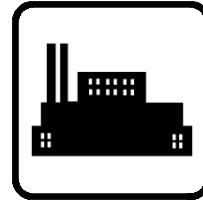


# Service Parts

## Industrial/Residential Generator Sets



Models:

**KG40- KG80**

**KG80R**

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

# Table of Contents

Introduction .....	3
Numbering System Significance .....	3
Illustrations .....	3
How to Find Part Numbers .....	3
Hardware References .....	3
Specification Number Index .....	4
Group 101: Air Intake .....	5
Group 104: Cooling System .....	6
Group 105: Engine .....	10
Group 107: Nameplate and Decals .....	13
Group 109: Skid and Plant Mounting .....	14
Group 201: Generator and Mounting .....	20
Group 301: Control and Harness .....	32
Group 701: Literature .....	38
Enclosure .....	40
Block Heater .....	48
Open Unit Acc. Kit .....	52
Fuel System Kits .....	54
Miscellaneous Kits .....	62
Appendix A Abbreviations .....	63
Appendix B Common Hardware Application Guidelines .....	65
Appendix C General Torque Specifications .....	66
Appendix D Common Hardware Identification .....	67
Appendix E Common Hardware List .....	68
Index .....	71

# Introduction

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

Information in this publication represents data available at the time of print. 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	<i>Air Intake</i>	<i>Cooling System</i>	<i>Engine</i>	<i>Nameplates and Decals</i>	<i>Skid and Plant Mounting</i>	<i>Generator and Mounting</i>	<i>Control and Harness</i>	<i>Literature</i>
<b>Group No.</b>	<b>101</b>	<b>104</b>	<b>105</b>	<b>107</b>	<b>109</b>	<b>201</b>	<b>301</b>	<b>701</b>
<b>Spec No.</b>	<b>Variation Number</b>							

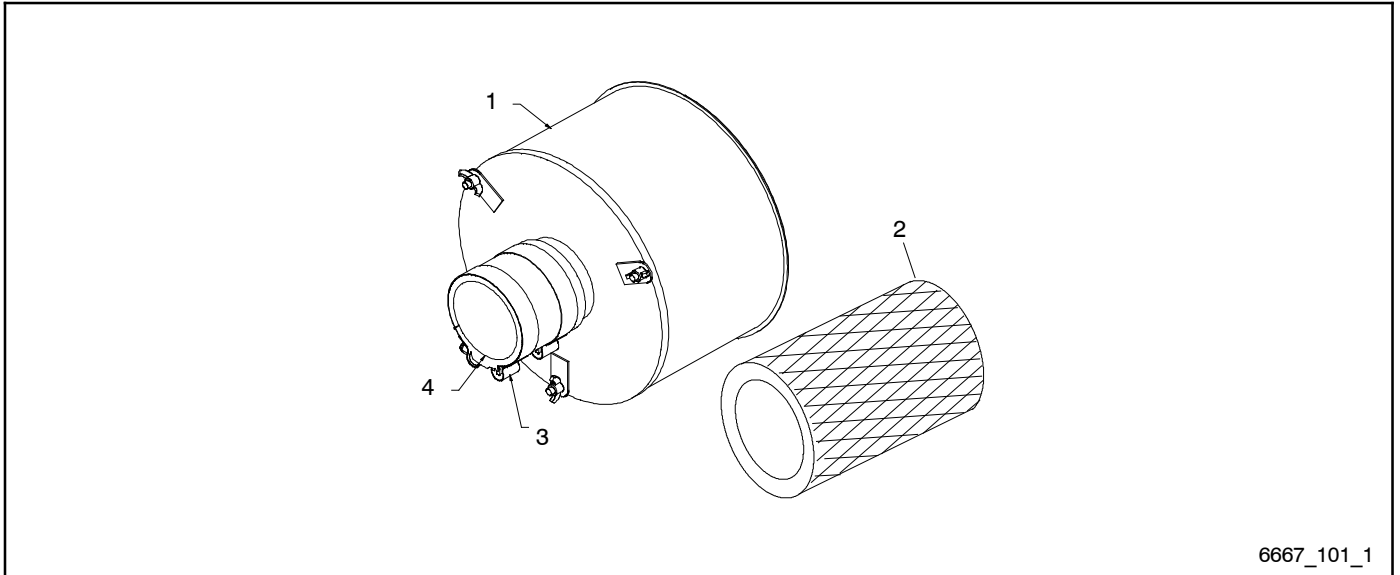
<b>KG40</b>								
GM102292-GA4	*	*	1	*	*	*	†	555
<b>KG45</b>								
GM102292-GA3	*	*	1	*	*	*	†	556
<b>KG50</b>								
GM102292-GA2	*	*	1	*	*	*	†	557
<b>KG60</b>								
GM102292-GA1	*	*	1	*	*	*	†	558
<b>KG80</b>								
GM105406-GA1	*	*	2	*	*	*	†	563
GM105406-GA2	*	*	2	*	*	*	†	563
<b>KG80R</b>								
GM105302-GA1	*	*	2	*	*	*	†	564
GM105302-GA2	*	*	2	*	*	*	†	564

\* 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 Group 701: Literature for list of controller parts manuals.

# Group 101: Air Intake

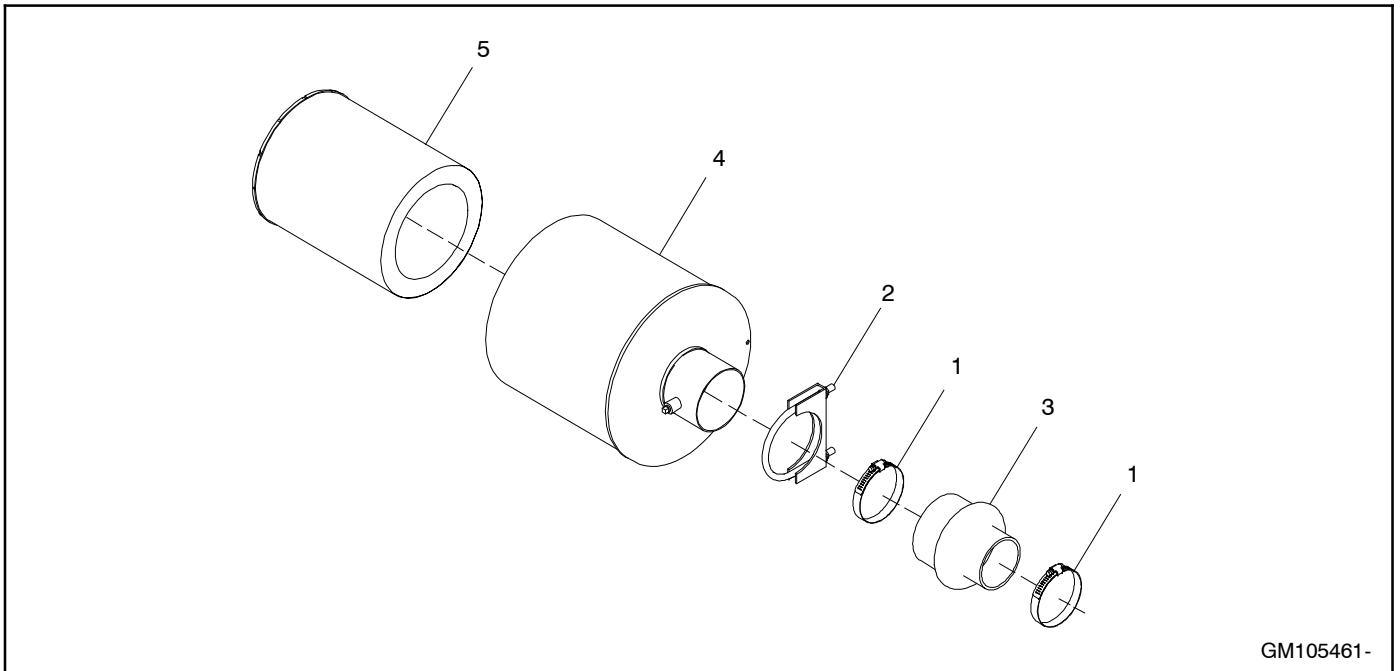
KG40-60, GM66788-MA1



6667\_101\_1

Item	Part Number	Description	Quantity
1	A-253104	Air cleaner assembly	1
2	253107	Element, Air Cleaner	1
3	291542	Clamp, Hose, 3.25/3.56 in.	2
4	X-6014-137	Hose, Wire Insert 3 in. ID	1

KG80-KG80R, GM105461-MA1

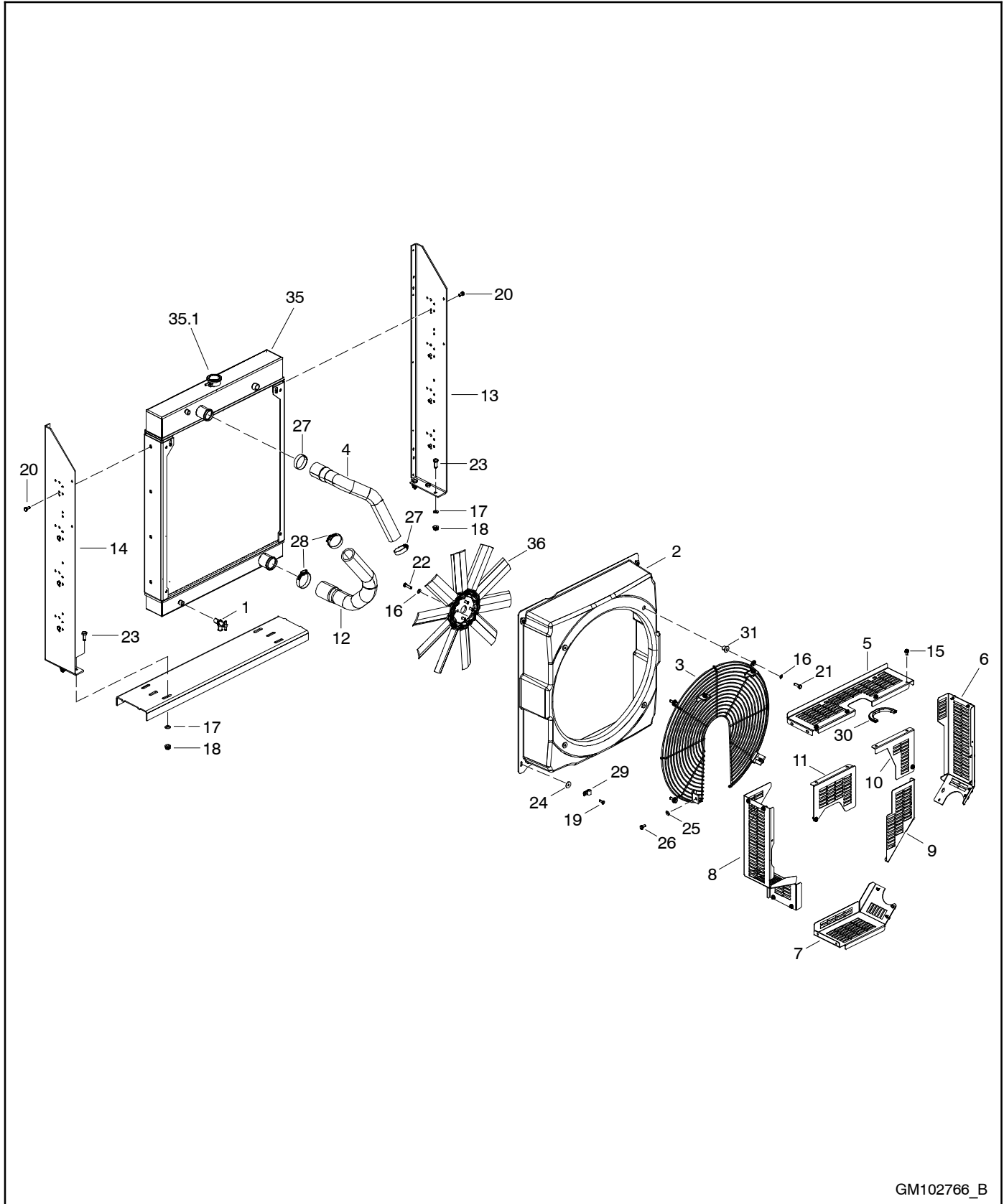


GM105461-

Item	Part Number	Description	Quantity
1	X-426-5	Clamp, Hose, 3.56/4.5 in.	1
2	289372	Clamp, Muffler, 4.12 in.	1
3	253481	Hose, Hump reducer (4 in. to 3 in.)	2
4	GM104787	Air cleaner assembly	1
5	GM62309	Element, Air cleaner	1

# Group 104: Cooling System

KG40-60, GM102766-



GM102766\_B

# Group 104: Cooling System

GM102766-

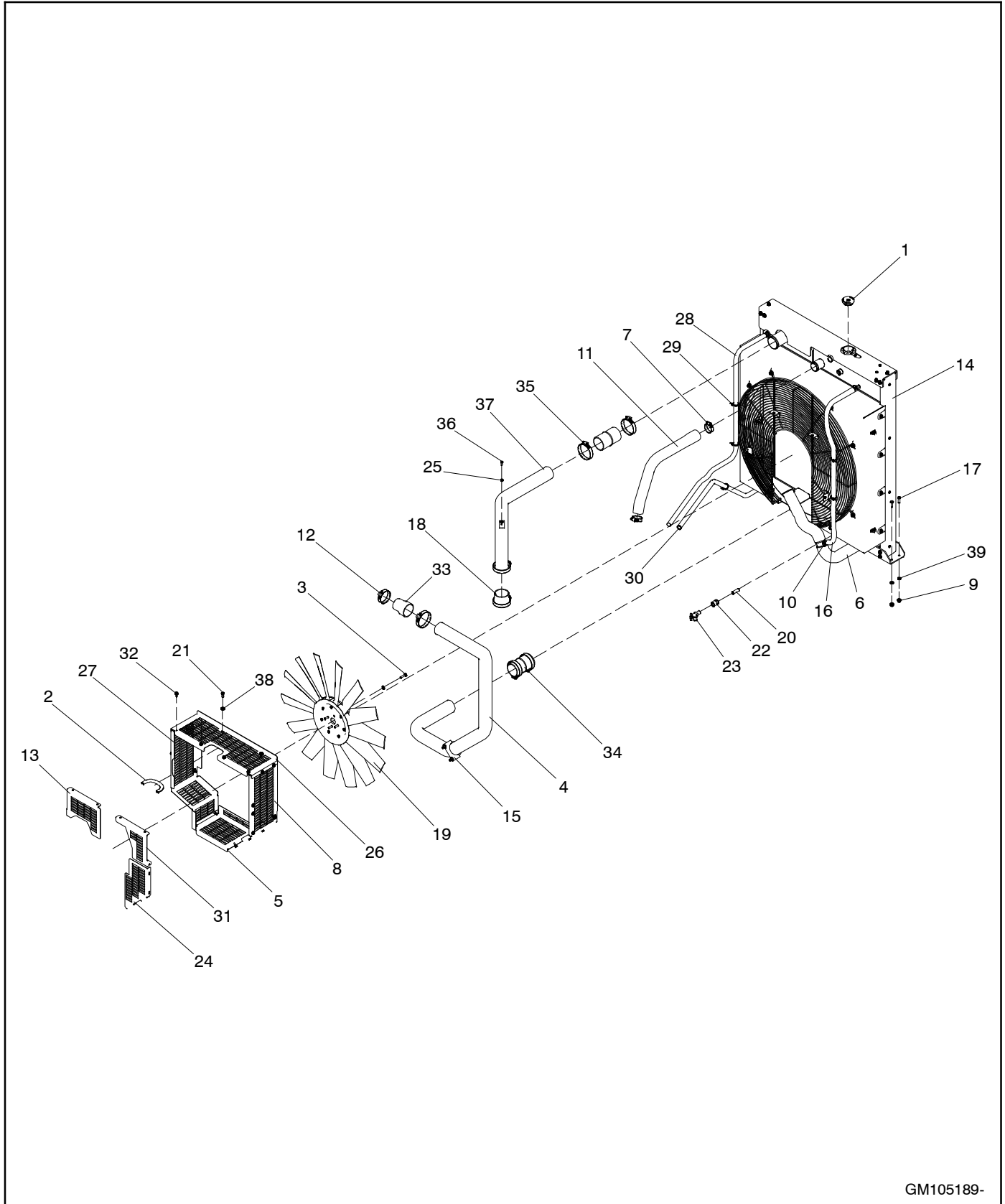
Item	Part Number	Description	Quantity
1	278788	Valve, Drain (3/8 in. NPTF)	1
2	324076	Shroud, Fan	1
3	352378	Guard, Wire fan	1
4	GM102769	Hose, Upper radiator	1
5	GM102770	Guard, Belt top	1
6	GM102771	Guard, Belt RH	1
7	GM102772	Guard, Belt bottom	1
8	GM102837	Guard, Belt LH	1
9	GM102838	Guard, Belt back	1
10	GM102839	Guard, Belt upper back RH	1
11	GM102840	Guard, Belt upper back LH	1
12	GM14098	Hose, Lower radiator (44 mm ID)	1
13	GM29987	Support, Radiator	1
14	GM29988	Support, Radiator	1
15	GM78761-1	Screw, Sheet metal M6 x 1 x 16 mm	19
16	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	8
17	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	6
18	M6923-10-80	Nut, Hex 10 mm	6
19	M933-06016-60	Screw, Hex cap	4
20	M933-08016-60	Screw, Hex cap	8
21	M933-08025-60	Screw, Hex cap	4
22	M933-08030-82	Screw, Hex cap	4
23	M933-10025-60	Screw, Hex cap	6
24	X-25-73	Washer, Pl .266 ID x 1 in. OD	4
25	X-25-85	Washer, Plain, .344 ID x .687 in. OD	4
26	X-125-23	Bolt, Hex cap	4
27	X-426-19	Clamp, Hose, 1/2 in.	2
28	X-426-2	Clamp, Hose, 2.31/3.25 in.	2
29	X-672-7	Clamp, Insulated, .44 in.	1
30	X-6047-48	Channel, "U"	1
31	X-6365-2	Insert, Threaded	4
35	GM52730	Radiator assembly	1
35.1	352327	Radiator Cap	1
36	See chart	Fan, Pusher	1

Use this table to identify part numbers of item 36.

Kit No.	Models	Item 36
GM102766-MA1	KG50- 60	GM92877
GM102766-MA2	KG40- 45	GM16769

# Group 104: Cooling System, continued

KG80- KG80R, GM105189-MA1



GM105189-

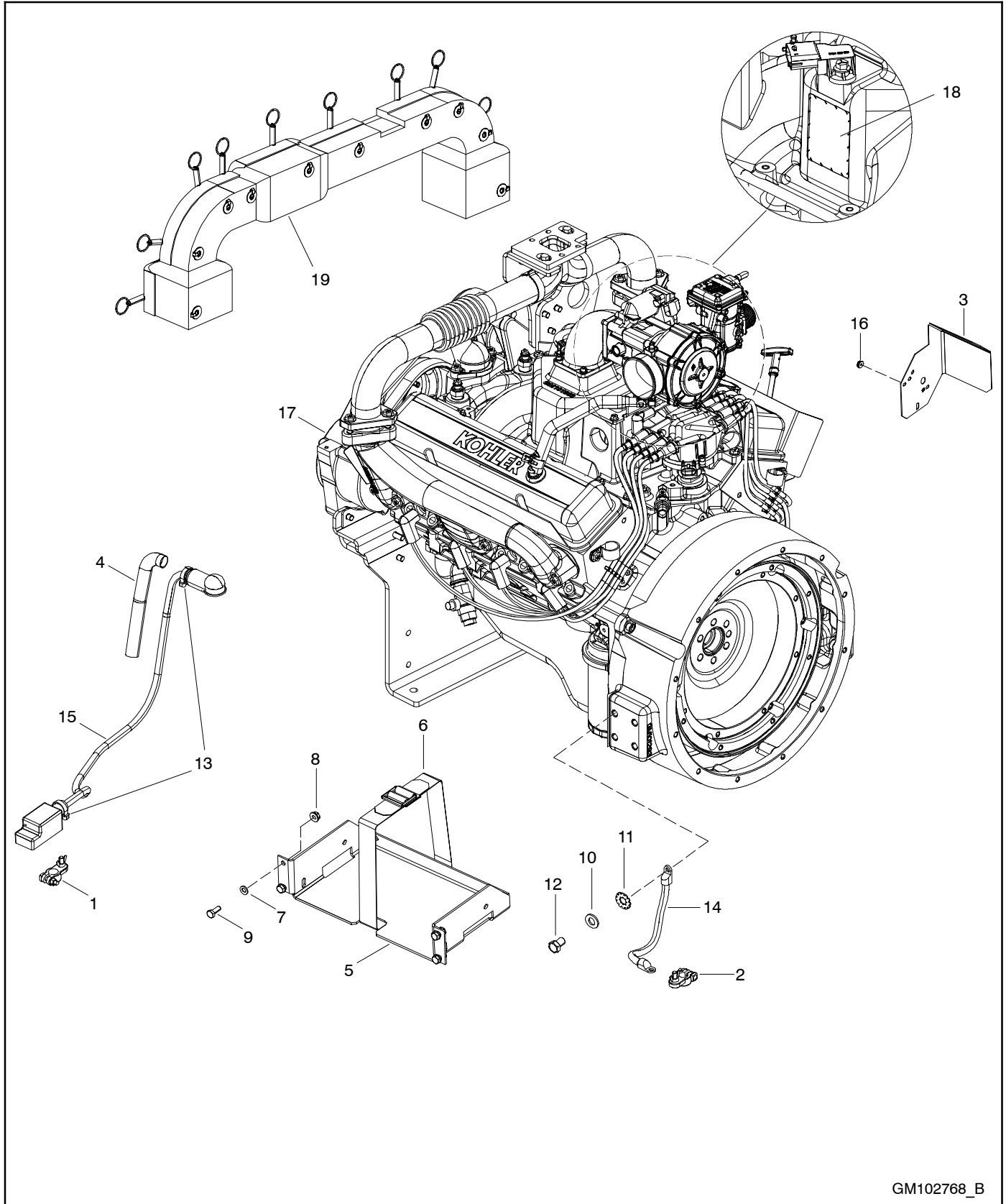


## Group 104: Cooling System, continued

			GM105189-MA1
Item	Part Number	Description	Quantity
1	GM54994	Cap, Radiator	1
2	X-6047-48	Channel, "U"	1
3	M933-08030-82	Screw, Hex cap M8 x 30	4
4	GM104551	Pipe, CAC lower	1
5	GM104792	Guard, Belt bottom	1
6	GM104549	Hose, Radiator lower	1
7	X-426-16	Clamp, Hose, 1.81/2.75 in.	4
8	GM104791	Guard, Belt RH	1
9	M6923-08-80	Nut, Hex 8 mm	4
10	X-426-12	Clamp, Hose, .69/1.25 in.	2
11	GM104553	Hose, Radiator upper	1
12	GM106396	Clamp, SAE 275, 51- 63 mm	1
13	GM102840	Guard, Belt upper back LH	1
14	GM104987	Radiator assembly, ERC	1
15	X-722-2	Clamp, Muffler, 2.62 in.	1
16	X-312-62	Hose, .63 ID	1
17	M933-08025-60	Screw, Hex cap M8 x 25	4
18	GM104555	Hose, Reducer	1
19	GM105190	Fan, Pusher	1
20	X-220-6	Pipe (1/4 in. NPT x 1.50 in.)	1
21	X-125-23	Bolt, Hex cap	4
22	X-250-2	Coupling, Reducer (3/8 in. x 1/4 in. NPT)	1
23	278788	Valve, Drain (3/8 in. NPTF)	1
24	GM102838	Guard, Belt back	1
25	M125A-06-80	Washer, plain	1
26	GM104790	Guard, Belt top	1
27	GM104793	Guard, Belt LH	1
28	GM105167	Oilcool line, Upper, F6-06-06-8-8-8C-1432	1
29	X-468-1	Cable tie	5
30	GM105166	Oilcool line, Lower, F6-06-06-8-8-8C-920,	1
31	GM102839	Guard, Belt upper back, RH	1
32	GM78761-1	Screw, Sheetmetal	17
33	GM104554	Hose, Reducer	1
34	X-6380-12	Hose, Charged air cooler	2
35	GM106397	Clamp, SAE 338, 67- 80 mm	7
36	M933-06014-60	Screw, Hex cap M6 x 14	1
37	GM104541	Pipe, CAC Upper	1
38	X-25-20	Washer, Flat .312 ID x .75 OD	4
39	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	8

# Group 105: Engine

KG40-60, GM102768-GR1



GM102768\_B

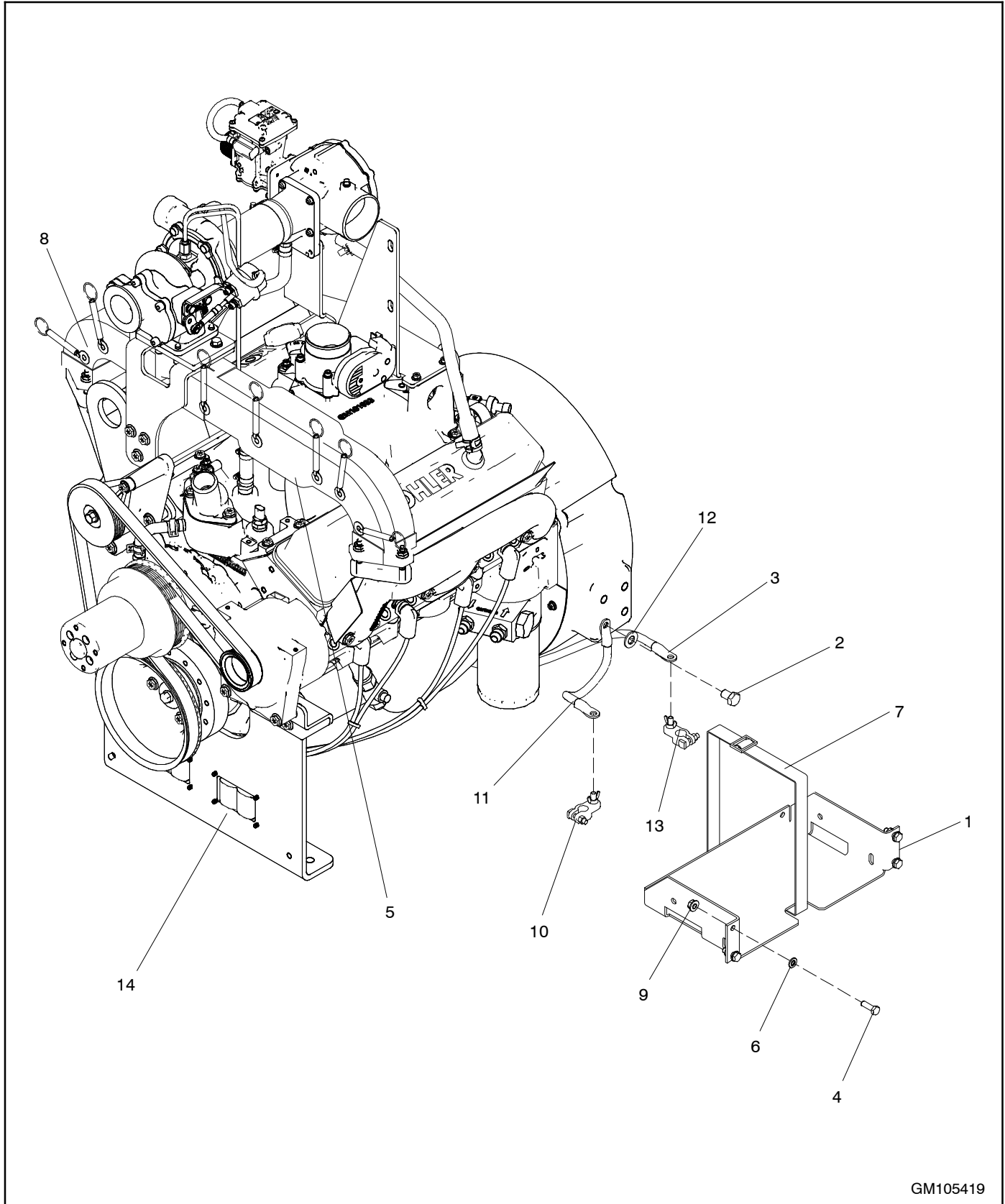
# Group 105: Engine

GM102768-GR1

Item	Part Number	Description	Qty.
			Var. No. 1
1	345039	Terminal, Battery	1
2	345056	Terminal, Battery	1
3	GM21188	Shield, Heat	1
4	GM21335	Shield, Heat (20 mm ID x 412 mm length)	1
5	GM57161	Rack, Battery	1
6	GM61432	Strap, Battery	1
7	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4
8	M6923-08-80	Nut, Hex 8 mm	4
9	M933-08020-60	Screw, Hex cap	4
10	X-22-26	Washer, Lock	1
11	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1
12	X-129-15	Bolt, Hex cap	1
13	X-468-1	Cable tie	2
14	X-545-112	Cable, Battery (No. 2 x 16 in.) black-	1
15	X-545-137	Cable, Battery (No. 2 x 30 in.) red+	1
16	X-6210-5	Nut, Flange serrated, 10- 24	2
17	GM102281	Engine, Kohler, KG6208, 12V	1
18	GM93951	Nameplate	1
19	GM104268	Insulation, Exhaust tube	1

# Group 105: Engine, continued

KG80- KG80R, GM105419-GR1



GM105419

# Group 105: Engine

GM105419-GR1

Item	Part Number	Description	Qty.
			Var. No. 2
1	GM57161	Rack, Battery	1
2	X-129-15	Bolt, Hex cap	1
3	X-545-135	Cable, Battery (No. 0 x 30 in.) red+	1
4	M933-08025-60	Screw, Hex cap M8 x 25	4
5	GM106217	Insulation, Exhaust tube left	1
6	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4
7	GM61432	Strap, Poly battery	1
8	GM106216	Insulation, Exhaust tube right	1
9	M6923-08-80	Nut, Hex 8 mm (NRP)	4
10	345056	Terminal, Battery	1
11	X-545-112	Cable, Battery (No. 2 x 16 in.) black-	1
12	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1
13	345039	Terminal, Battery	1
14	GM103045	Engine, Gaseous fuel, Turbo, 6.2L, 80kW	1

# Group 107: Nameplate and Decals

KG40- KG80(R)

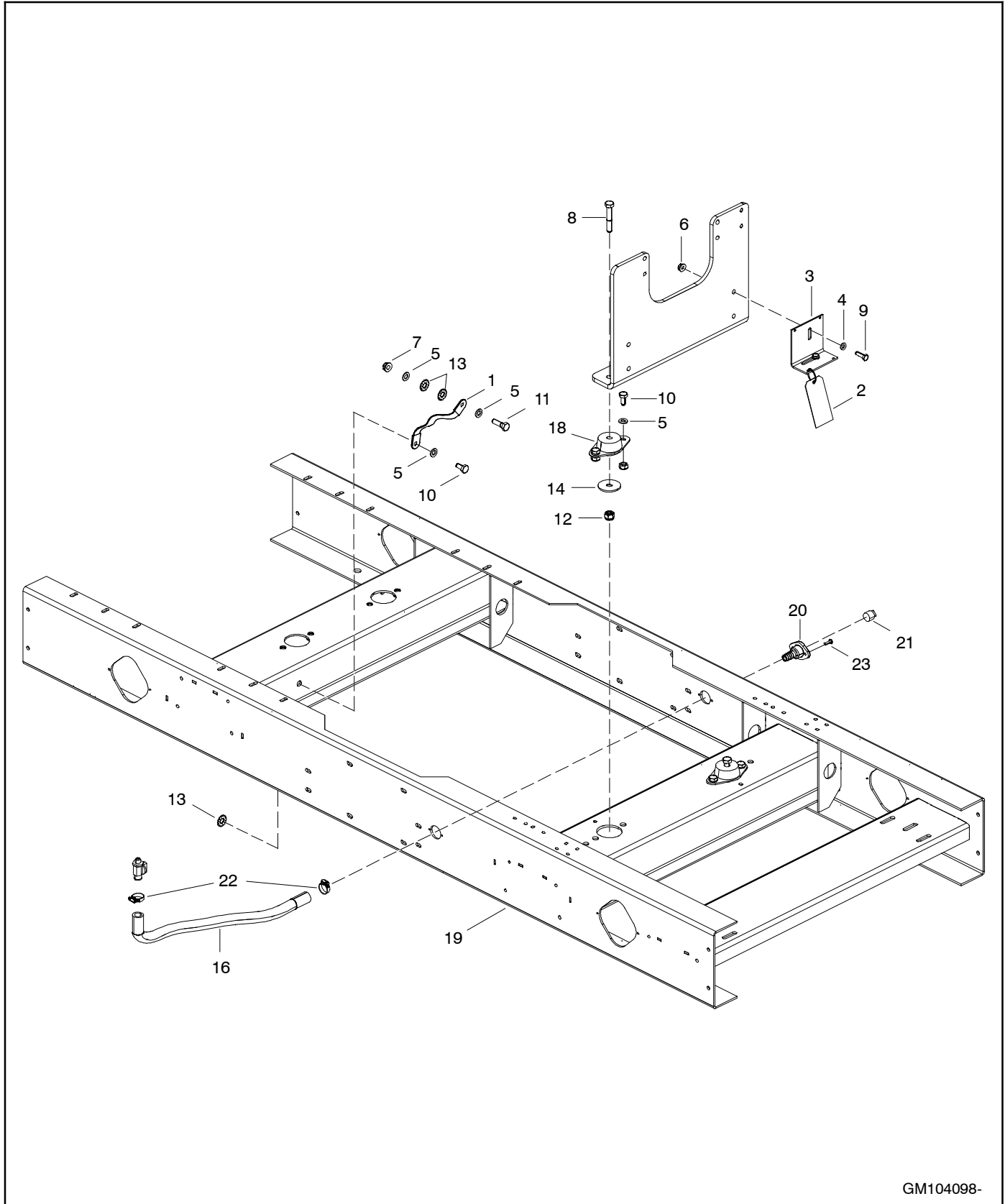
Item	Part Number	Description	Qty.	
			GM79168-GR1	GM79168-GR2
1	238402	Decal, Caution positive term. only	1	1
2	249808	Decal, Warning rotating parts	1	1
3	249809	Decal, Caution Hot Engine	2	2
4	249810	Decal, Warning hot coolant	1	1
5	273780	Decal, Warning explosion	1	1
6	GM106120	Decal, Warning	1	1
7	GM156122	Decal, UL	1	1
8	GM15300	Decal, Exhaust Piping	1	1
9	GM70157-3	Decal, Kohler J- box	1	
10	GM70157-2	Decal, Kohler J- box		1

Use this table to identify the kit number.

Kit No.	Alternator Type	Models
GM79168-GR1	4P_X, 4Q_X	KG40, KG45, KG50, KG60, KG80, KG80R
GM79168-GR2	4R_X, 4T_X	KG80, KG80R

# Group 109: Skid and Plant Mounting

KG40-60, GM104098-MA1



GM104098-

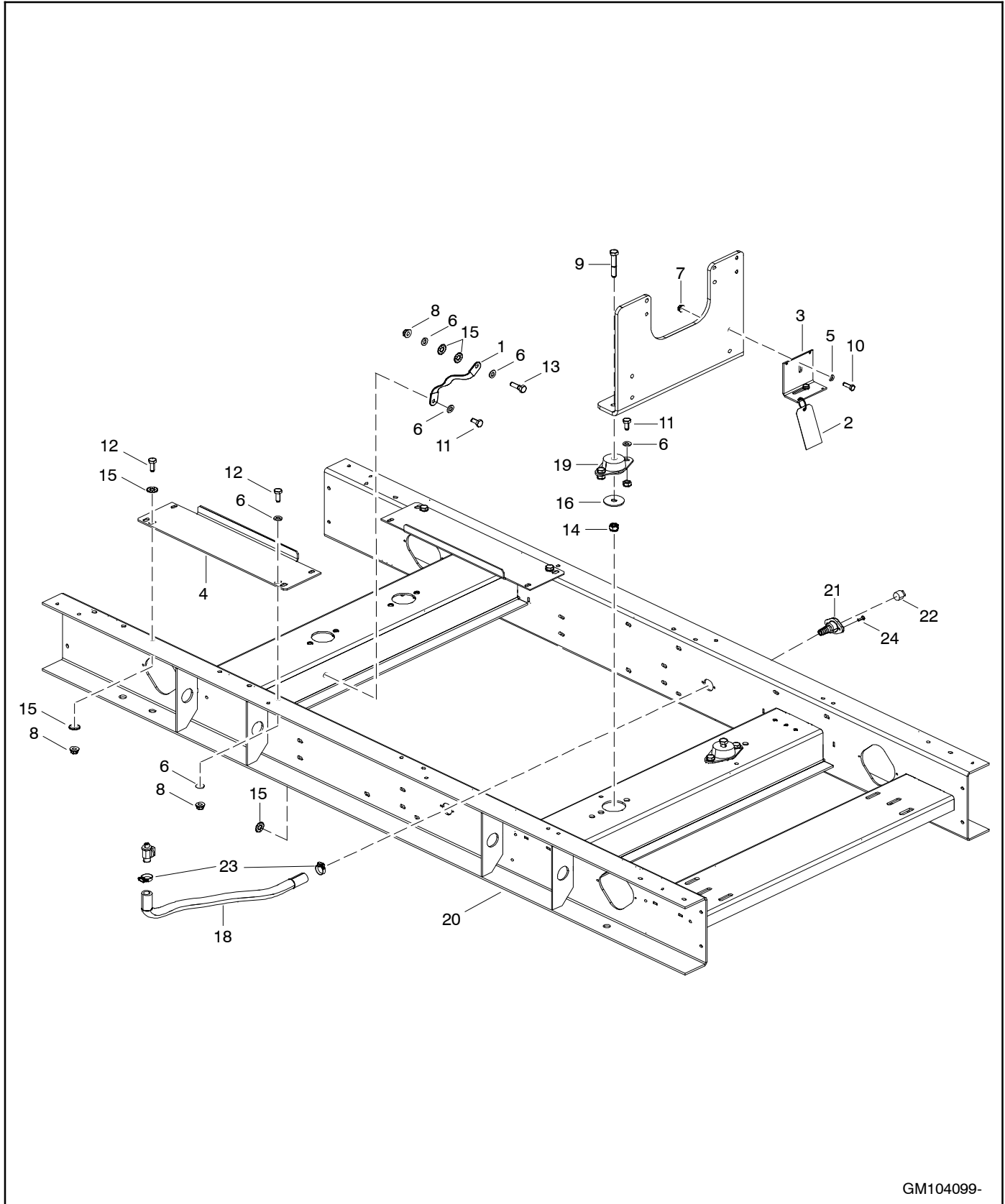
# Group 109: Skid and Plant Mounting

KG40- 60, GM104098-MA1

Item	Part Number	Description	Qty.
1	290418	Strap, Ground (8 in.)	1
2	GM28552	Tag, Hang shipping bracket	1
3	GM51689	Bracket, Shipping	1
4	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	2
5	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	7
6	M6923-08-80	Nut, Hex 8 mm	2
7	M6923-10-80	Nut, Hex 10 mm	1
8	M931-12065-60	Screw, Hex cap	2
9	M933-08025-60	Screw, Hex cap	2
10	M933-10020-60	Screw, Hex cap	5
11	M933-10035-60	Screw, Hex cap	1
12	M982-12-80	Nut, Hex elastic stop	2
13	X-22-15	Washer, Lock	3
14	X-25-140	Washer, Plain, .531 ID x 2 in. OD	2
16	X-577-24	Hose, Rubber, straight, .62 in ID	1
18	324073	Vibromount	2
19	GM104101	Skid, KG, 34 in.	1
20	GM59015	Fitting, Bulkhead drain	1
21	X-75-58	Plug, Pipe	1
22	X-426-10	Clamp, Hose, .5/1 in.	2
23	X-781-22	Rivet, Pop, .187 in	2

# Group 109: Skid and Plant Mounting, continued

KG40-60, GM104099-MA1



GM104099-



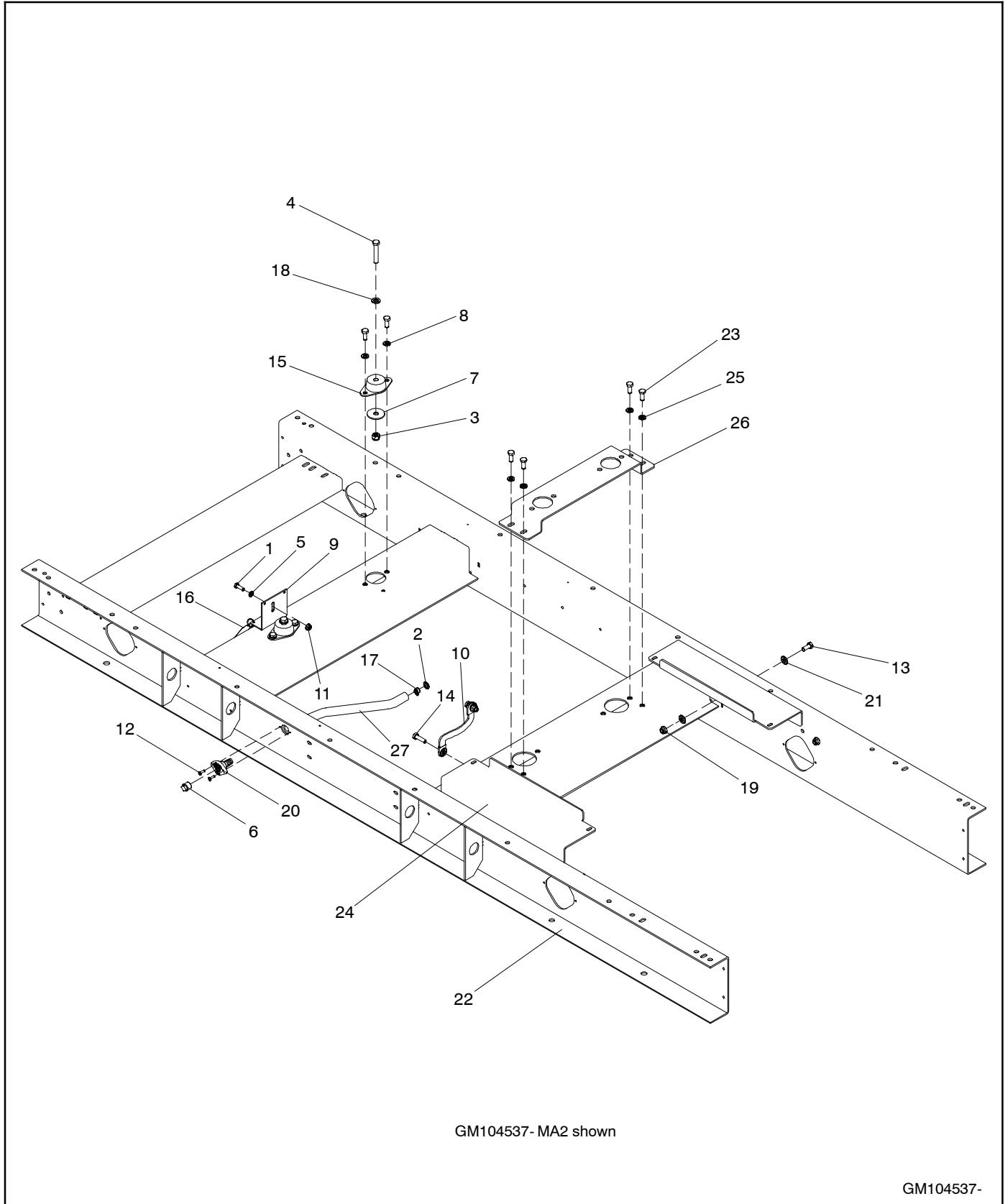
# Group 109: Skid and Plant Mounting, continued

KG40- 60, GM104099-MA1

Item	Part Number	Description	Qty.
1	290418	Strap, Ground (8 in.)	1
2	GM28552	Tag, Hang shipping bracket	1
3	GM51689	Bracket, Shipping	1
4	GM65811	Support, Junction box	2
5	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	2
6	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	13
7	M6923-08-80	Nut, Hex 8 mm	2
8	M6923-10-80	Nut, Hex 10 mm	5
9	M931-12065-60	Screw, Hex cap	2
10	M933-08025-60	Screw, Hex cap	2
11	M933-10020-60	Screw, Hex cap	5
12	M933-10025-60	Screw, Hex cap	4
13	M933-10035-60	Screw, Hex cap	1
14	M982-12-80	Nut, Hex elastic stop	2
15	X-22-15	Washer, Lock	5
16	X-25-140	Washer, Plain, .531 ID x 2 in. OD	2
18	X-577-24	Hose, Rubber, straight, .62 in. ID	1
19	324073	Vibromount	2
20	GM104100	Skid, KG, 41 in.	1
21	GM59015	Fitting, Bulkhead drain	1
22	X-75-58	Plug, Pipe	1
23	X-426-10	Clamp, Hose, .5/1 in.	2
24	X-781-22	Rivet, Pop, .187 in	2

# Group 109: Skid and Plant Mounting, continued

KG80- KG80R



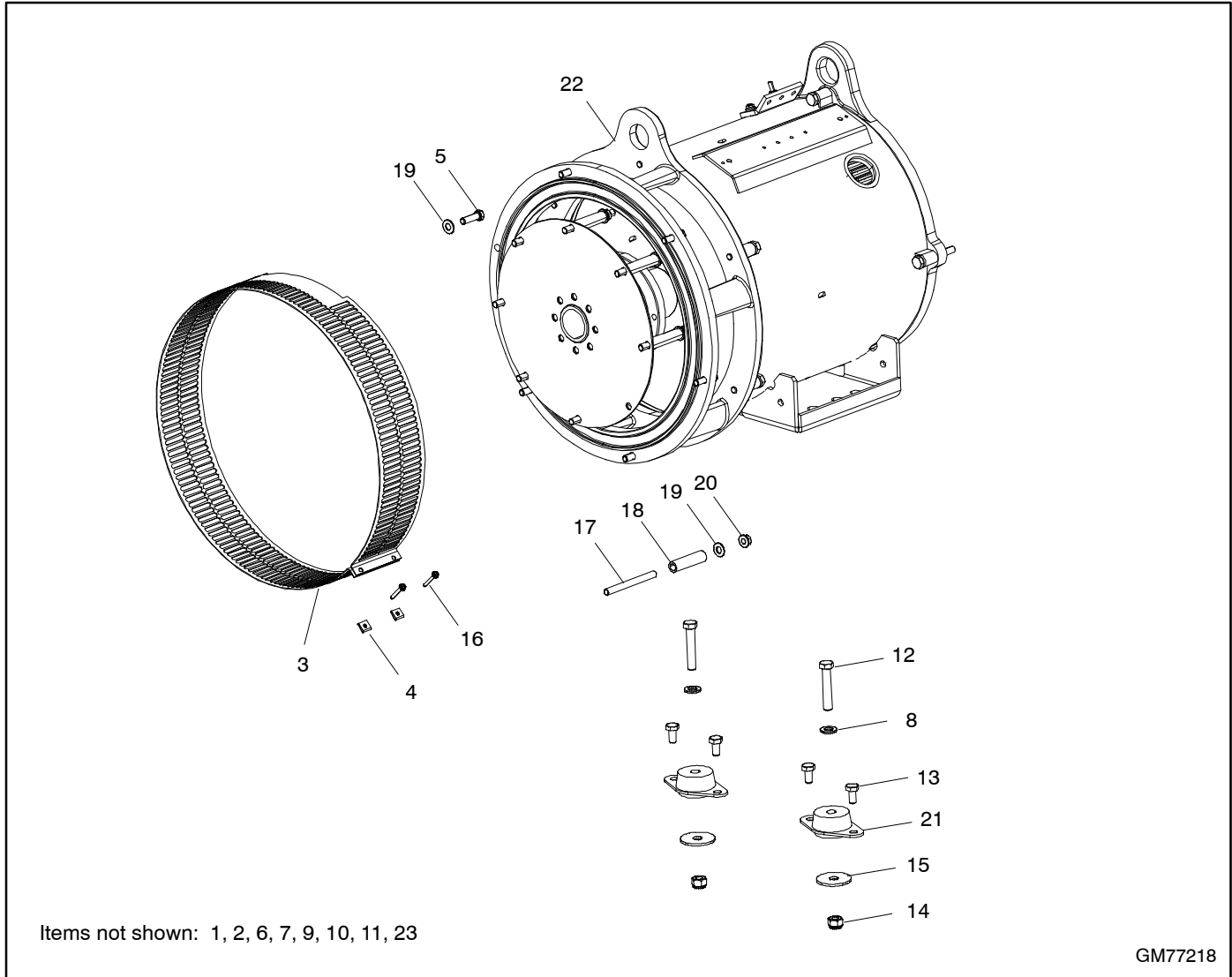
# Group 109: Skid and Plant Mounting, continued

KG80- KG80R

Item	Part Number	Description	Qty.	
			GM104537-MA1	GM104537-MA2
1	M933-08025-60	Screw, Hex cap M8 X 25	2	2
2	X-6278-9	Washer, Nylon, .48 ID x .825 in. OD	1	1
3	M982-12-80	Nut, Hex elastic stop	2	2
4	M931-12065-60	Screw, Hex cap M12 x 65	2	2
5	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	2	2
6	X-75-58	Plug, Pipe	1	1
7	X-25-140	Washer, Plain, .531 ID x 2 in. OD	2	2
8	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	10	10
9	GM51689	Bracket, Shipping	1	1
10	290418	Strap, Ground (11 in.)	2	2
11	M6923-08-80	Nut, Hex 8 mm	1	1
12	X-781-22	Rivet, Pop	2	2
13	M933-10025-60	Screw, Hex cap M10 x 25	8	8
14	M933-10035-60	Screw, Hex cap M10 x 35	2	2
15	324073	Vibromount	2	2
16	GM28552	Tag, Hang shipping brkt.	1	1
17	X-426-10	Clamp, Hose, .5/1 in.	2	2
18	M125A-12-80	Washer, Plain	2	2
19	M6923-10-80	Nut, Hex 10 mm	5	5
20	GM59015	Fitting, Bulkhead drain	1	1
21	X-22-14	Washer, Lock, .391 ID x .975 in. OD	5	5
22	GM104538	Skid, 44 in.	1	1
23	M933-10025-60	Screw, Hex cap M10 x 25		4
24	GM64117	Support, Junction box	2	
24	GM105307	Support, Junction box		2
25	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD		4
26	GM105209	Support, Alternator adapter		1
27	X-577-24	Hose, Rubber, Straight, .62 in. ID	1	1

# Group 201: Generator and Mounting

4P\_X/4Q\_X Alternator Modules GM77218-



Items not shown: 1, 2, 6, 7, 9, 10, 11, 23

GM77218

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	257046	Guard, Generator fan	1
4	257442	Clip, Speed	2
5	270956	Screw, 3/8-16 x 1 1/4, (4P, 4Q alternator)	6
6	GM98936	Spacer, Enhanced FRX Actuator (not shown)	1
7	GM98939-1	PCB Assy. (not shown)	1
8	M125A-12-80	Washer, Plain	2
9	M4014-10050-60	Screw, Hex cap	6
10	M4017-10065-60	Screw, Hex cap	4
11	M7500CE-05020-85	Screw, Metric thread	6
12	M931-12065-60	Screw, Hex cap	2
13	M933-10020-60	Screw, Hex cap	4
14	M982-12-80	Nut, Hex elastic stop	2
15	X-25-140	Washer, Plain, 0.531 ID x 2 in. OD	2
16	X-67-125	Screw, Hex washer, thread-forming	2
17	X-352-63	Stud, 3/8-16 x 4 in.	8
18	X-400-132	Spacer, 0.406 ID x 0.625 OD x 2.531 in.	8
19	X-801-3	Washer, Hardened, 0.406 ID x 0.812 OD	14
20	X-6210-9	Nut, Flange spirallock, 3/8-16	8
21	See chart page 21	Vibromount	2
22	See chart page 21	Alternator assembly	1
23	See chart page 21	Marker, Wire (not shown)	1

# Group 201: Generator and Mounting

## 4P\_X/4Q\_X Alternator Modules GM77218- Alternator Module Parts

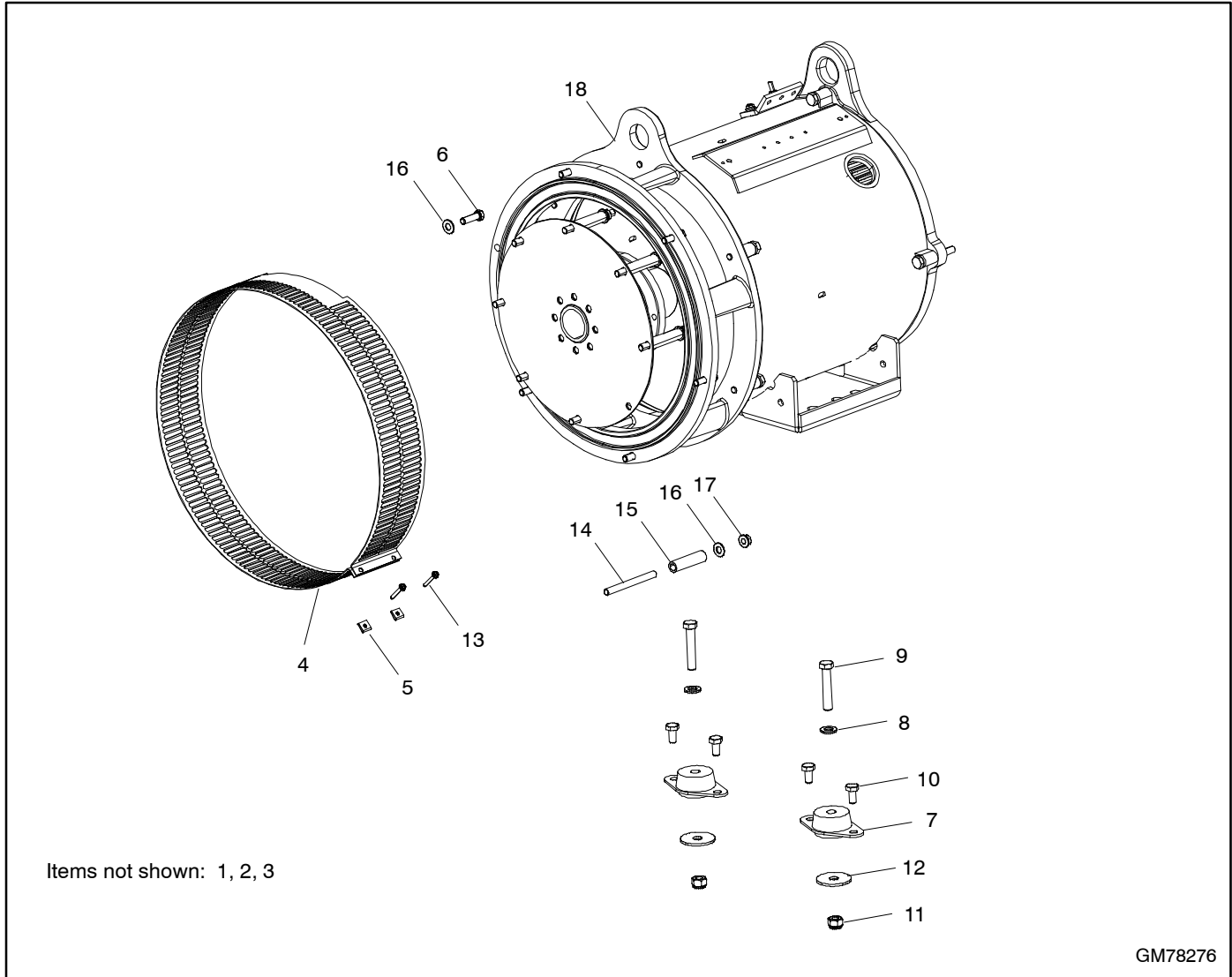
Use this table to identify the module number's alternator part number and vibromount part number.

Module No.	Alternator Description	Item 21	Item 22	Item 23
GM77218-MA4	4P5X	276310	GC70113-8	X-750-16
GM77218-MA5	4P5X, 600 V	276310	GC70113-10	X-750-16
GM77218-MA6	4Q5X	276310	GC70113-12	-
GM77218-MA7	4P7BX	324073	GC70113-20	X-750-16
GM77218-MA8	4P7BX, 600 V	324073	GC70113-22	X-750-16
GM77218-MA9	4Q7BX	324073	GC70113-24	-
GM77218-MA10	4P10X	324074	GC70113-32	X-750-16
GM77218-MA11	4P10X, 600 V	324074	GC70113-35	X-750-16
GM77218-MA12	4Q10X	324074	GC70113-38	-
GM77218-MA13	4P8X	324073	GC70113-26	X-750-16
GM77218-MA14	4P8X, 600 V	324073	GC70113-28	X-750-16
GM77218-MA15	4Q8X, 600 V	324073	GC70113-30	-

Alternator assembly includes items on pages 24- 26.

# Group 201: Generator and Mounting, continued

4P10X Alternator Modules GM78276-



GM78276

# Group 201: Generator and Mounting, continued

## 4P10X Alternator Modules GM78276- Alternator Module Parts

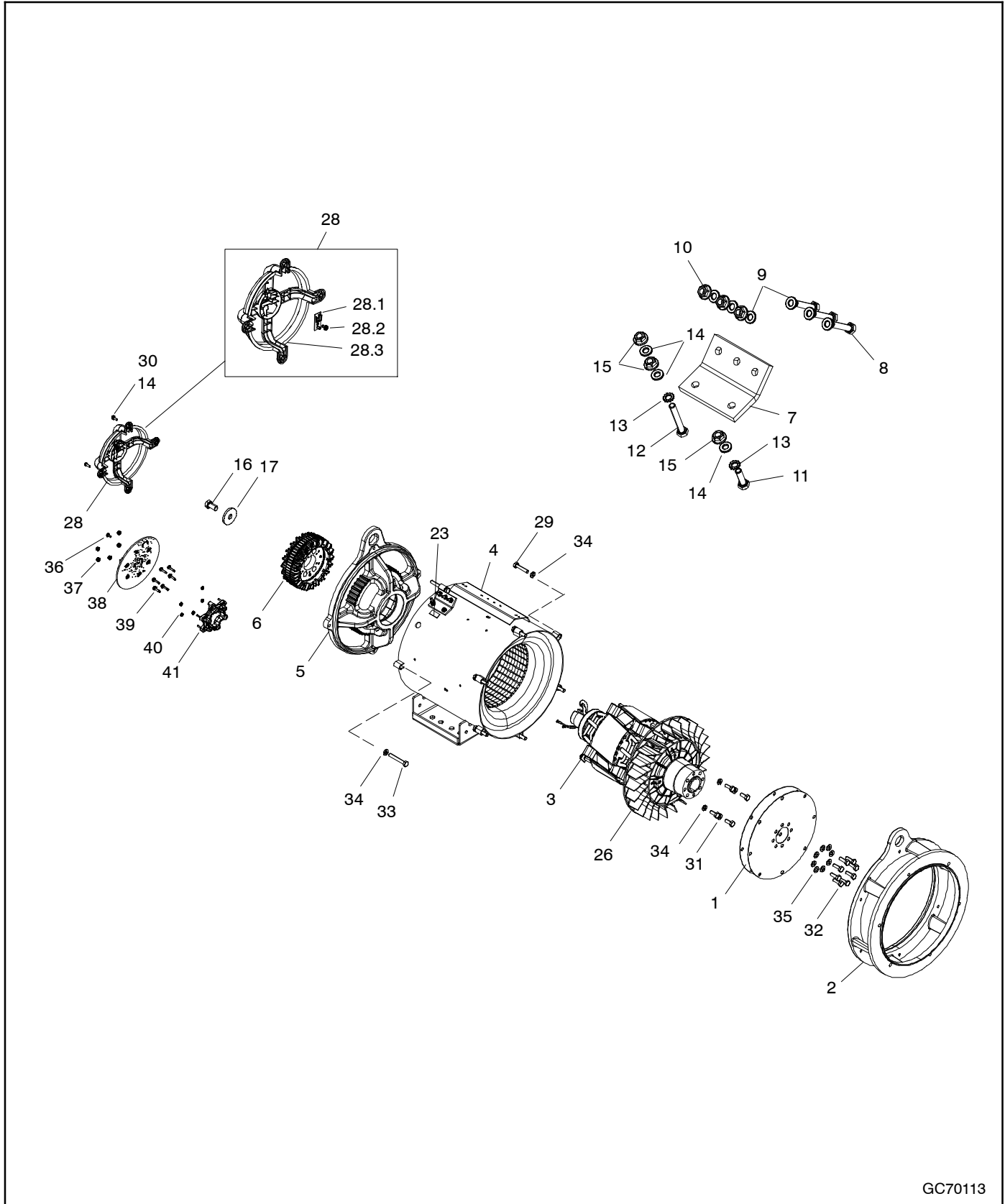
Use this table to identify the module number's alternator part number and vibromount part number.

<b>Module No.</b>	<b>Alternator Description</b>	<b>Item 7, Vibromount</b>	<b>Item 18, Alternator Assembly</b>
GM78276-MA1	4P10X	324075	GC70113-33
GM78276-MA2	4P10X, 600 V	324075	GC70113-36

Alternator assembly includes items on pages 24- 26.

# Group 201: Generator and Mounting, continued

4P\_X/4Q\_X Alternators GC70113-



GC70113



# Group 201: Generator and Mounting, continued

4P\_X/4Q\_X Alternators GC70113-

Item	Part No.	Description	Qty.
1	See chart	Disc, Drive	2
2	See chart	Adapter, Generator	1
3	See chart	Rotor Assembly	1
4	See chart	Stator Assembly	1
5	See chart	Bracket Assembly, End	1
6	See chart	Exciter Armature, SCR	1
7	See chart	Bus, Ground	1
8	See chart	Screw, Hex Cap	3
9	See chart	Washer, Plain	6
10	See chart	Nut, Hex	3
11	M933-06020-60	Screw, Hex cap	1
12	M933-06040-60	Screw, Hex cap	1
13	M6797A-06-SS	Washer, Internal & External Tooth	2
14	M125A-06-80	Washer, Plain	7
15	M6923-06-80	Nut, Hex 6mm	3
16	M933-16030-82	Screw, Hex cap	1
17	GM70070	Washer, FRX Exciter Mtg	1
23	344295	Decal, Equipment grd	1
26	347697	Fan, Alternator	1
28	GM74218	Holder Assy, LED Optic Board	1
28.1	GM74198	PCB Assy, Alt. LED Optic Board	1
28.2	M7500C-05010-83	Screw, Thread Forming Metric	1
28.3	GM74110	Holder, LED Optic Board	1
29	M4014-10050-60	Screw, Hex cap	6
30	M933-06016-60	Screw, Hex cap, M6x16mm, js500 full thrd	4
31	M933-10025-60	Screw, Hex cap, fully thrd M10 x 25mm EXP	4
32	M933-10030-82	Screw, Hex cap	8
33	M4017-10065-60	Screw, Hex Cap	4
34	X-25-93	Washer, Plain .406 ID x .75 in. OD	14
35	X-801-3	Washer, Hardened, .406 ID x .812 in.OD	8
36	X-6071-8	Screw, Thread Forming	1
37	M985-04-SS	Nut, Hex Elastic Stop	5
38	GM98939-1	PCB Assy, FRX Activator, 6-Hole	1
39	M7500CE-05020-85	Screw, Metric Thread Forming	6
40	M934-04-SS	Nut, Hex (Stainless Steel)	5
41	GM98936	Spacer, Enhanced FRX Activator	1

# Group 201: Generator and Mounting, continued

## 4P\_X/4Q\_X Alternators GC70113-

### Alternator Part Numbers and Components

Use this table to identify part numbers of items 1- 5.

Alternator No.	Item/Part Number				
	Item 1, Drive Disc	Item 2, Adapter	Item 3, Rotor Assy.	Item 4, Stator Assy.	Item 5, End Bracket
GC70113-8	257015	GM32006	GC70100-2	GC70110-2	GM70080-1
GC70113-10	257015	GM32006	GC70100-2	GC70111-2	GM70080-1
GC70113-12	257015	GM32006	GC70100-2	GC70112-2	GM70080-1
GC70113-20	257015	GM32006	GC70100-4	GC70110-4	GM70080-2
GC70113-22	257015	GM32006	GC70100-4	GC70111-4	GM70080-2
GC70113-24	257015	GM32006	GC70100-4	GC70112-4	GM70080-2
GC70113-26	257015	GM32006	GC70100-5	GC70110-5	GM70080-2
GC70113-28	257015	GM32006	GC70100-5	GC70111-5	GM70080-2
GC70113-30	257015	GM32006	GC70100-5	GC70112-5	GM70080-2
GC70113-32	257015	GM32006	GC70100-6	GC70110-6	GM70080-2
GC70113-33	257016	GM32006	GC70100-7	GC70110-6	GM70080-2
GC70113-35	257015	GM32006	GC70100-6	GC70111-6	GM70080-2
GC70113-36	257016	GM32006	GC70100-7	GC70111-6	GM70080-2
GC70113-38	257015	GM32006	GC70100-6	GC70112-6	GM70080-2

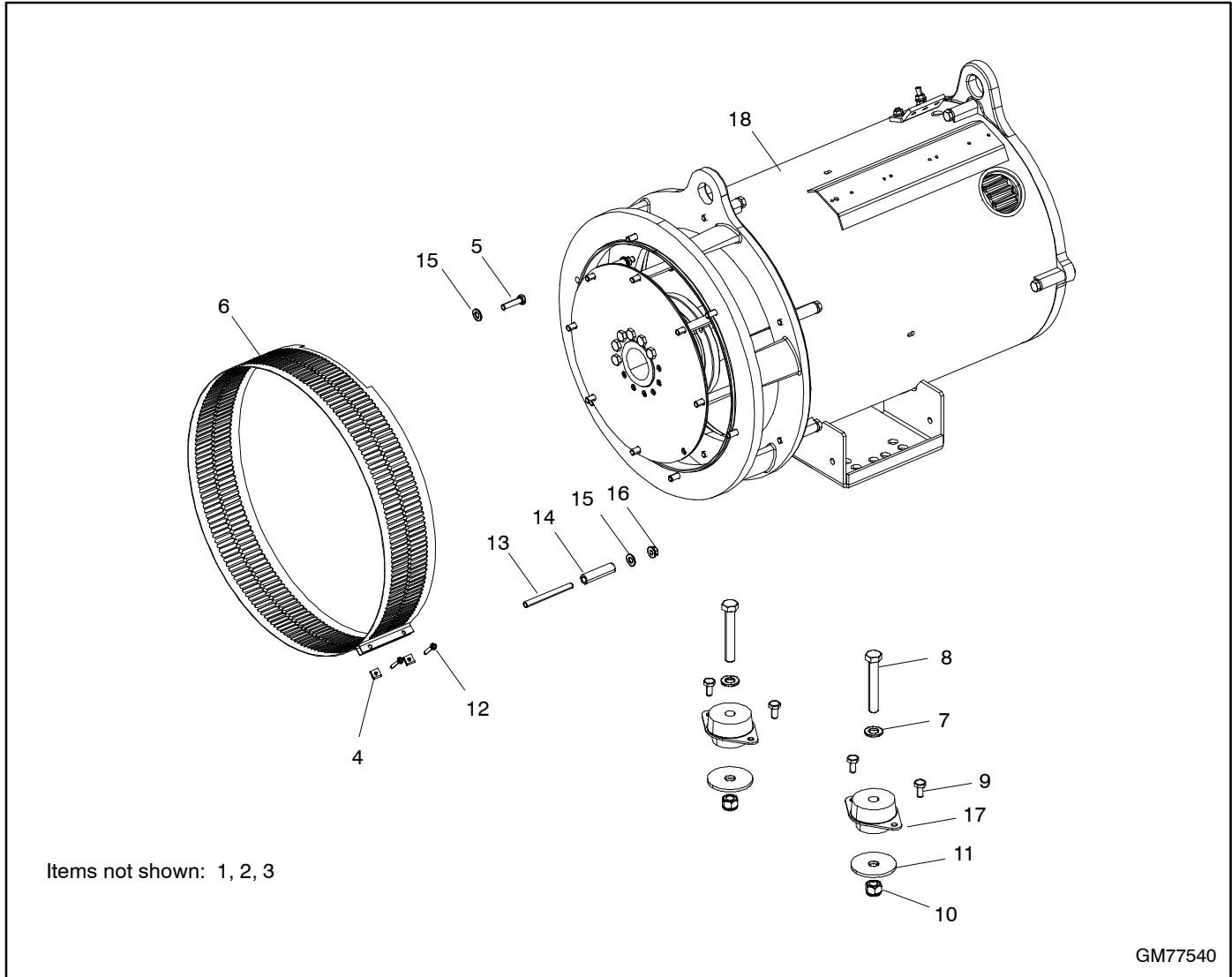
Use this table to identify part numbers of items 6- 10.

Alternator No.	Item/Part Number				
	Item 6, Exciter	Item 7, Ground Bus	Item 8, Screws	Item 9, Washers	Item 10, Nuts
GC70113-8	GC70064-1	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-10	GC70064-1	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-12	GC70064-1	257985	M933-08030-60	M125A-08-80	M6923-08-80
GC70113-20	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-22	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-24	GC70064-2	257985	M933-08030-60	M125A-08-80	M6923-08-80
GC70113-26	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-28	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-30	GC70064-2	257985	M933-08030-60	M125A-08-80	M6923-08-80
GC70113-32	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-33	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-35	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-36	GC70064-2	257986	M933-06030-60	M125A-06-80	M6923-06-80
GC70113-38	GC70064-2	257985	M933-08030-60	M125A-08-80	M6923-08-80

# Notes

# Group 201: Generator and Mounting, continued

4R\_X/4T\_X Alternator Modules GM77540-



GM77540

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	257442	Clip, Speed	2
5	270158	Bolt, Hex Cap	6
6	GM70117	Guard, Generator fan	1
7	M125A-16-80	Washer, Plain	2
8	M931-16100-60	Screw, Hex cap	2
9	M933-10020-60	Screw, Hex cap	4
10	M982-16-80	Nut, Hex elastic stop	2
11	X-25-112	Washer, Plain	2
12	X-67-125	Screw, Hex washer, thread-forming	2
13	X-352-63	Stud, 3/8-16 x 4 in.	8
14	X-400-132	Spacer, 0.406 ID x 0.625 OD x 2.531 in.	8
15	X-801-3	Washer, Hardened, 0.406 ID x 0.812 OD	14
16	X-6210-9	Nut, Flange spirallock, 3/8-16	8
17	See chart page 29	Vibromount	2
18	See chart page 29	Alternator assembly	1

# Group 201: Generator and Mounting, continued

## 4R\_X/4T\_X Alternator Modules GM77540- Alternator Module Parts

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

<b>Module No.</b>	<b>Alternator Description</b>	<b>Item 17, Vibromount</b>	<b>Item 18, Alternator Assembly</b>
GM77540-MA1	4R9X	336813	GC70164-2
GM77540-MA2	4R9X, 600 V	336813	GC70164-4
GM77540-MA9	4T9X	336813	GC70164-6

Alternator assembly includes items on pages 30- 31.



# Group 201: Generator and Mounting, continued

4R\_X/4T\_X Alternators GC70164-

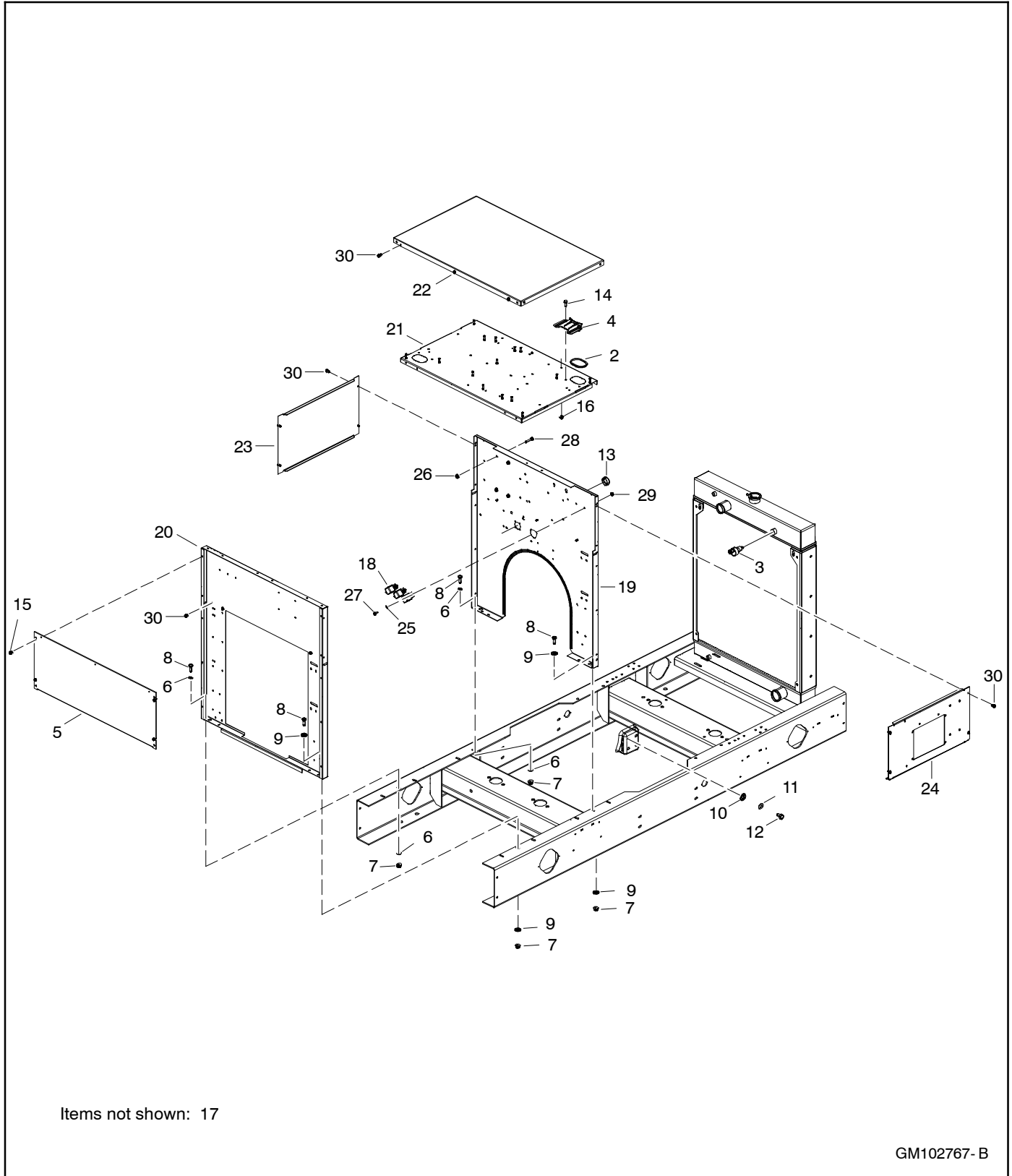
Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
1	See chart	Disc, Drive	3	28	GM74218	Holder Assy, LED Optic Board	1
2	See chart	Adapter, Generator	1	28.1	GM74198	PCB ASSY, Alt. LED Optic Board	1
3	See chart	Rotor Assembly	1	28.2	M7500C-05010-83	Screw, Thread Forming Metric	1
4	See chart	Stator Assembly	1	28.3	GM74110	Holder, LED Optic Board	1
5	See chart	Bus, Ground	1	29	M125A-06-80	Washer, Plain	4
6	See chart	Screw, Hex Cap	3	30	M4014-10080-60	Screw, Hex cap	6
7	See chart	Washer, Plain	6	31	M933-06016-60	Screw, Hex cap, M6x16mm, js500 full thrd	4
8	See chart	Nut, Hex	3	32	M933-10025-60	Screw, Hex cap, fully thrd M10 x 25mm EXP	4
9	GM70116	Bracket Assembly, End	1	33	M933-10030-82	Screw, Hex cap	12
10	GC70064-3	Exciter Armature, SCR	1	34	X-25-93	Washer, Plain .406 ID x .75 in. OD	14
11	M933-08025-60	Screw, Hex cap	1	35	X-801-3	Washer, Hardened, .406 ID x .812 in. OD	12
12	M933-08045-60	Screw, Hex cap	1	36	M4017-10100-60	Screw, Hex cap	4
13	M6797A-08-SS	Washer, Internal & External Tooth	2	37	X-6071-8	Screw, Thread Forming	1
14	M125A-08-80	Washer, Plain	3	38	M985-04-SS	Nut, Hex Elastic Stop	5
15	M6923-08-80	Nut, Hex 8mm	3	39	GM98939-1	PCB Assy, FRX Activator, 6-Hole	1
16	M933-16030-82	Screw, Hex cap	1	40	M7500CE-05020-85	Screw, Metric Thread Forming	6
17	GM70070	Washer, FRX Exciter Mtg	1	41	M934-04-SS	Nut, Hex (Stainless Steel)	5
18	GM96975	Spacer, FRX Activator (3-Hole)	1	42	GM98936	Spacer, Enhanced FRX Activator	1
19	M7500D-05035-85	Screw, Metric Thread Forming	3	43	GM101821-S	Service Kit, FRX Activator Board (for replacing 3-hole activator board on units before alternator serial number 96779)	1
20	M934-04-SS	Nut, Hex (Stainless Steel)	5				
21	M985-04-SS	Nut, Hex Elastic Stop	5				
22	X-6071-8	Screw, Thread Forming	3				
23	344295	Decal, Equipment grd	1				
26	GM81609	Fan, Alternator	1				
27	-	PCB Assy, Alternator Activator (3-hole) (Order item 43)	1				

Use this table to identify part numbers of items 1-8.

Alternator No.	Item/Part Number							
	Item 1, Drive Disc	Item 2, Adapter	Item 3, Rotor Assy.	Item 4, Stator Assy.	Item 5, Ground Bus	Item 6, Screws	Item 7, Washers	Item 8, Nuts
GC70164-2	257103	GM70119	GC70145-2	GC70161-1	257985	M933-08030-60	M125A-08-80	M6923-08-80
GC70164-4	257103	GM70119	GC70145-2	GC70162-1	257985	M933-08030-60	M125A-08-80	M6923-08-80
GC70164-6	257103	GM70119	GC70145-2	GC70163-1	257978	M933-10030-60	M125A-10-80	M6923-10-80

# Control and Harness

KG40-60, GM105305-MA1





# Control and Harness

KG40- 60, GM105305-MA1

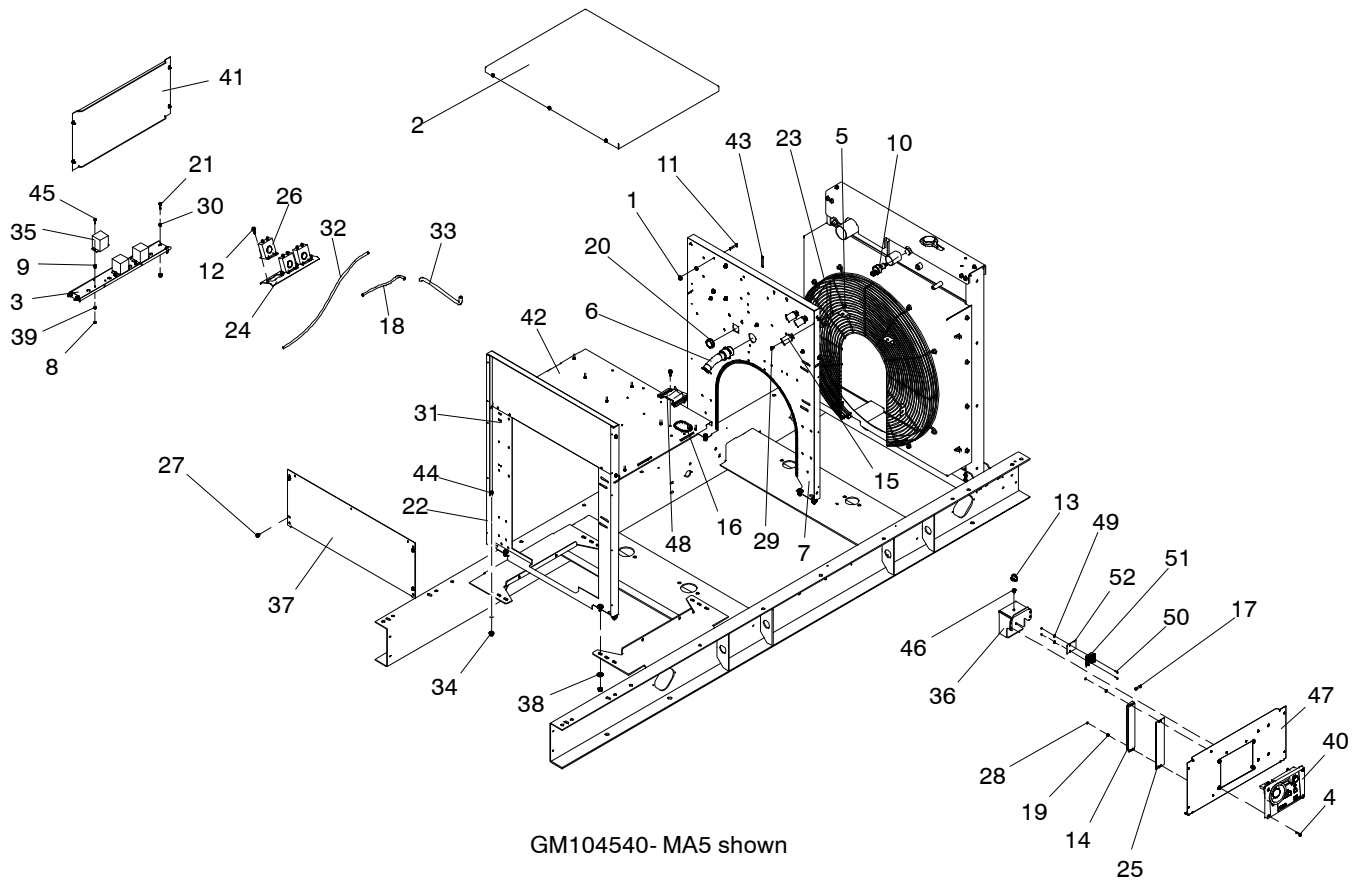
Item	Part Number	Description	Qty.
2	X-6033-5	Grommet	1
3	GM66270	Sensor, Low coolant level	1
4	GM74531	Guard, Rodent	1
5	GM76175	Cover, Controller (rear)	1
6	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	4
7	M6923-08-80	Nut, Hex 8 mm	4
8	M933-08020-60	Screw, Hex cap	4
9	X-22-16	Washer, Lock	4
10	X-22-26	Washer, Lock	1
11	X-25-26	Washer, Plain, .531 ID x 1.062 in. OD	1
12	X-129-15	Bolt, Hex cap	1
13	X-301-35	Button, Plug	1
14	X-794-1	Screw, Drill	2
15	X-6216-1	Screw, Phillips hex crimpite	4
16	361567	Base, Tie wrap snapin	2
17	GM103151	Harness, J-box 40- 60 kW gas	1
18	GM49746	Relay, 12 VDC	3
19	GM76167**	Panel, Junction box (front)	1
20	GM76168	Panel, Junction box (rear)	1
21	GM76169	Panel, Junction box (shelf)	1
22	GM76170**	Cover, Junction box (top)	1
23	GM76173	Cover, Controller (left)	1
24	GM76174	Panel, J- box APM402 mnt.	1
25	M125A-05-80	Washer, Plain	3
26	M6923-06-80	Nut, Hex 6 mm	4
27	M7985A-05012-20	Screw, Pan head mach.	3
28	M933-06030-60	Screw, Hex cap	4
29	M934-05-50	Nut, Hex 5 mm	3
30	X-6216-1	Screw, Phillips hex crimpite	21

\*\* Use the Module number and chart below to identify the color suffix.  
Add a suffix to this color dependent part number before ordering.

Module No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 19)
GM105305-MA1-BLK	-BLK	GM76167-BLK

# Control and Harness, continued

KG80- KG80R, GM104540-



GM104540- MA5 shown

Items not shown: 53, 54

GM104540

# Control and Harness, continued

KG80- KG80R

Item	Part Number	Description	Qty.		
			GM104540- MA1	GM104540- MA3	GM104540- MA5
1	M6923-06-80	Nut, Hex 6 mm	4	4	8
2	GM76179**	Cover, Junction box (Top)	1	1	1
3	GM35175	Bracket, PT mounting	-	-	1
4	M7985A-05020-20	Screw, Pan head machine	4	4	4
5	M934-05-50	Nut, Hex 5 mm	3	3	3
6	GM104025	Harness, Ctrl 6.2L Ind Turbo KG80/100/125	1	1	1
7	GM76176**	Panel, Junction box (Front) 4RX/4TX	1	1	1
8	M934-04-50	Nut, Hex 4 mm	-	-	6
9	X-400-145	Spacer, .209 ID x .375 OD x .234 in.	-	-	6
10	GM66270	Sensor, Low coolant level	1	1	1
11	M933-06035-60	Screw, Hex cap M6 x 35	4	4	4
12	X-794-1	Screw, Hex wshr hd, Drill 1/4- 14 X 5/8	6	6	6
13	X-468-1	Cable Tie	1	1	1
14	273769	Terminal Block, 20- Position, 2- Row	1	1	1
15	GM49746	Relay, 12 VDC	3	3	3
16	X-6033-5	Grommet, U- channel	1	1	1
17	291207	Fuse, 1.5A, 250V, 0.25 x 1.25, Time delay	3	3	3
18	GM17424	Harness, Wiring current transformer	1	1	1
19	X-22-6	Washer, Lock .146 ID x .285 in. OD	2	2	2
20	X-301-35	Button, Plug	1	1	1
21	M933-06020-60	Screw, Hex cap M6 x 20	-	-	4
22	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	8	8	8
23	M125A-05-80	Washer, Plain	3	3	3
24	276417	Bracket, CT mounting	-	-	1
25	GM75602	Strip, Marker	1	1	1
26	GM16252	Transformer, Current 200A:3 VAC	-	-	3
26	GM16257	Transformer, Current 200A:3 VAC	3	2	-
27	X-6216-1	Screw, Phillips hex crimpite	24	24	24
28	M934-03-50	Nut, hex 3 mm	6	6	6
29	M7985A-05012-20	Screw, Pan head mach.	3	3	3
30	M125A-06-80	Washer, Plain	4	4	8
31	GM76177	Panel, Junction box (Rear)	1	1	1
32	GM59010	Harness, Wiring 4S	-	-	1
33	GM77888	Harness, A/C APM402	1	1	1
34	M6923-08-80	Nut, Hex 8 mm	8	8	8
35	258990	Transformer, 347 V, 115.6 V	-	-	3
36	GM71802	Cover, Controller	1	1	1
37	GM76175	Cover, Controller (Rear)	1	1	1
38	X-22-16	Washer, Lock .326 ID x .883 in. OD	8	8	8
39	X-22-7	Washer, Lock .172 ID x .333 in. OD	-	-	6
40	GM65741-3	Controller assy, APM402	1	1	1
41	GM76181	Cover, Controller (Left)	1	1	1
42	GM76178	Panel, Junction box (Shelf)	1	1	1
43	GM103735	Module, 6.2L NA ECM, ERC	1	1	1
44	M933-08020-60	Screw, Hex cap M8 x 20	8	8	8
45	M7985A-04016-20	Screw, Pan head machine	-	-	6
46	361567	Base, Tie wrap snapin	1	1	1
47	GM76182-S	Panel, J- Box APM402 mnt	1	1	1
48	GM74531	Guard, Rodent	1	1	1
49	M125A-03-60	Washer, Plain	2	2	2
50	M7985A-03012-20	Screw, Pan head M3 x 12	2	2	2
51	292821	Fuse holder	1	1	1
52	225179	Strip, Marker	1	1	1
53	23369 00101	Grommet, Nylon	0.2127504	0.2127504	0.2127504
54	GM104026	Diagram, Wiring, 6.2L Industrial Turbo	1	1	1

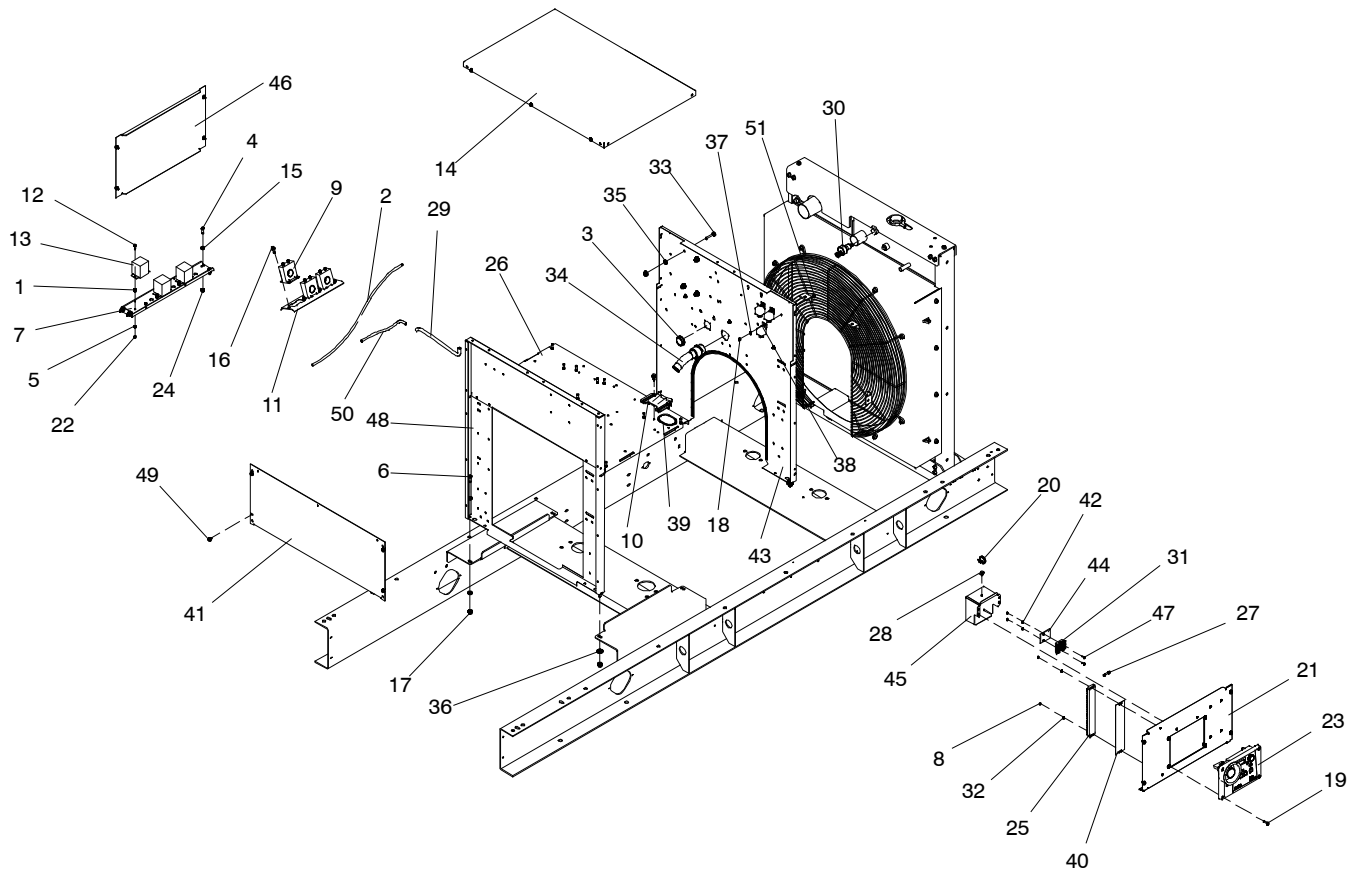
\*\* Use the Module number and chart below to identify the color suffix.

Add a suffix to this color dependent part number before ordering.

Module No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 2)
GM104540-MA1-BLK	-BLK	GM76179-BLK
GM104540-MA3-BLK	-BLK	GM76179-BLK
GM104540-MA5-BLK	-BLK	GM76179-BLK

# Control and Harness, continued

KG80- KG80R, GM105304-



GM105304- MA2 shown

Items not shown: 52, 53

GM105304

# Control and Harness, continued

KG80- KG80R

Item	Part Number	Description	Qty.	
			GM105304- MA1	GM105304- MA2
1	X-400-145	Spacer, .209 ID x .375 OD x .234 in.	-	6
2	GM59010	Harness, Wiring 4S	-	1
3	X-301-35	Button, Plug	1	1
4	M933-06020-60	Screw, Hex cap M6 x 20	-	4
5	X-22-7	Washer, Lock .172 ID x .333 in. OD	-	6
6	M933-08020-60	Screw, Hex cap M8 x 20	4	4
7	GM58692	Bracket, PT mounting	-	1
8	M934-03-50	Nut, Hex 3 mm	6	6
9	GM16252	Transformer, Current 200A:3 VAC	3	3
10	GM74531	Guard, Rodent	1	1
11	276417	Bracket, CT mounting	1	1
12	M7985A-04016-20	Screw, Pan head machine	-	6
13	258990	Transformer, 347 V, 115.6 V	-	3
14	GM76170**	Cover, Junction box	1	1
15	M125A-06-80	Washer, Plain	-	4
16	X-794-1	Screw, Hex wshr Hd, Drill 1/4- 14 x 5/8	6	6
17	M6923-08-80	Nut, Hex 8 mm	8	8
18	M934-05-50	Nut, Hex 5 mm	3	3
19	M7985A-05020-20	Screw, Pan head machine	4	4
20	X-468-1	Cable tie	1	1
21	GM76174-S	Panel, J- Box APM402 mnt	1	1
22	M934-04-50	Nut, Hex 4 mm	-	6
23	GM65741-3	Controller assy, APM402	1	1
24	M6923-06-80	Nut, Hex 6 mm	-	4
25	273769	Terminal block, 20- Position, 2- Row	1	1
26	GM76169	Panel, Junction box (shelf)	1	1
27	291207	Fuse, 1.5A, 250V, 0.25 x 1.25, Time delay	3	3
28	361567	Base, Tie wrap snapin	1	1
29	GM77888	Harness, A/C APM402	1	1
30	GM66270	Sensor, Low coolant level	1	1
31	292821	Fuse holder	1	1
32	X-22-6	Washer, Lock .146 ID x .285 in. OD	2	2
33	M931-08040-60	Screw, Hex cap M8 x 40	4	4
34	GM104025	Harness, Ctrl 6.2L Ind Turbo KG80/100/125	1	1
35	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	8	8
36	X-22-16	Washer, Lock .326 ID x .883 in. OD	4	4
37	M125A-05-80	Washer, Plain	3	3
38	GM49746	Relay, 12 VDC	3	3
39	X-6033-5	Grommet, U- Channel	1	1
40	GM75602	Strip, Marker	1	1
41	GM76175	Cover, Controller (Rear)	1	1
42	M125A-03-60	Washer, Plain	2	2
43	GM76167**	Panel, Junction box (Front)	1	1
44	225179	Strip, Marker	1	1
45	GM71802	Cover, Controller	1	1
46	GM76173	Cover, Controller (Left)	1	1
47	M7985A-03012-20	Screw, Pan Head M3 x 12	2	2
48	GM76168	Panel, Junction box (Rear)	1	1
49	X-6216-1	Screw, Phillips hex crimpbite	21	21
50	GM17424	Harness, Wiring current transformer	1	1
51	M7985A-05012-20	Screw, Pan head mach.	3	3
52	23369 00101	Grommet, Nylon	0.2127504	0.2127504
53	GM104026	Diagram, Wiring, 6.2L industrial turbo	1	1

\*\* Use the Module number and chart below to identify the color suffix.

Add a suffix to this color dependent part number before ordering.

Module No.	Color Dependant Parts	
	Part Number Suffix	Part Number Example (item 14)
GM105304-MA1-BLK	-BLK	GM76170-BLK
GM105304-MA2-BLK	-BLK	GM76170-BLK

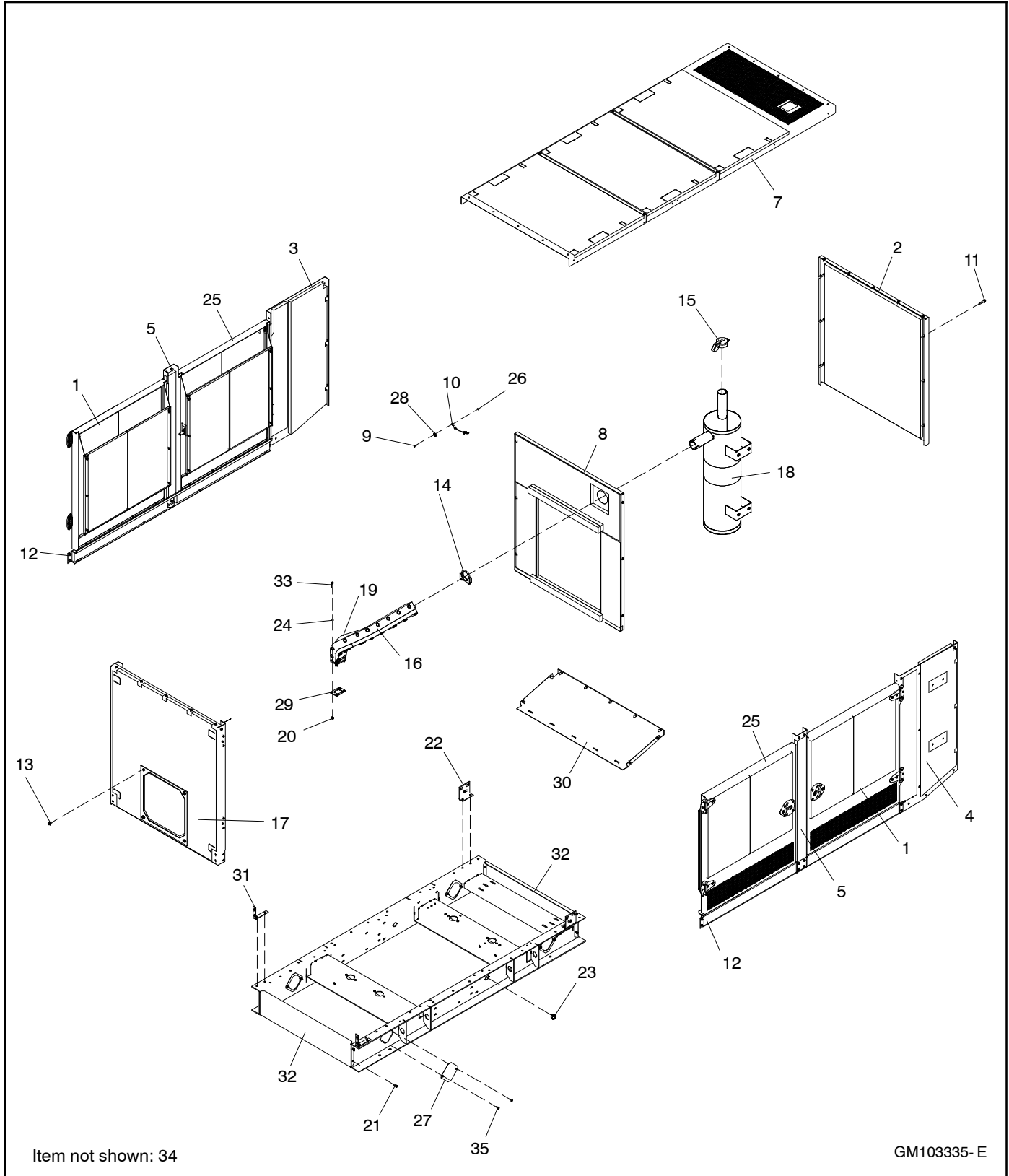
# Group 701: Literature

Item	Part Number	Description	Quantity					
			Variation Number					
			555	556	557	558	563	564
1	TP-5374	Warranty 1-Year Limited, Industrial	1	1	1	1	1	1
2	TP-5700	I/M 20- 3250kW, Industrial	1	1	1	1	1	1
3	TP-6356	S/M Controllers, 20- 3250 kW, Industrial	1	1	1	1	1	1
4	TP-6694	O/M APM402/DEC 3000 Controller	1	1	1	1	1	1
5	TP-6781	P/C APM402/DEC 3000 Controller	1	1	1	1	1	1
6	TP-6783	S/M Fast Response X (FR- X) Alternator	1	1	1	1	1	1
7	TP-7095	O/M KG6208 6.2L Engine	1	1	1	1	1	1
8	TP-7096	S/M KG6208 6.2L Engine	1	1	1	1	1	1
9	TP-7097	S/M KG6208 Fuel System and Diagonst	1	1	1	1	1	1
10	TP-7098	S/M KG6208 Fuel System and Diagonst					1	1
11	TP-7112	W/D KG40- 80, Gas, Industrial	1	1	1	1	1	
12	TP-7118	P/C KG40- KG80, Industrial					1	1
13	TP-7124	O/I/M Engine Display Interface Soft					1	1
14	TP-7125	Warranty, CARB/EPA SORE 2- Yr 6.2L					1	1
15	TP-7130	W/D KG80R- 125R, Gas, Residential						1

# Notes

# Enclosure

KG40-60, GM103335-KA1-KCB





# Enclosure

KG40- 60, GM103335-KA1-KCB

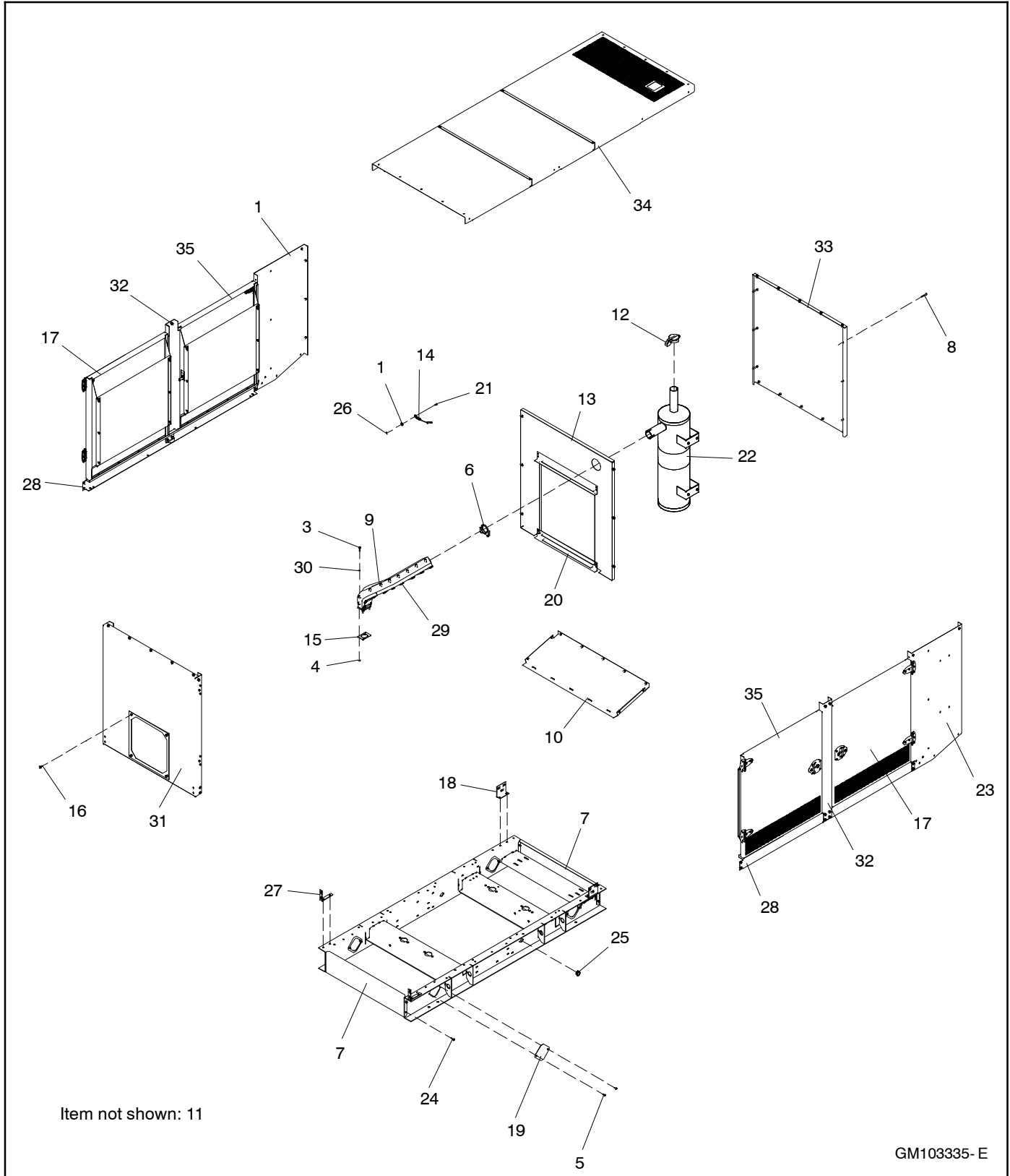
Item	Part Number	Description	Qty.
1	GM69227-4-S-KCB	Door assy, air intake	2
2	GM103845-1-S-KCB	Panel asm, enclosure front	1
3	GM103326-1-S-KCB	Panel, front side (LH)	1
4	GM103325-1-S-KCB	Panel, front side (RH)	1
5	GM103327-1-S-KCB	Support, center	2
6	25493 00006	Seal, push- on trim	1
7	GM103332-1-S-KCB	Roof asm, enclosure (steel)	1
8	GM103329-1-S-KCB	Baffle, radiator	1
9	M933-06020-60	Screw, hex cap M6 x 20	4
10	LK-1015-1515	Lead, ground	1
11	M6921-08050-60	Screw, hex flange M8 x 50	6
12	GM103328-1-S-KCB	Rail, lower frame	2
13	M6921-08020-60	Screw, hex flange M8 x 20	81
14	X-722-2	Clamp, muffler, 2.62 in.	1
15	324562	Cap, rain 2.5 in. (fits 2.5 in. tube)	1
16	GM104269	Insulation, exhaust tube	1
17	GM103333-1-S-KCB	Panel, rear	1
18	GM103334-S	Silencer	1
19	GM103336	Pipe, flex exhaust	1
20	M6923-08-80	Nut, hex 8 mm	12
21	X-67-141	Screw, hex washer, thread- forming	8
22	GM62597	Bracket, mounting	2
23	X-301-50	Plug, button	1
24	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	4
25	GM69219-4-S-KCB	Door assy, air intake ERES sound (RH)	2
26	M6923-06-80	Nut, hex 6 mm	4
27	GM11073	Cover, skid hole	4
28	X-22-16	Washer, lock .326 ID x .883 in. OD	12
29	GM102843	Gasket, exhaust	1
30	GM103330-S-KCB	Panel, lower exhaust	1
31	GM62599	Bracket, mounting	2
32	GM66776	End cap, skid	2
33	M931-08035-60	Screw, hex cap M8 x 35	4
34	GM101167-2	Assembly, decal (black)	1
34.1	GM101089-1	Decal, Rating 40	2
34.2	GM101089-2	Decal, Rating 45	2
34.3	GM101089-6	Decal, Rating 50	2
34.4	GM101089-3	Decal, Rating 60	2
34.5	GM15299	Decal, Rainproof Enclosure	2
34.6	GM91124-4	Decal, Kohler Logo	4
34.7	X-6348-22	Decal, KohlerPower.com	2
35	X-794-4	Screw, hex wshr hd, drill 1/4- 14 x 7/8	8

Use the chart below to identify the complete service assembly part number.

Kit No.	Enclosure Type	Complete Service Assembly
GM103335-KA1-KCB	Sound, Steel	GM103335-S1-KCB

# Enclosure, continued

KG40-60, GM103335-KA2-KCB



# Enclosure, continued

KG40- 60, GM103335-KA2-KCB

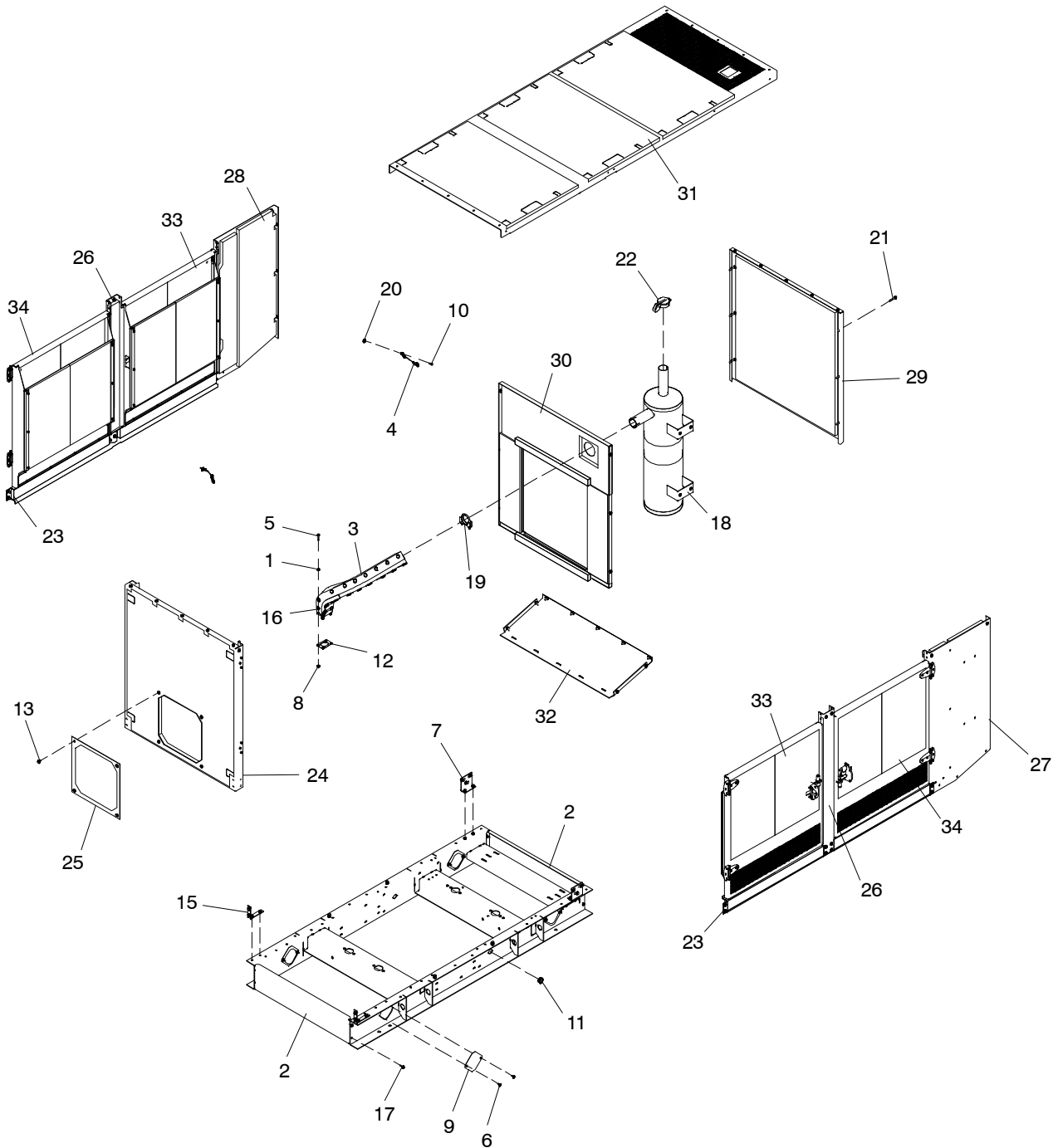
Item	Part Number	Description	Qty.
1	X-22-16	Washer, lock .326 ID x .883 in. OD	12
2	GM103326-2-S-KCB	Panel, front side (LH)	1
3	M931-08035-60	Screw, hex cap M8 x 35	4
4	M6923-08-80	Nut, Hex 8 mm	16
5	X-794-4	Screw, hex wshr hd, drill 1/4- 14 x 7/8	8
6	X-722-2	Clamp, muffler, 2.62 in.	1
7	GM66776	End cap, skid	2
8	M6921-08050-60	Screw, hex flange M8 x 50	6
9	GM103336	Pipe, flex exhaust	1
10	GM103330-2-S-KCB	Panel, lower exhaust	1
11.1	GM101089-1	Decal, Rating 40	2
11.2	GM101089-2	Decal, Rating 45	2
11.3	GM101089-6	Decal, Rating 50	2
11.4	GM101089-3	Decal, Rating 60	2
11.5	GM15299	Decal, Rainproof Enclosure	2
11.6	GM91124-4	Decal, Kohler Logo	4
11.7	X-6348-22	Decal, KohlerPower.com	2
12	324562	Cap, rain 2.5 in. (Fits 2.5 in. Tube)	1
13	GM103329-2-S-KCB	Baffle, radiator	1
14	LK-1015-1515	Lead, ground	4
15	GM102843	Gasket, exhaust	1
16	M6921-08020-60	Screw, hex flange M8 x 20	85
17	GM69227-5-S-KCB	Door assy, air intake	2
18	GM62597	Bracket, mounting	2
19	GM11073	Cover, skid hole	4
20	GM82183	Flange, radiator duct	2
21	M933-06020-60	Screw, Hex cap M6 x 20	4
22	GM103334-S	Silencer	1
23	GM103325-2-S-KCB	Panel, front side (RH)	1
24	X-67-141	Screw, hex washer, thread-forming	8
25	X-301-50	Plug, button	1
26	M6923-06-80	Nut, hex 6 mm	4
27	GM62599	Bracket, mounting	2
28	GM103328-2-S-KCB	Rail, lower frame	2
29	GM104269	Insulation, exhaust tube	1
30	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	4
31	GM103333-2-S-KCB	Panel, rear	1
32	GM103327-2-S-KCB	Support, center	2
33	GM103845-2-S-KCB	Panel asm, enclosure front	1
34	GM103332-2-S-KCB	Roof asm, enclosure (steel)	1
35	GM69219-5-S-KCB	Door assy air intake	2

Use the chart below to identify the complete service assembly part number.

Kit No.	Enclosure Type	Complete Service Assembly
GM103335-KA2-KCB	Weather, Steel	GM103335-S2-KCB

# Enclosure, continued

KG40-60, GM103335-KA3-KCB



Items not shown: 14

GM103335-E

# Enclosure, continued

KG40- 60, GM103335-KA3-KCB

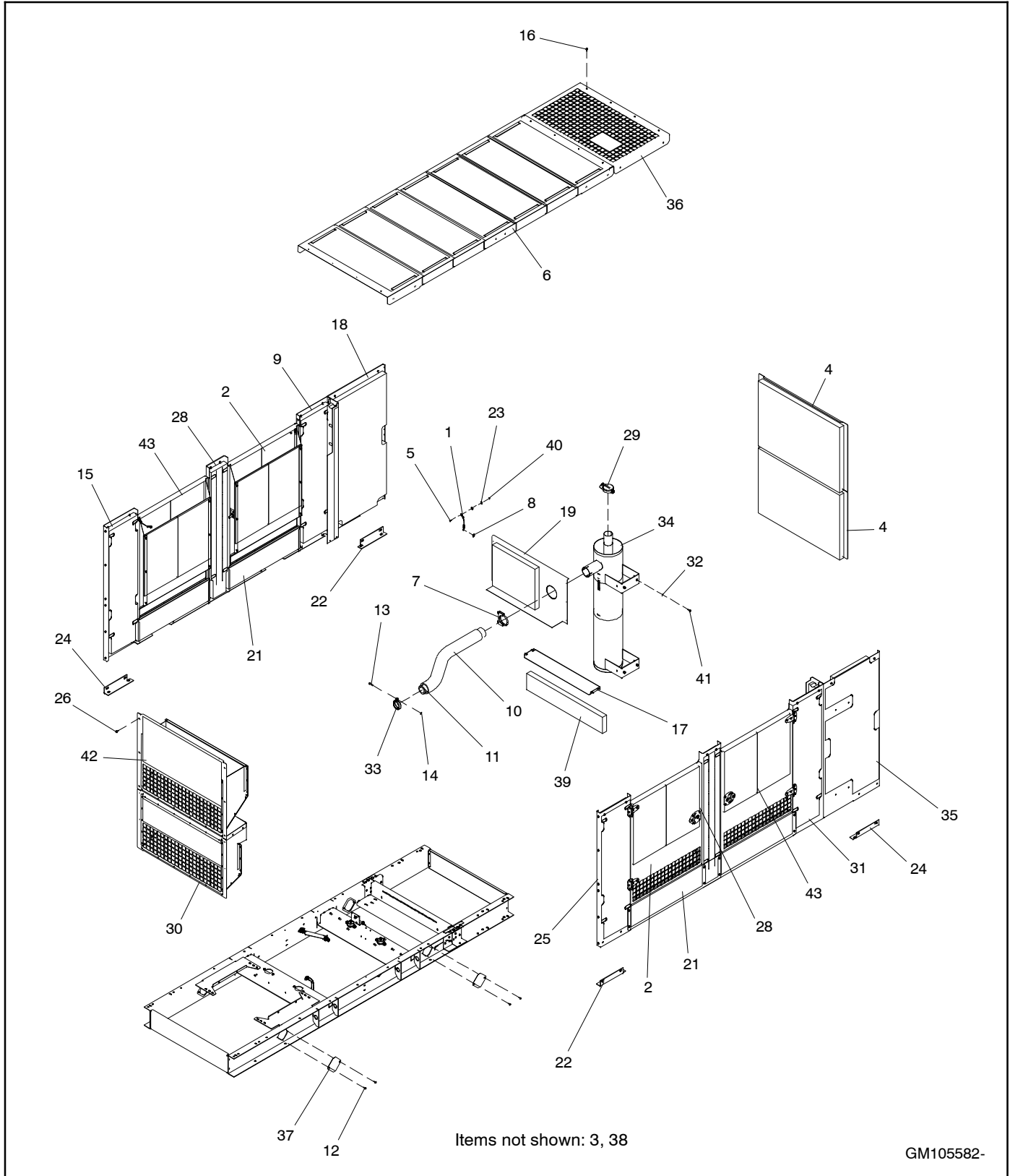
Item	Part Number	Description	Qty.
1	M125A-08-80	Washer, plain 8.4 ID x 16.0 OD	4
2	GM66776	End cap, skid	2
3	GM103336	Pipe, flex exhaust	1
4	LK-1015-1515	Lead, ground	4
5	M931-08035-60	Screw, hex cap M8 x 35	4
6	X-794-4	Screw, hex wshr hd, drill 1/4- 14 x 7/8	8
7	GM62597	Bracket, mounting	2
8	M6923-08-80	Nut, hex 8 mm	12
9	GM11073	Cover, skid hole	4
10	SA11939	Screw, drill, 1/4- 14, hex hd	4
11	X-301-50	Plug, button	1
12	GM102843	Gasket, exhaust	1
13	M6921-08020-60	Screw, hex flange M8 x 20	81
14.1	GM101089-1	Decal, Rating 40	2
14.2	GM101089-2	Decal, Rating 45	2
14.3	GM101089-6	Decal, Rating 50	2
14.4	GM101089-3	Decal, Rating 60	2
14.5	GM15299	Decal, Rainproof Enclosure	2
14.6	GM91124-4	Decal, Kohler Logo	4
14.7	X-6348-22	Decal, KohlerPower.com	2
15	GM62599	Bracket, mounting	2
16	GM104269	Insulation, exhaust tube	1
17	X-67-141	Screw, hex washer, thread-forming	8
18	GM103334-S	Silencer	1
19	X-722-2	Clamp, muffler, 2.62 in.	1
20	X-22-16	Washer, lock .326 ID x .883 in. OD	12
21	M6921-08050-60	Screw, hex flange M8 x 50	6
22	324562	Cap, rain 2.5 in. (Fits 2.50 in. Tube)	1
23	GM104010-1-S-KCB	Rail, lower frame	2
24	GM104014-1-S-KCB	Panel, rear	1
25	GM84217-1-S-KCB	Plate, alt access	1
26	GM104009-1-S-KCB	Support, center	2
27	GM104007-1-S-KCB	Panel, front side (RH)	1
28	GM104008-1-S-KCB	Panel, front side (RH)	1
29	GM104206-1-S-KCB	Panel, enclosure front	1
30	GM104011-1-S-KCB	Baffle, radiator	1
31	GM104013-1-S-KCB	Roof, enclosure	1
32	GM104012-1-S-KCB	Panel, lower exhaust	1
33	GM69221-4-S-KCB	Door assy, air intake	2
34	GM69229-4-S-KCB	Door assy, air intake	2

Use the chart below to identify the complete service assembly part number.

Kit No.	Enclosure Type	Complete Service Assembly
GM103335-KA3-KCB	Sound, Aluminum	GM103335-S3-KCB

# Enclosure, continued

KG80-80R, GM105582-



# Enclosure, continued

KG80- 80R, GM105582-

Item	Part Number	Description	Qty.		
			- KA1	- KA2	- KA3
1	LK-1015-1515	Lead, Ground	4	4	4
2	See chart	Door assy, Air intake (RH)	2	2	2
3	19000 08100	Foam, Gasket seal (7/8 in. tape)	2	2	1
4	See Chart	Panel, Front	2	2	2
5	M933-06020-60	Screw, Hex cap M6 x 20	4	4	4
6	See chart	Roof	1	1	1
7	286286	Clamp, Muffler, 3.62 in.	1	1	1
8	X-22-16	Washer, Lock .326 ID x .883 in. OD	4	4	4
9	See Chart	Panel, Corner left	1	1	1
10	GM105003	Wrap, Flex exhaust	1	1	1
11	GM104552	Exhaust, Flex	1	1	1
12	X-794-1	Screw, Hex wshr hd, drill 1/4- 14 x 5/8	8	8	8
13	336851	Screw, Hex head machine, special thread	1	1	1
14	X-6210-7	Nut, Flange spiralock, 5/16- 18	1	1	1
15	See chart	Panel, Corner right	1	1	1
16	X-794-4	Screw, Hex wshr hd, drill 1/4- 14 x 7/8	34	34	-
17	See chart	Panel, Radiator lower	1	1	1
18	See chart	Panel, Front LH	1	1	1
19	See chart	Baffle, Radiator upper	1	1	1
21	See chart	Frame, Lower door	2	2	2
22	GM62594	Bracket, Mounting (LH)	2	2	2
23	X-22-12	Washer, Lock .262 ID x .743 in. OD	8	8	8
24	GM62593	Bracket, Mounting (RH)	2	2	2
25	See chart	Panel, Corner left	1	1	1
26	M6921-08020-60	Screw, Hex flange M8 x 20	74	74	126
28	See chart	Panel, Center support	2	2	2
29	253191	Cap, Rain (fits 3 in. tube)	1	1	1
30	See chart	Panel, Rear intake (lower)	1	1	1
31	See chart	Panel, Corner right	1	1	1
32	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4	4	4
33	GM22535	Clamp, exhaust (3.34 in.)	1	1	1
34	GM104902-S	Silencer	1	1	1
35	See chart	Panel, Front RH	1	1	1
36	See chart	Roof, Front exhaust	1	1	1
37	GM11073	Cover, Skid hole	4	4	4
38	GM101167	Dwg, Decal Assy.	1	1	1
39	GM71078-4	Insulation, Acoustic Foam	1	1	1
40	M6923-06-80	Nut, Hex 6mm	4	4	4
41	M933-08025-60	Screw, Hex cap M8 x 25	4	4	4
42	See chart	Panel, Rear intake (upper)	1	1	1
43	See chart	Door assy, Air intake (LH)	2	2	2

Use these tables to identify part numbers of items 2, 4, 6, 9, 15, 17, 18-21, 25, 28, 30-31, 35-36, 42-43

Module	Part Number					
	Item 2	Item 4	Item 6	Item 9	Item 15	Item 17
GM105582-KA1	GM64179-4-S**	GM104121-1-S**	GM104126-1-S**	GM104472-1-S**	GM104118-1-S**	GM105588**
GM105582-KA2	GM64179-5-S**	GM104121**	GM104126-2-S**	GM104472-2-S**	GM104118-2-S**	GM105588**
GM105582-KA3	GM65608-4-S**	GM104143-1-S**	GM104147-1-S**	GM104474-1-S**	GM104140-1-S**	GM105592**

Module	Part Number					
	Item 18	Item 19	Item 21	Item 25	Item 28	Item 30
GM105582-KA1	GM105585-1-S**	GM105587-1-S**	GM104124-1-S**	GM104117-1-S**	GM104125-1-S**	GM104120-1-S**
GM105582-KA2	GM105585-2-S**	GM105587**	GM104124-2-S**	GM104117-2-S**	GM104125-2-S**	GM104120-2-S**
GM105582-KA3	GM105590-1-S**	GM105591-1-S**	GM104138-1-S**	GM104139-1-S**	GM104146-1-S**	GM104142-1-S**

Module	Part Number				
	Item 31	Item 35	Item 36	Item 42	Item 42
GM105582-KA1	GM104471-1-S**	GM105586-1-S**	GM104123**	GM104119-1-S**	GM64176-1-S**
GM105582-KA2	GM104471-1-S**	GM105586-2-S**	GM104123**	GM104119-2-S**	GM64176-2-S**
GM105582-KA3	GM104473-1-S**	GM105589-1-S**	GM104145-S**	GM104141-1-S**	GM65611-1-S**

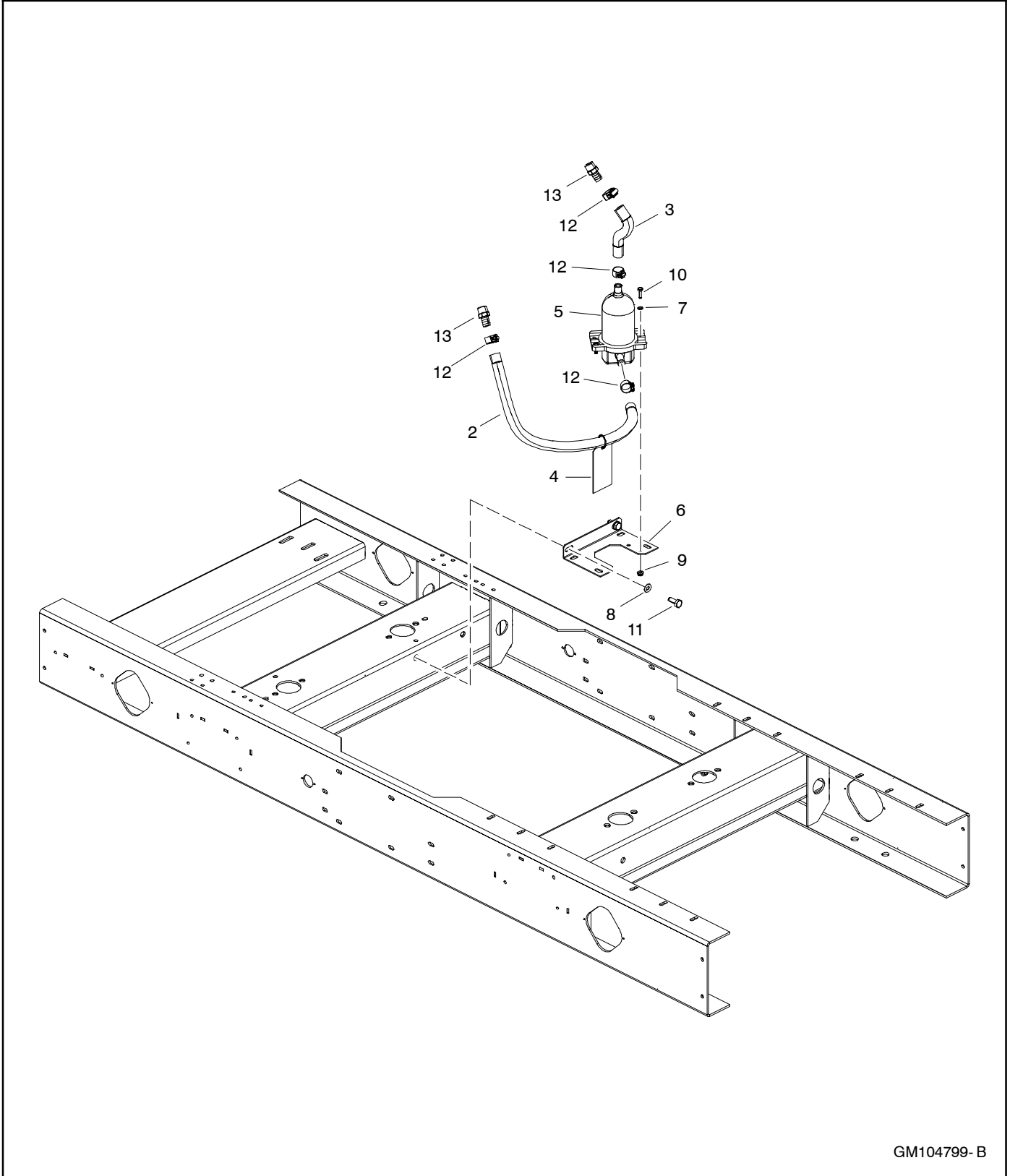
\*\* Use the Module number and chart below to identify the color suffix and to identify the complete service assembly part number.

Add a suffix to this color dependent part number before ordering.

Module No.	Complete	Color Dependant Parts	
	Service Assembly	Part Number Suffix	Part Number Example (item 2)
GM105582-KA1-KCB	GM105582-S1-KCB	-KCB	GM64179-4-S-KCB
GM105582-KA2-KCB	GM105582-S2-KCB	-KCB	GM64179-5-S-KCB
GM105582-KA3-KCB	GM105582-S3-KCB	-KCB	GM64179-5-S-KCB
GM105582-KA1-CAS	GM105582-S1-CAS	-CAS	GM64179-4-S-CAS
GM105582-KA3-CAS	GM105582-S1-CAS	-CAS	GM65608-4-S-CAS

# Block Heater

KG40-60, GM104799-KA1



GM104799-B



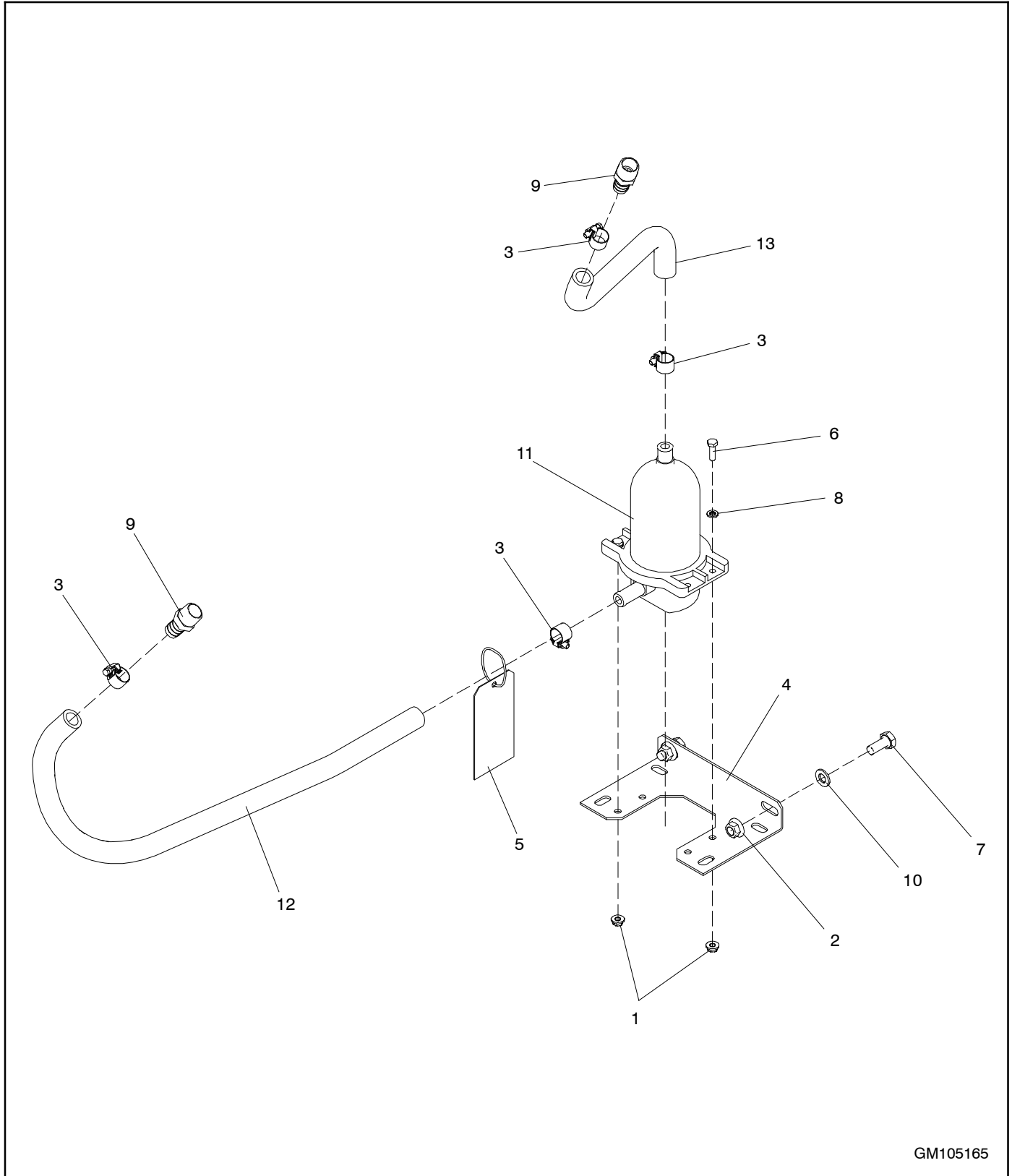
# Block Heater

KG40-60, GM104799-KA1

Item	Part Number	Description	Qty.
2	X-312-50	Hose	1
3	X-571-2	Hose	1
4	279047	Tag, Hang	1
5	352945	Heater, Block (120V, 1500W)	1
6	GM64285	Bracket, Block heater mtg.	1
7	M125A-06-80	Washer, Plain 6.4 ID x 12.0 OD	2
8	M125A-10-80	Washer, Plain 10.5 ID x 20.0 OD	2
9	M6923-06-80	Nut, Hex 6 mm	2
10	M933-06020-60	Screw, Hex cap	2
11	M933-10025-60	Screw, Hex cap	2
12	X-426-12	Clamp, Hose, .69/1.25 in.	4
13	X-582-1	Connector, Hose 5/8 in. x 1/2 in. mip brass	2

# Block Heater, continued

KG80- KG80R



GM105165

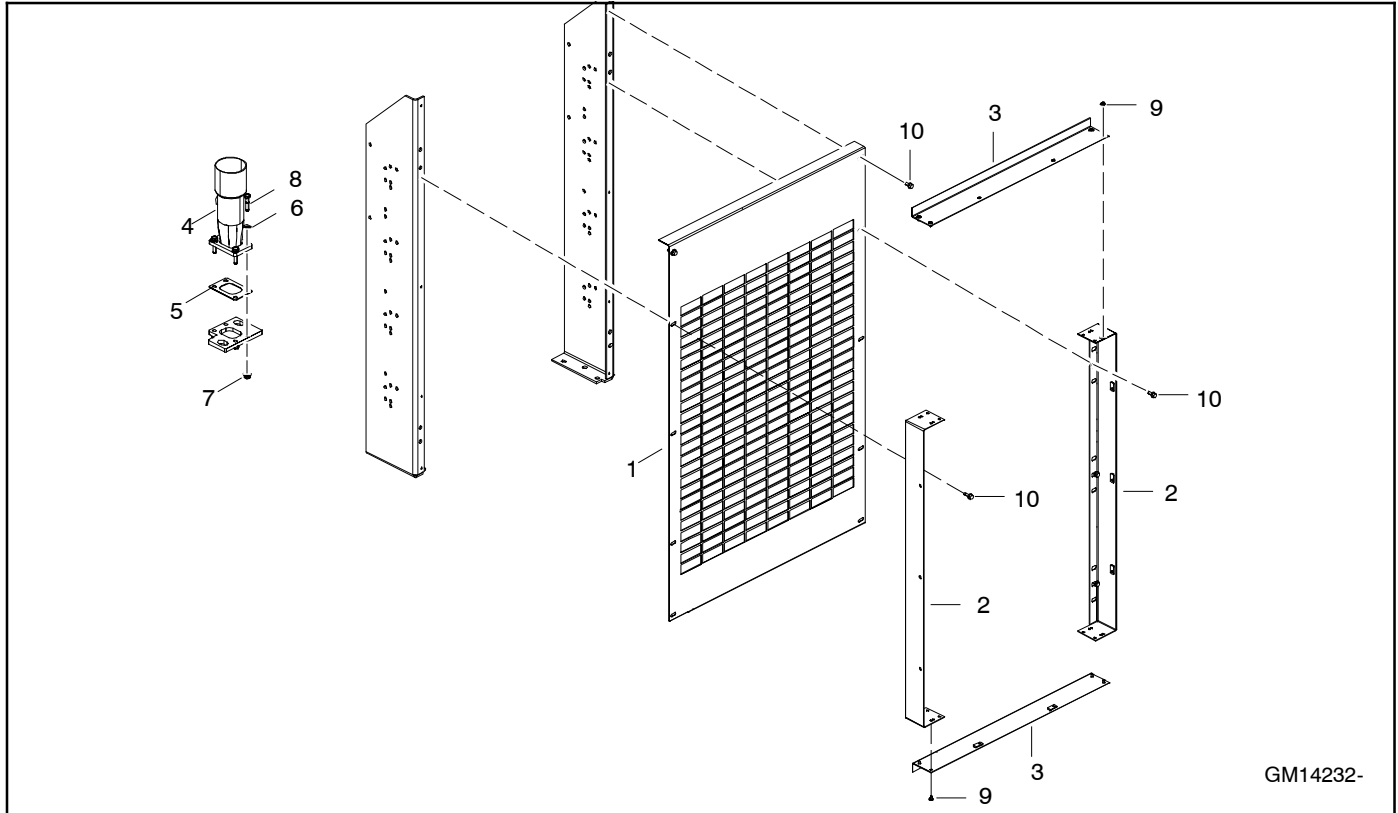
# Block Heater

KG80- KG80R

Item	Part Number	Description	Qty.	
			GM105165- KA1	GM105165- KA2
1	M6923-06-80	Nut, Hex 6 mm	2	2
2	M6923-10-80	Nut, Hex 10 mm	2	2
3	X-426-12	Clamp, Hose, .69/1.25 in.	4	4
4	GM64285	Bracket, Block heater mtg.	1	1
5	279047	Tag, Hang	1	1
6	M933-06020-60	Screw, Hex cap M6 x 20	2	2
7	M933-10025-60	Screw, Hex cap M10 x 25	2	2
8	M125A-06-80	Washer, Plain 6.4 ID x 12 OD	2	2
9	X-582-1	Connector, Hose 5/8 in. x 1/2 in. MIP brass	2	2
10	M125A-10-80	Washer, Plain 10.5 ID x 20 OD	2	2
11	352945	Heater, Block (120V, 1500W)	1	
11	352946	Heater, Block (240V, 1500W)		1
12	X-312-24	Hose, 0.63 in. ID	1	1
13	276206	Hose, Molded (0.62 in. ID)	1	1

# Open Unit Acc. Kit

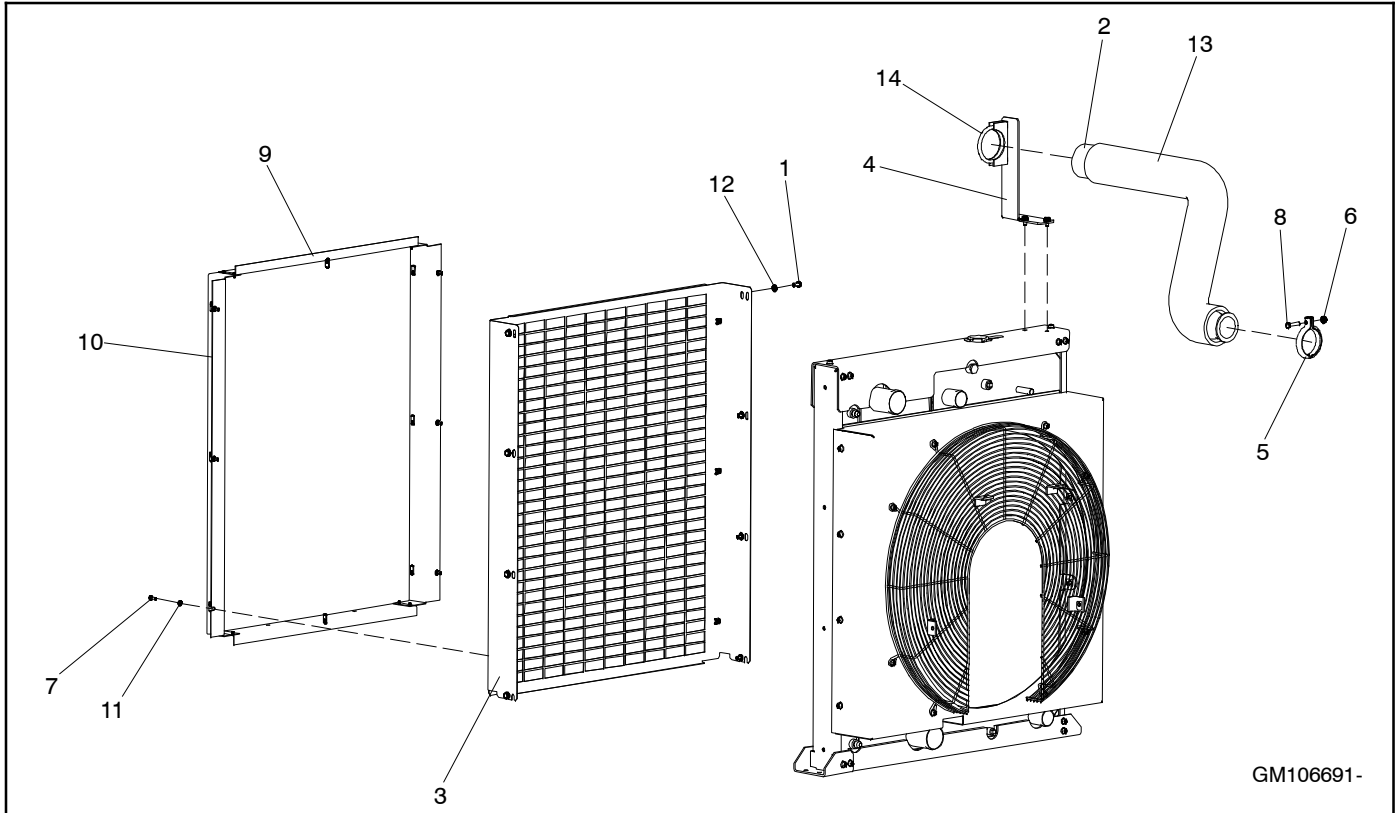
KG40-60, GM104232-KA1



Item	Part Number	Description	Qty.
1	GM14100	Guard, Radiator	1
2	GM13898	Frame, Air duct	2
3	GM13897	Frame, Air duct	2
4	GM104214	Pipe, Flex exhaust	1
5	GM102843	Gasket, Exhaust	1
6	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	4
7	M6923-08-80	Nut, Hex 8 mm	4
8	M931-08035-60	Screw, Hex cap	4
9	X-781-11	Rivet, Pop, .187 in.	8
10	X-794-1	Screw, Drill	8

# Open Unit Acc. Kit

KG80- KG80R, GM106691-KA1

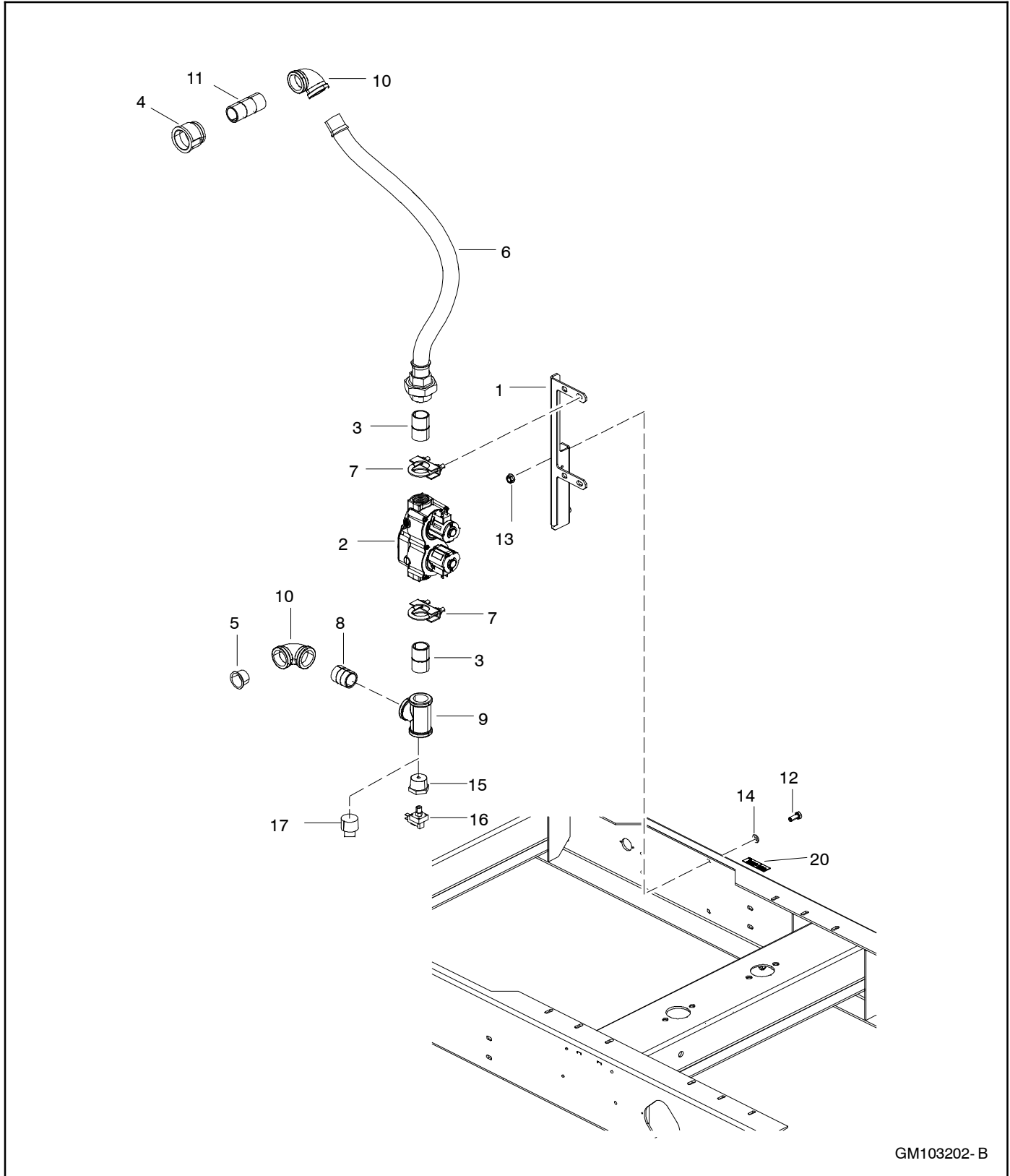


GM106691-

Item	Part Number	Description	Qty.
1	X-125-23	Bolt, Hex cap	10
2	GM104552	Exhaust, Flex	1
3	GM105861	Guard, Radiator	1
4	GM105593	Bracket, Flex support	1
5	GM22535	Clamp, Exhaust (3.34 in.)	1
6	X-6210-7	Nut, Flange spiralock, 5/16- 18	1
7	M933-06016-60	Screw, Hex cap M6x 16	6
8	336851	Screw, Hex head machine, special thread	1
9	GM32061-S	Frame, Air duct	2
10	GM105863	Frame, Air duct (Vertical)	2
11	M125A-06-80	Washer, Plain	6
12	X-25-33	Washer, Plain, .312 ID x .625 in. OD	10
13	GM105003	Wrap, Flex exhaust	1
14	286283	Clamp, Muffler, 3.12 in.	1

# Fuel System Kits

KG40-60, Single Fuel, GM103202-



GM103202- B

# Fuel System Kits

KG40-60, Single Fuel, GM103202-

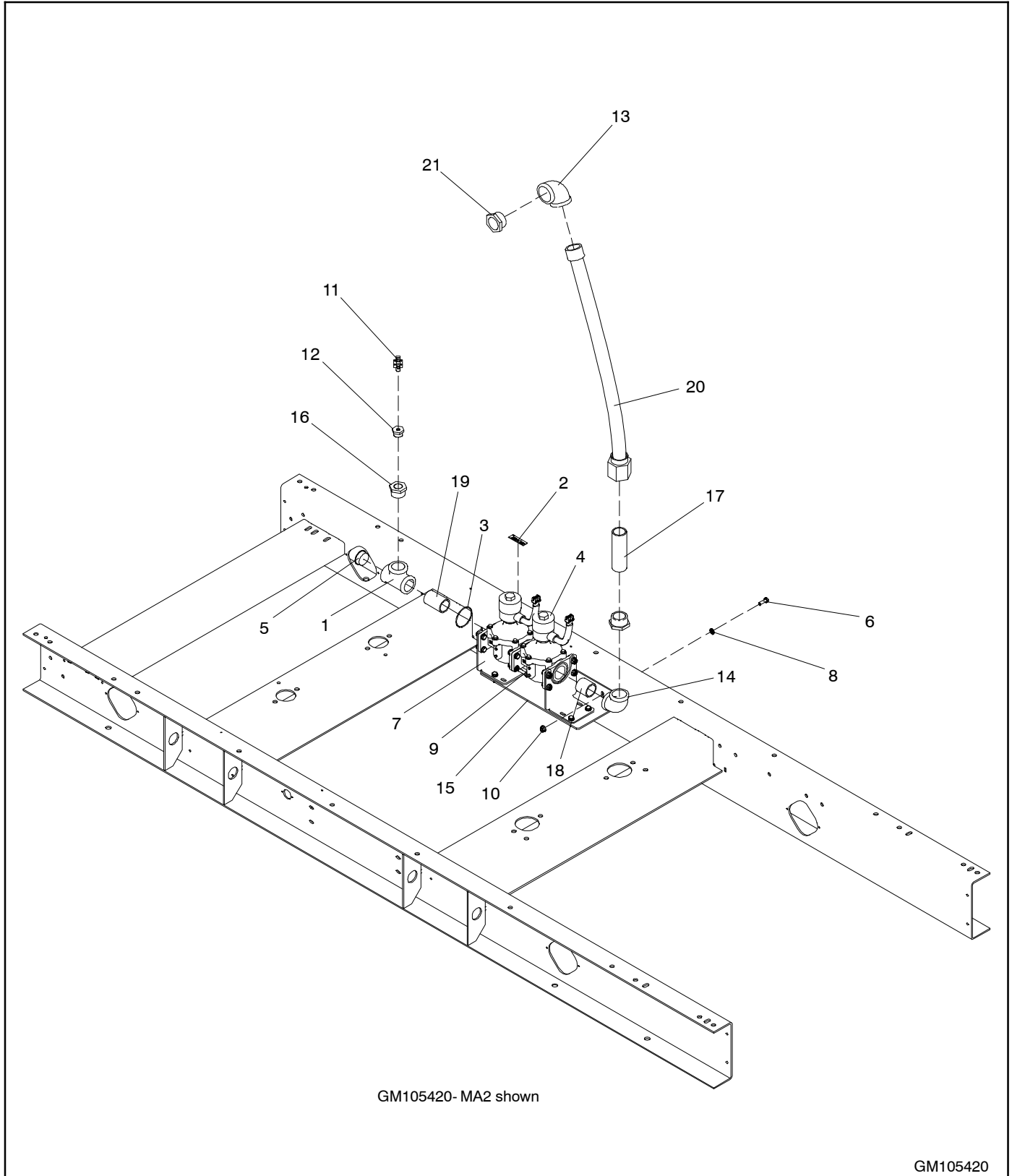
Item	Part Number	Description	Qty.
1	GM104102	Bracket, Fuel solenoid mtg.	1
2	GM96976	Valve, Dual solenoid	1
3	K-122	Pipe (1 in. NPT x 2 in.)	2
4	X-250-6	Coupling, Reducer (1-1/4 x 1 in. NPT)	1
5	X-519-20	Plug, Cap	1
6	X-504-20	Line, Flexible fuel	1
7	X-722-8	Clamp, Muffler, 1.37 in.	2
8	X-218-24	Pipe (1 in. NPT x 1.5 in.)	1
9	X-203-2	Tee, Pipe (1 x 1 x 1 NPT)	1
10	X-215-15	Elbow, Pipe (90° x 1 in. NPT)	2
11	X-218-22	Pipe, Nipple (1 in. NPT x 3 in.)	1
12	M933-08020-60	Screw, Hex cap	2
13	M6923-08-80	Nut, Hex 8 mm	2
14	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	2
15	See chart	Bushing, Reducing (1/8 x 1 in. NPT)	1
16	See chart	Switch, Pressure 4.5 in. H2O	1
17	See chart	Plug, Pipe (1 in. NPTF)	1
20	GM20577	Decal, Fuel type	1

Use this table to identify part numbers of items 15-17.

Kit No.	Type	Item 15	Item 16	Item 17
GM103202-MA1	NG/LP	-	-	X-75-13
GM103202-MA3	NG/LP, NFPA	AC-1459	GM69219-5	-

# Fuel System Kits, continued

KG80- KG80R, Single Fuel, GM105420-





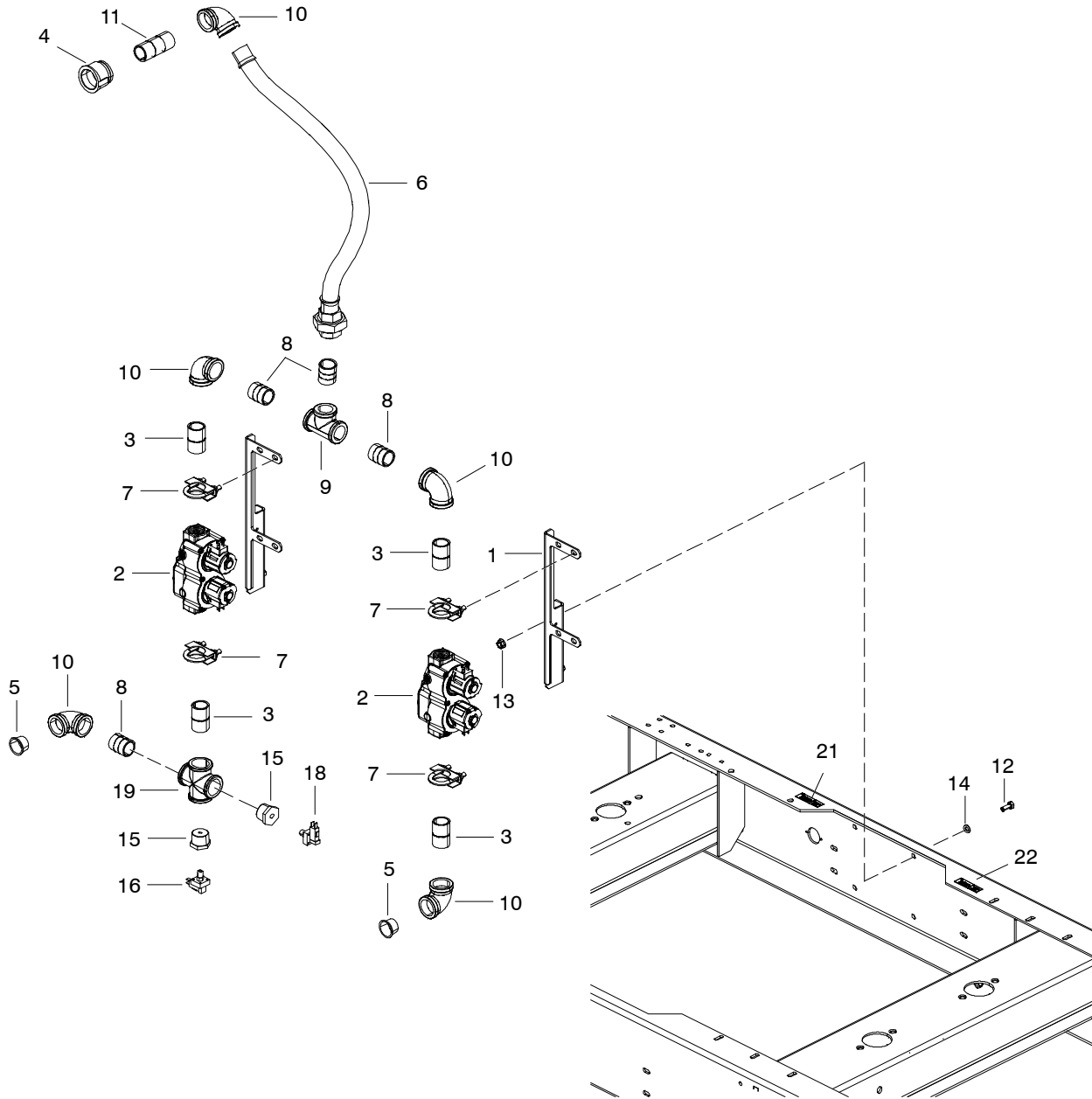
# Fuel System Kits, continued

KG80- KG80R, Single Fuel

Item	Part Number	Description	Qty.	
			GM105420-MA1	GM105420-MA2
1	X-203-26	Tee, Pipe (1- 1/4 x 1- 1/4 x 1- 1/4 NPT)		1
2	GM20577	Decal, Fuel type	1	1
3	GM104891	O- ring kit		1
4	GM70497	Valve, Gas assy.	1	2
5	X-519-18	Plug, Cap	1	1
6	M933-08025-60	Screw, Hex cap M8 x 25	9	15
7	GM86089	Bracket, Support	1	2
8	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	9	19
9	M933-08030-60	Screw, Hex cap, M8 x 30		4
10	M6923-08-80	Nut, Hex 8 mm	9	19
11	GM70538	Switch, Pressure 7.0 in. H2O		1
12	X-202-56	Bushing, Reducing (1/8 x 3/4 in. NPT)		1
13	151771	Elbow, Pipe (90 deg x 1- 1/2 in. NPT)	1	1
14	X-215-14	Elbow, Pipe (90 deg x 1- 1/4 in. NPT)	2	1
15	GM104543	Bracket, Support	1	1
16	X-202-18	Bushing, Reducing (3/4 x 1- 1/4 in. NPT)		1
17	X-210-27	Pipe, Nipple (1- 1/4 in. NPT x 5 in.)	1	1
18	X-210-8	Pipe, Nipple (1- 1/4 in. NPT x 1.63 in.)		1
19	X-210-28	Pipe, Nipple (1- 1/4 in. NPT x 2.5 in.)	2	1
20	X-504-22	Fuel line, Flexible (1.5 in. ID x 28.25 in.)	1	1
21	153016	Bushing, Reducing (1- 1/4 x 1- 1/2 in. NPT)	2	2

# Fuel System Kits, continued

KG40-60, Dual Fuel, GM103202-



GM103202- MA4 shown

GM103202- B

# Fuel System Kits, continued

KG40-60, Dual Fuel, GM103202-

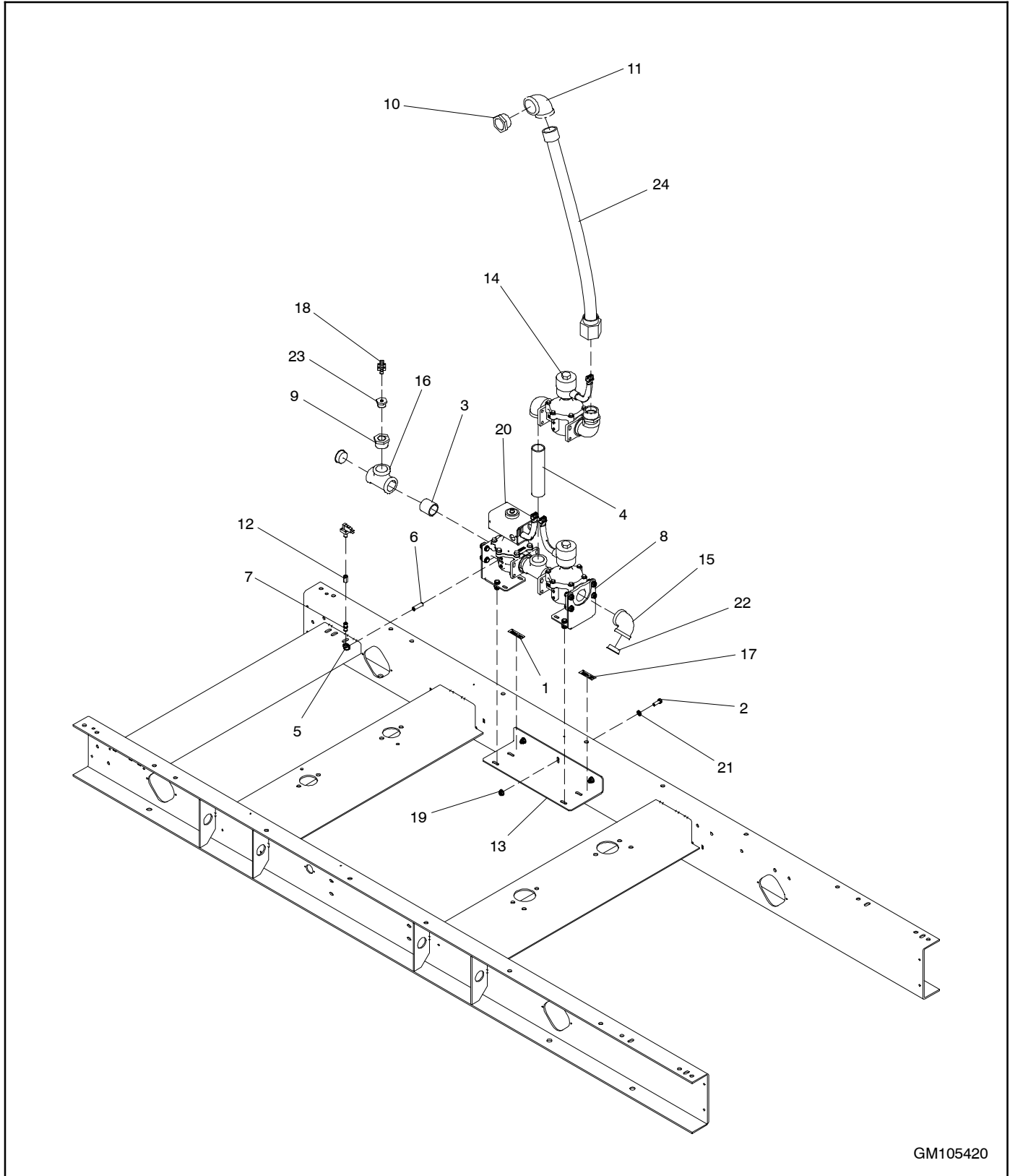
Item	Part Number	Description	Qty.
1	GM104102	Bracket, Fuel solenoid mtg.	2
2	GM96976	Valve, Dual solenoid	2
3	K-122	Pipe (1 in. NPT x 2 in.)	4
4	X-250-6	Coupling, Reducer (1-1/4 x 1 in. NPT)	1
5	X-519-20	Plug, Cap	2
6	X-504-20	Line, Flexible fuel	1
7	X-722-8	Clamp, Muffler, 1.37 in.	4
8	X-218-24	Pipe (1 in. NPT x 1.5 in.)	4
9	See chart	Tee, Pipe (1 x 1 x 1 NPT)	-
10	X-215-15	Elbow, Pipe (90° x 1 in. NPT)	5
11	X-218-22	Pipe, Nipple (1 in. NPT x 3 in.)	1
12	M933-08020-60	Screw, Hex cap	4
13	M6923-08-80	Nut, Hex 8 mm	4
14	M125A-08-80	Washer, Plain 8.4 ID x 16 OD	4
15	See chart	Bushing, Reducing (1/8 x 1 in. NPT)	-
16	See chart	Switch, Pressure 4.5 in. H2O	-
18	See chart	Switch, Pressure 6.27 in. H2O	1
19	See chart	Cross, Pipe (1 in. NPT)	1
21	GM20173	Decal, Fuel type	1
22	GM20174	Decal, Fuel type	1

Use this table to identify part numbers of items 9- 17.

Kit No.	Type	Item 9	Item 15	Item 16	Item 18	Item 19
GM103202-MA2	NG/LP, Auto- Changeover	X-203-2 (2)	AC-1459 (1)	GM70537 (1)	-	-
GM103202-MA4	NG/LP, NFPA	X-203-2 (1)	AC-1459 (2)	GM70537 (1)	GM70538	X-207-1

# Fuel System Kits, continued

KG80- KG80R, Dual Fuel, GM105420-MA3



GM105420

# Fuel System Kits, continued

KG80- KG80R, Dual Fuel, GM105420-MA3

Item	Part Number	Description	Qty.
1	GM20173	Decal, Fuel type	1
2	M933-08025-60	Screw, Hex cap M8 x 25	15
3	X-210-8	Pipe (1- 1/4 in. NPT x 1.63 in.)	7
4	X-210-18	Pipe (1- 1/4 in. NPT x 7.0 in.)	1
5	X-215-19	Elbow, Pipe (90 deg x 1/8 in. NPT)	1
6	X-217-2	Pipe, Nipple (1/8 in. NPT x 1.5 in.)	1
7	GM77915	Fitting, Restriction	1
8	GM86089	Bracket, Support	2
9	X-202-18	Bushing, Reducing (3/4 x 1- 1/4 in. NPT)	1
10	153016	Bushing, Reducing (1- 1/4 x 1- 1/2 in. NPT)	2
11	151771	Elbow, Pipe (90 deg x 1- 1/2 in. NPT)	1
12	X-216-24	Coupling, Pipe (1/8 in. NPT)	1
13	GM104543	Bracket, Support	1
14	GM70497	Valve, Gas assy.	2
15	X-215-14	Elbow, Pipe (90 deg x 1- 1/4 in. NPT)	3
16	X-203-26	Tee, Pipe (1- 1/4 x 1- 1/4 x 1- 1/4 NPT)	2
17	GM20174	Decal, Fuel type	1
18	GM70538	Switch, Pressure 7 in. H2O	2
19	M6923-08-80	Nut, Hex 8 mm	15
20	GM104899	Valve, Gas assy 1- 1/4 NPT	1
21	M125A-08-80	Washer, Plain 8.4 ID x 16.0 OD	15
22	X-519-18	Plug, Cap	2
23	X-202-56	Bushing, Reducing (1/8 x 3/4 in. NPT)	1
24	X-504-22	Fuel line, Flexible (1.50 in. ID x 28.25 in.)	1

# Miscellaneous Kits

Qty.	Description	Part No.
	<b>Critical, 3 in. NPT,SIEO</b>	<b>PA-352663</b>
	<b>Flexible Exhaust, 3 in. NPT</b>	<b>GM13956-KP1</b>
1	Adapter, flexible exhaust	276249
1	Clamp, muffler, 3.12 in.	286283
	<b>Electrical Accessories Loose</b>	
	<b>Temperature Compensation for 10A Battery Charger</b>	<b>GM102253-KP1</b>
1	Battery Charger Temp. Compensation Sensor	GM102246
	<b>Battery Charger, 12V- 6A</b>	<b>GM96391-KP1</b>
1	Battery Charger, 12V, 6A	GM96383
	<b>Battery Charger, 12V- 10A</b>	<b>GM94447-KA1</b>
1	Battery Charger, 12V, 10A	GM87448
	<b>Battery Heater, 120V, 80W</b>	<b>GM104703-KP1</b>
1	Heater, Battery wrap	GM104699
2	Cable tie	X-468-1
	<b>Battery</b>	<b>256985</b>
	<b>Gen. Heater, 120/240V, 200W</b>	<b>GM79104-KA1</b>
2	Heater, Strip 120V, 100W	GM79574
	<b>Remote Emergency Stop Switch</b>	<b>PA-293906</b>
	<b>Flexible Fuel Lines</b>	<b>GM13706-KP1</b>
1	Pipe	X-218-24
1	Fuel lines, flexible	X-504-21
	<b>Flexible Fuel Lines</b>	<b>GM14272-KP1</b>
2	Pipe	X-218-24
2	Fuel lines, flexible	X-504-21

# Appendix A Abbreviations

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

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

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



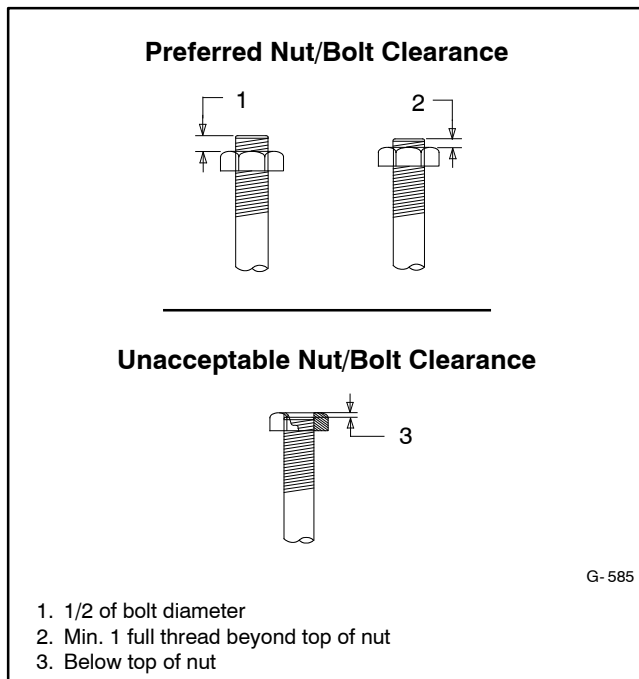
# Appendix B Common Hardware Application Guidelines

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

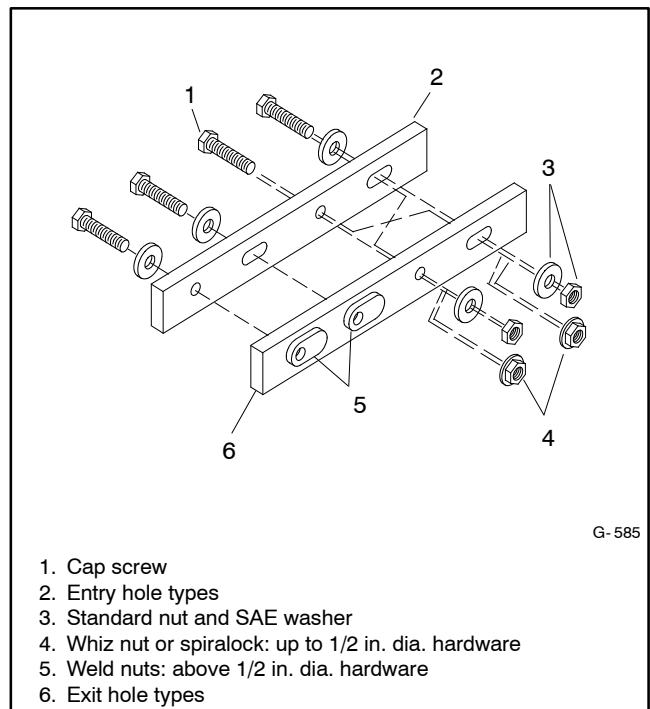
1. 1/2 of bolt diameter
2. Min. 1 full thread beyond top of nut
3. Below top of nut

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

1. Cap screw
2. Entry hole types
3. Standard nut and SAE washer
4. Whiz nut or spirallock: up to 1/2 in. dia. hardware
5. Weld nuts: above 1/2 in. dia. hardware
6. Exit hole types

# Appendix C General Torque Specifications















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












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






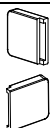
**Notes:**

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

# Appendix D Common Hardware Identification

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

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

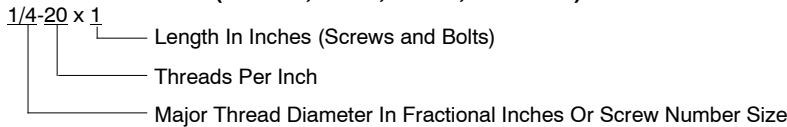
Hardness Grades	
American Standard	
Grade 2	
Grade 5	
Grade 8	
Grade 8/9 (Hex Socket Head)	
Metric	
Number stamped on hardware; 5.8 shown	
Hose Clamp Covers	
Black, EPDM rubber used on worm gear clamps	

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

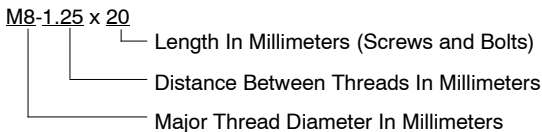
Phillips® screw is a registered trademark of Phillips Screw Company.

## Sample Dimensions

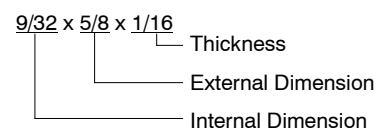
### American Standard (Screws, Bolts, Studs, and Nuts)



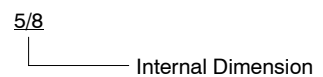
### Metric (Screws, Bolts, Studs, and Nuts)



### 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	Part No.	Dimensions	Part No.	Dimensions
<b>Hex Head Bolts (Partial Thread)</b>					
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				
<b>Hex Head Bolts (Full Thread)</b>					
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				
<b>Hex Head Bolts (Partial Thread), continued</b>					
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				
<b>Hex Head Bolts (Full Thread), continued</b>					
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				
<b>Pan Head Machine Screws</b>					
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				
<b>Flat Head Machine Screws</b>					
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
<b>Hex Nuts</b>		
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	Spirallock
M982-06-80	M6-1.00	Elastic Stop
M934-08-60	M8-1.25	Standard
M6923-08-80	M8-1.25	Spirallock
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	Spirallock
M6923-10-62	M10-1.50	Spirallock†
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	Spirallock
M982-12-80	M12-1.75	Elastic Stop
M982-14-60	M14-2.00	Elastic Stop
M6923-16-80	M16-2.00	Spirallock
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.

# Index

Listed below are part numbers and page numbers of modules listed in this manual. Italicized numbers refer to the page numbers on which modules appear.

GM102766-MA1, 7	GM105165- KA1, 51	GM77218- MA11, <i>21</i>
GM102766-MA2, 7	GM105165- KA2, 51	GM77218- MA12, <i>21</i>
GM102768- GR1, 10, 11	GM105189-MA1, 8, 9	GM77218- MA13, <i>21</i>
GM103202-MA1, 55	GM105304- MA1, 37	GM77218- MA14, <i>21</i>
GM103202-MA2, 59	GM105304- MA2, 37	GM77218- MA15, <i>21</i>
GM103202-MA3, 55	GM105305-MA1, 32, 33	GM77218- MA4, <i>21</i>
GM103202-MA4, 59	GM105419-GR1, 12, 13	GM77218- MA5, <i>21</i>
GM103335-KA1-KCB, 40	GM105420-MA1, 57	GM77218- MA6, <i>21</i>
GM103335-KA2-KCB, 42, 43	GM105420-MA2, 57	GM77218- MA7, <i>21</i>
GM103335-KA3-KCB, 44, 45	GM105420-MA3, 60, 61	GM77218- MA8, <i>21</i>
GM104098-MA1, 14, 15	GM105461-MA1, 5	GM77218- MA9, <i>21</i>
GM104099-MA1, 16, 17	GM105582- KA1- CAS, 47	GM77540- MA1, <i>29</i>
GM104232- KA1, 52	GM105582- KA1- KCB, 47	GM77540- MA2, <i>29</i>
GM104537-MA1, 19	GM105582- KA2- KCB, 47	GM77540- MA9, <i>29</i>
GM104537-MA2, 19	GM105582- KA3- CAS, 47	GM78276- MA1, <i>23</i>
GM104540- MA1, 35	GM105582- KA3- KCB, 47	GM78276- MA2, <i>23</i>
GM104540- MA3, 35	GM106691- KA1, 53	GM79168-GR1, <i>13</i>
GM104540- MA5, 35	GM66788-MA1, 5	GM79168-GR2, <i>13</i>
GM104799-KA1, 48, 49	GM77218- MA10, <i>21</i>	

**TP-7118 5/19b**

© 2018, 2019 by Kohler Co. All rights reserved.

**KOHLER®**

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