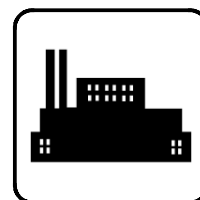


Service Parts

Industrial Generator Sets



Models:

180- 400REZX
180- 450REZXB
180- 400RZX
180- 400RZXB
300REZXC
300- 500REZXD
300- 400RZXD

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

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Introduction

This manual lists service replacement parts for 180-450REZX(B) & 180-400RZX(B) generator sets.

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

This manual includes the following main sections:

Table of Contents. Lists the sections of the manual.

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

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

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

Kit Sections. List modules and accessories and their parts.

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

Numbering System Significance

This manual uses the following numbering systems:

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

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

Variation or Module Number. A group might have several variations. Each variation performs the same function with different parts lists. For example, a 50 Hz generator alternator and a 60 Hz generator alternator both perform the same function; however, with different parts. Each difference requires a group variation or module number.

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

Illustrations

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

How to Find Part Numbers

Use the following steps to locate a service replacement part.

1. Locate the generator set nameplate to **identify the generator set spec number**.
2. Locate a second generator set nameplate listing accessories to **identify installed modules**. On some models the accessory nameplate is mounted inside the generator junction box.
3. **Turn to the Specification Number Index.** The first column lists the generator set spec numbers. The headings identify the groups of parts that make up the generator set.
4. **Identify the group** most likely to include the service part number.
5. **Find the group variation number** at the intersection of the spec number row and the group column. Note the variation number.
6. **Page forward to locate the group** identified in step 4 or find the appropriate page in the Table of Contents.
7. **Find the part on the illustration** and note the item number of the part or **find the part description in the parts list**.
8. Select **the part number that corresponds to your group variation**. The first column lists the illustration item number. Find the variation identified in the Specification Number Index or the module number found on the generator set nameplate in the appropriate column on the right side of the parts list table. Find the quantity used at the intersection of the item number row and the variation column. A blank space at the intersection means the variation/module does not use that part number.

Hardware References

Many common hardware items do not appear in parts manuals or will appear as common hardware entries. A common hardware entry lists the size of the hardware. For example, an item that appears as "Hardware, 3/8-16" in the text means that the piece is 3/8-16 size. Obtain common hardware locally or, if contacting the factory, use the Common Hardware List in the appendix to identify the common hardware part number and specifications. See Common Hardware Application Guidelines in the appendix for mating hardware instructions.

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

When replacing hardware, do not substitute inferior grade hardware. Replacement hardware grade should be equal to or better than the grade of the manufacturer's original hardware. Use the Common Hardware List in the appendix to identify the common hardware hardness.

Specification Number Index

Group Title	Air Intake	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Controller and Mounting	Literature
Group No.	101	104	105	107	109	201	301	301	701
Spec No.	Variation Number								

180REZX									
GM66347-GA1	+	*	1	1	*	*	*	†	375
GM66347-GA5	+	*	3	1	*	*	*	†	375
180RZX									
GM66347-GA3	+	*	2	1	*	*	*	†	406
GM66347-GA7	+	*	4	1	*	*	*	†	406
200REZX									
GM66347-GA2	+	*	1	1	*	*	*	†	376
GM66347-GA6	+	*	3	1	*	*	*	†	376
200RZX									
GM66347-GA4	+	*	2	1	*	*	*	†	407
GM66347-GA8	+	*	4	1	*	*	*	†	407
250REZX									
GM65754-GA1	+	*	5	2	*	*	*	†	377
GM65754-GA3	+	*	7	2	*	*	*	†	377
250RZX									
GM65754-GA2	+	*	6	2	*	*	*	†	408
GM65754-GA4	+	*	8	2	*	*	*	†	408
300REZX									
GM71300-GA1	+	*	13	3	*	*	*	†	378
GM71300-GA2	+	*	15	3	*	*	*	†	378
300RZX									
GM71300-GA3	+	*	14	3	*	*	*	†	409
GM71300-GA4	+	*	16	3	*	*	*	†	409
350REZX									
GM71300-GA5	+	*	13	3	*	*	*	†	379
GM71300-GA6	+	*	15	3	*	*	*	†	379
350RZX									
GM71300-GA7	+	*	14	3	*	*	*	†	410
GM71300-GA8	+	*	16	3	*	*	*	†	410
400REZX									
GM69630-GA1	+	*	9	3	*	*	*	†	380
GM69630-GA3	+	*	11	3	*	*	*	†	380
400RZX									
GM69630-GA2	+	*	10	3	*	*	*	†	411
GM69630-GA4	+	*	12	3	*	*	*	†	411

- + Group supplied by engine manufacturer. See engine parts manual for part numbers. See Group 701 Literature for part numbers of engine parts manual.
- * Configured group. Refer to the generator set nameplate for the module number. Turn to the respective group on the following pages for parts breakdowns.
- † Configured group. Refer to the generator set nameplate for the module number. See controller parts catalog for controller parts lists.

Specification Number Index

Group Title	Air Intake	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Controller and Mounting	Literature
Group No.	101	104	105	107	109	201	301	301	701
Spec No.	Variation Number								

180REZXB									
GM78689-GA1	+	*	20	6	*	*	*	†	464
GM78689-GA5	+	*	18	6	*	*	*	†	464
180RZXB									
GM78689-GA3	+	*	17	6	*	*	*	†	467
GM78689-GA7	+	*	19	6	*	*	*	†	467
200REZXB									
GM78689-GA2	+	*	20	4	*	*	*	†	465
GM78689-GA6	+	*	18	4	*	*	*	†	465
200RZXB									
GM78689-GA4	+	*	17	4	*	*	*	†	468
GM78689-GA8	+	*	19	4	*	*	*	†	468
250REZXB									
GM78690-GA1	+	*	24	4	*	*	*	†	466
GM78690-GA3	+	*	22	4	*	*	*	†	466
250RZXB									
GM78690-GA2	+	*	21	4	*	*	*	†	468
GM78690-GA4	+	*	23	4	*	*	*	†	468
300REZXB									
GM78829-GA1	+	*	25	5	*	*	*	†	458
GM78829-GA2	+	*	27	5	*	*	*	†	458
300RZXB									
GM78829-GA3	+	*	26	5	*	*	*	†	461
GM78829-GA4	+	*	28	5	*	*	*	†	461
350REZXB									
GM78829-GA5	+	*	25	5	*	*	*	†	459
GM78829-GA6	+	*	27	5	*	*	*	†	459
350RZXB									
GM78829-GA7	+	*	26	5	*	*	*	†	462
GM78829-GA8	+	*	28	5	*	*	*	†	462
400REZXB									
GM78830-GA1	+	*	29	5	*	*	*	†	460
GM78830-GA3	+	*	31	5	*	*	*	†	460
400RZXB									
GM78830-GA2	+	*	30	5	*	*	*	†	463
GM78830-GA4	+	*	32	5	*	*	*	†	463

- + Group supplied by engine manufacturer. See engine parts manual for part numbers.
See Group 701 Literature for part numbers of engine parts manual.
- * Configured group. Refer to the generator set nameplate for the module number.
Turn to the respective group on the following pages for parts breakdowns.
- † Configured group. Refer to the generator set nameplate for the module number.
See controller parts catalog for controller parts lists.

Specification Number Index

Group Title	Air Intake	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Controller and Mounting	Literature
Group No.	101	104	105	107	109	201	301	301	701
Spec No.	Variation Number								

180REZXB									
GM99499-GA1	+	*	50	6	*	*	*	†	464
GM99499-GA5	+	*	48	6	*	*	*	†	464
GM103910-GA1	+	*	63	6	*	*	*	†	464
GM103910-GA5	+	*	65	6	*	*	*	†	464
180RZXB									
GM99499-GA3	+	*	47	6	*	*	*	†	467
GM99499-GA7	+	*	49	6	*	*	*	†	467
GM103910-GA3	+	*	64	6	*	*	*	†	467
GM103910-GA7	+	*	66	6	*	*	*	†	467
200REZXB									
GM99499-GA2	+	*	50	4	*	*	*	†	465
GM99499-GA6	+	*	48	4	*	*	*	†	465
GM103910-GA2	+	*	63	4	*	*	*	†	465
GM103910-GA6	+	*	65	4	*	*	*	†	465
200RZXB									
GM99499-GA4	+	*	47	4	*	*	*	†	468
GM99499-GA8	+	*	49	4	*	*	*	†	468
GM103910-GA4	+	*	64	4	*	*	*	†	468
GM103910-GA8	+	*	66	4	*	*	*	†	468
250REZXB									
GM99504-GA1	+	*	54	4	*	*	*	†	466
GM99504-GA3	+	*	52	4	*	*	*	†	466
GM113916-GA1	+	*	67	7	*	*	*	†	466
250RZXB									
GM99504-GA2	+	*	51	4	*	*	*	†	468
GM99504-GA4	+	*	53	4	*	*	*	†	468
GM113916-GA2	+	*	68	7	*	*	*	†	468
300REZXB									
GM99509-GA1	+	*	55	5	*	*	*	†	458
GM99509-GA2	+	*	57	5	*	*	*	†	458
GM113942-GA1	+	*	69	8	*	*	*	†	458
300RZXB									
GM99509-GA3	+	*	56	5	*	*	*	†	461
GM99509-GA4	+	*	58	5	*	*	*	†	461
GM113942-GA2	+	*	70	8	*	*	*	†	461
300REZXC									
GM99504-GA5	+	*	54	4	*	*	*	†	559

- + Group supplied by engine manufacturer. See engine parts manual for part numbers. See Group 701 Literature for part numbers of engine parts manual.
- * Configured group. Refer to the generator set nameplate for the module number. Turn to the respective group on the following pages for parts breakdowns.
- † Configured group. Refer to the generator set nameplate for the module number. See controller parts catalog for controller parts lists.

Specification Number Index

Group Title	Air Intake	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Controller and Mounting	Literature
Group No.	101	104	105	107	109	201	301	301	701
Spec No.	Variation Number								

350REZXB									
GM99509-GA5	+	*	55	5	*	*	*	†	459
GM99509-GA6	+	*	57	5	*	*	*	†	459
GM113942-GA3	+	*	69	8	*	*	*	†	459
350RZXB									
GM99509-GA7	+	*	56	5	*	*	*	†	462
GM99509-GA8	+	*	58	5	*	*	*	†	462
GM113942-GA4	+	*	70	8	*	*	*	†	462
400REZXB									
GM99514-GA1	+	*	59	5	*	*	*	†	460
GM99514-GA3	+	*	61	5	*	*	*	†	460
GM113960-GA1	+	*	71	8	*	*	*	†	460
450REZXB									
GM99514-GA1	+	*	59	5	*	*	*	†	569
400RZXB									
GM99514-GA2	+	*	60	5	*	*	*	†	463
GM99514-GA4	+	*	62	5	*	*	*	†	463
GM113960-GA2	+	*	72	8	*	*	*	†	463

- + Group supplied by engine manufacturer. See engine parts manual for part numbers.
See Group 701 Literature for part numbers of engine parts manual.
- * Configured group. Refer to the generator set nameplate for the module number.
Turn to the respective group on the following pages for parts breakdowns.
- † Configured group. Refer to the generator set nameplate for the module number.
See controller parts catalog for controller parts lists.

Specification Number Index

Group Title	Fuel System	Cooling System	Engine	Nameplates and Decals	Skid and Plant Mounting	Generator and Mounting	Control and Harness	Controller and Mounting	Literature
Group No.	103	104	105	107	109	201	301	301	701
Spec No.	Variation Number								

300REZXD									
GM111139- GA1	*	*	73	9	*	*	*	†	584
GM111139- GA3	*	*	74	9	*	*	*	†	584
300RZXD									
GM111139- GA4	*	*	75	9	*	*	*	†	589
350REZXD									
GM111139- GA7	*	*	73	9	*	*	*	†	585
GM111139- GA9	*	*	74	9	*	*	*	†	585
350RZXD									
GM111139- GA10	*	*	75	9	*	*	*	†	590
400REZXD									
GM110223- GA4	*	*	76	9	*	*	*	†	586
GM110223- GA5	*	*	77	9	*	*	*	†	586
400RZXD									
GM110223- GA1	*	*	78	9	*	*	*	†	591
450REZXD									
GM110223- GA8	*	*	76	9	*	*	*	†	587
500REZXD									
GM110223- GA9	*	*	79	9	*	*	*	†	588

Air Intake Group supplied by engine manufacturer. See engine parts manual for part numbers.

See Group 701 Literature for part numbers of engine parts manual.

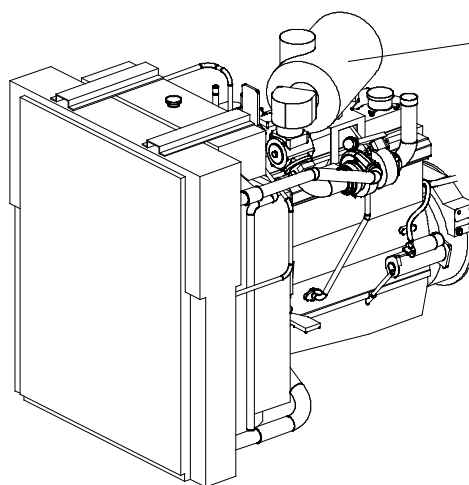
* Configured group. Refer to the generator set nameplate for the module number.
Turn to the respective group on the following pages for parts breakdowns.

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

Group 101: Air Intake

180-400 kW

Air Intake components are supplied by engine manufacturer.
See engine parts manual for component part numbers.
See Group 701 Literature for part numbers of engine parts manual.

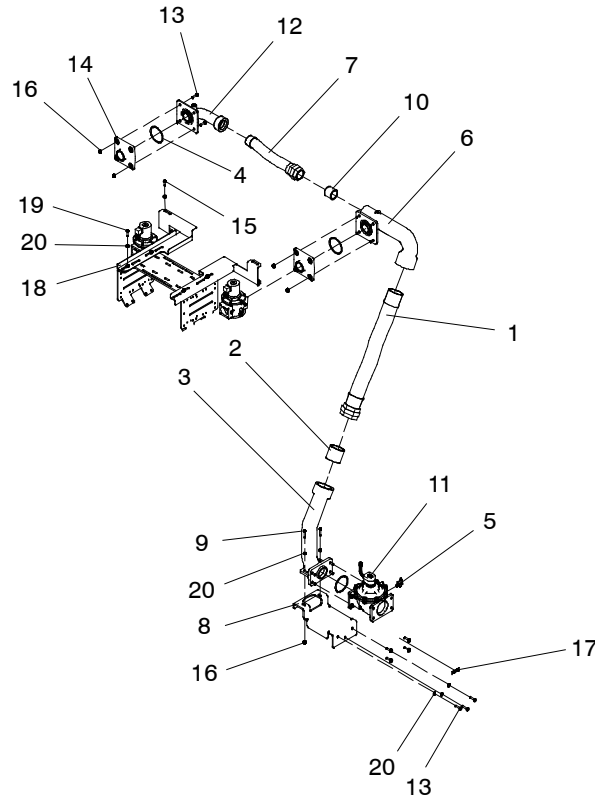


See engine parts manual
for air filter part number
and related parts.

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Group 103: Fuel System

300/500 kW



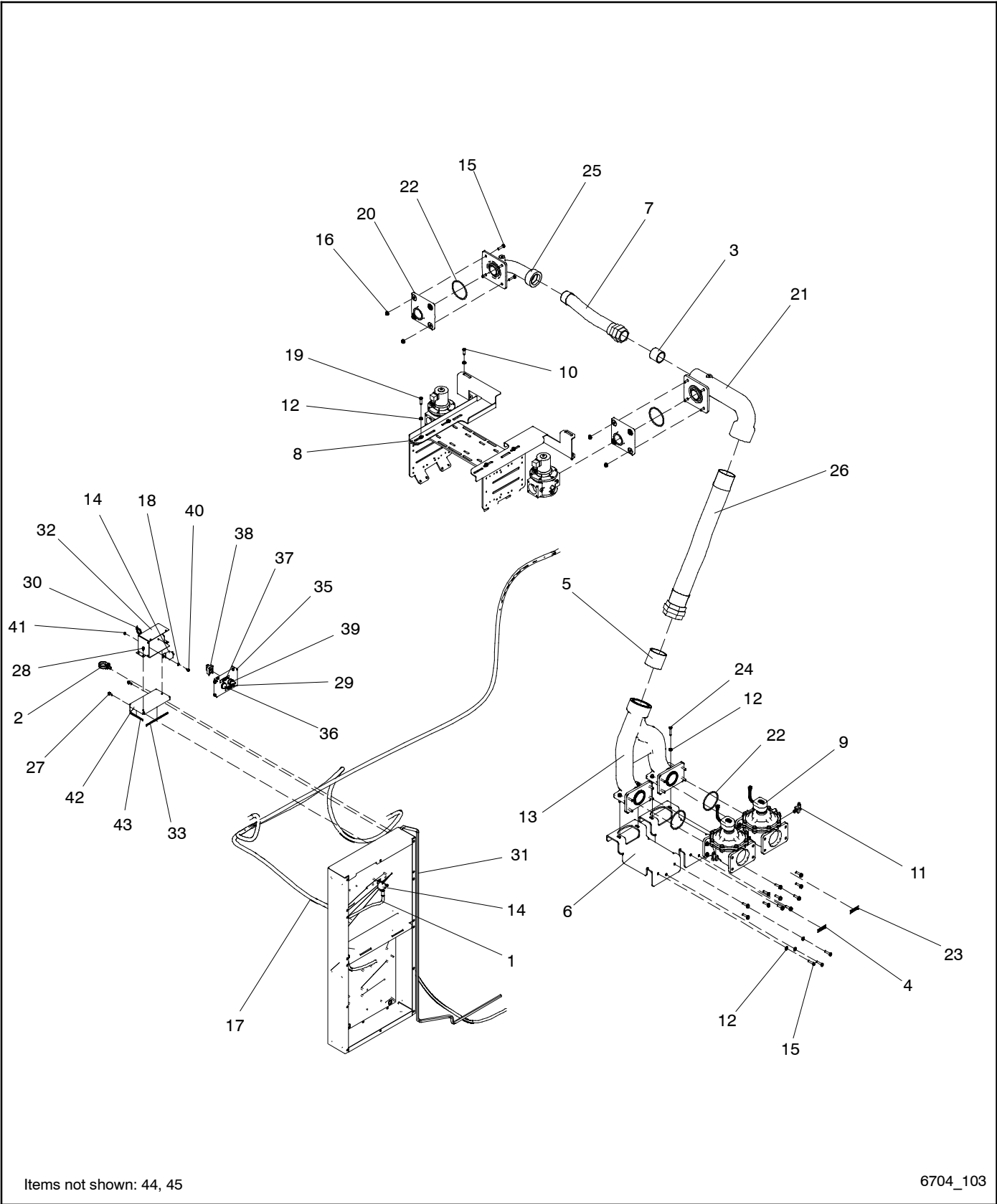
Items not shown: 21, 22

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Item	Part Number	Description	Quantity
			Module Number GM113946-MA1
1	X-504-26	Line, Flex Fuel	1
2	X-533-22	Pipe (3 in. NPT x 3 in.)	1
3	GM111270	Manifold, Single Fuel Valve, 3 in., Mach	1
4	GM111281	O- Ring, 3 3/4 in. ID	3
5	GM70537	Switch, Pressure 4.5 in. H2O	1
6	GM111276	Manifold, Reducer, 3 in. to 2 in., Mach	1
7	X-504-16	Fuel Line, Flexible (2.00 in. ID x 18 in.)	1
8	GM114560	Bracket, Fuel System, Lower	1
9	M931-08040-60	Screw, Hex Cap M8 x 40	7
10	X-219-9	Pipe, Nipple (2 in. NPT x 2 in.)	1
11	GM114821	Valve Assembly, Gas, 3 in. NPT	1
12	GM111278	Elbow, Pipe, 2 in. to Flange, Mach	1
13	M931-08035-60	Screw, Hex Cap M8 x 35	14
14	GM111274	Adapter, 2 in. NPT to Flange, Mach	2
15	M933-08025-60	Screw, Hex Cap M8 x 25	2
16	M6923-08-80	Nut, Hex 8 mm	21
17	GM20577	Decal, Fuel Type	1
18	GM111280	Bracket, Fuel System, Upper	2
19	M933-08030-82	Screw, Hex Cap M8 x 30	4
20	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	27
21	GM73386	Harness, Solenoid Extension	1
22	GM78995	Harness, Engine Doosan 300- 400 kW	1

Group 103: Fuel System

300/500 kW

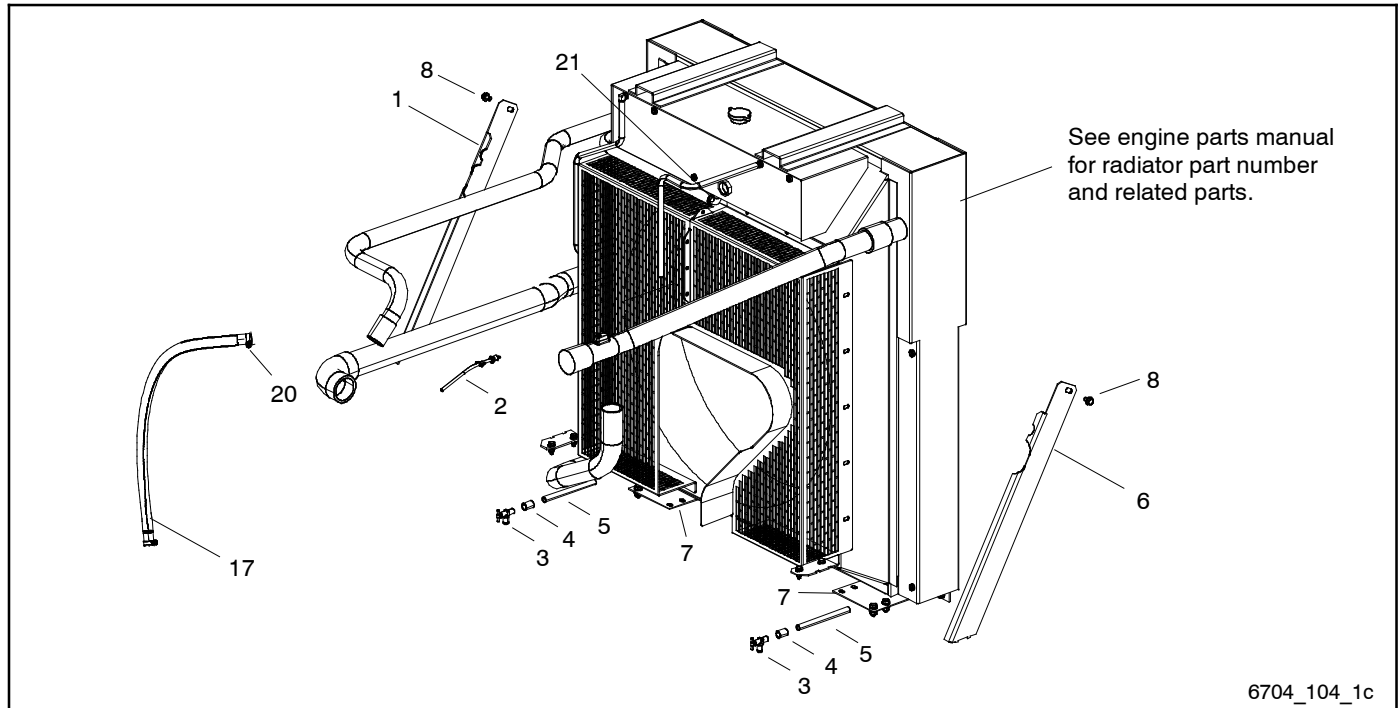


Group 103: Fuel System, continued

Item	Part Number	Description	300/500 kW
			Quantity
			Module Number GM113946-MA2
1	GM109880	Harness, Doosan APM603, Dual Fuel 250- 450	1
2	11613000101	Tie, Cable, Fir Tree, 13W x 20- 100 mm Dia.	1
3	X-219-9	Pipe, Nipple (2 in. NPT x 2 in.)	1
4	GM20173	Decal, Fuel Type	1
5	X-533-22	Pipe (3 in. NPT x 3 in.)	1
6	GM114560	Bracket, Fuel System, Lower	2
7	X-504-16	Fuel Line, Flexible (2.00 in. ID x 18 in.)	1
8	GM111280	Bracket, Fuel System, Upper	2
9	GM114821	Valve Assembly, Gas, 3 in. NPT	2
10	M933-08025-60	Screw, Hex Cap M8 x 25	2
11	GM70537	Switch, Pressure 4.5 in. H2O	3
12	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	40
13	GM111402	Manifold, Dual Fuel Valve, 3 in., Mach	1
14	GM49747	Relay, 24V DC	2
15	M931-08035-60	Screw, Hex Cap M8 x 35	22
16	M6923-08-80	Nut, Hex 8 mm	34
17	GM78995	Harness, Engine Doosan 300- 400 kW	1
18	M125A-05-80	Washer, Plain	2
19	M933-08030-82	Screw, Hex Cap M8 x 30	4
20	GM111274	Adapter, 2 in. NPT to Flange, Mach	2
21	GM111276	Manifold, Reducer, 3 in. to 2 in., Mach	1
22	GM111281	O- Ring, 3 3/4 in. ID	4
23	GM20174	Decal, Fuel Type	1
24	M931-08040-60	Screw, Hex Cap M8 x 40	12
25	GM111278	Elbow, Pipe, 2 in. to Flange, Mach	1
26	X-504-26	Line, Flex Fuel	1
27	GM78761- 1	Screw, Sheetmetal	2
28	X-6216-1	Screw, Phillips Hex Crimptite	6
29	GM107844	Decal, Dual Fuel Switch	1
30	X-468-1	Cable Tie	1
31	GM111140	Harness, Dual Fuel, Doosan	1
32	GM107817	Box, Dual Fuel Reset, Bottom	1
33	X-6033-4	Grommet, U- Channel	1
35	GM107818	Box, Dual Fuel Reset, Top	1
36	X-6127-70	Light, Pilot (Without Bulb- Shite)	1
37	GM107843	Decal, Dual Fuel Light	1
38	GM13509	Contact Block Assy., One Normally Closed	1
39	GM49762	Switch, Selector 2- Position	1
40	M7985A-05012-20	Screw, Pan Head Mach.	1
41	M934-05-50	Nut, Hex 5 mm	2
42	GM107934	Bracket, Fuel Switch Mounting	1
43	X-6033-3	Grommet, U- Channel	2
44	X-6127-36	Bulb, 12V	1
45	GM71457	Harness, Dual Fuel Doosan 300- 400 kW	1

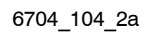
Group 104: Cooling System

180/200 kW

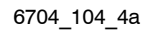


Item	Part Number	Description	Quantity	
			Module Number	
			GM67028-MA1	GM78697-MA1
1	GM66924	Brace, Radiator (LH)	1	1
2	254832	Sensor, Low Fluid Assembly	1	
3	278788	Valve, drain (3/8 in. nptf)	2	2
4	X-216-23	Coupling, pipe (3/8 in. npsc)	2	
4	X-250-2	Coupling, reducer (3/8" x 1/4"npt)		2
5	X-204-17	Pipe (3/8 in. npt x 8.00 in.)	2	
5	X-220-6	Pipe (1/4"npt x 1.50")		2
6	GM66923	Brace, Radiator (RH)	1	1
7	GM62353	Bracket, radiator mtg.	2	2
8	X-400-167	Spacer, .531 ID x 1 OD x .25 in.	2	2
17	X-386-133	Overflow hose	1	1
20	X-426-9	Clamp, hose, .25/.70 in.	7	7
21	X-426-12	Clamp, hose, .69/1.25 in.	2	2

250/300 kW

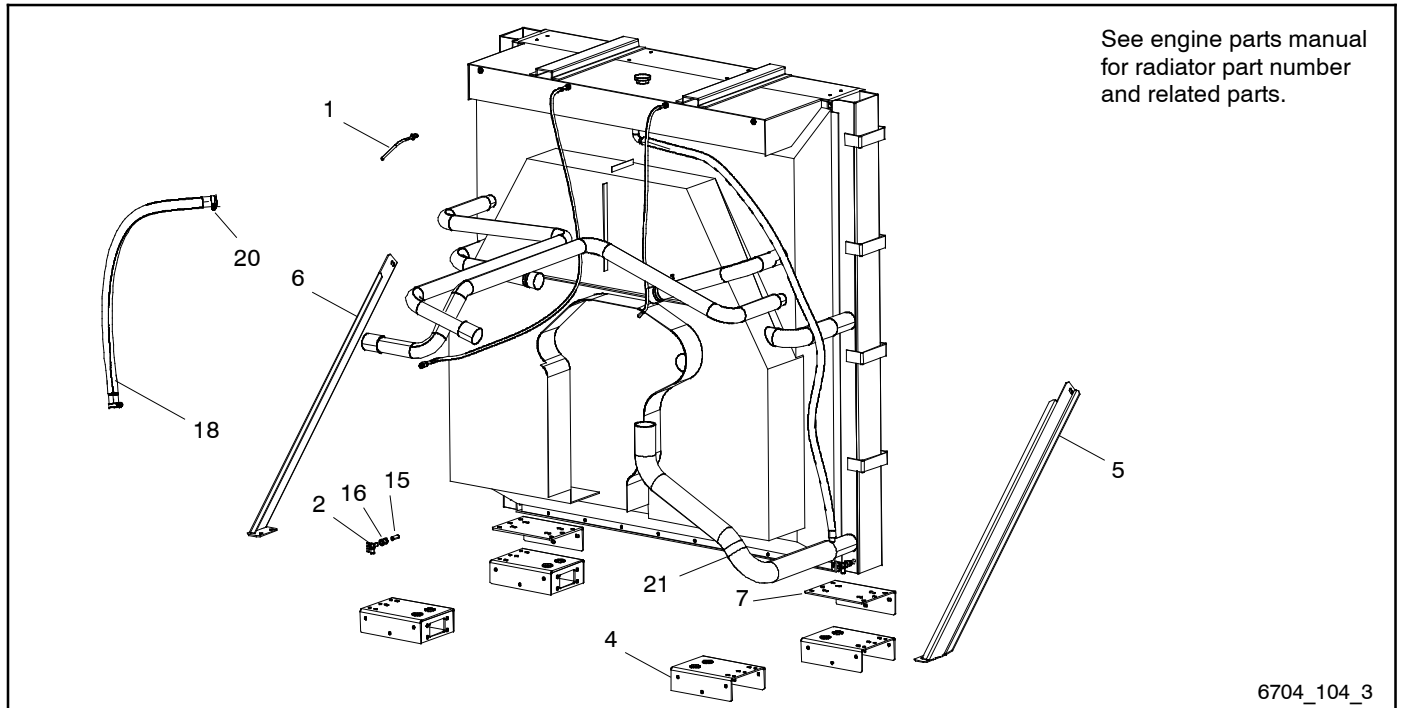
TP-6704 2/21

300/350 kW

18

Group 104: Cooling System, continued

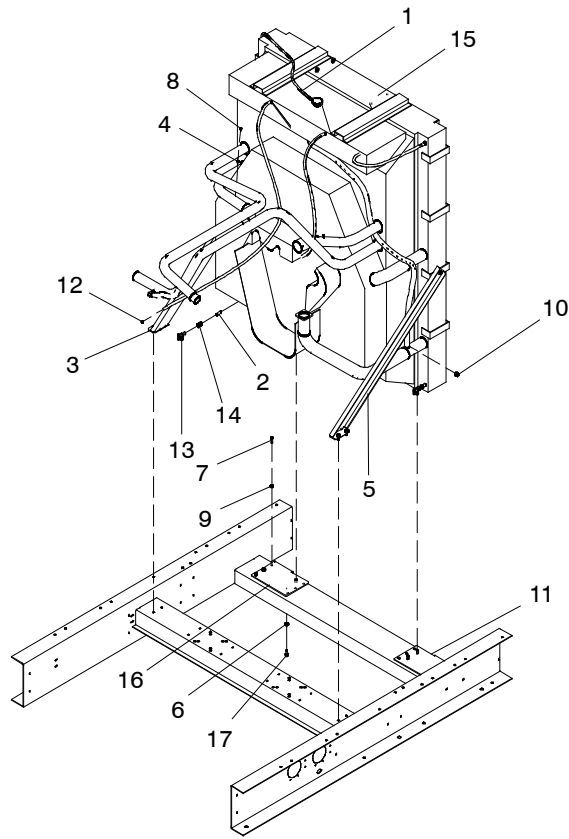
400/450 kW



Item	Part Number	Description	Quantity	
			Module Number	
			GM69632-MA1	GM78832-MA1
1	254832	Sensor, Low Fluid Assembly	1	
2	278788	Valve, drain (3/8 in. nptf)	2	2
4	GM69638	Support, Radiator	4	
5	GM69641	Brace, Radiator (RH)	1	1
6	GM69642	Brace, Radiator (LH)	1	1
7	GM71194	Bracket, Mtg. Radiator	2	2
15	X-220-6	Pipe (1/4 in. npt x 1.50 in.)	2	2
16	X-250-2	Coupling, reducer (3/8 in. x 1/4 in. npt)	2	2
16	S-404	Elbow, street (90 deg x 3/8"nptf)+Vibra	1	1
18	X-386-133	Overflow hose	1	1
20	X-426-9	Clamp, hose, .25/.70 in.	5	5
20	X-426-12	Clamp, hose, .69/1.25 in.	2	2
21	GM81373	Support, Coolant Line	1	
21	GM78828	Bracket, Cooling Tube		1

Group 104: Cooling System, continued

300/500 kW

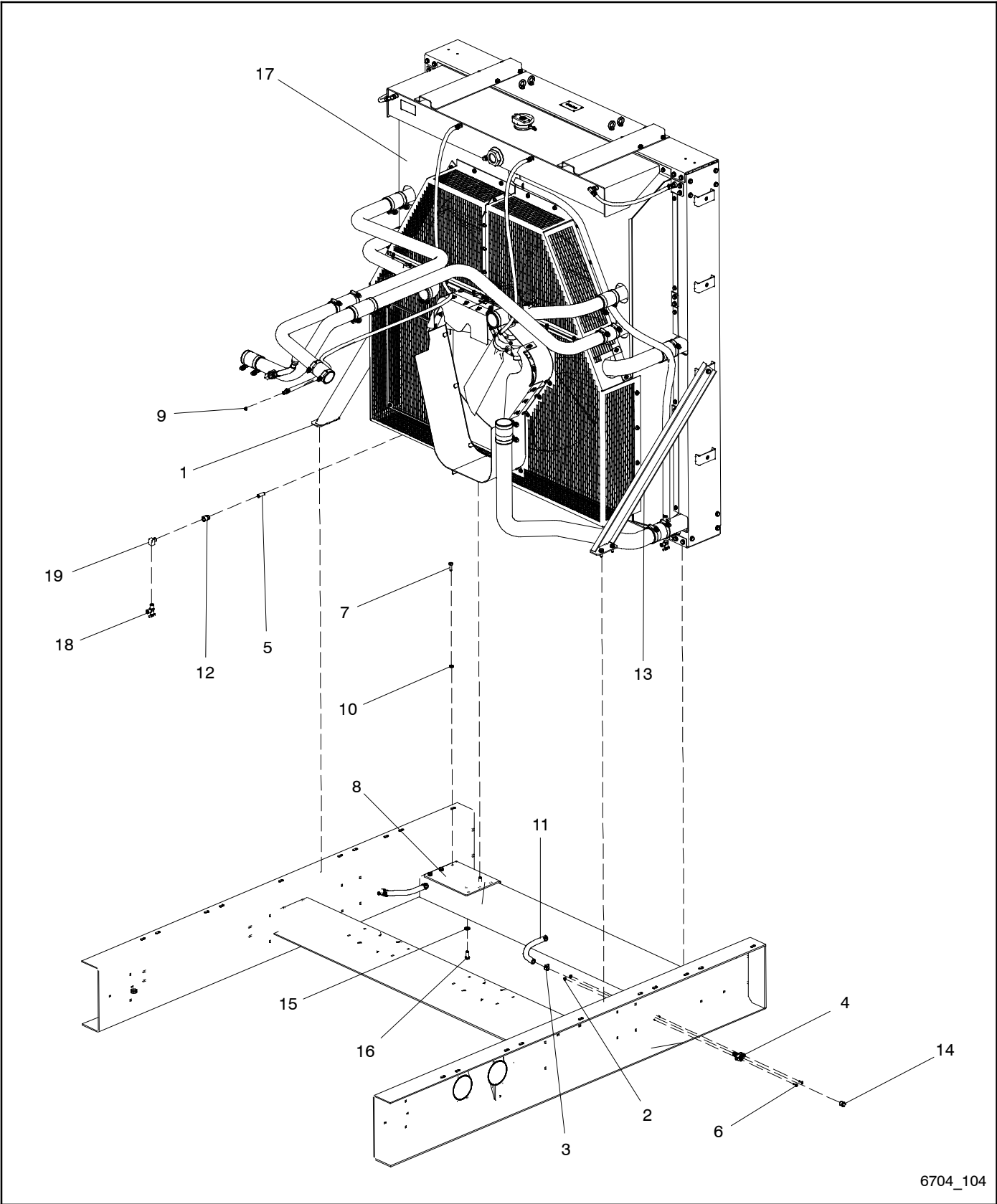


6704_104_5

Item	Part Number	Description	Quantity
			Module Number GM111121-MA1
1	X-386-133	Line, Flex Fuel	1
2	X-220-6	Pipe (1/4 in. NPT x 1.5 in.)	2
3	GM111399	Brace, Radiator (LH)	1
4	M125A-06-80	Washer, Plain	2
5	GM111398	Brace, Radiator (RH)	1
6	M125A-12-80	Washer, Plain	4
7	M933-10030-60	Screw, Hex Cap M10 x 30	16
8	M933-06014-60	Screw, Hex Cap M6 x 14	2
9	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	16
10	X-426-12	Clamp, Hose, .69/1.25 in.	2
11	GM71315	Bracket, Radiator Support RH	1
12	X-426-9	Clamp, Hose, .25/.70 in.	5
13	278788	Valve, Drain (3/8 in. NPTF)	2
14	X-250-2	Coupling, Reducer (3/8 in. x 1/4 in. NPT)	2
15	GM71294	Radiator Crate	1
16	GM71316	Bracket, Radiator Support LH	1
17	M933-12030-60	Screw, Hex Cap M12 x 30	4

Group 104: Cooling System, continued

300/500 kW



6704_104

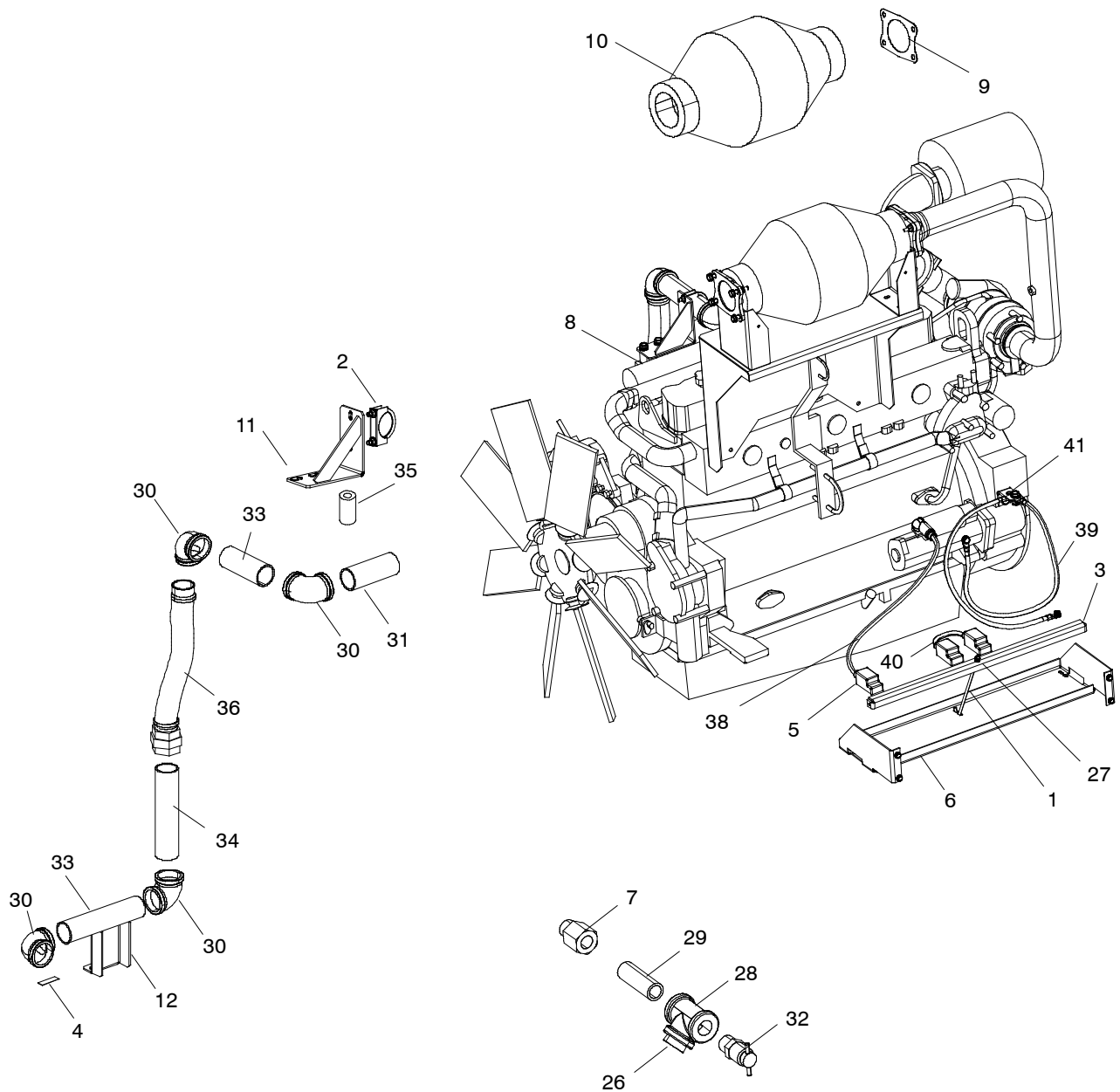
Group 104: Cooling System, continued

300/500 kW

Item	Part Number	Description	Quantity	
			Module Number	
			GM110483- MA1	GM110483- MA2
1	GM110485	Brace, Radiator (LH)	1	1
2	X-6351-7	Nut, Flange Serrated Lock, M5- 0.8	4	4
3	X-426-12	Clamp, Hose, .69/1.25 in.	6	6
4	GM59015	Fitting, Bulkhead Drain	2	2
5	X-220-6	Pipe (1/4 in. NPT x 1.50 in.)	3	2
6	M7985A-05020-20	Screw, Pan Head Machine	4	4
7	M933-10030-60	Screw, Hex Cap M10 x 30	18	18
8	GM71194	Bracket, Mtg. Radiator	2	2
9	X-426-9	Clamp, Hose, .25/.70 in.	5	5
10	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	18	18
11	X-577-6	Hose, Rubber, Straight, .62 in. ID	2	1
12	X-250-2	Coupling, Reducer (3/8 in. x 1/4 in. NPT)	2	2
13	GM110484	Brace, Radiator (RH)	1	1
14	X-75-58	Plug, Pipe	2	2
15	M125A-12-80	Washer, Plain	4	4
16	M933-12030-60	Screw, Hex Cap M12 X 30	4	4
17	GM69634	Cooling Crate	1	
17	GM114781	Radiator, Doosan, 500kW 32° Fan		1
18	278788	Valve, Drain (3/8 in. NPTF)	2	2
19	S-404	Elbow, Street (90° x 3/8 in. NPTF) + Vibra	2	2

Group 105: Engine

180/200 kW



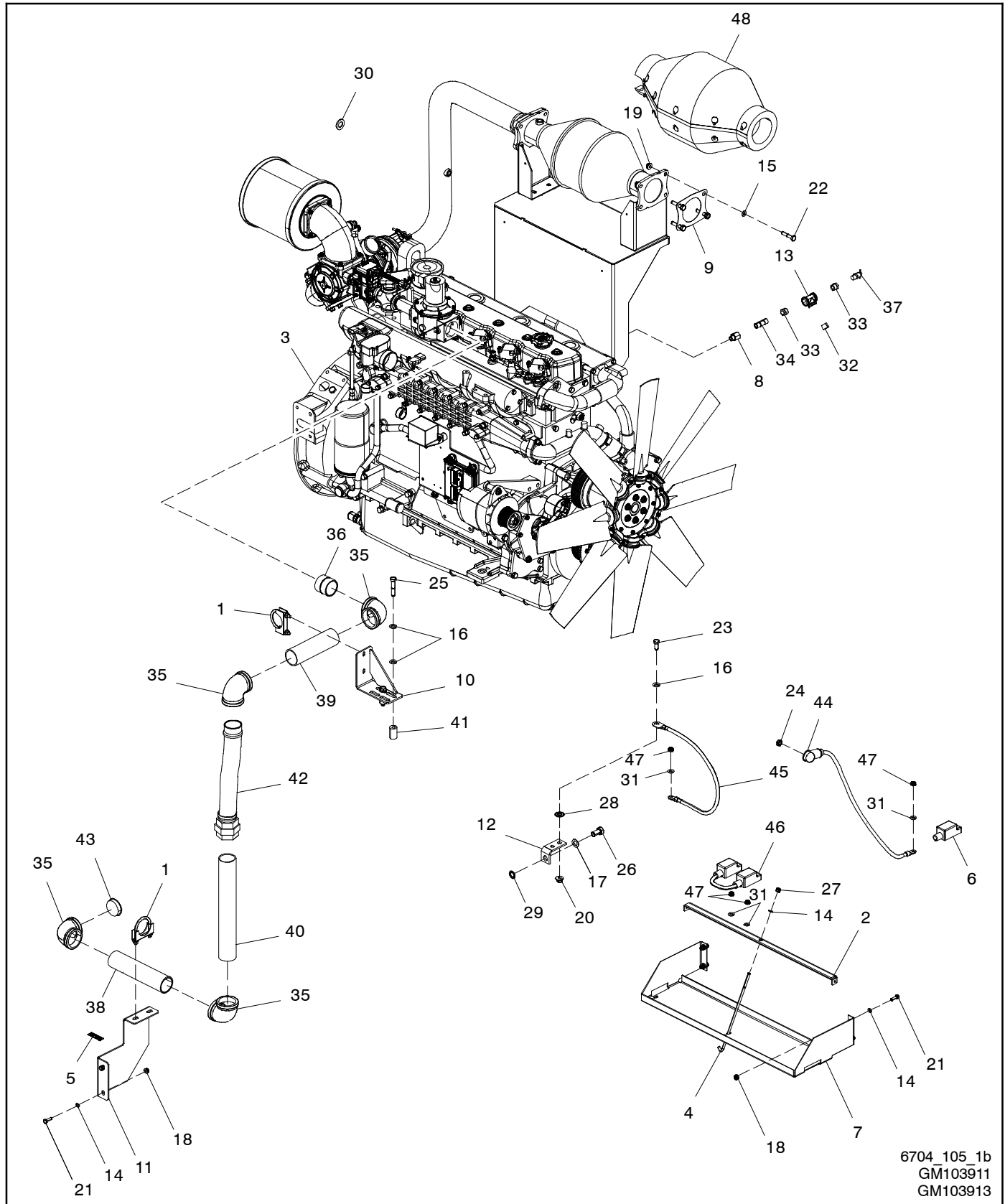
6704_105_1b
GM66348
GM70430
GM79961

Group 105: Engine

Item	Part Number	Description	Quantity					
			Variation Number					
			1	2	17	20	47	50
1	286316	Bolt, Angle	1	1				
1	GM13268	Bolt, Angle						
2	288827	Clamp, muffler, 2.37 in.	2	2	2	2	2	2
3	343221	Clamp, battery	1	1	1	1	1	1
4	GM20577	Decal, Fuel Type	1	1	1	1	1	1
5	GM20745	Boot, Battery Lug	1	1	1	1	1	1
6	GM30631	Rack, Battery	1	1	1	1	1	1
7	GM48799	Adapter Bushing	1	1	1	1	1	1
8	GM64114-2	Engine, Doosan 11L Nat.Gas/LPG, EPA	1			1		
8	GM64114-4	Engine, Doosan 11L Nat.Gas/LPG, Non-Emiss.		1	1			
8	GM99489-2	Engine, Doosan 11L Nat.Gas/LPG, EPA						1
8	GM99489-4	Engine, Doosan 11L Nat.Gas/LPG, Non-Emiss.					1	
9	GM66053	Gasket, Exhaust	1	1	1	1	1	1
10	GM67002	Wrap, Catalyst	1			1		1
11	GM70718	Bracket, support	1	1	1	1	1	1
12	GM71291	Bracket, mtg.	1	1	1	1	1	1
26	X-75-3	Plug, pipe (1/2" nptf)	1	1	1	1	1	1
27	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
27	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
28	X-203-14	Tee, pipe (3/8 x 3/8 x 1/2 npt)	1	1				
28	K-1118	Tee, pipe (1/2 x 1/2 x 1/2 npt)			1	1	1	1
28	X-202-28	Bushing, reducing (3/8 x 1/2" npt) (not shown)			2	2	2	2
29	X-204-6	Pipe, Pipe, Nipple (3/8" npt x 2.00")	1	1	1	1	1	1
30	X-215-6	Elbow, pipe (90 deg x 2 in. npt)	4	4	4	4	4	4
31	X-219-8	Pipe, Nipple (2 in. npt x 2.50 in.)	1	1				
31	X-219-9	Pipe, Nipple (2 in. npt x 2 in.)			1	1	1	1
32	X-256-1	Valve, drain (3/8 in. nptf)	1	1	1	1	1	1
33	X-396-22	Pipe, Nipple (2 in. npt x 10.00 in.)	2	2	2	2	2	2
34	X-396-26	Pipe, Nipple (2 in. npt x 15.50 in.)	1	1	1	1	1	1
35	X-400-65	Spacer, .531 ID x 1 OD x 1.625 in.	2	2	2	2	2	2
36	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	1	1	1	1	1	1
38	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
39	X-545-167	Cable, Battery	1	1	1	1	1	1
40	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1
41	GM74535	Terminal, Ground			1	1	1	1

Group 105: Engine, continued

180/200 kW



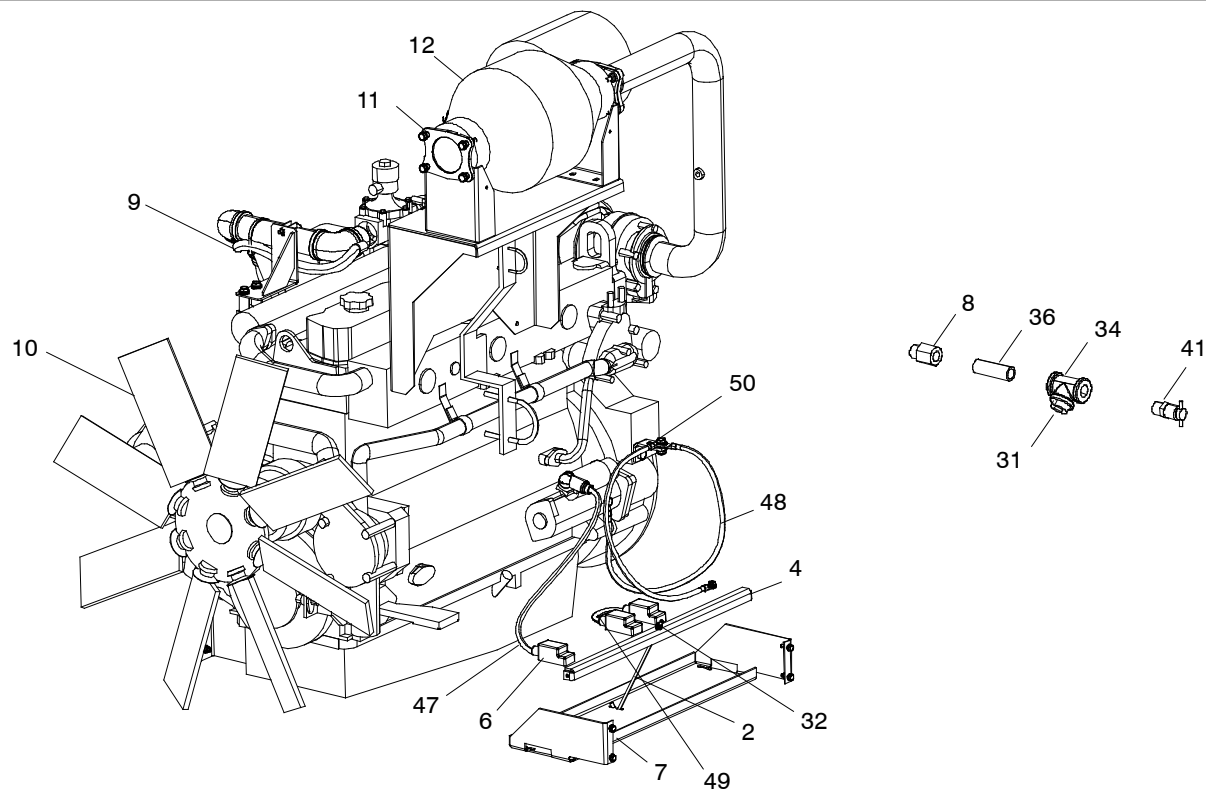
Group 105: Engine, continued

180/200 kW

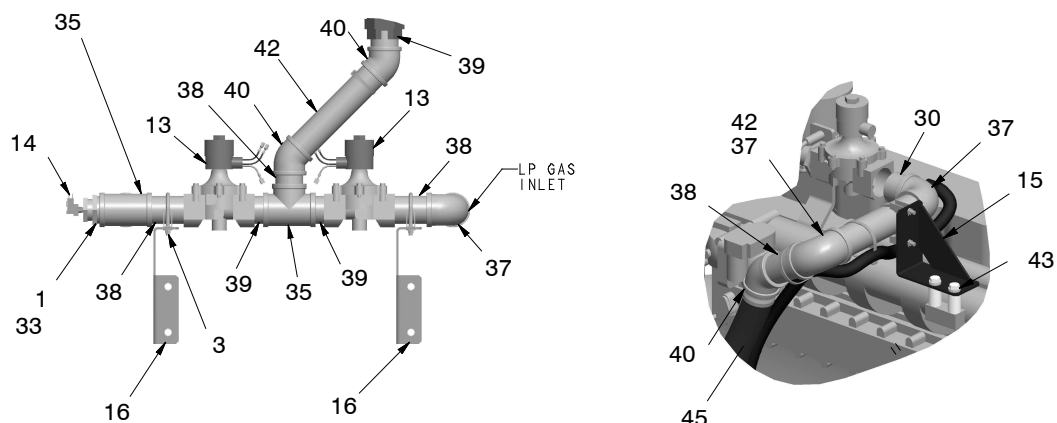
Item	Part Number	Description	Quantity	
			Variation Number	
			63	65
1	288827	Clamp, Muffler, 2.37 in.	2	2
2	343221	Clamp, Battery	1	1
3	GM103909-2	Engine, Doosan, 11.1L, Nat. Gas/LPG, EPA	1	
3	GM103909-4	Engine, Doosan, 11.1L, Nat. Gas/LPG, Non- EPA		1
4	GM13268	Bolt, Angle	1	1
5	GM20577	Decal, Fuel Type	1	1
6	GM20745	Boot, Battery Lug	1	1
7	GM30631	Rack, Battery	1	1
8	GM48799	Adapter, Bushing 3/8- 18 x M16	1	1
9	GM66053	Gasket, Exhaust	1	1
10	GM70718	Bracket, Support	1	1
11	GM71291	Bracket, Mtg Dual Fuel	1	1
12	GM74535	Terminal, Ground	1	1
13	K-1118	Tee, Pipe (1/2 X 1/2 X 1/2 NPT)	1	1
14	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	7	7
15	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	4	4
16	M125A-12-80	Washer, Plain	5	5
17	M125A-16-80	Washer, Plain	1	1
18	M6923-08-80	Nut, Hex 8 mm	6	6
19	M6923-10-80	Nut, Hex 10 mm	4	4
20	M6923-12-80	Nut, Hex	1	1
21	M933-08025-60	Screw, Hex Cap	6	6
22	M933-10050-60	Screw, Hex Cap	4	4
23	M933-12025-60	Screw, Hex Cap	1	1
24	M934-10-60F	Nut, Hex 10 mm	1	1
25	M960-12060-82F	Screw, Hex Cap	2	2
26	M961-16030-82	Screw, Hex Cap	1	1
27	M982-08-80	Nut, Hex Elastic Stop, 8 mm	1	1
28	X-22-26	Washer, Lock	1	1
29	X-22-30	Washer, Lock	1	1
30	X-25-29	Washer, Plain	1	1
31	X-25-37	Washer, Plain, .406 in. ID x .812 in. OD	4	4
32	X-75-3	Plug, Pipe (1/2 in. NPTF)	1	1
33	X-202-28	Bushing, Reducing (3/8 X 1/2 in. NPT)	2	2
34	X-204-6	Pipe, Nipple (3/8 in. NPT x 2 in.)	1	1
35	X-215-6	Elbow, Pipe (90° x 2 in. NPT)	4	4
36	X-219-9	Pipe, Nipple (2 in. NPT x 2 in.)	1	1
37	X-256-1	Valve, Drain (3/8 in. NPTF)	1	1
38	X-396-22	Pipe, Nipple (2 in. NPT x 10 in.)	1	1
39	X-396-24	Pipe, Nipple (2 in. NPT x 8 in.)	1	1
40	X-396-26	Pipe (2 in. NPT x 15.5 in.)	1	1
41	X-400-65	Spacer, .531 ID X 1 OD x 1.625 in.	2	2
42	X-504-16	Fuel Line, Flexible (2 in. ID x 18 in.)	1	1
43	X-519-16	Plug, Cap	1	1
44	X-545-129	Cable, Battery (No. 0 x 30 in.) Red+	1	1
45	X-545-167	Cable, Battery	1	1
46	X-545-73	Cable, Battery (No. 0 x 8 in.) Black	1	1
47	X-6210-9	Nut, Flange Spiralock, 3/8- 16	4	4
48	GM67002	Blanket, Exhaust	1	-

Group 105: Engine, continued

180/200 kW, Dual Fuel



Items not shown: 5, 17



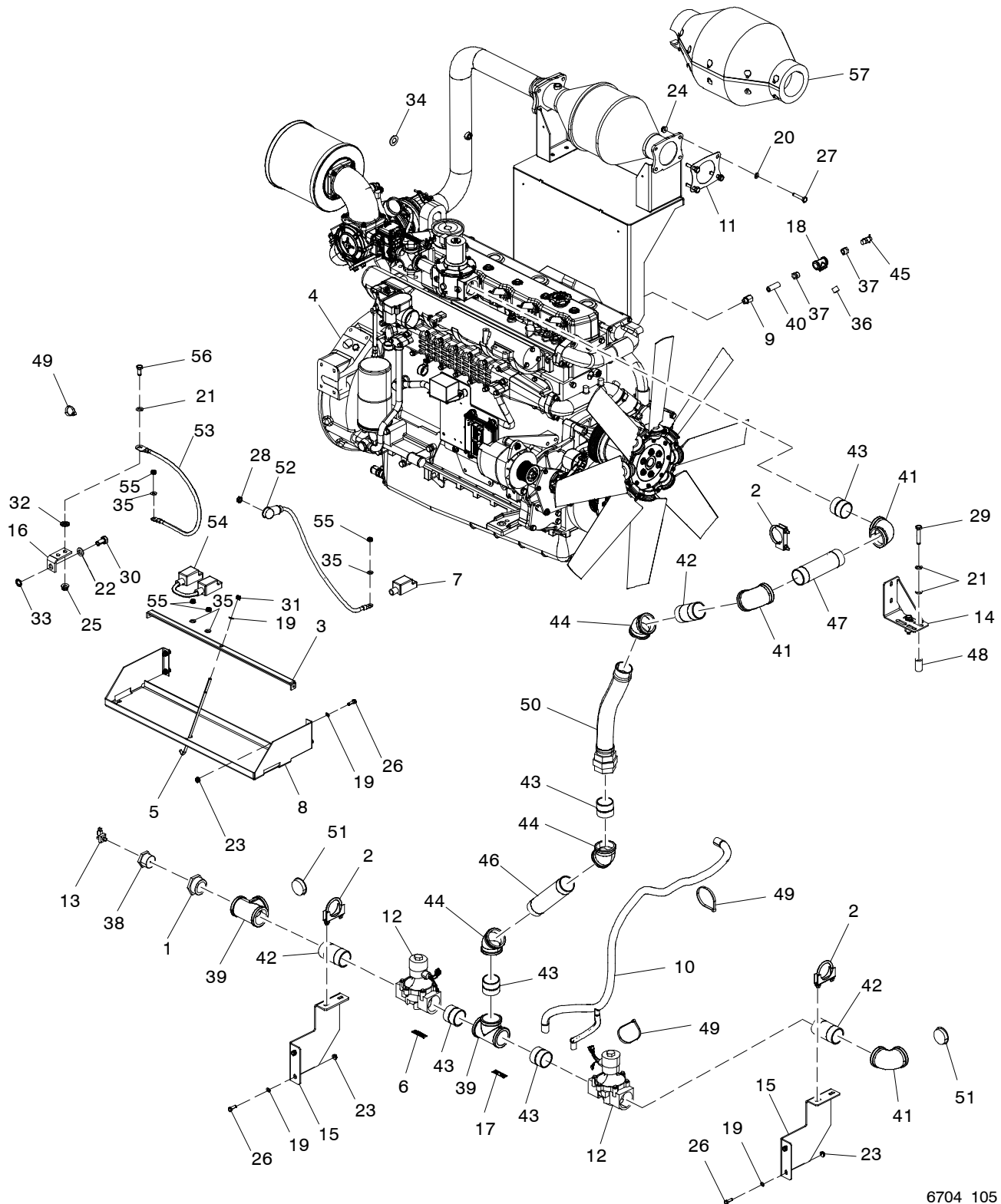
6704_105_2b
GM70431
GM70432
GM79959

Group 105: Engine, continued

Item	Part Number	Description	180/200 kW, Dual Fuel					
			Quantity					
			Variation Number					
			3	4	18	19	48	49
1	160212	Bushing, reducing (1-1/2 x 2 in. npt)	1	1	1	1	1	1
2	286316	Bolt, Angle	1	1				
2	GM13268	Bolt, Angle			1	1	1	1
3	288827	Clamp, muffler, 2.37 in.	3	3	3	3	3	3
4	343221	Clamp, battery	1	1	1	1	1	1
5	GM20173	Decal, Fuel Type	1	1	1	1	1	1
6	GM20745	Boot, Battery Lug	1	1	1	1	1	1
7	GM30631	Rack, Battery	1	1	1	1	1	1
8	GM48799	Adaptor, bushing	1	1	1	1	1	1
9	GM63963	Harness, Dual Fuel Doosan 180-200 kW	1	1	1	1	1	1
10	GM64114-2	Engine, Doosan 11.1L Dual Fuel, Emiss.	1		1			
10	GM64114-4	Engine, Doosan 11.1L Dual Fuel, Non-Emiss.		1		1		
10	GM99489-2	Engine, Doosan 11.1L Dual Fuel, Emiss.					1	
10	GM99489-4	Engine, Doosan 11.1L Dual Fuel, Non-Emiss.						1
11	GM66053	Gasket, Exhaust	1	1	1	1	1	1
12	GM67002	Wrap, Catalyst	1		1		1	
13	GM69614-1	Valve, Gas Solenoid	2	2	2	2	2	2
14	GM70538	Switch, Pressure 3.6" H2O	1	1	1	1	1	1
15	GM70718	Bracket, support	1	1	1	1	1	1
16	GM71291	Bracket, Mtg Dual Fuel	2	2	2	2	2	2
17	GM76139	Decal, Fuel Type (LPG Vapor WD)	1	1	1	1	1	1
30	X-219-8	Pipe, Nipple (2 in. npt x 2.50 in.)	1	1				
30	X-219-9	Pipe, Nipple (2 in. npt x 2 in.)			1	1	1	1
31	X-75-3	Plug, pipe (1/2" nptf)	1	1	1	1	1	1
32	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
32	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
33	X-202-59	Bushing, reducing (1 1/2 x 1/8 in. npt)	1	1	1	1	1	1
34	X-203-14	Tee, pipe (3/8 x 3/8 x 1/2 npt)	1	1				
34	K-1118	Tee, pipe (1/2 x 1/2 x 1/2 npt)			1	1	1	1
34	X-202-28	Bushing, reducing (3/8 x 1/2" npt) (not shown)			1	1	1	1
35	X-203-28	Tee, pipe (2 x 2 x 2 npt)	2	2	2	2	2	2
36	X-204-6	Pipe, Nipple (3/8" npt x 2.00")	1	1	1	1	1	1
37	X-215-6	Elbow, pipe (90 deg x 2 in. npt)	3	3	3	3	3	3
38	X-219-6	Pipe, Nipple (2 in. npt x 4.00 in.)	3	3	3	3	3	3
39	X-219-9	Pipe, Nipple (2 in. npt x 2.00 in.)	4	4	4	4	4	4
40	X-225-4	Elbow, Pipe (not shown)	3	3	3	3	3	3
41	X-256-1	Valve, drain (3/8 in. nptf)	1	1	1	1	1	1
42	X-396-22	Pipe, Nipple (2 in. npt x 10 in.)	2	2	2	2	2	2
43	X-400-65	Spacer, .531 ID x 1 OD x 1.625 in.	2	2	2	2	2	2
45	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	1	1	1	1	1	1
47	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
48	X-545-167	Cable, Battery	1	1	1	1	1	1
49	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1
50	GM74535	Terminal, Gound			1	1	1	1

Group 105: Engine, continued

180/200 kW, Dual Fuel



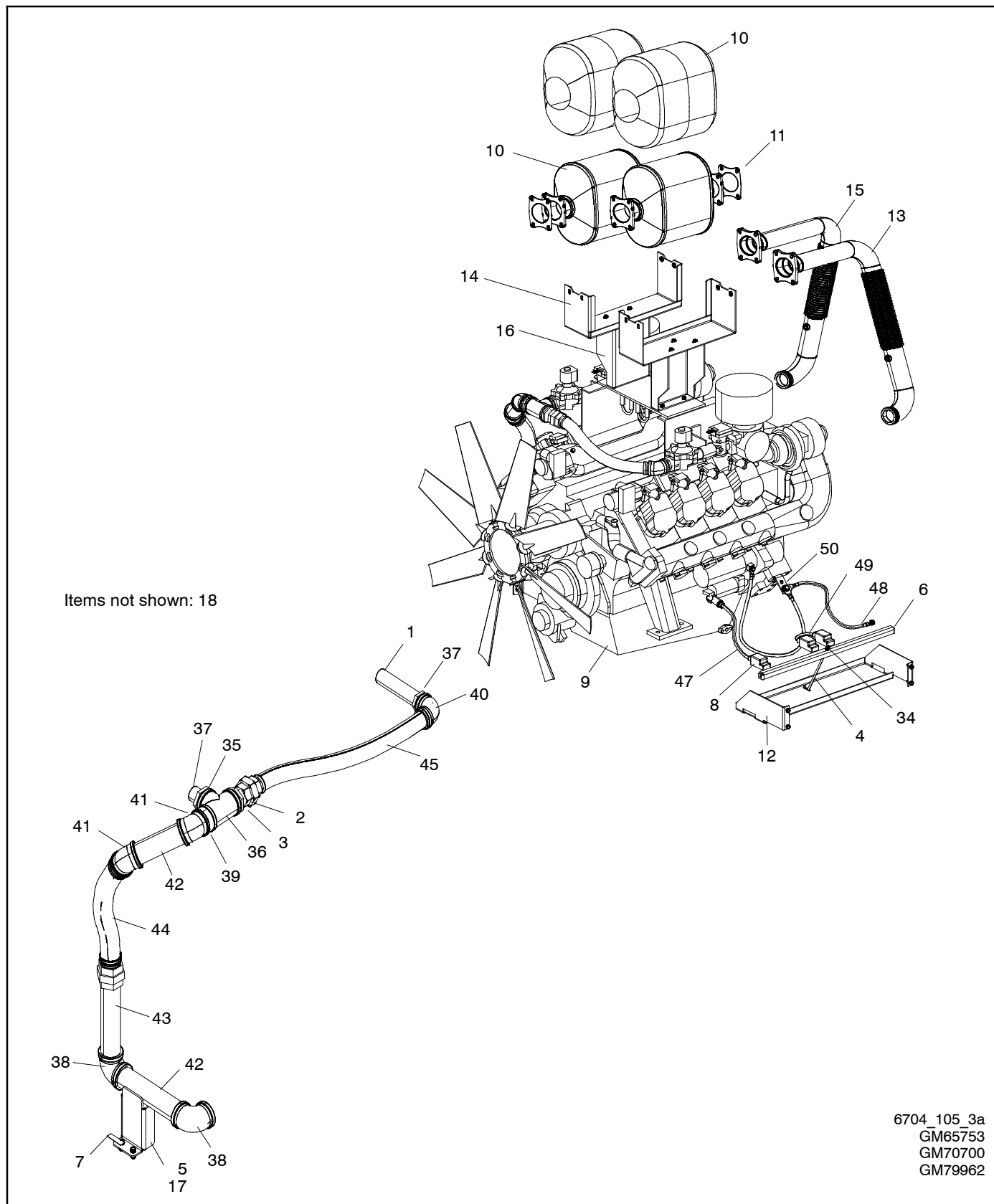
6704_105_2b
GM103912
GM103914

Group 105: Engine, continued

Item	Part Number	Description	180/200 kW, Dual Fuel	
			Quantity	
			Variation Number	
			64	66
1	160212	Bushing, Reducing (1- 1/2 X 2 in. NPT)	1	1
2	288827	Clamp, Muffler, 2.37 in.	3	3
3	343221	Clamp, Battery	1	1
4	GM103909-2	Engine, Doosan, 11.1L, Nat. Gas/LPG, EPA	1	
4	GM103909-4	Engine, Doosan, 11.1L, Nat. Gas/LPG, Non- EPA		1
5	GM13268	Bolt, Angle	1	1
6	GM20173	Decal, Fuel Type	1	1
7	GM20745	Boot, Battery Lug	1	1
8	GM30631	Rack, Battery	1	1
9	GM48799	Adapter, Bushing 3/8- 18 x M16	1	1
10	GM63963	Harness, Dual Fuel Nge 180- 200 kW	1	1
11	GM66053	Gasket, Exhaust	1	1
12	GM69614-1	Valve, Gas Assy	2	2
13	GM70538	Switch, Pressure 6.27 in. H2O	1	1
14	GM70718	Bracket, Support	1	1
15	GM71291	Bracket, Mtg Dual Fuel	2	2
16	GM74535	Terminal, Ground	1	1
17	GM76139	Decal, Fuel Type	1	1
18	K-1118	Tee, Pipe (1/2 x 1/2 x 1/2 NPT)	1	1
19	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	9	9
20	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	4	4
21	M125A-12-80	Washer, Plain	5	5
22	M125A-16-80	Washer, Plain	1	1
23	M6923-08-80	Nut, Hex 8 mm	8	8
24	M6923-10-80	Nut, Hex 10 mm	4	4
25	M6923-12-80	Nut, Hex	1	1
26	M933-08025-60	Screw, Hex Cap	8	8
27	M933-10050-60	Screw, Hex Cap	4	4
28	M934-10-60F	Nut, Hex 10 mm	1	1
29	M960-12060-82F	Screw, Hex cap	2	2
30	M961-16030-82	Screw, Hex cap	1	1
31	M982-08-80	Nut, Hex Elastic Stop, 8 mm	1	1
32	X-22-26	Washer, Lock	1	1
33	X-22-30	Washer, Lock	1	1
34	X-25-29	Washer, Plain	1	1
35	X-25-37	Washer, Plain, .406 ID x .812 in. OD	4	4
36	X-75-3	Plug, Pipe (1/2 in. NPTF)	1	1
37	X-202-28	Bushing, Reducing (3/8 x 1/2 in. NPT)	2	2
38	X-202-59	Bushing, Reducing (1- 1/2 in. NPT to 1/8 in. NPT)	1	1
39	X-203-28	Tee, Pipe (2 x 2 x 2 NPT)	2	2
40	X-204-6	Pipe, Nipple (3/8 in. NPT x 2 in.)	1	1
41	X-215-6	Elbow, Pipe (90° x 2 in. NPT)	3	3
42	X-219-6	Pipe (2 in. NPT x 4 in.)	3	3
43	X-219-9	Pipe, Nipple (2 in. NPT x 2 in.)	5	5
44	X-225-4	Elbow, Pipe	3	3
45	X-256-1	Valve, Drain (3/8 in. NPTF)	1	1
46	X-396-22	Pipe, Nipple (2 in. NPT x 10 in.)	1	1
47	X-396-24	Pipe, Nipple (2 in. NPT x 8 in.)	1	1
48	X-400-65	Spacer, .531 ID X 1 OD X 1.625 in.	2	2
49	X-468-4	Cable Tie	3	3
50	X-504-16	Line, Flexible Fuel	1	1
51	X-519-16	Plug, Cap	2	2
52	X-545-129	Cable, Battery (No. 0 x 30 in.) Red+	1	1
53	X-545-167	Cable, Battery	1	1
54	X-545-73	Cable, Battery (No. 0 x 8 in.) Black	1	1
55	X-6210-9	Nut, Flange Spiralock, 3/8- 16	4	4
56	M933-12025-60	Screw, Hex Cap	1	
56	M933-12030-60	Screw, Hex Cap		1
57	GM67002	Blanket, Exhaust	1	

Group 105: Engine, continued

250/300 kW



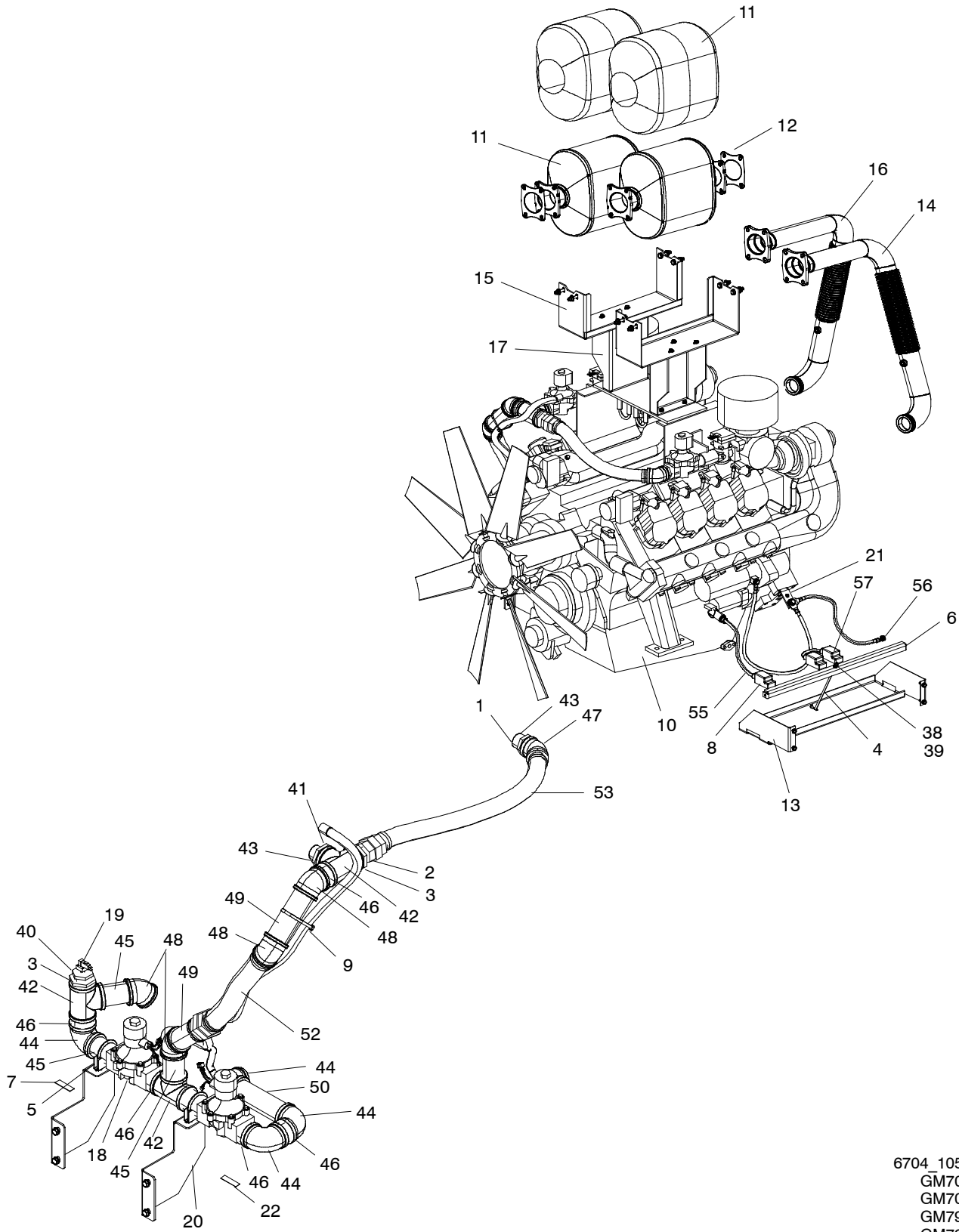
Group 105: Engine, continued

250/300 kW

Item	Part Number	Description	Quantity					
			Variation Number					
			5	6	21	24	51	54
1	153016	Bushing, reducing (1-1/4 x 1-1/2 in. npt)	1	1	1	1	1	1
2	155040	Pipe (1-1/2 in. npt x 1.75 in.)	1	1	1	1	1	1
3	160212	Bushing, reducing (1-1/2 x 2 in. npt)	1	1	1	1	1	1
4	286316	Bolt, Angle	1	1				
4	GM13268	Bolt, Angle			1	1	1	1
5	288827	Clamp, muffler, 2.37 in.	1	1	1	1	1	1
6	343221	Clamp, battery	1	1	1	1	1	1
7	GM20577	Decal, Fuel Type	1	1	1	1	1	1
8	GM20745	Boot, Battery Lug	1	1	1	1	1	1
9	GM64103-2	Engine, Doosan 14.6L Nat.Gas/LPG,	1			1		
9	GM64103-4	Engine, Doosan D14.6L		1	1			
9	GM99490-2	Engine, Doosan 14.6L Nat.Gas/LPG,						1
9	GM99490-4	Engine, Doosan D14.6L					1	
10	GM65728	Catalyst	2			2		2
10	GM95640	Wrap, Catalyst	2			2		2
11	GM66053	Gasket, Exhaust	4	2	2	4	2	4
12	GM66311	Rack, Battery	1	1	1	1	1	1
13	GM69293	Tube, Exhaust	1	1	1	1	1	1
14	GM69375	Bracket, Catalyst Mount	2			2		2
15	GM69384	Tube, Exhaust	1	1	1	1	1	1
16	GM69401	Bracket, Catalyst Support	2			2		2
17	GM92137	Bracket, Mtg Dual Fuel	1	1	1	1	1	1
18	GM74535	Terminal, Ground	1	1	1	1	1	1
34	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
34	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
35	X-202-61	Bushing, Reducing	1	1	1	1	1	1
36	X-203-28	Tee, pipe (2 x 2 x 2 npt)	1	1	1	1	1	1
37	X-210-8	Pipe (1-1/4 in. npt x 1.63 in.)	2	2	2	2	2	2
38	X-215-6	Elbow, pipe (90 deg x 2 in. npt)	2	2	2	2	2	2
39	X-219-9	Pipe, Nipple (2 in. npt x 2.00 in.)	1	1	1	1	1	1
40	X-225-3	Elbow, pipe (45 deg x 1-1/2"npt)	1	1	1	1	1	1
41	X-225-4	Elbow, Pipe	2	2	2	2	2	2
42	X-396-20	Pipe, Nipple (2 in. npt x 6.00 in.)	2	2	2	1	2	1
42	X-219-6	Pipe (2"npt x 4.00")				1		1
43	X-396-22	Pipe, Nipple (2 in. npt x 10.00 in.)	1	1				
43	X-396-24	Pipe, Nipple (2" npt x 8.00")			1	1	1	1
44	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	1	1	1	1	1	1
45	X-504-22	Fuel line, flexible (1.50 in. ID x 28.25 in.)	1	1	1	1	1	1
47	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
48	X-545-167	Cable, Battery	1	1	1	1	1	1
49	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1
50	GM74535	Terminal, Gound			1	1	1	1

Group 105: Engine, continued

250 kW, Dual Fuel

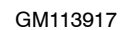


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GM70701
GM70702
GM79963
GM79964

Group 105: Engine, continued

Item	Part Number	Description	250 kW, Dual Fuel Quantity					
			Variation Number					
			7	8	22	23	52	53
1	153016	Bushing, reducing (1-1/4 x 1-1/2 in. npt)	1	1	1	1	1	1
2	155040	Pipe (1-1/2 in. npt x 1.75 in.)	1	1	1	1	1	1
3	160212	Bushing, reducing (1-1/2 x 2 in. npt)	2	2	2	2	2	2
4	286316	Bolt, Angle	1	1				
4	GM13268	Bolt, Angle			1	1	1	1
5	288827	Clamp, muffler, 2.37 in.	1	1	1	1	1	1
6	343221	Clamp, battery	1	1	1	1	1	1
7	GM20173	Decal, Fuel Type	1	1	1	1	1	1
8	GM20745	Boot, Battery Lug	1	1	1	1	1	1
9	GM63963	Harness, Dual Fuel Doosan 180-200 kW	1	1	1	1	1	1
10	GM64103-2	Engine, Doosan D14.6L	1		1			
10	GM64103-4	Engine, Doosan D14.6L		1		1		
10	GM99490-2	Engine, Doosan D14.6L					1	
10	GM99490-4	Engine, Doosan D14.6L						1
11	GM65728	Catalyst	2		2		2	
11	GM95640	Wrap, Catalyst	2		2		2	
12	GM66053	Gasket, Exhaust	4	2	4	2	4	2
13	GM66311	Rack, Battery	1	1	1	1	1	1
14	GM69293	Tube, Exhaust	1	1	1	1	1	1
15	GM69375	Bracket, Catalyst Mount	2		2		2	
16	GM69384	Tube, Exhaust	1	1	1	1	1	1
17	GM69401	Bracket, Catalyst Support	2		2		2	
18	GM69614-1	Valve, Gas Solenoid	2	2	2	2	2	2
19	GM70536	Switch, Pressure 3.6 in. H2O	1	1	1	1	1	1
20	GM71291	Bracket, Mtg Dual Fuel	1	1	1	1	1	1
21	GM74535	Terminal, Ground	1	1	1	1	1	1
39	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
39	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
40	X-202-59	Bushing, reducing (1-1/2 x 1/8 in. npt)	1	1	1	1	1	1
41	X-202-61	Bushing, Reducing	1	1	1	1	1	1
42	X-203-28	Tee, pipe (2 x 2 x 2 npt)	3	3	3	3	3	3
43	X-210-8	Pipe (1-1/4 in. npt x 1.63 in.)	2	2	2	2	2	2
44	X-215-6	Elbow, pipe (90 deg x 2 in. npt)	4	4	4	4	4	4
45	X-219-6	Pipe (2 in. npt x 4.00 in.)	4	4	4	4	4	4
46	X-219-9	Pipe, Nipple (2 in. npt x 2.00 in.)	5	5	5	5	5	5
47	X-225-3	Elbow, pipe (45 deg x 1-1/2 in. npt)	1	1	1	1	1	1
48	X-225-4	Elbow, Pipe	4	4	4	4	4	4
49	X-396-18	Pipe (2 in. npt x 7.00 in.)	2	2	2	2	2	2
50	X-396-24	Pipe, Nipple (2 in. npt x 8.00 in.)	1	1	1	1	1	1
52	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	1	1	1	1	1	1
53	X-504-22	Fuel line, flexible (1.50 in. ID x 28.25 in.)	1	1	1	1	1	1
55	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
56	X-545-167	Cable, Battery	1	1	1	1	1	1
57	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1

250 kW, Dual Fuel



Group 105: Engine, continued

Item	Part Number	Description	250 kW, Dual Fuel	
			Quantity	
			Variation Number	
			67	68
1	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	15	5
2	GM95640	Wrap, Catalyst	2	
3	GM66053	Gasket, Exhaust	4	2
4	X-67-155	Screw, Tapping	1	1
5	155040	Pipe (1-1/2 in. NPT x 1.75 in.)	1	1
6	X-22-26	Washer, Lock .521 ID x 1.24 in.	1	1
7	M933-10030-60	Screw, Hex Cap M10 X 30	4	4
8	GM76139	Decal, Fuel Type	1	1
9	GM63963	Harness, Dual Fuel Doosan 180-200 kW	1	1
10	X-202-61	Bushing, Reducing	1	1
11	X-6210-9	Nut, Flange Spiral Lock, 3/8-16	4	4
12	X-468-4	Cable Tie	2	2
13	X-545-167	Cable, Battery	1	1
14	X-519-16	Plug, Cap	2	2
15	GM69384	Tube, Exhaust	1	1
16	X-202-59	Bushing, Reducing (1-1/2 in. x 1/8 in. NPT)	2	2
17	X-225-4	Elbow, Pipe	4	4
18	GM113870	Box, Dual Fuel, Doosan, 14.6L	1	1
19	X-504-16	Fuel Line, Flexible (2.00 in. ID x 18 in.)	1	1
20	X-545-73	Cable, Battery (No. 0 x 8 in.) black	1	1
21	M934-10-60F	Nut, Hex 10 mm	1	1
22	X-215-6	Elbow, Pipe (90 deg x 2 in. NPT)	3	3
23	X-203-16	Tee, Pipe (1/8 x 1/8 x 1/8 NPT)	1	1
24	GM49747	Relay, 24V DC	1	1
25	GM69401	Bracket, Catalyst Support	2	
26	M933-08030-60	Screw, Hex Cap M8 X 30	4	
27	M933-10050-60	Screw, Hex Cap M10 X 50	16	8
28	GM69375	Bracket, Catalyst Mount	2	
29	M6923-08-80	Nut, Hex 8 mm	14	4
30	GM99490-2	Engine, Doosan 14.6L Nat. Gas/LPG, EPA	1	
30	GM99490-4	Engine, Doosan 14.6L Nat. Gas/LPG, Non EPA		1
31	M933-08020-60	Screw, Hex Cap M8 X 20	6	
32	X-203-28	Tee, Pipe (2 x 2 x 2 NPT)	4	4
33	X-225-3	Elbow, Pipe (45 deg x 1-1/2 in. NPT)	1	1
34	GM69614-1	Valve Assy, Gas Solenoid	2	2
35	288827	Clamp, Muffler, 2.37 in.	2	2
36	M933-08025-60	Screw, Hex Cap M8 X 25	4	4
37	X-217-7	Pipe, Nipple (1/8 in. NPT x 1.00 in.)	1	1
38	153016	Bushing, Reducing (1-1/4 x 1-1/2 in. NPT)	1	1
39	GM20745	Boot, Battery Lug	1	1
40	M125A-14-80	Washer, Plain	1	1
41	X-25-37	Washer, Plain, .406 ID x .812 in. OD	4	4
42	GM69293	Tube, Exhaust	1	1
43	X-504-22	Fuel Line, Flexible (1.50 in. ID x 28.25 in.)	1	1
44	X-396-18	Pipe (2 in. NPT x 7.00 in.)	2	2
45	M6923-12-80	Nut, Hex	1	1
46	160212	Bushing, Reducing (1-1/2 x 2 in. NPT)	3	3
47	GM20173	Decal, Fuel Type	1	1
48	GM66311	Rack, Battery	1	1
49	X-210-8	Pipe (1-1/4 in. NPT x 1.63 in.)	2	2
50	M6923-10-80	Nut, Hex 10mm	20	12
51	X-545-129	Cable, Battery (No. 0 x 30 in.) red+	1	1
52	X-468-1	Cable Tie	5	5
53	X-25-29	Washer, Plain	1	1
54	GM70537	Switch, Pressure 4.5 in. H2O	3	3
55	GM74535	Terminal, Ground	1	1
56	GM71291	Bracket, Mtg Dual Fuel	2	2
57	X-396-24	Pipe (2 in. NPT x 8.00 in.)	1	1
58	GM109880	Harness, Doosan APM603, Dual Fuel 250-450	1	1
59	M125A-12-80	Washer, Plain	1	1
60	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	20	12
61	X-219-6	Pipe (2 in. NPT x 4.00 in.)	4	4
62	M961-14025-60	Screw, Hex Cap M14 X 25	1	1

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Group 105: Engine, continued

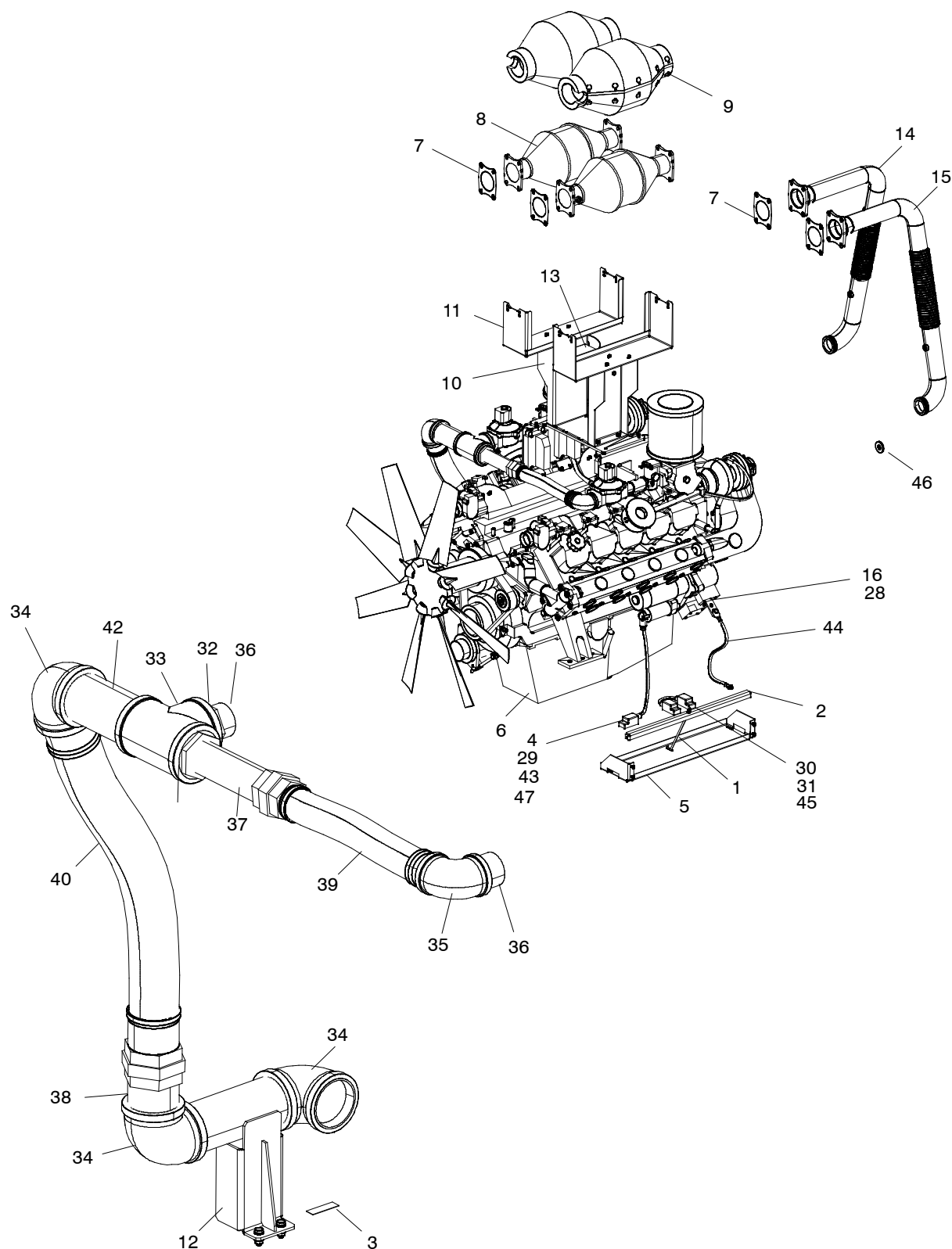
250 kW, Dual Fuel

Item	Part Number	Description	Quantity	
			Variation Number	
			67	68
63	GM13268	Bolt, Angle	1	1
64	M982-08-80	Nut, Hex Elastic Stop, 8MM	1	1
65	X-219-9	Pipe, Nipple (2 in. NPT x 2.00 in.)	5	5
66	X-22-30	Washer, Lock .652 ID x1.058 in.	1	1
67	343221	Clamp, Battery	1	1
68	X-6216-1	Screw, Phillips Hex Crimptite	4	4
69	M933-12025-60	Screw, Hex Cap M12 X 25	1	1

Notes

Group 105: Engine, continued

300/350 kW



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GM71313

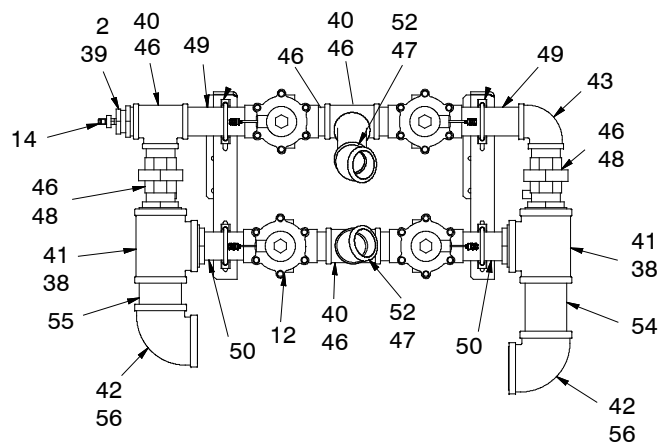
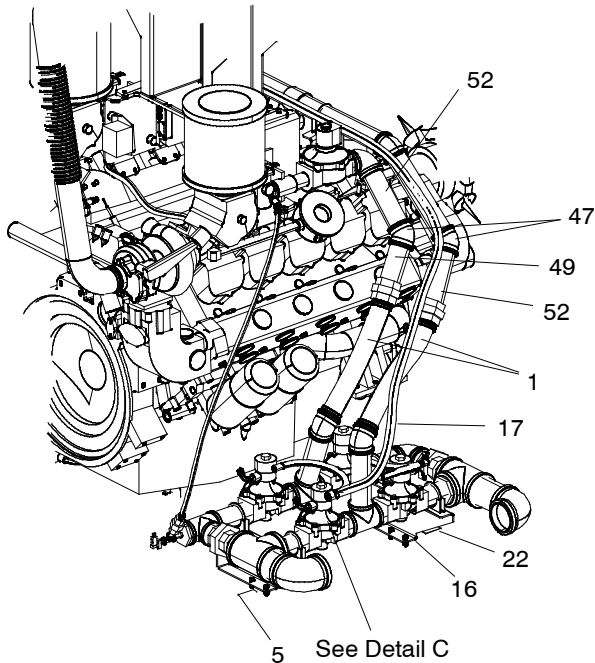
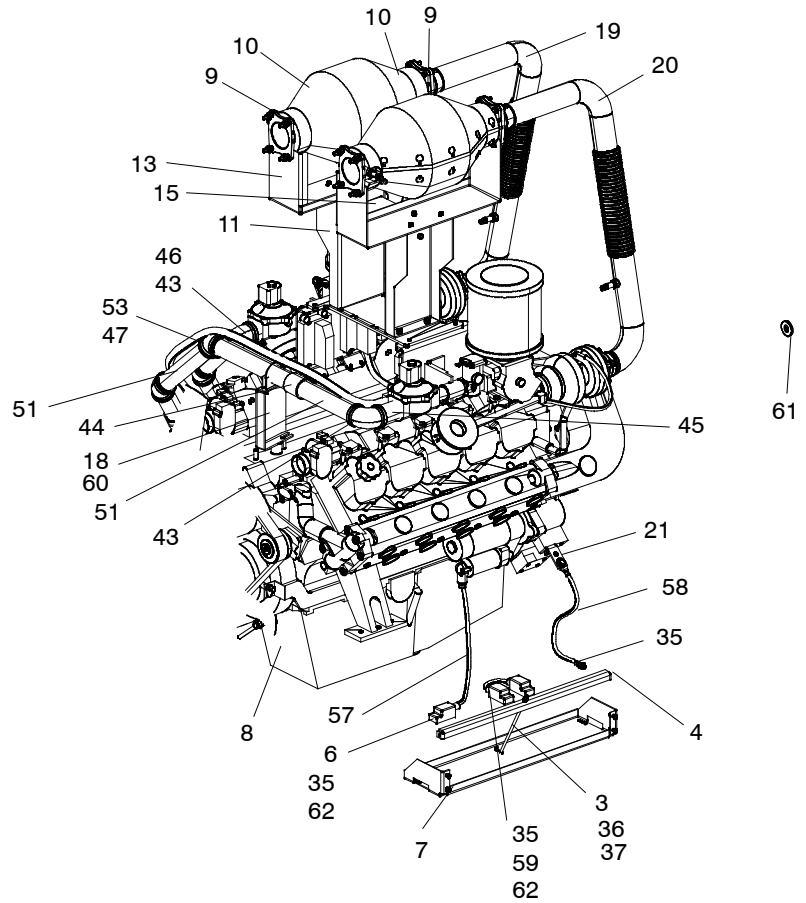
Group 105: Engine, continued

300/350 kW

Item	Part Number	Description	Quantity					
			Variation					
			13	14	25	26	55	56
1	286316	Bolt, Angle	1	1				
1	GM13268	Bolt, Angle			1	1	1	1
2	343221	Clamp, battery	1	1	1	1	1	1
3	GM20577	Decal, Fuel Type	1	1	1	1	1	1
4	GM20745	Boot, Battery Lug	1	1	1	1	1	1
5	GM63164	Rack, Battery	1	1	1	1	1	1
6	GM65585-2	Engine, Doosan D18.3L	1		1			
6	GM65585-4	Engine, Doosan 18.3L Sng. Fuel, Non-EPA		1		1		
6	GM99491-2	Engine, Doosan D18.3L					1	
6	GM99491-4	Engine, Doosan 18.3L Sng. Fuel, Non-EPA						1
7	GM66053	Gasket, Exhaust	4	2	4	2	4	2
8	GM66933	Catalyst	2		2		2	
9	GM67002	Blanket, Exhaust	2		2		2	
10	GM69609	Bracket, Catalyst Support	2		2		2	
11	GM69643	Bracket, Catalyst Mtg.	2		2		2	
12	GM70322	Bracket, Support	1	1	1	1	1	1
13	GM70606	Bracket, Support	1		1		1	
14	GM74351	Tube, Exhaust	1	1	1	1	1	1
15	GM74352	Tube, Exhaust	1	1	1	1	1	1
16	GM74535	Terminal, Ground	1	1	1	1	1	1
29	X-25-37	Washer, plain, .406 ID x .812 in. OD	4	4	4	4	4	4
30	X-25-44	Washer, Plain, .328 ID x .562 OD	1	1	1	1	1	1
31	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
31	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
32	X-202-21	Bushing, reducing (2 x 3"npt)	2	2	2	2	2	2
33	X-203-4	Tee, pipe (3 x 3 x 3 npt)	1	1	1	1	1	1
34	X-215-7	Elbow, pipe (90 deg x 3"npt)	3	3	3	3	3	3
35	X-215-6	Elbow, pipe (90 deg x 2"npt)	1	1	1	1	1	1
36	X-219-9	Pipe, Nipple (2" npt x 2.00")	2	2	2	2	2	2
37	X-396-24	Pipe, Nipple (2" npt x 8.00")	1	1	1	1	1	1
38	X-491-9	Pipe (3"npt x 3.75")	1	1	1	1	1	1
39	X-504-16	Fuel line, flexible (2.00" ID x 18")	1	1	1	1	1	1
40	X-504-26	Line, Flex Fuel	1	1	1	1	1	1
41	X-519-17	Plug, cap	1	1	1	1	1	1
42	X-533-15	Pipe (3"npt x 7.75")	1	1	1	1	1	1
43	X-545-129	Cable, battery (No.0 x 30") red+	1	1	1	1	1	1
44	X-545-167	Cable, Battery	1	1	1	1	1	1
45	X-545-73	Cable, battery (No.0 x 8") black	1	1	1	1	1	1
46	X-801-8	Washer, hardened, .812 ID x 2 in. OD	1	1				
47	X-6210-9	Nut, flange spiralock, 3/8-16	4	4	4	4	4	4

Group 105: Engine, continued

300/350 kW, Dual Fuel



Detail C

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GM71314

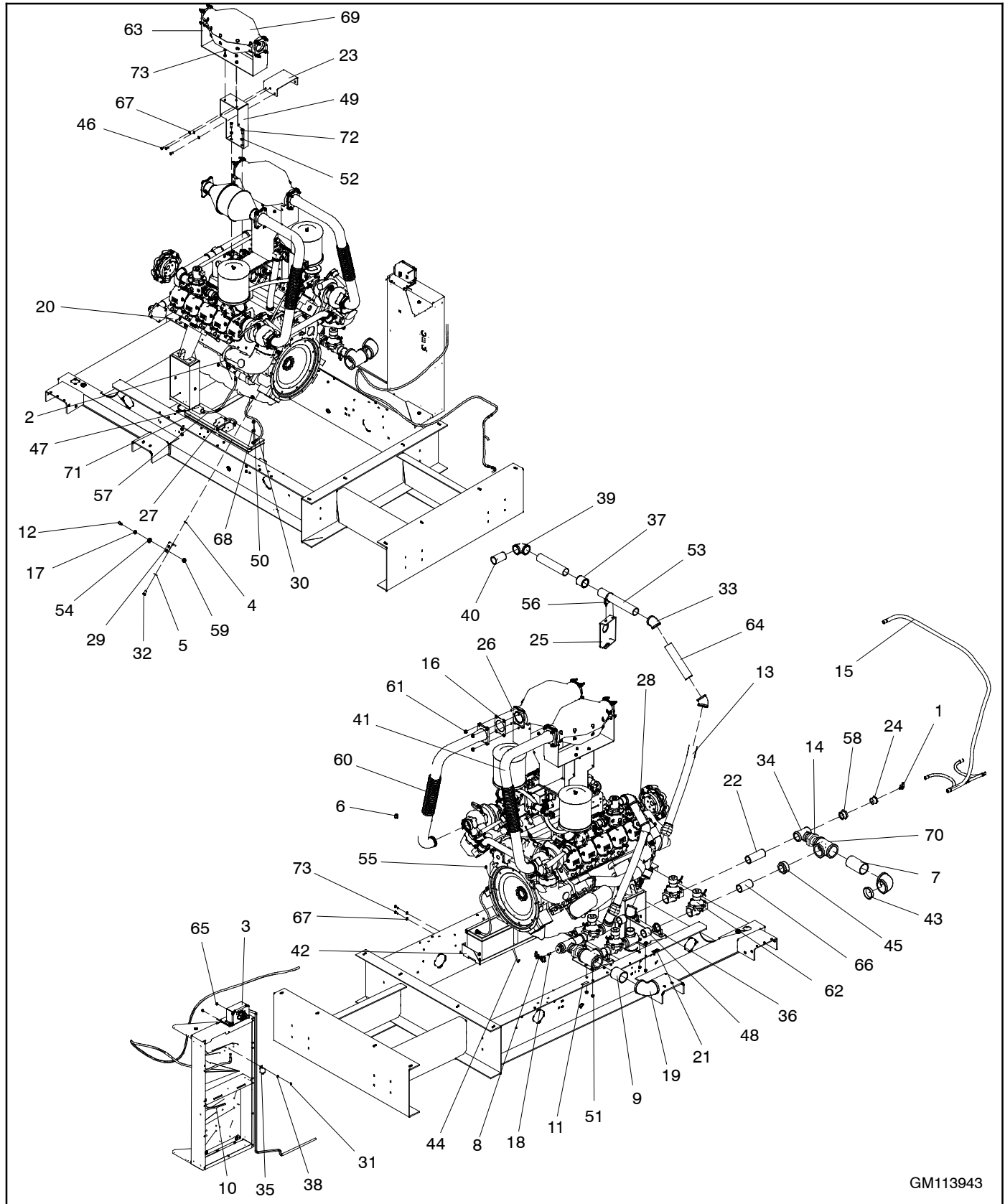
Group 105: Engine, continued

300/350 kW, Dual Fuel

Item	Part Number	Description	Quantity					
			Variation					
			15	16	27	28	57	58
1	X-504-16	Fuel line, flexible (2.00" ID x 18")	2	2	2	2	2	2
2	160212	Bushing, Reducing	1	1	1	1	1	1
3	286316	Bolt, Angle	1	1				
3	GM13268	Bolt, Angle			1	1	1	1
4	343221	Clamp, battery	1	1	1	1	1	1
5	GM20173	Decal, Fuel Type	1	1	1	1	1	1
6	GM20745	Boot, Battery Lug	1	1	1	1	1	1
7	GM63164	Rack, Battery	1	1	1	1	1	1
8	GM65585-2	Engine, Doosan 18.3LDual Fuel, Emiss Cer	1		1			
8	GM65585-4	Engine, Doosan 18.3L Dual Fuel, NonEmiss		1		1		
8	GM99491-2	Engine, Doosan 18.3LDual Fuel, Emiss Cer					1	
8	GM99491-4	Engine, Doosan 18.3L Dual Fuel, NonEmiss						1
9	GM66053	Gasket, Exhaust	4	2	4	2	4	2
10	GM66933	Catalyst	2		2		2	
10	GM67002	Blanket, Exhaust	2		2		2	
11	GM69609	Bracket, Catalyst Support	2		2		2	
12	GM69614-1	Valve Assy, Gas Solenoid	4	4	4	4	4	4
13	GM69643	Bracket, Catalyst Mtg.	2		2		2	
14	GM70538	Switch, Pressure 6.27" H2O	1	1	1	1	1	1
15	GM70606	Bracket, Support	1		1		1	
16	GM71426	Bracket, Mtg Dual Fuel	2	2	2	2	2	2
17	GM71457	Harness, Dual Fuel Doosan 300-400 kW	1	1	1	1	1	1
18	GM78846	Bracket, Dual Fuel	1	1	1	1	1	1
19	GM74351	Tube, Exhaust	1	1	1	1	1	1
20	GM74352	Tube, Exhaust	1	1	1	1	1	1
21	GM74535	Terminal, Ground	1	1	1	1	1	1
22	GM76139	Decal, Fuel Type	1	1	1	1	1	1
34	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	1	1	1	1	1	1
35	X-25-37	Washer, plain, .406 ID x.812 in. OD	4	4	4	4	4	4
36	X-25-44	Washer, Plain, .328 ID x .562 OD	1	1	1	1	1	1
37	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
37	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
38	X-202-21	Bushing, reducing (2 x 3"npt)	4	4	4	4	4	4
39	X-202-59	Bushing, reducing (1-1/2 x 1/8"npt)	1	1	1	1	1	1
40	X-203-28	Tee, pipe (2 x 2 x 2 npt)	3	3	3	3	3	3
41	X-203-4	Tee, pipe (3 x 3 x 3 npt)	2	2	2	2	2	2
42	X-215-7	Elbow, pipe (90 deg x 3"npt)	2	2	2	2	2	2
43	X-215-6	Elbow, pipe (90 deg x 2"npt)	3	3	3	3	3	3
44	X-216-38	Coupling, Pipe (2"npvc)	1	1	1	1	1	1
45	X-219-6	Pipe (2"npt x 4.00")	1	1	1	1	1	1
46	X-219-9	Pipe, Nipple (2" npt x 2.00")	9	9	9	9	9	9
47	X-225-4	Elbow, Pipe	5	5	5	5	5	5
48	X-277-10	Fitting, straight union (2"npt)	2	2	2	2	2	2
49	X-396-20	Pipe, Nipple (2" npt x 6.00")	3	3	3	3	3	3
50	X-396-21	Pipe (2"npt x 4.50")	2	2	2	2	2	2
51	X-396-23	Pipe (2"npt x 11.50")	2	2	2	2	2	2
52	X-396-24	Pipe, Nipple (2" npt x 8.00")	4	4	4	4	4	4
53	X-396-26	Pipe (2" NPT X 15.50")	1	1	1	1	1	1
54	X-491-1	Pipe (3"npt x 6.00")	1	1	1	1	1	1
55	X-491-9	Pipe (3"npt x 3.75")	1	1	1	1	1	1
57	X-545-129	Cable, battery (No.0 x 30") red+	1	1	1	1	1	1
58	X-545-167	Cable, Battery	1	1	1	1	1	1
59	X-545-73	Cable, battery (No.0 x 8") black	1	1	1	1	1	1
60	288827	Clamp, muffler, 2.37 in.	5	5	5	5	5	5
61	X-801-8	Washer, hardened, .812 ID x 2 in. OD	1	1				
62	X-6210-9	Nut, flange spiralock, 3/8-16	4	4	4	4	4	4

Group 105: Engine, continued

300/350 kW, Dual Fuel



Group 105: Engine, continued

300/350 kW, Dual Fuel

Item	Part Number	Description	Quantity	
			Variation Number	
			69	70
1	GM70537	Switch, Pressure 4.5 in. H ₂ O	3	3
2	M934-10-60F	Nut, Hex 10mm	1	1
3	GM113871	Box, Dual Fuel, Doosan, 18.3L & 21.9L	1	1
4	X-22-30	Washer, Lock .652 ID x1.058 in. OD	1	1
5	M125A-14-80	Washer, Plain	1	1
6	X-468-1	Cable Tie	5	5
7	X-491-1	Pipe (3 in. NPT x 6.00 in.)	1	1
8	X-203-16	Tee, Pipe (1/8 x 1/8 x 1/8 NPT)	1	1
9	X-491-9	Pipe (3 in. NPT x 3.75 in.)	1	1
10	GM109880	Harness, Doosan APM603, Dual Fuel 250-450	1	1
11	GM20173	Decal, Fuel Type	1	1
12	M933-12025-60	Screw, Hex Cap M12 X 25	1	1
13	X-504-27	Fuel Line, Flexible (2.00 in. ID X 32.5 in)	2	2
14	X-277-10	Fitting, Straight Union (2 in. NPT)	2	2
15	GM71457	Harness, Dual Fuel Doosan 300-400 kW	1	1
16	GM66053	Gasket, Exhaust	4	2
17	M125A-12-80	Washer, Plain	1	1
18	X-217-7	Pipe, Nipple (1/8 in. NPT x 1.00 in.)	1	1
19	X-215-7	Elbow, Pipe (90 deg x 3 in. NPT)	2	2
20	GM99491-2	Engine, Doosan 18.3L Nat.Gas/LPG, EPA	1	
20	GM99491-4	Engine, Doosan 18.3L Nat.Gas/LPG, Non EPA		1
21	GM76139	Decal, Fuel Type	1	1
22	X-396-20	Pipe, Nipple (2 in. NPT x 6.00 in.)	2	2
23	GM70606	Bracket, Support	1	
24	X-202-59	Bushing, Reducing (1-1/2 in. to 1/8 in. NPT)	2	2
25	GM78846	Bracket, Dual Fuel	1	1
26	M933-10050-60	Screw, Hex Cap M10 X 50	16	16
27	X-545-73	Cable, Battery (No. 0 x 8 in.) black	1	1
28	X-396-24	Pipe (2 in. NPT x 8.00 in.)	1	1
29	GM74535	Terminal, Ground	1	1
30	X-545-167	Cable, Battery	1	1
31	M934-05-50	Nut, Hex 5mm	1	1
32	M961-14025-60	Screw, Hex Cap M14 X 25	1	1
33	X-225-4	Elbow, Pipe	5	5
34	X-203-28	Tee, Pipe (2 x 2 x 2 NPT)	4	4
35	GM49747	Relay, 24V DC	1	1
36	GM71426	Bracket, Mtg Dual Fuel	2	2
37	X-216-48	Coupling, Pipe (2 in. NPSC)	1	1
38	M125A-05-80	Washer, Plain	1	1
39	X-215-6	Elbow, Pipe (90 deg x 2 in. NPT)	2	2
40	X-219-6	Pipe (2 in. NPT x 4.00 in.)	1	1
41	GM74351	Tube, Exhaust	1	1
42	GM63164	Rack, Battery	1	1
43	X-519-17	Plug, Cap	2	2
44	GM13268	Bolt, Angle	1	1
45	X-202-21	Bushing, Reducing (2 x 3 in. NPT)	4	4
46	M933-08020-60	Screw, Hex Cap M8 X 20	6	
47	GM20745	Boot, Battery Lug	1	1
48	X-219-9	Pipe, Nipple (2 in. NPT x 2.00 in.)	13	13
49	GM69609	Bracket, Catalyst Support	2	
50	X-6210-9	Nut, Flange Spiralock, 3/8-16	4	4
51	M6923-08-80	Nut, Hex 8 mm	14	8
52	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	20	8
53	X-396-26	Pipe, (2 in. NPT X 15.50 in.)	1	1
54	X-22-26	Washer, Lock .521 IDx1.24 in.	1	1
55	M982-08-80	Nut, Hex Elastic Stop, 8 mm	1	1
56	288827	Clamp, Muffler, 2.37 in.	5	5
57	X-545-129	Cable, Battery (No.0 x 30 in.) red+	1	1
58	160212	Bushing, Reducing (1-1/2 x 2 in. NPT)	2	2
59	M6923-12-80	Nut, Hex	1	1
60	GM74352	Tube, Exhaust	1	1
61	M6923-10-80	Nut, Hex 10 mm	20	8
62	GM69614-1	Valve Assy, Gas Solenoid	4	4

(Continued)

Group 105: Engine, continued

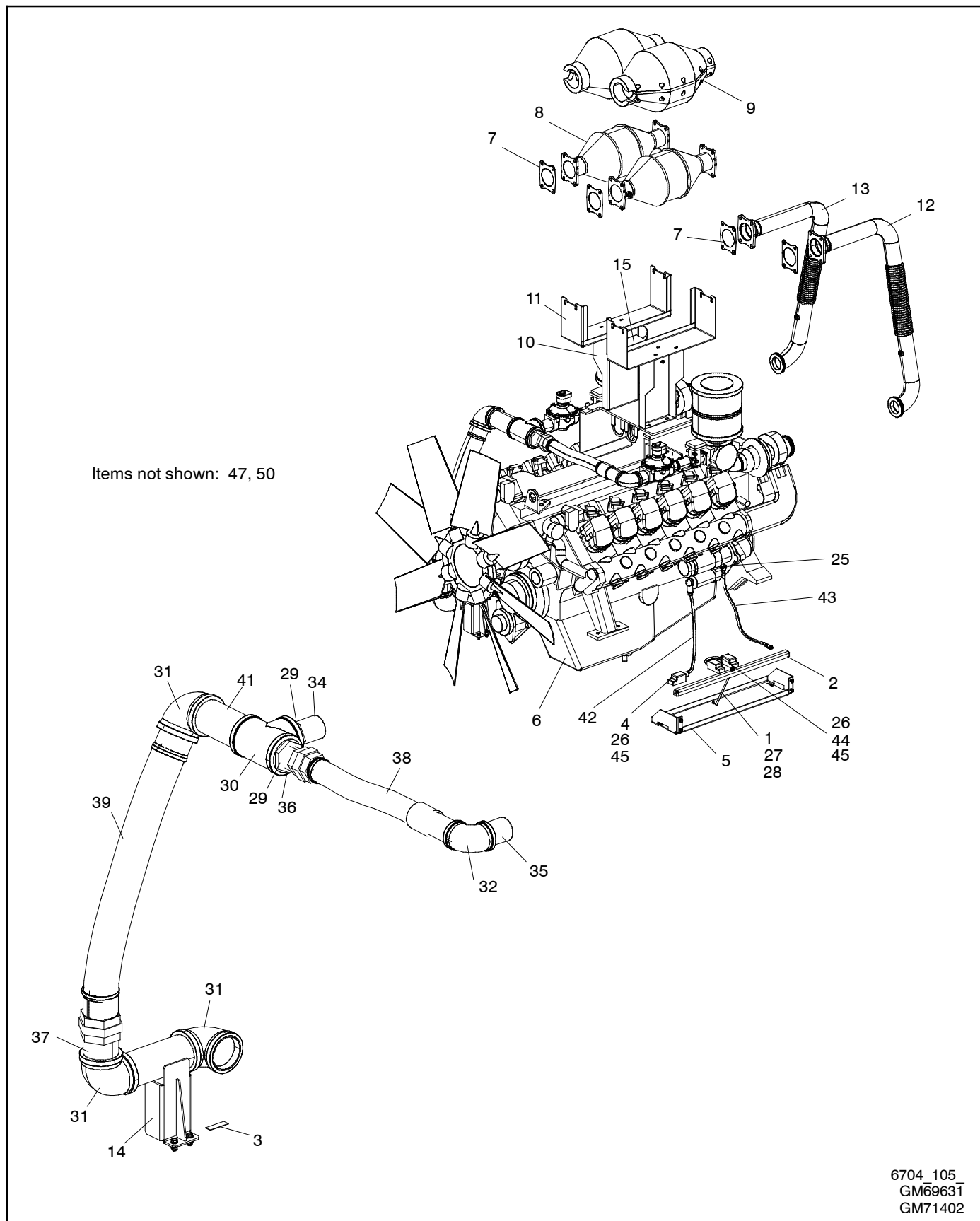
300/350 kW, Dual Fuel

Item	Part Number	Description	Quantity	
			Variation Number	
			69	70
63	GM69643	Bracket, Catalyst Mtg.	2	
64	X-396-23	Pipe (2 in. NPT x 11.50 in.)	2	2
65	X-6216-1	Screw, Phillips Hex Crimptite	2	2
66	X-396-21	Pipe (2 in. NPT x 4.50 in.)	2	2
67	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	21	9
68	X-25-37	Washer, Plain, .406 ID x.812 in. OD	4	4
69	GM67002	Blanket, Exhaust	2	
70	X-203-4	Tee, Pipe (3 x 3 x 3 NPT)	2	2
71	343221	Clamp, Battery	1	1
72	M933-10030-60	Screw, Hex Cap M10 X 30	4	
73	M933-08025-60	Screw, Hex Cap M8 X 25	14	8

Notes

Group 105: Engine, continued

400/450 kW



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GM69631
GM71402

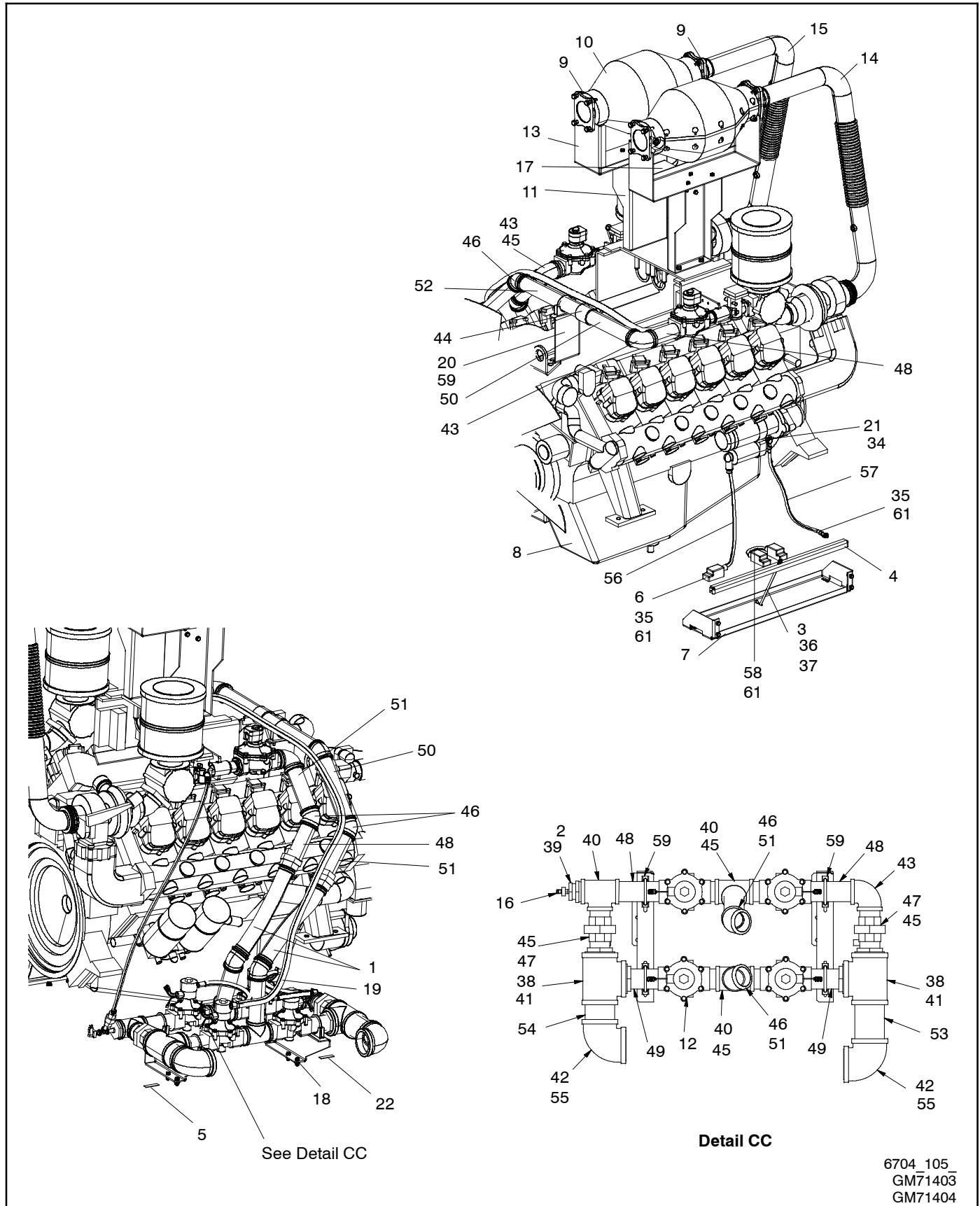
Group 105: Engine, continued

400/450 kW

Item	Part Number	Description	Quantity					
			Variation					
			9	10	29	30	59	60
1	286316	Bolt, Angle	1	1				
1	GM13268	Bolt, Angle			1	1	1	1
2	343221	Clamp, battery	1	1	1	1	1	1
3	GM20577	Decal, Fuel Type	1	1	1	1	1	1
4	GM20745	Boot, Battery Lug	1	1	1	1	1	1
5	GM63164	Rack, Battery	1	1	1	1	1	1
6	GM65584-2	Engine, Doosan D21.9L	1		1			
6	GM65584-4	Engine, Doosan 21.9L Sng. Fuel, NonEmiss		1		1		
6	GM99492-2	Engine, Doosan D21.9L					1	
6	GM99492-4	Engine, Doosan 21.9L Sng. Fuel, NonEmiss						1
7	GM66053	Gasket, Exhaust	4	2	4	2	4	2
8	GM66933	Catalyst	2		2		2	
9	GM67002	Blanket, Exhaust	2		2		2	
10	GM69609	Bracket, Catalyst Support	2		2		2	
11	GM69643	Bracket, Catalyst Mtg.	2		2		2	
12	GM69644	Tube, Exhaust	1	1	1	1	1	1
13	GM69645	Tube, Exhaust	1	1	1	1	1	1
14	GM70322	Bracket, Support	1	1	1	1	1	1
15	GM70606	Bracket, Support	1	1	1	1	1	1
25	X-22-26	Washer, lock	1	1	1	1	1	1
26	X-25-37	Washer, plain, .406 ID x .812 in. OD	4	4	4	4	4	4
27	X-25-44	Washer, plain, .328 ID x .562 OD	1	1	1	1	1	1
28	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
28	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
29	X-202-21	Bushing, reducing (2 x 3 in. npt)	2	2	2	2	2	2
30	X-203-4	Tee, pipe (3 x 3 x 3 npt)	1	1	1	1	1	1
31	X-215-7	Elbow, pipe (90 deg x 3"npt)	3	3	3	3	3	3
32	X-215-6	Elbow, pipe (90 deg x 2 in. npt)	1	1	1	1	1	1
33	X-216-38	Coupling, Pipe (2 in. npsc)	1	1	1	1	1	1
34	X-219-9	Pipe (2 in. npt x 2.00 in.)	1	1	1	1	1	1
35	X-396-19	Pipe (2 in. npt x 3.00 in.)	1	1	1	1	1	1
36	X-396-24	Pipe, Nipple (2" npt x 8.00")	1	1	1	1	1	1
37	X-491-9	Pipe (3 in. npt x 3.75 in.)	1	1	1	1	1	1
38	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	1	1	1	1	1	1
39	X-504-26	Line, Flex Fuel	1	1	1	1	1	1
40	X-519-17	Plug, cap	1	1	1	1	1	1
41	X-533-15	Pipe (3 in. npt x 7.75 in.)	1	1	1	1	1	1
42	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
43	X-545-167	Cable, Battery	1	1	1	1	1	1
44	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1
45	X-6210-9	Nut, flange spirallock, 3/8-16	4	4	4	4	4	4
47	X-801-8	Washer, Hardened, .812 ID x 2 in. OD	1	1				
50	GM74535	Terminal, Ground	1	1	1	1	1	1

Group 105: Engine, continued

400 kW, Dual Fuel

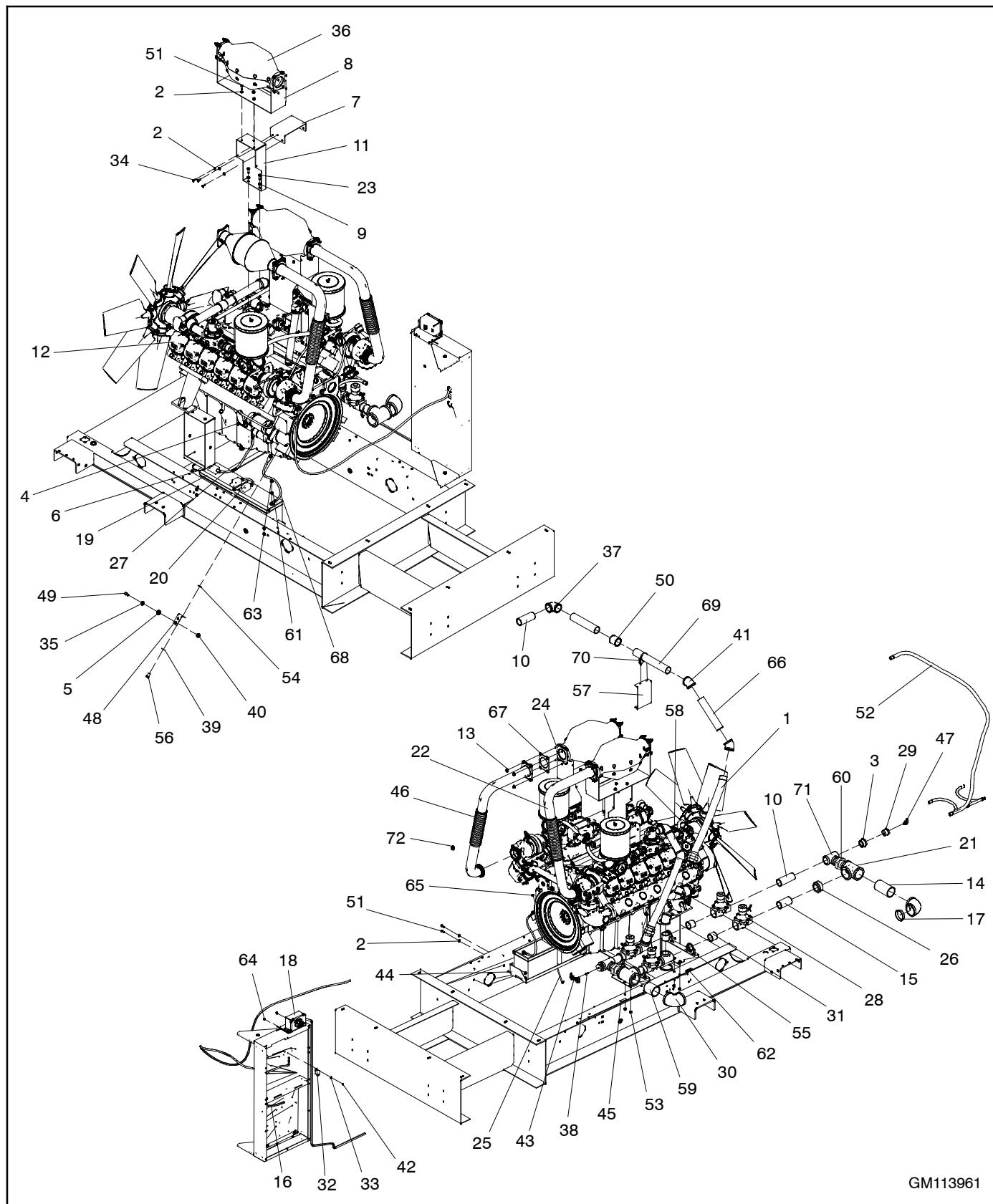


Group 105: Engine, continued

Item	Part Number	Description	400 kW, Dual Fuel					
			Quantity					
			Variation					
			11	12	31	32	61	62
1	X-504-16	Fuel line, flexible (2.00 in. ID x 18 in.)	2	2	2	2	2	2
2	160212	Bushing, reducing (1-1/2 x 2 in. npt)	1	1	1	1	1	1
3	286316	Bolt, Angle	1	1				
3	GM13268	Bolt, Angle			1	1	1	1
4	343221	Clamp, battery	1	1	1	1	1	1
5	GM20173	Decal, Fuel Type	1	1	1	1	1	1
6	GM20745	Boot, Battery Lug	1	1	1	1	1	1
7	GM63164	Rack, Battery	1	1	1	1	1	1
8	GM65584-2	Engine, Doosan 21.9LDual Fuel, Emiss Cer	1		1			
8	GM65584-4	Engine, Doosan 21.9L Dual Fuel, NonEmiss		1		1		
8	GM99492-2	Engine, Doosan 21.9LDual Fuel, Emiss Cer					1	
8	GM99492-4	Engine, Doosan 21.9L Dual Fuel, NonEmiss						1
9	GM66053	Gasket, Exhaust	4	2	4	2	4	2
10	GM66933	Catalyst	2		2		2	
10	GM67002	Blanket, Exhaust	2		2		2	
11	GM69609	Bracket, Catalyst Support	2		2		2	
12	GM69614-1	Valve Assy, Gas Solenoid	4	4	4	4	4	4
13	GM69643	Bracket, Catalyst Mtg.	2		2		2	
14	GM69644	Tube, Exhaust	1	1	1	1	1	1
15	GM69645	Tube, Exhaust	1	1	1	1	1	1
16	GM70538	Switch, Pressure 6.27 in. H2O	1	1	1	1	1	1
17	GM70606	Bracket, Support	1		1		1	
18	GM71426	Bracket, Mtg. Dual Fuel	2	2	2	2	2	2
19	GM71457	Harness, Dual Fuel Doosan 300-400 kW	1	1	1	1	1	1
20	GM72467	Bracket, Dual Fuel	1	1	1	1	1	1
21	GM74535	Terminal, Ground	1	1	1	1	1	1
22	GM76139	Decal, Fuel Type	1	1	1	1	1	1
34	X-22-26	Washer, lock	1	1	1	1	1	1
35	X-25-37	Washer, plain, .406 ID x .812 in. OD	4	4	4	4	4	4
36	X-25-44	Washer, plain. 328 ID x .562 OD	1	1	1	1	1	1
37	X-101-4	Nut, hex elastic stop, 5/16-24	1	1				
37	M982-08-80	Nut, hex elastic stop, 8MM			1	1	1	1
38	X-202-21	Bushing, reducing (2 x 3 in. npt)	4	4	4	4	4	4
39	X-202-59	Bushing, Reducing (1-1/2 in. x 1/8 in. npt)	1	1	1	1	1	1
40	X-203-28	Tee, pipe (2 x 2 x 2 npt)	3	3	3	3	3	3
41	X-203-4	Tee, pipe (3 x 3 x 3 npt)	2	2	2	2	2	2
42	X-215-22	Fitting, elbow, pipe	2	2	2	2	2	2
43	X-215-6	Elbow, pipe (90 deg x 2"npt)	3	3	3	3	3	3
44	X-216-38	Coupling, Pipe (2 in. npsc)	1	1	1	1	1	1
45	X-219-9	Pipe, Nipple (2 in. npt x 2.00 in.)	9	9	9	9	9	9
46	X-225-4	Elbow, Pipe	5	5	5	5	5	5
47	X-277-10	Fitting, straight union (2 in. npt)	2	2	2	2	2	2
48	X-396-20	Pipe, Nipple (2 in. npt x 6.00 in.)	4	4	4	4	4	4
49	X-396-21	Pipe (2 in. npt x 4.50 in.)	2	2	2	2	2	2
50	X-396-23	Pipe (2 in. npt x 11.50 in.)	2	2	2	2	2	2
51	X-396-24	Pipe, Nipple (2 in. npt x 8.00 in.)	4	4	4	4	4	4
52	X-396-26	Pipe (2 in. NPT X 15.50 in.)	1	1	1	1	1	1
53	X-491-1	Pipe (3 in. npt x 6.00 in.)	1	1	1	1	1	1
54	X-491-9	Pipe (3 in. npt x 3.75 in.)	1	1	1	1	1	1
56	X-545-129	Cable, battery (No.0 x 30 in.) red+	1	1	1	1	1	1
57	X-545-167	Cable, Battery	1	1	1	1	1	1
58	X-545-73	Cable, battery (No.0 x 8 in.) black	1	1	1	1	1	1
59	288827	Clamp, muffler, 2.37 in.	5	5	5	5	5	5
61	X-6210-9	Nut, flange spiralock, 3/8-16	4	4	4	4	4	4

Group 105: Engine, continued

400 kW, Dual Fuel



GM113961

Group 105: Engine, continued

Item	Part Number	Description	400 kW, Dual Fuel	
			Quantity	
			Variation Number	
			71	72
1	X-504-27	Fuel Line, Flexible (2.00 in. ID X 32.5 in.)	2	2
2	M125A-08-80	Washer, Plain 8.4 ID X 16.0 OD	21	9
3	160212	Bushing, Reducing (1-1/2 X 2 in. NPT)	2	2
4	M934-10-60F	Nut, Hex 10mm	1	1
5	X-22-26	Washer, Lock .521 ID x 1.24 in.	1	1
6	GM20745	Boot, Battery Lug	1	1
7	GM70606	Bracket, Support	1	
8	GM69643	Bracket, Catalyst Mtg.	2	
9	M125A-10-80	Washer, Plain 10.5 ID X 20.0 OD	20	8
10	X-396-20	Pipe, Nipple (2 in. NPT X 6.00 in.)	3	3
11	GM69609	Bracket, Catalyst Support	2	
12	GM99492-2	Engine, Doosan 22l Nat.Gas/Lpg, EPA	1	
12	GM99492-2	Engine, Doosan 22l Nat.Gas/Lpg, Non EPA		1
13	M6923-10-80	Nut, Hex 10 mm	20	8
14	X-491-1	Pipe (3 in. NPT X 6.00 in.)	1	1
15	X-396-21	Pipe (2 in. NPT X 4.50 in.)	2	2
16	GM109880	Harness, Doosan Apm603, Dual Fuel 250-450	1	1
17	X-519-17	Plug, Cap	2	2
18	GM113871	Box, Dual Fuel, Doosan, 18.3l & 21.9l	1	1
19	343221	Clamp, Battery	1	1
20	X-545-73	Cable, Battery (No.0 X 8 in.) Black	1	1
21	X-203-4	Tee, Pipe (3 X 3 X 3 NPT)	2	2
22	GM69645	Tube, Exhaust	1	1
23	M933-10030-60	Screw, Hex Cap M10 X 30	4	
24	M933-10050-60	Screw, Hex Cap M10 X 50	16	8
25	GM13268	Bolt, Angle	1	1
26	X-202-21	Bushing, Reducing (2 X 3 in. NPT)	4	4
27	X-545-129	Cable, Battery (No.0 X 30 in.) Red+	1	1
28	GM69614-1	Valve Assy, Gas Solenoid	4	4
29	X-202-59	Bushing, Reducing (1-1/2 in. X1/8 in. NPT)	2	2
30	X-215-7	Elbow, Pipe (90 Deg X 3 in. NPT)	2	2
31	X-219-9	Pipe, Nipple (2 in. NPT X 2.00 in.)	13	13
32	GM49747	Relay, 24V DC	1	1
33	M125A-05-80	Washer, Plain	1	1
34	M933-08020-60	Screw, Hex Cap M8 X 20	6	
35	M125A-12-80	Washer, Plain	1	1
36	GM67002	Blanket, Exhaust	2	
37	X-215-6	Elbow, Pipe (90 Deg X 2 in. NPT)	2	2
38	X-217-7	Pipe, Nipple (1/8 in. NPT X 1.00 in.)	1	1
39	M125A-14-80	Washer, Plain	1	1
40	M6923-12-80	Nut, Hex	1	1
41	X-225-4	Elbow, Pipe	5	5
42	M934-05-50	Nut, Hex 5 mm	1	1
43	X-203-16	Tee, Pipe (1/8 X 1/8 X 1/8 NPT)	1	1
44	GM63164	Rack, Battery	1	1
45	GM20173	Decal, Fuel Type	1	1
46	GM69644	Tube, Exhaust	1	1
47	GM70537	Switch, Pressure 4.5 in. H ₂ O	3	3
48	GM74535	Terminal, Ground	1	1
49	M933-12025-60	Screw, Hex Cap M12 X 25	1	1
50	X-216-48	Coupling, Pipe (2 in. NPSC)	1	1
51	M933-08025-60	Screw, Hex Cap M8 X 25	14	8
52	GM71457	Harness, Dual Fuel Doosan 300-400 kW	1	1
53	M6923-08-80	Nut, Hex 8mm	14	8
54	X-22-30	Washer, Lock .652 ID x 1.058 In. OD	1	1
55	GM71426	Bracket, Mtg Dual Fuel	2	2
56	M961-14025-60	Screw, Hex Cap M14 X 25	1	1
57	GM72467	Bracket, Dual Fuel	1	1
58	X-396-24	Pipe (2 in. NPT X 8.00 in.)	1	1
59	X-491-9	Pipe (3 in. NPT X 3.75 in.)	1	1
60	X-277-10	Fitting, Straight Union (2 in. NPT)	2	2
61	X-25-37	Washer, Plain, .406 ID X.812 in. OD	4	4
62	GM76139	Decal, Fuel Type	1	1

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Group 105: Engine, continued

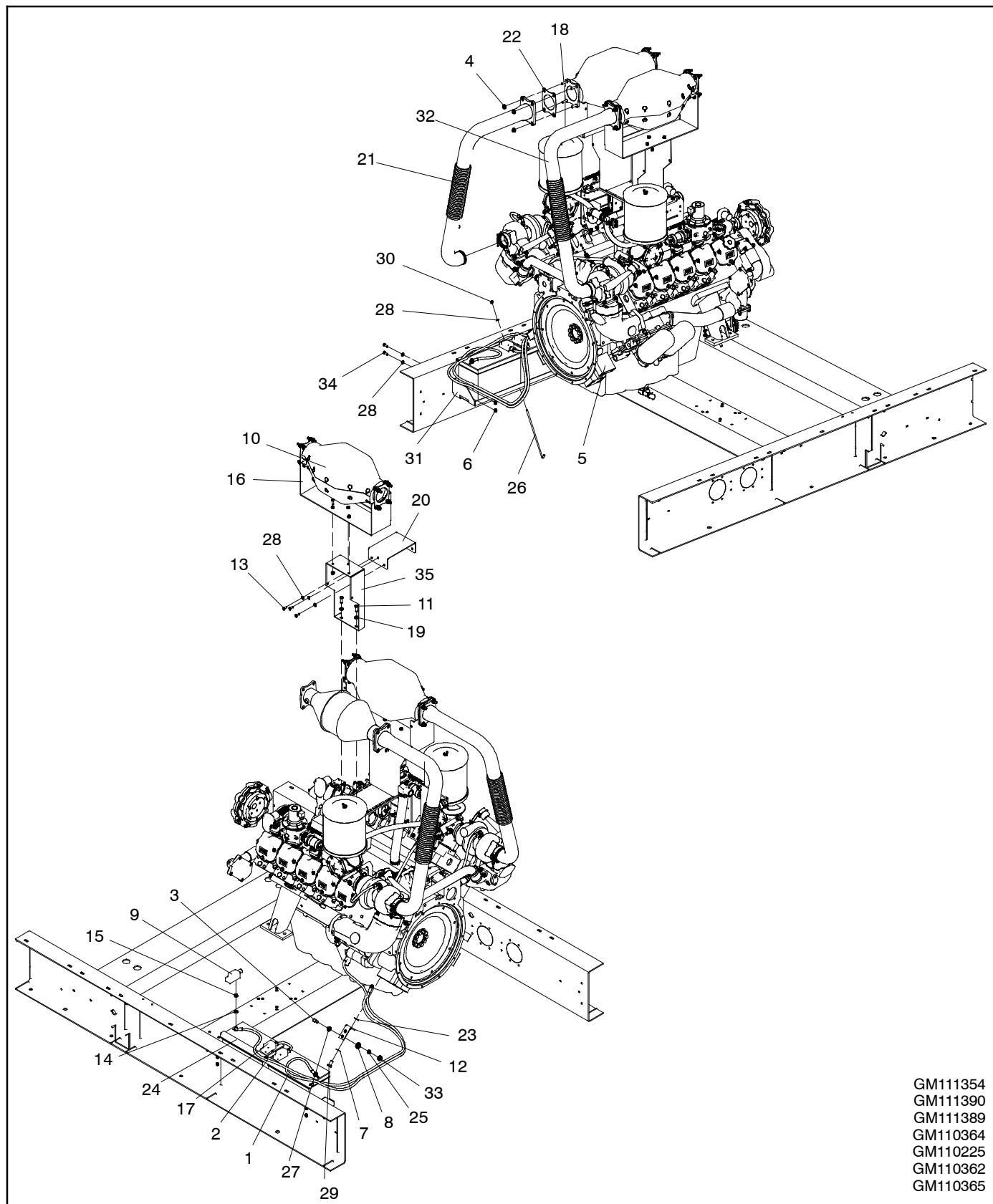
400 kW, Dual Fuel

Item	Part Number	Description	Quantity	
			Variation Number	
			71	72
63	X-6210-9	Nut, Flange Spiralock, 3/8-16	4	4
64	X-6216-1	Screw, Phillips Hex Crimptite	2	2
65	M982-08-80	Nut, Hex Elastic Stop, 8 mm	1	1
66	X-396-23	Pipe (2 in. NPT X 11.50 in.)	2	2
67	GM66053	Gasket, Exhaust	4	2
68	X-545-167	Cable, Battery	1	1
69	X-396-26	Pipe, (2 in. NPT X 15.50 in.)	1	1
70	288827	Clamp, Muffler, 2.37 in.	5	5
71	X-203-28	Tee, Pipe (2 X 2 X 2 NPT)	4	4
72	X-468-1	Cable Tie	5	5

Notes

Group 105: Engine, continued

300/500 kW



Group 105: Engine, continued

300/500 kW

Item	Part Number	Description	Quantity						
			Variation						
			73	74	75	76	77	78	79
1	10702002300	Cable, Battery (No. 2/0 x 80 in.) Red	1	1	1	1	1	1	1
2	10702002200	Cable, Battery (No. 2/0 x 80 in.) Black	1	1	1	1	1	1	1
3	M933- 12025- 60	Screw, Hex Cap M12 x 25	1	1	1	1	1	1	1
4	M6923- 10- 80	Nut, Hex 10 mm	20	20	8	20	20	8	20
5	GM99491- 2	Engine, Doosan 18.3L Nat. Gas/LPG, EPA	1						
5	GM99491- 5	Engine, Doosan 18.3L,Prime Sngl Fuel,EPA		1					
5	GM99491- 4	Engine, Doosan 18.3L Nat. Gas/LPG, Non EPA			1				
5	GM110920- 1	Eng, PSI 22L, EPA, 400- 450Kw, Standby				1			
5	GM110920- 3	Eng, PSI 22L, EPA, 400kW, Prime					1		
5	GM110920- 2	Eng, PSI 22L, Non EPA, 400- 450kW, Standby						1	
5	GM110920- 4	Eng, PSI 22L, EPA, 500kW, Standby							1
6	M6923- 08- 80	Nut, Hex 8 mm	10	10	4	10	10	4	10
7	M125A- 14- 80	Washer, Plain	1	1	1	1	1	1	1
8	X- 22- 26	Washer,Lock .521 ID x 1.24 in. OD	1	1	1	1	1	1	1
9	GM20745	Boot, Battery Lug	1	1	1	1	1	1	1
10	GM67002	Blanket, Exhaust	2	2		2	2		2
11	M933- 10030- 60	Screw, Hex Cap M10 x 30	4	4		4	4		4
12	GM74535	Terminal, Ground	1	1	1	1	1	1	1
13	M933- 08020- 60	Screw, Hex Cap M8 x 20	6	6	6	6	6	6	6
14	X- 25- 37	Washer, Plain, .406 ID x.812 in. OD	4	4	4	4	4	4	4
15	X- 6210- 9	Nut, Flange Spiralock, 3/8- 16	4	4	4	4	4	4	4
16	GM69643	Bracket, Catalyst Mtg.	2	2		2	2		2
17	X- 545- 73	Cable, Battery (No.0 x 8 in.) Black	1	1	1	1	1	1	1
18	M933- 10050- 60	Screw, Hex Cap M10 x 50	16	16	8	16	16	8	16
19	M125A- 10- 80	Washer, Plain 10.5 ID x 20.0 OD	20	20	8	20	20	8	20
20	GM70606	Bracket, Support	1	1		1	1		1
21	GM74352	Tube, Exhaust	1	1	1				
21	GM69644	Tube, Exhaust				1	1	1	1
22	GM66053	Gasket, Exhaust	4	4	2	4	4	2	4
23	X- 22- 30	Washer, Lock.652 ID x 1.058 in. OD	1	1	1	1	1	1	1
24	343221	Clamp, Battery	1	1	1	1	1	1	1
25	M934- 10- 60F	Nut, Hex 10 mm	1	1	1	1	1	1	1
26	GM13268	Bolt, Angle	1	1	1	1	1	1	1
27	M125A- 12- 80	Washer, Plain	1	1	1	1	1	1	1
28	M125A- 08- 80	Washer, Plain 8.4 ID x 16.0 OD	17	17	5	17	17	5	17
29	M961- 14025- 60	Screw, Hex Cap M14 x 25	1	1	1	1	1	1	1
30	M982- 08- 80	Nut, Hex Elastic Stop, 8 mm	1	1	1	1	1	1	1
31	GM63164	Rack, Battery	1	1	1	1	1	1	1
32	GM74351	Tube, Exhaust	1	1	1				
32	GM69645	Tube, Exhaust				1	1	1	1
33	M6923- 12- 80	Nut, Hex	1	1	1	1	1	1	1
34	M933- 08025- 60	Screw, Hex Cap M8 x 25	16	10	4	16	16	4	16
35	GM69609	Bracket, Catalyst Support	2	2		2	2		2

Group 107: Nameplate and Decals

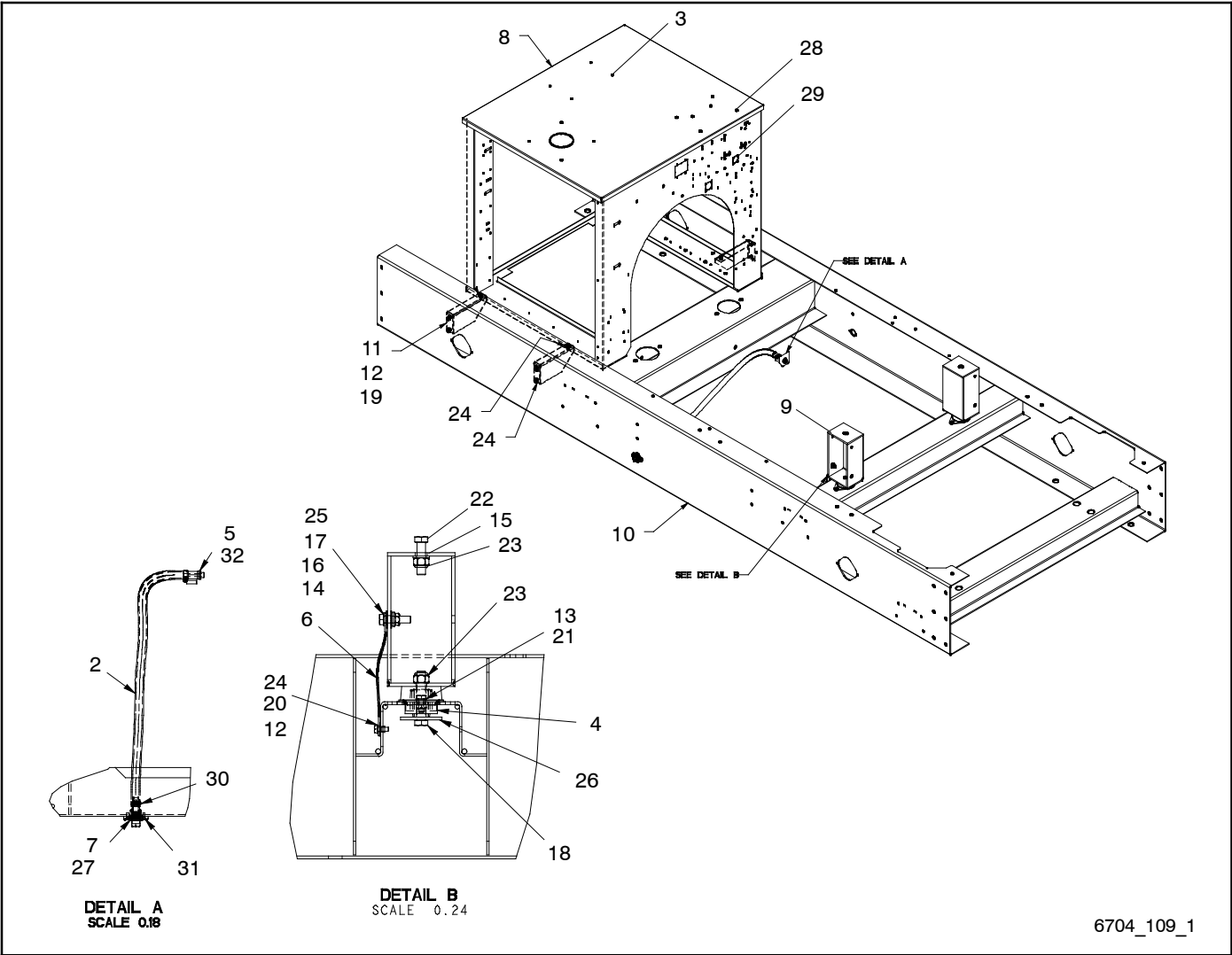
Nameplate and Decals group is not illustrated.

Item	Part Number	Description	Quantity Variation								
			1	2	3	4	5	6	7	8	9
1	224233	Decal, 1-800 number	1	1	1	1	1	1	1	1	
2	238402	Decal, caution positive term. only	1	1	1	1	1	1	1	1	1
3	249808	Decal, warning rotating parts	1	1	1	1	1	1			
4	249809	Decal, Caution Hot Engine	2	2	2	2	2	2			
4	GM107366	Decal, Caution Hot Surface							2	2	2
5	249810	Decal, warning hot coolant	1	1	1	1	1	1			
5	GM107367	Decal, warning hot coolant							1	1	1
6	257438	Decal, danger moving rotor	3	3	1	3	2	3			
7	257441	Decal, warning lifting eye	1	1		1		1			
7	GM107364	Decal, warning lifting eye							1		
8	258815	Decal, warning voltage backfeed	1	1		1	2	1			
8	GM107362	Decal, warning voltage backfeed							1	2	
9	273780	Decal, warning explosion	1	1	1	1	1	1			
9	GM107369	Decal, warning explosion							1	1	1
11	GM13776	Decal, FRII Reconnection	1	1		1		1	1	1	
12	GM15300	Decal, Exhaust Piping	1	1	1	1	1	1	1	1	1
13	GM39683	Tag, Hang (lug selection)	1	1	1	1	1	1	1	1	
14	GM60531	Decal, Control Height	1	1	1	1	1	1	1	1	
15	X-6232-6	Decal, stripes	2	2		2	2	2			
15	X-6232-3	Decal, stripes			1	1					
16	X-6246-1	Decal, Kohler Power System	2	2	1	2	2	2			
16	X-6348-24	Decal, KohlerPower.Com							2	2	
17	343165	Decal, caution- not a step			1		1			1	1
18	255882	Decal, caution stdby svc connect			1		2				
18	GM107355	Decal, caution stdby svc connect								2	
19	294520	Decal, danger, high voltage			1		2			2	
19	GM107361	Decal, danger, high voltage								2	
20	364116	Decal, caution welding disconnect	2		1	2	1	1			
20	GM107368	Decal, caution welding							2	1	1
21	GM13227	Decal, Warning fan force			1						
22	GM13228	Decal, Warning lifting support			1						
23	GM49352	Tag, Hang (caution-risk of electrical shock)			1		1			1	
24	X-6276-8	Logo, Kohler			2						
24	GM91124-18	Decal, Kohler Logo							2	2	
25	345211	Decal, ground					1			1	
26	GM79042	Decal, Phasing					1			2	
27	GM79043	Decal, Phasing C-B-A					1			2	
28	354518	Tag, Ground				1		1	1	1	
29	362176	Decal, danger				2		2			
30	GM62217	Nameplate, 5 in. tall							4	3	
31	GM107363	Decal, danger rotating parts							4	3	1
32	GM107357	Decal, danger hazardous voltage							2		
33	GM106122	Decal, UL							1	1	1
34	GM106120	Decal, warning							1	1	1
35	GM107467-2	Decal, Marathon J- Box, Dual Fuel									1

Notes

Group 109: Skid and Mounting

180/200 kW, 4UA Alternator



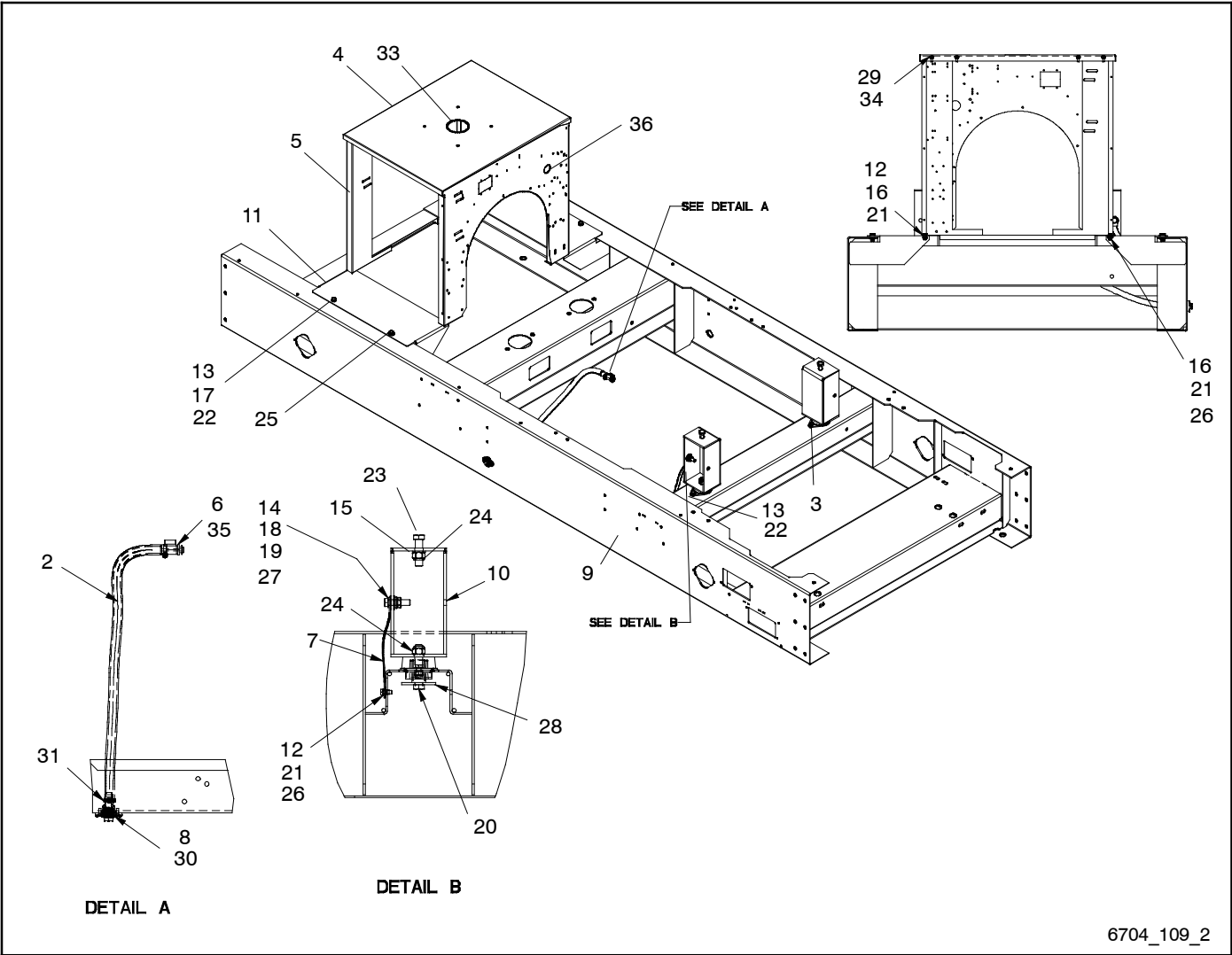
6704_109_1

Group 109: Skid and Mounting

Item	Part Number	Description	Quantity		
			Module Number		
			GM66557-MA1	GM78696-MA1	GM78703-MA1
2	X-577-35	Hose, rubber, straight, .62 in. ID	1	1	
3	324861	Coupling, black plastic	4		
4	336024	Vibromount	2	2	2
5	GM19299	Valve, oil drain (M12 x 1.75)	1	1	1
6	GM21085	Strap, ground (16 in.)	1	1	1
7	GM59015	Fitting, Bulkhead Drain	1	1	1
8	GM65343	Box, Junction	1		
8	-	Box, Junction (See Control and Harness)		1	1
9	GM66104	Bracket, Engine Mtg.	2	2	2
10	GM66532	Skid	1	1	
10	GM69698	Skid			1
11	GM66932	Bracket, J-Box Mtg.	4	4	4
12	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	10	6	7
13	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	4	7	4
14	M125A-12-80	Washer, Plain	2		2
15	M125A-16-80	Washer, Plain	2	2	2
16	M6923-12-80	Nut, hex	1		1
16	M6923-10-80	Nut, hex		1	
17	M931-12050-60	Screw, hex cap	1		1
18	M931-16090-60	Screw, hex cap	2	2	2
19	M933-08016-60	Screw, hex cap	12	8	8
20	M933-08020-60	Screw, hex cap	1		1
20	M931-10040-60	Screw, hex cap		2	
21	M933-10025-60	Screw, hex cap, fully thrd M10 x 25mm	4	4	4
22	M933-16060-60	Screw, hex cap	2	2	2
23	M982-16-80	Nut, hex elastic stop	4	4	4
24	X-22-16	Washer, lock, .326 ID x .883 in. OD	5	2	3
25	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	2		2
26	X-25-112	Washer, plain	2	2	2
27	X-75-58	Plug, Pipe	1	1	1
28	X-301-34	Plug, button	6		
29	X-301-35	Button, Plug	1		
30	X-426-12	Clamp, hose, .69/1.25 in.	2	2	2
31	X-781-15	Rivet, pop, .187 in.	2	2	2
32	X-6278-9	Washer, nylon, .48 ID x .825 in. OD	1	1	1

Group 109: Skid and Mounting, continued

180/200 kW, 4S Alternator

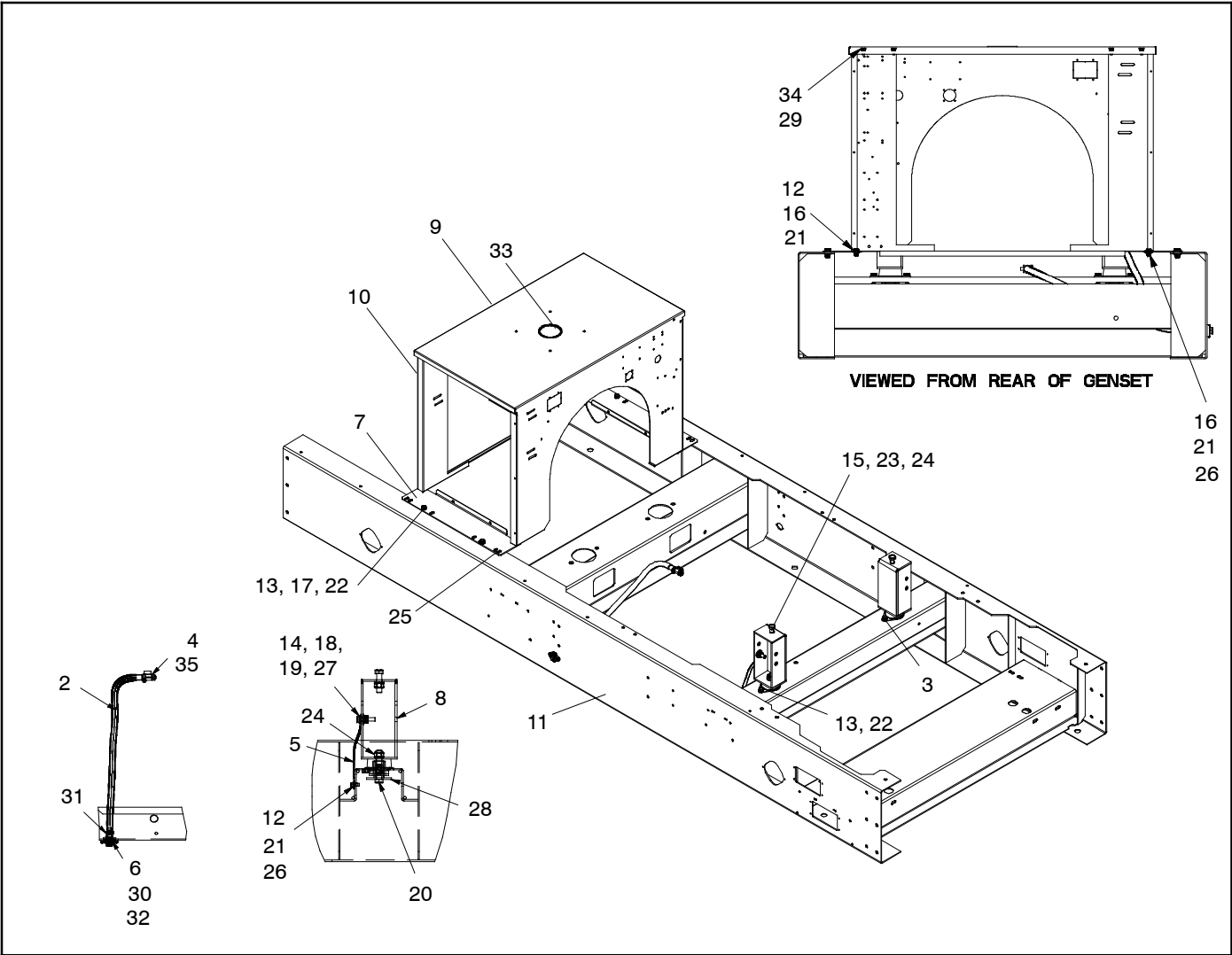


Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			ModuleNumber	
			GM66107-MA1	GM78695-MA1
2	X-577-35	Hose, rubber, straight, .62 in. ID	1	1
3	336024	Vibromount	2	2
4	GM62774-KCB	Panel, Junction Box (Front)	1	
4	-	Panel, Junction Box (See Control and Harness)		1
5	GM17624	Panel, Junction Box (See Control and Harness)		1
6	GM19299	Valve, oil drain (M12 x 1.75)	1	1
7	GM21085	Strap, ground (16 in.)	1	1
8	GM59015	Fitting, Bulkhead Drain	1	1
9	GM65992	Skid	1	
9	GM78709	Skid		1
10	GM66104	Bracket, Engine Mtg.	2	2
11	GM66133	Support, Junction Box	2	2
12	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	3	
13	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	7	10
14	M125A-12-80	Washer, Plain	2	
15	M125A-16-80	Washer, Plain	2	2
16	M6923-08-80	Nut, Hex 8mm	4	
17	M6923-10-80	Nut, Hex 10mm	4	5
18	M6923-12-80	Nut, hex	1	
19	M931-12050-60	Screw, hex cap	1	
20	M931-16090-60	Screw, hex cap	2	2
21	M933-08020-60	Screw, hex cap	5	
22	M933-10025-60	Screw, hex cap, fully thrd M10 x 25mm	8	8
23	M933-16060-60	Screw, hex cap	2	2
24	M982-16-80	Nut, hex elastic stop	4	4
25	X-22-15	Washer, lock, .456 ID x 1.058 in. OD	2	5
26	X-22-16	Washer, lock, .326 ID x .883 in. OD	6	
27	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	2	
28	X-25-112	Washer, plain	2	2
29	X-25-40	Washer, plain, .281 ID x .625 in. OD	4	
30	X-75-58	Plug, Pipe	1	1
31	X-426-12	Clamp, hose, .69/1.25 in.	2	2
32	X-781-15	Rivet, pop, .187 in.	2	2
33	X-6033-15	Grommet	1	
34	X-6210-2	Nut, flange spiralock, 1/4-20	4	
35	X-6278-9	Washer, nylon, .48 ID x .825 in. OD	1	1
36	X-301-35	Plug, button	1	

Group 109: Skid and Mounting, continued

180 kW, 1 Phase

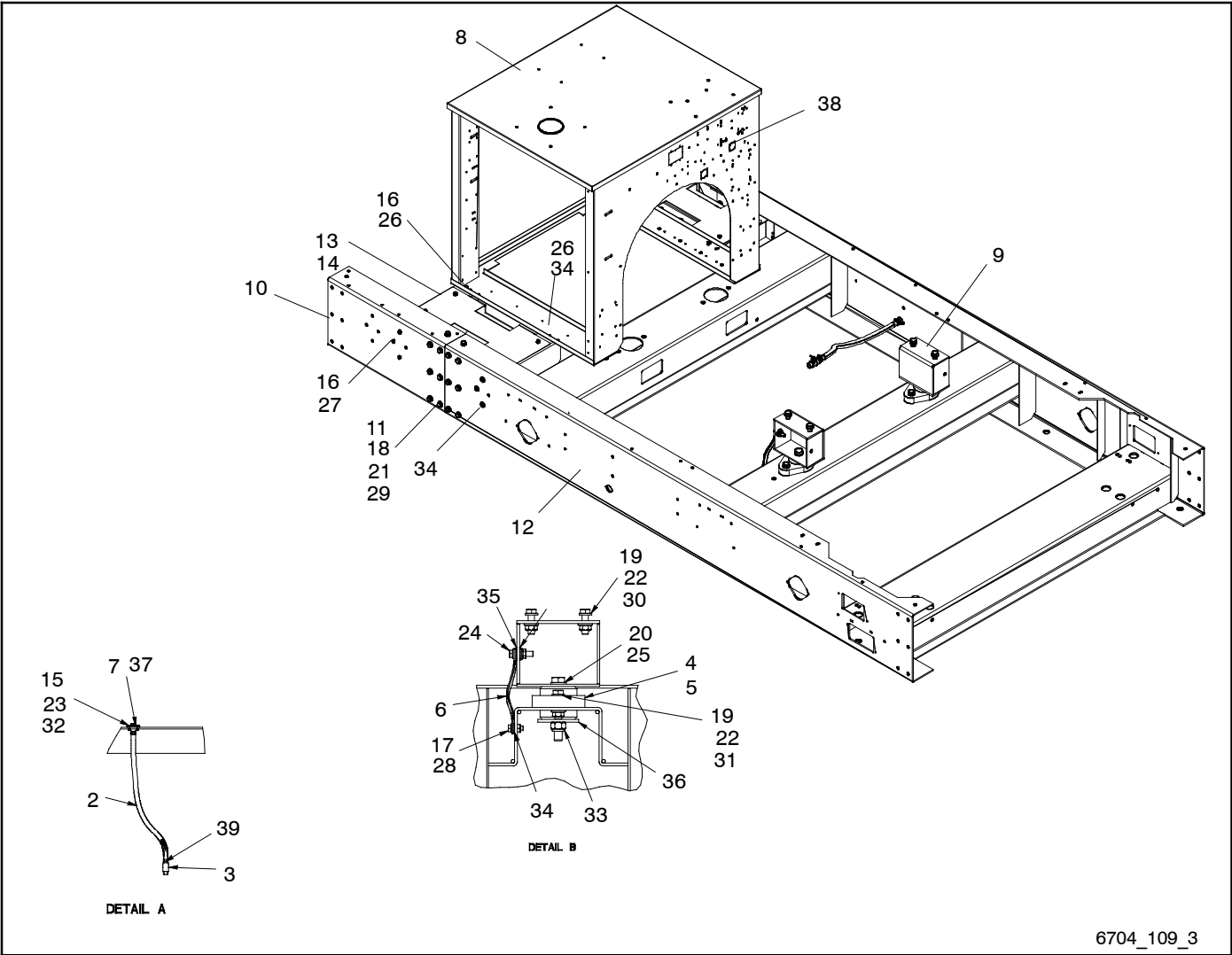


Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity
			Module Number GM69694-MA1
2	X-577-35	Hose, rubber, straight, .62 in. ID	1
3	336024	Vibromount	2
4	GM19299	Valve, oil drain (M12 x 1.75)	1
5	GM21085	Strap, ground (16 in.)	1
6	GM59015	Fitting, Bulkhead Drain	1
7	GM65810	Support, Junction Box	2
8	GM66104	Bracket, Engine Mtg.	2
9	GM69695-KCB	Panel, Junction Box (Front)	1
10	GM69696	Panel, Junction Box (Rear)	1
11	GM69698	Skid, 1 Phase	1
12	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	3
13	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	7
14	M125A-12-80	Washer, Plain	2
15	M125A-16-80	Washer, Plain	2
16	M6923-08-80	Nut, Hex 8mm	4
17	M6923-10-80	Nut, Hex 10mm	4
18	M6923-12-80	Nut, Hex	1
19	M931-12050-60	Screw, hex cap	1
20	M931-16090-60	Screw, hex cap	2
21	M933-08020-60	Screw, hex cap	5
22	M933-10025-60	Screw, hex cap, fully thrd M10 x 25mm	8
23	M933-16060-60	Screw, hex cap	2
24	M982-16-80	Nut, hex elastic stop	4
25	X-22-15	Washer, lock, .456 ID x 1.058 in. OD	2
26	X-22-16	Washer, lock, .326 ID x .883 in. OD	5
27	X-22-26	Washer, lock, .521 ID x 1.24 in. OD	2
28	X-25-112	Washer, plain	2
29	X-25-40	Washer, plain, .281 ID x .625 in. OD	4
30	X-75-58	Plug, Pipe	1
31	X-426-10	Clamp, hose, .5/1 in.	2
32	X-781-15	Rivet, pop, .187 in.	2
33	X-6033-15	Grommet	1
34	X-6210-2	Nut, flange spiralock, 1/4-20	4
35	X-6278-9	Washer, nylon, .48 ID x .825 in. OD	1

Group 109: Skid and Mounting, continued

250/300 kW, 4UA Alternator



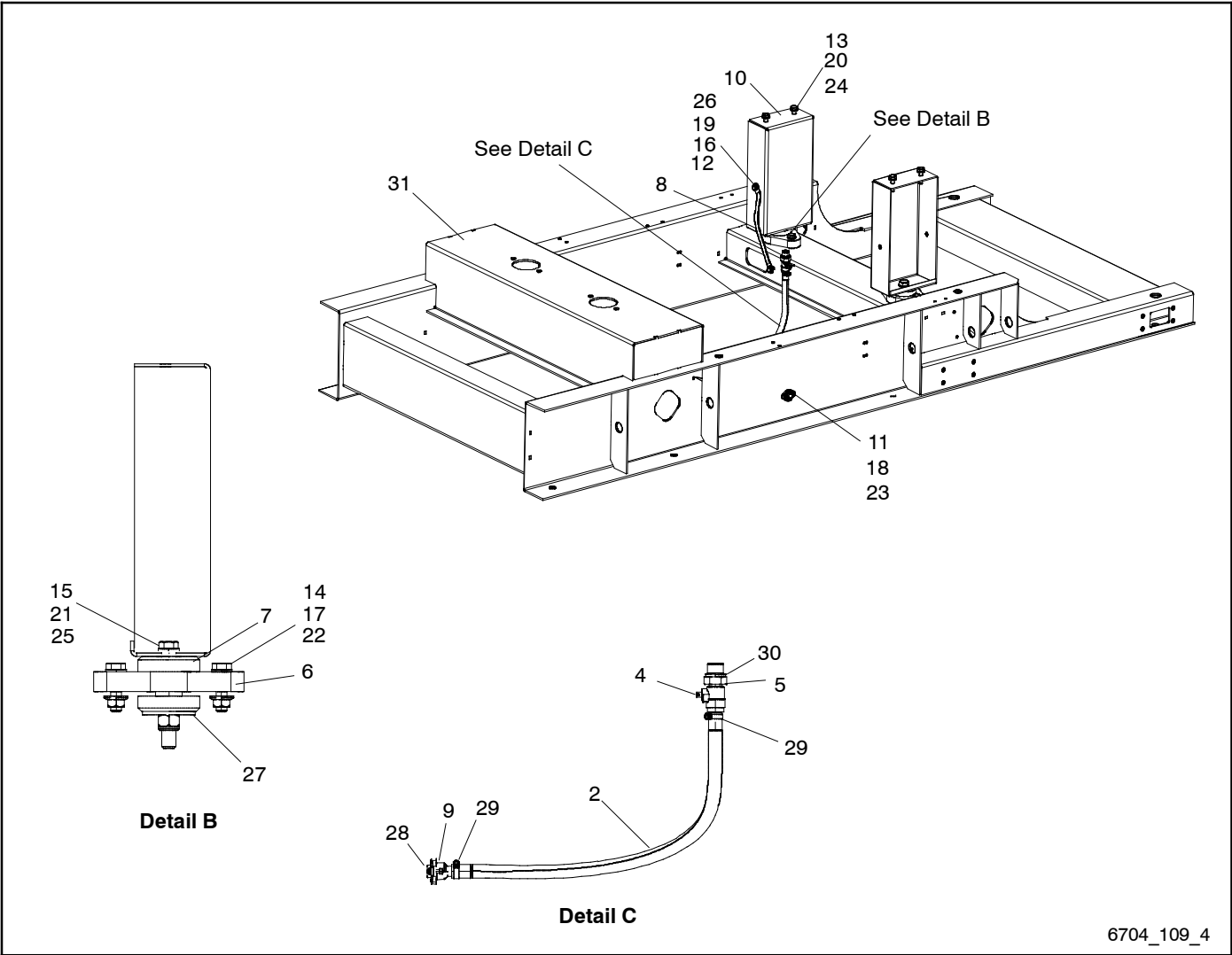
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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			ModuleNumber	
			GM67156-MA1	GM78691-MA1
2	X-577-35	Hose, rubber, straight, .62 in. ID	1	1
3	272701	Valve, oil drain (1/2-14 nptf)	1	1
4	361733	Plate, engine mounting	2	2
5	361734	Vibromount	2	2
6	GM21085	Strap, ground (16 in.)	1	1
7	GM59015	Fitting, bulkhead drain	1	1
8	GM65343	Box, junction	1	
8	-	Box, junction (See Control and Harness)		1
9	GM65712	Mount, engine (front)	2	2
10	GM65757	Skid, extension	2	2
11	GM65758	Bracket, connection	2	2
12	GM65990	Skid	1	1
13	GM67157	Bracket, j-box mtg.	4	4
14	GM69234	Plate, support	2	2
15	M125A-05-80	Washer, plain	2	2
16	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	20	17
17	M125A-10-80	Washer, plain 10.5 ID x 20.0 OD	1	1
18	M125A-12-80	Washer, plain	31	31
19	M125A-16-80	Washer, plain	8	8
20	M125A-20-80	Washer, plain	2	2
21	M6923-12-80	Nut, hex	29	29
22	M6923-16-80	Nut, hex	8	8
23	M7985A-05020-20	Screw, pan head machine	2	2
24	M931-12050-60	Screw, hex cap	1	1
25	M931-20120-60	Screw, hex cap	2	2
26	M933-08016-60	Screw, hex cap	4	4
27	M933-08020-60	Screw, hex cap	24	20
28	M933-10030-60	Screw, hex cap	1	1
29	M933-12040-60	Screw, hex cap	28	28
30	M933-16050-60	Screw, hex cap	4	4
31	M933-16060-60	Screw, hex cap	4	4
32	M934-05-50	Nut, Hex 5mm	2	2
33	M982-20-80	Nut, hex elastic stop	2	2
34	X-22-16	Washer, lock .326 ID x .883 in. OD	4	3
35	X-22-26	Washer, lock .521 ID x 1.24 in. OD	2	2
36	X-25-155	Washer, plain	2	2
37	X-75-58	Plug, pipe	1	1
38	X-301-35	Button, plug	1	
39	X-426-10	Clamp, hose, .5/1 in.	2	2

Group 109: Skid and Mounting, continued

300/350 kW



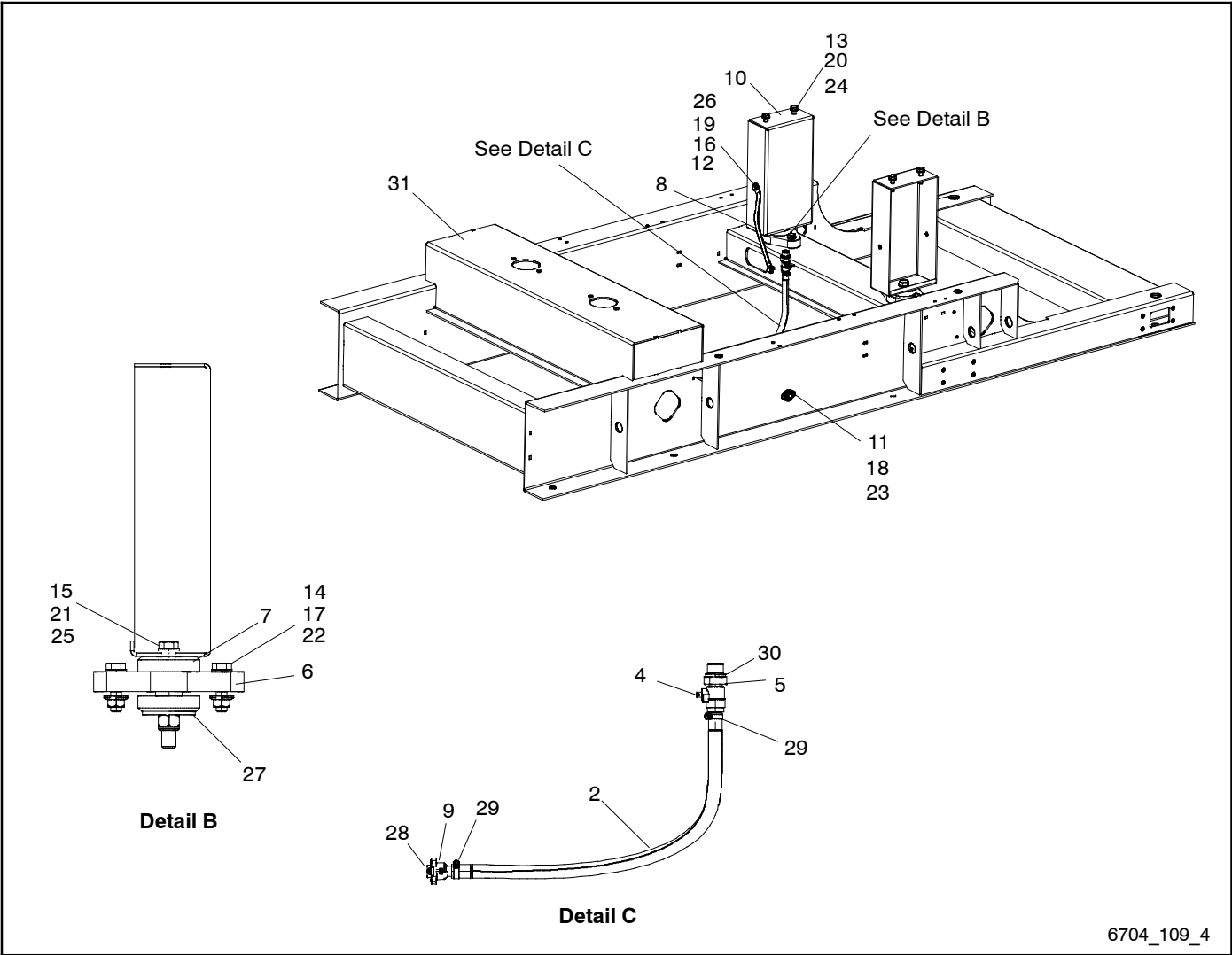
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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity Module					
			GM71303-MA1	GM71303-MA2	GM79595-MA1	GM79595-MA2	GM85233-MA1	GM85233-MA2
2	X-577-42	Hose, rubber, straight, .62 in. ID	1	1	1	1	1	1
4	272701	Valve, oil drain (1/2-14 nptf)	1	1				
5	361358	Adapter, bushing	1	1				
6	361733	Plate, engine mounting	2	2	2	2		
6	GM85055	Plate, Seismic					2	2
7	361734	Vibromount	2	2	2	2	2	2
8	GM21085	Strap, ground (16 in.)	1	1	1	1	1	1
9	GM59015	Fitting, Bulkhead Drain	1	1	1	1	1	1
10	GM69637	Bracket, Engine Mounting	2	2	2	2	2	2
11	M125A-05-80	Washer, Plain	2	2	2	2	2	2
12	M125A-10-80	Washer, Plain, 10.5 ID x 20.0 OD	4	4				
12	M125A-12-80	Washer, Plain			1	1	1	1
13	M125A-14-80	Washer, Plain	4	4	4	4	4	4
14	M125A-16-80	Washer, Plain	4	4	4	4	4	4
15	M125A-20-80	Washer, Plain	2	2	2	2	2	2
16	M6923-10-80	Nut, Hex 10mm	2	2				
16	X-129-20	Bolt, Hex Cap			1	1	1	1
17	M6923-16-80	Nut, Hex	4	4	4	4	4	4
18	M7985A-05020-20	Screw, Pan Head Machine	2	2	2	2	2	2
19	M931-10040-60	Screw, Hex Cap	2	2	2	2	1	1
20	M931-14050-60	Screw, Hex Cap	4	4	4	4	4	4
21	M931-20140-60	Screw, Hex Cap	2	2				
21	M931-20120-60	Screw, Hex Cap			2	2	2	2
22	M933-16060-60	Screw, Hex Cap	4	4	4	4	4	4
23	M934-05-50	Nut, Hex 5mm	2	2	2	2	2	2
24	M982-14-60	Nut, hex elastic stop	4	4	4	4	4	4
25	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2
26	X-22-15	Washer, lock, .456 ID x 1.058 in.OD	1	1	1	1	1	1
26	X-22-26	Washer,lock.521 IDx1.24 in.OD			1	1	1	1
27	X-25-151	Washer, plain, .8 ID x 3 in. OD	2	2	2	2	2	2
28	X-75-58	Plug, Pipe	1	1	1	1	1	1
29	X-426-10	Clamp, hose, .5/1 in.	2	2	2	2	2	2
30	X-6278-12	Washer, nylon	1	1				
31	GM71298	Skid, 300/350 Doosan, 4M Alt	1					
31	GM71299	Skid, 300/350 Doosan, 5M Alt		1				
31	GM78929	Skid, 4M			1		1	
31	GM78930	Skid, 5M				1		1

Group 109: Skid and Mounting, continued

400/450 kW



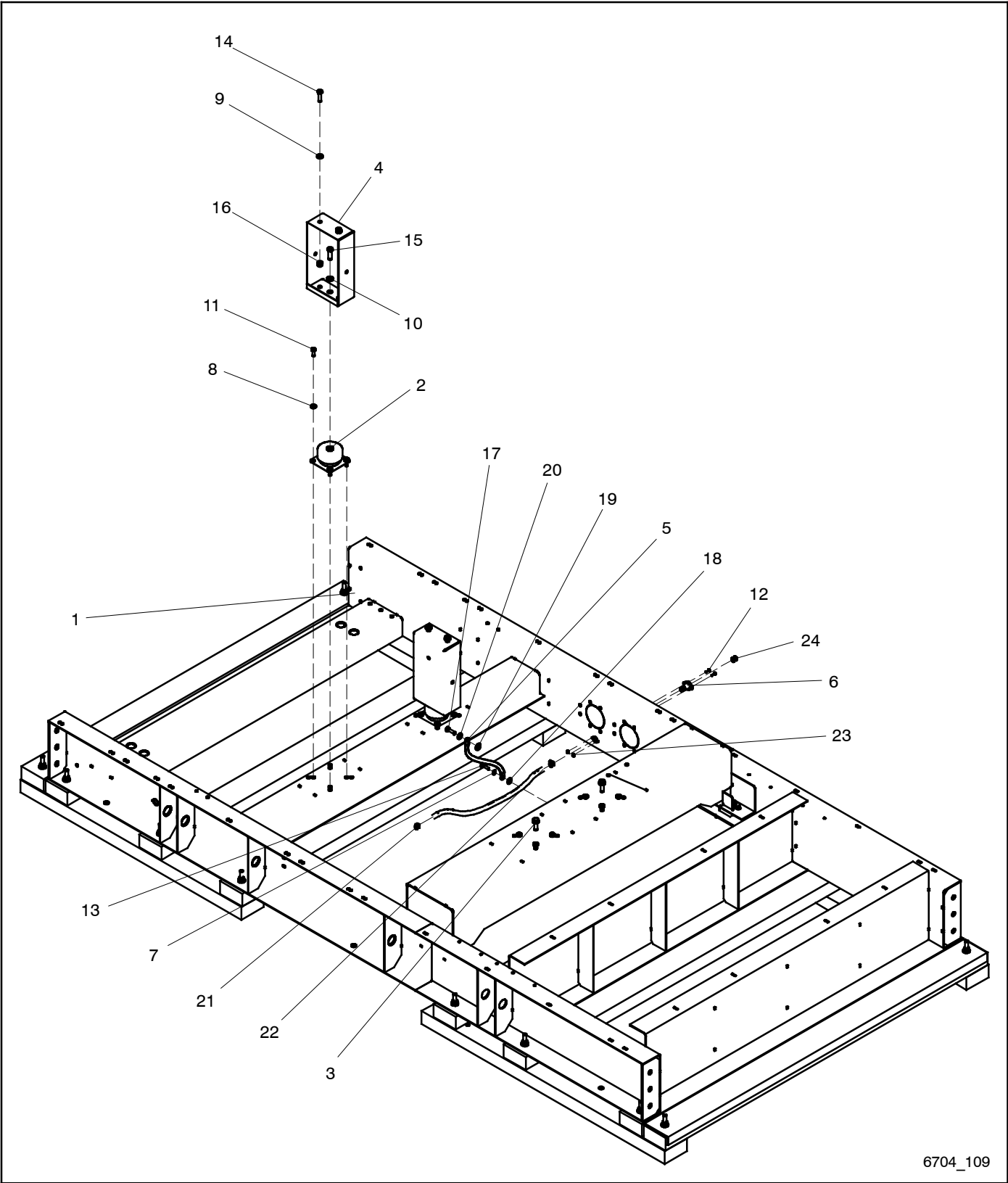
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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity Module					
			GM69633-MA1	GM69633-MA2	GM78833-MA1	GM78833-MA2	GM85236-MA1	GM85236-MA2
2	X-577-42	Hose, rubber, straight, .62 in. ID	1	1	1	1	1	1
4	272701	Valve, oil drain (1/2-14 nptf)	1	1				
5	361358	Adapter, bushing	1	1				
6	361733	Plate, engine mounting	2	2	2	2		
6	GM85055	Plate, Seismic					2	2
7	361734	Vibromount	2	2	2	2	2	2
8	GM21085	Strap, ground (16 in.)	1	1	1	1	1	1
9	GM59015	Fitting, Bulkhead Drain	1	1	1	1	1	1
10	GM69637	Bracket, Engine Mounting	2	2	2	2	2	2
11	M125A-05-80	Washer, Plain	2	2	2	2	2	2
12	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	4	4	1	1	1	1
12	X-25-26	Washer, Plain, .531 IDx1.062 in.OD			1	1	1	1
13	M125A-14-80	Washer, Plain	4	4	4	4	4	4
14	M125A-16-80	Washer, Plain	4	4	4	4	4	4
15	M125A-20-80	Washer, Plain	2	2	2	2	2	2
16	M6923-10-80	Nut, Hex 10mm	2	2				
16	X-129-20	Bolt, Hex Cap			1	1	1	1
17	M6923-16-80	Nut, hex	4	4	4	4	4	4
18	M7985A-05020-20	Screw, Pan Head Machine	2	2	2	2	2	2
19	M931-10040-60	Screw, Hex Cap	2	2	1	1	1	1
20	M931-14050-60	Screw, Hex Cap	4	4	4	4	4	4
21	M931-20140-60	Screw, Hex Cap	2	2				
21	M931-20120-60	Screw, Hex Cap			2	2	2	2
22	M933-16060-60	Screw, Hex Cap	4	4	4	4	4	4
23	M934-05-50	Nut, Hex 5mm	2	2	2	2	2	2
24	M982-14-60	Nut, hex elastic stop	4	4	4	4	4	4
25	M982-20-80	Nut, hex elastic stop	2	2	1	1	1	1
26	X-22-15	Washer, lock, .456 ID x 1.058 in. OD	4	4	1	1	1	1
26	X-22-26	Washer,lock.521 IDx1.24 in.OD			1	1	1	1
27	X-25-151	Washer, plain, .8 ID x 3 in. OD	2	2	2	2	2	2
28	X-75-58	Plug, Pipe	1	1	1	1	1	1
29	X-426-10	Clamp, hose, .5/1 in.	2	2	2	2	2	2
30	X-6278-12	Washer, nylon	1	1				
31	GM69635	Skid, 400 Doosan 4M Alt	1					
31	GM69636	Skid, 300/400 Doosan 5M Alt		1				
31	GM78927	Skid, 4M			1		1	
31	GM78928	Skid, 5M				1		1

Group 109: Skid and Mounting, continued

300/500 kW



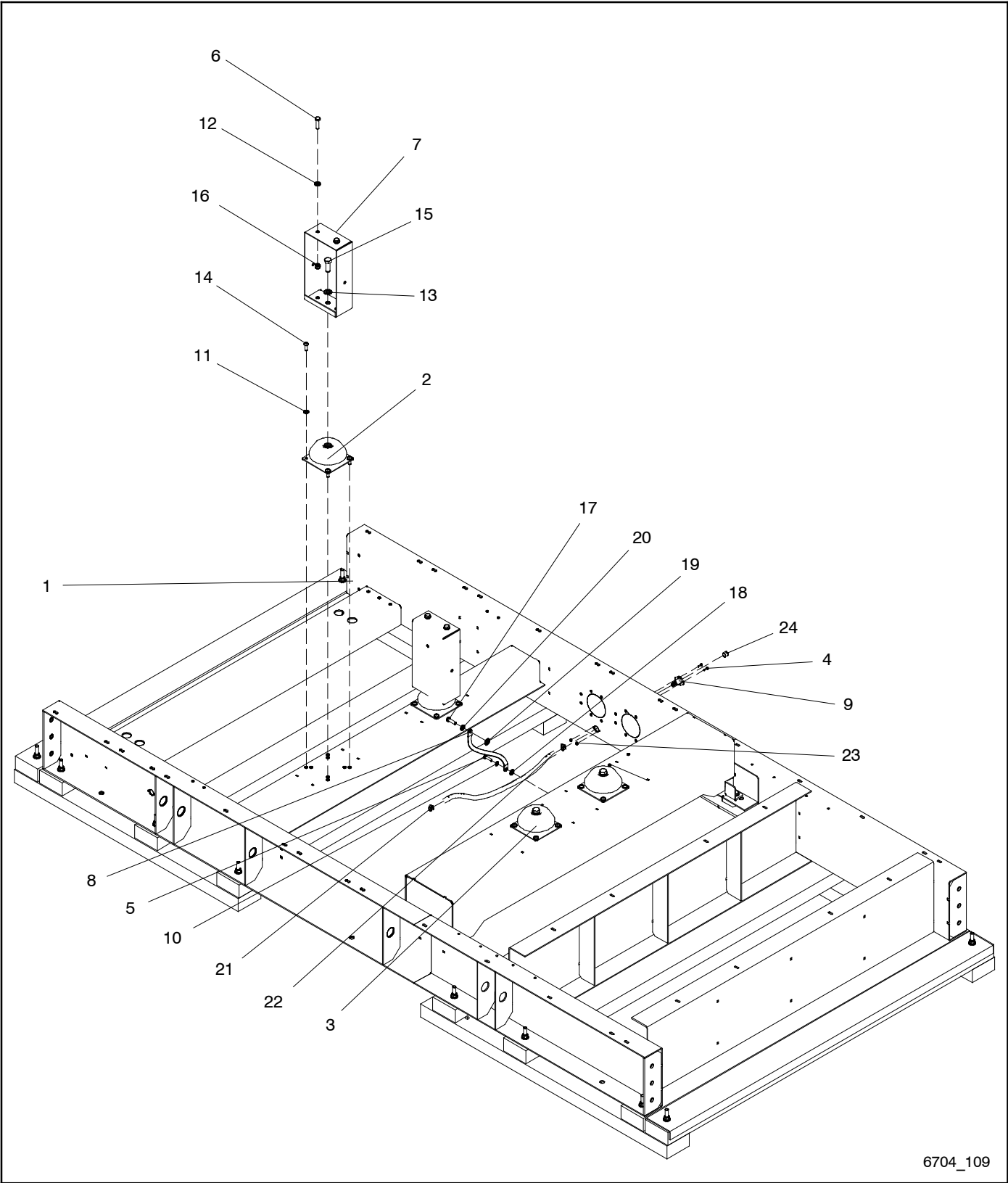
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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			Module Number	
			GM110469-MA1	GM110469-MA2
1	GM111349	Skid, 400- 500REZXD, 4M	1	
1	GM111293	Skid, 400- 500REZXD, 4M		1
2	31303027803	Square Mount	2	2
3	31303027807	Square Mount 1600daN- 5.50mm	2	2
4	GM111298	Bracket, Engine Mounting	2	2
5	GM21085	Ground Braid	2	2
6	GM59015	Fitting, Bulkhead Drain	1	1
7	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	1	1
8	M125A-12-80	Washer, Plain	16	16
9	M125A-14-80	Washer, Plain	4	4
10	M125A-16-80	Washer, Plain	4	4
11	M7380-12035-83	Screw, Button Head Cap	16	16
12	M7985A-05020-20	Screw, Pan Head Machine	2	2
13	M931-10040-60	Screw, Hex Cap M10 x 40	1	1
14	M931-14050-60	Screw, Hex Cap M14 x 50	4	4
15	M933-16050-60	Screw, Hex Cap M16 x 50	4	4
16	M982-14-60	Nut, Hex Elastic Stop	4	4
17	X-129-20	Bolt, Hex Cap	1	1
18	X-22-15	Washer, Lock, .456 ID x 1.058 in. OD	1	1
19	X-22-26	Washer, Lock .521 ID x 1.24 in. OD	1	1
20	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1	1
21	X-426-12	Clamp, Hose, .69/1.25 in.	2	2
22	X-577-42	Hose, Rubber, Straight, .62 in. ID	1	1
23	X-6351-7	Nut, Flange Serrated Lock, M5- 0.8	2	2
24	X-75-58	Plug, Pipe	1	1

Group 109: Skid and Mounting, continued

300/500 kW

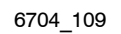


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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			Module Number	
			GM110470-MA1	GM110470-MA2
1	GM111349	Skid, 400- 500REZXD, 4M	1	
1	GM111293	Skid, 400- 500REZXD, 5M		1
2	31303025301	Mount	2	2
3	31303025303	Rubber Mount	2	2
4	M7985A-05020-20	Screw, Pan Head Machine	2	2
5	M931-10040-60	Screw, Hex Cap M10 x 40	1	1
6	M931-14050-60	Screw, Hex Cap M14 x 50	4	4
7	GM111298	Bracket, Engine Mounting	2	2
8	GM21085	Ground Braid	2	2
9	GM59015	Fitting, Bulkhead Drain	1	1
10	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	1	1
11	M125A-12-80	Washer, Plain	16	16
12	M125A-14-80	Washer, Plain	4	4
13	M125A-20-80	Washer, Plain	4	4
14	M7380-12035-83	Screw, Button Head Cap	16	16
15	M933-20055-60	Screw, Hex Cap M20 x 55	4	4
16	M982-14-60	Nut, Hex Elastic Stop	4	4
17	X-129-20	Bolt, Hex Cap	1	1
18	X-22-15	Washer, Lock, .456 ID x 1.058 in. OD	1	1
19	X-22-26	Washer, Lock .521 ID x 1.24 in. OD	1	1
20	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1	1
21	X-426-12	Clamp, Hose, .69/1.25 in.	2	2
22	X-577-42	Hose, Rubber, Straight, .62 in. ID	1	1
23	X-6351-7	Nut, Flange Serrated Lock, M5- 0.8	2	2
24	X-75-58	Plug, Pipe	1	1

300/500 kW

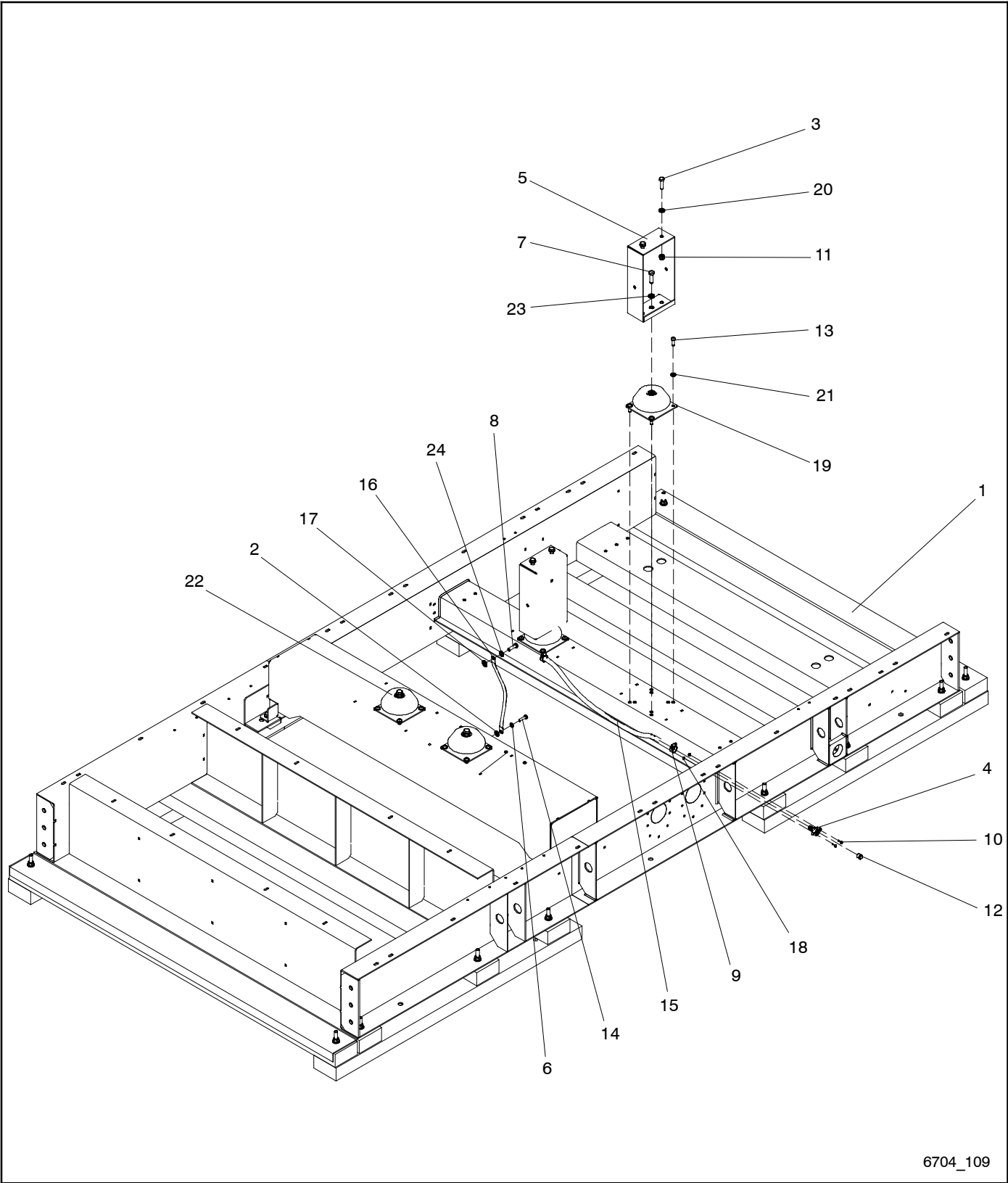


Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			Module Number	
			GM111122-MA1	GM111122-MA2
1	GM111350	Skid, 300- 350REZXB, 4M	1	
1	GM111342	Skid, 300- 350REZXB, 5M		1
2	GM21085	Ground Braid	2	2
3	X-426-12	Clamp, Hose, .69/1.25 in.	2	2
4	M7380-12035-83	Screw, Button Head Cap	16	16
5	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	1	1
6	M7985A-05020-20	Screw, Pan Head Machine	2	2
7	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1	1
8	M982-14-60	Nut, Hex Elastic Stop	4	4
9	GM111298	Bracket, Engine Mounting	2	2
10	M931-14050-60	Screw, Hex Cap M14 x 50	4	4
11	M931-10040-60	Screw, Hex Cap M10 x 40	1	1
12	X-22-15	Washer, Lock, .456 ID x 1.058 in. OD	1	1
13	M125A-16-80	Washer, Plain	4	4
14	X-577-36	Hose, Rubber, Straight, .62 in. ID	1	1
15	X-75-58	Plug, Pipe	1	1
16	X-22-26	Washer, Lock .521 ID x 1.24 in. OD	1	1
17	M125A-14-80	Washer, Plain	4	4
18	31303027807	Square Mount 1600daN- 5.50mm	2	2
19	X-6351-7	Nut, Flange Serrated Lock, M5- 0.8	2	2
20	M125A-12- 80	Washer, Plain	16	16
21	GM59015	Fitting, Bulkhead Drain	1	1
22	31303027803	Square Mount	2	2
23	X-129-20	Bolt, Hex Cap	1	1
24	M933-16050-60	Screw, Hex Cap M16 x 50	4	4

Group 109: Skid and Mounting, continued

300/500 kW



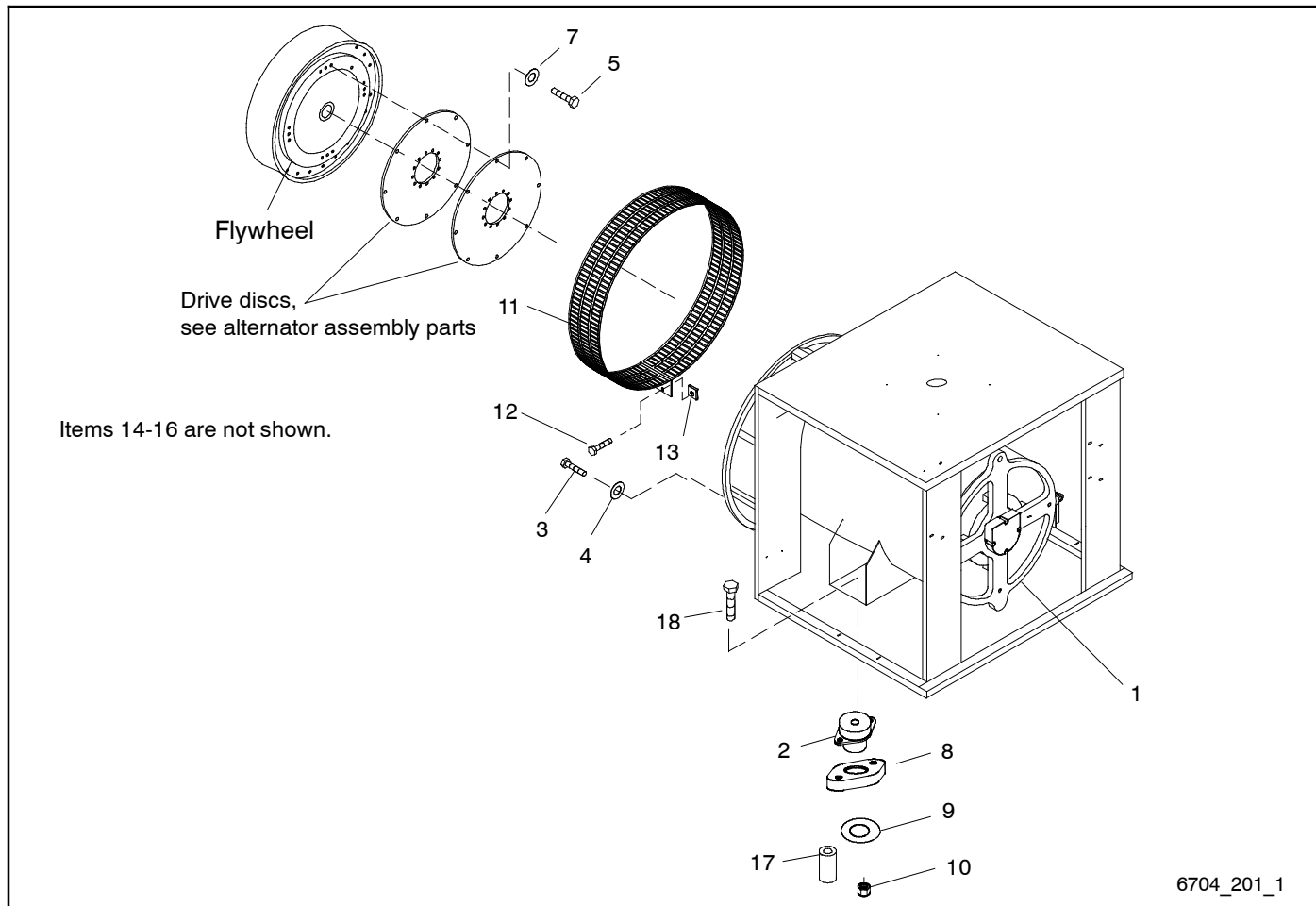
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Group 109: Skid and Mounting, continued

Item	Part Number	Description	Quantity	
			Module Number	
			GM111123-MA1	GM111123-MA2
1	GM111350	Skid, 300- 350REZXB, 4M	1	1
1	GM111342	Skid, 300- 350REZXB, 5M		1
2	X-22-15	Washer, Lock, .456 ID x 1.058 in. OD	1	1
3	M931-14050-60	Screw, Hex Cap M14 x 50	4	4
4	GM59015	Fitting, Bulkhead Drain	1	1
5	GM111298	Bracket, Engine Mounting	2	2
6	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	1	1
7	M933-16050-60	Screw, Hex Cap M16 x 50	4	4
8	X-129-20	Bolt, Hex Cap	1	1
9	X-426-12	Clamp, Hose, .69/1.25 in.	2	2
10	M7985A-05020-20	Screw, Pan Head Machine	2	2
11	M982-14-60	Nut, Hex Elastic Stop	4	4
12	X-75-58	Plug, Pipe	1	1
13	M7380-12035-83	Screw, Button Head Cap	16	16
14	M931-10040-60	Screw, Hex Cap M10 x 40	1	1
15	X-577-42	Hose, Rubber, Straight, .62 in. ID	1	1
16	GM21085	Ground Braid	1	1
17	X-22-26	Washer, Lock .521 ID x 1.24 in. OD	1	1
18	X-6351-7	Nut, Flange Serrated Lock, M5- 0.8	2	2
19	31303025301	Mount	2	2
20	M125A-14-80	Washer, Plain	4	4
21	M125A-12-80	Washer, Plain	16	16
22	31303025303	Rubber Mount	2	2
23	M125A-16-80	Washer, Plain	4	4
24	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1	1

Group 201: Alternator and Mounting

Fast-Response II Alternators



Item	Part Number	Description	Qty.
1	See chart on following page	Alternator assembly	1
2	See chart on following page	Vibromount	2
3	M931-10040-82	Screw, hex cap	12
3	M931-10040-82	Screw, hex cap (4S alternator)	6
4	X-801-3	Washer, hardened, 0.406 ID x 0.812 OD	12
4	X-801-3	Washer, hardened, 0.406 ID x 0.812 OD (4S alternator)	6
5	M961-12030-82F	Screw, hex cap	8
7	X-801-3	Washer, hardened, 0.406 ID x 0.812 OD	8
7	209945	Washer, hardened, .531 ID x 1.06 in.OD (4S alternator)	8
8	361733	Plate, engine mounting (4S alternator)	2
9	X-25-132	Washer, plain, .688 ID x 3.25 in. OD	2
9	X-25-155	Washer, plain (4S alternator)	2
10	M982-16-80	Nut, hex elastic stop	2
10	M982-20-80	Nut, hex elastic stop (4S alternator)	2
11	347268	Guard, generator fan	2
11	257193	Guard, generator fan (4S alternator)	1
12	X-67-125	Screw, hex washer, thread-forming	4
12	X-67-125	Screw, hex washer, thread-forming (4S alternator)	2
13	257442	Clip, speed	4
13	257442	Clip, speed (4S alternator)	2
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-400-182	Spacer, .656 ID x 1 OD x 3.94 in. (4UA alternator)	2
18	M931-16150-60	Screw	2
18	M931-20120-60	Screw, hex head (4S alternator)	2

Group 201: Alternator and Mounting

Find the installed module number on the generator set nameplate.

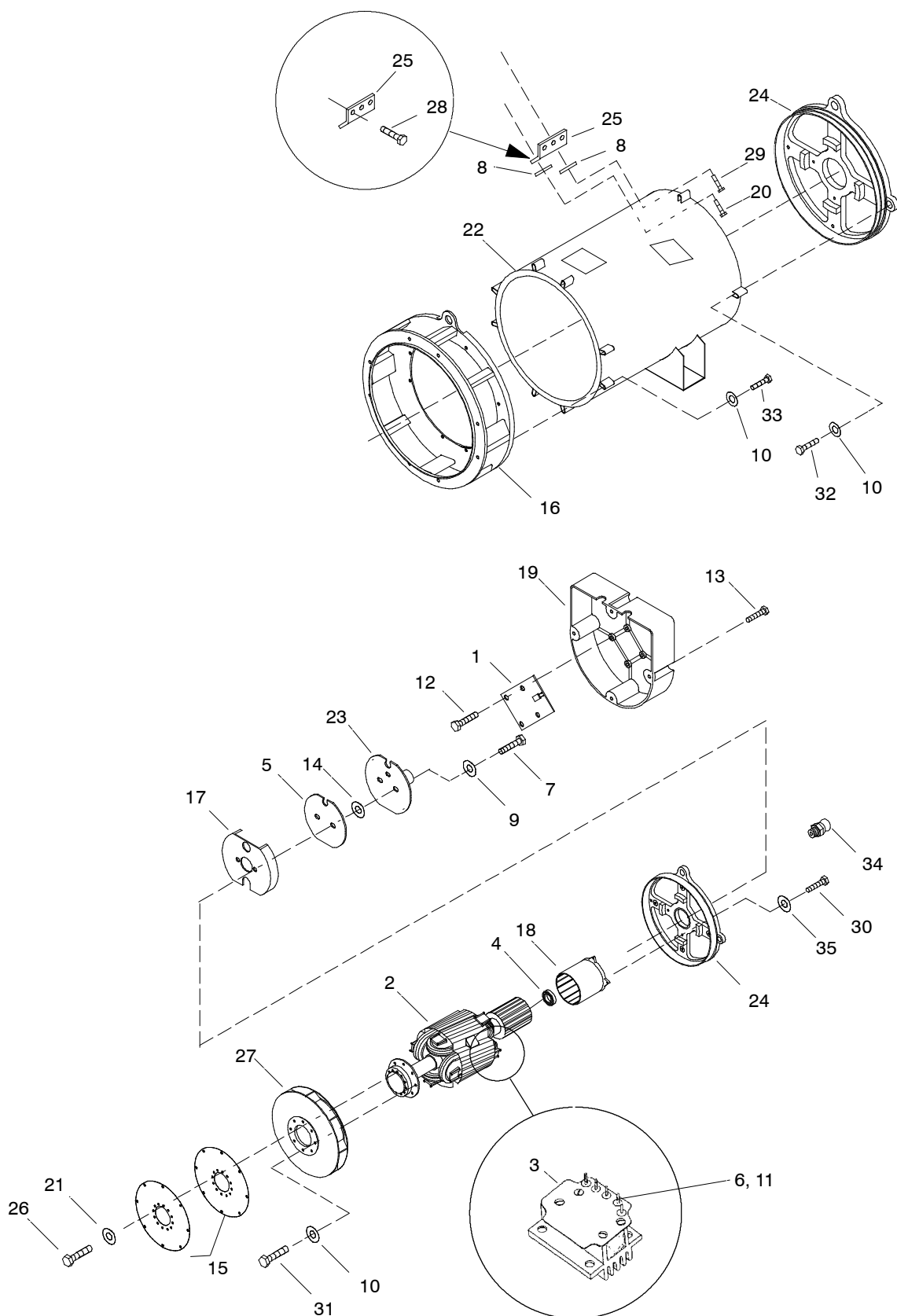
Alternator Part Number and Mounting Parts

Module Number	Alternator Description	KW Range	Item 1, Alternator Assembly	Item 2, Vibromount
GM58642-MA37	4UA13	180/200	GC58673-7	279864
GM58642-MA38	4UA13, 600 V	180/200	GC58673-8	279864
GM58642-MA39	4UA13	180/200	GC58673-7	279577
GM58642-MA40	4UA13, 600 V	180/200	GC58673-8	279577
GM58642-MA41	4UA10	180/200	GC58673-5	279577
GM58642-MA42	4UA10, 600 V	180/200	GC58673-6	279577
GM58642-MA43	4UA9	180/200	GC58673-3	279577
GM58642-MA44	4UA9, 600 V	180/200	GC58673-4	279577
GM66267-MA1	4S15	180	GC17563-52	361734
GM66267-MA2	4S15, 600 V	180	GC17563-53	361734

Alternator assembly includes items 1-35 on following page.

Group 201: Alternator and Mounting, continued

Fast-Response II Alternators



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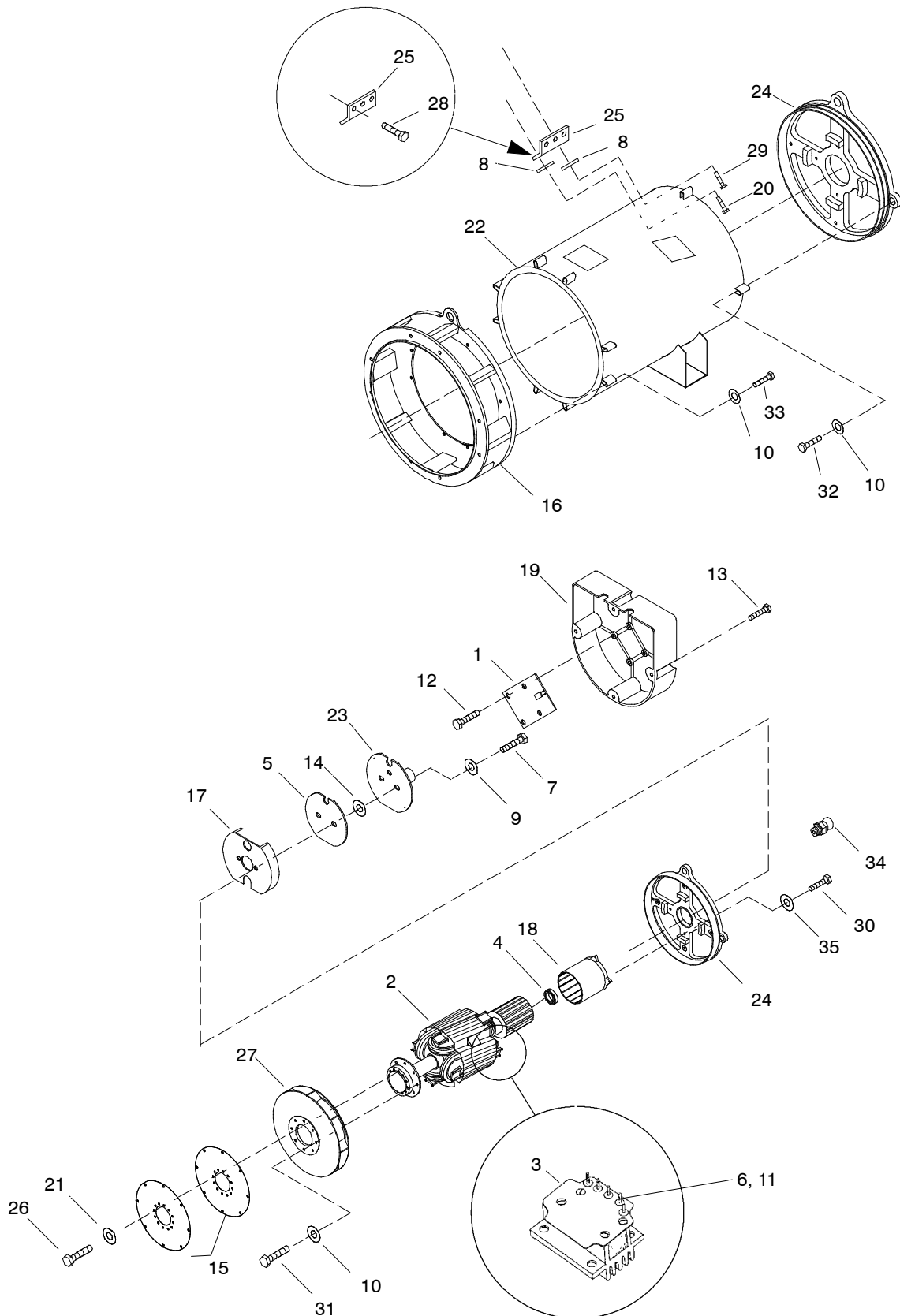
Group 201: Alternator and Mounting, continued

Fast-Response II Alternators

Item	Part Number	Description	Qty.
1	B-257099	PCB assembly, LED, FRII	1
2	See chart on page 85	Rotor assembly	1
3	B-258549	Heatsink (4S and 4V alternators)	1
3	A-354299	Heatsink (4UA 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-22-45	Washer, lock, 0.338 ID x 0.884 in. OD (4S and 4V alternators)	2
8	X-22-46	Washer, lock, 0.391 ID x 0.975 in. OD (4UA alternators)	2
9	X-22-9	Washer, lock, 0.20 ID x 0.373 in. OD	2
10	X-25-93	Washer, plain, 0.406 ID x 0.75 in. OD	14
10	290945	Washer, hardened, 0.531 ID x 1.06 in. OD (4UA alternators)	12
10	257951	Washer, special, 0.562 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, 0.195 ID x 0.5 in.	2
15	See chart on page 85	Disc, drive	3/4
16	See chart on page 85	Adapter, generator	1
17	257077	Actuator, magnetic cup	1
18	See chart on page 85	Exciter field assembly	1
19	257258	Cover, FR LED circuit board	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, 0.406 ID x 0.812 in.	12
22	See chart on page 85	Stator assembly	1
23	257850	Insulator	1
24	257983	Bracket, end (4S and 4V alternators)	1
24	347236	Bracket, end (4UA alternators)	1
25	See chart on page 85	Connector, lead	1
26	270956	Bolt, hex cap (4S and 4V alternators)	12
26	270158	Bolt, hex cap (4UA alternators)	12
27	257173	Fan, alternator (4S and 4V alternators)	1
27	257855	Fan, alternator (4UA alternators)	1
28	X-125-24	Screw, hex cap (4S alternators)	3
28	X-6238-5	Screw, hex cap (4V alternators)	3
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-6238-9	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 (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, 0.406 ID x 0.812 in. (4UA alternators)	4

Group 201: Alternator and Mounting, continued

Fast-Response II Alternators



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Group 201: Alternator and Mounting, continued

Find the installed module number on the generator set nameplate.

Fast-Response II Alternators

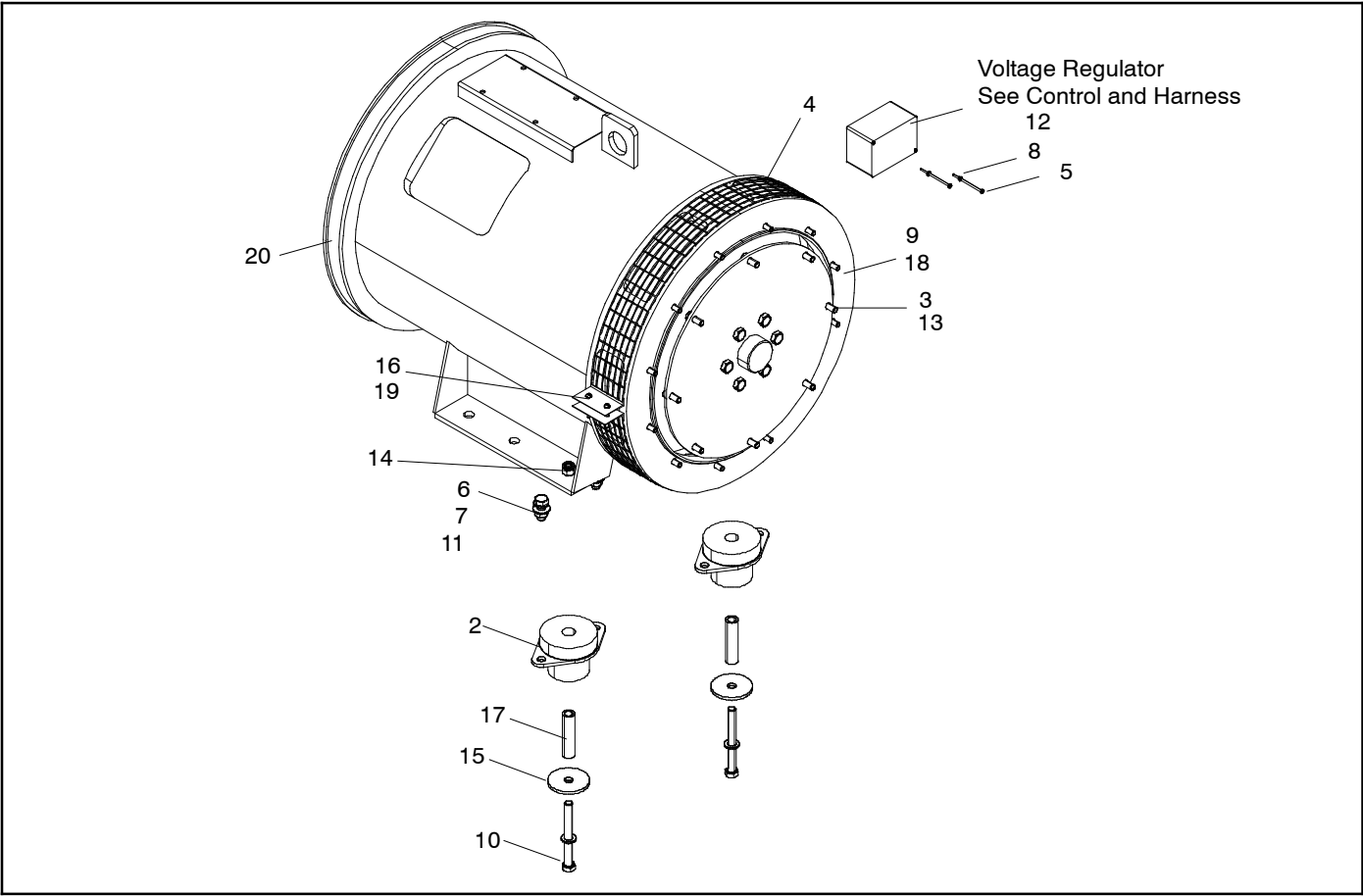
Alternator Part Number and Mount Type

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
GM58642-MA37	4UA13	GC58673-7	GCA-347189	257581 (4)	347240	GC347707	GC58670-4	257979
GM58642-MA38	4UA13, 600 V	GC58673-8	GCA-347189	257581 (4)	347240	GC347707	GC58671-4	257978
GM58642-MA39	4UA13	GC58673-7	GCA-347189	257581 (4)	347240	GC347707	GC58670-4	257979
GM58642-MA40	4UA13, 600 V	GC58673-8	GCA-347189	257581 (4)	347240	GC347707	GC58671-4	257978
GM58642-MA41	4UA10	GC58673-5	GCA-347188	257581 (4)	347240	GC347707	GC58670-3	257978
GM58642-MA42	4UA10, 600 V	GC58673-6	GCA-347188	257581 (4)	347240	GC347707	GC58671-3	257978
GM58642-MA43	4UA9	GC58673-3	GCA-347187	257581 (4)	347240	GC347707	GC58670-2	257978
GM58642-MA44	4UA9, 600 V	GC58673-4	GCA-347187	257581 (4)	347240	GC347707	GC58671-2	257978
GM66267-MA1	4S15	GC17563-52	GCA-364409	257104 (3)	257192	GC276657	GC17560	257985
GM66267-MA2	4S15, 600 V	GC17563-53	GCA-364409	257104 (3)	257192	GC276657	GC58669-5	257985

Group 201: Alternator and Mounting, continued

180 kW, 1 Phase

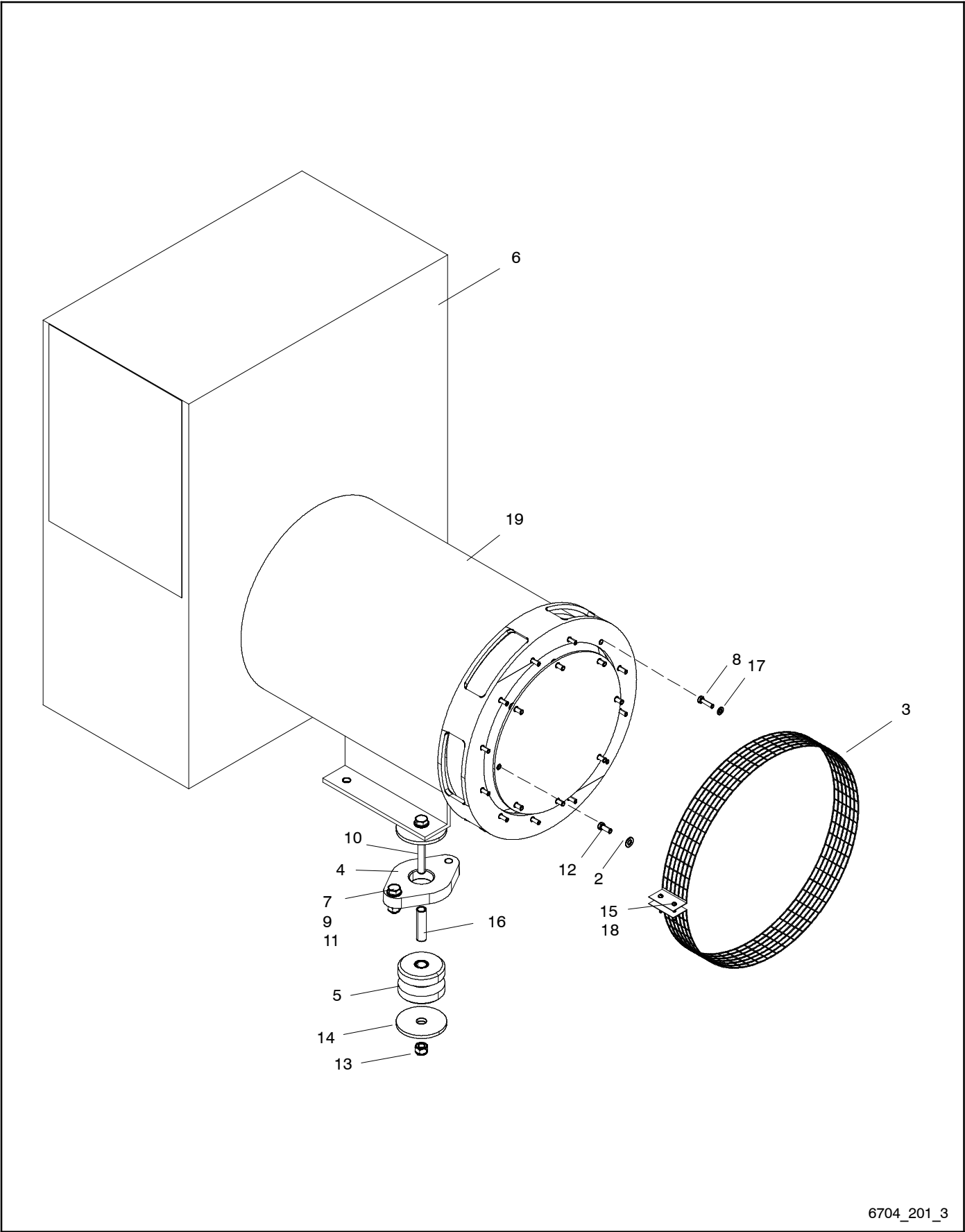


Group 201: Alternator and Mounting, continued

Item	Part Number	Description	180 kW, 1 Phase Quantity
			Module Number GM69700-MA1
2	279577	Mount, Vibration	2
3	290945	Washer, hardened, .531 ID x 1.06 in. OD	8
4	328902	Screen	1
5	M125A-04-80	Washer, Plain	2
6	M125A-16-80	Washer, Plain	4
7	M6923-16-80	Nut, hex	4
8	M7985A-04080-20	Screw, Pan Head Machine	2
9	M931-10040-82	Screw, hex cap	12
10	M931-16150-60	Screw	2
11	M933-16040-60	Screw, hex cap	4
12	M934-04-50	Nut, Hex 4mm	2
13	M961-12030-82F	Screw, Hex Cap	8
14	M982-16-80	Nut, Hex Elastic Stop	2
15	X-25-132	Washer, plain, .688 ID x 3.25 in. OD	2
16	X-73-11	Screw, Machine	2
17	X-400-182	Spacer, .656 ID x 1 OD x 3.94 in.	2
18	X-801-3	Washer, hardened, .406 ID x .812 in. OD	12
19	X-6210-2	Nut, flange spiralock, 1/4-20	2
20	GM69975	Alternator Assembly, 4M6226, 1ph	1

Group 201: Alternator and Mounting, continued

4M/5M Alternators, 300/350 kW

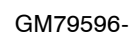


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Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity			
			Module			
			GM71310-MA1	GM71310-MA2	GM71310-MA3	GM71311-MA1
2	290945	Washer, hardened, .531 ID x 1.06 in. OD	8	8	8	
3	328902	Screen	1	1	1	
3	328903	Screen				1
4	361039	Plate, Generator Mounting	2	2	2	
4	361733	Plate, Generator Mounting				2
5	361919	Vibromount	2	2	2	
5	365190	Vibromount				2
6	GM17025-17	Junction Box Assy.	1	1	1	1
7	M125A-20-80	Washer, Plain	6	6	6	2
7	M125A-16-80	Washer, Plain				4
8	M931-10040-82	Screw, Hex Cap	12	12	12	12
9	M931-20065-60	Screw, Hex Cap	4	4	4	
9	M933-16060-60	Screw, Hex Cap				4
10	M931-20160-60	Screw, Hex Cap	2	2	2	
10	M931-20140-60	Screw, Hex Cap				2
11	M934-20-80	Nut, Hex	4	4	4	
11	M6923-16-80	Nut, Hex				4
12	M961-12030-82F	Screw, Hex Cap	8	8	8	8
13	M982-20-80	Nut, hex elastic stop	2	2	2	2
14	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD	4	4	4	
14	X-25-155	Washer, plain				4
15	X-73-11	Screw, Machine	2	2	2	2
16	X-400-239	Spacer	2	2	2	
17	X-801-3	Washer, hardened, .406 ID x .812 in. OD	12	12	12	12
18	X-6210-2	Nut, flange spiralock, 1/4-20	2	2	2	2
19	GM42815	Alternator assembly, 350 KW, 480 Volt	1			
19	GM42841	Alternator assembly 400KW,380V		1		
19	GM42842	Alternator assembly 400KW,600V			1	
19	A-361852	Alternator assembly 500KW, 480V				1

4M/5M Alternators, 300/350 kW



Group 201: Alternator and Mounting, continued

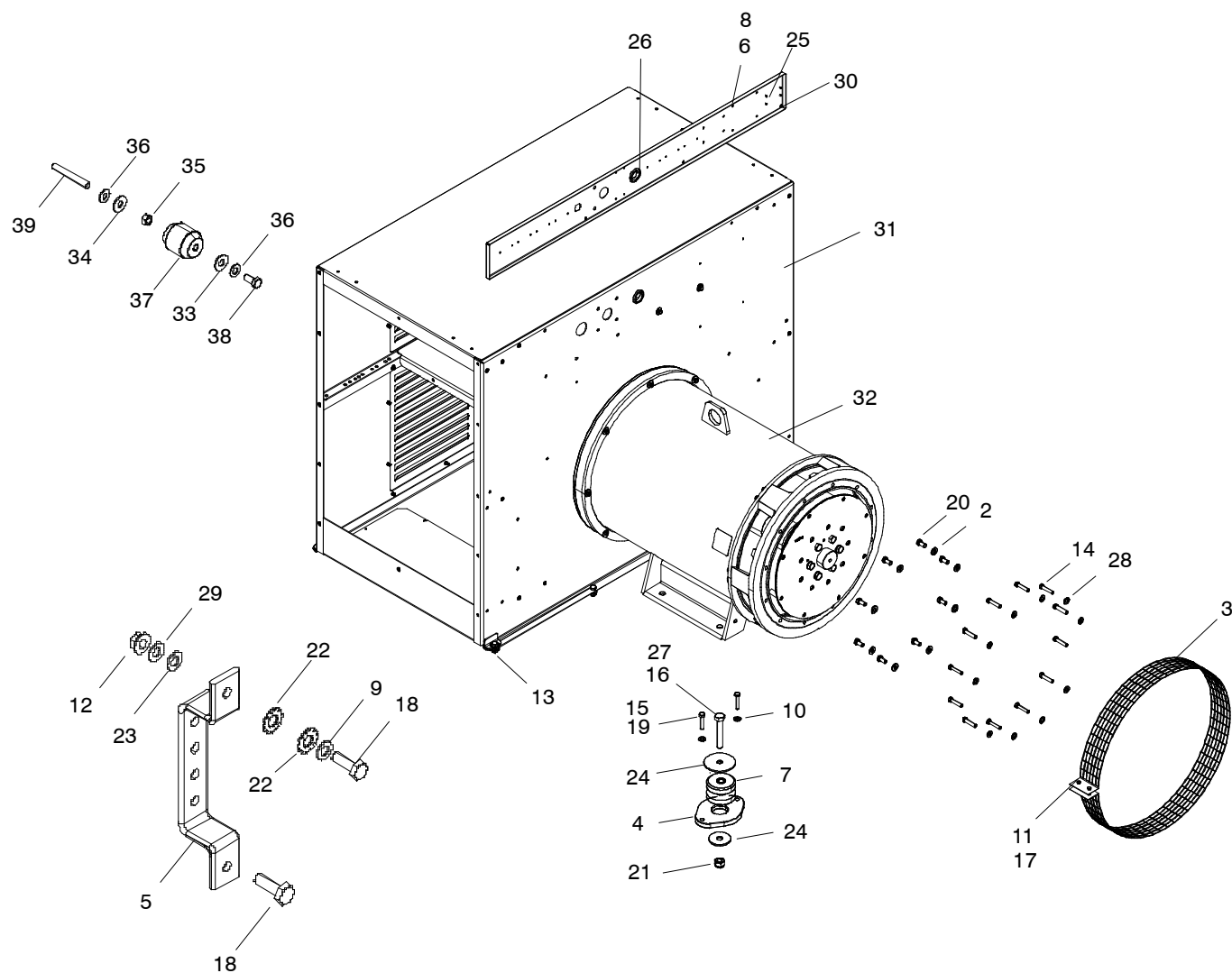
Item	Part Number	Description	Quantity							
			Module							
			GM79596-MA1	GM79596-MA2	GM79596-MA3	GM79597-MA1	GM85234-MA1	GM85234-MA2	GM85234-MA3	GM85235-MA1
2	290945	Washer, hardened, .531 IDx1.06 in. OD	8	8	8	8	8	8	8	8
3	328902	Screen	1	1	1		1	1	1	
3	328903	Screen				1				1
4	361039	Plate, generator mounting	2	2	2					
4	361733	Plate, generator mounting				2				
4	GM85053	Plate, Seismic					2	2	2	
4	GM85055	Plate, Seismic								2
5	361271	Bus, ground	1	1	1	1	1	1	1	1
6	361567	Base, Tie Wrap Snapin	4	4	4	4	4	4	4	4
7	361919	Vibromount	2	2	2		2	2	2	
7	365190	Vibromount				2				2
8	GM75910	Panel, Component Mtg.	1	1	1	1	1	1	1	1
9	M125A-10-80	Washer, Plain	11	11	11	11	11	11	11	11
10	M125A-20-80	Washer, Plain	6	6	6	2	6	6	6	2
10	M125A-16-80	Washer, Plain				4				4
11	M6923-06-80	Nut, Hex 6mm	2	2	2	2	2	2	2	2
12	M6923-10-80	Nut, Hex	10	10	10	10	10	10	10	10
13	M931-10040-60	Screw, Hex Cap	8	8	8	8	8	8	8	8
14	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12	12	12
15	M931-20065-60	Screw, Hex Cap	4	4	4		4	4	4	
15	M933-16060-60	Screw, Hex Cap				4				4
16	M931-20160-60	Screw, Hex Head	2	2	2		2	2	2	
16	M931-20140-60	Screw, Hex Head				2				2
17	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2	2	2
18	M933-10035-60	Screw, Hex Cap	2	2	2	2	2	2	2	2
19	M934-20-80	Nut, hex	4	4	4		4	4	4	
19	M6923-16-80	Nut, hex				4				4
20	M961-12030-82F	Screw, Hex Cap	8	8	8	8	8	8	8	8
21	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2	2	2
22	X-22-15	Washer, lock	6	6	6	6	6	6	6	6
23	X-25-118	Washer, plain, .406 ID x 1 in. OD	2	2	2	2	2	2	2	2
24	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD	4	4	4		4	4	4	
24	X-25-155	Washer, plain				4				4
25	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4	4	4
26	X-284-25	Grommet	1	1	1	1	1	1	1	1
27	X-400-239	Spacer	2	2	2		2	2	2	
28	X-801-3	Washer, hardened, .469 ID x .922 in. OD	12	12	12	12	12	12	12	12
29	X-6086-6	Washer, spring	2	2	2	2	2	2	2	2
30	X-6210-2	Nut, flange spirallock, 1/4-20	8	8	8	8	8	8	8	8
31	GM75930-1**	Junction Box Assembly 4M (See page 88)	1	1	1		1	1	1	
31	GM75930-2**	Junction Box Assembly 5M (See page 88)				1				1
32	GM77505-1	Alternator Assy, 4M4019, Recon, SAE14	1				1			
32	GM77505-3	Alternator Assy, 4M4158, 380V, SAE14		1				1		
32	GM77505-4	Alternator Assy, 4M4266, 600V, SAE14			1				1	
32	GM77506-2	Alternator Assy, 5M4027, Recon, SAE14				1				1
33	X-25-118	Washer, plain, .406 ID x 1 in. OD	3			6	3			6
34	X-25-18	Washer, flat, .391 ID x .875 in. OD	3				3			
35	X-83-7	Nut, hex, 3/8-16, zinc	3			3	3			3
36	X-6086-6	Washer, spring, .39 ID x .81 in. OD	6			6	6			6
37	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3			3	3			3
38	X-6238-10	Bolt, Hex Cap	3			3	3			3
39	X-6274-7	Stud	3			3	3			3

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 31)
GM79596- MA1- BLK	- BLK	GM75930- 1- BLK
GM79596- MA2- BLK	- BLK	GM75930- 1- BLK
GM79596- MA3- BLK	- BLK	GM75930- 1- BLK
GM79597- MA1- BLK	- BLK	GM75930- 2- BLK
GM85234- MA1- BLK	- BLK	GM75930- 1- BLK
GM85234- MA3- BLK	- BLK	GM75930- 1- BLK

Group 201: Alternator and Mounting, continued

4M/5M Alternators, 400 kW



GM79596-

Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity							
			Module							
			GM78837-MA1	GM78837-MA2	GM78837-MA3	GM78836-MA1	GM85238-MA1	GM85238-MA2	GM85238-MA3	GM85237-MA1
2	290945	Washer, hardened, .531 ID x 1.06 in. OD	8	8	8	8	8	8	8	8
3	328902	Screen				1				1
3	328903	Screen	1	1	1		1	1	1	
4	361039	Plate, generator mounting	2	2	2					
4	361733	Plate, generator mounting				2				
4	GM85053	Plate, Seismic					2	2	2	
4	GM85055	Plate, Seismic								
5	361271	Bus, ground	1	1	1	1	1	1	1	1
6	361567	Base, Tie Wrap Snapin	4	4	4	4	4	4	4	4
7	361054	Vibromount	2	2	2		2	2	2	
7	365190	Vibromount				2				2
8	GM75910	Panel, Component Mtg.	1	1	1	1	1	1	1	1
9	M125A-10-80	Washer, Plain	9	9	9	9	9	9	9	9
10	M125A-20-80	Washer, Plain	6	6	6	2	6	6	6	2
10	M125A-16-80	Washer, Plain				4				4
11	M6923-06-80	Nut, Hex 6mm				2				2
11	M934-06-80	Nut, Hex 6mm	2	2	2		2	2	2	
12	M6923-10-80	Nut, Hex	10	10	10	10	10	10	10	10
13	M931-10040-60	Screw, Hex Cap	8	8	8	8	8	8	8	8
14	M931-10040-82	Screw, Hex Head	12	12	12	12	12	12	12	12
15	M931-20065-60	Screw, Hex Cap	4	4	4		4	4	4	
15	M933-16060-60	Screw, Hex Cap				4				4
16	M931-20160-60	Screw, Hex Head	2	2	2		2	2	2	
16	M931-20140-60	Screw, Hex Head				2				2
17	M933-06050-60	Screw, Hex Cap	2	2	2	2	2	2	2	2
18	M933-10035-60	Screw, Hex Cap	2	2	2	2	2	2	2	2
19	M934-20-80	Nut, hex	4	4	4		4	4	4	
19	M6923-16-80	Nut, hex				4				4
20	M961-12030-82F	Screw, Hex Cap	8	8	8	8	8	8	8	8
21	M982-20-80	Nut, hex elastic stop	2	2	2	2	2	2	2	2
22	X-22-15	Washer, lock	6	6	6	6	6	6	6	6
23	X-25-118	Washer, plain, .406 ID x 1 in. OD	2	2	2	2	2	2	2	2
24	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD	4	4	4		4	4	4	
24	X-25-155	Washer, plain				4				4
25	X-67-59	Screw, hex washer, thread-forming	4	4	4	4	4	4	4	4
26	X-284-25	Grommet	1	1	1	1	1	1	1	1
27	X-400-239	Spacer	2	2	2		2	2	2	
28	X-801-3	Washer, hardened, .469 ID x .922 in. OD	12	12	12	12	12	12	12	12
29	X-6086-6	Washer, spring	2	2	2	2	2	2	2	2
30	X-6210-2	Nut, flange spirallock, 1/4-20	8	8	8	8	8	8	8	8
31	GM75930-1**	Junction Box Assembly 4M (See page 88)				1				1
31	GM75930-2**	Junction Box Assembly 5M (See page 88)	1	1	1		1	1	1	
32	GM77506-1	Alternator Assy, 5M4024, Recon, SAE14					1			
32	GM77506-2	Alternator Assy, 5M4027, Recon, SAE14		1				1		
32	GM77506-7	Alternator Assy, 5M4160, 380V, SAE14			1				1	
32	GM77505-4	Alternator Assy, 4M4266, 600V, SAE14				1				1
33	X-25-118	Washer, plain, .406 ID x 1 in. OD	6	6			6	6		
34	X-25-18	Washer, flat, .391 ID x .875 in. OD								
35	X-83-7	Nut, hex, 3/8-16, zinc	3	3			3	3		
36	X-6086-6	Washer, spring, .39 ID x .81 in. OD	6	6			6	6		
37	X-6128-29	Standoff insulator, 3/8-16 x 2 in.	3	3			3	3		
38	X-6238-10	Bolt, Hex Cap	3	3			3	3		
39	X-6274-7	Stud	3	3			3	3		

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 31)
GM78837- MA1- BLK	- BLK	GM75930- 2- BLK
GM78837- MA2- BLK	- BLK	GM75930- 2- BLK
GM78837- MA3- BLK	- BLK	GM75930- 2- BLK
GM78836- MA1- BLK	- BLK	GM75930- 1- BLK
GM85238- MA1- BLK	- BLK	GM75930- 2- BLK
GM85238- MA2- BLK	- BLK	GM75930- 2- BLK
GM85238- MA3- BLK	- BLK	GM75930- 2- BLK
GM85237- MA1- BLK	- BLK	GM75930- 1- BLK

This exploded view diagram illustrates the assembly of the GM75930-D enclosure. The components are labeled as follows:

- 4**: The main enclosure body, a rectangular metal box with a circular cutout on the front face.
- 5**: Two ventilation grilles, each consisting of a frame with horizontal slats.
- 6**: Two mounting feet, L-shaped brackets used to secure the enclosure to a surface.
- 7**: A circular mounting flange or gasket that fits into the circular cutout on the front of the enclosure.
- 8**: A small circular fastener or pin used to secure the ventilation grilles.
- 10**: A small circular fastener or pin used to secure the enclosure body.

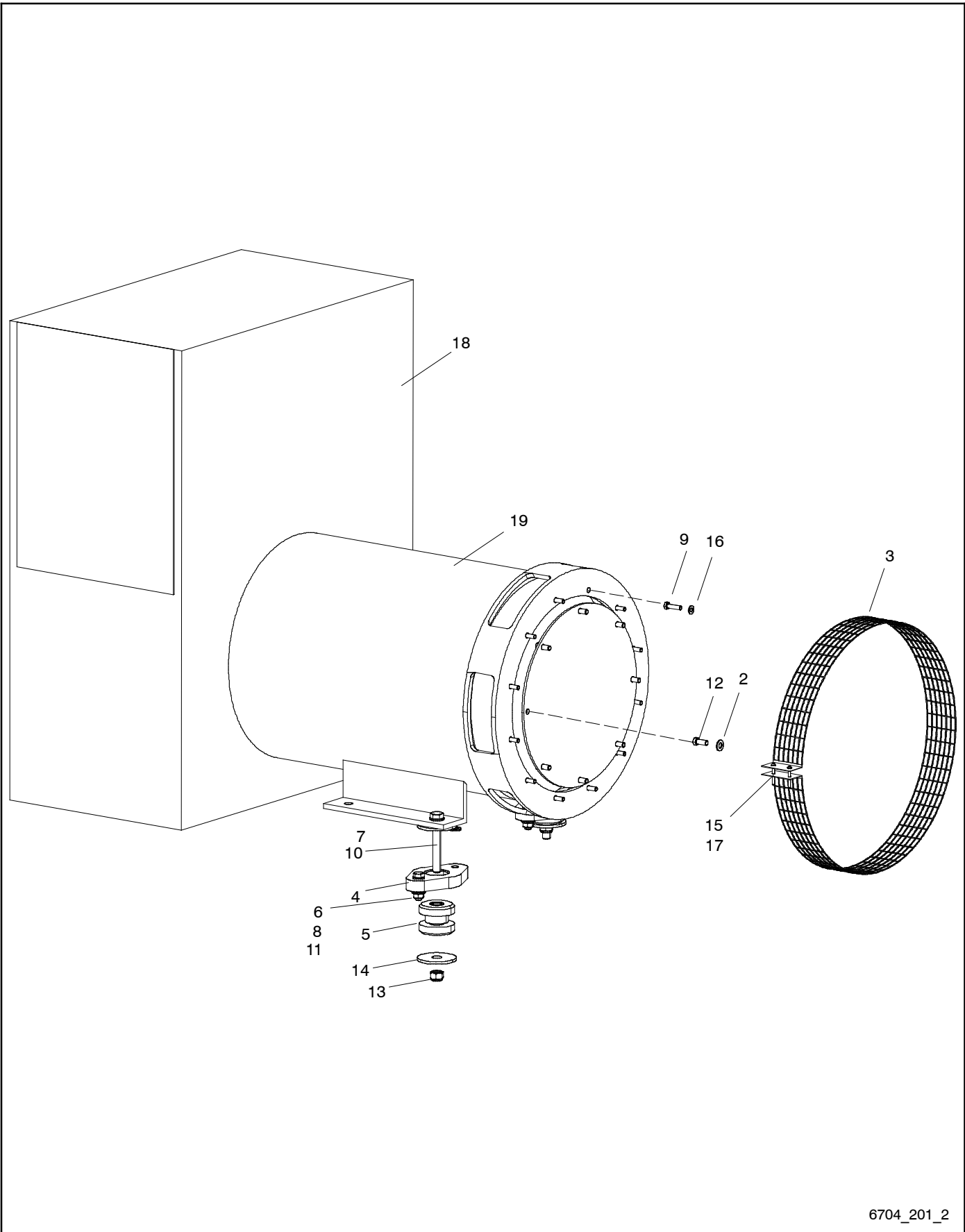
**** Use the Kit number and chart below to identify the color suffix.
Add a suffix to this color dependant part number before ordering.**

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Notes

Group 201: Alternator and Mounting, continued

4M/5M Alternators, 400 kW



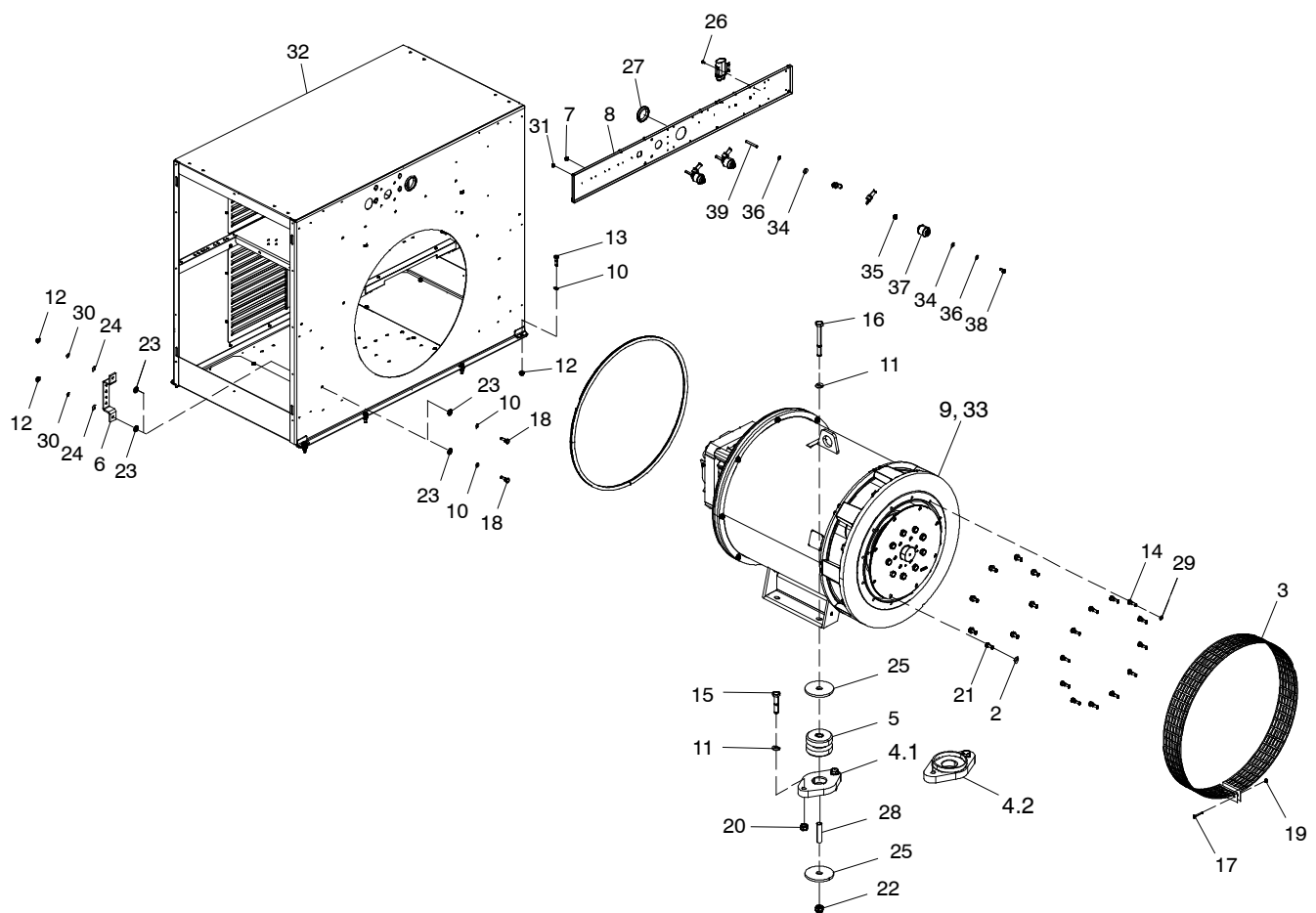
6704_201_2

Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity			
			Module			
			GM69613-MA1	GM69906-MA1	GM69906-MA2	GM69906-MA3
2	290945	Washer, hardened, .531 ID x 1.06 in. OD	8	8	8	8
3	328902	Screen	1			
3	328903	Screen		1	1	1
4	361733	Plate, engine mounting	2			
4	361039	Plate, generator mounting		2	2	2
5	365190	Mount, Vibro	2			
5	361054	Mount, Vibro		2	2	2
6	M125A-16-80	Washer, Plain	4			
6	M125A-20-80	Washer, Plain		4	4	4
7	M125A-20-80	Washer, Plain	2	2	2	2
8	M6923-16-80	Nut, hex	4			
8	M982-20-80	Nut, hex		4	4	4
9	M931-10040-82	Screw, Hex Cap	12	12	12	12
10	M931-20140-60	Screw, Hex Cap	2			
10	M931-20160-60	Screw, Hex Cap		2	2	2
11	M933-16060-60	Screw, Hex Cap	4			
11	M931-20065-60	Screw, Hex Cap		4	4	4
12	M961-12030-82F	Screw, Hex Cap	8	8	8	8
13	M982-20-80	Nut, hex elastic stop	2	2	2	2
14	X-25-155	Washer, plain	4			
14	X-25-152	Washer, plain, 1.06 ID x 5.25 in. OD		4	4	4
15	X-73-11	Screw, Machine	2	2	2	2
16	X-801-3	Washer, hardened, .406 ID x .812 in. OD	12	12	12	12
17	X-6210-2	Nut, flange spiralock, 1/4-20	2	2	2	2
18	GM17025-17	Junction Box Assy. (see list on following page)	1	1	1	1
19	GM42842	Alternator assembly 400KW, 600V	1			
19	A-361851	Alternator assembly 450KW, 480V		1		
19	A-361852	Alternator assembly 500KW, 480V			1	
19	A-361855	Alternator assembly 450KW, 380V				1

Group 201: Alternator and Mounting, continued

5M Alternators, 450 kW



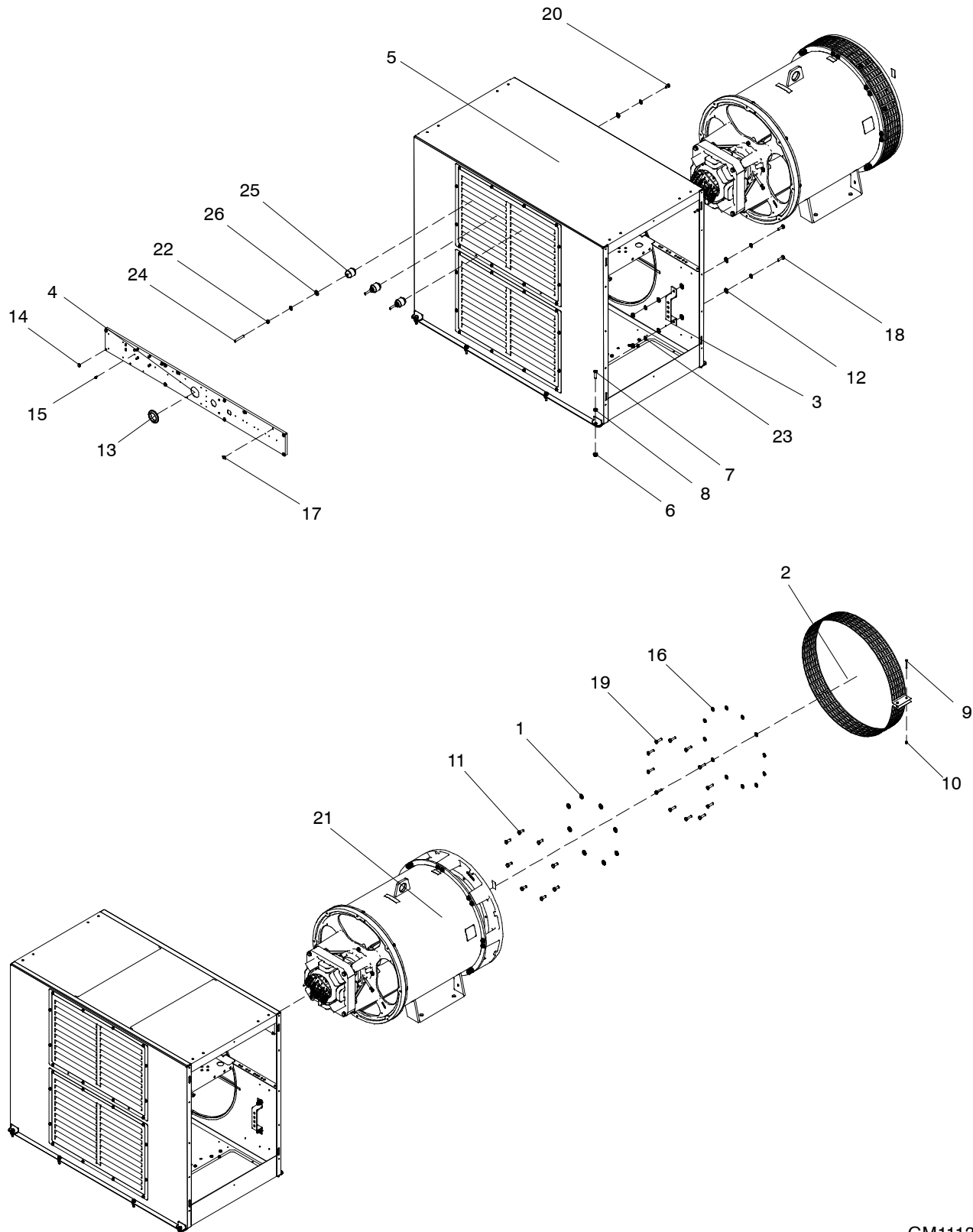
GM78837-D

Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity			
			Module			
			GM78837-MA4-BLK	GM78837-MA5-BLK	GM85238-MA4-BLK	GM85238-MA5-BLK
2	290945	Washer, Hardened, .531 ID x 1.06 in. OD	8	8	8	8
3	328903	Screen	1	1	1	1
4.1	361039	Plate, Generator Mounting	2	2	-	-
4.2	GM85083	Plate, Seismic	-	-	2	2
5	361054	Vibromount	2	2	2	2
6	361271	Bus, Ground	1	1	1	1
7	361567	Base, Tie Wrap Snapin	4	4	4	4
8	GM75910	Panel, Component Mtg	1	1	1	1
9	GM77506	Alternator Assy, 5M SAE 1/14 572 Frame	1	1	-	-
10	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	9	9	9	9
11	M125A-20-80	Washer, Plain	6	6	6	6
12	M6923-10-80	Nut, Hex 10 mm	10	10	10	10
13	M931-10040-60	Screw, Hex Cap	8	8	8	8
14	M931-10040-82	Screw, Hex Cap	12	12	12	12
15	M931-20090-60	Screw, Hex Cap	4	4	-	-
15	M931-20065-60	Screw, Hex Cap	-	-	4	4
16	M931-20160-60	Screw, Hex Cap	2	2	2	2
17	M933-06050-60	Screw, Hex Cap	2	2	2	2
18	M933-10035-60	Screw, Hex Cap	2	2	2	2
19	M934-06-60	Nut, Hex 6 mm	2	2	2	2
20	M934-20-80	Nut, Hex	4	4	4	4
21	M961-12030-82F	Screw, Hex Cap	8	8	8	8
22	M982-20-80	Nut, Hex Elastic Stop	2	2	2	2
23	X-22-15	Washer, Lock	6	6	6	6
24	X-25-118	Washer, Plain, .406 ID x 1 in. OD	2	2	2	2
25	X-25-152	Washer, Plain, 1.06 ID x 5.25 in. OD	4	4	4	4
26	X-67-59	Screw, Hex Washer, Thread- Forming	4	4	4	4
27	X-284-25	Grommet, Round	1	1	1	1
28	X-400-239	Spacer	2	2	2	2
29	X-801-3	Washer, Hardened,.406 ID x .812 in. OD	12	12	12	12
30	X-6086-6	Washer, Spring, .39 ID x .81 in. OD	2	2	2	2
31	X-6210-2	Nut, Flange Spiralock, 1/4- 20	8	8	8	8
32	GM75930-2	Junction Box Assembly 5M (See page 88)	1	1	1	1
33	GM77506-3	Alternator Assy, 5M4028	1	-	1	-
33	GM77506-10	Alternator Assy, 5M4270	-	1	-	1
34	X-25-118	Washer, Plain, .406 ID X 1 in. OD	6	6	6	6
35	X-83-7	Nut, Hex, 3/8- 16, Zinc	3	3	3	3
36	X-6086-6	Washer, Spring, .39 ID x .81 in. OD	6	6	6	6
37	X-6128-29	Standoff Insulator, 3/8- 16 X 2 in.	3	3	3	3
38	X-6238-10	Bolt, Hex Cap	3	3	3	3
39	X-6274-7	Stud	3	3	3	3

Group 201: Alternator and Mounting, continued

5M Alternators, 300/500 kW



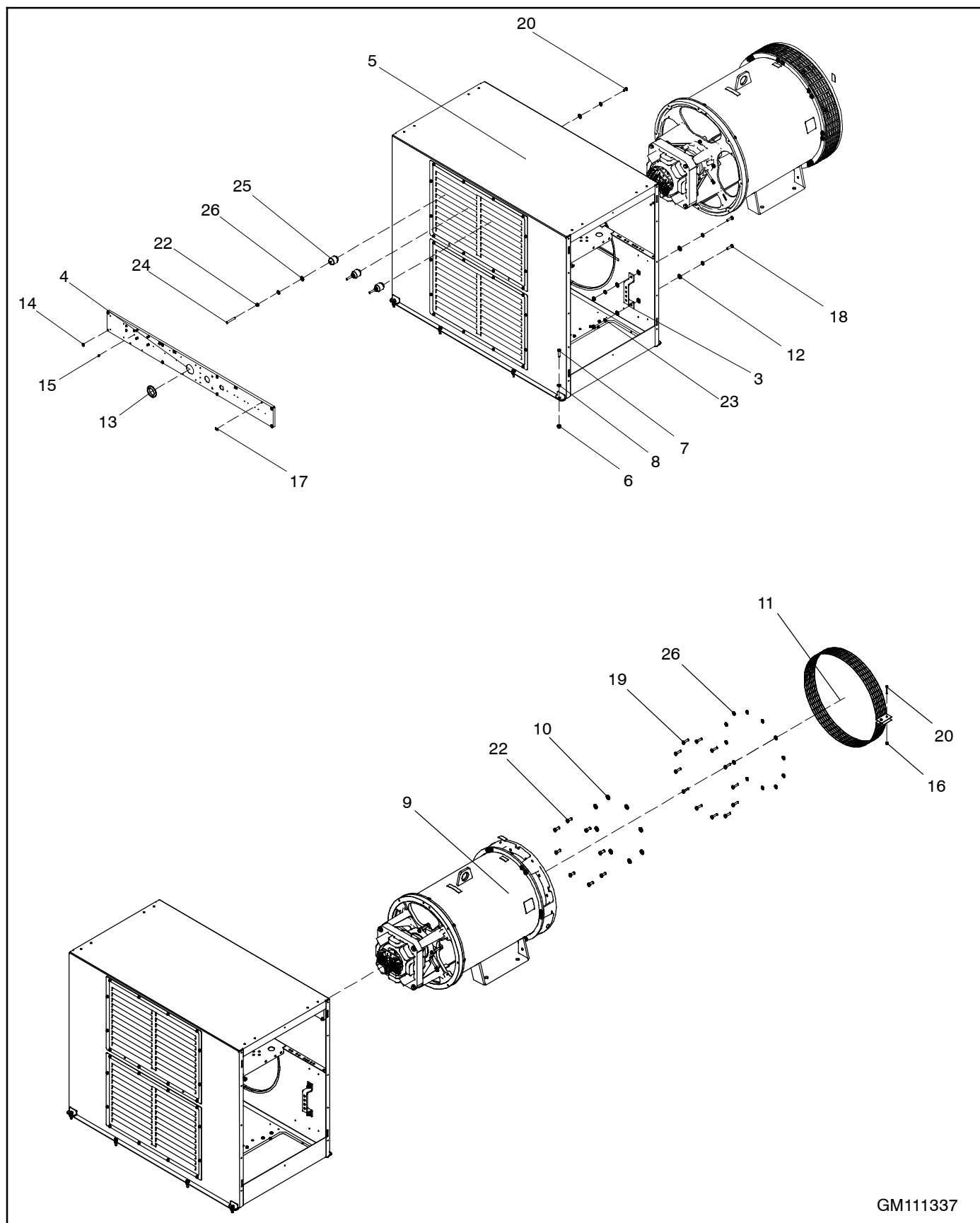
GM111336

Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity						
			Module						
			GM111336-MA1-BLK	GM111336-MA2-BLK	GM111336-MA3-BLK	GM111336-MA4-BLK	GM111336-MA5-BLK	GM111336-MA6-BLK	GM111336-MA7-BLK
1	290945	Washer, Hardened, .531 ID x 1.06 in. OD	8	8	8	8	8	8	8
2	328903	Screen	1	1	1	1	1	1	1
3	361271	Bus, Ground	1	1	1	1	1	1	1
4	GM75910	Panel, Component Mtg.	1	1	1	1	1	1	1
5	GM75930- 2- BLK	Junction Box Assembly, 5M	1	1	1	1	1	1	1
6	M6923- 10- 80	Nut, Hex 10 mm	10	10	10	10	10	10	10
7	M931- 10040- 60	Screw, Hex Cap M10 x 40	8	8	8	8	8	8	8
8	M125A- 10- 80	Washer, Plain 10.5 ID x 20.0 OD	9	9	9	9	9	9	9
9	M933- 06050- 60	Screw, Hex Cap M6 x 50	2	2	2	2	2	2	2
10	M934- 06- 60	Nut, Hex 6 mm	2	2	2	2	2	2	2
11	M961- 12030- 82F	Screw, Hex Cap M12 x 30	8	8	8	8	8	8	8
12	X- 22- 15	Washer, Lock, .456 ID x 1.058 in. OD	6	6	6	6	6	6	6
13	X- 284- 25	Grommet, Round	1	1	1	1	1	1	1
14	X- 6210- 2	Nut, Flange Spiralock, 1/4- 20	8	8	8	8	8	8	8
15	X- 67- 59	Screw, Hex Washer, Thread- Forming	4	4	4	4	4	4	4
16	X- 801- 3	Washer, Hardened, .406 ID x .812 in. OD	12	12	12	12	12	12	12
17	361567	Base, Tie Wrap Snapin	4	4	4	4	4	4	4
18	M933- 10035- 60	Screw, Hex Cap M10 x 35	2	2	2	2	2	2	2
19	M931- 10040- 82	Screw, Hex Cap M10 x 40	12	12	12	12	12	12	12
20	X- 6238- 10	Bolt, Hex Cap	3	3	3	3	3	3	3
21	GM77506- 1	Alternator Assy, 5M4024, Reconn, SAE14	1						
21	GM77506- 2	Alternator Assy, 5M4027, Reconn, SAE14		1					
21	GM77506- 3	Alternator Assy, 5M4028, Reconn, SAE14			1				
21	GM77506- 10	Alternator Assy, 5M4270, 600V, SAE14				1			
21	GM77506- 4	Alternator Assy, 5M4030, Reconn, SAE14					1		
21	GM77506- 11	Alternator Assy, 5M4272, 600V, SAE14						1	
21	GM77506- 7	Alternator Assy, 5M4160, 380V, SAE14							1
22	X- 83- 7	Nut, Hex, 3/8- 16, Zinc	3	3	3	3	3	3	3
23	X- 6086- 6	Washer, Spring, .39 ID x .81 in. OD	8	8	8	8	8	8	8
24	X- 6274- 7	Stud	3	3	3	3	3	3	3
25	X- 6128- 29	Standoff Insulator, 3/8- 16 x 2 in.	3	3	3	3	3	3	3
26	X- 25- 118	Washer, Plain, .406 ID x 1 in. OD	8	8	8	8	8	8	8

Group 201: Alternator and Mounting, continued

4M Alternators, 300/500 kW



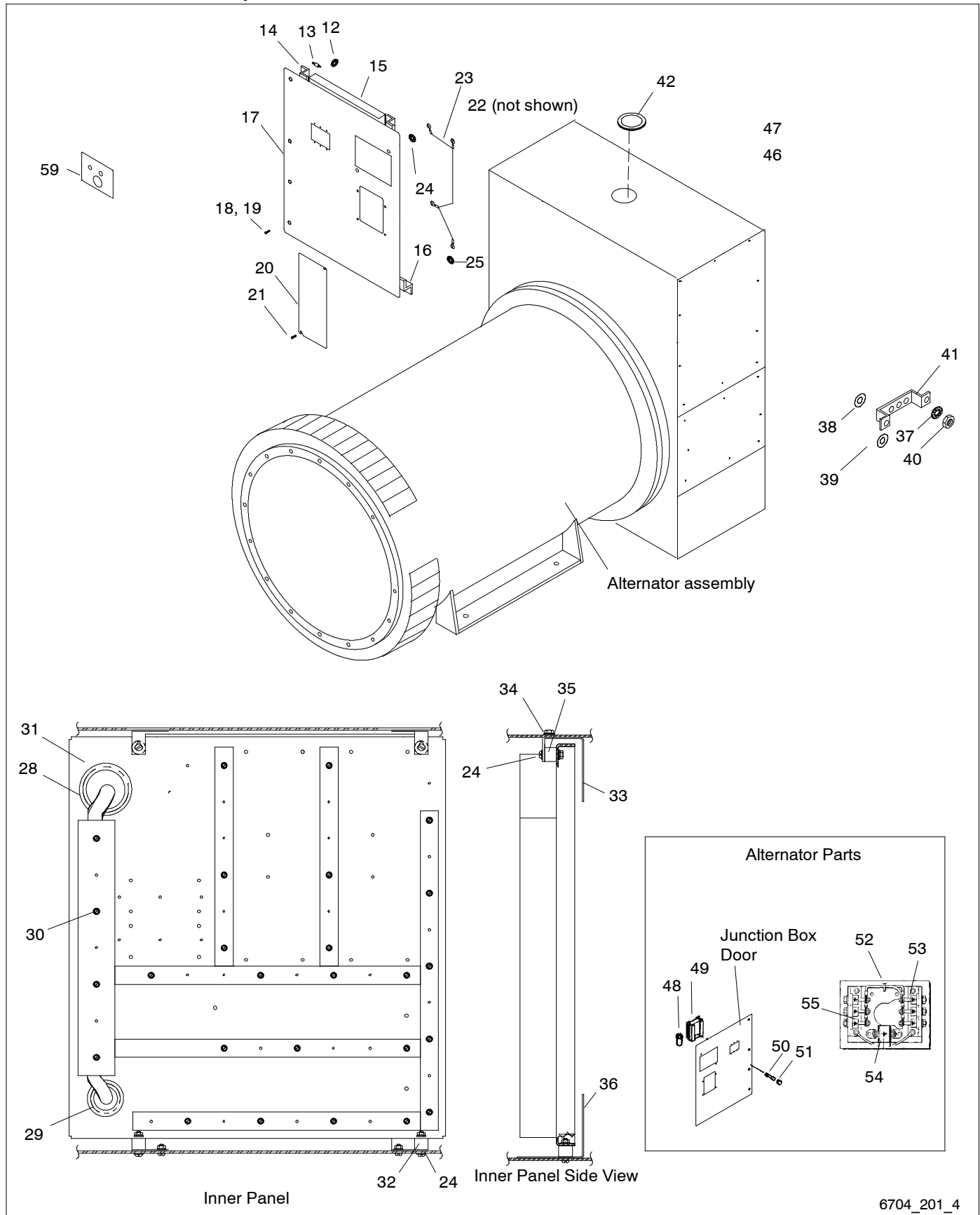
GM111337

Group 201: Alternator and Mounting, continued

Item	Part Number	Description	Quantity		
			Module		
			GM111337-MA1-BLK	GM111337-MA2-BLK	GM111337-MA3-BLK
1	X-6238-10	Bolt, Hex Cap		3	3
2	X-25-18	Washer, Flat, .391 ID x .875 in. OD		3	3
3	GM75930-1-BLK	Junction Box Assembly 4M	1	1	1
4	X-6086-6	Washer, Spring, .39 ID x .81 in. OD	2	8	8
5	X-6274-7	Stud		3	3
6	X-83-7	Nut, Hex, 3/8- 16, Zinc		3	3
7	X-6128-29	Standoff Insulator, 3/8- 16 x 2 in.		3	3
8	X-25-118	Washer, Plain, .406 ID x 1 in. OD	2	5	5
9	GM77505-1	Alternator Assy, 4M4019, Reconn, SAE14		1	
9	GM77505-4	Alternator Assy, 4M4266, 600V, SAE14	1		
9	GM77505-3	Alternator Assy, 4M4158, 380V, SAE14			1
10	290945	Washer, Hardened, .531 ID x 1.06 in. OD	8	8	8
11	328902	Screen	1	1	1
12	361271	Bus, Ground	1	1	1
13	361567	Base, Tie Wrap Snapin	4	4	4
14	GM75910	Panel, Component Mtg.	1	1	1
15	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	9	9	9
16	M6923-06-80	Nut, Hex 6 mm	2	2	2
17	M6923-10-80	Nut, Hex 10 mm	10	10	10
18	M931-10040-60	Screw, Hex Cap M10 x 40	8	8	8
19	M931-10040-82	Screw, Hex Cap M10 x 40	12	12	12
20	M933-06050-60	Screw, Hex Cap M6 x 50	2	2	2
21	M933-10035-60	Screw, Hex Cap M10 x 35	2	2	2
22	M961-12030-82F	Screw, Hex Cap M12 x 30	8	8	8
23	X-22-15	Washer, Lock, .456 ID x 1.058 in. OD	6	6	6
24	X-284-25	Grommet, Round	1	1	1
25	X-6210-2	Nut, Flange Spiralock, 1/4- 20	7	8	8
26	X-801-3	Washer, Hardened, .406 ID x .812 in. OD	12	12	12

Group 201: Alternator and Mounting, continued

4M/5M Junction Box Assembly



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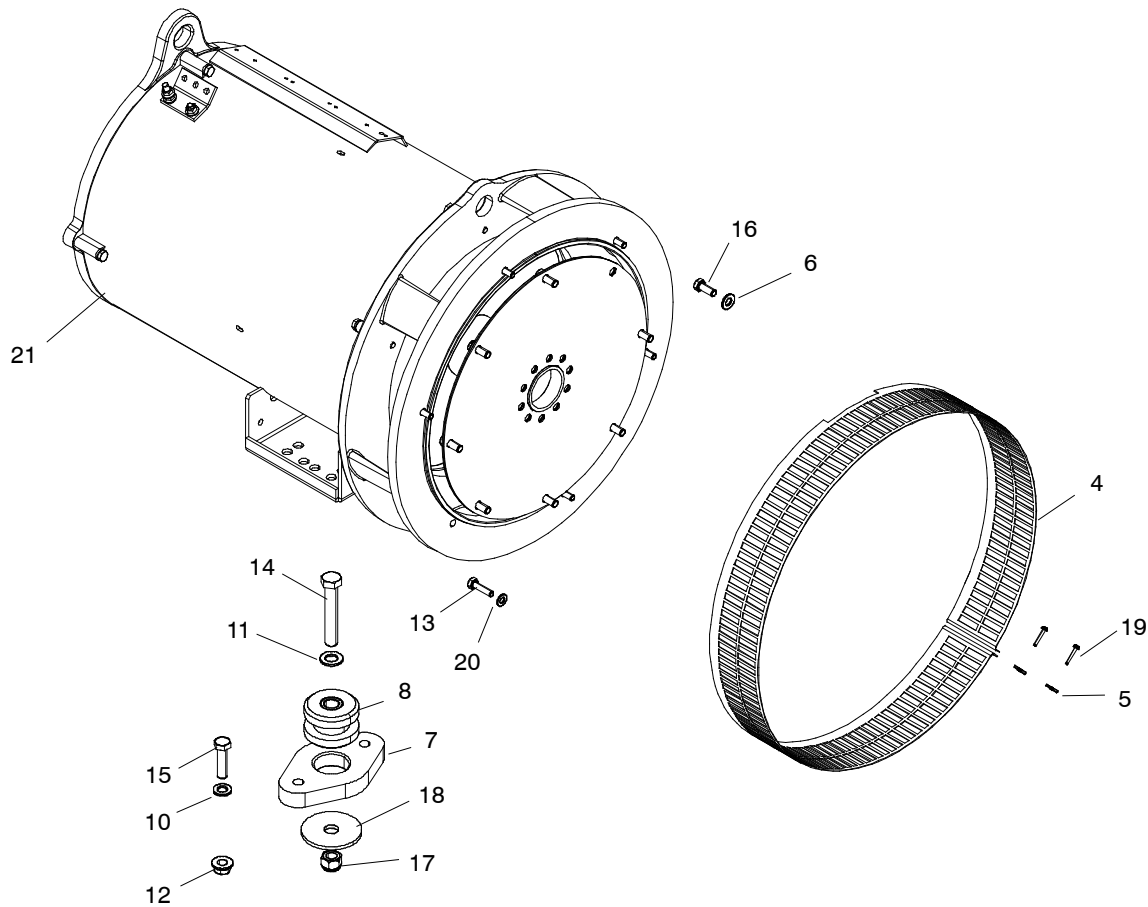
Group 201: Alternator and Mounting, continued

Junction Box Assembly

Item	Part Number	Description	Quantity Junction Box GM17025-17
12	X-22-18	Washer, lock, 0.172 ID x 0.595 in. OD	12
13	282829	Vibromount	6
14	GM13562	Bracket, door panel mounting, top	2
15	GM13563	Panel, inner door	1
16	GM13561	Bracket, door panel mounting, bottom	1
17	GM13564	Door, junction box	1
18	X-6217-10	Screw, hex flange machine	14
19	295009	Retainer	10
20	GM13565	Cover, access	1
21	X-50-2	Screw, slotted pan head machine	6
22	361567	Tie wrap	2
23	GM21264	Harness, ground	1
24	X-22-12	Washer, lock, 0.262 ID x 0.743 in.	10
25	X-22-13	Washer, lock, 0.20 ID x 0.595 in. OD	1
28	X-634-23	Bushing, 1.968 x 2.50 in. NPT	1
29	X-634-16	Bushing, 1.312 x 1.50 in. NPT	1
30	X-67-43	Screw, thread-cutting	27
31	361186	Panel, junction box, inner	1
32	229353	Mount, controller	2
33	GM41599	Bracket, inner panel mounting	1
34	X-6217-10	Screw, hex flange machine	3
35	229353	Mount, controller	2
36	361478	Retainer, inner panel	2
37	X-22-14	Washer, lock, 0.391 ID x 0.975 in. OD	4
38	X-25-118	Washer, plain, 0.406 ID x 1 in. OD	4
39	X-6086-6	Washer, spring, 0.39 ID x 0.81 in. OD	2
40	X-83-7	Nut, hex, zinc, 3/8-16	2
41	361271	Bus, ground	1
42	X-634-23	Bushing, 1.968 x 2.50 in. NPT	1
48	347160	Capacitor	1
49	GM37639	Voltage regulator, DVR2000	1
50	279778	Fuse, 5-amp	1
51	279779	Fuse cap	1
52	347071	Exciter rectifier assembly	1
53	279773	Diode, standard polarity	1
54	279776	Surge suppressor	1
55	279775	Diode, reversing polarity	1
59	GM46193	Silkscreen, Diagnostic Mtg. Plate	1

Group 201: Alternator and Mounting, continued

4SX Alternators



Items not shown: 1, 2, 3

GM80116

Item	Part Number	Description	Qty.
1	X-750-14	Marker, wire L1 (not shown)	1
2	X-750-15	Marker, wire L2 (not shown)	1
3	X-750-16	Marker, wire L3 (not shown)	1
4	257193	Guard, generator fan	1
5	257442	Clip, speed	2
6	290945	Washer, hardened, .531 ID x 1.06 in. OD	8
7	361733	Plate, engine mounting	2
8	361734	Vibromount	2
10	M125A-16-80	Washer, Plain	4
11	M125A-20-60	Washer, Plain	2
12	M6923-16-80	Nut, hex	4
13	M931-10040-82	Screw, hex cap	6
14	M931-20120-60	Screw, hex head	2
15	M933-16060-60	Screw, hex cap	4
16	M961-12030-82F	Screw, Hex Cap	8
17	M982-20-80	Nut, hex elastic stop	2
18	X-25-155	Washer, plain	2
19	X-67-125	Screw, hex washer, thread-forming	2
20	X-801-3	Washer, hardened, .406 ID x .812 in. OD	6
21	See chart on page 107	Alternator assembly	1

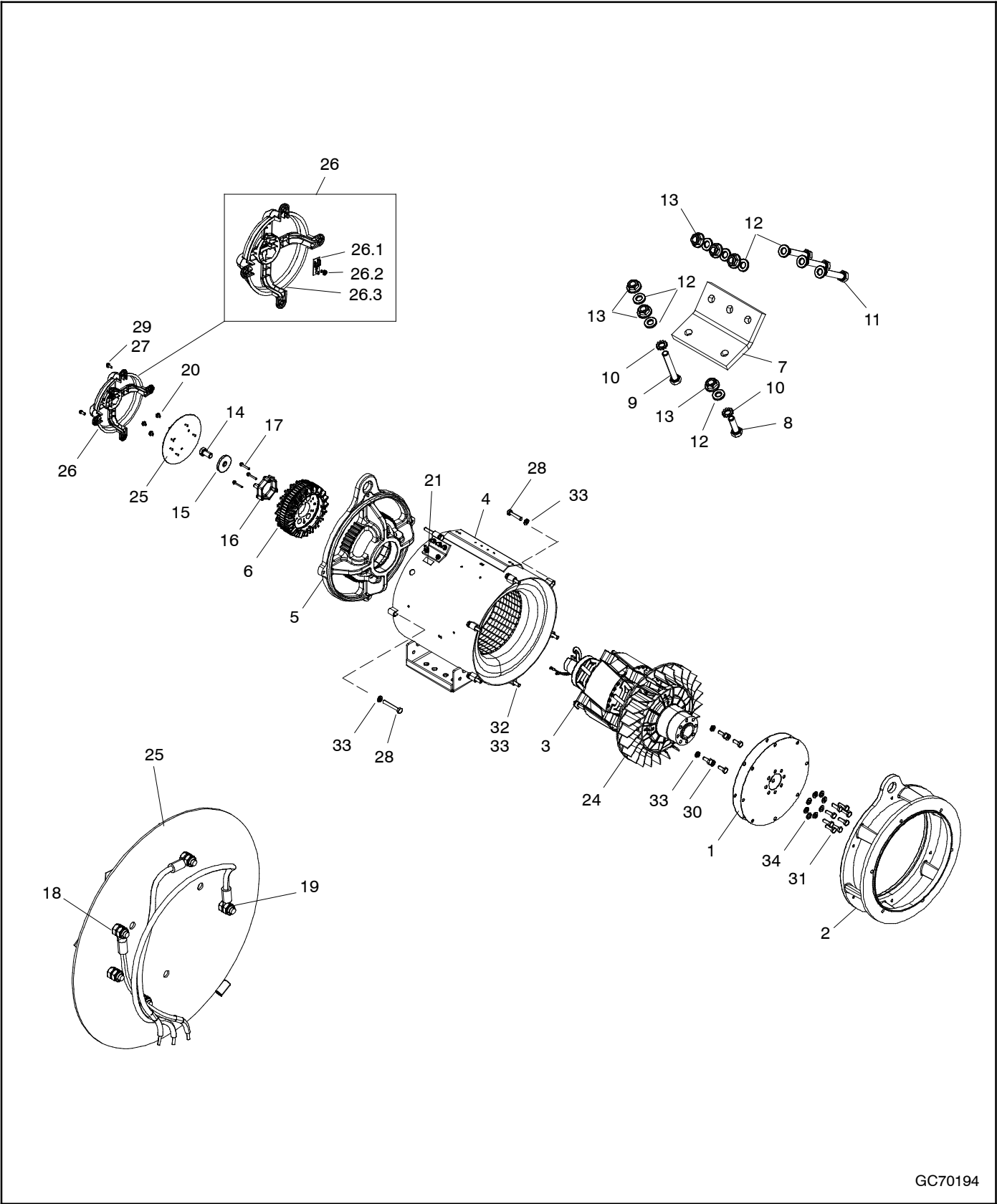
Group 201: Alternator and Mounting, continued

Alternator Module Parts

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

Module No.	Alternator Description	Item 21, Alternator Assembly
GM80116-MA1	4S12X	GC70194-3
GM80116-MA2	4S12X, 600 V	GC70194-6
GM80116-MA3	4S13X	GC70194-8
GM80116-MA4	4S13X, 600 V	GC70194-10

Group 201: Alternator and Mounting, continued



GC70194

Group 201: Alternator and Mounting, continued

Item	Part No.	Description	Qty.
1	See chart	Disc, Drive	3
2	See chart	Adapter, Generator	1
3	See chart	Rotor Assembly	1
4	See chart	Stator Assembly	1
5	GM70167	Bracket Assembly, End	1
6	GC70064- 4	Exciter Armature, SCR	1
7	257978	Bus, Ground	1
8	M933- 10030- 60	Screw, hex cap	1
9	M933- 10050- 60	Screw, hex cap	1
10	M6797A- 10- SS	Washer, Internal & External Tooth	2
11	M933-10035-60	Screw, Hex Cap	3
12	M125A-10-80	Washer, Plain	9
13	M6923- 10- 80	Nut, Hex 10mm	6
14	M933- 16030- 82	Screw, hex cap	1
15	GM70070	Washer, FRX Exciter Mtg	1
16	GM70076	Spacer, FRX Activator	1
17	M7500D- 05035- 85	Screw, Metric Thread Forming	3
18	M934- 04- SS	Nut, Hex (Stainless Steel)	5
19	M985- 04- SS	Nut, Hex Elastic Stop	5
20	X- 6071- 8	Screw, Thread Forming	3
21	344295	Decal, equipment grd	1
24	GM79507	Fan, Alternator	1
25	GM72391	PCB ASSY, World Alternator Activator	1
26	GM74218	Holder Assy, LED Optic Board	1
26.1	GM74198	PCB ASSY, Alt. LED Optic Board	1
26.2	M7500C- 05010- 83	Screw, Thread Forming Metric	1
26.3	GM74110	Holder, LED Optic Board	1
27	M125A- 06- 80	Washer, Plain	4
28	M931- 10080- 60	Screw, hex cap	9
29	M933- 06016- 60	Screw, hex cap, M6x16mm, js500 full thrd	4
30	M933- 10025- 60	Screw, hex cap, fully thrd M10 x 25mm EXP	4
31	M933- 12040- 82	Screw, hex cap	10
32	M931- 10055- 60	Screw, hex cap	1
33	X- 25- 93	Washer, plain .406ID x .75in. OD	14
34	290945	Washer, hardened, .531 ID x 1.06 in. OD	10

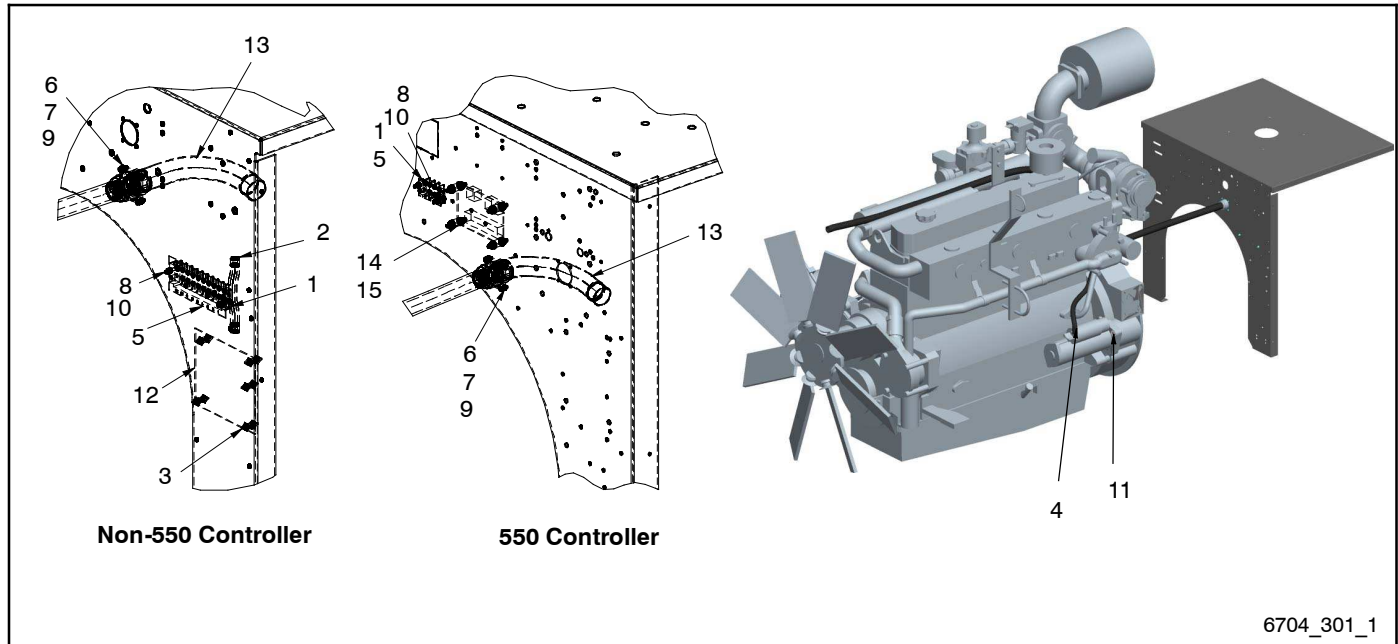
Alternator Part Number and Mount Type

Use this table to identify the module number's alternator, rotor, and stator part numbers.

Alternator No.	Assembly			
	Item 1, Drive Disc	Item 2, Adapter	Item 3, Rotor Assy.	Item 4, Stator Assy.
GC70194-1	GM70180	GM78317	GC70182-1	GC70192-1
GC70194-2	GM70180	GM78316	GC70182-1	GC70192-1
GC70194-3	GM70181	GM78315	GC70182-2	GC70192-1
GC70194-4	GM70180	GM78317	GC70182-1	GC70193-1
GC70194-5	GM70180	GM78316	GC70182-1	GC70193-1
GC70194-6	GM70181	GM78315	GC70182-2	GC70193-1
GC70194-7	GM70180	GM78316	GC70182-3	GC70192-2
GC70194-8	GM70181	GM78315	GC70182-4	GC70192-2
GC70194-9	GM70180	GM78316	GC70182-3	GC70193-2
GC70194-10	GM70181	GM78315	GC70182-4	GC70193-2

Group 301: Control and Harness

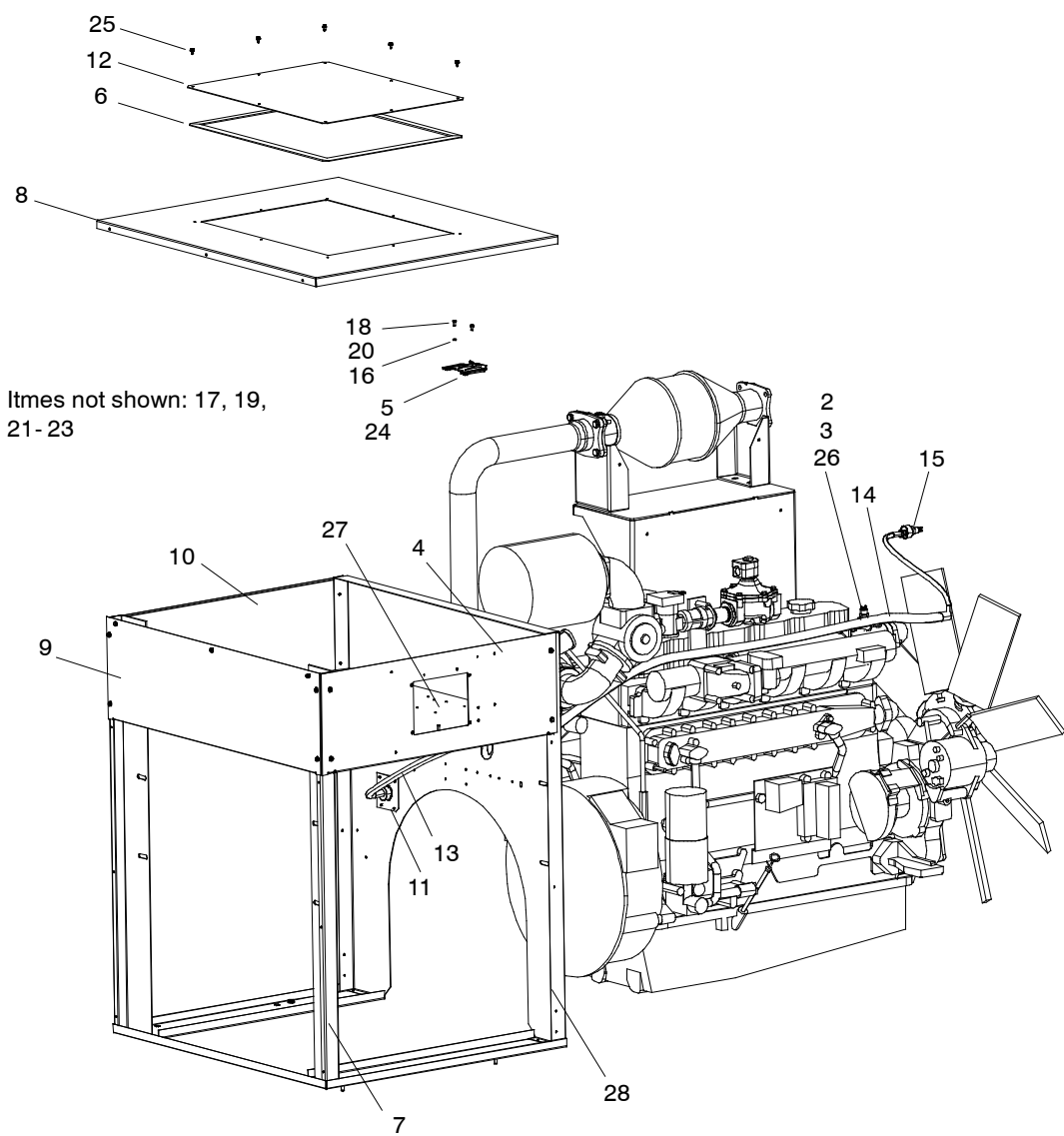
180- 250/300 kW



Item	Part Number	Description	Quantity					
			Module					
			GM66960-MA2	GM66960-MA4	GM66610-MA2	GM67405-MA1	GM67406-MA1	GM67406-MA2
1	295313	Terminal block	1	1			1	1
1	223096	Terminal block			1			
2	354118	Harness, CT Wiring FRIL	1	1				
3	360459	Standoff, circuit board	5	5			5	5
4	GM63957	Harness, Engine Doosan 180-200 kW	1	1	1			
4	GM63958	Harness, Engine Doosan 250- 275 kW				1	1	1
5	GM70413	Strip, Marker	1	1			1	1
5	GM70716	Strip, Marker			1	1		
6	M125A-03-60	Washer, Plain	4	4	4	4	4	4
7	M7985A-03012-20	Screw, pan head M3 x 12	4	4	4	4	4	4
8	M7985A-04020-20	Screw, pan head mach.	2	2	2	2	2	2
9	M934-03-50	Nut, Hex 3mm	4	4	4	4	4	4
10	M934-04-50	Nut, Hex 4mm	2	2	2	2	2	2
11	X-22-30	Washer, lock, .652 ID x 1.058 in. OD	1	1	1			
12	C-255670	PCB assembly, FRIL voltage/Hz reg.	1				1	
12	A-354653	PCB assembly, FRIL voltage/Hz reg.		1				1
13	GM63951	Harness, J-Box 180-300 kW, Dec 3+	1	1			1	1
13	GM63950	Harness, J-Box 180-300 kW Dec 550			1	1		
14	282829	Vibromount			4	4		
15	GM13980	PCB Assy CT Burden Resistor			1	1		

Group 301: Control and Harness, continued

180- 300 kW, Decision- Maker 3000, APM402



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Group 301: Control and Harness, continued

180-300 kW

Item	Part Number	Description	Quantity							
			Module							
			GM78693-MA1	GM78700-MA1	GM78704-MA1	GM80114-MA1	GM104465-MA1	GM104466-MA1	GM104467-MA1	GM104468-MA1
2	361358	Adapter, Bushing	1		1	1	1	1	1	
3	GM39458	Switch, Low Water Temp.	1		1	1	1	1	1	
3	GM38523	Sender, Temperature		1						1
4	GM70132	Panel, Controller Face	1	1	1			1	1	1
4	GM76182	Panel, Controller Face				1	1			
5	GM74531	Guard, Rodent	1	1	1	1	1	1	1	1
6	GM75773	Gasket, Controller Cover	2	2	2			2	2	2
7	GM75777**	Box, Junction	1	1					1	1
7	GM78702**	Box, Junction			1			1		
7	GM76177	Panel, Junction Box (Rear)				1	1			
8	GM75781**	Cover, J-Box	1	1	1			1	1	1
8	GM76179**	Cover, J-Box				1	1			
9	GM75785	Cover, Controller (Rear)	1	1	1			1	1	1
9	GM76175	Cover, Controller (Rear)				1	1			
10	GM75786	Cover, Controller (Left)	1	1	1			1	1	1
10	GM76181	Cover, Controller (Left)				1	1			
11	GM75812	Plate, Harness Connector	1	1	1			1	1	1
12	GM76171**	Panel, Junction Box (Top)	1	1	1			1	1	1
13	GM77945	Harness, Control Box 20-250 kW Gas	1	1		1	1		1	1
13	GM79619	Harness, Control Box 25-250KW GAS, 1PH			1			1		
14	GM78715	Harness, Engine Doosan 11L	1		1	1	1	1	1	
14	GM78716	Harness, Engine Doosan 14L		1						1
15	GM78797	Sensor, Low Coolant Level	1	1	1	1	1	1	1	1
16	M125A-05-80	Washer, Plain	2	2	2	2	2	2	2	2
17	M125A-08-80	Washer, Plain 8.4 ID X 16.0 OD	3	3	3	2	2	3	3	3
18	M7985A-05012-20	Screw, Pan Head Mach.	2	2	2	2	2	2	2	2
19	M933-08020-60	Screw, Hex Cap	4	4	4	4	4	4	4	4
20	M934-05-50	Nut, Hex 5mm	2	2	2	2	2	2	2	2
21	X-22-16	Washer, Lock	1	1	1	4	4	1	1	1
22	257069	Grommet, U- shaped	1	1	1			1	1	1
23	X-301-35	Button, Plug	1	1		1	1		1	1
24	X-6033-5	Grommet	1		1	1	1	1	1	
25	X-6216-1	Screw, Phillips Hex Crimptite	30	30	30	28	28	30	30	30
26	GM11694	O- ring, ISO 6149 (15.3mm id)		1						1
27	GM76178	Panel, Junction Box (Shelf)				1	1			
28	GM77548**	Panel, Junction Box (Front)				1	1			

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 8)
GM80114- MA1- BLK	- BLK	GM76179- BLK
GM78704- MA1- BLK	- BLK	GM75781- BLK
GM78693- MA1- BLK	- BLK	GM75781- BLK
GM78700- MA1- BLK	- BLK	GM75781- BLK
GM104465- MA1- BLK	- BLK	GM76179- BLK
GM104466- MA1- BLK	- BLK	GM75781- BLK
GM104467- MA1- BLK	- BLK	GM75781- BLK
GM104468- MA1- BLK	- BLK	GM75781- BLK

180- 250/300 kW, DEC 550/6000

This technical drawing is an exploded view of a generator set assembly. It shows the following components and their assembly relationships:

- Generator Set (Right):** The main power unit, including the engine (13), alternator (14), and control panel (15). It is mounted on a base (30).
- Mounting Frame (Left):** A rectangular frame (8) that supports the generator set. It includes a front panel (9) and side panels (7, 29).
- Accessories:**
 - Lighting:** A lamp (27) is shown above the frame, connected to a wiring harness (21) and a switch (4).
 - Control Panel:** A control panel (15) is shown mounted on the side of the frame, connected to a wiring harness (10) and a switch (4).
 - Wiring:** A wiring harness (20) is shown connected to the generator set and the control panel.
 - Fasteners:** Various screws (16, 18, 26) and bolts (2) are shown for assembly.

Group 301: Control and Harness, continued

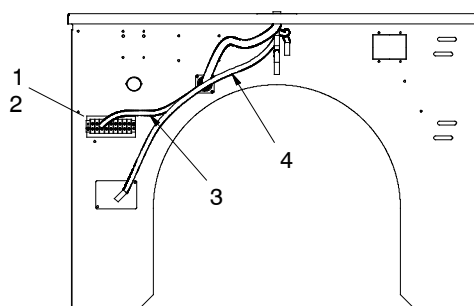
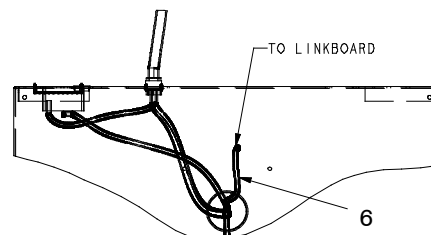
180-250/300 kW

Item	Part Number	Description	Quantity						
			Module						
			GM78705-MA1	GM78694-MA1	GM78694-MA2	GM78699-MA1	GM78699-MA2	GM80115-MA1	GM80115-MA2
2	GM13980	PCB Assy CT Burden Resistor	1						
3	GM38784-1	Vibromount, Controller	4						
4	GM74531	Guard, Rodent	1	1	1	1	1	1	1
5	GM75773	Gasket, Controller Cover	2	2	2	2	2		
6	GM75781**	Cover, J-Box	1	1	1	1	1		
6	GM76179**	Cover, J-Box						1	1
7	GM75783	Panel, Controller Face	1	1	1	1	1		
7	GM76180	Panel, Controller Face						1	1
8	GM75785	Cover, Controller (Rear)	1	1	1	1	1		
8	GM76175	Cover, Controller (Rear)						1	1
9	GM75786	Cover, Controller (Left)	1	1	1	1	1		
9	GM76181	Cover, Controller (Left)						1	1
10	GM75812	Plate, Harness Connector	1	1	1	1	1		
11	GM76171**	Panel, Junction Box (Top)	1	1	1	1	1		
12	GM78702**	Box, Junction	1						
12	GM75777**	Box, Junction		1	1	1	1		
12	GM76177	Panel, Junction Box (Rear)						1	1
13	GM78715	Harness, Engine Doosan 11L	1	1	1			1	1
13	GM78716	Harness, Engine Doosan 14L				1	1		
14	GM78797	Sensor, Low Coolant Level	1	1	1	1	1	1	1
15	GM79618	Harness, Control Box DEC550, 1ph	1						
15	GM77406	Harness, Control Box DEC550		1		1		1	
15	GM79038	Harness, Control Box			1		1		1
16	M125A-05-80	Washer, Plain	2	2	2	2	2	2	2
17	M125A-08-80	Washer, Plain 8.4 ID X 16.0 OD	3	3	3	3	3	3	3
18	M7985A-05012-20	Screw, Pan Head Mach.	2	2	2	2	2	2	2
19	M933-08020-60	Screw, Hex Cap	4	4	4	4	4	4	4
20	M934-04-50	Nut, Hex 4mm	8						
21	M934-05-50	Nut, Hex 5mm	2	2	2	2	2	2	2
24	X-22-16	Washer, Lock	1	1	1	1	1	4	4
25	257069	Grommet, U- Shaped	1	1	1	1	1		
26	X-6033-5	Grommet	1	1	1			1	1
27	X-6216-1	Screw, Phillips Hex Crimptite	30	30	30	30	30	28	28
28	X-301-35	Button, Plug		1	1	1	1	1	1
29	GM76178	Panel, Junction Box (Shelf)						1	1
30	GM77548**	Panel, Junction Box (Front)						1	1

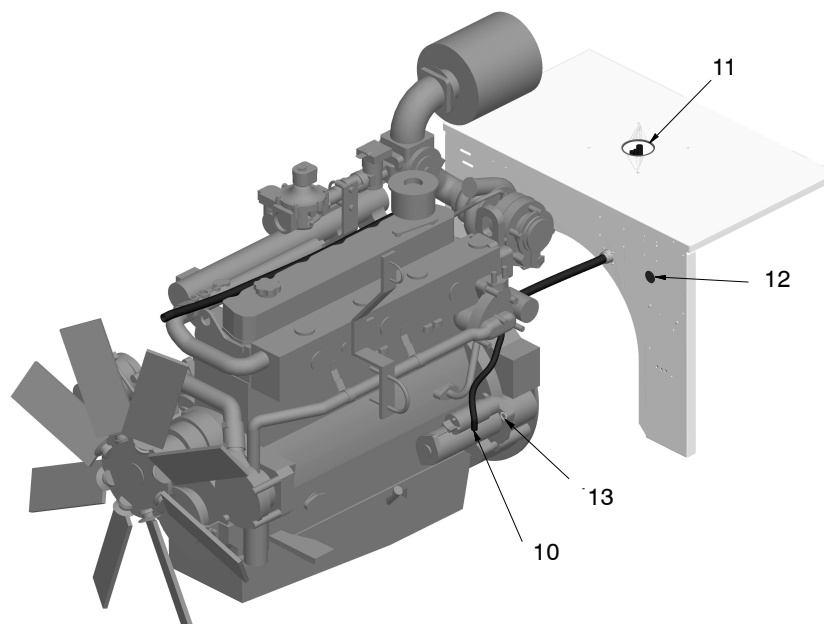
** Use the Kit number and chart below to identify the color suffix.
Add a suffix to this color dependant part **number before ordering.

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 6)
GM80115- MA1- BLK	- BLK	GM76179- BLK
GM80115- MA2- BLK	- BLK	GM76179- BLK
GM78705- MA1- BLK	- BLK	GM75781- BLK
GM78694- MA1- BLK	- BLK	GM75781- BLK
GM78694- MA2- BLK	- BLK	GM75781- BLK
GM78699- MA1- BLK	- BLK	GM75781- BLK
GM78699- MA2- BLK	- BLK	GM75781- BLK

180 kW, 1 Phase



DEC3+ Controller

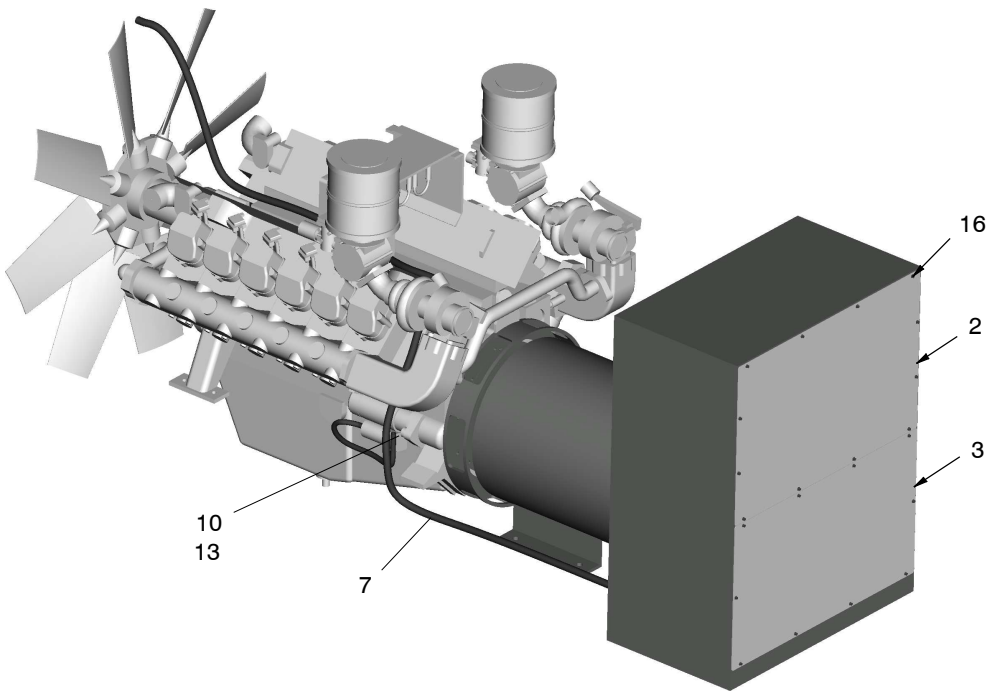


Group 301: Control and Harness, continued

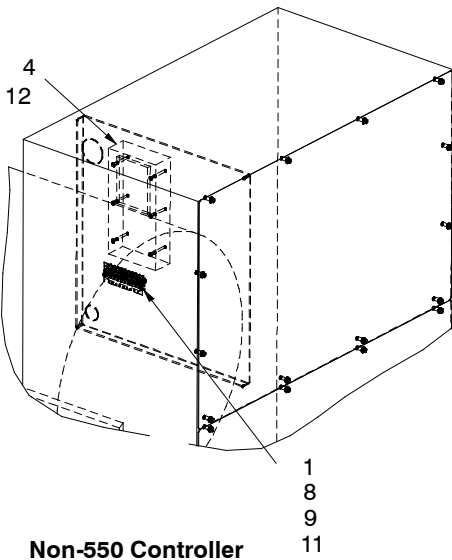
180 kW, 1 Phase				
Item	Part Number	Description	Quantity	
			Module Number	
			GM75517-MA1	GM75518-MA1
1	295313	Terminal block	1	
1	223096	Strip, terminal		1
2	GM70413	Strip, Marker	1	
2	GM70716	Strip, Marker		1
3	GM75446	Harness, J-Box Doosan 11L, 1ph	1	
3	GM75447	Harness, J-Box, Doosan 11L, 1ph		1
4	GM77213	Harness, Voltage Regulator	1	
5	GM13980	PCB Assy CT Burden Resistor		1
6	GM75525	Harness, Wiring A.C.	1	
6	GM75525	Harness, Wiring A.C.		1
7	SWT1-1624-5718	Lead		1
8	SW2-1624-5718	Lead		1
9	282829	Vibromount		4
10	GM63957	Harness, Engine Doosan 180-200 kW	1	
10	GM63957	Harness, Engine Doosan 180-200 kW		1
11	X-6033-15	Grommet	1	
12	X-301-35	Button, Plug	1	
13	X-22-30	Washer, lock.652 IDx1.058 in. OD	1	
13	X-22-30	Washer, lock.652 IDx1.058 in. OD		1

Group 301: Control and Harness, continued

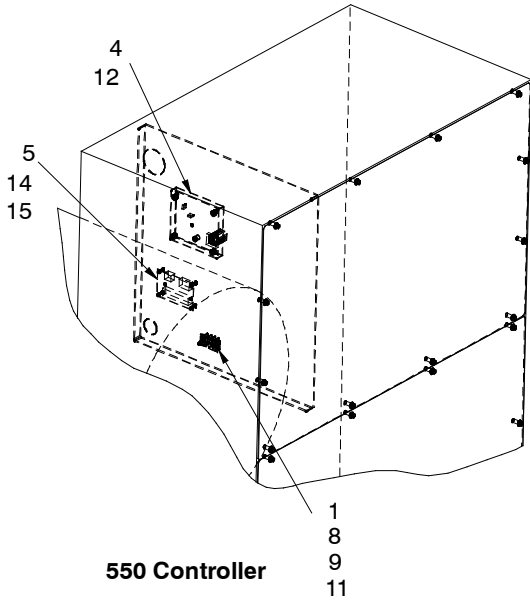
300/450 kW



6 Harness Junction Box



Non-550 Controller



550 Controller

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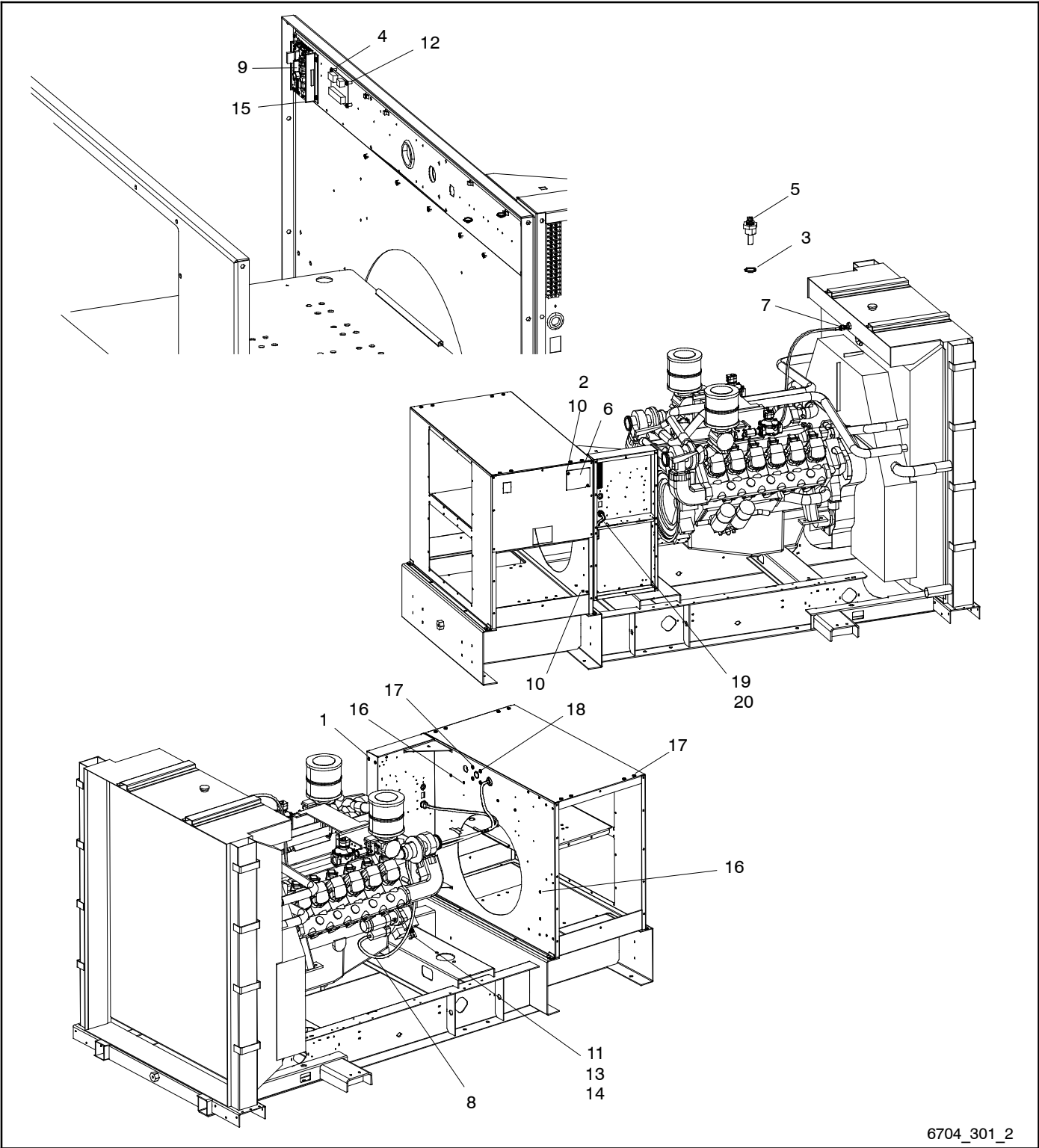
Group 301: Control and Harness, continued

300-450 kW

Item	Part Number	Description	Quantity	
			Module Number	
			GM69610-MA1	GM69611-MA1
1	223096	Strip, terminal	1	
1	295313	Strip, terminal		1
2	361184-BLK	Panel, J-Box Front	1	1
3	361826-BLK	Panel, junction	1	1
4	GM11718	PCB assy Marathon excitation interface	1	
4	GM37639	Kit, Voltage Regulator		1
5	GM13980	PCB Assy CT Burden Resistor	1	
6	GM63952	Harness, J-Box 300-400 KW, DEC 550	1	
6	GM63953	Harness, J- Box 300-400KW, DEC 3+		1
7	GM63959	Harness, Engine Doosan 300-400KW	1	1
8	GM70716	Strip, Marker	1	
8	GM70413	Strip, Marker		1
9	M7985A-03020-20	Screw, Pan Head Machine	2	
9	M7985A-04020-20	Screw, Pan Head Machine		2
10	M933-16030-82	Screw, Hex Cap	1	1
11	M934-03-50	Nut, Hex 3mm	2	
11	M934-04-50	Nut, Hex 4mm		2
12	M965A-06012-20	Screw, Pan Head Machine	4	
12	GM66039	Screw, Plastic Tapping		6
13	X-22-30	Washer, lock.652 ID x 1.058 in. OD	1	1
14	X-70-12	Nut, hex machine screw, 8-32	4	
15	X-712-9	Spacer, .25 OD, .5 in.	4	
16	X-6217-10	Screw, hex flange 1/4-20 x 3/4	22	22

Group 301: Control and Harness, continued

300- 500 kW, Decision- Maker 3000, APM402



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Control and Harness, continued

Find the installed module number on the generator set nameplate.

Item	Part Number	Description	Quantity			
			Module Number			
			GM78834-MA1	GM78835-MA1	GM78835-MA2	GM104469-MA1
1	324861	Plug, black plastic	6	6	6	6
2	GM11040-7	Insert, Threaded (M6 x 1.0 Hex)	2	2	2	2
3	GM16694	O-Ring	1			1
4	GM13980	PCB Assy CT Burden Resistor	1	1	1	1
5	GM38523	Sender, Temperature	1			1
6	GM77908**	Cover, Diagnostic	1	1	1	1
7	GM78797	Sensor, Low Coolant Level	1	1	1	1
8	GM78995	Harness, Engine 300/350/400 kW	1	1	1	1
9	GM79677	PCB assy Marathon excitation interface	1	1	1	1
10	M6921-06016-60	Screw, Hex Flange M6x16mm fly thrd js500	8	8	8	8
11	M6923-12-80	Nut, Hex	1	1	1	1
12	M7985A-04010-20	Screw, Pan Head Machine	4	4	4	4
13	M933-12025-60	Screw, Hex Cap	1	1	1	1
14	X-22-26	Washer, lock	1	1	1	1
15	X-67-156	Screw, Tapping	4	4	4	4
16	X-301-34	Plug, Button	7	7	7	7
17	X-301-47	Plug, Button	12	12	12	12
18	X-301-48	Plug, Button	1	1	1	1
19	GM77978	Harness, A/C Control Box	1			1
20	GM78994	Harness, Control Box Doosan 300- 400 kW	1			1
20	GM78893	Harness, Control Box Doosan 300- 400 kW		1		
20	GM79127	Harness, Control Box Doosan 300- 400 kW			1	

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

Kit No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 6)
GM78834- MA1- KCB	- KCB	GM77908- KCB
GM78835- MA1- KCB	- KCB	GM77908- KCB
GM78835- MA2- KCB	- KCB	GM77908- KCB
GM104469- MA1- KCB	- KCB	GM77908- KCB

Group 701: Literature

Item	Part Number	Description	Quantity											
			Variation Number											
			375	376	377	378	379	380	406	407	408	409	410	411
1	TP-5374	Warranty 1-Year Limited, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700	I/M 20-3250kW, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
3	TP-6009	P/C Controllers, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-6140	O/I/M Cntrlr Setup & Appl, DecMaker550	1	1	1	1	1	1	1	1	1	1	1	1
5	TP-6161	O/M 20-2250kW, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
6	TP-6200	O/M 20-3250 kW, DecMaker550, Ver 2.10+	1	1	1	1	1	1	1	1	1	1	1	1
7	TP-6353	S/M Fast-Response II Alternator,20-400kW	1	1	1			1	1	1	1			1
7	TP-6373	S/M Pilot- Excited PM Altrntr, 350- 2800kW				1	1					1	1	
8	TP-6356	S/M Controllers, 20-2800 kW	1	1	1	1	1	1	1	1	1	1	1	1
9	TP-6704	P/C 180-400 REZX, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
10	TP-6705	P/C Doosan 11.1L Engine	1	1					1	1				
10	TP-6706	P/C Doosan 14.6L Engine			1	1	1	1			1	1	1	1
11	TP-6713	W/D 180-400 REZX, Industrial	1	1	1	1	1	1	1	1	1	1	1	1
12	TP-6715	150- 400REZX/RZX O/M Supplement for MasterTrak	1	1	1	1	1	1	1	1	1	1	1	1
13	TP-6716	O/M PSI 180-400RZX/REZX	1	1	1	1	1	1	1	1	1	1	1	1
14	TP-6717	S/M PSI 180-400RZX/REZX	1	1	1	1	1	1	1	1	1	1	1	1
15	TP-6199	O/I/S/M Marathon DVR2000E (GPN019)				1	1					1	1	
16	TP-5578	O/I/S/M Marathon Altrntr MmaxDVR (GPN008)				1	1					1	1	
17	TP-5888	O/I/S Marathon Magnapuls 280- 430 (SB504)	1						1					
18	TP-6746	P/C DPS System	1	1	1	1	1	1	1	1	1	1	1	1
19	TP-6747	O/I/M DPS System Installation and Setup	1	1	1	1	1	1	1	1	1	1	1	1
20	TP-6750	O/M DEC 6000 Controller	1	1	1	1	1	1	1	1	1	1	1	1

Item	Part Number	Description	Quantity												
			Variation Number												
			464	465	466	458	459	460	467	468	469	461	462	463	469
1	TP-5374	Warranty 1-Year Limited, Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1
2	TP-5700	I/M 20-3250kW, Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1
4	TP-6140	O/I/M Cntrlr Setup & Appl, DecMaker550	1	1	1	1	1	1	1	1	1	1	1	1	1
5	TP-6161	O/M 20-2250kW, Industrial				1	1	1			1	1	1	1	
6	TP-6200	O/M 20-3250 kW, DecMaker550, Ver 2.10+	1	1	1	1	1	1	1	1	1	1	1	1	
7	TP-6353	S/M Fast-Response II Alternator,20-400kW	1	1	1			1	1	1	1			1	1
7	TP-6373	S/M Pilot- Excited PM Altrntr, 350- 2800kW				1	1					1	1		
8	TP-6356	S/M Controllers, 20-2800 kW	1	1	1	1	1	1	1	1	1	1	1	1	1
9	TP-6704	P/C 180-400 REZX, Industrial	1	1	1	1	1	1	1	1	1	1	1	1	1
10	TP-6705	P/C Doosan 11.1L Engine	1	1					1	1					
10	TP-6706	P/C Doosan 14.6L Engine			1	1	1	1			1	1	1	1	1
11	TP-6832	W/D 180-400REZXB/RZXB, 450REZXB, and 300REZXC	1	1	1	1	1	1	1	1	1	1	1	1	1
12	TP-6715	150- 400REZX/RZX O/M Supplement for MasterTrak	1	1	1	1	1	1	1	1	1	1	1	1	1
13	TP-6716	O/M PSI 180-400RZX/REZX	1	1	1	1	1	1	1	1	1	1	1	1	1
14	TP-6717	S/M PSI 180-400RZX/REZX	1	1	1	1	1	1	1	1	1	1	1	1	1
15	TP-6199	O/I/S/M Marathon DVR2000E (GPN019)				1	1					1	1		
16	TP-5578	O/I/S/M Marathon Altrntr MmaxDVR (GPN008)				1	1					1	1		
17	TP-5888	O/I/S Marathon Magnapuls 280- 430 (SB504)	1						1						
18	TP-6746	P/C DPS System	1	1	1	1	1	1	1	1	1	1	1	1	
19	TP-6747	O/I/M DPS System Installation and Setup	1	1	1	1	1	1	1	1	1	1	1	1	
20	TP-6750	O/M DEC 6000 Controller	1	1	1	1	1	1	1	1	1	1	1	1	
21	TP-6694	O/M APM402/DEC3000 Controller	1	1	1	1	1	1	1	1	1	1	1	1	1
22	TP-6780	P/C DEC 550 Controller (J- Box Panel Mt)	1	1	1	1	1	1	1	1	1	1	1	1	
23	TP-6781	P/C APM402/DEC 3000 Controller	1	1	1	1	1	1	1	1	1	1	1	1	1
24	TP-6837	S/M Doosan 11.1L 180/200REZX(B)	1	1					1	1					
24	TP-6838	S/M Doosan 14/18/22L 250-450REZX/RZX(B)				1	1	1			1	1	1	1	1

Group 701: Literature, continued

Item	Part Number	Description	Quantity
			Variation Number 569
1	TP-5374	Warranty 1-Year Limited, Industrial	1
2	TP-5700	I/M 20-3250kW, Industrial	1
4	TP-6140	O/I/M Cntrlr Setup & Appl, DecMaker550	1
5	TP-6161	O/M 20-2250kW, Industrial	
6	TP-6200	O/M 20-3250 kW, DecMaker550, Ver 2.10+	1
7	TP-6353	S/M Fast-Response II Alternator, 20-400kW	
7	TP-6373	S/M Pilot- Excited PM Altrntr, 350- 2800kW	1
8	TP-6356	S/M Controllers, 20-2800 kW	1
9	TP-6704	P/C 180-400 REZX, Industrial	1
10	TP-6705	P/C Doosan 11.1L Engine	
10	TP-6706	P/C Doosan 14.6L Engine	1
11	TP-6832	W/D 180-400REZXB, Industrial	1
12	TP-6715	150- 400REZX/RZX O/M Supplement for MasterTrak	1
13	TP-6716	O/M PSI 180-400RZX/REZX	1
14	TP-6717	S/M PSI 180-400RZX/REZX	1
15	TP-6199	O/I/S/M Marathon DVR2000E (GPN019)	
16	TP-5578	O/I/S/M Marathon Altrntr MmaxDVR (GPN008)	1
17	TP-5888	O/I/S Marathon Magnaplus 280- 430 (SB504)	
18	TP-6746	P/C DPS System	1
19	TP-6747	O/I/M DPS System Installation and Setup	1
20	TP-6750	O/M DEC 6000 Controller	1
21	TP-6694	O/M APM402/DEC3000 Controller	1
22	TP-6780	P/C DEC 550 Controller (J- Box Panel Mt)	1
23	TP-6781	P/C APM402/DEC 3000 Controller	1
24	TP-6837	S/M Doosan 11.1L 180/200REZX(B)	
24	TP-6838	S/M Doosan 14/18/22L 250-450REZX/RZX(B)	1

Item	Part Number	Description	Quantity							
			Variation Number							
			584	585	586	587	588	589	590	591
1	G18-499	Seismic Compliance Cert. 300- 500REZXD	1	1	1	1	1			
2	G4-296	S/S 300REZXD, Ind	1							
2	G4-297	S/S 350REZXD, Ind		1						
2	G4-298	S/S 400REZXD, Ind			1					
2	G4-299	S/S 450REZXD, Ind				1				
2	G4-291	S/S 500REZXD, Ind					1			
2	G4-300	S/S 300RZXD, Ind						1		
2	G4-301	S/S 350RZXD, Ind							1	
2	G4-302	S/S 400RZXD, Ind								1
3	G6-107	S/S Decision- Maker 6000 Controller	1	1	1	1		1	1	1
4	G6-110	S/S Decision- Maker Paralleling System	1	1	1	1		1	1	1
5	G6-112	S/S DPS Switchboards & Circuit Breakers	1	1	1	1		1	1	1
6	G6-113	S/S DPS Master Control Panel	1	1	1	1		1	1	1
7	G6-161	S/S Controller, APM402, Kohler, Ind.	1	1	1	1	1	1	1	1
8	G6-162	S/S APM603 Controller, Industrial	1	1	1	1	1	1	1	1
9	TP-5374	Warranty 1- Year Limited, Industrial	1	1	1	1	1	1	1	1
10	TP-5700	I/M 20- 3250kW, Industrial	1	1	1	1	1	1	1	1
11	TP-6694	O/M APM402/DEC3000 Controller	1	1	1	1	1	1	1	1
12	TP-6704	P/C 180- 450REZX(B)/RZX(B)	1	1	1	1	1	1	1	1
13	TP-6706	P/C Doosan 14.6 - 21.9L, 250- 450kW, Ind	1	1	1	1	1	1	1	1
14	TP-6716	O/M Doosan, 180- 450RZX(B)/REZX	1	1	1	1	1	1	1	1
15	TP-6746	P/C DEC 6000 & DPS System	1	1	1	1		1	1	1
16	TP-6747	O/I/M DPS System Installation and Setup	1	1	1	1		1	1	1
17	TP-6750	O/M DEC 6000 Controller, Ind	1	1	1	1		1	1	1
18	TP-6781	P/C APM402/DEC 3000 Controller	1	1	1	1	1	1	1	1
19	TP-6832	W/D 180- 400REZXB/RZXB, 450REZXC	1	1	1	1	1	1	1	1
20	TP-6874	Warranty, Master Control Panel, 1yr Ltd.	1	1	1	1		1	1	1
21	TP-6877	Warr, Power Distrib Switchbd 1 Yr Ltd	1	1	1	1		1	1	1
22	TP-7139	P/C APM603 Controller, Industrial	1	1	1	1	1	1	1	1
23	TP-7165	O/M 80- 500 Gaseous w/APM603, Ind., EN	1	1	1	1	1	1	1	1
24	TP-7167	O/M Maintenance, 180- 500 kW Doosan	1	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.

	180/200 kW	250/300 kW	300/350 kW	400/450 kW	300/500 kW
Controllers					
See Controller Parts Catalog for parts lists.					
Cooling Systems					
Heater, block					
2500 W, 90/120 V, 1Ph.	GM73528-KA1	-	-	-	
2500 W, 190/208 V, 1Ph.	GM73528-KA2	-	-	-	
2500 W, 210/240 V, 1Ph.	GM73528-KA3	-	-	-	
2500 W, 380/480 V, 1Ph.	GM73528-KA4	-	-	-	
2500 W, 120 V	-	GM70703-KA1	-	-	
2500 W, 240 V	-	GM70703-KA2	-	-	
6000 W, 240 V, 1Ph.		GM75287-KA1	GM74160-KA1	GM74160-KA1	GM111086-KA1
6000 W, 480 V, 1Ph.	-	GM75287-KA2	GM74160-KA2	GM74160-KA2	GM111086-KA2
6000 W, 240 V, 3 Ph.	-	GM75287-KA3	GM74160-KA3	GM74160-KA3	GM111086-KA3
6000 W, 380 V, 3 Ph.	-	GM75287-KA4	GM74160-KA4	GM74160-KA4	GM111086-KA6
6000 W, 480 V, 3 Ph.	-	GM75287-KA5	GM74160-KA5	GM74160-KA5	GM111086-KA4
6000 W, 208 V, 1 Ph.	-	GM75287-KA6	GM74160-KA6	GM74160-KA6	GM111086-KA5
Duct Flange, radiator	GM69891-KA1	GM69891-KA2	GM69891-KA4	GM69891-KA3	
Radiator Guard	GM62349-KA1	GM66850-KA1	GM71297-KA1	GM71391-KA1	
Coupling, Jacket Water Connection					GM114780-KA1
Fuel Systems					
Fuel lines, flexible	GM69887-KA1	GM69901-KP1	GM71400-KP1	GM71400-KP1	GM71400-KP1
Filter, natural gas	PA-343303	PA-343303	PA-343303	PA-343303	GM107751-KA1
Additional gas solenoid valve	GM69886-KA1	GM75390-KA1	GM74764-KA1	GM71401-KA1	-
Electrical Accessories					
Battery, 2/12 V, 950CCA, Wet	324588	324588	324588	324588	324588
Paint and Miscellaneous Parts					
Paint, Kohler Cream Beige	All models use GM71383 12 oz. spray can, GM71387 1-gallon can				
Oil, Synthetic					
15W40 (case of 4) Gaseous	GM103170	GM103170	GM103170	GM103170	GM103170
5 Gal Pail 15W40 Gaseous	GM103171	GM103171	GM103171	GM103171	GM103171
55 Gal Drum 15W40 Gaseous	GM103172	GM103172	GM103172	GM103172	GM103172
275 Gal Tote 15W40 Gaseous	GM103173	GM103173	GM103173	GM103173	GM103173
Coolant, 50/50 Blend					
EG Gal (case of 4)	GM109949	GM109949	GM109949	GM109949	GM109949
EG 55 Gal Drum	GM109951	GM109951	GM109951	GM109951	GM109951
EG 264 Gal Tote	GM109952	GM109952	GM109952	GM109952	GM109952

Cooling System Kits

Qty.	Description	Part No.
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Block Heater, 2500W, 120V

1	Heater, Block, 120V, 2500W	GM67502
1	Adapter, bushing	352360
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Adapter, Bushing 3/8-18 x M16	GM48799
1	Bracket, Blk Htr Mtg	GM67506
2	Washer, plain 8.4 ID x 16.0 OD	M125A-08-80
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, Hex 8mm	M6923-08-80
2	Nut, Hex 10mm	M6923-10-80
2	Screw, hex cap	M933-08025-60
2	Screw, hex cap,fully thrd M10 x 25mm	M933-10025-60
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-46
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (1/2 in. npt x 4.50 in.)	X-209-21
1	Elbow, street (90 deg x 1/2 in. nptf)	X-211-3
1	Hose,.63 ID	X-312-36
1	Hose,.63 ID	X-312-51
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1
1	Washer, nylon, .815 ID x 1.068 in. OD	X-6278-4

Block Heater, 2500W, 240V

1	Heater, Block, 240V, 2500W	GM67503
1	Adapter, bushing	352360
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Adapter, Bushing 3/8-18 x M16	GM48799
1	Bracket, Blk Htr Mtg	GM67506
2	Washer, plain 8.4 ID x 16.0 OD	M125A-08-80
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, Hex 8mm	M6923-08-80
2	Nut, Hex 10mm	M6923-10-80
2	Screw, hex cap	M933-08025-60
2	Screw, hex cap,fully thrd M10 x 25mm	M933-10025-60
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-46
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (1/2 in. npt x 4.50 in.)	X-209-21
1	Elbow, street (90 deg x 1/2 in. nptf)	X-211-3
1	Hose,.63 ID	X-312-36
1	Hose,.63 ID	X-312-51
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1
1	Washer, nylon, .815 ID x 1.068 in. OD	X-6278-4

Block Heater, 2500W, 120V

1	Heater, Block, 120V, 2500W	GM67502
1	Adapter, bushing	225127
1	Adapter, bushing	361358
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Bracket, Blk Htr Mtg	GM67506
2	Washer, plain 8.4 ID x 16.0 OD	M125A-08-80
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, Hex 8mm	M6923-08-80
2	Nut, Hex 10mm	M6923-10-80
2	Screw, hex cap	M933-08025-60
2	Screw, hex cap,fully thrd M10 x 25mm	M933-10025-60
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-28
1	Pipe (3/8 in. npt x 2.00 in.)	X-204-6
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (1/2 in. npt x 1.19 in.)	X-209-2
1	Pipe (1/2 in. npt x 1.5 in.)	X-209-5
1	Elbow, street (90 deg x 1/2 in. nptf)	X-215-3
1	Elbow, street (90 deg x 3/8 in. nptf)	X-215-9
1	Hose,.63 ID	X-312-15
1	Hose,.63 ID	X-312-49
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1
1	Washer, nylon	X-6278-10
1	Washer, nylon	X-6278-12

Qty.	Description	Part No.
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Block Heater, 2500W, 240V

1	Heater, Block, 240V, 2500W	GM67503
1	Adapter, bushing	225127
1	Adapter, bushing	361358
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Bracket, Blk Htr Mtg	GM67506
2	Washer, plain 8.4 ID x 16.0 OD	M125A-08-80
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, Hex 8mm	M6923-08-80
2	Nut, Hex 10mm	M6923-10-80
2	Screw, hex cap	M933-08025-60
2	Screw, hex cap,fully thrd M10 x 25mm	M933-10025-60
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-28
1	Pipe (3/8 in. npt x 2.00 in.)	X-204-6
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (1/2 in. npt x 1.19 in.)	X-209-2
1	Pipe (1/2 in. npt x 1.5 in.)	X-209-5
1	Elbow, street (90 deg x 1/2 in. nptf)	X-215-3
1	Elbow, street (90 deg x 3/8 in. nptf)	X-215-9
1	Hose,.63 ID	X-312-15
1	Hose,.63 ID	X-312-49
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1
1	Washer, nylon	X-6278-10
1	Washer, nylon	X-6278-12

Block Heater, 2500W, 120V

1	Heater, Block, 120V, 2500W	GM67502
1	Adapter, bushing	361358
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2- 14npt - M16x1.5)	GM24328
1	Bracket, Blk Htr Mtg	GM67506
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-28
1	Tee, Pipe (1/2 x 1/2 x 1/2 npt)	X- 203- 13
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (3/8 in. npt x 1.00 in.)	X-204-9
4	Pipe (1/2 in. npt x 1.19 in.)	X-209-2
1	Pipe (1/2 in. npt x 1.50 in.)	X-209-5
1	Elbow, pipe (90 deg x 1/2 in. nptf)	X-215-1
1	Elbow, pipe (90 deg x 1/2 in. npt)	X-215-3
1	Hose,.63 ID	X-312-35
1	Hose,.63 ID	X-312-49
1	Connector, 90 deg. (3/8" id hose)	X- 391- 42
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1

Cooling System Kits

Qty.	Description	Part No.
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Block Heater, 2500W, 120V

1	Heater, Block, 120V, 2500W	GM67503
1	Adapter, bushing	361358
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2- 14npt - M16x1.5)	GM24328
1	Bracket, Blk Htr Mtg	GM67506
1	Bushing, reducing (3/8 x 1/2 in. npt)	X-202-28
1	Tee, Pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Pipe (3/8 in. npt x 1.50 in.)	X-204-8
1	Pipe (3/8 in. npt x 1.00 in.)	X-204-9
4	Pipe (1/2 in. npt x 1.19 in.)	X-209-2
1	Pipe (1/2 in. npt x 1.50 in.)	X-209-5
1	Elbow, pipe (90 deg x 1/2 in. nptf)	X-215-1
1	Elbow, pipe (90 deg x 1/2 in. npt)	X-215-3
1	Hose, .63 ID	X-312-35
1	Hose, .63 ID	X-312-49
1	Connector, 90 deg. (3/8"ID hose)	X-391-42
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose 5/8 in. x 1/2 in. MIP Brass	X-582-1

GM70703-KA2

Block Heater, 2500W, 90/120V 1PH

1	Block, heater 2500W, 120V	GM20133
1	Block Heater Service Element	GM29477
1	Thermostat	GM29529
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Strap, ground (5 in.)	223033
1	Gasket, washer	297001
1	Adapter, bushing	352360
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	O-RING, ISO 6149 (13.3mm id)	GM16112
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Thermostat Assembly	GM24738
4	Vibromount, Controller	GM38784-2
1	Bracket, Block Heater	GM51263
1	Pipe (1/2"npt x 4.50")	X-209-21
1	Pipe (1/2"npt x 1.50")	X-209-5
1	Elbow, street (90 deg x 1/2"nptf)	X-211-3
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose	X-582-7
2	Hose, Coolant 26"	X-6367-6

GM73528-KA1

Qty.	Description	Part No.
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Block Heater, 2500W, 190/208V 1PH

1	Block, heater 2500W, 120V	GM20134
1	Block Heater Service Element	GM29478
1	Thermostat	GM29529
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Strap, ground (5 in.)	223033
1	Gasket, washer	297001
1	Adapter, bushing	352360
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	O-RING, ISO 6149 (13.3mm id)	GM16112
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Thermostat Assembly	GM24738
4	Vibromount, Controller	GM38784-2
1	Bracket, Block Heater	GM51263
1	Pipe (1/2"npt x 4.50")	X-209-21
1	Pipe (1/2"npt x 1.50")	X-209-5
1	Elbow, street (90 deg x 1/2"nptf)	X-211-3
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose	X-582-7
2	Hose, Coolant 26"	X-6367-6

GM73528-KA2

Block Heater, 2500W, 190/208V 1PH

1	Block, heater 2500W, 120V	GM20135
1	Block Heater Service Element	GM29474
1	Thermostat	GM29529
1	Box, block heater control	354315
1	Label, wiring diagram	354327
1	Strap, ground (5 in.)	223033
1	Gasket, washer	297001
1	Adapter, bushing	352360
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	O-RING, ISO 6149 (13.3mm id)	GM16112
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Thermostat Assembly	GM24738
4	Vibromount, Controller	GM38784-2
1	Bracket, Block Heater	GM51263
1	Pipe (1/2"npt x 4.50")	X-209-21
1	Pipe (1/2"npt x 1.50")	X-209-5
1	Elbow, street (90 deg x 1/2"nptf)	X-211-3
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose	X-582-7
2	Hose, Coolant 26"	X-6367-6

GM73528-KA3

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 2500W, 190/208V 1PH

1	Block, heater 2500W, 120V	GM20136
1	Block Heater Service Element	GM29479
1	Thermostat	GM29529
1	Box, block heater control	354316
1	Label, wiring diagram	354328
1	Strap, ground (5 in.)	223033
1	Gasket, washer	297001
1	Adapter, bushing	352360
1	Cover, block heater control	354317
1	Gasket, control box	354318
1	Decal, warning	354325
1	O-RING, ISO 6149 (13.3mm id)	GM16112
2	Valve, Shutoff (1/2-14npt)	GM19670
1	Thermostat Assembly	GM24738
4	Vibromount, Controller	GM38784-2
1	Bracket, Block Heater	GM51263
1	Pipe (1/2"npt x 4.50")	X-209-21
1	Pipe (1/2"npt x 1.50")	X-209-5
1	Elbow, street (90 deg x 1/2"nptf)	X-211-3
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, Hose	X-582-7
2	Hose, Coolant 26"	X-6367-6

Block Heater, 6000W, 240V, 1Ph

1	Heater, block 240v 1ph 6000w	GM62511
1	Replacement Element (Service)	GM74182
4	Vibromount, controller	328645
1	Adapter, bushing	361358
2	Valve, shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
1	Bracket, block heater	GM60615
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, hex 10mm	M6923-10-80
2	Screw, hex cap	M933-10035-60
4	Bolt, hex cap	X-125-23
1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
1	Pipe (1/2"npt x 1.50") brass	X-209-1
5	Pipe (1/2"npt x 1.19")	X-209-2
1	Pipe (1/2"npt x 1.50")	X-209-5
1	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
2	Pipe (1"npt x 1.50")	X-218-24
8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Stud, 5/16-18 x 1.5 in.	X-352-65
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15
2	Connector, hose + vibra seal	X-582-7
4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Washer, nylon	X-6278-12
1	Hose, .75 ID (55 in.)	X-6367-10
1	Hose, .75 ID (56 in.)	X-6367-5
1	Plug, pipe (1" nptf)	X-75-13
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Connector, 90 deg. (3/8" id hose)	X-391-42

GM74160-KA1

Qty.	Description	Part No.
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Block Heater, 6000W, 480V, 1Ph

1	Heater, block 480v 1ph 6000w	GM62512
1	Replacement Element (Service)	GM74183
4	Vibromount, controller	328645
1	Adapter, bushing	361358
2	Valve, shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
1	Bracket, block heater	GM60615
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, hex 10mm	M6923-10-80
2	Screw, hex cap	M933-10035-60
4	Bolt, hex cap	X-125-23
1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
1	Pipe (1/2"npt x 1.50") brass	X-209-1
5	Pipe (1/2"npt x 1.19")	X-209-2
1	Pipe (1/2"npt x 1.50")	X-209-5
2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
1	Pipe (1"npt x 1.50")	X-218-24
8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Stud, 5/16-18 x 1.5 in.	X-352-65
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15
2	Connector, hose + vibra seal	X-582-7
4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Washer, nylon	X-6278-12
1	Hose, .75 ID (55 in.)	X-6367-10
1	Hose, .75 ID (56 in.)	X-6367-5
1	Plug, pipe (1" nptf)	X-75-13
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Connector, 90 deg. (3/8" id hose)	X-391-42

GM74160-KA2

Block Heater, 6000W, 240V, 3Ph

1	Heater, block 240v 3ph 6000w	GM62513
1	Replacement Element (Service)	GM74184
4	Vibromount, controller	328645
1	Adapter, bushing	361358
2	Valve, shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
1	Bracket, block heater	GM60615
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, hex 10mm	M6923-10-80
2	Screw, hex cap	M933-10035-60
4	Bolt, hex cap	X-125-23
1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
1	Pipe (1/2"npt x 1.50") brass	X-209-1
5	Pipe (1/2"npt x 1.19")	X-209-2
1	Pipe (1/2"npt x 1.50")	X-209-5
2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
1	Pipe (1"npt x 1.50")	X-218-24
8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Stud, 5/16-18 x 1.5 in.	X-352-65
4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15
2	Connector, hose + vibra seal	X-582-7
4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Washer, nylon	X-6278-12
1	Hose, .75 ID (55 in.)	X-6367-10
1	Hose, .75 ID (56 in.)	X-6367-5
1	Plug, pipe (1" nptf)	X-75-13
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Connector, 90 deg. (3/8" id hose)	X-391-42

GM74160-KA3

Cooling System Kits, continued

Qty.	Description	Part No.	Qty.	Description	Part No.
Block Heater, 6000W, 380V, 3Ph			Block Heater, 6000W, 208V, 1Ph		
1	Heater, block 380v 3ph 6000w	GM74160-KA4	1	Heater, block 208v 1ph 6000w	GM77835
1	Replacement Element (Service)	GM74185	1	Replacement Element (Service)	GM77836
4	Vibromount, controller	328645	4	Vibromount, controller	328645
1	Adapter, bushing	361358	1	Adapter, bushing	361358
2	Valve, shutoff (1/2-14npt)	GM19670	2	Valve, shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328	1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
1	Bracket, block heater	GM60615	1	Bracket, block heater	GM60615
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80	2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, hex 10mm	M6923-10-80	2	Nut, hex 10mm	M6923-10-80
2	Screw, hex cap	M933-10035-60	2	Screw, hex cap	M933-10035-60
4	Bolt, hex cap	X-125-23	4	Bolt, hex cap	X-125-23
1	Tee, pipe (1 x 1 x 1 npt)	X-203-2	1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
1	Pipe (1/2"npt x 1.50") brass	X-209-1	1	Pipe (1/2"npt x 1.50") brass	X-209-1
5	Pipe (1/2"npt x 1.19")	X-209-2	5	Pipe (1/2"npt x 1.19")	X-209-2
1	Pipe (1/2"npt x 1.50")	X-209-5	1	Pipe (1/2"npt x 1.50")	X-209-5
2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1	2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
1	Pipe (1"npt x 1.50")	X-218-24	1	Pipe (1"npt x 1.50")	X-218-24
8	Washer, lock	X-22-16	8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-25-37	2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Stud, 5/16-18 x 1.5 in.	X-352-65	4	Stud, 5/16-18 x 1.5 in.	X-352-65
4	Clamp, hose, .69/1.25 in.	X-426-12	4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15	2	Connector, hose + vibra seal	X-582-15
2	Connector, hose + vibra seal	X-582-7	2	Connector, hose + vibra seal	X-582-7
4	Nut,flange spiralock, 5/16-18	X-6210-7	4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Washer, nylon	X-6278-12	1	Washer, nylon	X-6278-12
1	Hose, .75 ID (55 in.)	X-6367-10	1	Hose, .75 ID (55 in.)	X-6367-10
1	Hose, .75 ID (56 in.)	X-6367-5	1	Hose, .75 ID (56 in.)	X-6367-5
1	Plug, pipe (1" nptf)	X-75-13	1	Plug, pipe (1" nptf)	X-75-13
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13	1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Connector, 90 deg. (3/8" id hose)	X-391-42	1	Connector, 90 deg. (3/8" id hose)	X-391-42
Block Heater, 6000W, 480V, 3Ph			Block Heater, 6000W, 240V, 1Ph		
1	Heater, block 480v 3ph 6000w	GM74160-KA5	1	Heater, block 240v 1ph 6000w	GM75287-KA1
1	Replacement Element (Service)	GM74181	1	Replacement Element (Service)	GM74182
4	Vibromount, controller	328645	4	Vibromount, controller	328645
1	Adapter, bushing	361358	1	Adapter, bushing	361358
2	Valve, shutoff (1/2-14npt)	GM19670	2	Valve, shutoff (1/2-14npt)	GM19670
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328	1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
1	Bracket, block heater	GM60615	1	Bracket, block heater	GM60615
2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80	2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Nut, hex 10mm	M6923-10-80	2	Nut, hex 10mm	M6923-10-80
2	Screw, hex cap	M933-10035-60	2	Screw, hex cap	M933-10035-60
4	Bolt, hex cap	X-125-23	4	Bolt, hex cap	X-125-23
1	Tee, pipe (1 x 1 x 1 npt)	X-203-2	1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
1	Pipe (1/2"npt x 1.50") brass	X-209-1	5	Pipe (1/2"npt x 1.19")	X-209-2
5	Pipe (1/2"npt x 1.19")	X-209-2	2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
1	Pipe (1/2"npt x 1.50")	X-209-5	2	Pipe (1"npt x 1.50")	X-218-24
2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1	8	Washer, lock	X-22-16
1	Pipe (1"npt x 1.50")	X-218-24	1	Elbow, pipe (45 deg x 1"npt)	X-225-9
8	Washer, lock	X-22-16	2	Washer, plain, .406 ID x.812 in. OD	X-25-37
2	Washer, plain, .406 ID x.812 in. OD	X-25-37	4	Stud, 5/16-18 x 1.5 in.	X-352-65
4	Stud, 5/16-18 x 1.5 in.	X-352-65	4	Clamp, hose, .69/1.25 in.	X-426-12
4	Clamp, hose, .69/1.25 in.	X-426-12	2	Connector, hose + vibra seal	X-582-15
2	Connector, hose + vibra seal	X-582-15	2	Connector, hose + vibra seal	X-582-7
2	Connector, hose + vibra seal	X-582-7	4	Nut,flange spiralock, 5/16-18	X-6210-7
4	Nut,flange spiralock, 5/16-18	X-6210-7	1	Washer, nylon	X-6278-12
1	Washer, nylon	X-6278-12	1	Washer, nylon	X-6278-12
1	Hose, .75 ID (55 in.)	X-6367-10	1	Hose, .75 ID (106 in.)	X-6367-14
1	Hose, .75 ID (56 in.)	X-6367-5	1	Hose, .75 ID (46 in.)	X-6367-8
1	Plug, pipe (1" nptf)	X-75-13	1	Plug, pipe (1" nptf)	X-75-13
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13	1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
1	Connector, 90 deg. (3/8" id hose)	X-391-42	1	Connector, 90 deg. (3/8" id hose)	X-391-42

Cooling System Kits, continued

Qty.	Description	Part No.	Qty.	Description	Part No.
Block Heater, 6000W, 480V, 1Ph			Block Heater, 6000W, 380V, 3Ph		
1	Heater, block 480v 1ph	GM75287-KA2	1	Heater, block 380v 3ph	GM75287-KA4
1	Replacement Element (Service)	GM62512	1	Replacement Element (Service)	GM62514
4	Vibromount, controller	GM74183	4	Vibromount, controller	GM74185
1	Adapter, bushing	328645	4	Vibromount, controller	328645
2	Valve, shutoff (1/2-14npt)	361358	1	Adapter, bushing	361358
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM19670	2	Valve, shutoff (1/2-14npt)	GM19670
1	Bracket, block heater	GM24328	1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
2	Washer, plain 10.5 ID x 20.0 OD	GM60615	1	Bracket, block heater	GM60615
2	Nut, hex 10mm	M125A-10-80	2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Screw, hex cap	M6923-10-80	2	Nut, hex 10mm	M6923-10-80
4	Bolt, hex cap	M933-10035-60	2	Screw, hex cap	M933-10035-60
1	Tee, pipe (1 x 1 x 1 npt)	X-125-23	4	Bolt, hex cap	X-125-23
5	Pipe (1/2"npt x 1.19")	X-203-2	1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
2	Elbow, pipe (90 deg x 1/2"npt)	X-209-2	5	Pipe (1/2"npt x 1.19")	X-209-2
2	Pipe (1"npt x 1.50")	X-215-1	2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
8	Washer, lock	X-218-24	2	Pipe (1"npt x 1.50")	X-218-24
1	Elbow, pipe (45 deg x 1"npt)	X-22-16	8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-225-9	1	Elbow, pipe (45 deg x 1"npt)	X-225-9
4	Stud, 5/16-18 x 1.5 in.	X-25-37	2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Clamp, hose, .69/1.25 in.	X-352-65	4	Stud, 5/16-18 x 1.5 in.	X-352-65
2	Connector, hose + vibra seal	X-426-12	4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15	2	Connector, hose + vibra seal	X-582-15
4	Nut,flange spiralock, 5/16-18	X-582-7	2	Connector, hose + vibra seal	X-582-7
1	Hose, .75 ID (106 in.)	X-6210-7	4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Hose, .75 ID (46 in.)	X-6367-14	1	Hose, .75 ID (106 in.)	X-6367-14
1	Plug, pipe (1" nptf)	X-6367-8	1	Hose, .75 ID (46 in.)	X-6367-8
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-75-13	1	Plug, pipe (1" nptf)	X-75-13
1	Connector, 90 deg. (3/8" id hose)	X-203-13	1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
		X-391-42	1	Connector, 90 deg. (3/8" id hose)	X-391-42
Block Heater, 6000W, 240V, 3Ph			Block Heater, 6000W, 480V, 3Ph		
1	Heater, block 240v 3ph	GM75287-KA3	1	Heater, block 480v 3ph	GM75287-KA5
1	Replacement Element (Service)	GM62513	1	Replacement Element (Service)	GM62510
4	Vibromount, controller	GM74184	4	Vibromount, controller	GM74181
1	Adapter, bushing	328645	4	Vibromount, controller	328645
2	Valve, shutoff (1/2-14npt)	361358	1	Adapter, bushing	361358
1	Adapter, bushing (1/2-14npt - M16x1.5)	GM19670	2	Valve, shutoff (1/2-14npt)	GM19670
1	Bracket, block heater	GM24328	1	Adapter, bushing (1/2-14npt - M16x1.5)	GM24328
2	Washer, plain 10.5 ID x 20.0 OD	GM60615	1	Bracket, block heater	GM60615
2	Nut, hex 10mm	M125A-10-80	2	Washer, plain 10.5 ID x 20.0 OD	M125A-10-80
2	Screw, hex cap	M6923-10-80	2	Nut, hex 10mm	M6923-10-80
4	Bolt, hex cap	M933-10035-60	2	Screw, hex cap	M933-10035-60
1	Tee, pipe (1 x 1 x 1 npt)	X-125-23	4	Bolt, hex cap	X-125-23
5	Pipe (1/2"npt x 1.19")	X-203-2	1	Tee, pipe (1 x 1 x 1 npt)	X-203-2
2	Elbow, pipe (90 deg x 1/2"npt)	X-209-2	5	Pipe (1/2"npt x 1.19")	X-209-2
2	Pipe (1"npt x 1.50")	X-215-1	2	Elbow, pipe (90 deg x 1/2"npt)	X-215-1
8	Washer, lock	X-218-24	2	Pipe (1"npt x 1.50")	X-218-24
1	Elbow, pipe (45 deg x 1"npt)	X-22-16	8	Washer, lock	X-22-16
2	Washer, plain, .406 ID x.812 in. OD	X-225-9	1	Elbow, pipe (45 deg x 1"npt)	X-225-9
4	Stud, 5/16-18 x 1.5 in.	X-25-37	2	Washer, plain, .406 ID x.812 in. OD	X-25-37
4	Clamp, hose, .69/1.25 in.	X-352-65	4	Stud, 5/16-18 x 1.5 in.	X-352-65
2	Connector, hose + vibra seal	X-426-12	4	Clamp, hose, .69/1.25 in.	X-426-12
2	Connector, hose + vibra seal	X-582-15	2	Connector, hose + vibra seal	X-582-15
4	Nut,flange spiralock, 5/16-18	X-582-7	2	Connector, hose + vibra seal	X-582-7
1	Hose, .75 ID (106 in.)	X-6210-7	4	Nut,flange spiralock, 5/16-18	X-6210-7
1	Hose, .75 ID (46 in.)	X-6367-14	1	Hose, .75 ID (106 in.)	X-6367-14
1	Plug, pipe (1" nptf)	X-6367-8	1	Hose, .75 ID (46 in.)	X-6367-8
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-75-13	1	Plug, pipe (1" nptf)	X-75-13
1	Connector, 90 deg. (3/8" id hose)	X-203-13	1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X-203-13
		X-391-42	1	Connector, 90 deg. (3/8" id hose)	X-391-42

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 6000W, 208V, 1Ph

1	Heater, block 208v 1ph 6000w
1	Replacement Element (Service)
4	Vibromount, controller
1	Adapter, bushing
2	Valve, shutoff (1/2-14npt)
1	Adapter, bushing (1/2-14npt - M16x1.5)
1	Bracket, block heater
2	Washer, plain 10.5 ID x 20.0 OD
2	Nut, hex 10mm
2	Screw, hex cap
4	Bolt, hex cap
1	Tee, pipe (1 x 1 x 1 npt)
5	Pipe (1/2"npt x 1.19")
2	Elbow, pipe (90 deg x 1/2"npt)
2	Pipe (1"npt x 1.50")
8	Washer, lock
1	Elbow, pipe (45 deg x 1"npt)
2	Washer, plain, .406 ID x.812 in. OD
4	Stud, 5/16-18 x 1.5 in.
4	Clamp, hose, .69/1.25 in.
2	Connector, hose + vibra seal
2	Connector, hose + vibra seal
4	Nut,flange spiralock, 5/16-18
1	Hose, .75 ID (106 in.)
1	Hose, .75 ID (46 in.)
1	Plug, pipe (1" nptf)
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)
1	Connector, 90 deg. (3/8"ID hose)

GM75287-KA6

GM77835
GM77836
328645
361358
GM19670
GM24328
GM60615
M125A-10-80
M6923-10-80
M933-10035-60
X-125-23
X-203-2
X-209-2
X-215-1
X-218-24
X-22-16
X-225-9
X-25-37
X-352-65
X-426-12
X-582-15
X-582-7
X-6210-7
X-6367-14
X-6367-8
X-75-13
X-203-13
X-391-42

Block Heater, 6000W, 240V, 1Ph

1	Block Heater, 240V, 1PH, 6000W
1	Adapter, bushing
4	Clamp, hose, .69/1.25 in.
1	Tag, instruction
4	Stud, 5/16- 18 x 1.5 in.
1	Tag, hang
1	Connector, 90 deg (3/8 in. ID hose)
8	Washer, lock .326 in. ID x .883 in. OD
1	Heater, Block 240V, 1Ph
2	Connector, hose + Vibra Seal
1	Bracket, Block Heater
2	Connector, hose + Vibra Seal
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)
2	Valve, Shutoff (1/2- 14 NPT)
2	Elbow, pipe (90deg x 1/2 in. NPT)
1	Screw, Hex Cap M16 x 30
1	Clamp
4	Vibromount, controller
1	Hose, Coolant 65 in.
2	Screw, hex cap M10 x 35
2	Washer, Plain 10.5 ID x 20.0 OD
4	Nut,flange spiralock, 5/16- 18
1	Hose, Coolant
1	Washer, Plain
1	Elbow, street (90 deg x 1 in. NPTF)
1	Elbow, street (45 deg x 1 in. NPT)
5	Pipe (1/2 in. NPT x 1.19 in.)
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)
2	Washer, Plain, .406 ID X.812 in. OD
1	Replacement Element (Service), 240V 1Ph
4	Bolt, Hex Cap
1	Sleeve, Split wrap braided, 1/2 in. dia

GM111086- KA1

GM111086- S1
361358
X- 426- 12
299896
X- 352- 65
279047
X- 391- 42
X- 22- 16
GM62511
X- 582- 7
GM60615
X- 582- 15
GM24328
GM19670
X- 215- 1
M961- 16030- 82
X- 672- 38
328645
X- 6367- 9
M933- 10035- 60
M125A- 10- 80
X- 6210- 7
X- 6367- 14
M125A- 16- 80
151385
X- 274- 10
X- 209- 2
X- 203- 13
X- 25- 37
GM74182
X- 125- 23
29808 00750

Qty.	Description	Part No.
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Block Heater, 6000W, 480V, 1Ph

1	Block Heater, 480V, 1PH, 6000W
1	Adapter, bushing
4	Clamp, hose, .69/1.25 in.
1	Tag, instruction
4	Stud, 5/16- 18 x 1.5 in.
1	Tag, hang
1	Connector, 90 deg (3/8 in. ID hose)
8	Washer, lock .326 in. ID x .883 in. OD
1	Heater, Block 480V, 1Ph
2	Connector, hose + Vibra Seal
1	Bracket, Block Heater
2	Connector, hose + Vibra Seal
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)
2	Valve, Shutoff (1/2- 14 NPT)
2	Elbow, pipe (90deg x 1/2 in. NPT)
1	Screw, Hex Cap M16 x 30
1	Clamp
4	Vibromount, controller
1	Hose, Coolant 65 in.
2	Screw, hex cap M10 x 35
2	Washer, Plain 10.5 ID x 20.0 OD
4	Nut,flange spiralock, 5/16- 18
1	Hose, Coolant
1	Washer, Plain
1	Elbow, street (90 deg x 1 in. NPTF)
1	Elbow, street (45 deg x 1 in. NPT)
5	Pipe (1/2 in. NPT x 1.19 in.)
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)
2	Washer, Plain, .406 ID X.812 in. OD
1	Replacement Element (Service), 480V 1Ph
4	Bolt, Hex Cap
1	Sleeve, Split wrap braided, 1/2 in. dia

GM111086- KA2

GM111086- S2
361358
X- 426- 12
299896
X- 352- 65
279047
X- 391- 42
X- 22- 16
GM62512
X- 582- 7
GM60615
X- 582- 15
GM24328
GM19670
X- 215- 1
M961- 16030- 82
X- 672- 38
328645
X- 6367- 9
M933- 10035- 60
M125A- 10- 80
X- 6210- 7
X- 6367- 14
M125A- 16- 80
151385
X- 274- 10
X- 209- 2
X- 203- 13
X- 25- 37
GM74183
X- 125- 23
29808 00750

Block Heater, 6000W, 240V, 3Ph

1	Block Heater, 240V, 3PH, 6000W
1	Adapter, bushing
4	Clamp, hose, .69/1.25 in.
1	Tag, instruction
4	Stud, 5/16- 18 x 1.5 in.
1	Tag, hang
1	Connector, 90 deg (3/8 in. ID hose)
8	Washer, lock .326 in. ID x .883 in. OD
1	Heater, Block 240V, 3Ph
2	Connector, hose + Vibra Seal
1	Bracket, Block Heater
2	Connector, hose + Vibra Seal
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)
2	Valve, Shutoff (1/2- 14 NPT)
2	Elbow, pipe (90deg x 1/2 in. NPT)
1	Screw, Hex Cap M16 x 30
1	Clamp
4	Vibromount, controller
1	Hose, Coolant 65 in.
2	Screw, hex cap M10 x 35
2	Washer, Plain 10.5 ID x 20.0 OD
4	Nut,flange spiralock, 5/16- 18
1	Hose, Coolant
1	Washer, Plain
1	Elbow, street (90 deg x 1 in. NPTF)
1	Elbow, street (45 deg x 1 in. NPT)
5	Pipe (1/2 in. NPT x 1.19 in.)
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)
2	Washer, Plain, .406 ID X.812 in. OD
1	Replacement Element (Service), 240V 3Ph
4	Bolt, Hex Cap
1	Sleeve, Split wrap braided, 1/2 in. dia

GM111086- KA3

GM111086- S3
361358
X- 426- 12
299896
X- 352- 65
279047
X- 391- 42
X- 22- 16
GM62513
X- 582- 7
GM60615
X- 582- 15
GM24328
GM19670
X- 215- 1
M961- 16030- 82
X- 672- 38
328645
X- 6367- 9
M933- 10035- 60
M125A- 10- 80
X- 6210- 7
X- 6367- 14
M125A- 16- 80
151385
X- 274- 10
X- 209- 2
X- 203- 13
X- 25- 37
GM74184
X- 125- 23
29808 00750

Cooling System Kits, continued

Qty.	Description	Part No.
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Block Heater, 6000W, 480V, 3Ph

1	Block Heater, 480V, 3PH, 6000W	GM111086- S4
1	Adapter, bushing	361358
4	Clamp, hose, .69/1.25 in.	X- 426- 12
1	Tag, instruction	299896
4	Stud, 5/16- 18 x 1.5 in.	X- 352- 65
1	Tag, hang	279047
1	Connector, 90 deg (3/8 in. ID hose)	X- 391- 42
8	Washer, lock .326 in. ID x .883 in. OD	X- 22- 16
1	Heater, Block 480V, 3Ph	GM62510
2	Connector, hose + Vibra Seal	X- 582- 7
1	Bracket, Block Heater	GM60615
2	Connector, hose + Vibra Seal	X- 582- 15
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)	GM24328
2	Valve, Shutoff (1/2- 14 NPT)	GM19670
2	Elbow, pipe (90deg x 1/2 in. NPT)	X- 215- 1
1	Screw, Hex Cap M16 x 30	M961- 16030- 82
1	Clamp	X- 672- 38
4	Vibromount, controller	328645
1	Hose, Coolant 65 in.	X- 6367- 9
2	Screw, hex cap M10 x 35	M933- 10035- 60
2	Washer, Plain 10.5 ID x 20.0 OD	M125A- 10- 80
4	Nut, flange spirallock, 5/16- 18	X- 6210- 7
1	Hose, Coolant	X- 6367- 14
1	Washer, Plain	M125A- 16- 80
1	Elbow, street (90 deg x 1 in. NPTF)	151385
1	Elbow, street (45 deg x 1 in. NPT)	X- 274- 10
5	Pipe (1/2 in. NPT x 1.19 in.)	X- 209- 2
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X- 203- 13
2	Washer, Plain, .406 ID X.812 in. OD	X- 25- 37
1	Replacement Element (Service), 480V 3Ph	GM74181
4	Bolt, Hex Cap	X- 125- 23
1	Sleeve, Split wrap braided, 1/2 in. dia	29808 00750

Block Heater, 6000W, 208V, 1Ph

1	Block Heater, 208V, 1PH, 6000W	GM111086- S5
1	Adapter, bushing	361358
4	Clamp, hose, .69/1.25 in.	X- 426- 12
1	Tag, instruction	299896
4	Stud, 5/16- 18 x 1.5 in.	X- 352- 65
1	Tag, hang	279047
1	Connector, 90 deg (3/8 in. ID hose)	X- 391- 42
8	Washer, lock .326 in. ID x .883 in. OD	X- 22- 16
1	Heater, Block 208V, 1Ph	GM77835
2	Connector, hose + Vibra Seal	X- 582- 7
1	Bracket, Block Heater	GM60615
2	Connector, hose + Vibra Seal	X- 582- 15
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)	GM24328
2	Valve, Shutoff (1/2- 14 NPT)	GM19670
2	Elbow, pipe (90deg x 1/2 in. NPT)	X- 215- 1
1	Screw, Hex Cap M16 x 30	M961- 16030- 82
1	Clamp	X- 672- 38
4	Vibromount, controller	328645
1	Hose, Coolant 65 in.	X- 6367- 9
2	Screw, hex cap M10 x 35	M933- 10035- 60
2	Washer, Plain 10.5 ID x 20.0 OD	M125A- 10- 80
4	Nut, flange spirallock, 5/16- 18	X- 6210- 7
1	Hose, Coolant	X- 6367- 14
1	Washer, Plain	M125A- 16- 80
1	Elbow, street (90 deg x 1 in. NPTF)	151385
1	Elbow, street (45 deg x 1 in. NPT)	X- 274- 10
5	Pipe (1/2 in. NPT x 1.19 in.)	X- 209- 2
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X- 203- 13
2	Washer, Plain, .406 ID X.812 in. OD	X- 25- 37
1	Replacement Element (Service), 208V 1Ph	GM77836
4	Bolt, Hex Cap	X- 125- 23
1	Sleeve, Split wrap braided, 1/2 in. dia	29808 00750

Qty.	Description	Part No.
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Block Heater, 6000W, 380V, 3Ph

1	Block Heater, 380V, 3PH, 6000W	GM111086- S6
1	Adapter, bushing	361358
4	Clamp, hose, .69/1.25 in.	X- 426- 12
1	Tag, instruction	299896
4	Stud, 5/16- 18 x 1.5 in.	X- 352- 65
1	Tag, hang	279047
1	Connector, 90 deg (3/8 in. ID hose)	X- 391- 42
8	Washer, lock .326 in. ID x .883 in. OD	X- 22- 16
1	Heater, Block 380V, 3Ph	GM62514
2	Connector, hose + Vibra Seal	X- 582- 7
1	Bracket, Block Heater	GM60615
2	Connector, hose + Vibra Seal	X- 582- 15
1	Adapter, bushing (1/2- 14NPT - M16 x 1.5)	GM24328
2	Valve, Shutoff (1/2- 14 NPT)	GM19670
2	Elbow, pipe (90deg x 1/2 in. NPT)	X- 215- 1
1	Screw, Hex Cap M16 x 30	M961- 16030- 82
1	Clamp	X- 672- 38
4	Vibromount, controller	328645
1	Hose, Coolant 65 in.	X- 6367- 9
2	Screw, hex cap M10 x 35	M933- 10035- 60
2	Washer, Plain 10.5 ID x 20.0 OD	M125A- 10- 80
4	Nut, flange spirallock, 5/16- 18	X- 6210- 7
1	Hose, Coolant	X- 6367- 14
1	Washer, Plain	M125A- 16- 80
1	Elbow, street (90 deg x 1 in. NPTF)	151385
1	Elbow, street (45 deg x 1 in. NPT)	X- 274- 10
5	Pipe (1/2 in. NPT x 1.19 in.)	X- 209- 2
1	Tee, pipe (1/2 x 1/2 x 1/2 npt)	X- 203- 13
2	Washer, Plain, .406 ID X.812 in. OD	X- 25- 37
1	Replacement Element (Service), 380V 3Ph	GM74815
4	Bolt, Hex Cap	X- 125- 23
1	Sleeve, Split wrap braided, 1/2 in. dia	29808 00750

Radiator Duct Flange

2	Radiator Duct Flange	GM69892
2	Radiator Duct Flange	GM69893
1	Frame, Air Duct Vertical (LH)	GM71431
8	Rivet, pop, .187 in.	X- 781- 11

Radiator Duct Flange

2	Radiator Duct Flange	GM69894
2	Radiator Duct Flange	GM69895
8	Rivet, pop, .187 in.	X- 781- 11
16	Washer, hardened, .406 ID x 1.375 in. OD	X- 801- 11

Radiator Duct Flange

2	Radiator Duct Flange	GM69896
2	Radiator Duct Flange	GM69897
8	Rivet, pop, .187 in.	X- 781- 11
18	Washer, hardened, .406 ID x 1.375 in. OD	X- 801- 11

Radiator Duct Flange

2	Radiator Duct Flange	GM69895
2	Radiator Duct Flange (Vertical)	GM69896
8	Rivet, pop, .187 in.	X- 781- 11
16	Washer, hardened, .406 ID x 1.375 in. OD	X- 801- 11

Radiator Guard

1	Guard, Radiator Assy.	GM75630
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Radiator Guard

1	Guard, Radiator Assy.	GM75631
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Radiator Guard

1	Guard, Radiator Assy.	GM75632
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Radiator Guard

1	Guard, Radiator	GM71297
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Fuel System Kits

Qty.	Description	Part No.
Filter, Natural Gas		PA-343303
1	Filter, gas	343302
1	Element, gas filter	343304
Filter, Natural Gas		GM107751-KP1
2	Adapter flange, DIN80 to 3 in. NPT	GM107752
2	Gasket DN80	GM95416
1	Filter, fuel	GM98890
32	Washer, plain	M125A-16-80
16	Screw, hex cap M16	M933-16070-60
16	Nut, hex, 16 mm	M934-16-60
Flexible Fuel Line		GM69887-KP1
1	Fuel line, flexible (2.00 in. ID x 18 in.)	X-504-16
1	Pipe, Nipple (2 in. npt x 2.00 in.)	X-219-9
Flexible Fuel Line		GM69901-KP1
1	Fuel line, flexible (2.00 in. ID x 18 in.)	X-504-16
1	Pipe, Nipple (2 in. npt x 2.00 in.)	X-219-9
Flexible Fuel Line		GM71400-KP1
1	Fuel line, flexible	X-504-26
1	Pipe (3 in. npt x 3.00 in)	X-533-1
Additional Gas Solenoid Valve		GM69886-KA1
1	Valve Assy, Gas Solenoid	GM69614-1
1	Harness, Solenoid Extension	GM70487
1	Pipe (2 in. npt x 2.50 in.)	X-219-8
Additional Gas Solenoid Valve		GM71401-KA1
2	Valve Assy, Gas Solenoid	GM69614-1
1	Harness, Solenoid Extension	GM73386
2	Pipe (2 in. npt x 3.00 in.)	X-396-19
Additional Gas Solenoid Valve		GM75390-KA1
1	Valve Assy, Gas Solenoid	GM69614-1
1	Harness, Solenoid Extension	GM70487
1	Pipe (2 in. npt x 2.00 in.)	X-219-9
1	Pipe (2 in. npt x 4.50 in.)	X-396-21
Additional Gas Solenoid Valve		GM74764-KA1
3	Clamp, muffler, 2.37 in.	288827
2	Valve Assy, Gas Solenoid	GM69614-1
1	Bracket, Mtg Dual Fuel	GM71426
1	Dwg, Assy Additional Gas Solenoid Valve	GM74764
1	Harness, Solenoid Extension	GM74862
1	Bracket, Dual Fuel	GM78846
4	Elbow, pipe (90 deg x 2"npt)	X-215-6
1	Coupling, Pipe (2"npsc)	X-216-38
1	Pipe (2"npt x 4.00")	X-219-6
3	Pipe, Nipple (2" npt x 2.00")	X-219-9
5	Elbow, Pipe	X-225-4
1	Fitting, straight union (2"npt)	X-277-10
2	Pipe, Nipple (2" npt x 6.00")	X-396-20
1	Pipe (2"npt x 4.50")	X-396-21
2	Pipe (2"npt x 11.50")	X-396-23
3	Pipe, Nipple (2" npt x 8.00")	X-396-24
1	Pipe, (2" NPT X 15.50")	X-396-26
1	Fuel line, flexible (2.00"ID * 18")	X-504-16

Electrical Accessories

Qty.	Description	Part No.
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Battery, 2/12 V, 950CCA, Wet		324588
2	Battery, Opt Duty 925CCA, GRP31 12 V Wet	GM106375

Appendix A Abbreviations

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

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

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

Appendix B Common Hardware Application Guidelines

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

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

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

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

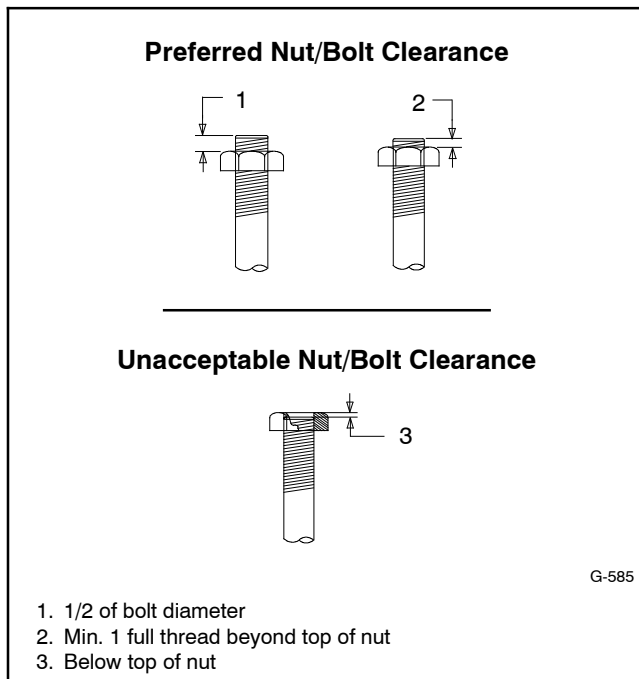


Figure 1 Acceptable Bolt Lengths

Steps for common hardware application:

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

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

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

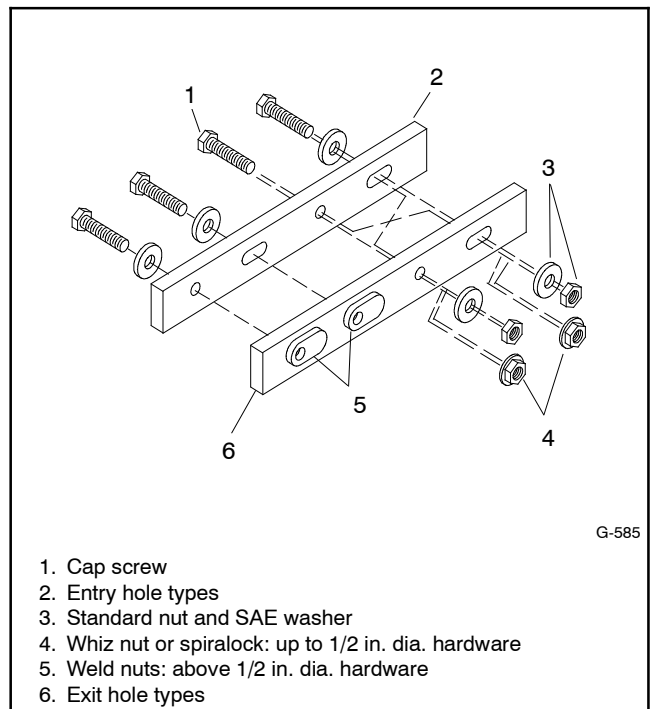


Figure 2 Acceptable Hardware Combinations

Appendix C General Torque Specifications

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

See Note 3

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

See Note 3

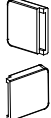
Notes:

1. The torque values above are general guidelines. Always use the torque values specified in the service manuals and/or assembly drawings when they differ from the above torque values.
2. The torque values above are based on new plated threads. Increase torque values by 15% if non-plated threads are used.
3. At minimum, hardware threaded into aluminum must have two diameters of thread engagement. Hardware threaded into steel and cast iron must have 1.25 diameters of thread.
4. Torque values are calculated as equivalent stress loading on American hardware with an approximate preload of 75% of proof strength and a friction coefficient of 0.2.

Appendix D Common Hardware Identification

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

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

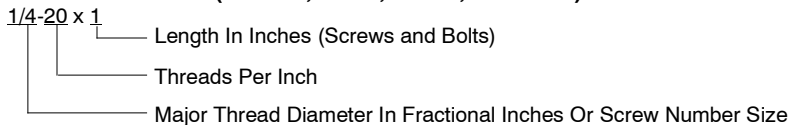
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	
Hose Clamp Covers	
Black, EPDM rubber used on worm gear clamps	

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

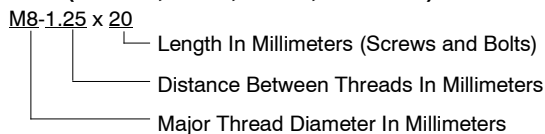
Phillips® screw is a registered trademark of Phillips Screw Company.

Sample Dimensions

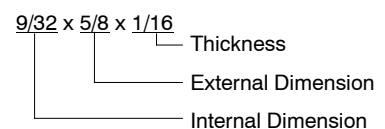
American Standard (Screws, Bolts, Studs, and Nuts)



Metric (Screws, Bolts, Studs, and Nuts)



Plain Washers



Lock Washers



Appendix E Common Hardware List

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

American Standard

Part No. Dimensions Hex Head Bolts (Grade 5)

X-465-17	1/4-20 x .38
X-465-6	1/4-20 x .50
X-465-2	1/4-20 x .62
X-465-16	1/4-20 x .75
X-465-18	1/4-20 x .88
X-465-7	1/4-20 x 1.00
X-465-8	1/4-20 x 1.25
X-465-9	1/4-20 x 1.50
X-465-10	1/4-20 x 1.75
X-465-11	1/4-20 x 2.00
X-465-12	1/4-20 x 2.25
X-465-14	1/4-20 x 2.75
X-465-21	1/4-20 x 5.00
X-465-25	1/4-28 x .38
X-465-20	1/4-28 x 1.00
X-125-33	5/16-18 x .50
X-125-23	5/16-18 x .62
X-125-3	5/16-18 x .75
X-125-31	5/16-18 x .88
X-125-5	5/16-18 x 1.00
X-125-24	5/16-18 x 1.25
X-125-34	5/16-18 x 1.50
X-125-25	5/16-18 x 1.75
X-125-26	5/16-18 x 2.00
230578	5/16-18 x 2.25
X-125-29	5/16-18 x 2.50
X-125-27	5/16-18 x 2.75
X-125-28	5/16-18 x 3.00
X-125-22	5/16-18 x 4.50
X-125-32	5/16-18 x 5.00
X-125-35	5/16-18 x 5.50
X-125-36	5/16-18 x 6.00
X-125-40	5/16-18 x 6.50
X-125-43	5/16-24 x 1.75
X-125-44	5/16-24 x 2.50
X-125-30	5/16-24 x .75
X-125-39	5/16-24 x 2.00
X-125-38	5/16-24 x 2.75
X-6238-2	3/8-16 x .62
X-6238-10	3/8-16 x .75
X-6238-3	3/8-16 x .88
X-6238-11	3/8-16 x 1.00
X-6238-4	3/8-16 x 1.25
X-6238-5	3/8-16 x 1.50
X-6238-1	3/8-16 x 1.75
X-6238-6	3/8-16 x 2.00
X-6238-17	3/8-16 x 2.25
X-6238-7	3/8-16 x 2.50
X-6238-8	3/8-16 x 2.75
X-6238-9	3/8-16 x 3.00
X-6238-19	3/8-16 x 3.25
X-6238-12	3/8-16 x 3.50
X-6238-20	3/8-16 x 3.75
X-6238-13	3/8-16 x 4.50
X-6238-18	3/8-16 x 5.50
X-6238-25	3/8-16 x 6.50

Part No. Dimensions Hex Head Bolts, cont.

X-6238-14	3/8-24 x .75
X-6238-16	3/8-24 x 1.25
X-6238-21	3/8-24 x 4.00
X-6238-22	3/8-24 x 4.50
X-6024-5	7/16-14 x .75
X-6024-2	7/16-14 x 1.00
X-6024-8	7/16-14 x 1.25
X-6024-3	7/16-14 x 1.50
X-6024-4	7/16-14 x 2.00
X-6024-11	7/16-14 x 2.75
X-6024-12	7/16-14 x 6.50
X-129-15	1/2-13 x .75
X-129-17	1/2-13 x 1.00
X-129-18	1/2-13 x 1.25
X-129-19	1/2-13 x 1.50
X-129-20	1/2-13 x 1.75
X-129-21	1/2-13 x 2.00
X-129-22	1/2-13 x 2.25
X-129-23	1/2-13 x 2.50
X-129-24	1/2-13 x 2.75
X-129-25	1/2-13 x 3.00
X-129-27	1/2-13 x 3.50
X-129-29	1/2-13 x 4.00
X-129-30	1/2-13 x 4.50
X-463-9	1/2-13 x 5.50
X-129-44	1/2-13 x 6.00
X-129-51	1/2-20 x .75
X-129-45	1/2-20 x 1.25
X-129-52	1/2-20 x 1.50
X-6021-3	5/8-11 x 1.00
X-6021-4	5/8-11 x 1.25
X-6021-2	5/8-11 x 1.50
X-6021-1	5/8-11 x 1.75
273049	5/8-11 x 2.00
X-6021-5	5/8-11 x 2.25
X-6021-6	5/8-11 x 2.50
X-6021-7	5/8-11 x 2.75
X-6021-12	5/8-11 x 3.75
X-6021-11	5/8-11 x 4.50
X-6021-10	5/8-11 x 6.00
X-6021-9	5/8-18 x 2.50
X-6239-1	3/4-10 x 1.00
X-6239-8	3/4-10 x 1.25
X-6239-2	3/4-10 x 1.50
X-6239-3	3/4-10 x 2.00
X-6239-4	3/4-10 x 2.50
X-6239-5	3/4-10 x 3.00
X-6239-6	3/4-10 x 3.50
X-792-1	1-8 x 2.25
X-792-5	1-8 x 3.00
X-792-8	1-8 x 5.00

Part No. Dimensions Type

Hex Nuts

X-6009-1	1-8	Standard
X-6210-3	6-32	Whiz
X-6210-4	8-32	Whiz
X-6210-5	10-24	Whiz
X-6210-1	10-32	Whiz
X-6210-2	1/4-20	Spiralock
X-6210-6	1/4-28	Spiralock
X-6210-7	5/16-18	Spiralock
X-6210-8	5/16-24	Spiralock
X-6210-9	3/8-16	Spiralock
X-6210-10	3/8-24	Spiralock
X-6210-11	7/16-14	Spiralock
X-6210-12	1/2-13	Spiralock
X-6210-15	7/16-20	Spiralock
X-6210-14	1/2-20	Spiralock
X-85-3	5/8-11	Standard
X-88-12	3/4-10	Standard
X-89-2	1/2-20	Standard

Washers

Part No.	ID	OD	Thick.	Bolt/ Screw
X-25-46	.125	.250	.022	#4
X-25-9	.156	.375	.049	#6
X-25-48	.188	.438	.049	#8
X-25-36	.219	.500	.049	#10
X-25-40	.281	.625	.065	1/4
X-25-85	.344	.687	.065	5/16
X-25-37	.406	.812	.065	3/8
X-25-34	.469	.922	.065	7/16
X-25-26	.531	1.062	.095	1/2
X-25-15	.656	1.312	.095	5/8
X-25-29	.812	1.469	.134	3/4
X-25-127	1.062	2.000	.134	1

Hose Clamp Covers

Part No.	Clamp Size
GM102674-1	13 mm (1/2 in.)
GM102674-2	8 mm (5/16 in.)

Metric

Hex head bolts are hardness grade 8.8 unless noted.

Part No. Dimensions Hex Head Bolts (Partial Thread)

M931-05055-60	M5-0.80 x 55
M931-06040-60	M6-1.00 x 40
M931-06055-60	M6-1.00 x 55
M931-06060-60	M6-1.00 x 60
M931-06060-SS	M6-1.00 x 60
M931-06070-60	M6-1.00 x 70
M931-06070-SS	M6-1.00 x 70
M931-06075-60	M6-1.00 x 75
M931-06090-60	M6-1.00 x 90
M931-06145-60	M6-1.00 x 145
M931-06150-60	M6-1.00 x 150
M931-08035-60	M8-1.25 x 35
M931-08040-60	M8-1.25 x 40
M931-08045-60	M8-1.25 x 45
M931-08050-60	M8-1.25 x 50
M931-08055-60	M8-1.25 x 55
M931-08055-82	M8-1.25 x 55*
M931-08060-60	M8-1.25 x 60
M931-08070-60	M8-1.25 x 70
M931-08070-82	M8-1.25 x 70*
M931-08075-60	M8-1.25 x 75
M931-08080-60	M8-1.25 x 80
M931-08090-60	M8-1.25 x 90
M931-08095-60	M8-1.25 x 95
M931-08100-60	M8-1.25 x 100
M931-08110-60	M8-1.25 x 110
M931-08120-60	M8-1.25 x 120
M931-08130-60	M8-1.25 x 130
M931-08140-60	M8-1.25 x 140
M931-08150-60	M8-1.25 x 150
M931-08200-60	M8-1.25 x 200
M931-10040-82	M10-1.25 x 40*
M931-10040-60	M10-1.50 x 40
M931-10045-60	M10-1.50 x 45
M931-10050-60	M10-1.50 x 50
M931-10050-82	M10-1.25 x 50*
M931-10055-60	M10-1.50 x 55
M931-10060-60	M10-1.50 x 60
M931-10065-60	M10-1.50 x 65
M931-10070-60	M10-1.50 x 70
M931-10080-60	M10-1.50 x 80
M931-10080-82	M10-1.25 x 80*
M931-10090-60	M10-1.50 x 90
M931-10090-82	M10-1.50 x 90*
M931-10100-60	M10-1.50 x 100
M931-10110-60	M10-1.50 x 110
M931-10120-60	M10-1.50 x 120
M931-10130-60	M10-1.50 x 130
M931-10140-60	M10-1.50 x 140
M931-10180-60	M10-1.50 x 180
M931-10235-60	M10-1.50 x 235
M931-10260-60	M10-1.50 x 260
M960-10330-60	M10-1.25 x 330
M931-12045-60	M12-1.75 x 45
M960-12050-60	M12-1.25 x 50
M960-12050-82	M12-1.25 x 50*
M931-12050-60	M12-1.75 x 50
M931-12050-82	M12-1.75 x 50*
M931-12055-60	M12-1.75 x 55
M931-12060-60	M12-1.75 x 60
M931-12060-82	M12-1.75 x 60*
M931-12065-60	M12-1.75 x 65
M931-12075-60	M12-1.75 x 75
M931-12080-60	M12-1.75 x 80
M931-12090-60	M12-1.75 x 90
M931-12100-60	M12-1.75 x 100
M931-12110-60	M12-1.75 x 110

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

M960-16090-60	M16-1.50 x 90
M931-16090-60	M16-2.00 x 90
M931-16100-60	M16-2.00 x 100
M931-16100-82	M16-2.00 x 100*
M931-16120-60	M16-2.00 x 120
M931-16150-60	M16-2.00 x 150
M931-20065-60	M20-2.50 x 65
M931-20090-60	M20-2.50 x 90
M931-20100-60	M20-2.50 x 100
M931-20120-60	M20-2.50 x 120
M931-20140-60	M20-2.50 x 140
M931-20160-60	M20-2.50 x 160
M931-22090-60	M22-2.50 x 90
M931-22120-60	M22-2.50 x 120
M931-22160-60	M22-2.50 x 160
M931-24090-60	M24-3.00 x 90
M931-24120-60	M24-3.00 x 120
M931-24160-60	M24-3.00 x 160
M931-24200-60	M24-3.00 x 200

Hex Head Bolts (Full Thread)

M933-04006-60	M4-0.70 x 6
M933-05030-60	M5-0.80 x 30
M933-05035-60	M5-0.80 x 35
M933-05050-60	M5-0.80 x 50
M933-06010-60	M6-1.00 x 10
M933-06012-60	M6-1.00 x 12
M933-06014-60	M6-1.00 x 14
M933-06016-60	M6-1.00 x 16
M933-06020-60	M6-1.00 x 20
M933-06025-60	M6-1.00 x 25
M933-06030-60	M6-1.00 x 30
M933-06040-60	M6-1.00 x 40
M933-06050-60	M6-1.00 x 50
M933-07025-60	M7-1.00 x 25
M933-08010-60	M8-1.25 x 10
M933-08012-60	M8-1.25 x 12
M933-08016-60	M8-1.25 x 16
M933-08020-60	M8-1.25 x 20
M933-08025-60	M8-1.25 x 25
M933-08030-60	M8-1.25 x 30
M933-08030-82	M8-1.25 x 30*
M933-10012-60	M10-1.50 x 12
M961-10020-60	M10-1.25 x 20
M933-10020-60	M10-1.50 x 20
M933-10025-60	M10-1.50 x 25
M961-10025-60	M10-1.25 x 25
M933-10025-82	M10-1.50 x 25*
M961-10030-60	M10-1.25 x 30
M933-10030-60	M10-1.50 x 30
M933-10030-82	M10-1.50 x 30*
M961-10035-60	M10-1.25 x 35
M933-10035-60	M10-1.50 x 35
M933-10035-82	M10-1.50 x 35*
M961-10040-60	M10-1.25 x 40

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

M933-12016-60	M12-1.75 x 16
M933-12020-60	M12-1.75 x 20
M961-12020-60F	M12-1.50 x 20
M933-12025-60	M12-1.75 x 25
M933-12025-82	M12-1.75 x 25*
M961-12030-60	M12-1.25 x 30
M933-12030-82	M12-1.75 x 30*
M961-12030-82F	M12-1.50 x 30*
M933-12030-60	M12-1.75 x 30
M933-12035-60	M12-1.75 x 35
M961-12040-82	M12-1.25 x 40*
M933-12040-60	M12-1.75 x 40
M933-12040-82	M12-1.75 x 40*
M961-14025-60	M14-1.50 x 25
M933-14025-60	M14-2.00 x 25
M961-14050-82	M14-1.50 x 50*
M961-16025-60	M16-1.50 x 25
M933-16025-60	M16-2.00 x 25
M961-16030-82	M16-1.50 x 30*
M933-16030-82	M16-2.00 x 30*
M933-16035-60	M16-2.00 x 35
M961-16040-60	M16-1.50 x 40
M933-16040-60	M16-2.00 x 40
M961-16045-82	M16-1.50 x 45*
M933-16045-82	M16-2.00 x 45*
M933-16050-60	M16-2.00 x 50
M933-16050-82	M16-2.00 x 50*
M933-16060-60	M16-2.00 x 60
M933-16070-60	M16-2.00 x 70
M933-18035-60	M18-2.50 x 35
M933-18050-60	M18-2.50 x 50
M933-18060-60	M18-2.50 x 60
M933-20050-60	M20-2.50 x 50
M933-20055-60	M20-2.50 x 55
M933-24060-60	M24-3.00 x 60
M933-24065-60	M24-3.00 x 65
M933-24070-60	M24-3.00 x 70

Pan Head Machine Screws

M7985A-03010-20	M3-0.50 x 10
M7985A-03012-20	M3-0.50 x 12
M7985A-04010-20	M4-0.70 x 10
M7985A-04016-20	M4-0.70 x 16
M7985A-04020-20	M4-0.70 x 20
M7985A-04050-20	M4-0.70 x 50
M7985A-04100-20	M4-0.70 x 100
M7985A-05010-20	M5-0.80 x 10
M7985A-05012-20	M5-0.80 x 12
M7985A-05016-20	M5-0.80 x 16
M7985A-05020-20	M5-0.80 x 20
M7985A-05025-20	M5-0.80 x 25
M7985A-05030-20	M5-0.80 x 30
M7985A-05080-20	M5-0.80 x 80
M7985A-05100-20	M5-0.80 x 100
M7985A-06100-20	M6-1.00 x 100

Flat Head Machine Screws

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

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

Metric, continued

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

Washers

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

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

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