-85	Washer, plain, 24 V, 80/100 kW	1
12	X-25-85	Washer, plain, 12 V, 80/100 kW	2
12	X-25-44	Washer, plain, 24 V, 135-200 kW	1
12	X-25-44	Washer, plain, 12 V, 135-180 kW	2
13	324033	Clamp, battery, 12 V, 80/100 kW	1
13	336673	Clamp, battery, 12 V, 135-180 kW	1
13	343089	Clamp, battery, 24 V	1
14	345039	Terminal, battery, 24 V	1
15	GM20745	Boot, battery lug, 80/100, 200 kW	1
15	GM20744	Boot, battery lug, 135-180 kW	1
16	X-545-129	Cable, battery	1
17	280133	Lead, battery cable, 8.5 in., 24 V	1
17	X-545-73	Cable, battery, (No. 0, 8 in.), 200 kW	1
18	GM20748	Boot, battery, 90 deg. right, 80/100 kW	1
18	GM20744	Boot, battery lug, 135-180 kW	1
18	GM20745	Boot, battery lug, 200 kW	1
19	GM20744	Boot, battery lug, 80/100 kW	1
19	GM20748	Boot, battery, 90 deg. right, 135-180 kW	1
19	GM20745	Boot, battery lug, 200 kW	1
20	259391	Relay, 12 V	1
20	272684	Relay, 24 V	1
21	M7985A-05012-20	Screw, pan head machine	1
22	M934-05-50	Washer, plain	1
23	—	ECM (see engine parts catalog for part number)	1
23	GM38784-3	Vibromount, controller (not shown), 200 kW	4
24	361567	Base, tie wrap	1
25	M7985A-05012-20	Screw, pan head machine	4
26	M934-05-50	Washer, plain	4
27	GM30962	Box assembly, engine light (includes items 28-31)	1
28	295030	Switch, toggle	2
29	151511	Ring, lock	2
30	343684	Lamp assembly	1
31	GM30961	Box, engine light	1
32	GM22350	Boot, starter terminal	1

Group 105: Engine, continued

Engine Part Number

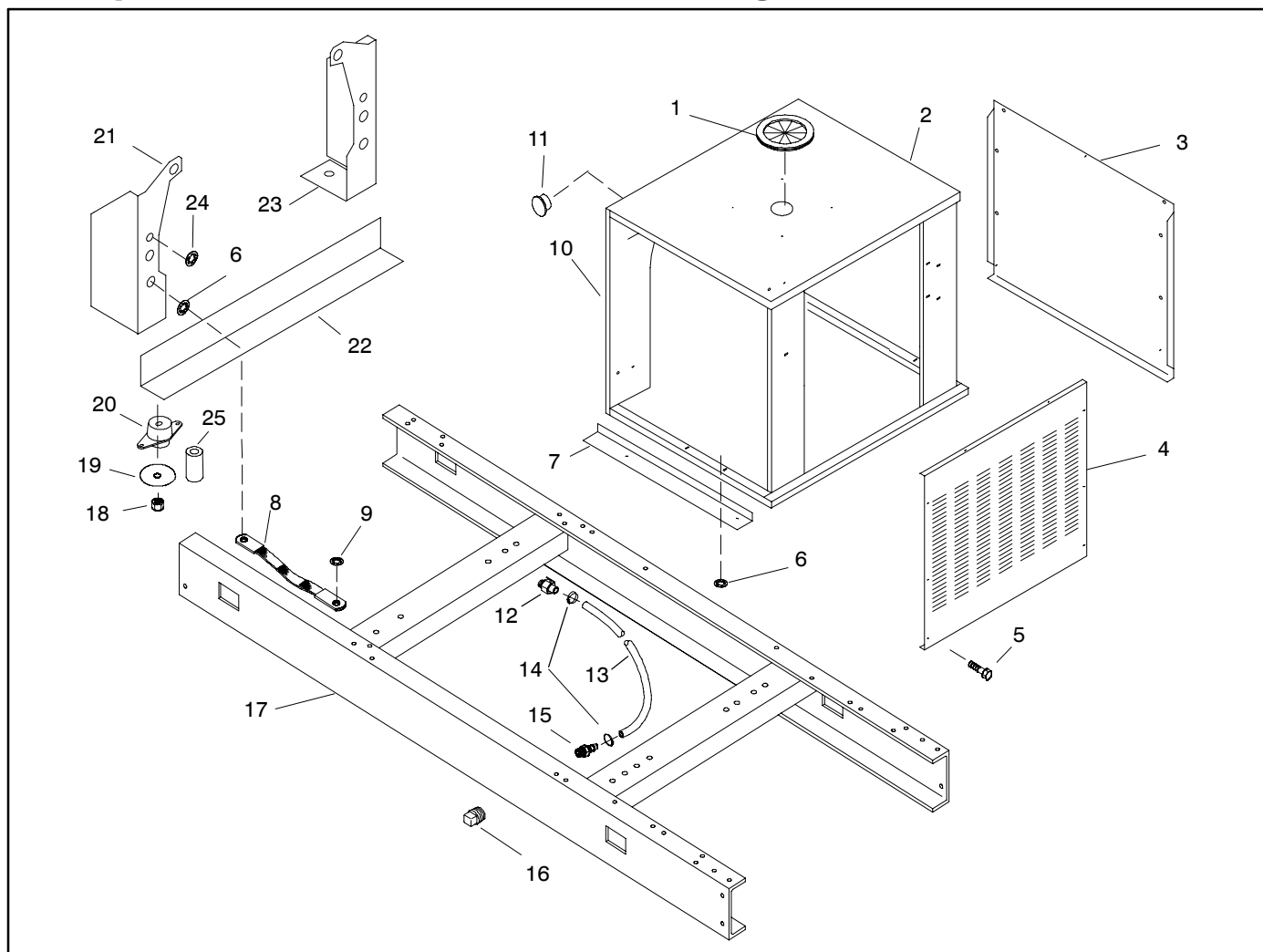
Use this table to identify the variation number's engine part number.

Variation No.	Module Number	Model	Engine Part Number	Engine Description
1	GM19370-GR1	20	GM16663	3029DF120, 12 V, 60 Hz
2	GM19370-GR2	20	GM17208	3029DF120, 12 V, 50 Hz
3	GM19370-GR3	20/30/40	GM17102	3029TF150, 12 V, 60 Hz
4	GM19370-GR4	20/30/40	GM17209	3029TF120, 12 V, 50 Hz
5	GM20149-GR1	150	GM17115	6068HF120, 12 V, 50 Hz
6	GM20149-GR2	150	GM17116	6068HF120, 24 V, 50 Hz
7	GM20149-GR3	150	GM17117	6068HF150, 12 V, 60 Hz
8	GM20149-GR4	150	GM17118	6068HF150, 24 V, 60 Hz
9	GM19535-GR1	180	GM17119	6081AF001, 12 V, 50 Hz
10	GM19535-GR2	180	GM17120	6081AF001, 24 V, 50 Hz
11	GM19535-GR3	180	GM17121	6081AF001, 12 V, 60 Hz
12	GM19535-GR4	180	GM17122	6081AF001, 24 V, 60 Hz
13	GM19535-GR5	200/230	GM17123	6081AF001, 24 V, 50 Hz
14	GM19535-GR6	200/230	GM17124	6081AF001, 24 V, 60 Hz
15	GM19535-GR7	230	GM19862	6081AF001, 24 V, 50 Hz
16	GM19535-GR8	230	GM19863	6081AF001, 24 V, 60 Hz
17	GM21200-GR1	50/60	GM17105	4045TF150, 12 V, 60 Hz
18	GM21200-GR2	50/60	GM17103	4045TF120, 12 V, 50 Hz
19	GM21200-GR3	50/60	GM17106	4045TF150, 24 V, 60 Hz
20	GM21200-GR4	50/60	GM17104	4045TF120, 24 V, 50 Hz
21	GM21200-GR5	80	GM17109	4045TF250, 12 V, 60 Hz
22	GM21200-GR6	80	GM17107	4045TF220, 12 V, 50 Hz
23	GM21200-GR7	80	GM17110	4045TF250, 24 V, 60 Hz
24	GM21200-GR8	80	GM17108	4045TF220, 24 V, 50 Hz
25	GM21529-GR1	100/125	GM17111	6068TF220, 12 V, 50 Hz
26	GM21529-GR2	100/125	GM17112	6068TF220, 24 V, 50 Hz
27	GM21529-GR3	100/125	GM17113	6068TF250, 12 V, 60 Hz
28	GM21529-GR4	100/125	GM17114	6068TF250, 24 V, 60 Hz
29	GM21200-GR9	60	GM28800-1	4045TF150, 12 V, 60 Hz
30	GM21200-GR10	60	GM28800-2	4045TF150, 24 V, 60 Hz
31	GM31030-GR1	100/125	GM28801-1	6068TF220, 12 V, 50 Hz
32	GM31030-GR2	100/125	GM28801-2	6068TF220, 24 V, 50 Hz
33	GM31030-GR3	100/125	GM28801-3	6068TF250, 12 V, 60 Hz
34	GM31030-GR4	100/125	GM28801-4	6068TF250, 24 V, 60 Hz
35	GM19370-GR5	20/30/40	GM30969	3029TF270 Tier 2, 12 V, 60 Hz
36	GM21200-GR11	50/60	GM30979-1	4045TF270 Tier 2, 12 V, 60 Hz
37	GM21200-GR12	50/60	GM30979-2	4045TF270 Tier 2, 24V, 60 Hz
38	GM30991-GR1	80	GM30988-1	4045HF275 Tier 2, 12 V, 60 Hz
39	GM30991-GR2	80	GM30988-2	4045HF275 Tier 2, 24 V, 60 Hz
40	GM30991-GR3	100	GM30989-1	4045HF275 Tier 2, 12 V, 60 Hz
41	GM30991-GR4	100	GM30989-2	4045HF275 Tier 2, 24 V, 60 Hz
42	GM31001-GR1	135	GM30998-1	6068HF275 Tier 2, 12 V, 60 Hz
43	GM31001-GR2	135	GM30998-2	6068HF275 Tier 2, 24 V, 60 Hz
44	GM31001-GR3	150	GM30999-1	6068HF275 Tier 2, 12 V, 60 Hz
45	GM31001-GR4	150	GM30999-2	6068HF275 Tier 2, 24 V, 60 Hz
46	GM31001-GR5	180	GM31009-1	6068HF275 Tier 2, 12 V, 60 Hz
47	GM31001-GR6	180	GM31009-2	6068HF275 Tier 2, 24 V, 60 Hz
48	GM39061-GR1	200	GM39023	6068HF475 Tier 2, 24 V, 60 Hz

Group 107: Nameplate and Decals

Item	Part Number	Description	Quantity			
			Module			
			GM14282-GR1S	GM14282-GR2S	GM14282-GR3S	GM14282-GR4S
1	238402	Decal, caution positive terminal only	1	1	1	1
2	249808	Decal, warning rotating parts	1	1	1	1
3	249809	Decal, caution hot engine	2	2	2	2
4	249810	Decal, warning hot coolant	1	1	1	1
5	273780	Decal, warning explosion	1	1	1	1
6	257438	Decal, danger moving rotor	3	3	3	3
7	257441	Decal, warning lifting eye	1	1	1	1
8	258815	Decal, warning voltage backfeed	1	1	1	1
9	GM13776	Decal, FRIL reconnection	1	1	1	1
10	324069	Nameplate, model/ratings	1	1	1	1
11	GM23477-4	Decal, DDC/MTU logo	2		2	2
11	GM23477-7	Decal, DDC/MTU logo		2		
12	GM15300	Decal, exhaust piping	1	1	1	1
13	GM19296	Decal, fuel type	1	1	1	1
14	343165	Decal, caution not a step				1
15	364116	Decal, caution welding disconnect				1

Group 109: Skid and Plant Mounting



Item	Part Number	Description	Quantity												
			Module												
			GM19373-MA1	GM19373-MA2	GM19538-MA1	GM19828-MA1	GM20497-MA1	GM21203-MA1	GM21203-MA2	GM21203-MA3	GM21203-MA4	GM21530-MA1	GM21530-MA2	GM30993-MA1	GM30993-MA2
1	X-284-31	Grommet, round			1		1					1	1		
1	X-6033-15	Grommet	1	1			1	1	1	1	1	1	1	1	1
2	GM17417	Panel, junction box, front	1	1				1	1						
2	GM17623	Panel, junction box, front			1		1			1	1	1	1	1	1
2	GM10555	Box, junction				1									
3	GM14078	Cover, side													
3	GM17640	Cover, side	2	2				2	2						
3	336001	Cover, side			2		2			2	2	2	2	2	2
4	GM17419	Cover, rear	1	1				1	1						
4	GM17625	Cover, rear			1		1			1	1	1	1	1	1
4	336004	Cover, rear				1									
5	X-6216-1	Screw, Phillips hex crimp	12	12	12	12	12	12	12	12	12	12	12	12	12
6	X-22-16	Washer, lock, .326 ID x .883 in. OD	6	6	8	10	10	6	6	6	6	4	10	6	8
6	X-22-15	Washer, lock, .456 ID x 1.058 in. OD		2	2				2		2				
7	GM17670	Support, junction box		2					2						
7	GM17632	Support, junction box			2		2				2		2		2
7	GM19557	Bracket, junction box mounting				4									
8	290418	Strap, ground	1	1	2	3	3	1	1	2	2	3	3	2	2
9	X-22-14	Washer, lock, .391 ID x .975 in. OD	1	1				1	1	2	2			2	2
9	X-22-16	Washer, lock, .326 ID x .883 in. OD										4	4		
10	GM17418	Panel, junction box, rear	1	1				1	1						
10	GM17624	Panel, junction box, rear			1		1			1	1	1	1	1	1

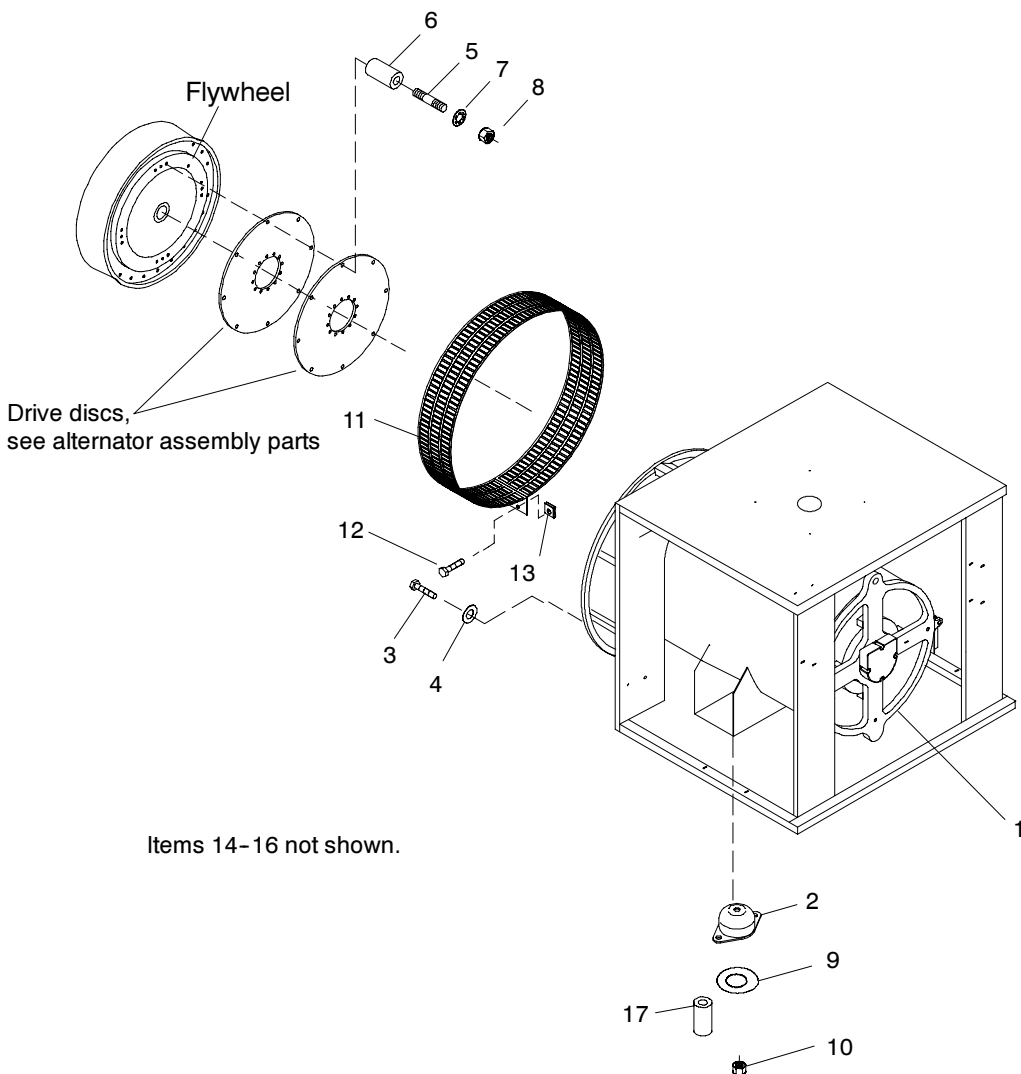
Group 109: Skid and Plant Mounting

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity													
			Module													
			GM19373-MA1	GM19373-MA2	GM19538-MA1	GM19828-MA1	GM20497-MA1	GM21203-MA1	GM21203-MA2	GM21203-MA3	GM21203-MA4	GM21530-MA1	GM21530-MA2	GM30993-MA1	GM30993-MA2	GM39063-MA1
1	X-284-31	Grommet, round			1		1				1	1				
1	X-6033-15	Grommet	1	1				1	1	1	1			1	1	
2	GM17417	Panel, junction box, front	1	1				1	1							
2	GM17623	Panel, junction box, front			1		1				1	1	1	1	1	
2	GM10555	Box, junction				1										1
3	GM14078	Cover, side	2	2				2	2							
3	GM17640	Cover, side			2		2			2	2	2	2	2	2	
3	336001	Cover, side				2										2
4	GM17419	Cover, rear	1	1				1	1							
4	GM17625	Cover, rear			1		1			1	1	1	1	1	1	
4	336004	Cover, rear				1										1
5	X-6216-1	Screw, Phillips hex crimp	12	12	12	12	12	12	12	12	12	12	12	12	12	12
6	X-22-16	Washer, lock, .326 ID x .883 in. OD	6	6	8	10	10	6	6	6	6	4	10	6	8	10
6	X-22-15	Washer, lock, .456 ID x 1.058 in. OD		2	2				2	2	2					
7	GM17670	Support, junction box		2						2						
7	GM17632	Support, junction box			2		2					2			2	
7	GM19557	Bracket, junction box mounting				4										4
8	290418	Strap, ground	1	1	2	3	3	1	1	2	2	3	3	2	2	3
9	X-22-14	Washer, lock, .391 ID x .975 in. OD	1	1				1	1	2	2			2	2	
9	X-22-16	Washer, lock, .326 ID x .883 in. OD										4	4			
10	GM17418	Panel, junction box, rear	1	1				1	1							
10	GM17624	Panel, junction box, rear			1		1			1	1	1	1	1	1	
11	X-301-45	Plug, button	1	1			1	1	1	1	1	1	1	1	1	
12	272701	Valve, oil drain	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	GM22991	Adapter, bushing					1	1	1	1	1	1	1	1	1	
12	276550	Adapter, bushing			1	1										
12	GM40116	Adapter, bushing														1
12	GM11694	O-ring					1	1	1	1	1	1	1	1	1	
12	365615	O-ring			1	1										1
13	X-577-27	Hose, rubber, straight, .62 in. ID	1					1		1						
13	X-577-18	Hose, rubber, straight, .62 in. ID		1					1		1				1	
13	X-577-24	Hose, rubber, straight, .62 in. ID			1	1	1					1	1			1
14	X-426-10	Clamp, hose, .5/1 in.	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	X-582-1	Connector, hose + vibraseal	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	X-75-3	Plug, pipe, 1/2 in. NPT	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	GM17583	Skid	1													
17	GM20600	Skid		1												
17	GM20709	Skid					1									
17	GM19554	Skid			1											
17	GM19555	Skid				1										
17	GM17586	Skid						1								
17	GM21151	Skid							1							
17	GM17587	Skid								1						
17	GM21152	Skid									1					
17	GM22137	Skid										1				
17	GM22138	Skid											1			
17	GM30965	Skid												1		
17	GM30966	Skid													1	
17	GM39278	Skid														1
18	M982-12-80	Nut, hex elastic stop	2	2				2	2	2	2	2	2	2	2	2
18	M982-16-80	Nut, hex elastic stop			2	2	2									
19	X-25-140	Washer, plain, .531 ID x 2 in. OD	2	2				2	2	2	2			2	2	
19	X-25-112	Washer, plain			2	2						2	2			
19	X-25-103	Washer, plain, .531 ID x 2.75 in.					2									2
20	324073	Vibromount	2	2				2	2	2	2					
20	324389	Vibromount					2					2	2			2
20	324391	Vibromount			2	2										
20	324074	Vibromount														
21	GM17579	Support, engine, left side	1	1				1	1	1	1	1	1		2	2
21	GM19556	Bracket, engine mounting			1	1										
21	GM22370	Support, engine, left side					1							1	1	
21	GM39285	Support, engine, left side														1
22	GM17601	Support, engine mount	1	1												
23	GM17578	Support, engine, right side	1	1				1	1	1	1	1	1			
23	GM19556	Bracket, engine mounting			1	1										
23	GM22369	Support, engine, right side					1							1	1	
23	GM39284	Support, engine, right side														1
24	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	2	2			2	2	2	2	2	2	2	2	2	2
24	X-22-30	Washer, lock, .652 ID x 1.058 in. OD			1	1										
25	X-400-154	Spacer, .527 ID x .625 OD x 2.3 in.					2					2	2			2

Group 201: Generator and Mounting

Permanent Magnet-Excited Alternators



6102_201

Item	Part Number	Description	Qty.
1	See chart on following page	Alternator assembly	1
2	See chart on following page	Vibromount	2
3	See chart on following page	Bolt, hex cap	6/8
4	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	6
4	X-801-6	Washer, hardened, .469 ID x .922 in. OD (4UA)	8
5	X-352-63	Stud, 3/8-16 x 4 in. (4P, 4Q, 4S, 4V)	8
5	X-129-54	Bolt, hex cap (4U)	8
6	X-400-132	Spacer, .406 ID x .625 OD x 2.531 in. (4P, 4Q, 4S, 4V)	8
7	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	8
7	290945	Washer, hardened, .531 ID x 1.06 in. OD (4UA)	8
8	X-6210-9	Nut, flange spirallock, 3/8-16 (4P, 4Q, 4S, 4V)	8
9	See chart on following page	Washer, plain	2
10	See chart on following page	Nut, hex elastic stop	2
11	257046	Guard, generator fan (4P and 4Q)	1
11	257179	Guard, generator fan (4S and 4V)	1
11	347268	Guard, generator fan (4UA)	2
12	X-67-125	Screw, hex washer, thread-forming	2
12	X-67-125	Screw, hex washer, thread-forming (4UA)	4
13	257442	Clip, speed	2
13	257442	Clip, speed (4UA)	4
14	X-750-14	Marker, wire L1 (not shown)	1
15	X-750-15	Marker, wire L2 (not shown)	1
16	X-750-16	Marker, wire L3 (not shown)	1
17	X-400-197	Spacer, .532 ID x .75 OD x 2.88 in. (used with vibromounts 324392 and 324393)	2

Group 201: Generator and Mounting

Find the installed module number on the generator set nameplate.

Permanent Magnet-Excited Alternators

Alternator Part Number and Mounting Parts

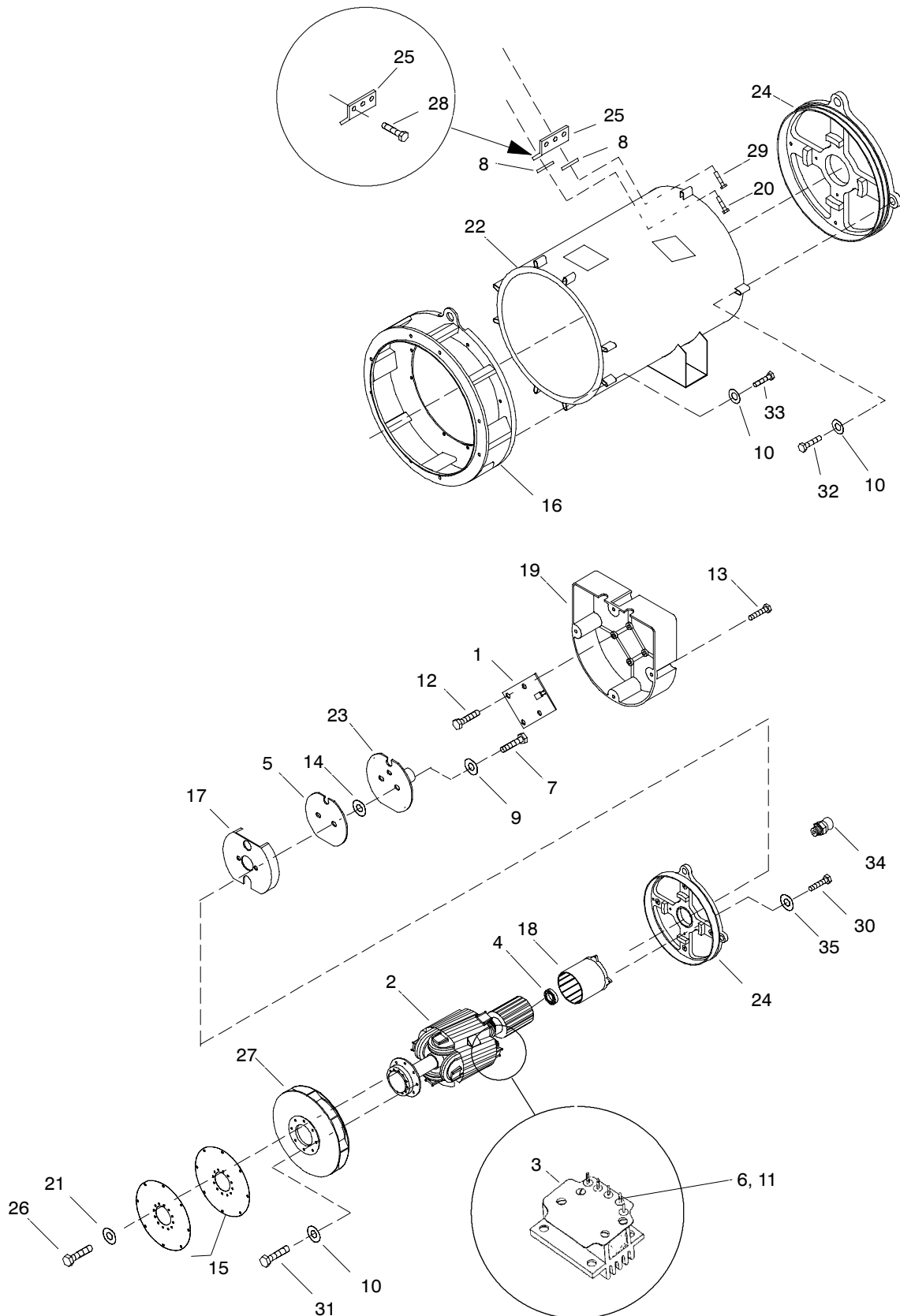
Use this table to identify the module number's alternator and mounting part numbers.

Module Number	Alternator Description	Item 1, Alternator Assembly	Item 2, Vibromount	Item 3, Bolt	Item 9, Washer	Item 10, Nut
GM19371-MA1	4P4	C-257730	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA2	4P4, 600 V	B-257848	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA3	4Q4	B-360730	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA4	4P5	C-257722	324074	270956 (6)	X-25-140	M982-12-80
GM19371-MA5	4P5, 600 V	C-257735	324074	270956 (6)	X-25-140	M982-12-80
GM19371-MA6	4P7	C-257723	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA7	4P7, 600 V	B-257845	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA8	4P8	C-257724	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA9	4P8, 600 V	C-257736	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA10	4Q10	B-360734	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA21	4Q7	B-360732	324075	270956 (6)	X-25-140	M982-12-80
GM17672-MA1	4S7	GM17563-1	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA2	4S7, 600 V	GM17563-4	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA3	4S7	GM17563-13	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA4	4S7, 600 V	GM17563-15	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA5	4S9	GM17563-14	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA6	4S9, 600 V	GM17563-16	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA7	4S13	GM17563-11	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA8	4S13, 600 V	GM17563-12	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA9	4V7, 1 Phase	GM17563-26	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA10	4V9, 1 Phase	GM17563-24	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA11	4V11, 1 Phase	GM17563-23	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA12	4S11	GM17563-21	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA13	4S11, 600 V	GM17563-22	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA14	4V7, 1 Phase	GM17563-25	336813	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA15	4S9	GM17563-14	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA16	4S9, 600 V	GM17563-16	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA17	4V11, 1 Phase	GM17563-23	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA18	4S11	GM17563-21	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA19	4S11, 600 V	GM17563-22	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA20	4S13	GM17563-11	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA21	4S13, 600 V	GM17563-12	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA22	4S15	GM17563-32	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA23	4S15, 600 V	GM17563-33	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA24	4S7	GM17563-13	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA25	4S7, 600 V	GM17563-15	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA26	4S9	GM17563-14	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA27	4S9, 600 V	GM17563-16	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA28	4V9, 1 Phase	GM17563-24	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA33	4S11	GM17563-21	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA34	4S11, 600 V	GM17563-22	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA35	4V11, 1 Phase	GM17563-23	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17701-MA1	4P5	C-257719	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA2	4P5, 600 V	C-257726	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA3	4P5B	GM16880	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA4	4P5B, 600 V	GM16881	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA5	4P7B	GM16882	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA6	4P7B, 600 V	GM16883	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA7	4P8	C-257721	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA8	4P8, 600 V	C-257728	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA9	4P10	C-257739	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA10	4P10, 600 V	C-257729	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA11	4Q5, 1 Phase	B-360736	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA12	4Q10, 1 Phase	B-360739	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA13	4Q10, 1 Phase	B-360739	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA14	4P8	C-257721	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA15	4P8, 600 V	C-257728	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA16	4P10	C-257739	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA17	4P10, 600 V	C-257729	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM19673-MA1	4U9	GM24411-3	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA2	4U9, 600 V	GM24411-4	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA3	4U10	GM24411-5	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA4	4U10, 600 V	GM24411-6	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA5	4U13	GM24411-7	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA6	4U13, 600 V	GM24411-8	324393	X-6024-17 (8)	X-25-103	M982-12-80

Alternator assembly includes items 1-35 on following page.

Group 201: Generator and Mounting, continued

Permanent Magnet-Excited Alternators



6102_201_2

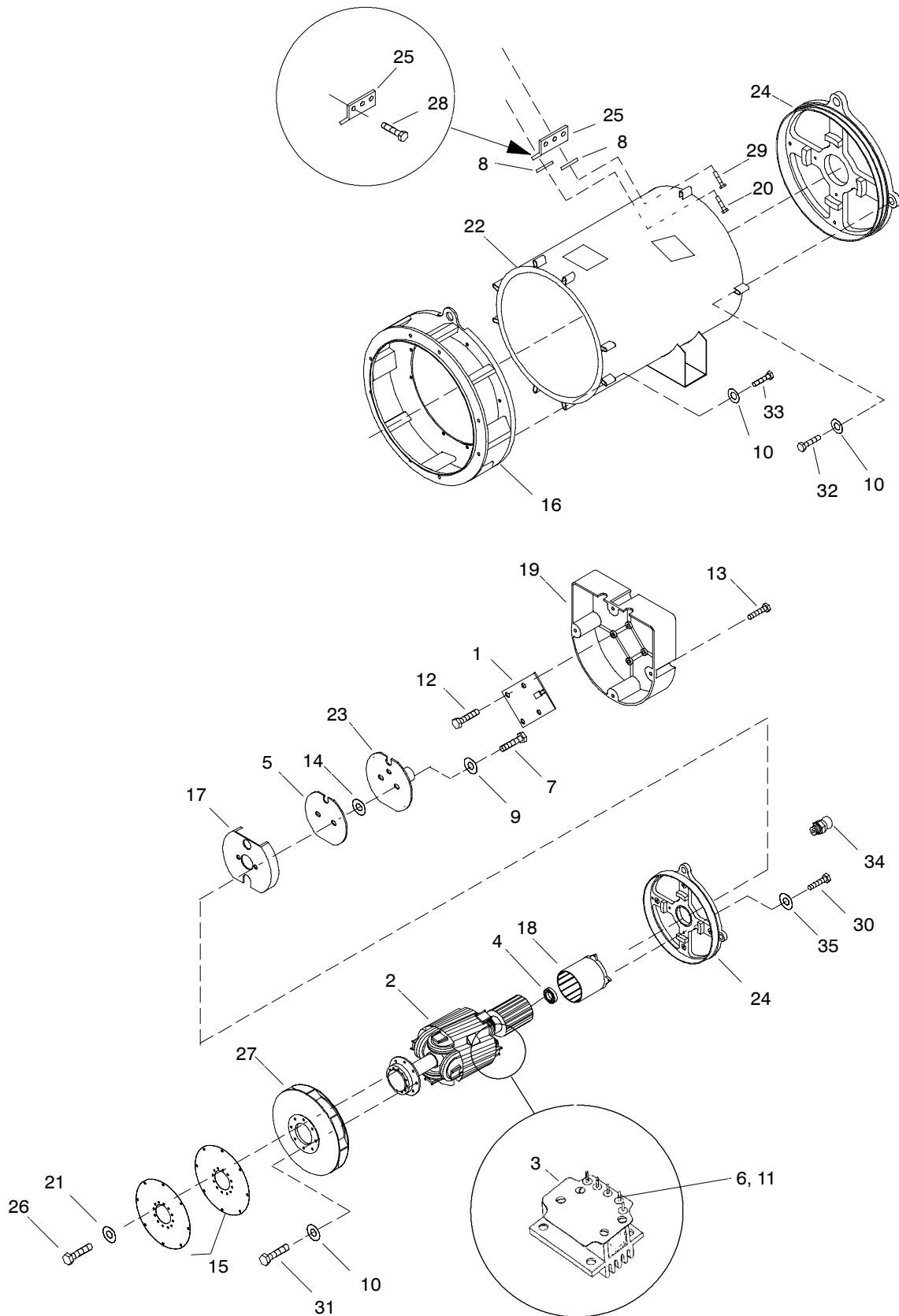
Group 201: Generator and Mounting, continued

Permanent Magnet-Excited Alternators

Item	Part Number	Description	Qty.
1	B-257099	PCB assembly, LED, FRIL	1
2	See chart on page 35	Rotor assembly	1
3	B-258545	Heatsink (4P and 4Q alternators)	1
3	B-258549	Heatsink (4S and 4V alternators)	1
3	A-354299	Heatsink (4UA alternators)	1
4	X-758-2	Bearing, ball (4P and 4Q alternators)	1
4	X-758-6	Bearing, ball (4S and 4V alternators)	1
4	X-758-9	Bearing, ball (4UA alternators)	1
5	GM34505	PCB assembly, photo receiver	1
6	X-101-24	Nut, hex elastic stop, 6-32	5
7	X-117-5	Screw, hex head machine	2
8	X-22-44	Washer, lock, .262 ID x .743 in. OD (4P and 4Q alternators)	2
8	X-22-45	Washer, lock, .338 ID x .884 in. OD (4S and 4V alternators)	2
8	X-22-46	Washer, lock, .391 ID x .975 in. OD (4UA alternators)	2
9	X-22-9	Washer, lock, .20 ID x .373 in. OD	2
10	X-25-93	Washer, plain, .406 ID x .75 in. OD	14
10	290945	Washer, hardened, .531 ID x 1.06 in. OD (4UA alternators)	12
10	257951	Washer, special, .562 ID x 1.13 in. OD (4UA alternators)	12
11	X-283-7	Terminal, ring, male, 22-16 AWG	4
11	X-431-25	Terminal, fast-on, female	4
12	X-6071-1	Screw, Phillips pan head	4
13	X-67-133	Screw, hex washer, thread-forming	3
14	243321	Washer, insulating, .195 ID x .5 in.	2
15	See chart on page 35	Disc, drive	2/3
16	See chart on page 35	Adapter, generator	1
17	257077	Actuator, magnetic cup	1
18	See chart on page 35	Exciter field assembly	1
19	257258	Cover, FR LED circuit board	1
20	X-791-5	Screw, hex head machine (4P and 4Q alternators)	1
20	X-791-7	Screw, hex head machine (4S and 4V alternators)	1
20	X-791-6	Screw, hex head machine (4UA alternators)	1
21	X-801-3	Washer, hardened, .406 ID x .812 in. (4P and 4Q alternators)	8
21	X-801-3	Washer, hardened, .406 ID x .812 in. (4S, 4V, and 4UA alternators)	12
22	See chart on page 35	Stator assembly	1
23	257850	Insulator	1
24	257984	Bracket, end (4P and 4Q alternators)	1
24	257983	Bracket, end (4S and 4V alternators)	1
24	347236	Bracket, end (4UA alternators)	1
25	See chart on page 35	Connector, lead	1
26	270956	Screw, cylinder head, 3/8-16 x 1 1/4 (4P and 4Q alternators)	8
26	270956	Screw, cylinder head, 3/8-16 x 1 1/4 (4S and 4V alternators)	12
26	270158	Screw, cylinder head, 3/8-16 x 1 1/4 (4UA alternators)	12
27	347697	Fan, alternator (4P and 4Q alternators)	1
27	257173	Fan, alternator (4S and 4V alternators)	1
27	257855	Fan, alternator (4UA alternators)	1
28	X-465-8	Screw, hex cap (4P and 4Q alternators)	3
28	X-125-24	Screw, hex cap (4S alternators)	3
28	X-6238-5	Screw, hex cap (4V alternators)	3
29	X-456-16	Screw, hex cap (4P and 4Q alternators)	1
29	X-125-31	Screw, hex cap (4S and 4V alternators)	1
29	X-6238-11	Screw, hex cap (4UA alternators)	1
30	X-125-34	Screw, hex cap	4
30	X-6238-17	Screw, hex cap (4UA alternators)	4
31	X-6238-11	Screw, hex cap	4
31	X-6238-11	Screw, hex cap (4UA alternators)	8
32	X-6238-6	Screw, hex cap (4P and 4Q alternators)	4
32	X-6238-9	Screw, hex cap (4S and 4V alternators)	4
32	X-129-25	Screw, hex cap (4UA alternators)	4
33	X-6238-6	Screw, hex cap (4P alternators)	6
33	X-6238-6	Screw, hex cap (4S and 4V alternators)	1
33	X-6238-9	Screw, hex cap (4S and 4V alternators)	5
33	X-129-25	Screw, hex cap (4UA alternators)	8
34	347119	Fitting, grease	1
35	X-801-3	Washer, hardened, .406 ID x .812 in. (4UA alternators)	4

Group 201: Generator and Mounting, continued

Permanent Magnet-Excited Alternators



6102_201_2

Group 201: Generator and Mounting, continued

Find the installed module number on the generator set nameplate.

Permanent Magnet-Excited Alternators

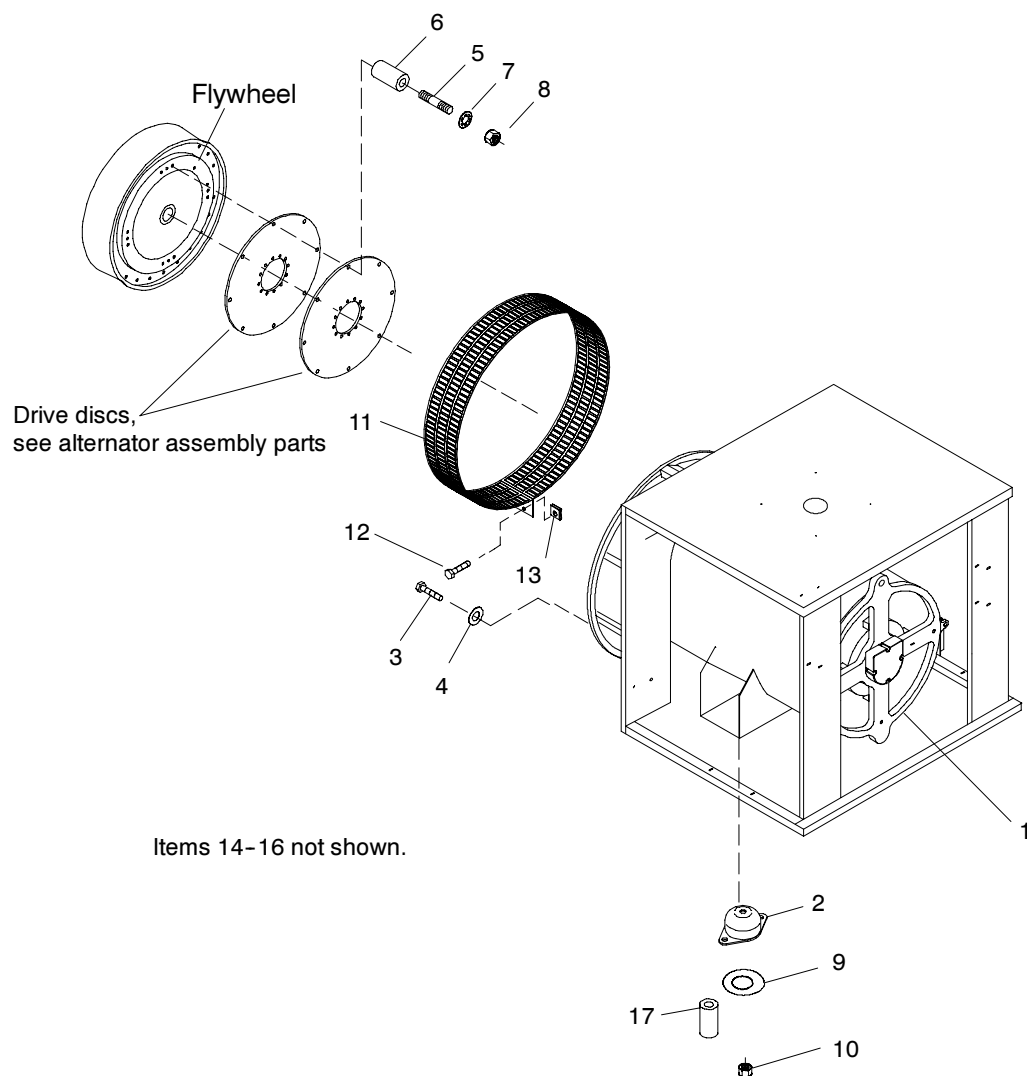
Alternator Part Number and Mount Type

Use this table to identify the part numbers of items 2, 15, 16, 18, 22, and 25.

Module Number	Alternator Description	Alternator Assembly	Item 2, Rotor Assembly	Item 15, Drive Disc	Item 16, Adapter	Item 18, Field Exciter	Item 22, Stator Assembly	Item 25, Lead Connector
GM19371-MA1	4P4	C-257730	A-258980	257015	257019	257080	257765	257986
GM19371-MA2	4P4, 600 V	B-257848	A-258980	257015	257019	257080	257770	257986
GM19371-MA3	4Q4	B-360730	A-258980	257015	257019	257080	360747	257986
GM19371-MA4	4P5	C-257722	A-258979	257015	257019	257080	257766	257986
GM19371-MA5	4P5, 600 V	C-257735	A-258979	257015	257019	257080	257771	257986
GM19371-MA6	4P7	C-257723	A-258978	257015	257019	257081	257767	257986
GM19371-MA7	4P7, 600 V	B-257845	A-258978	257015	257019	257081	257772	257986
GM19371-MA8	4P8	C-257724	A-258977	257015	257019	257081	257768	257986
GM19371-MA9	4P8, 600 V	C-257736	A-258977	257015	257019	257081	257773	257986
GM19371-MA10	4Q10	B-360734	A-258975	257015	257019	257081	360751	257986
GM19371-MA21	4Q7	B-360732	A-258978	257015	257019	257081	360749	257986
GM17672-MA1	4S7	GM17563-1	A-276659	257102	257175	276657	GM17559-1	257985
GM17672-MA2	4S7, 600 V	GM17563-4	A-276659	257102	257175	276657	GM17561-1	257985
GM17672-MA3	4S7	GM17563-13	A-276664	257103	257175	276657	GM17559-1	257985
GM17672-MA4	4S7, 600 V	GM17563-15	A-276664	257103	257175	276657	GM17561-1	257985
GM17672-MA5	4S9	GM17563-14	A-276665	257103	257175	276657	GM17559-2	257985
GM17672-MA6	4S9, 600 V	GM17563-16	A-276665	257103	257175	276657	GM17561-2	257985
GM17672-MA7	4S13	GM17563-11	A-276666	257103	257175	276657	GM17559-3	257985
GM17672-MA8	4S13, 600 V	GM17563-12	A-276666	257103	257175	276657	GM17561-3	257985
GM17672-MA9	4V7, 1 Phase	GM17563-26	A-276659	257102	257175	276657	GM17562-3	257978
GM17672-MA10	4V9, 1 Phase	GM17563-24	A-276665	257103	257175	276657	GM17562-2	257978
GM17672-MA11	4V11, 1 Phase	GM17563-23	A-343443	257103	257175	276657	GM17562-1	257978
GM17672-MA12	4S11	GM17563-21	A-343443	257103	257175	276657	GM17559-4	257985
GM17672-MA13	4S11, 600 V	GM17563-22	A-343443	257103	257175	276657	GM17561-4	257985
GM17672-MA14	4V7, 1 Phase	GM17563-25	A-276664	257103	257175	276657	GM17562-3	257978
GM17672-MA15	4S9	GM17563-14	A-276665	257103	257175	276657	GM17559-2	257985
GM17672-MA16	4S9, 600 V	GM17563-16	A-276665	257103	257175	276657	GM17561-2	257985
GM17672-MA17	4V11, 1 Phase	GM17563-23	A-343443	257103	257175	276657	GM17562-1	257978
GM17672-MA18	4S11	GM17563-21	A-343443	257103	257175	276657	GM17559-4	257985
GM17672-MA19	4S11, 600 V	GM17563-22	A-343443	257103	257175	276657	GM17561-4	257985
GM17672-MA20	4S13	GM17563-11	A-276666	257103	257175	276657	GM17559-3	257985
GM17672-MA21	4S13, 600 V	GM17563-12	A-276666	257103	257175	276657	GM17561-3	257985
GM17672-MA22	4S15	GM17563-32	A-364409	257103	257175	276657	GM17560	257985
GM17672-MA23	4S15, 600 V	GM17563-33	A-364409	257103	257175	276657	GM17561-5	257985
GM17672-MA24	4S7	GM17563-13	A-276664	257103	257175	276657	GM17559-1	257985
GM17672-MA25	4S7, 600 V	GM17563-15	A-276664	257103	257175	276657	GM17561-1	257985
GM17672-MA26	4S9	GM17563-14	A-276665	257103	257175	276657	GM17559-2	257985
GM17672-MA27	4S9, 600 V	GM17563-16	A-276665	257103	257175	276657	GM17561-2	257985
GM17672-MA28	4V9, 1 Phase	GM17563-24	A-276665	257103	257175	276657	GM17562-2	257978
GM17672-MA33	4S11	GM17563-21	A-343443	257103	257175	276657	GM17559-4	257985
GM17672-MA34	4S11, 600 V	GM17563-22	A-343443	257103	257175	276657	GM17561-4	257985
GM17672-MA35	4V11, 1 Phase	GM17563-23	A-343443	257103	257175	276657	GM17562-1	257978
GM19673-MA1	4UA9	GM24411-3	A-347187	257581	347240	347707	GM24409-2	257978
GM19673-MA2	4UA9, 600 V	GM24411-4	A-347187	257581	347240	347707	GM24410-2	257978
GM19673-MA3	4UA10	GM24411-5	A-347188	257581	347240	347707	GM24409-3	257978
GM19673-MA4	4UA10, 600 V	GM24411-6	A-347188	257581	347240	347707	GM24410-3	257978
GM19673-MA5	4UA13	GM24411-7	A-347189	257581	347240	347707	GM24409-4	257979
GM19673-MA6	4UA13, 600 V	GM24411-8	A-347189	257581	347240	347707	GM24410-4	257978
GM17701-MA1	4P5	C-257719	A-258979	257015	257018	257080	257766	257986
GM17701-MA2	4P5, 600 V	C-257726	A-258979	257015	257018	257080	257771	257986
GM17701-MA3	4P5B	GM16880	A-326938	257015	257018	257080	360501	257986
GM17701-MA4	4P5B, 600 V	GM16881	A-326938	257015	257018	257080	GM13681	257986
GM17701-MA5	4P7B	GM16882	A-336564	257015	257018	257081	326728	257986
GM17701-MA6	4P7B, 600 V	GM16883	A-336564	257015	257018	257081	GM13682	257986
GM17701-MA7	4P8	C-257721	A-258977	257015	257018	257081	257768	257986
GM17701-MA8	4P8, 600 V	C-257728	A-258977	257015	257018	257081	257773	257986
GM17701-MA9	4P10	C-257739	A-258975	257015	257018	257081	257769	257986
GM17701-MA10	4P10, 600 V	C-257729	A-258975	257015	257018	257081	257774	257986
GM17701-MA11	4Q5, 1 Phase	B-360736	A-258979	257015	257018	257080	360748	257986
GM17701-MA12	4Q10, 1 Phase	B-360739	A-258975	257015	257018	257081	360751	257986
GM17701-MA13	4Q10, 1 Phase	B-360739	A-258975	257015	257018	257081	360751	257986
GM17701-MA14	4P8	C-257721	A-258977	257015	257018	257081	257768	257986
GM17701-MA15	4P8, 600 V	C-257728	A-258977	257015	257018	257081	257773	257986
GM17701-MA16	4P10	C-257739	A-258975	257015	257018	257081	257769	257986
GM17701-MA17	4P10, 600 V	C-257729	A-258975	257015	257018	257081	257774	257986

Group 201: Generator and Mounting, continued

Wound Field Alternators



6102_201

Item	Part Number	Description	Qty.
1	See chart on following page	Alternator assembly	1
2	See chart on following page	Vibromount	2
3	See chart on following page	Bolt, hex cap	6/8
4	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	6
4	X-801-6	Washer, hardened, .469 ID x .922 in. OD (4UA)	8
5	X-352-63	Stud, 3/8-16 x 4 in. (4P, 4Q, 4S, 4V)	8
5	X-129-54	Bolt, hex cap (4U)	8
6	X-400-132	Spacer, .406 ID x .625 OD x 2.531 in. (4P, 4Q, 4S, 4V)	8
7	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	8
7	290945	Washer, hardened, .531 ID x 1.06 in. OD (4UA)	8
8	X-6210-9	Nut, flange spirallock, 3/8-16 (4P, 4Q, 4S, 4V)	8
9	See chart on following page	Washer, plain	2
10	See chart on following page	Nut, hex elastic stop	2
11	257046	Guard, generator fan (4P and 4Q)	1
11	257179	Guard, generator fan (4S and 4V)	1
11	347268	Guard, generator fan (4UA)	2
12	X-67-125	Screw, hex washer, thread-forming	2
12	X-67-125	Screw, hex washer, thread-forming (4UA)	4
13	257442	Clip, speed	2
13	257442	Clip, speed (4UA)	4
14	X-750-14	Marker, wire L1 (not shown)	1
15	X-750-15	Marker, wire L2 (not shown)	1
16	X-750-16	Marker, wire L3 (not shown)	1
17	X-400-197	Spacer, .532 ID x .75 OD x 2.88 in. (used with vibromounts 324392 and 324393)	2

Group 201: Generator and Mounting, continued

Find the installed module number on the generator set nameplate.

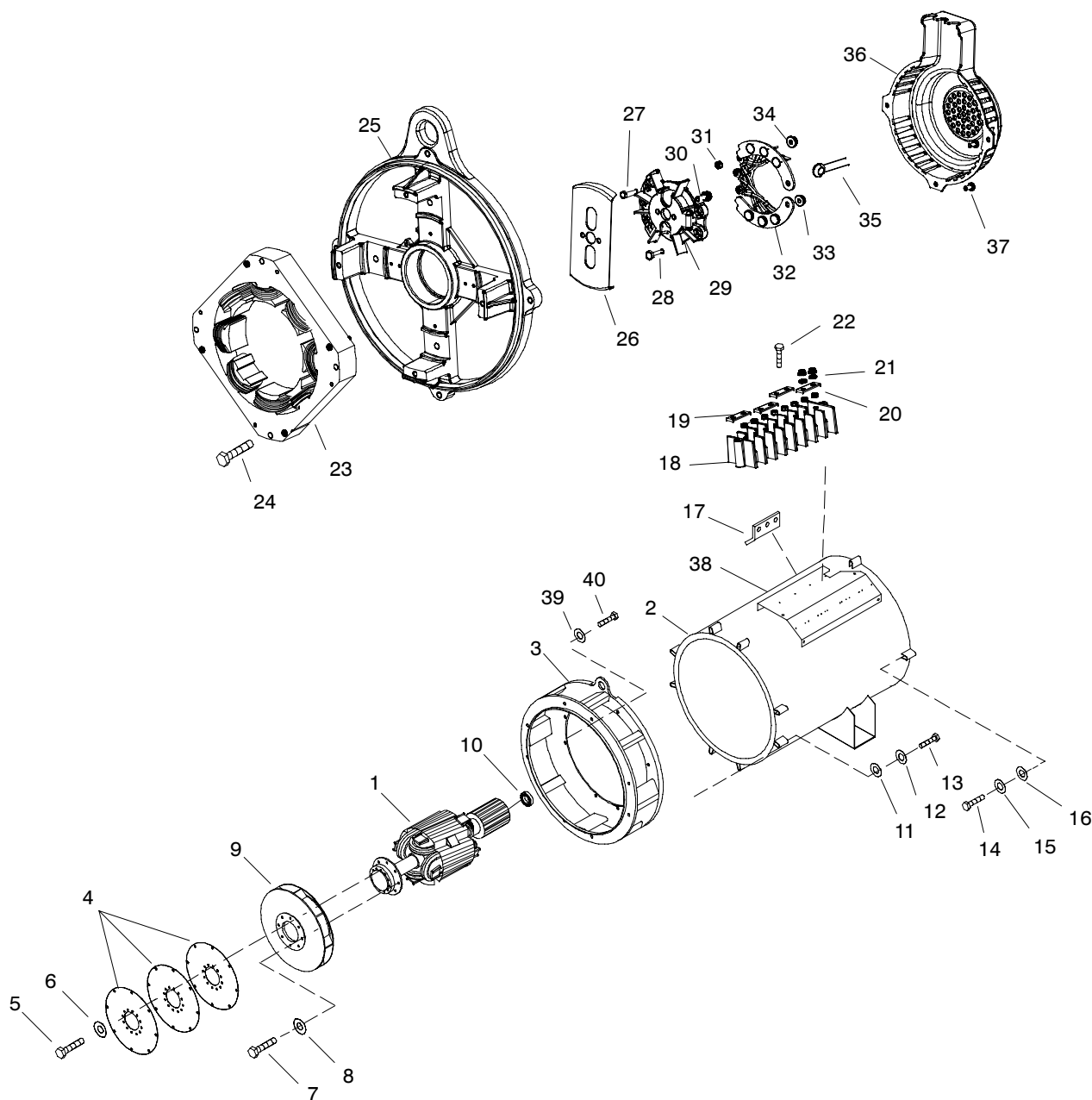
Wound Field Alternators

Use this table to identify the module number's alternator and mounting part numbers.

Module Number	Alternator Description	Item 1, Alternator Assembly	Item 2, Vibromount	Item 3, Bolt	Item 9, Washer	Item 10, Nut
GM19371-MA11	4P4W	GM32507-2	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA12	4P4W, 600 V	GM32507-3	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA13	4Q4W	GM32507-5	324073	270956 (6)	X-25-140	M982-12-80
GM19371-MA14	4P5W	GM32507-8	324074	270956 (6)	X-25-140	M982-12-80
GM19371-MA15	4P5W, 600 V	GM32507-10	324074	270956 (6)	X-25-140	M982-12-80
GM19371-MA16	4P7W	GM32507-16	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA17	4P7W, 600 V	GM32507-17	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA18	4P8W	GM32507-22	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA19	4P8W, 600 V	GM32507-24	324075	270956 (6)	X-25-140	M982-12-80
GM19371-MA20	4Q10W	GM32507-32	324075	270956 (6)	X-25-140	M982-12-80
GM17701-MA18	4P5W	GM32507-7	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA19	4P5W, 600 V	GM32507-9	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA20	4P5BW	GM32507-12	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA21	4P5BW, 600 V	GM32507-14	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA22	4P7BW	GM32507-18	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA23	4P7BW, 600 V	GM32507-19	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA24	4P8W	GM32507-21	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA25	4P8W, 600 V	GM32507-23	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA26	4P10W	GM32507-27	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA27	4P10W, 600 V	GM32507-29	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA28	4Q5W	GM32507-11	324073	270956 (6)	X-25-140	M982-12-80
GM17701-MA29	4Q10W	GM32507-31	324074	270956 (6)	X-25-140	M982-12-80
GM17701-MA30	4Q10W	GM32507-31	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA31	4P8W	GM32507-21	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA32	4P8W, 600 V	GM32507-23	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA33	4P10W	GM32507-27	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17701-MA34	4P10W, 600 V	GM32507-29	324075	M933-10035-82 (6)	X-25-140	M982-12-80
GM17672-MA46	4S7W	GM32995-1	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA47	4S7W, 600 V	GM32995-4	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA48	4S7W	GM32995-3	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA49	4S7W, 600 V	GM32995-5	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA50	4S9W	GM32995-11	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA51	4S9W, 600 V	GM32995-13	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA52	4S13W	GM32995-26	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA53	4S13W, 600 V	GM32995-30	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA54	4V7W	GM32995-6	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA55	4V9W	GM32995-16	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA56	4V11W	GM32995-23	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA57	4S11W	GM32995-17	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA58	4S11W, 600 V	GM32995-19	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA59	4V7W	GM32995-8	336813	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA60	4S9W	GM32995-11	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA61	4S9W, 600 V	GM32995-13	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA62	4V11W	GM32995-23	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA63	4S11W	GM32995-17	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA64	4S11W, 600 V	GM32995-19	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA65	4S13W	GM32995-26	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA66	4S13W, 600 V	GM32995-30	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA67	4S15W	GM32995-33	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA68	4S15W, 600 V	GM32995-35	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA69	4S7W	GM32995-3	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA70	4S7W, 600 V	GM32995-5	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA71	4S9W	GM32995-11	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA72	4S9W, 600 V	GM32995-13	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA73	4V9W	GM32995-16	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA78	4S11W	GM32995-17	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA79	4S11W, 600 V	GM32995-19	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA80	4V11W	GM32995-23	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM19673-MA42	4UA9W	GM33000-6	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA43	4UA9W, 600 V	GM33000-8	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA44	4UA10W	GM33000-10	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA45	4UA10W, 600 V	GM33000-12	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA46	4UA13W	GM33000-14	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA47	4UA13W, 600 V	GM33000-16	324393	X-6024-17 (8)	X-25-103	M982-12-80

Group 201: Generator and Mounting, continued

Wound Field Alternators



PB-115_3

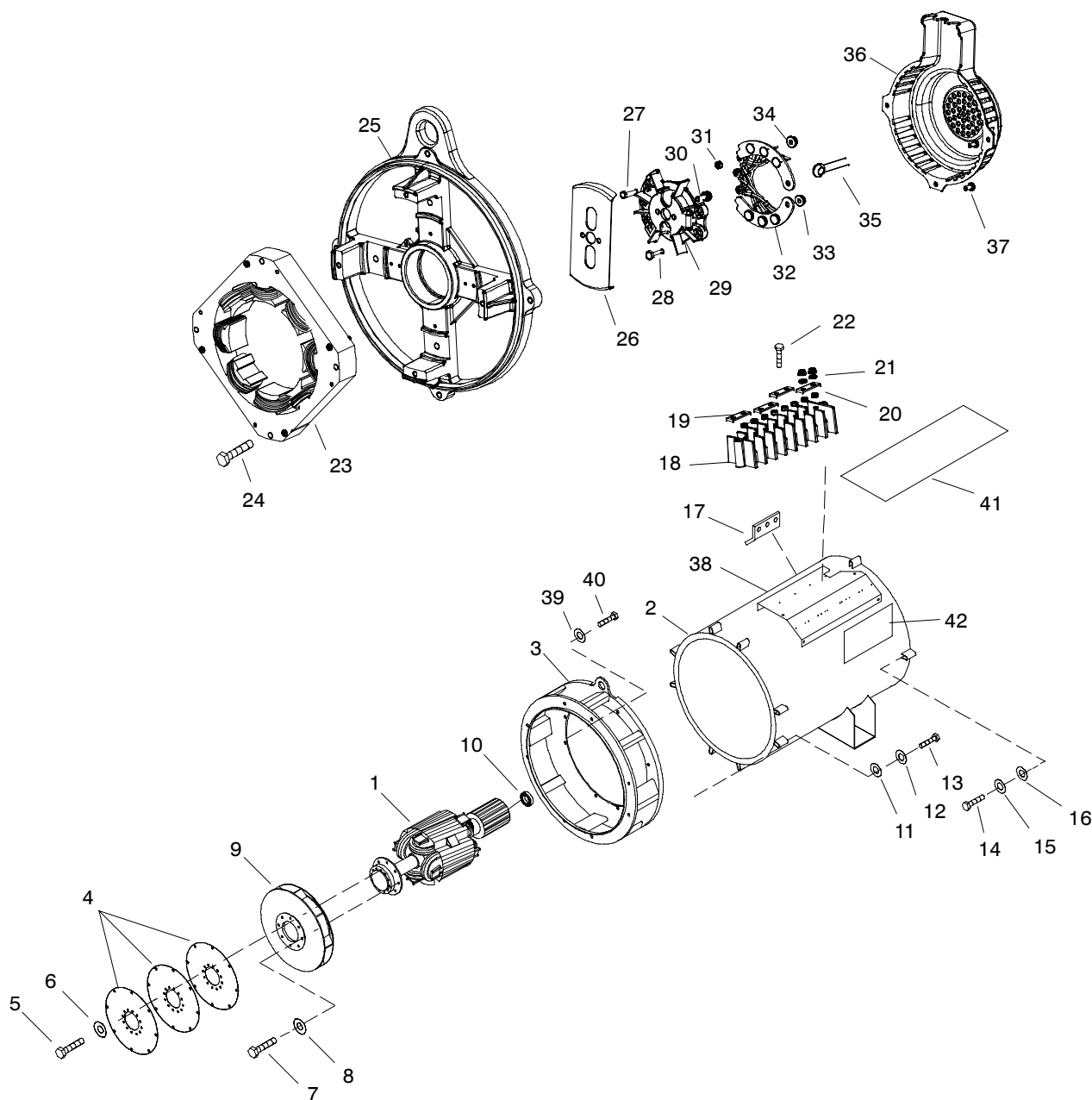
Group 201: Generator and Mounting, continued

Wound Field Alternators

Item	Part No.	Description	Qty.
1	See chart on page 41	Rotor assembly	1
2	See chart on page 41	Stator assembly	1
3	See chart on page 41	Adapter, generator	1
4	See chart on page 41	Disc, drive	4
5	M933-10030-82	Screw, hex cap (4PW and 4QW)	8
5	M933-10035-82	Screw, hex cap (4SW and 4VW)	12
5	M933-12040-82	Screw, hex cap (4UAW)	12
6	X-801-3	Washer, hardened, .406 ID x .812 in. OD (4PW and 4QW)	8
6	X-801-3	Washer, hardened, .406 ID x .812 in. OD (4SW and 4VW)	12
6	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	12
7	M933-10025-60	Screw, hex cap (4PW and 4QW) (4SW and 4VW)	4
7	M933-10025-60	Screw, hex cap (4UAW)	8
8	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW) (4SW and 4VW)	4
8	X-25-93	Washer, .406 ID x .75 in. OD (4UAW)	8
9	347697	Fan, generator (4PW and 4QW)	1
9	257173	Fan, generator (4SW and 4VW)	1
9	257855	Fan, generator (4UAW)	1
10	X-758-2	Bearing, ball (4PW and 4QW)	1
10	X-758-6	Bearing, ball (4SW and 4VW)	1
10	X-758-9	Bearing, ball (4UAW)	1
11	257951	Washer, .562 ID x 1.13 in. OD (4UAW)	8
12	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW)	4
12	X-25-93	Washer, .406 ID x .75 in. OD (4SW and 4VW)	6
12	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	8
13	M931-10050-60	Screw, hex cap (4PW and 4QW)	6
13	M931-10050-60	Screw, hex cap (4SW and 4VW)	1
13	M931-10080-60	Screw, hex cap (4SW and 4VW)	5
13	M931-12095-60	Screw, hex cap (4UAW)	8
14	M933-10070-60	Screw, hex cap (4PW and 4QW)	4
14	M933-10100-60	Screw, hex cap (4SW and 4VW)	4
14	M931-12095-60	Screw, hex cap (4UAW)	4
15	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW) (4SW and 4VW)	4
15	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	4
16	257951	Washer, .562 ID x 1.13 in. OD (4UAW)	4
17	257986	Bus (4PW and 4QW) (4SW and 4VW)	1
17	257978	Bus (4UAW)	1
18	GM31969	Block, terminal (4SW and 4VW) (4UAW)	1
19	GM31970	Link, terminal block (4SW and 4VW) (4UAW)	4
20	M6923-10-80	Nut, hex, 10 mm (4SW and 4VW) (4UAW)	16
21	M125A-10-80	Washer, plain (4SW and 4VW) (4UAW)	8
22	M7500D-06020-81	Screw (4SW and 4VW) (4UAW)	2
23	GM32516-1	Exciter field (4PW and 4QW)	1
23	GM32516-2	Exciter field (4SW and 4VW)	1
23	GM32518-1	Exciter field (4UAW)	1
23	GM32518-2	Exciter field (4UA13W)	1
24	M931-08055-60	Screw, hex head (4PW and 4QW)	4
24	M931-08100-60	Screw, hex head (4SW and 4VW)	4
24	M931-08060-60	Screw, hex head (4UAW)	4
24	M931-08085-60	Screw, hex head (4UA13W)	4
25	GM28965	Bracket, end (4PW and 4QW)	1
25	GM28964	Bracket, end (4SW and 4VW)	1
25	GM31973	Bracket, end (4UAW)	1
26	GM31967	Actuator, magnetic	1
27	M933-05020-60	Screw, hex cap	3
28	M933-06020-60	Screw, hex cap	2
29	GM31960	Hub, rotating diode assembly	1
30	M933-06016-60	Screw, hex cap	2
31	M934-05-50	Nut, hex, 5 mm	3
32	GM31963	Plates, diode assembly	1
33	M982-06-80	Nut, hex, elastic stop	2
34	M982-05-60	Nut, hex, elastic stop	3
35	228061	Varistor, 250 V	1
36	GM31968	Cover, rotating diode assembly	1
37	M7500D-05010-81	Screw, thread forming metric	3
38	344295	Decal, equipment ground	1
39	X-801-6	Washer, .469 ID x .922 in. OD (4UAW)	8
40	X-6024-18	Screw, hex head (4UAW)	8
41	GM38474	Decal, terminal board	1
42	GM38475	Decal, board reconnection	1

Group 201: Generator and Mounting, continued

Wound Field Alternators



PB-115_3

Group 201: Generator and Mounting, continued

Find the installed module number on the generator set nameplate.

Wound Field Alternators

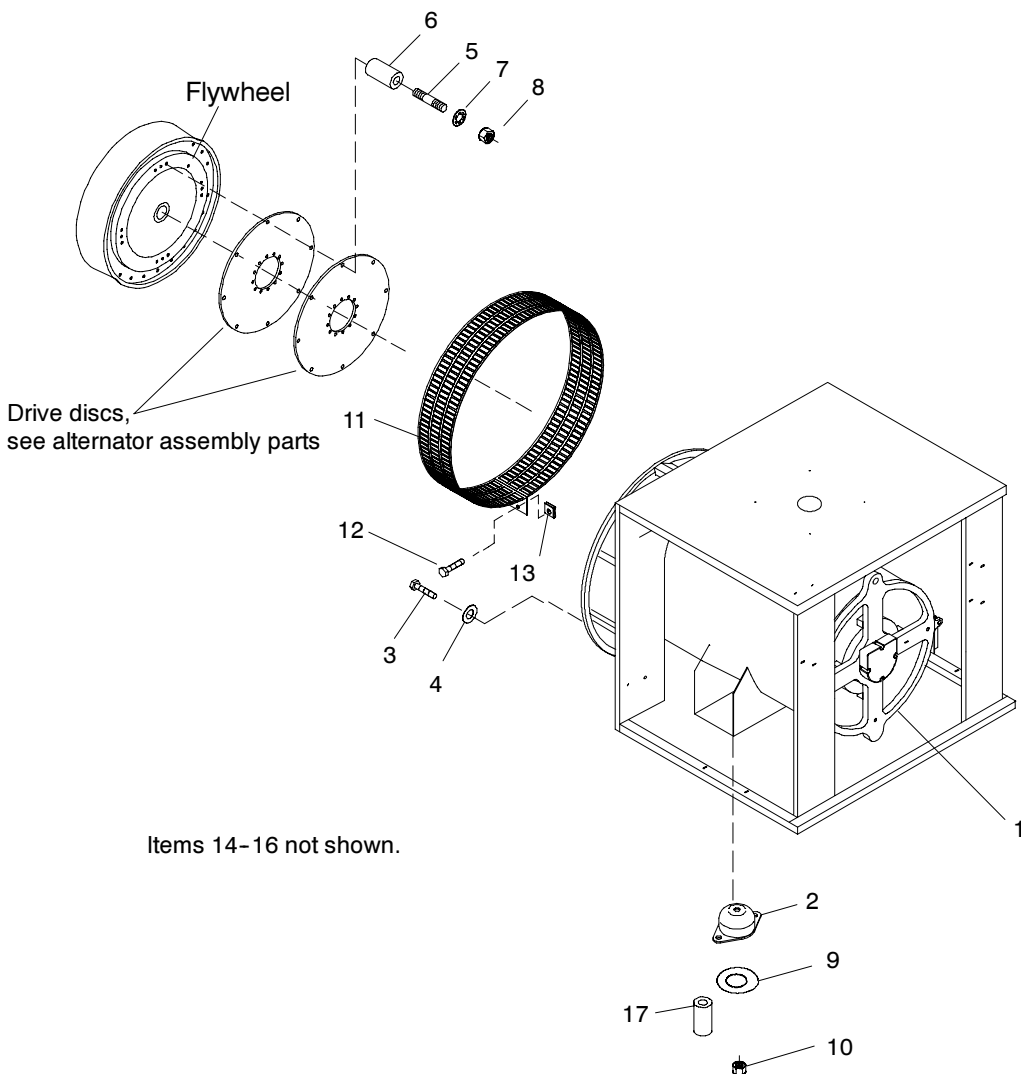
Alternator Part Number and Components

Use this table to identify the alternator rotor, stator, adapter, and drive disc part numbers (items 1-4).

Module Number	Alternator Description	Alternator Part No.	Item 1, Rotor	Item 2, Stator	Item 3, Adapter	Item 4, Drive Discs
GM17701-MA18	4P5W	GM32507-7	GM32406-4	GM32504-2	GM32006	257015
GM17701-MA19	4P5W, 600 V	GM32507-9	GM32406-4	GM32505-2	GM32006	257015
GM17701-MA20	4P5BW	GM32507-12	GM32406-5	GM32504-3	GM32006	257015
GM17701-MA21	4P5BW, 600 V	GM32507-14	GM32406-5	GM32505-3	GM32006	257015
GM17701-MA22	4P7BW	GM32507-18	GM32406-8	GM32504-5	GM32006	257015
GM17701-MA23	4P7BW, 600 V	GM32507-19	GM32406-8	GM32505-5	GM32006	257015
GM17701-MA24	4P8W	GM32507-21	GM32406-10	GM32504-6	GM32006	257015
GM17701-MA25	4P8W, 600 V	GM32507-23	GM32406-10	GM32505-6	GM32006	257015
GM17701-MA26	4P10W	GM32507-27	GM32406-11	GM32504-7	GM32006	257015
GM17701-MA27	4P10W, 600 V	GM32507-29	GM32406-11	GM32505-7	GM32006	257015
GM17701-MA28	4Q5W	GM32507-11	GM32406-4	GM32506-2	GM32006	257015
GM17701-MA29	4Q10W	GM32507-31	GM32406-11	GM32506-4	GM32006	257015
GM17701-MA30	4Q10W	GM32507-31	GM32406-11	GM32506-4	GM32006	257015
GM17701-MA31	4P8W	GM32507-21	GM32406-10	GM32504-6	GM32006	257015
GM17701-MA32	4P8W, 600 V	GM32507-23	GM32406-10	GM32505-6	GM32006	257015
GM17701-MA33	4P10W	GM32507-27	GM32406-11	GM32504-7	GM32006	257015
GM17701-MA34	4P10W, 600 V	GM32507-29	GM32406-11	GM32505-7	GM32006	257015
GM19371-MA11	4P4W	GM32507-2	GM32406-2	GM32504-1	GM32007	257015
GM19371-MA12	4P4W, 600 V	GM32507-3	GM32406-2	GM32505-1	GM32007	257015
GM19371-MA13	4Q4W	GM32507-5	GM32406-2	GM32506-1	GM32007	257015
GM19371-MA14	4P5W	GM32507-8	GM32406-4	GM32504-2	GM32007	257015
GM19371-MA15	4P5W, 600 V	GM32507-10	GM32406-4	GM32505-2	GM32007	257015
GM19371-MA16	4P7W	GM32507-16	GM32406-7	GM32504-4	GM32007	257015
GM19371-MA17	4P7W, 600 V	GM32507-17	GM32406-7	GM32505-4	GM32007	257015
GM19371-MA18	4P8W	GM32507-22	GM32406-10	GM32504-6	GM32007	257015
GM19371-MA19	4P8W, 600 V	GM32507-24	GM32406-10	GM32505-6	GM32007	257015
GM19371-MA20	4Q10W	GM32507-32	GM32406-11	GM32506-4	GM32007	257015
GM17672-MA46	4S7W	GM32995-1	GM32407-1	GM32991-1	GM32008	257102
GM17672-MA47	4S7W, 600 V	GM32995-4	GM32407-1	GM32993-1	GM32008	257102
GM17672-MA48	4S7W	GM32995-3	GM32407-2	GM32991-1	GM32008	257103
GM17672-MA49	4S7W, 600 V	GM32995-5	GM32407-2	GM32993-1	GM32008	257103
GM17672-MA50	4S9W	GM32995-11	GM32407-4	GM32991-2	GM32008	257103
GM17672-MA51	4S9W, 600 V	GM32995-13	GM32407-4	GM32993-2	GM32008	257103
GM17672-MA52	4S13W	GM32995-26	GM32407-9	GM32991-4	GM32008	257103
GM17672-MA53	4S13W, 600 V	GM32995-30	GM32407-9	GM32993-4	GM32008	257103
GM17672-MA54	4V7W	GM32995-6	GM32407-1	GM32994-1	GM32008	257102
GM17672-MA55	4V9W	GM32995-16	GM32407-4	GM32994-2	GM32008	257103
GM17672-MA56	4V11W	GM32995-23	GM32407-6	GM32994-3	GM32008	257103
GM17672-MA57	4S11W	GM32995-17	GM32407-6	GM32991-3	GM32008	257103
GM17672-MA58	4S11W, 600 V	GM32995-19	GM32407-6	GM32993-3	GM32008	257103
GM17672-MA59	4V7W	GM32995-8	GM32407-2	GM32994-1	GM32008	257103
GM17672-MA60	4S9W	GM32995-11	GM32407-4	GM32991-2	GM32008	257103
GM17672-MA61	4S9W, 600 V	GM32995-13	GM32407-4	GM32993-2	GM32008	257103
GM17672-MA62	4V11W	GM32995-23	GM32407-6	GM32994-3	GM32008	257103
GM17672-MA63	4S11W	GM32995-17	GM32407-6	GM32991-3	GM32008	257103
GM17672-MA64	4S11W, 600 V	GM32995-19	GM32407-6	GM32993-3	GM32008	257103
GM17672-MA65	4S13W	GM32995-26	GM32407-9	GM32991-4	GM32008	257103
GM17672-MA66	4S13W, 600 V	GM32995-30	GM32407-9	GM32993-4	GM32008	257103
GM17672-MA67	4S15W	GM32995-33	GM32407-11	GM32992	GM32008	257103
GM17672-MA68	4S15W, 600 V	GM32995-35	GM32407-11	GM32993-5	GM32008	257103
GM17672-MA69	4S7W	GM32995-3	GM32407-2	GM32991-1	GM32008	257103
GM17672-MA70	4S7W, 600 V	GM32995-5	GM32407-2	GM32993-1	GM32008	257103
GM17672-MA71	4S9W	GM32995-11	GM32407-4	GM32991-2	GM32008	257103
GM17672-MA72	4S9W, 600 V	GM32995-13	GM32407-4	GM32993-2	GM32008	257103
GM17672-MA73	4V9W	GM32995-16	GM32407-4	GM32994-2	GM32008	257103
GM17672-MA78	4S11W	GM32995-17	GM32407-6	GM32991-3	GM32008	257103
GM17672-MA79	4S11W, 600 V	GM32995-19	GM32407-6	GM32993-3	GM32008	257103
GM17672-MA80	4V11W	GM32995-23	GM32407-6	GM32994-3	GM32008	257103
GM19673-MA42	4UA9W	GM33000-6	GM32424-4	GM32996-2	GM32011	GM31972
GM19673-MA43	4UA9W, 600 V	GM33000-8	GM32424-4	GM32997-2	GM32011	GM31972
GM19673-MA44	4UA10W	GM33000-10	GM32424-6	GM32996-3	GM32011	GM31972
GM19673-MA45	4UA10W, 600 V	GM33000-12	GM32424-6	GM32997-3	GM32011	GM31972
GM19673-MA46	4UA13W	GM33000-14	GM32424-8	GM32996-4	GM32011	GM31972
GM19673-MA47	4UA13W, 600 V	GM33000-16	GM32424-8	GM32997-4	GM32011	GM31972

Group 201: Generator and Mounting, continued

Wound Field Alternators, U.L. 2200



6102_201

Item	Part Number	Description	Qty.
1	See chart on following page	Alternator assembly	1
2	See chart on following page	Vibromount	2
3	See chart on following page	Bolt, hex cap	6/8
4	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	6
4	X-801-6	Washer, hardened, .469 ID x .922 in. OD (4UA)	8
5	X-352-63	Stud, 3/8-16 x 4 in. (4P, 4Q, 4S, 4V)	8
5	X-129-54	Bolt, hex cap (4U)	8
6	X-400-132	Spacer, .406 ID x .625 OD x 2.531 in. (4P, 4Q, 4S, 4V)	8
7	X-801-3	Washer, hardened, .406 ID x .812 OD (4P, 4Q, 4S, 4V)	8
7	290945	Washer, hardened, .531 ID x 1.06 in. OD (4UA)	8
8	X-6210-9	Nut, flange spirallock, 3/8-16 (4P, 4Q, 4S, 4V)	8
9	See chart on following page	Washer, plain	2
10	See chart on following page	Nut, hex elastic stop	2
11	257046	Guard, generator fan (4P and 4Q)	1
11	257179	Guard, generator fan (4S and 4V)	1
11	347268	Guard, generator fan (4UA)	2
12	X-67-125	Screw, hex washer, thread-forming	2
12	X-67-125	Screw, hex washer, thread-forming (4UA)	4
13	257442	Clip, speed	2
13	257442	Clip, speed (4UA)	4
14	X-750-14	Marker, wire L1 (not shown)	1
15	X-750-15	Marker, wire L2 (not shown)	1
16	X-750-16	Marker, wire L3 (not shown)	1
17	X-400-197	Spacer, .532 ID x .75 OD x 2.88 in. (used with vibromounts 324392 and 324393)	2

Group 201: Generator and Mounting, continued

Find the installed module number on the generator set nameplate.

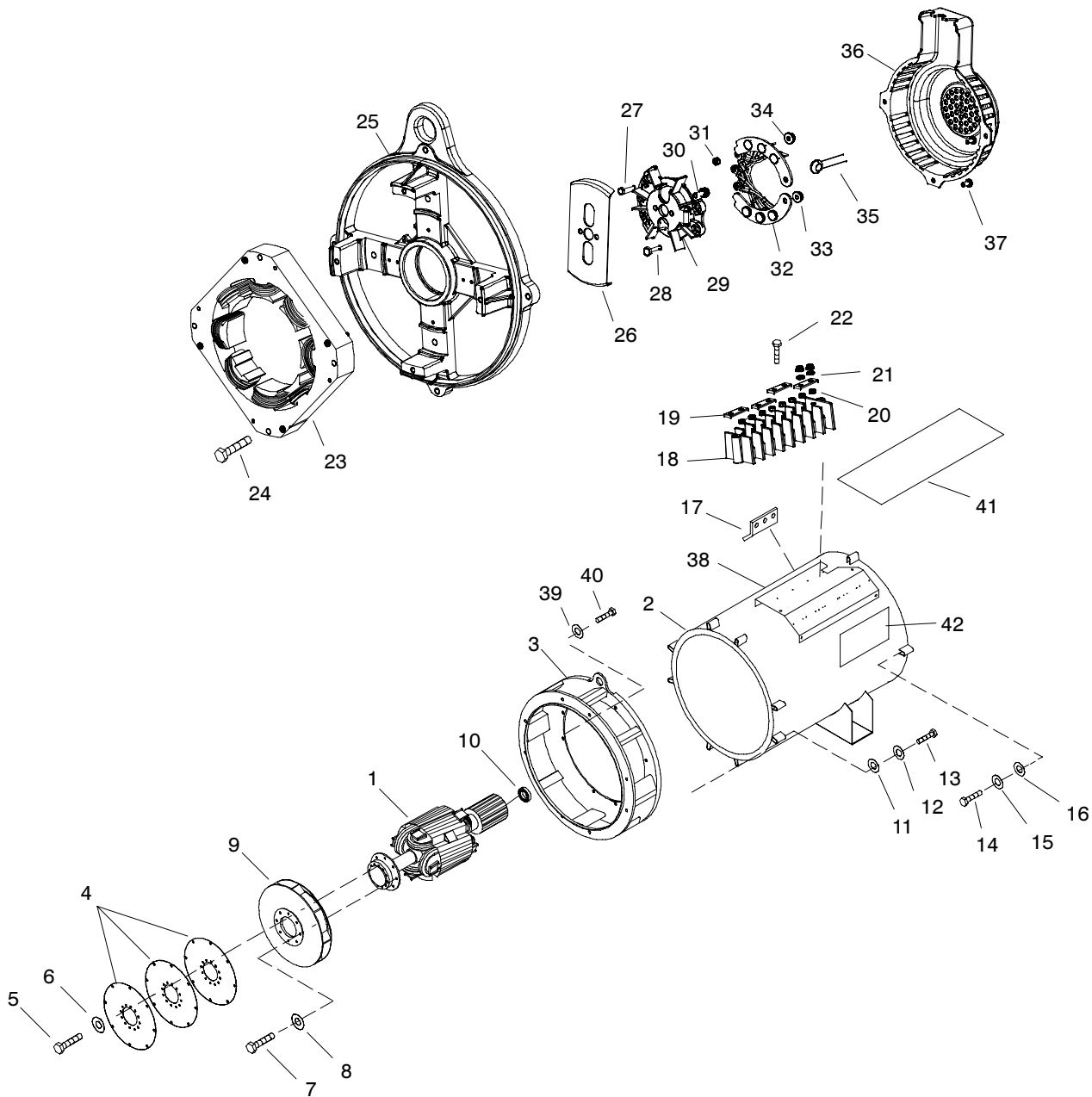
Wound Field Alternators, U.L. 2200

Use this table to identify the module number's alternator and mounting part numbers.

Module Number	Alternator Description	Item 1, Alternator Assembly	Item 2, Vibromount	Item 3, Bolt	Item 9, Washer	Item 10, Nut
GM17672-MA91	4S7W	GM39944-1	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA92	4S7W, 600 V	GM39944-4	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA93	4S7W	GM39944-3	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA94	4S7W, 600 V	GM39944-5	336813	270158 (6)	X-25-112	M982-16-80
GM17672-MA95	4S9W	GM39944-11	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA96	4S9W, 600 V	GM39944-13	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA97	4S13W	GM39944-26	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA98	4S13W, 600 V	GM39944-30	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA99	4V7W	GM39944-6	324075	270158 (6)	X-25-140	M982-12-80
GM17672-MA100	4V9W	GM39944-16	324391	270158 (6)	X-25-112	M982-16-80
GM17672-MA101	4V11W	GM39944-23	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA102	4S11W	GM39944-17	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA103	4S11W, 600 V	GM39944-19	336024	270158 (6)	X-25-112	M982-16-80
GM17672-MA104	4V7W	GM39944-8	336813	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA105	4S9W	GM39944-11	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA106	4S9W, 600 V	GM39944-13	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA107	4V11W	GM39944-23	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA108	4S11W	GM39944-17	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA109	4S11W, 600 V	GM39944-19	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA110	4S13W	GM39944-26	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA111	4S13W, 600 V	GM39944-30	324392	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA112	4S15W	GM39944-33	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA113	4S15W, 600 V	GM39944-35	324393	M933-10035-82 (6)	X-25-103	M982-12-80
GM17672-MA114	4S7W	GM39944-3	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA115	4S7W, 600 V	GM39944-5	336813	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA116	4S9W	GM39944-11	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA117	4S9W, 600 V	GM39944-13	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA118	4V9W	GM39944-16	324391	M933-10035-82 (6)	X-25-112	M982-12-80
GM17672-MA123	4S11W	GM39944-17	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA124	4S11W, 600 V	GM39944-19	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM17672-MA125	4V11W	GM39944-23	336024	M933-10035-82 (6)	X-25-112	M982-16-80
GM19673-MA107	4UA9W	GM39945-6	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA108	4UA9W, 600 V	GM39945-8	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA109	4UA10W	GM39945-10	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA110	4UA10W, 600 V	GM39945-12	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA111	4UA13W	GM39945-14	324393	X-6024-17 (8)	X-25-103	M982-12-80
GM19673-MA112	4UA13W, 600 V	GM39945-16	324393	X-6024-17 (8)	X-25-103	M982-12-80

Group 201: Generator and Mounting, continued

Wound Field Alternators, U.L. 2200



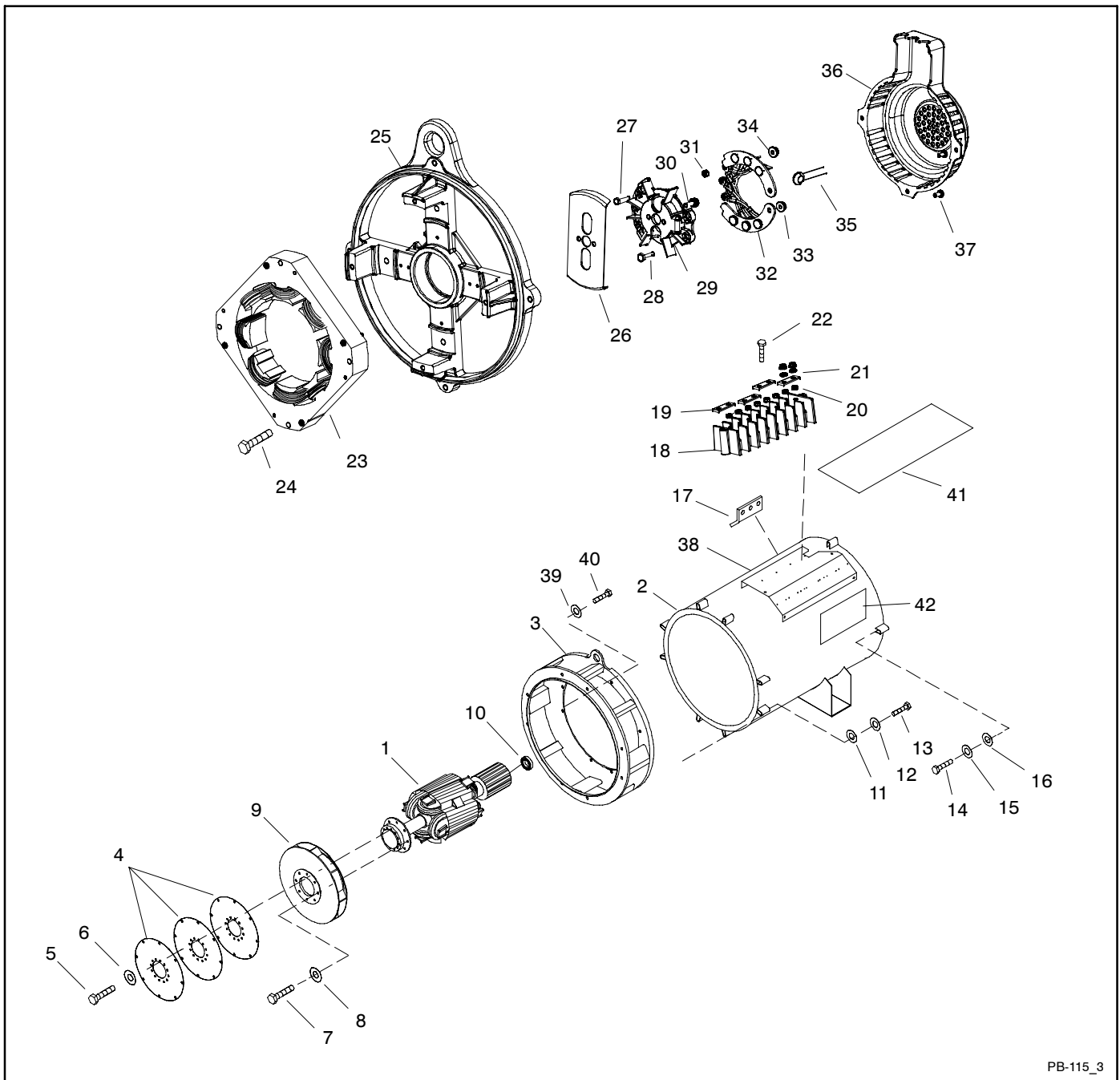
PB-115_3

Group 201: Generator and Mounting, continued

Wound Field Alternators, U.L. 2200

Item	Part No.	Description	Qty.
1	See chart on page 47	Rotor assembly	1
2	See chart on page 47	Stator assembly	1
3	See chart on page 47	Adapter, generator	1
4	See chart on page 47	Disc, drive	4
5	M933-10030-82	Screw, hex cap (4PW and 4QW)	8
5	M933-10035-82	Screw, hex cap (4SW and 4VW)	12
5	M933-12040-82	Screw, hex cap (4UAW)	12
6	X-801-3	Washer, hardened, .406 ID x .812 in. OD (4PW and 4QW)	8
6	X-801-3	Washer, hardened, .406 ID x .812 in. OD (4SW and 4VW)	12
6	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	12
7	M933-10025-60	Screw, hex cap (4PW and 4QW) (4SW and 4VW)	4
7	M933-10025-60	Screw, hex cap (4UAW)	8
8	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW) (4SW and 4VW)	4
8	X-25-93	Washer, .406 ID x .75 in. OD (4UAW)	8
9	347697	Fan, generator (4PW and 4QW)	1
9	257173	Fan, generator (4SW and 4VW)	1
9	257855	Fan, generator (4UAW)	1
10	X-758-2	Bearing, ball (4PW and 4QW)	1
10	X-758-6	Bearing, ball (4SW and 4VW)	1
10	X-758-9	Bearing, ball (4UAW)	1
11	257951	Washer, .562 ID x 1.13 in. OD (4UAW)	8
12	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW)	4
12	X-25-93	Washer, .406 ID x .75 in. OD (4SW and 4VW)	6
12	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	8
13	M931-10050-60	Screw, hex cap (4PW and 4QW)	6
13	M931-10050-60	Screw, hex cap (4SW and 4VW)	1
13	M931-10080-60	Screw, hex cap (4SW and 4VW)	5
13	M931-12095-60	Screw, hex cap (4UAW)	8
14	M933-10060-60	Screw, hex cap (4PW and 4QW)	4
14	M933-10100-60	Screw, hex cap (4SW and 4VW)	4
14	M931-12095-60	Screw, hex cap (4UAW)	4
15	X-25-93	Washer, .406 ID x .75 in. OD (4PW and 4QW) (4SW and 4VW)	4
15	290945	Washer, .531 ID x 1.06 in. OD (4UAW)	4
16	257951	Washer, .562 ID x 1.13 in. OD (4UAW)	4
17	257986	Bus (4PW and 4QW) (4SW and 4VW)	1
17	257978	Bus (4UAW)	1
18	GM31969	Block, terminal	1
19	—	Link, terminal block (see Load Connection Kit for part number)	—
20	—	Nut, hex, 10 mm (see Load Connection Kit for part number)	—
21	—	Washer, plain (see Load Connection Kit for part number)	—
22	M7500D-06020-81	Screw (4SW and 4VW) (4UAW)	2
23	GM32516-1	Exciter field (4PW and 4QW)	1
23	GM32516-2	Exciter field (4SW and 4VW)	1
23	GM32518-3	Exciter field (4UAW)	1
23	GM32518-4	Exciter field (4UA13W)	1
24	M931-08055-60	Screw, hex head (4PW and 4QW)	4
24	M933-08100-60	Screw, hex head (4SW and 4VW)	4
24	M931-08060-60	Screw, hex head (4UAW)	4
24	M931-08085-60	Screw, hex head (4UA13W)	4
25	GM28965	Bracket, end (4PW and 4QW)	1
25	GM28964	Bracket, end (4SW and 4VW)	1
25	GM31973	Bracket, end (4UAW)	1
26	GM31967	Actuator, magnetic	1
27	M933-05020-60	Screw, hex cap	3
28	M933-06020-60	Screw, hex cap	2
29	GM31960	Hub, rotating diode assembly	1
30	M933-06016-60	Screw, hex cap	2
31	M934-05-50	Nut, hex, 5 mm	3
32	GM31963	Plates, diode assembly	1
33	M982-06-80	Nut, hex, elastic stop	2
34	M982-05-60	Nut, hex, elastic stop	3
35	228061	Varistor, 250 V	1
36	GM31968	Cover, rotating diode assembly	1
37	M7500D-05010-81	Screw, thread forming metric	3
38	344295	Decal, equipment ground	1
39	X-801-6	Washer, .469 ID x .922 in. OD (4UAW)	8
40	X-6024-18	Screw, hex head (4UAW)	8
41	GM39793	Decal, terminal board	1
42	GM39792	Decal, board reconnection	1

Group 201: Generator and Mounting, continued



PB-115_3

Wound Field Alternators, U.L. 2200

Group 201: Generator and Mounting, continued

Find the installed module number on the generator set nameplate.

Wound Field Alternators, U.L. 2200

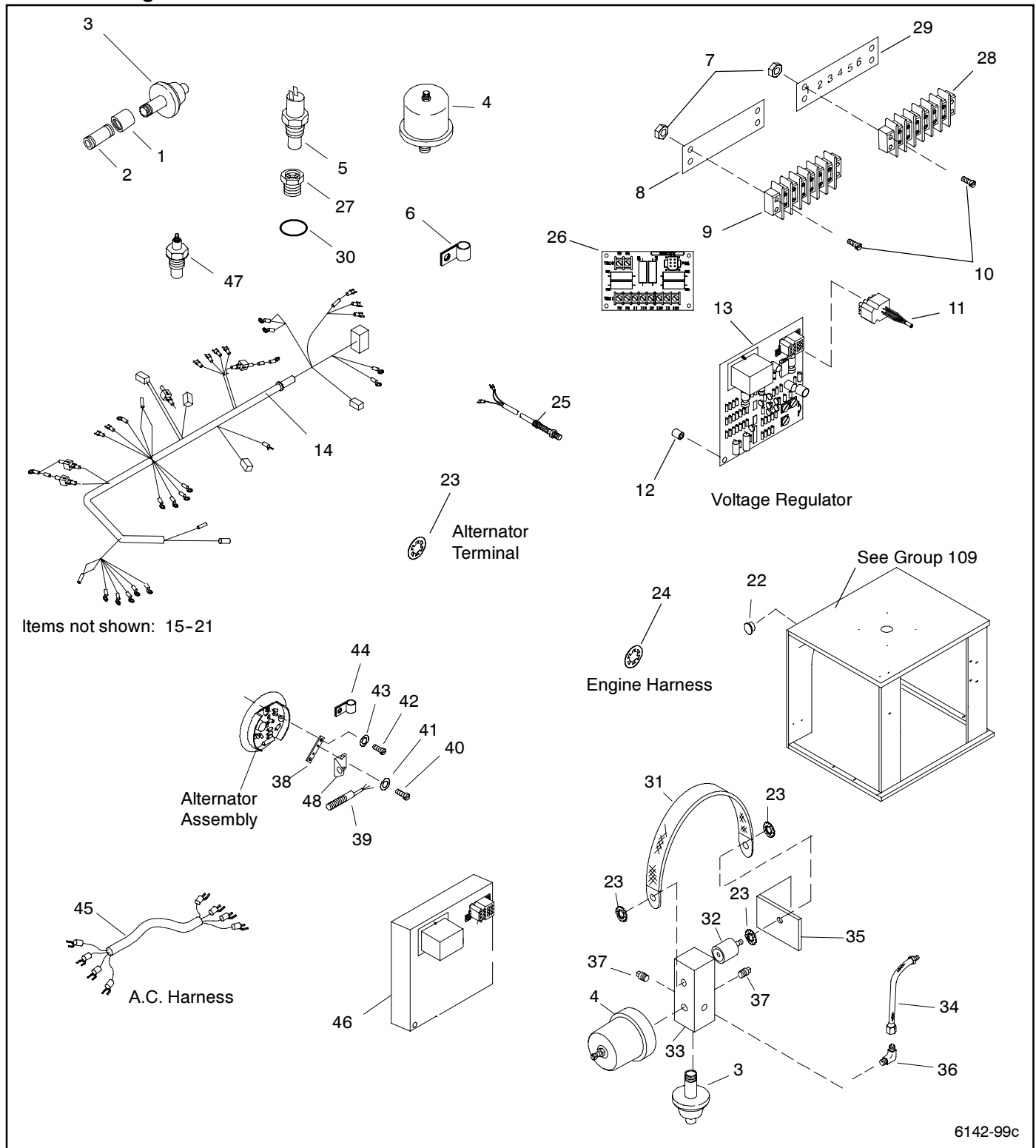
Alternator Part Number and Components

Use this table to identify the alternator rotor, stator, adapter, and drive disc part numbers (items 1-4).

Module Number	Alternator Description	Alternator Part No.	Item 1, Rotor	Item 2, Stator	Item 3, Adapter	Item 4, Drive Discs
GM17672-MA91	4S7W	GM39944-1	GM32407-1	GM39940-1	GM32008	257102
GM17672-MA92	4S7W, 600 V	GM39944-4	GM32407-1	GM39942-1	GM32008	257102
GM17672-MA93	4S7W	GM39944-3	GM32407-2	GM39940-1	GM32008	257103
GM17672-MA94	4S7W, 600 V	GM39944-5	GM32407-2	GM39942-1	GM32008	257103
GM17672-MA95	4S9W	GM39944-11	GM32407-4	GM39940-2	GM32008	257103
GM17672-MA96	4S9W, 600 V	GM39944-13	GM32407-4	GM39942-2	GM32008	257103
GM17672-MA97	4S13W	GM39944-26	GM32407-9	GM39940-4	GM32008	257103
GM17672-MA98	4S13W, 600 V	GM39944-30	GM32407-9	GM39942-4	GM32008	257103
GM17672-MA99	4V7W	GM39944-6	GM32407-1	GM39943-1	GM32008	257102
GM17672-MA100	4V9W	GM39944-16	GM32407-4	GM39943-2	GM32008	257103
GM17672-MA101	4V11W	GM39944-23	GM32407-6	GM39943-3	GM32008	257103
GM17672-MA102	4S11W	GM39944-17	GM32407-6	GM39940-3	GM32008	257103
GM17672-MA103	4S11W, 600 V	GM39944-19	GM32407-6	GM39942-3	GM32008	257103
GM17672-MA104	4V7W	GM39944-8	GM32407-2	GM39943-1	GM32008	257103
GM17672-MA105	4S9W	GM39944-11	GM32407-4	GM39940-2	GM32008	257103
GM17672-MA106	4S9W, 600 V	GM39944-13	GM32407-4	GM39942-2	GM32008	257103
GM17672-MA107	4V11W	GM39944-23	GM32407-6	GM39943-3	GM32008	257103
GM17672-MA108	4S11W	GM39944-17	GM32407-6	GM39940-3	GM32008	257103
GM17672-MA109	4S11W, 600 V	GM39944-19	GM32407-6	GM39942-3	GM32008	257103
GM17672-MA110	4S13W	GM39944-26	GM32407-9	GM39940-4	GM32008	257103
GM17672-MA111	4S13W, 600 V	GM39944-30	GM32407-9	GM39942-4	GM32008	257103
GM17672-MA112	4S15W	GM39944-33	GM32407-11	GM39941	GM32008	257103
GM17672-MA113	4S15W, 600 V	GM39944-35	GM32407-11	GM39942-5	GM32008	257103
GM17672-MA114	4S7W	GM39944-3	GM32407-2	GM39940-1	GM32008	257103
GM17672-MA115	4S7W, 600 V	GM39944-5	GM32407-2	GM39942-1	GM32008	257103
GM17672-MA116	4S9W	GM39944-11	GM32407-4	GM39940-2	GM32008	257103
GM17672-MA117	4S9W, 600 V	GM39944-13	GM32407-4	GM39942-2	GM32008	257103
GM17672-MA118	4V9W	GM39944-16	GM32407-4	GM39943-2	GM32008	257103
GM17672-MA123	4S11W	GM39944-17	GM32407-6	GM39940-3	GM32008	257103
GM17672-MA124	4S11W, 600 V	GM39944-19	GM32407-6	GM39942-3	GM32008	257103
GM17672-MA125	4V11W	GM39944-23	GM32407-6	GM39943-3	GM32008	257103
GM19673-MA107	4UA9W	GM39945-6	GM32424-4	GM32996-2	GM32011	GM31972
GM19673-MA108	4UA9W, 600 V	GM39945-8	GM32424-4	GM32997-2	GM32011	GM31972
GM19673-MA109	4UA10W	GM39945-10	GM32424-6	GM32996-3	GM32011	GM31972
GM19673-MA110	4UA10W, 600 V	GM39945-12	GM32424-6	GM32997-3	GM32011	GM31972
GM19673-MA111	4UA13W	GM39945-14	GM32424-8	GM39830	GM32011	GM31972
GM19673-MA112	4UA13W, 600 V	GM39945-16	GM32424-8	GM32997-4	GM32011	GM31972

Control and Harness

Permanent Magnet-Excited Alternators



6142-99c

Control and Harness

Find the installed module number on the generator set nameplate.

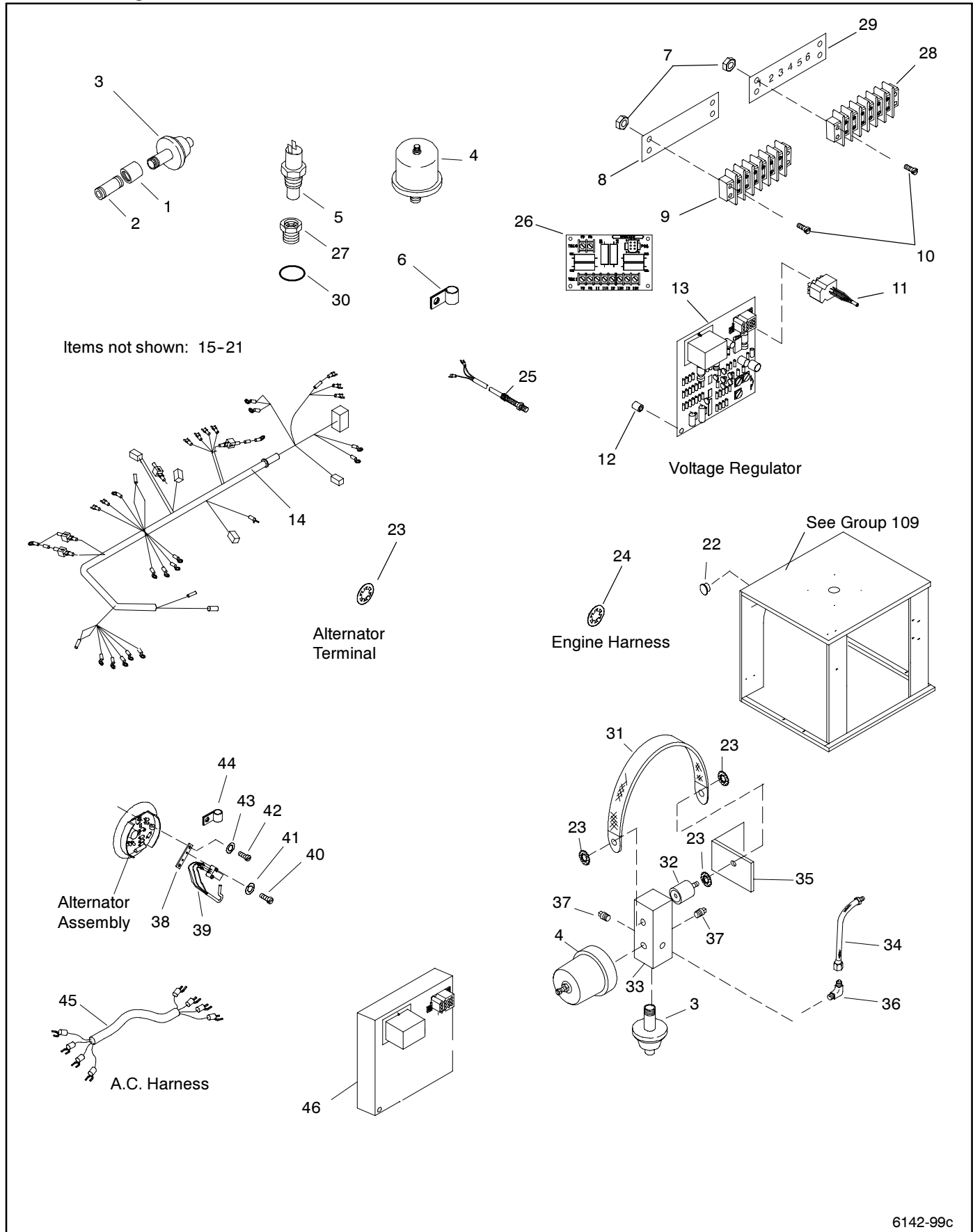
Permanent Magnet-Excited Alternators With Non-550 Controller

Item	Part Number	Description	Quantity Module												
			GM19459-MA1	GM19459-MA4	GM19873-MA1	GM19873-MA2	GM19873-MA3	GM19873-MA4	GM20880-MA1	GM20880-MA2	GM21205-MA1	GM21205-MA2	GM31004-MA1	GM30994-MA1	GM39066-MA1
1	X-216-24	Coupling, pipe, 1/8 x 1 3/16 in.	1	1	1	1	1	1							
2	X-217-6	Nipple, pipe, 1/8 x 3/4 in.	1	1	1	1	1	1							
3	328309	Switch assembly, pressure	1	1	1	1	1	1	1	1	1	1	1	1	
4	343473	Sender, oil pressure	1	1	1	1	1	1	1	1	1	1	1	1	1
5	GM24648	Switch, sensor	1	1	1	1		1	1	1	1				
5	336923	Switch, high temperature shutoff					1		1			1			
5	GM10626	Switch, sensor (HCT/CTS)								1			1	1	
5	361956	Switch, low coolant temp.													1
6	X-672-3	Clamp, insulating	2	2							1	1	1	1	
6	X-672-37	Clamp			1		1	1			1	1	2	1	1
6	X-672-38	Clamp				1									
6	298776	Base, tie wrap			1	1	1	1							
6	361567	Base, tie wrap							2	2			3	1	
7	M934-04-50	Nut, hex, 4 mm	4	4	2	2	2	2	2	2	2	2	4	4	2
8	255080	Marker, strip	1	1	1	1	1	1	1	1	1	1	1	1	1
9	295314	Block, terminal	1	1	1	1	1	1	1	1	1	1	1	1	1
10	M7985A-04020-20	Screw, pan head machine	4	4	2	2	2	2	2	2	2	2	4	4	2
11	GM23800	Harness, wiring		1											
11	226650	Harness, wiring	1												
11	354118	Harness, wiring											1	1	1
12	282829	Standoff, circuit board	6												
12	360459	Standoff, circuit board		6	5	5	5	5	5	5	6	6	5	6	5
13	A-226646	PCB assembly, FRII voltage, Hz regulator	1												
13	A-360800	PCB assembly, FRII voltage, Hz regulator		1											
13	C-255670	PCB assembly, FRII voltage, Hz regulator			1		1	1	1	1	1	1	1	1	
13	A-354653	PCB assembly, FRII voltage, Hz regulator				1									1
14	GM17613	Harness, engine, 20-40 kW*	1	1											
14	GM19883	Harness, engine, 180 kW*			1		1	1							
14	GM19884	Harness, engine, 200/230 kW*				1									
14	GM34406	Harness, engine, 150 kW*							1	1					
14	GM34638	Harness, engine, 50-80 kW*									1	1			
14	GM32190	Harness, engine, 135-180 kW (Tier 2)											1		
14	GM32187	Harness, engine, 80/100 kW (Tier 2)												1	
14	GM39359	Harness, engine, 200 kW (Tier 2)													1
15	GM13701	Connector, weathertight, 2-position (not shown)	1	1	1	1	1	1							
16	233959	Diode, 6 A (not shown)	4	4	4	4	4	4	4	4	4	4			4
17	292800	Connector, cable (not shown)	1	1	1	1	1	1	1	1	1	1			1
18	295145	Connector, 24-position (not shown)	1	1	1	1	1	1	1	1	1	1			1
20	GM31914	Connector, 21 pin (not shown)											1		1
21	GM31915	Connector, 23 pin (not shown)											1		1
22	X-301-45	Plug, button			1	1	1	1	1	1					1
23	X-22-12	Washer, lock, .262 ID x .743 in. OD			1	1	1	1						4	
24	X-22-15	Washer, lock, .456 ID x 1.058 in. OD (4UA alt.)				1									
24	X-22-26	Washer, lock, .521 ID x 1.24 in. OD (4S alternator)	1	1	1	1	1	1	1	1	1	1	1	1	
27	X-202-28	Bushing, reducer	1	1											
28	295314	Block, terminal											1	1	
29	299090	Marker, strip											1	1	
30	365499	O-ring													1
31	223033	Strap, ground												1	
32	259632	Bumper												1	
33	267548	Block, oil gauge												1	
34	270727	Line, flexible oil												1	
35	GM30977	Bracket, oil block												1	
36	X-447-10	Elbow, oil line												1	
37	X-75-4	Plug, pipe, 1/8 in. NPT												2	
38	257070	Bracket, sensor mounting	1	1	1	1			1		1		1	1	
39	GM30120	Sensor, speed	1	1	1	1			1		1		1	1	
40	X-49-43	Screw, pan head machine	2	2	2	2			2		2		2	2	
41	X-22-24	Washer, lock, .119 ID x .263 in. OD	2	2	2	2			2		2		2	2	
42	X-117-5	Screw, hex head machine	2	2	2	2			2		2		2	2	
43	X-22-9	Washer, lock, .20 ID x .373 in. OD	2	2	2	2			2		2		2	2	
44	X-672-15	Clamp, insulated, .25 in.	1	1	1	1			1		1		1	1	
47	GM10166	Sender, temperature													1
48	GM30122	Bracket, sensor mounting	1	1	1	1			1		1		1	1	

* Harness includes items 15-21, not shown.

Control and Harness, continued

Permanent Magnet-Excited Alternators



6142-99c

Control and Harness, continued

Find the installed module number on the generator set nameplate.

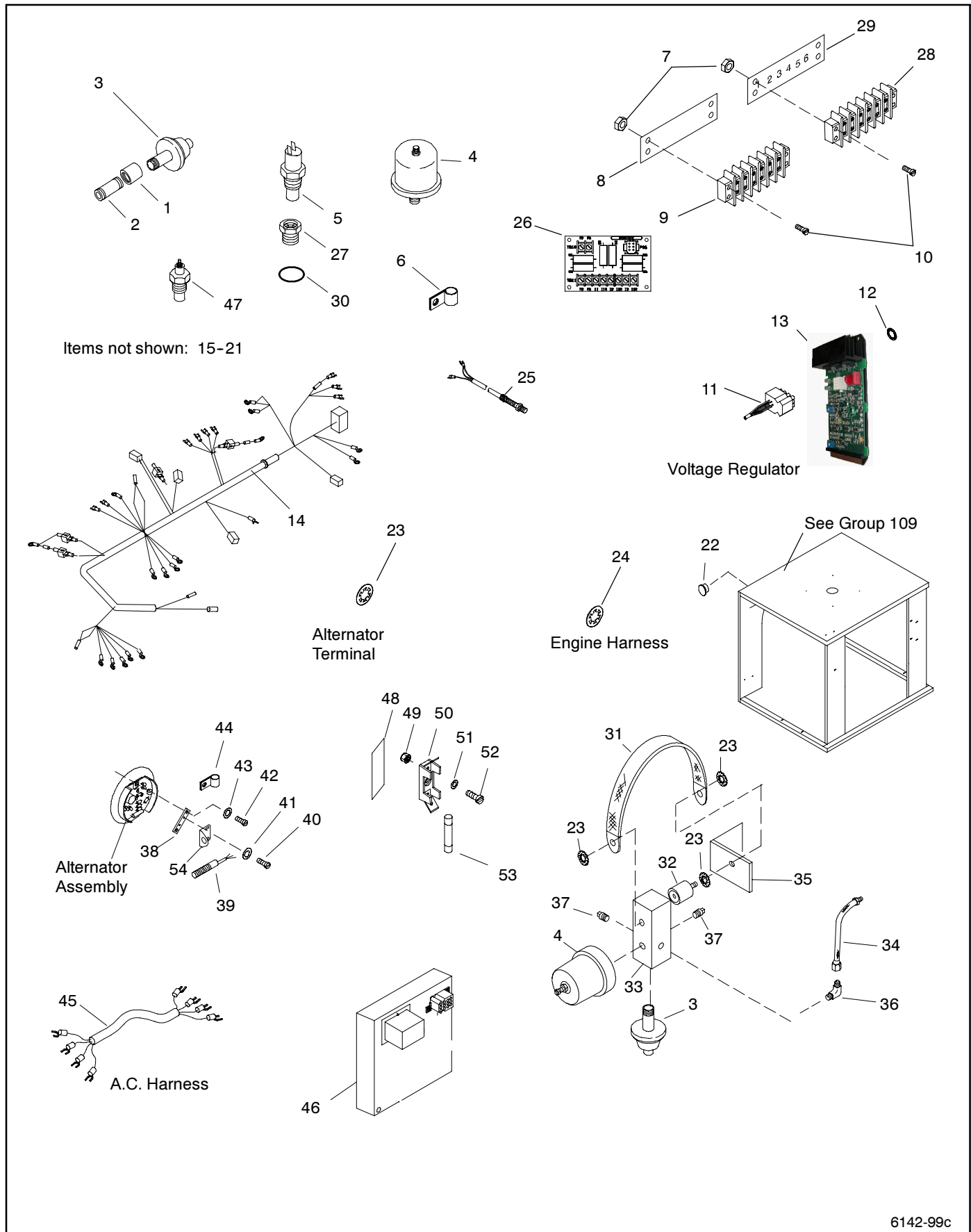
Permanent Magnet-Excited Alternators With 550 Controller

Item	Part Number	Description	Quantity Module								
			GM19460-MA1	GM19878-MA1	GM19878-MA2	GM19878-MA3	GM20881-MA1	GM21206-MA1	GM31005-MA1	GM30995-MA1	GM39067-MA1
4	GM16788	Sensor, pressure	1	1	1	1	1	1			
5	GM16787	Sensor, temperature (Use kit GM31990)	1	1	1	1	1	1			
5	GM31990	Kit, temperature sensor (includes sensor GM31045-1 and SB-643)	1	1	1	1	1	1			
5	GM31045-1	Sensor, temperature	1	1	1	1	1	1			
5	361956	Switch, low water temp.							1	1	1
6	X-672-3	Clamp, insulating	2				1	1	1	1	
6	X-672-37	Clamp		1		1		1	2	1	1
6	X-672-38	Clamp			1						
6	298776	Base, tie wrap		1	1	1					1
6	361567	Base, tie wrap					1		3	1	
7	M934-04-50	Nut, hex, 4 mm	2	2		2	2	2	4	4	
8	254127	Marker, strip	1	1		1	1	1	1	1	
9	X-405-2	Block, terminal	1	1		1	1	1	1	1	
10	M7985A-04020-20	Screw, pan head machine	2	2		2	2	2	4	4	
14	GM19353	Harness, engine, 20-40 kW*	1								
14	GM19885	Harness, engine, 180 kW*		1		1					
14	GM19886	Harness, engine, 200/230 kW*			1						
14	GM20877	Harness, engine, 150 kW*					1				
14	GM21273	Harness, engine, 50-80 kW*						1			
14	GM32194	Harness, engine, 135-180 kW (Tier 2)*							1		
14	GM30908	Harness, engine, 80/100 kW (Tier 2)*								1	
14	GM39357	Harness, engine, 200 kW (Tier 2)*									1
15	GM13701	Connector, weathertight, 2-position (not shown)	1	1	1	1	1	1			
16	233959	Diode, 6 A (not shown)	4	4	4	4	4	4	4	4	4
17	292800	Connector, cable (not shown)	1	1	1	1	1	1	1	1	1
18	295145	Connector, 24-position (not shown)	1	1	1	1	1	1	1	1	1
19	GM15493	Connector, 3-position (not shown)	1	1	1	1	1	1			
19	GM11496	Connector, 3-position (not shown)							1	1	1
20	GM31914	Connector, 21 pin							1	1	1
21	GM31915	Connector, 23 pin							1	1	1
22	X-301-45	Plug, button		1	1	1	1				1
23	X-22-12	Washer, lock, .262 ID x .743 in. OD		1	1	1					
24	X-22-15	Washer, lock, .456 ID x 1.058 in. OD (4UA alternator)			1	1					
24	X-22-26	Washer, lock, .521 ID x 1.24 in. OD (4S alternator)	1	1	1	1	1	1	1	1	
25	255750	Pickup, magnetic	1					1			
25	273758	Pickup, magnetic		1	1	1	1				
25	X-22-17	Washer, lock			2						
25	X-25-29	Washer, plain		1		1	1				
26	GM13980	PCB assembly, CT burden resistor			1						1
26	282829	Vibromount			4						4
27	X-202-28	Bushing, reducing 3/8 x 1/2 in. NPT	1								
28	295314	Block, terminal							1	1	
29	299090	Marker, strip							1	1	
30	365499	O-ring, ISO 6149, 11.3 mm ID							1	1	1

* Harness includes items 15-21, not shown.

Control and Harness, continued

Wound Field Alternators



6142-99c

Control and Harness, continued

Find the installed module number on the generator set nameplate.

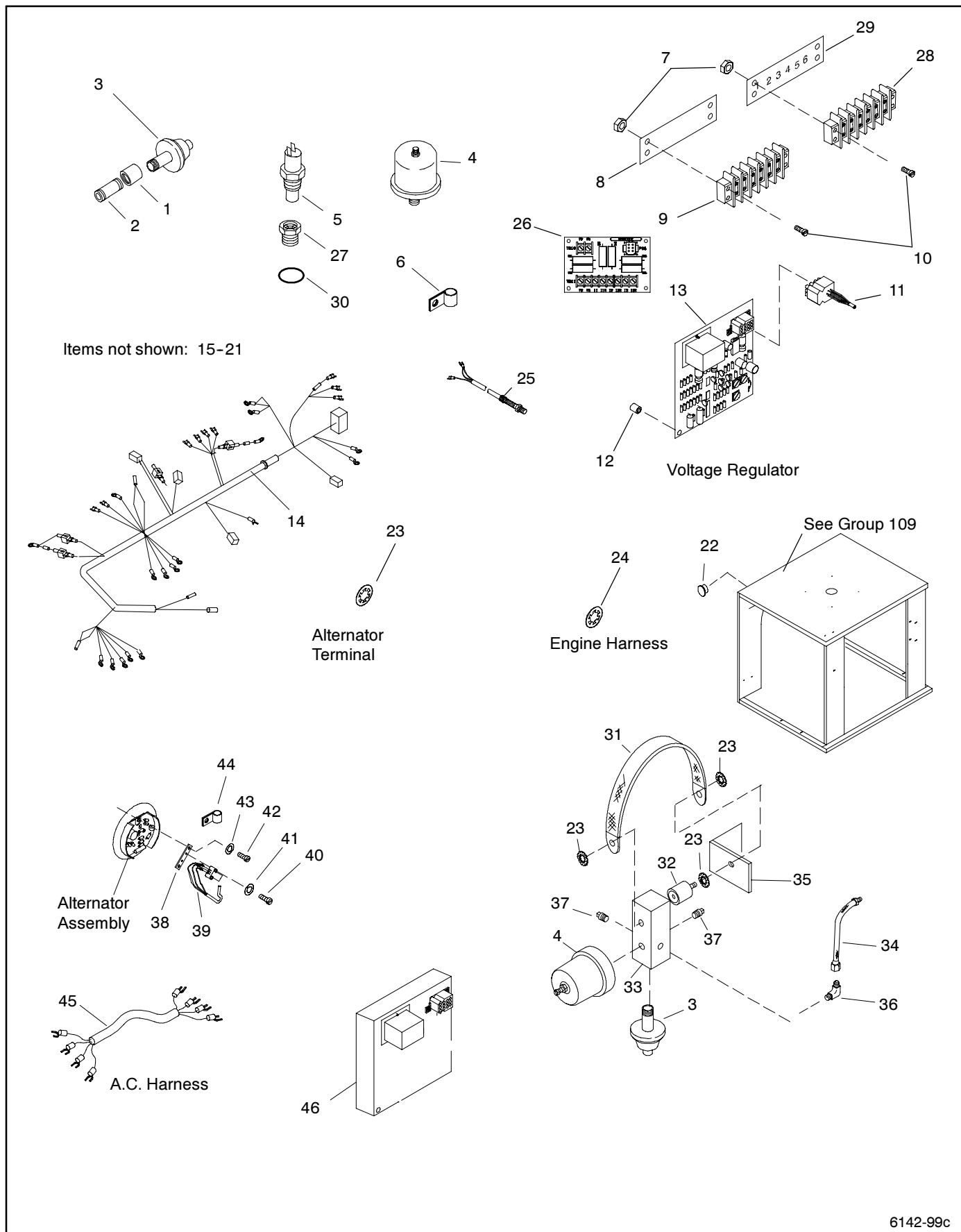
Wound Field Alternators With Non-550 Controller

Item	Part Number	Description	Quantity								
			Module								
			GM19459-MA5	GM21205-MA3	GM21205-MA4	GM30994-MA2	GM20880-MA3	GM31004-MA3	GM19873-MA5	GM19873-MA6	GM39066-MA2
1	X-216-24	Coupling, pipe, 1/8 x 1 3/16 in.	1						1	1	
2	X-217-6	Nipple, pipe, 1/8 x 3/4 in.	1						1	1	
3	328309	Switch assembly, pressure	1	1	1	1	1	1	1	1	
4	343473	Sender, oil pressure	1	1	1	1	1	1	1	1	1
5	GM24648	Switch, sensor	1	1	1		1		1	1	
5	361956	Switch, low water temp									1
5	GM10626	Switch, sensor (HCT/CTS)		1	1	1		1			
6	X-672-3	Clamp, insulating	2	1	1	1		1			
6	X-672-37	Clamp		1	1	1		2	1		1
6	X-672-38	Clamp									
6	298776	Base, tie wrap							1	1	1
6	361567	Base, tie wrap				1	2	3			
7	M934-04-50	Nut, hex, 4 mm	2	2	2	2	2	4	2	2	2
8	255080	Marker, strip	1	1	1	1	1	1	1	1	1
9	295314	Block, terminal	1	1	1	1	1	1	1	1	1
10	M7985A-04020-20	Screw, pan head machine	2	2	2	2	2	4	2	2	2
11	GM34978	Harness, regulator	1	1	1	1	1	1	1	1	
11	GM39873	Harness, regulator									1
12	#	Hardware, M5	4	4	4	4	4	4	4	4	
13	GM40179	PCB assembly, wound field regulator	1	1	1	1	1	1	1	1	1
14	GM17613	Harness, engine, 20-40 kW*	1								
14	GM19883	Harness, engine, 180 kW*							1		
14	GM19884	Harness, engine, 200/230 kW*					1			1	
14	GM34406	Harness, engine, 150 kW*									
14	GM34638	Harness, engine, 50-80 kW*		1	1						
14	GM32190	Harness, engine, 135-180 kW (Tier 2)						1			
14	GM32187	Harness, engine, 80/100 kW (Tier 2)				1					
14	GM39359	Harness, engine, 200 kW (Tier 2)*									1
15	GM13701	Connector, weathertight, 2-position (not shown)	1						1	1	
16	233959	Diode, 6 A (not shown)	4	4	4		4		4	4	4
17	292800	Connector, cable (not shown)	1	1	1		1		1	1	1
18	295145	Connector, 24-position (not shown)	1	1	1		1		1	1	1
20	GM31914	Connector, 21 pin (not shown)						1			1
21	GM31915	Connector, 23 pin (not shown)						1			1
22	X-301-45	Plug, button					1		1	1	1
23	X-22-12	Washer, lock, .262 ID x .743 in. OD				4			1	1	
24	X-22-15	Washer, lock, .456 ID x 1.058 in. OD (4UA alternator)								1	
24	X-22-26	Washer, lock, .521 ID x 1.24 in. OD (4S alternator)	1	1	1	1	1	1	1	1	
27	X-202-28	Bushing, reducer	1								
28	295314	Block, terminal				1		1			
29	299090	Marker, strip				1		1			
30	365499	O-ring									1
31	223033	Strap, ground				1					
32	259632	Bumper				1					
33	267548	Block, oil gauge				1					
34	270727	Line, flexible oil				1					
35	GM30977	Bracket, oil block				1					
36	X-447-10	Elbow, oil line				1					
37	X-75-4	Plug, pipe, 1/8 in. NPT				2					
39	GM30120	Sensor, speed	1	1	1	1	1	1	1	1	
40	M7985A-03010-20	Screw, pan head machine	2	2	2	2	2	2	2	2	
45	GM35357	Harness, wiring (AC harness)			1	1	1	1	1	1	1
47	GM10166	Sender, temperature									1
48	GM39798	Strip, marker									1
49	M934-03-50	Nut, hex 3 mm									1
50	336634	Fuse holder									1
51	X-22-6	Washer, lock, .146 ID x .285 in. OD									1
52	M7985A-03010-20	Screw, pan head, M3 x 10									1
53	358337	Fuse, 10 A, 250 V									1
54	GM30122	Bracket, sensor mounting	1	1	1	1	1	1	1	1	

* Harness includes items 15-21, not shown.

Control and Harness, continued

Wound Field Alternators



6142-99c

Control and Harness, continued

Find the installed module number on the generator set nameplate.

Wound Field Alternators With 550 Controller

Item	Part Number	Description	Quantity Module								
			GM19460-MA2	GM21206-MA2	GM21206-MA3	GM30995-MA2	GM20881-MA2	GM31005-MA3	GM19878-MA4	GM19878-MA5	GM39067-MA2
4	GM16788	Sensor, pressure	1	1	1		1		1	1	
5	GM31045-3	Sensor, temperature	1	1	1		1		1	1	
5	361956	Switch, low water temperature				1		1			1
6	X-672-3	Clamp, insulating	2	1	1	1	1	1			
6	X-672-37	Clamp		1	1	1		2	1		1
6	X-672-38	Clamp								1	
6	298776	Base, tie wrap							1	1	1
6	361567	Base, tie wrap				1	1	3			
7	M934-04-50	Nut, hex, 4 mm	2	2	2	4	2	4	2		
8	254127	Marker, strip	1	1	1	1	1	1	1		
9	X-405-2	Block, terminal	1	1	1	1	1	1	1		
10	M7985A-04020-20	Screw, pan head machine	2	2	2	4	2	4	2		
14	GM35201	Harness, engine, 20-40 kW*	1								
14	GM35195	Harness, engine, 180 kW*							1		
14	GM35196	Harness, engine, 200/230 kW*								1	
14	GM35198	Harness, engine, 150 kW*					1				
14	GM35200	Harness, engine, 50-80 kW*		1	1						
14	GM35197	Harness, engine, 135-180 kW (Tier 2)*						1			
14	GM35199	Harness, engine, 80/100 kW (Tier 2)*				1					
14	GM39358	Harness, engine, 200 kW (Tier 2)*									1
15	GM25910	Connector, 3-pin female (not shown)	1	1	1		1	1	1	1	
16	233959	Diode, 6 A (not shown)	4	4	4	4	4	4	4	4	4
17	292800	Connector, cable (not shown)	1	1	1	1	1	1	1	1	1
18	295145	Connector, 24-position (not shown)	1	1	1	1	1	1	1	1	1
19	GM15493	Connector, 3-position (not shown)	1	1	1		1		1	1	
19	GM11496	Connector, 3-position (not shown)				1					1
20	GM31914	Connector, 21 pin				1					1
21	GM31915	Connector, 23 pin				1					1
22	X-301-45	Plug, button					1		1	1	1
23	X-22-12	Washer, lock, .262 ID x .743 in. OD							1	1	
24	X-22-15	Washer, lock, .456 ID x 1.058 in. OD (4UA alternator)								1	
24	X-22-26	Washer, lock, .521 ID x 1.24 in. OD (4S alternator)	1	1	1	1	1	1	1	1	
25	255750	Pickup, magnetic	1	1	1						
25	273758	Pickup, magnetic					1		1	1	
25	X-22-17	Washer, lock								2	
25	X-25-29	Washer, plain					1		1		
26	GM13980	PCB assembly, CT burden resistor								1	1
26	282829	Vibromount								4	4
27	X-202-28	Bushing, reducing, 3/8 x 1/2 in. NPT	1								
28	295314	Block, terminal				1		1			
29	299090	Marker, strip				1		1			
30	365499	O-ring, ISO 6149, 11.3 mm ID				1		1			1
45	GM35357	Harness, wiring (AC harness)			1	1	1	1	1	1	1
46	GM11718	PCB assembly, excitation interface	1	1	1	1	1	1	1	1	1

* Harness includes items 15-21, not shown.

Group 701: Literature

Item	Part Number	Description	Quantity												
			Variation Number												
			133	135	137	139	141	143	145	147	149	151	157	159	161
1	MP-5353	S/M 20-300kW, Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1
2	MP-5374	Warranty, 1 Yr. Ltd.	1	1	1	1	1	1	1	1	1	1	1	1	1
3	MP-5700	I/M Stationary Duty	1	1	1	1	1	1	1	1	1	1	1	1	1
4	MP-5750	O/M 20-2000 kW	1	1	1	1	1	1	1	1	1	1	1	1	1
4	MP-6161	O/M Microprocessor+ w/Comm, Basic Controller	1	1	1	1	1	1	1	1	1	1	1	1	1
5	MP-6009	P/C Controllers	1	1	1	1	1	1	1	1	1	1	1	1	1
6	MP-6083	O/M Digital 550 Controller	1	1	1	1	1	1	1	1	1	1	1	1	1
6	MP-6200	O/M Digital 550 Controller Version 2.10	1	1	1	1	1	1	1	1	1	1	1	1	1
7	MP-6116	P/C Accessories, 20-200 kW Diesel	1	1	1	1	1	1	1	1	1	1	1	1	1
8	MP-6142	P/C 20-230DSJB/DSEJB	1	1	1	1	1	1	1	1	1	1	1	1	1
9	MP-6146	W/D 20-230DSJB/DSEJB	1	1	1	1	1	1	1	1	1	1	1	1	1
10	TP-5889	O/M John Deere Engine Service Supplement	1	1	1	1	1	1	1	1	1	1	1	1	1
11	TP-6141	P/C John Deere 3029	1	1	1	1	1	1	1	1	1	1	1	1	1
11	TP-5826	P/C John Deere 6081					1	1	1						
11	TP-5386	P/C John Deere 6059/6068								1	1	1			
11	TP-5434	P/C John Deere 4039/4045											1	1	1
12	TP-6144	O/M John Deere Diesel Engine 3029DF	1	1	1	1									
12	TP-5824	O/M John Deere 6081					1	1	1						
12	TP-5853	O/M John Deere 4045/6068								1	1	1	1	1	1
12	TP-6145	S/M John Deere Diesel Engine 3029DF	1	1	1	1									
13	TP-5825	S/M John Deere 6081					1	1	1						
13	TP-5854	S/M John Deere 4045/6068								1	1	1	1	1	1

Item	Part Number	Description	Quantity							
			Variation Number							
			205	207	209	211	213	215	217	
1	MP-5353	S/M 20-300kW, Industrial	1	1	1	1	1	1	1	
2	MP-5374	Warranty, 1 Yr. Ltd.	1	1	1	1	1	1	1	
3	MP-5700	I/M Stationary Duty	1	1	1	1	1	1	1	
4	MP-5750	O/M 20-2000 kW	1	1	1	1	1	1	1	
4	MP-5750	O/M Microprocessor+ w/Comm, Basic Controller	1	1	1	1	1	1	1	
5	MP-6009	P/C Controllers	1	1	1	1	1	1	1	
6	MP-6200	O/M Digital 550 Controller Version 2.10	1	1	1	1	1	1	1	
7	MP-6116	P/C Accessories, 20-200 kW Diesel	1	1	1	1	1	1	1	
8	MP-6142	P/C 20-230DSJB/DSEJB	1	1	1	1	1	1	1	
9	MP-6146	W/D 20-230DSJB/DSEJB	1	1	1	1	1	1	1	
10	TP-5889	O/M John Deere Engine Service Supplement	1	1	1	1	1	1	1	
11	TP-6290	P/C John Deere 4045TF270/HF275 (Tier 2)	1	1	1	1				
11	TP-6291	P/C John Deere 6068HF275 (Tier 2)					1	1		
12	TP-6285	O/M John Deere 4045/6068 Tier 2	1	1	1	1	1	1	1	
13	TP-5854	S/M John Deere 4045/6068	1	1	1	1	1	1	1	
14	TP-6286	S/M John Deere 4045TF Fuel Systems	1	1						
14	TP-6287	S/M John Deere 4045HF Fuel Systems			1	1	1			
14	TP-6288	S/M John Deere Bosch Fuel System						1	1	
15	MP-6140	O/I/M Controller Setup and Appl., 550	1	1	1	1	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.

	20-40 kW	50/60 kW	80 kW	100/125 kW
Controllers				
See Parts Catalog MP-6009 for parts lists.				
Cooling Systems				
Heater, block				
110-120 V	GM19451-KA1	GM20968-KA3	GM20968-KA3	GM20968-KA1
190-240 V	GM19451-KA2	GM20968-KA4	GM20968-KA4	GM20968-KA2
Remote radiator	GM20116-MA1	GM17686-MA1	GM17686-MA1	GM23365-MA1
				GM37532-MA1
City water cooling	GM20115-MA1	GM17685-MA1	GM17685-MA3	GM23361-MA1
City water cooling				GM37531-MA1
City water cooling, 24 V	N/A	GM17685-MA2	GM17685-MA4	GM23361-MA2
City water cooling, 24 V				GM37531-MA2
Duct flange, radiator	GM13896-KA1	GM13896-KA1	GM13896-KA1	GM13896-KA1

Optional Kits

See Parts Catalog MP-6116 for parts lists.

Paint and Miscellaneous Parts

All models use 221331 spray can, 221332 gallon

	80/100 kW (Tier 2)	135-180 kW (Tier 2)
Controllers		
See Parts Catalog MP-6009 for parts lists.		
Cooling Systems		
Heater, block		
110-120 V	GM20968-KA3	GM20968-KA1
190-240 V	GM20968-KA4	GM20968-KA2
Remote radiator	GM23365-MA3	GM23365-MA2
City water cooling	N/A	N/A
City water cooling, 24 V	N/A	N/A
Duct flange, radiator	GM13896-KA1	GM13896-KA2

Optional Kits

See Parts Catalog MP-6116 for parts lists.

Paint and Miscellaneous Parts

All models use 221331 spray can, 221332 gallon

	150 kW	180/200 kW	230 kW
Controllers			
See Parts Catalog MP-6009 for parts lists.			
Cooling Systems			
Heater, block			
110-120 V	GM20968-KA1	GM19947-KA1	GM19947-KA1
190-240 V	GM20968-KA2	GM19947-KA2	GM19947-KA2
Remote radiator	TBD	GM20579-MA1	GM20579-MA1
City water cooling	TBD	GM20578-MA1	GM20578-MA1
City water cooling, 24 V	TBD	GM20578-MA2	GM20578-MA2
Duct flange, radiator	GM21035-KA1	GM21035-KA1	GM21035-KA2

Optional Kits

See Parts Catalog MP-6116 for parts lists.

Paint and Miscellaneous Parts

All models use 221331 spray can, 221332 gallon

Cooling System Kits

Qty.	Description	Part No.	Qty.	Description	Part No.
Block Heater, 110-120 V			Block Heater, 240V		
1	Heater, block	326228	1	Heater, block	326235
1	Bushing, reducing, 1/2 x 1 in. NPT	168848	1	Adapter, bushing	273692
1	Tag, hang	279047	1	O-ring	273693
1	Bracket, block heater mounting	326219	1	Tag, hang	279047
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13	1	Bracket, block heater mounting	326219
1	Pipe, 1/2 in. NPT x 3.50 in.	X-209-20	1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
2	Pipe, 1/2 in. NPT x 2.50 in.	X-209-3	1	Elbow, street, 90 deg. x 1/2 in. NPTF	X-211-1
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5	1	Hose, .63 in. ID	X-312-13
2	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3	1	Hose, .63 in. ID	X-312-36
1	Elbow, pipe, 45 deg. x 1/2 in. NPT	X-225-7	4	Clamp, hose, .5/1 in.	X-426-10
1	Valve, drain, 1/2 in. NPTF	X-256-5	1	Connector, hose + vibraseal	X-582-1
1	Hose, .63 in. ID	X-312-15	1	Connector, hose + vibraseal	X-582-3
1	Hose, .63 ID	X-312-35	1	Hose, rubber, straight, .25 in. ID	X-6359-7
4	Clamp, hose, .5/1 in.	X-426-10	1	Shield, heat	GM17909
2	Clamp, hose, .25/.70 in.	X-426-9	1	Clamp, insulated	X-672-32
2	Connector, hose + vibraseal	X-582-1			
1	Connector, hose + vibraseal	X-582-32	Block Heater, 1500W, 120V		
1	Hose, rubber	X-6359-11	1	Heater, block	326228
1	Connector, hose + vibraseal	X-652-3	1	Hose, .63 in. ID x 30 in.	X-312-24
1	Clamp, insulating	X-672-3	1	Hose, .63 in. ID x 56 in.	X-312-49
			1	Elbow, street, 45 deg. x 1/2 in. NPT	227642
Block Heater, 190-240 V			2	Adapter, bushing	273692
1	Heater, block	326229	2	O-ring	273693
1	Bushing, reducing, 1/2 x 1 in. NPT	168848	1	Tag, hang	279047
1	Tag, hang	279047	1	Bracket, block heater mounting	326219
1	Bracket, block heater mounting	326219	1	Pipe, 1/2 in. NPT x 2 in.	X-209-6
1	Tee, pipe, 1/2 x 1/2 x 1/2 NPT	X-203-13	1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3
1	Pipe, 1/2 in. NPT x 3.50 in.	X-209-20	4	Clamp, hose, .5/1 in.	X-426-10
2	Pipe, 1/2 in. NPT x 2.50 in.	X-209-3	2	Connector, hose + vibraseal	X-582-1
1	Pipe, 1/2 in. NPT x 1.50 in.	X-209-5	1	Clamp, insulating	X-672-3
2	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3			
1	Elbow, pipe, 45 deg. x 1/2 in. NPT	X-225-7	Block Heater, 1500W, 240V		
1	Valve, drain, 1/2 in. NPTF	X-256-5	1	Heater, block	326229
1	Hose, .63 in. ID	X-312-15	1	Hose, .63 in. ID x 30 in.	X-312-24
1	Hose, .63 ID	X-312-35	1	Hose, .63 in. ID x 56 in.	X-312-49
4	Clamp, hose, .5/1 in.	X-426-10	1	Elbow, street, 45 deg. x 1/2 in. NPT	227642
2	Clamp, hose, .25/.70 in.	X-426-9	2	Adapter, bushing	273692
2	Connector, hose + vibraseal	X-582-1	2	O-ring	273693
1	Connector, hose + vibraseal	X-582-32	1	Tag, hang	279047
1	Hose, rubber	X-6359-11	1	Bracket, block heater mounting	326219
1	Connector, hose + vibraseal	X-652-3	1	Pipe, 1/2 in. NPT x 2 in.	X-209-6
1	Clamp, insulating	X-672-3	1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3
			4	Clamp, hose, .5/1 in.	X-426-10
Block Heater, 120V			2	Connector, hose + vibraseal	X-582-1
1	Heater, block (includes items marked *)	326234	1	Clamp, insulating	X-672-3
1	*Sensor, thermostat	224341			
1	Adapter, bushing	273692	Block Heater, 1500W, 120V		
1	O-ring	273693	1	Heater, block	326228
1	Tag, hang	279047	1	Hose, .63 in. ID x 5.5 in.	X-312-17
1	Bracket, block heater mounting	326219	1	Hose, .63 in. ID x 49 in.	X-312-37
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472	1	Elbow, street, 45 deg. x 1/2 in. NPT	227642
1	Elbow, street, 90 deg. x 1/2 in. NPTF	X-211-1	2	Adapter, bushing	273692
1	Hose, .63 in. ID	X-312-13	2	O-ring	273693
1	Hose, .63 in. ID	X-312-36	1	Tag, hang	279047
4	Clamp, hose, .5/1 in.	X-426-10	1	Bracket, block heater mounting	326219
1	Connector, hose + vibraseal	X-582-1	1	Pipe, 1/2 in. NPT x 2 in.	X-209-6
1	Connector, hose + vibraseal	X-582-3	1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3
1	Hose, rubber, straight, .25 in. ID	X-6359-7	4	Clamp, hose, .5/1 in.	X-426-10
1	Shield, heat	GM17909	2	Connector, hose + vibraseal	X-582-1
1	Clamp, insulated	X-672-32	1	Clamp, insulating	X-672-3
			Block Heater, 1500W, 120V		
			1	Heater, block	326228
			1	Hose, .63 in. ID x 5.5 in.	X-312-17
			1	Hose, .63 in. ID x 49 in.	X-312-37
			1	Elbow, street, 45 deg. x 1/2 in. NPT	227642
			2	Adapter, bushing	273692
			2	O-ring	273693
			1	Tag, hang	279047
			1	Bracket, block heater mounting	326219
			1	Pipe, 1/2 in. NPT x 2 in.	X-209-6
			1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3
			4	Clamp, hose, .5/1 in.	X-426-10
			2	Connector, hose + vibraseal	X-582-1
			1	Clamp, insulating	X-672-3

Cooling System Kits, continued

Qty.	Description	Part No.	Qty.	Description	Part No.
Block Heater, 1500W, 240V			Remote Radiator Setup		
1	Heater, block	326229	3	Clamp, hose, 2.06/3 in.	250081
1	Hose, .63 in. ID x 5.5 in.	X-312-17	1	Guard, belt, right side upper	GM20825
1	Hose, .63 in. ID x 49 in.	X-312-37	1	Guard, belt, top	GM20826
1	Elbow, street, 45 deg. x 1/2 in. NPT	227642	1	Guard, belt, left side	GM20827
2	Adapter, bushing	273692	1	Guard, belt, right side middle	GM20828
2	O-ring	273693	1	Guard, belt, front lower	GM20829
1	Tag, hang	279047	1	Hose, upper radiator, 1.75 in. ID	GM21387
1	Bracket, block heater mounting	326219	1	Hose, lower radiator, 2.00 in. ID	GM21388
1	Pipe, 1/2 in. NPT x 2 in.	X-209-6	2	Support, surge tank	GM23362
1	Elbow, pipe, 90 deg. x 1/2 in. NPT	X-215-3	1	Bracket, mounting support	GM23363
4	Clamp, hose, .5/1 in.	X-426-10	1	Guard, belt, front cover	GM23364
2	Connector, hose + vibraseal	X-582-1	1	Guard, belt, right side bottom	GM26179
1	Clamp, insulating	X-672-3	1	Guard, battery alternator	GM29504
Remote Radiator			1	Clamp, hose, 2.81/3.75 in.	X-426-1
GM20116-MA1			Remote Radiator Setup		
1	Fitting, 45 deg. street elbow + vibraseal	227521	3	Clamp, hose, 2.06/3 in.	250081
1	Hose, lower radiator, 1.88 in. ID	273418	1	Guard, belt, right side upper	GM20825
2	Bracket, remote radiator and city water cooling	GM16996	1	Guard, belt, top	GM20826
1	Hose, upper radiator, 38.0 mm ID	GM19031	1	Guard, belt, left side	GM20827
1	Guard, belt, right side upper	GM19630	1	Guard, belt, right side middle	GM20828
1	Guard, belt, right side lower	GM19631	1	Guard, belt, front lower	GM20829
1	Guard, belt, left side	GM19632	1	Hose, upper radiator, 1.75 in. ID	GM21387
1	Guard, belt, top	GM19633	1	Hose, lower radiator, 2.00 in. ID	GM21388
1	Guard, belt, bottom	GM19634	2	Support, surge tank	GM23362
1	Guard, belt, back	GM19635	1	Guard, belt, front cover	GM23364
1	Guard, belt, front	GM20069	1	Hose, reducer, 3 in. to 2 in. ID	GM24857
1	Guard, belt cover	GM23656	1	Guard, belt, right side bottom	GM26179
1	Bracket, mounting, top	GM20070	1	Guard, battery alternator	GM29504
1	Bracket, mounting, left side	GM20071	1	Bracket, mounting	GM29858
1	Valve, drain, 1/4 in. NPT	X-256-3	1	Hose, intake	GM32038
3	Clamp, hose, 1.31/2.25 in.	X-426-4	1	Adapter, intake hose	GM32039
1	Clamp, hose, 1.56/2.5 in.	X-426-6	1	Tube, turbo	GM32042
7	Screw, hex washer head, drill	X-794-1	1	Valve, drain, 1/2 in. NPT	X-256-5
Remote Radiator Setup			3	Clamp, hose, 2.81/3.75 in.	X-426-1
GM20579-KA1			3	Clamp, hose, 2.31/3.25 in.	X-426-2
1	Hose, molded coolant, 2.50 in. ID	336664	3	Clamp, hose, 1.56/2.5 in.	X-426-6
1	Hose, lower radiator, 2.00 in. ID	336878	1	Hose, Nomex	X-6380-3
1	Bracket	352181	1	Hose, Nomex	X-6380-4
8	Insert, threaded (metric) 6mm	GM11040-2	1	Clamp, insulated, 3.12 in.	X-672-34
1	Guard, belt, top	GM19548	Remote Radiator Setup		
1	Bracket, mounting, top	GM19549	GM23365-MA3		
1	Guard, belt, right side	GM19550	3	Clamp, hose, 2.06/3 in.	250081
1	Guard, belt, front	GM19551	1	Guard, belt, right side upper	GM20825
1	Guard, belt, bottom	GM19552	1	Guard, belt, top	GM20826
1	Bracket, mounting, lower	GM19553	1	Guard, belt, left side	GM20827
1	Guard, belt, left side	GM19567	1	Guard, belt, right side middle	GM20828
1	Cover, front belt guard	GM21082	1	Guard, belt, front lower	GM20829
1	Valve, drain, 1/2 in. NPTF	X-256-5	1	Hose, upper radiator, 1.75 in. ID	GM21387
4	Clamp, hose, 1.56/2.5 in.	X-426-6	1	Hose, lower radiator, 2.00 in. ID	GM21388
Remote Radiator Setup			2	Support, surge tank	GM23362
GM17686-MA1			1	Bracket, mounting support	GM23363
2	Support, surge tank	GM17416	1	Guard, belt, front cover	GM23364
1	Hose, upper radiator, 44 mm ID	GM20738	1	Guard, belt, right side bottom	GM26179
1	Hose, lower radiator, 50 mm ID	GM20739	1	Guard, battery alternator	GM29504
1	Guard, belt, front	GM20741	1	Hose, intake	GM30981
1	Guard, belt, right hand	GM22160	1	Hose, step	GM30983
1	Guard, belt, left hand	GM22161	1	Tube, turbo	GM30982
1	Guard, belt, top	GM22162	1	Valve, drain, 1/2 in. NPT	X-256-5
1	Guard, belt, bottom, top	GM22163	1	Clamp, hose, 2.81/3.75 in.	X-426-1
1	Bracket, mounting top	GM22488	1	Clamp, hose, 1.81/2.75 in.	X-426-16
1	Bracket, mounting, left side	GM22490	1	Clamp, hose, 2.31/3.25 in.	X-426-2
1	Guard, belt, front right hand	GM22685	1	Clamp, hose, 1.56/2.5 in.	X-426-6
1	Guard, belt, back	GM22949	1	Hose, Nomex	X-6380-2
1	Bracket, mounting support	GM23029	1	Clamp, insulated, 2.62 in.	X-672-33
1	Spacer, .344 ID x .625 OD x .5 in.	X-400-207			
2	Clamp, hose, 1.81/2.75 in.	X-426-16			
2	Clamp, hose, 1.56/2.5 in.	X-426-6			
4	Screw, Phillips hex crimp tite	X-6216-1			
6	Screw, hex washer head, drill	X-794-1			

Cooling System Kits, continued

Qty.	Description	Part No.	Qty.	Description	Part No.
Remote Radiator Setup			City Water Cooling (CWC)		
3	Clamp, hose, 2.06/3 in.	GM37532-MA1 250081	2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
1	Guard, belt, right side upper	GM20825	2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
1	Guard, belt, top	GM32512	2	Adapter, hose	285685
1	Guard, belt, left side	GM32511	1	Heat exchanger	326160
1	Guard, belt, right side middle	GM32509	1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Guard, belt, front lower	GM32510	1	Bushing, reducing, 3/4 x 1 in. NPT	X-202-1
1	Hose, upper radiator, 1.75 in. ID	GM21387	1	Valve, water solenoid	X-350-11
1	Hose, lower radiator, 2.00 in. ID	GM21388	2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Support, surge tank	GM23362	2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
1	Bracket, mounting support	GM23363	2	Clamp, hose	249417
1	Guard, belt, front cover	GM23364	4	Clamp, hose, 2.25/2.56 in.	249887
1	Guard, belt, right side bottom	GM36150	1	Cap, pressure	258037
1	Guard, battery alternator	GM32513	1	Adapter, hose	285685
1	Clamp, hose, 2.81/3.75 in.	X-426-1	1	Tank, expansion	GM17014
City Water Cooling (CWC)			1	Valve, thermostatic	GM17016
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	GM17685-MA1 151771	2	Support, surge tank	GM17416
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040	1	Guard, belt, front	GM20741
2	Adapter, hose	285685	1	Guard, belt, right hand	GM22160
1	Heat exchanger	326160	1	Guard, belt, left hand	GM22161
1	Pipe, 1 in. NPT x 2.00 in.	K-122	1	Guard, belt, top	GM22162
1	Bushing, reducing, 3/4 x 1 in. NPT	X-202-1	1	Guard, belt, bottom, top	GM22163
1	Valve, solenoid	X-350-8	1	Bracket, mounting, top	GM22488
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771	1	Bracket, mounting, left side	GM22490
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040	1	Guard, belt, front right hand	GM22685
2	Clamp, hose	249417	1	Guard, belt, back	GM22949
4	Clamp, hose, 2.25/2.56 in.	249887	1	Bracket, mounting support	GM23029
1	Cap, pressure	258037	1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Adapter, hose	285685	1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Tank, expansion	GM17014	2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Valve, thermostatic	GM17016	1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
2	Support, surge tank	GM17416	1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
1	Guard, belt, front	GM20741	2	Coupling, pipe, 3/8 in. NPSC	X-216-23
1	Guard, belt, right hand	GM22160	2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Guard, belt, left hand	GM22161	1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Guard, belt, top	GM22162	1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Guard, belt, bottom, top	GM22163	1	Fuel line, flexible	X-386-36
1	Bracket, mounting, top	GM22488	1	Spacer, .344 ID x .625 OD x .5 in.	X-400-207
1	Bracket, mounting, left side	GM22490	1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Guard, belt, front right hand	GM22685	1	Adapter	X-570-8
1	Guard, belt, back	GM22949	1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Bracket, mounting support	GM23029	1	Hose, radiator, straight, 2 in. ID	X-6014-24
1	Pipe, 1 in. NPT x 2.00 in.	K-122	1	Hose, radiator, straight, 1.75 in. ID	X-6014-26
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472	4	Screw, Phillips hex crimpite	X-6216-1
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6	6	Screw, hex washer head, drill	X-794-1
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2			
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15			
2	Coupling, pipe, 3/8 in. NPSC	X-216-23			
2	Valve, drain, 3/8 in. NPTF	X-256-1			
1	Terminal, ring, male, 10-12 AWG	X-283-11			
1	Clamp, spring hose, .462/.545 in.	X-309-14			
1	Fuel line, flexible	X-386-36			
1	Spacer, .344 ID x .625 OD x .5 in.	X-400-207			
1	Terminal, flag, female, 16-14 AWG	X-431-37			
1	Adapter	X-570-8			
1	Hose, radiator, straight, 2 in. ID	X-6014-10			
1	Hose, radiator, straight, 2 in. ID	X-6014-24			
1	Hose, radiator, straight, 1.75 in. ID	X-6014-26			
4	Screw, Phillips hex crimpite	X-6216-1			
6	Screw, hex washer head, drill	X-794-1			

Cooling System Kits, continued

Qty.	Description	Part No.
City Water Cooling (CWC)		
1	Heat exchanger	324309
1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
1	Valve, solenoid	X-350-8
2	Nipple, combination	X-6268-2
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
2	Support, surge tank	GM17416
1	Guard, belt, front	GM20741
1	Guard, belt, right hand	GM22160
1	Guard, belt, left hand	GM22161
1	Guard, belt, top	GM22162
1	Guard, belt, bottom, top	GM22163
1	Bracket, mounting, top	GM22488
1	Bracket, mounting, left side	GM22490
1	Guard, belt, front right hand	GM22685
1	Guard, belt, back	GM22949
1	Bracket, mounting support	GM23029
1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Fuel line, flexible	X-386-36
1	Spacer, .344 ID x .625 OD x .5 in.	X-400-207
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator, straight, 2 in. ID	X-6014-24
1	Hose, radiator, straight, 1.75 in. ID	X-6014-26
4	Screw, Phillips hex crimpite	X-6216-1
6	Screw, hex washer head, drill	X-794-1

Qty.	Description	Part No.
City Water Cooling (CWC)		
1	Heat exchanger	324309
1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
1	Valve, water solenoid	X-350-11
2	Nipple, combination	X-6268-2
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
2	Support, surge tank	GM17416
1	Guard, belt, front	GM20741
1	Guard, belt, right hand	GM22160
1	Guard, belt, left hand	GM22161
1	Guard, belt, top	GM22162
1	Guard, belt, bottom, top	GM22163
1	Bracket, mounting, top	GM22488
1	Bracket, mounting, left side	GM22490
1	Guard, belt, front right hand	GM22685
1	Guard, belt, back	GM22949
1	Bracket, mounting support	GM23029
1	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Fuel line, flexible	X-386-36
1	Spacer, .344 ID x .625 OD x .5 in.	X-400-207
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator, straight, 2 in. ID	X-6014-24
1	Hose, radiator, straight, 1.75 in. ID	X-6014-26
4	Screw, Phillips hex crimpite	X-6216-1
6	Screw, hex washer head, drill	X-794-1

Cooling System Kits, continued

Qty.	Description	Part No.
------	-------------	----------

City Water Cooling (CWC)

GM23361-MA1

1	Valve, solenoid	X-350-8
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Heat exchanger	324309
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
1	Guard, belt, right side upper	GM20825
1	Guard, belt, top	GM20826
1	Guard, belt, left side	GM20827
1	Guard, belt, right side middle	GM20828
1	Guard, belt, front lower	GM20829
2	Support, surge tank	GM23362
1	Bracket, mounting support	GM23363
1	Guard, belt, front cover	GM23364
1	Guard, belt, right side bottom	GM26179
1	Guard, battery alternator	GM29504
2	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Line, flex fuel	X-386-132
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator wire insert 1.75 ID	X-6014-108
1	Hose, radiator, straight, 2 in. ID	X-6014-3
2	Nipple, combination	X-6268-2

Qty.	Description	Part No.
------	-------------	----------

City Water Cooling (CWC)

GM23361-MA2

1	Valve, water solenoid	X-350-11
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Heat exchanger	324309
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
1	Guard, belt, right side upper	GM20825
1	Guard, belt, top	GM20826
1	Guard, belt, left side	GM20827
1	Guard, belt, right side middle	GM20828
1	Guard, belt, front lower	GM20829
2	Support, surge tank	GM23362
1	Bracket, mounting support	GM23363
1	Guard, belt, front cover	GM23364
1	Guard, belt, right side bottom	GM26179
1	Guard, battery alternator	GM29504
2	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Line, flex fuel	X-386-132
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator wire insert 1.75 ID	X-6014-108
1	Hose, radiator, straight, 2 in. ID	X-6014-3
2	Nipple, combination	X-6268-2

Cooling System Kits, continued

Qty.	Description	Part No.
City Water Cooling (CWC)		
1	Valve, solenoid	X-350-8
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Heat exchanger	324309
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
1	Guard, belt, right side upper	GM20825
1	Guard, belt, top	GM32512
1	Guard, belt, left side	GM32511
1	Guard, belt, right side middle	GM32509
1	Guard, belt, front lower	GM36150
2	Support, surge tank	GM23362
1	Bracket, mounting support	GM23363
1	Guard, belt, front cover	GM23364
1	Guard, belt, right side bottom	GM32510
1	Guard, battery alternator	GM32513
2	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Line, flex fuel	X-386-132
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator wire insert 1.75 ID	X-6014-108
1	Hose, radiator, straight, 2 in. ID	X-6014-3
2	Nipple, combination	X-6268-2

Qty.	Description	Part No.
City Water Cooling (CWC)		
1	Valve, solenoid	X-350-11
2	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
2	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
2	Clamp, hose	249417
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Adapter, hose	285685
1	Heat exchanger	324309
1	Tank, expansion	GM17014
1	Valve, thermostatic	GM17016
1	Guard, belt, right side upper	GM20825
1	Guard, belt, top	GM32512
1	Guard, belt, left side	GM32511
1	Guard, belt, right side middle	GM32509
1	Guard, belt, front lower	GM36150
2	Support, surge tank	GM23362
1	Bracket, mounting support	GM23363
1	Guard, belt, front cover	GM23364
1	Guard, belt, right side bottom	GM32510
1	Guard, battery alternator	GM32513
2	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 1 x 1-1/2 in. NPT	X-202-11
1	Bushing, reducing, 3/4 x 1-1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 3/4 in. NPT x 2.00 in.	X-206-2
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
2	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Line, flex fuel	X-386-132
1	Terminal, flag, female, 16-14 AWG	X-431-37
1	Adapter	X-570-8
1	Hose, radiator, straight, 2 in. ID	X-6014-10
1	Hose, radiator wire insert 1.75 ID	X-6014-108
1	Hose, radiator, straight, 2 in. ID	X-6014-3
2	Nipple, combination	X-6268-2

Cooling System Kits, continued

Qty.	Description	Part No.
------	-------------	----------

City Water Cooling (CWC)

GM20115-MA1

6	Elbow, pipe, 90 deg. x 1-1/2 in. NPT	151771
4	Pipe, 1-1/2 in. NPT x 1.75 in.	155040
1	Bushing, reducing, 1/2 x 1 in. NPT	168848
1	Fitting, 45 deg. street elbow + vibraseal	227521
4	Clamp, hose, 1.75/2 in.	249888
1	Cap, pressure	258037
1	Hose, lower radiator, 1.88 in. ID	273418
1	Heat exchanger	326160
2	Bracket, remote radiator and city water cooling	GM16996
1	Tank, expansion	GM17014
2	Bracket, tank support	GM17015
1	Valve, thermostatic	GM17016
1	Guard, belt, right side upper	GM19630
1	Guard, belt, right side lower	GM19631
1	Guard, belt, left side	GM19632
1	Guard, belt, top	GM19633
1	Guard, belt, bottom	GM19634
1	Guard, belt, back	GM19635
1	Guard, belt, front	GM20069
1	Guard, belt cover	GM23656
1	Bracket, mounting, top	GM20070
1	Bracket, mtg., left side	GM20071
2	Pipe, 1 in. NPT x 2.00 in.	K-122
1	Pipe, 3/8 in. NPT x 2.00 in.	X-204-6
1	Pipe, 1-1/2 in. NPT x 3.25 in.	X-205-11
1	Pipe, 1-1/2 in. NPT x 5.00 in.	X-205-21
1	Pipe, 1/2 in. NPT x 1.19 in.	X-209-2
1	Elbow, street, 90 deg. x 1/2 in. NPT	X-211-1
1	Elbow, pipe, 90 deg. x 1 in. NPT	X-215-15
1	Coupling, pipe, 3/8 in. NPSC	X-216-23
2	Valve, drain, 3/8 in. NPT	X-256-1
1	Valve, drain, 1/4 in. NPT	X-256-3
1	Terminal, ring, male, 10-12 AWG	X-283-11
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Valve, solenoid, 5/8-12	X-350-7
1	Fuel line, flexible	X-386-36
4	Spacer, .406 ID x .75 OD x 1.05 in.	X-400-200
1	Clamp, hose, 1.31/2.25 in.	X-426-4
1	Clamp, hose, 1.56/2.5 in.	X-426-6
1	Terminal, flag, female, 16-14 AWG	X-431-37
3	Adapter	X-570-17
1	Adapter, hose	X-570-19
1	Hose, radiator wire inset 1.50 ID	X-6014-109
1	Hose, radiator, straight, 1.5 in. ID	X-6014-77
21	Screw, Phillips hex crimpite	X-6216-1
7	Screw, hex washer head, drill	X-794-1

Qty.	Description	Part No.
------	-------------	----------

Cooling, City Water, Heat Exchanger (12V) GM20578-MA1

1	Pipe, 1 1/2 in. NPT x 1.75 in.	155040
1	Decal, warning hot coolant	249810
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Tank, expansion	274645
1	Regulator, water	289477
1	Hose, upper radiator, 2.50 in. ID, city water cooling	336680
1	Bracket, mounting	GM20560
1	Brace, tank	GM19386
1	Guard, belt, top	GM19548
1	Bracket, mounting, top	GM19549
1	Guard, belt, right side	GM19550
1	Cover, front belt guard, right hand	GM24658
1	Cover, front belt guard, left hand	GM24657
1	Guard, belt, bottom	GM19552
1	Bracket, mounting, lower	GM19553
1	Guard, belt, left side	GM19567
1	Exchanger, heater	GM20594
2	Support, expansion tank	GM21083
1	Bracket, expansion tank mounting	GM21084
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 3/4 x 1 1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 1.50 in.	X-204-8
1	Pipe, 3/4 in. NPT x 1.38 in.	X-206-9
1	Elbow, street, 90 deg. x 2 1/2 in. NPT	X-211-9
3	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
3	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Valve, drain, 1/2 in. NPTF	X-256-5
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Valve, solenoid	X-350-8
1	Fuel line, flexible	X-386-36
2	Clamp, hose, 2.31/3.25 in.	X-426-2
1	Adapter, hose	X-570-1
2	Hose, radiator, straight, 2 in. ID	X-6014-79
3	Nipple, combination	X-6268-2
1	Plug, pipe, 1 1/2 in. NPTF	X-75-16
1	Plug, pipe, 1/2 in. NPTF	X-75-3

Cooling System Kits, continued

Qty.	Description	Part No.
Cooling, City Water, Heat Exchanger (24V) GM20578-MA2		
1	Pipe, 1 1/2 in. NPT x 1.75 in.	155040
1	Decal, warning hot coolant	249810
4	Clamp, hose, 2.25/2.56 in.	249887
1	Cap, pressure	258037
1	Tank, expansion	274645
1	Regulator, water	289477
1	Hose, upper radiator, 2.50 in. ID, city water cooling	336680
1	Bracket, mounting	GM20560
1	Brace, tank	GM19386
1	Guard, belt, top	GM19548
1	Bracket, mounting, top	GM19549
1	Guard, belt, right side	GM19550
1	Cover, front belt guard, right hand	GM24658
1	Cover, front belt guard, left hand	GM24657
1	Guard, belt, bottom	GM19552
1	Bracket, mounting, lower	GM19553
1	Guard, belt, left side	GM19567
1	Exchanger, heater	GM20594
2	Support, expansion tank	GM21083
1	Bracket, expansion tank mounting	GM21084
1	Elbow, street, 90 deg. x 3/4 in. NPTF	SA-472
1	Bushing, reducing, 3/4 x 1 1/2 in. NPT	X-202-40
2	Pipe, 3/8 in. NPT x 1.50 in.	X-204-8
1	Pipe, 3/4 in. NPT x 1.38 in.	X-206-9
1	Elbow, street, 90 deg. x 2 1/2 in. NPT	X-211-9
3	Elbow, pipe, 90 deg. x 2 in. NPT	X-215-6
2	Coupling, pipe, 3/8 in. NPSC	X-216-23
3	Pipe, 2 in. NPT x 2.00 in.	X-219-9
2	Valve, drain, 3/8 in. NPTF	X-256-1
1	Valve, drain, 1/2 in. NPTF	X-256-5
1	Clamp, spring hose, .462/.545 in.	X-309-14
1	Valve, solenoid	X-350-11
1	Fuel line, flexible	X-386-36
2	Clamp, hose, 2.31/3.25 in.	X-426-2
1	Adapter, hose	X-570-1
2	Hose, radiator, straight, 2 in. ID	X-6014-79
3	Nipple, combination	X-6268-2
1	Plug, pipe, 1 1/2 in. NPTF	X-75-16
1	Plug, pipe, 1/2 in. NPTF	X-75-3

Qty.	Description	Part No.
Duct Flange, Radiator GM13896-KA1		
2	Frame, air duct	GM13897
2	Frame, air duct	GM13898
8	Rivet, pop, .187 in.	X-781-19
4	Screw, hex seal washer head, drill	X-794-4
Duct Flange, Radiator GM13896-KA2		
2	Frame, air duct	GM31193
2	Frame, air duct	GM32061
8	Rivet, pop, .187 in.	X-781-19
4	Screw, hex seal washer head, drill	X-794-4
Duct Flange, Radiator GM21035-KA1		
2	Frame, air duct	364295
2	Frame, air duct	GM30442
8	Rivet, pop, .187 in.	X-781-11
Duct Flange, Radiator GM21035-KA2		
2	Frame, air duct	GM21038
2	Frame, air duct	GM21039
8	Rivet, pop, .187 in.	X-781-11

Notes

Appendix A Abbreviations

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

A, amp	ampere	CG	center of gravity	F	Fahrenheit, female
ABDC	after bottom dead center	CID	cubic inch displacement	fglass.	fiberglass
AC	alternating current	CL	centerline	FHM	flat head machine (screw)
A/D	analog to digital	cm	centimeter	fl. oz.	fluid ounce
ADC	analog to digital converter	CMOS	complementary metal oxide substrate (semiconductor)	flex.	flexible
adj.	adjust, adjustment	cogen.	cogeneration	freq.	frequency
ADV	advertising dimensional drawing	com	communications (port)	FS	full scale
AHWT	anticipatory high water temperature	coml	commercial	ft.	foot, feet
AISI	American Iron and Steel Institute	Coml/Rec	Commercial/Recreational	ft. lbs.	foot pounds (torque)
ALOP	anticipatory low oil pressure	conn.	connection	ft./min.	feet per minute
alt.	alternator	cont.	continued	g	gram
Al	aluminum	CPVC	chlorinated polyvinyl chloride	ga.	gauge (meters, wire size)
ANSI	American National Standards Institute (formerly American Standards Association, ASA)	crit.	critical	gal.	gallon
AO	anticipatory only	CRT	cathode ray tube	gen.	generator
API	American Petroleum Institute	CSA	Canadian Standards Association	genset	generator set
approx.	approximate, approximately	CT	current transformer	GFI	ground fault interrupter
AR	as required, as requested	Cu	copper	GND, ⊕	ground
AS	as supplied, as stated, as suggested	cu. in.	cubic inch	gov.	governor
ASE	American Society of Engineers	cw.	clockwise	gph	gallons per hour
ASME	American Society of Mechanical Engineers	CWC	city water-cooled	gpm	gallons per minute
assy.	assembly	cyl.	cylinder	gr.	grade, gross
ASTM	American Society for Testing Materials	D/A	digital to analog	GRD	equipment ground
ATDC	after top dead center	DAC	digital to analog converter	gr. wt.	gross weight
ATS	automatic transfer switch	dB	decibel	H x W x D	height by width by depth
auto.	automatic	dBA	decibel (A weighted)	HC	hex cap
aux.	auxiliary	DC	direct current	HCHT	high cylinder head temperature
A/V	audiovisual	DCR	direct current resistance	HD	heavy duty
avg.	average	deg., °	degree	HET	high exhaust temperature, high engine temperature
AVR	automatic voltage regulator	dept.	department	hex	hexagon
AWG	American Wire Gauge	dia.	diameter	Hg	mercury (element)
AWM	appliance wiring material	DI/EO	dual inlet/end outlet	HH	hex head
bat.	battery	DIN	Deutsches Institut für Normung e. V. (also Deutsche Industrie Normenausschuss)	HHC	hex head cap
BBDC	before bottom dead center	DIP	dual inline package	HP	horsepower
BC	battery charger, battery charging	DPDT	double-pole, double-throw	hr.	hour
BCA	battery charging alternator	DPST	double-pole, single-throw	HS	heat shrink
BCI	Battery Council International	DS	disconnect switch	hsg.	housing
BDC	before dead center	DVR	digital voltage regulator	HVAC	heating, ventilation, and air conditioning
BHP	brake horsepower	E, emer.	emergency (power source)	HWT	high water temperature
blk.	black (paint color), block (engine)	EDI	electronic data interchange	Hz	hertz (cycles per second)
blk. htr.	block heater	EFR	emergency frequency relay	IC	integrated circuit
BMEP	brake mean effective pressure	e.g.	for example (<i>exempli gratia</i>)	ID	inside diameter, identification
bps	bits per second	EG	electronic governor	IEC	International Electrotechnical Commission
br.	brass	EGSA	Electrical Generating Systems Association	IEEE	Institute of Electrical and Electronics Engineers
BTDC	before top dead center	EIA	Electronic Industries Association	IMS	improved motor starting
Btu	British thermal unit	EI/EO	end inlet/end outlet	in.	inch
Btu/min.	British thermal units per minute	EMI	electromagnetic interference	in. H ₂ O	inches of water
C	Celsius, centigrade	emiss.	emission	in. Hg	inches of mercury
cal.	calorie	eng.	engine	in. lbs.	inch pounds
CARB	California Air Resources Board	EPA	Environmental Protection Agency	Inc.	incorporated
CB	circuit breaker	EPS	emergency power system	ind.	industrial
cc	cubic centimeter	ER	emergency relay	int.	internal
CCA	cold cranking amps	ES	engineering special, engineered special	int./ext.	internal/external
ccw.	counterclockwise	ESD	electrostatic discharge	I/O	input/output
CEC	Canadian Electrical Code	est.	estimated	IP	iron pipe
cert.	certificate, certification, certified	E-Stop	emergency stop	ISO	International Organization for Standardization
cfh	cubic feet per hour	etc.	et cetera (and so forth)	J	joule
cfm	cubic feet per minute	exh.	exhaust	JIS	Japanese Industry Standard
		ext.	external	k	kilo (1000)
				K	kelvin
				kA	kiloampere

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

Appendix B Common Hardware Application Guidelines

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

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

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

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

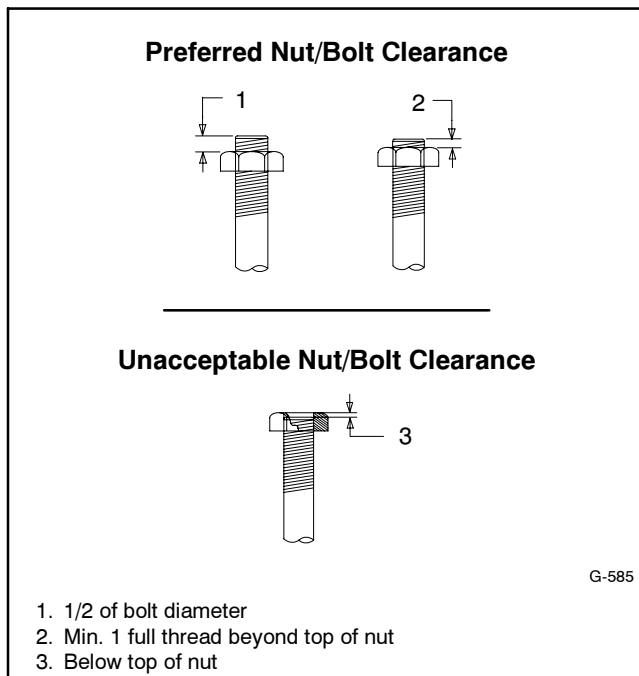


Figure 1 Acceptable Bolt Lengths

Steps for common hardware application:

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

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

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

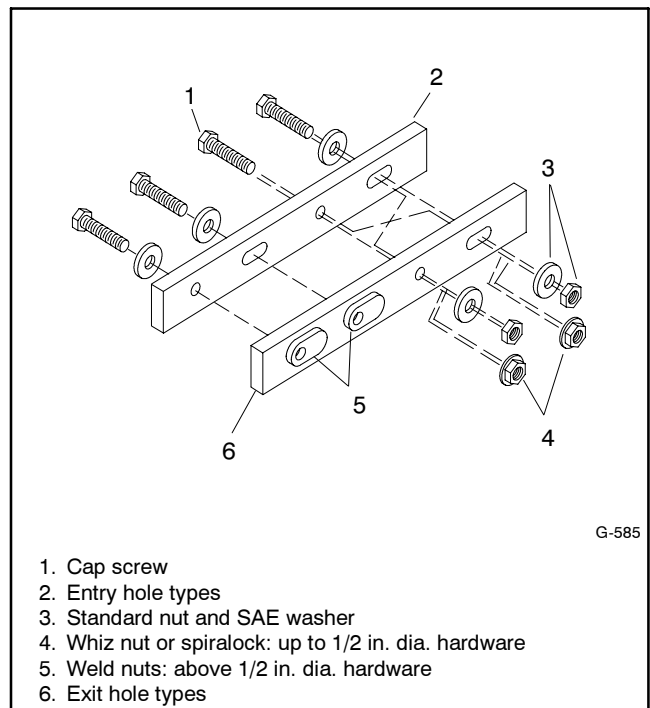


Figure 2 Acceptable Hardware Combinations

Appendix C General Torque Specifications

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

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

Notes:

1. Do not use these values when the torque values are specified on the assembly drawing.
2. These values are based on new plates threads. Increase values by 15% if non-plated threads are used.
3. Hardware threaded into aluminum must have two diameters of thread engagement or may require 30% or more reduction in the torque.
4. Torques are calculated as equivalent stress loading to American hardware and approximately a preload of 90% of yield strength and friction coefficient of 0.125.

Appendix D Common Hardware Identification

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

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

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

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

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

Sample Dimensions

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

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

Metric (Screws, Bolts, Studs, and Nuts)

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

Plain Washers

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

Lock Washers

5/8
 — Internal Dimension

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.



DDC/MTU Power Generation
605 North 8th Street, Suite 501
Sheboygan, Wisconsin 53081 USA
Phone 920-451-0846, Fax 920-451-0843
ddcmtupowergeneration.com

MP-6142 4/05d

© 2002, 2003, 2004, 2005. All rights reserved.