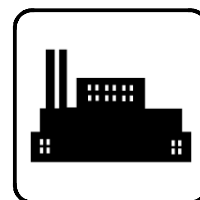


# Service Parts

## Industrial Generator Sets



Models:

**350- 500REOZJ**

**350- 500REOZJB**

**350- 500REOZJC**

**350- 400REOZJD**

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

# Common Replacement Parts

Figure 1 identifies common replacement parts for your generator set. Refer to the groups on the following pages and the engine parts manual listed in Group 701: Literature for a complete list of maintenance and service parts.

| Engine Description                                   | Engine Part Number  | Fan Belt         | Oil Filter | Fuel Filter | Fuel Filter (primary) | Oil, Synthetic Gallon 5W40 (Case of 4) |
|------------------------------------------------------|---------------------|------------------|------------|-------------|-----------------------|----------------------------------------|
| <b>350/400REOZJ/B/C/D</b><br>6135HF485/<br>6135HFG84 | GM76154/<br>GM88213 | GM80275, GM80277 | GM80434    | GM80469     | GM80460               | GM103165                               |
| <b>500REOZJ/B/C</b><br>6135HFG75                     | GM76155             | GM80275, GM80277 | GM80434    | GM80469     | GM80460               | GM103165                               |

**Figure 1 Common Replacement Parts**

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# Introduction

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

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This manual includes the following main sections:

**Table of Contents.** Lists the sections of the manual.

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

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

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

**Kit Sections.** List modules and accessories and their parts.

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

## Numbering System Significance

This manual uses the following numbering systems:

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

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

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

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

## Illustrations

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

## How to Find Part Numbers

Use the following steps to locate a service replacement part.

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

## Hardware References

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

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

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

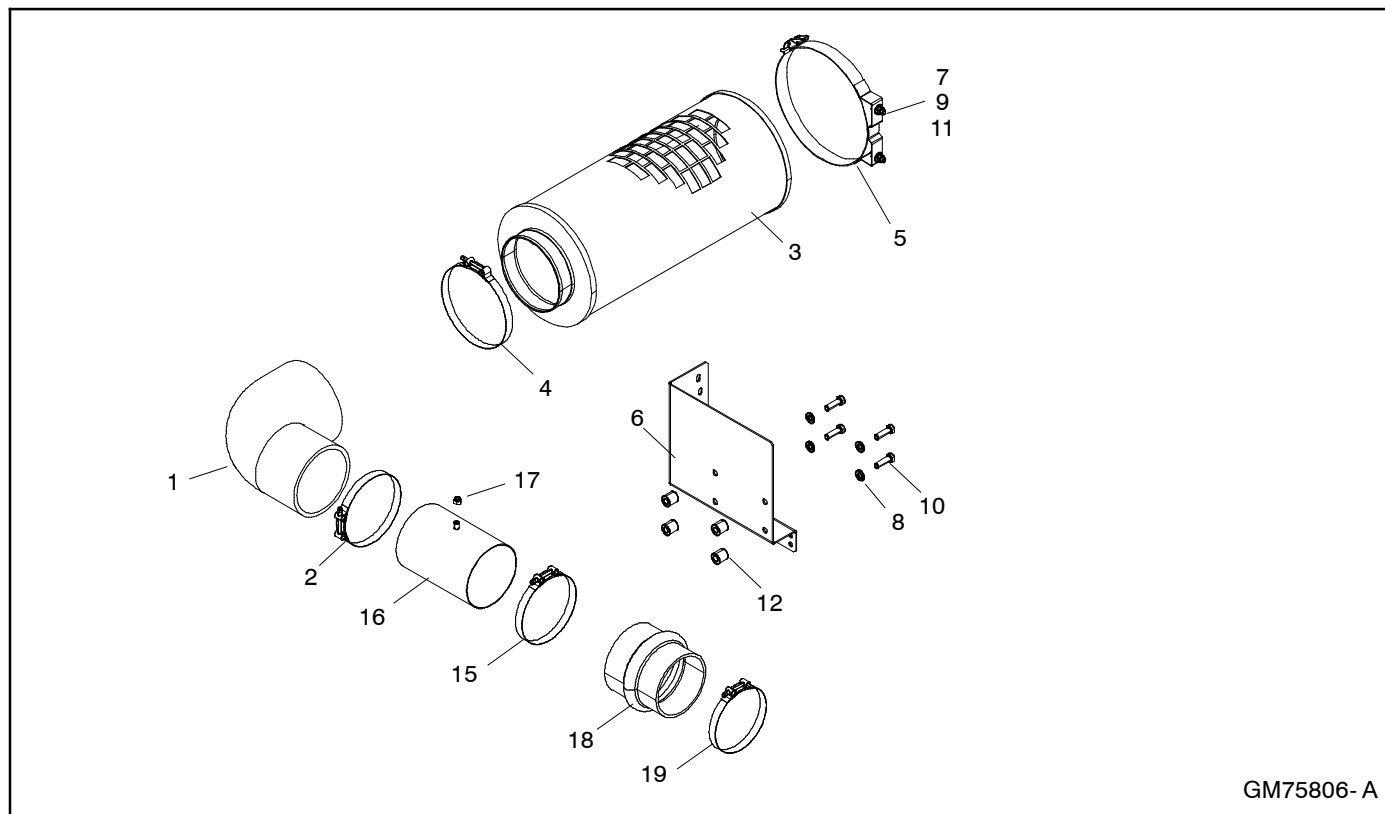
# Specification Number Index

| Group Title      | Air Intake       | Cooling System | Engine | Nameplates and Decals | Skid and Plant Mounting | Generator and Mounting | Controller and Mounting | Literature |
|------------------|------------------|----------------|--------|-----------------------|-------------------------|------------------------|-------------------------|------------|
| Group No.        | 101              | 104            | 105    | 107                   | 109                     | 201                    | 301                     | 701        |
| Spec No.         | Variation Number |                |        |                       |                         |                        |                         |            |
| <b>350REOZJ</b>  |                  |                |        |                       |                         |                        |                         |            |
| GM76156-GA1      | *                | *              | 1      | 1                     | *                       | *                      | †                       | 452        |
| <b>350REOZJB</b> |                  |                |        |                       |                         |                        |                         |            |
| GM85455-GA1      | *                | *              | 1      | 1                     | *                       | *                      | †                       | 495        |
| GM85455-GA4      | *                | *              | 3      | 1                     | *                       | *                      | †                       | 495        |
| <b>350REOZJC</b> |                  |                |        |                       |                         |                        |                         |            |
| GM111111-GA3     | *                | *              | 1      | 2                     | *                       | *                      | †                       | 572        |
| <b>350REOZJD</b> |                  |                |        |                       |                         |                        |                         |            |
| GM111111-GA1     | *                | *              | 3      | 2                     | *                       | *                      | †                       | 570        |
| <b>400REOZJ</b>  |                  |                |        |                       |                         |                        |                         |            |
| GM76156-GA2      | *                | *              | 1      | 1                     | *                       | *                      | †                       | 453        |
| <b>400REOZJB</b> |                  |                |        |                       |                         |                        |                         |            |
| GM85455-GA2      | *                | *              | 1      | 1                     | *                       | *                      | †                       | 496        |
| GM85455-GA5      | *                | *              | 3      | 1                     | *                       | *                      | †                       | 496        |
| <b>400REOZJC</b> |                  |                |        |                       |                         |                        |                         |            |
| GM111111-GA4     | *                | *              | 1      | 2                     | *                       | *                      | †                       | 573        |
| <b>400REOZJD</b> |                  |                |        |                       |                         |                        |                         |            |
| GM111111-GA2     | *                | *              | 3      | 2                     | *                       | *                      | †                       | 571        |
| <b>500REOZJ</b>  |                  |                |        |                       |                         |                        |                         |            |
| GM76157-GA2      | *                | *              | 2      | 1                     | *                       | *                      | †                       | 480        |
| <b>500REOZJB</b> |                  |                |        |                       |                         |                        |                         |            |
| GM85455-GA3      | *                | *              | 2      | 1                     | *                       | *                      | †                       | 497        |
| <b>500REOZJC</b> |                  |                |        |                       |                         |                        |                         |            |
| GM111111-GA5     | *                | *              | 2      | 2                     | *                       | *                      | †                       | 574        |

- \* 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.

# Air Intake

## Standard Duty



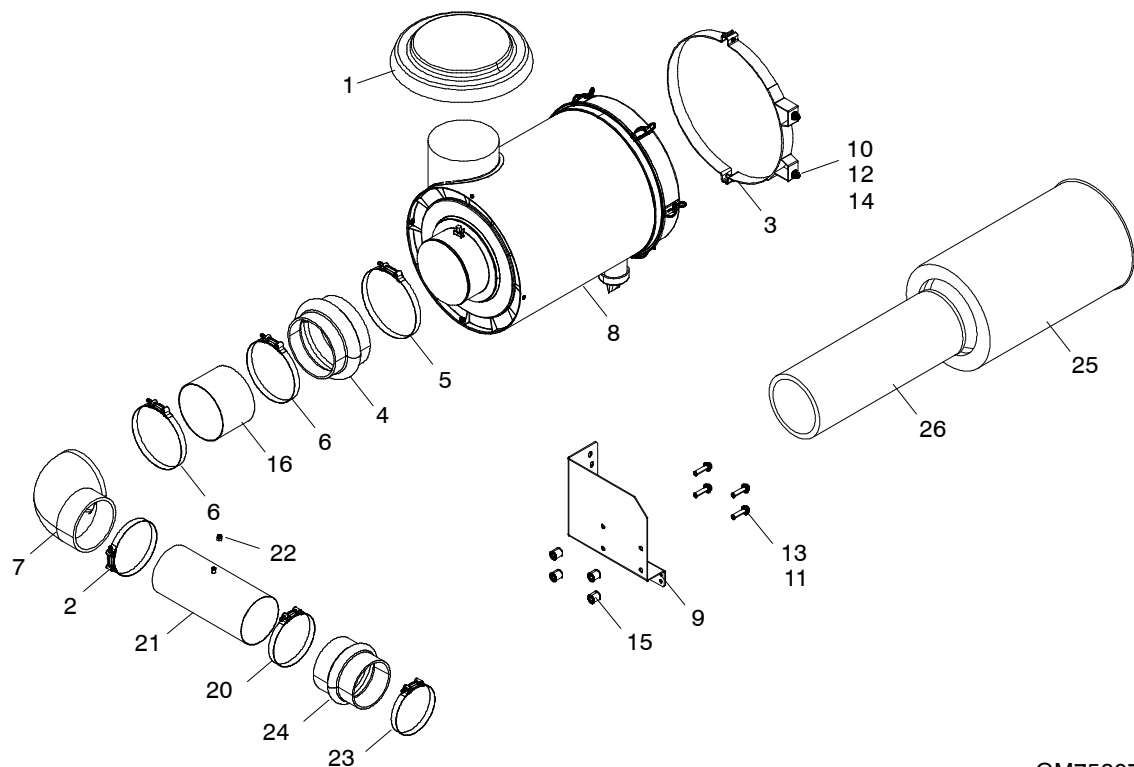
GM75806- A

Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                             | Quantity      |             |
|------|---------------|-----------------------------------------|---------------|-------------|
|      |               |                                         | Module Number |             |
|      |               |                                         | GM75806-MA1   | GM75806-MA2 |
| 1    | 272663        | Hose, 90 deg. reducer (7.00 - 6.00" ID) | 1             | 1           |
| 2    | 272960        | Clamp, hose, 6.56/6.87 in.              | 2             | 2           |
| 3    | 272982        | Element, Air Indust                     | 1             | 1           |
| 4    | 280998        | Clamp, hose, 7.5/7.81 in.               | 1             | 1           |
| 5    | 343530        | Clamp, air cleaner (11.00" ID)          | 1             | 1           |
| 6    | GM77329       | Bracket, Air Cleaner, 4M                | 1             | 1           |
| 7    | M125A-10-80   | Washer, Plain, 10.5 ID x 20.0 OD        | 2             | 2           |
| 8    | M125A-12-80   | Washer, Plain                           | 4             | 4           |
| 9    | M6923-10-80   | Nut, Hex 10mm                           | 2             | 2           |
| 10   | M933-12040-60 | Screw, Hex Cap                          | 4             | 4           |
| 11   | M933-10025-60 | Screw, hex cap, fully thrd M10 x 25mm   | 2             | 2           |
| 12   | X-400-230     | Spacer, .531 ID x 1 OD x 1 in.          | 4             | 4           |
| 15   | 272960        | Clamp, hose, 6.56/6.87 in.              | 1             |             |
| 15   | 254013        | Clamp, hose, 6.25/6.56 in.              |               | 1           |
| 16   | 274623        | Tube assembly                           | 1             |             |
| 16   | 279754        | Tube assembly                           |               | 1           |
| 17   | X-268-7       | Cap, pipe (1/8" npt)                    | 1             | 1           |
| 18   | 274221        | Hose, hump reducer (6.00 to 5.50" ID)   |               | 1           |
| 19   | 291504        | Clamp, hose, 5.81/6.12 in.              |               | 1           |

# Air Intake

Heavy Duty

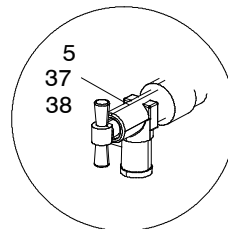
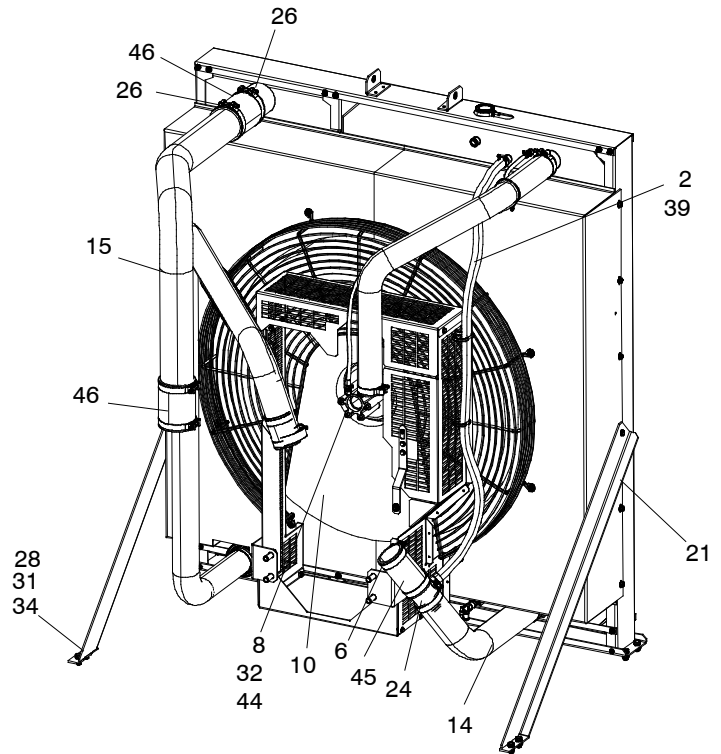
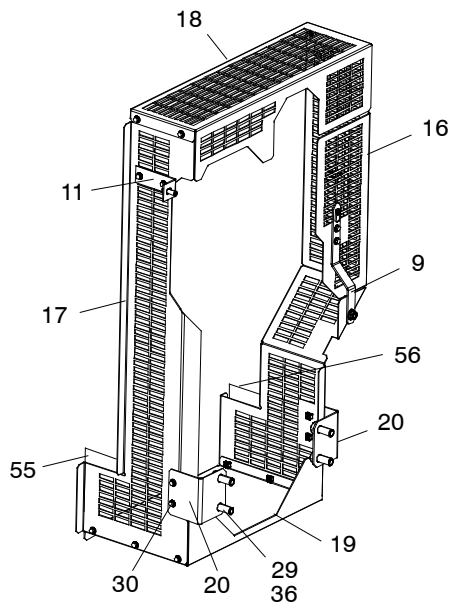
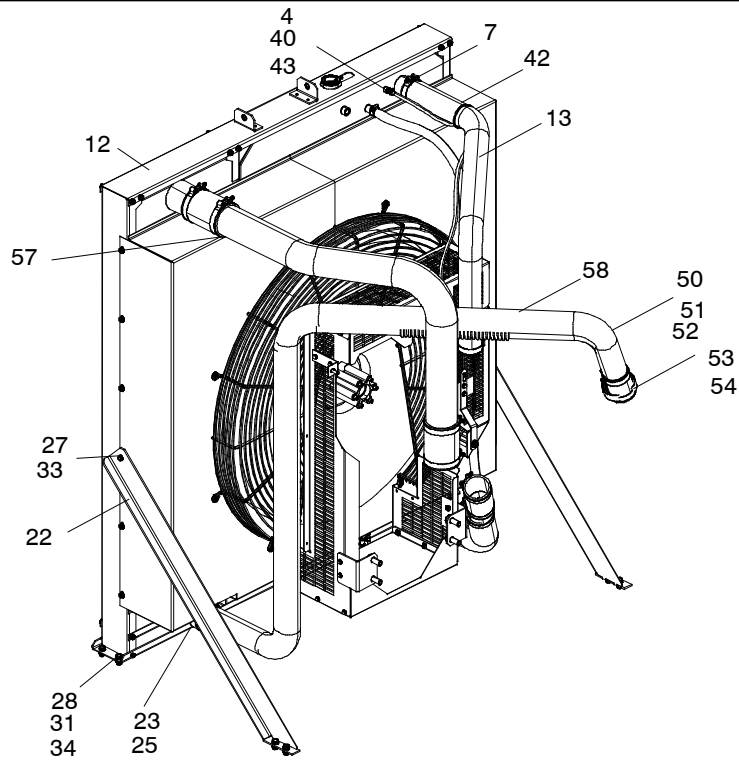


GM75807- A

Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |
|------|---------------|----------------------------------------|---------------|-------------|
|      |               |                                        | Module Number |             |
|      |               |                                        | GM75807-MA1   | GM75807-MA2 |
| 1    | 272675        | Cap, rain                              | 1             | 1           |
| 2    | 272960        | Clamp, hose, 6.56/6.87 in.             | 1             | 1           |
| 3    | 279715        | Mount, Air Cleaner/Exhaust (18.00" ID) | 1             | 1           |
| 4    | 279720        | Hose, hump reducer (8.00 to 7.00" ID)  | 1             | 1           |
| 5    | 279743        | Clamp, hose, 8.38/8.69 in.             | 1             | 1           |
| 6    | 280998        | Clamp, hose, 7.5/7.81 in.              | 2             | 2           |
| 7    | GM23198       | Hose, 90 Deg. Reducer (7.00" to 6.00") | 1             | 1           |
| 8    | GM69932       | Cleaner Ass'y, Air                     | 1             | 1           |
| 9    | GM77329       | Bracket, Air Cleaner, 4M               | 1             | 1           |
| 10   | M125A-10-80   | Washer, Plain, 10.5 ID x 20.0 OD       | 2             | 2           |
| 11   | M125A-12-80   | Washer, Plain                          | 4             | 4           |
| 12   | M6923-10-80   | Nut, Hex 10mm                          | 2             | 2           |
| 13   | M931-12050-60 | Screw, Hex Cap                         | 4             | 4           |
| 14   | M933-10025-60 | Screw, hex cap, fully thrd M10 x 25mm  | 2             | 2           |
| 15   | X-400-230     | Spacer, .531 ID x 1 OD x 1 in.         | 4             | 4           |
| 16   | X-522-66      | Tube, steel                            | 1             | 1           |
| 20   | 272960        | Clamp, hose, 6.56/6.87 in.             | 1             |             |
| 20   | 254013        | Clamp, hose, 6.25/6.56 in.             |               | 1           |
| 21   | 361278        | Tube assembly                          | 1             |             |
| 21   | 347959        | Tube assembly                          |               | 1           |
| 22   | X-268-7       | Cap, pipe (1/8"npt)                    | 1             | 1           |
| 23   | 291504        | Clamp, hose, 5.81/6.12 in.             |               | 1           |
| 24   | 274221        | Hose, hump reducer (6.00 to 5.50" ID)  |               | 1           |
| 25   | GM69997       | Element, Primary (Outer)               | 1             | 1           |
| 26   | GM69998       | Element, Secondary (Inner)             | 1             | 1           |

# Cooling System



GM75802-C

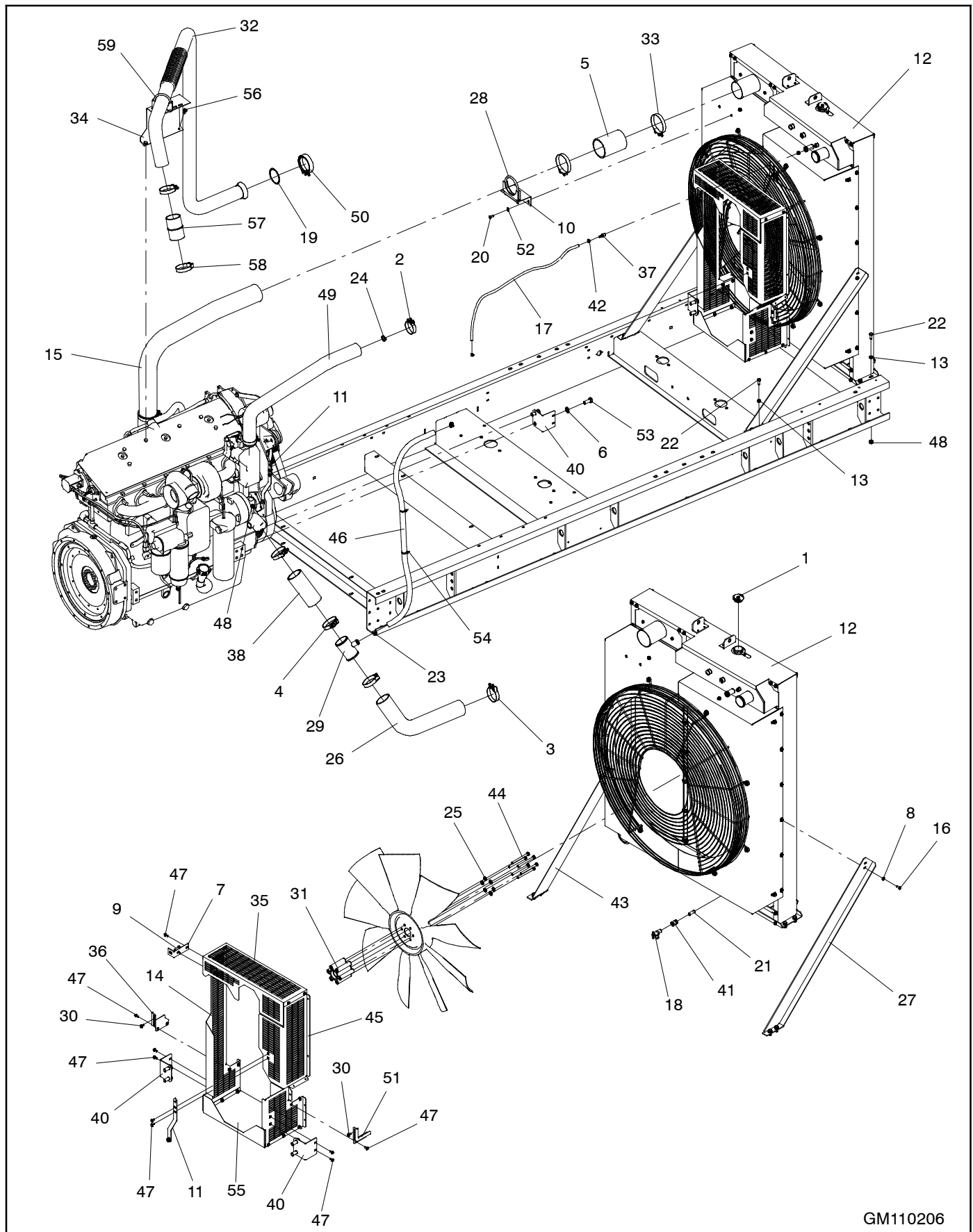


# Cooling System

Find the installed module number on the generator set nameplate.

| Item | Part Number    | Description                                       | Quantity      |             |             |             |
|------|----------------|---------------------------------------------------|---------------|-------------|-------------|-------------|
|      |                |                                                   | Module Number |             |             |             |
|      |                |                                                   | GM75802-MA1   | GM75802-MA2 | GM84898-MA1 | GM84898-MA2 |
| 2    | X-356-33       | Hose, radiator, straight, 1 in. ID                | 1             | 1           | 1           | 1           |
| 4    | X-6359-6       | Hose, rubber, straight, .25 in. ID                | 1             | 1           | 1           | 1           |
| 5    | 278788         | Valve, drain ( 3/8"nptf)                          | 1             | 1           | 1           | 1           |
| 6    | 291542         | Clamp, hose, 3.25/3.56 in.                        | 4             | 4           | 4           | 4           |
| 7    | 336228         | Clamp, hose, 2.63/2.94 in.                        | 2             | 2           | 2           | 2           |
| 8    | 336668         | Spacer, fan, 4 in.                                | 1             | 1           | 1           | 1           |
| 9    | 365237         | Bracket, support                                  | 1             | 1           | 1           | 1           |
| 10   | GM21337        | Fan                                               | 1             | 1           | 1           | 1           |
| 11   | GM64267        | Bracket, Belt Guard                               | 1             | 1           | 1           | 1           |
| 12   | GM75788        | Radiator/CAC Assy, 50C                            | 1             | 1           |             |             |
| 12   | GM84821        | Radiator Assembly                                 |               |             | 1           | 1           |
| 13   | GM77292        | Hose, Radiator (Upper)                            | 1             | 1           |             |             |
| 13   | GM84897        | Hose, Radiator (Upper)                            |               |             | 1           | 1           |
| 14   | GM77293        | Hose, Radiator (Lower)                            | 1             | 1           | 1           | 1           |
| 15   | GM77294        | Tube, Intake                                      | 1             | 1           |             |             |
| 15   | GM84895        | Tube, Intake                                      |               |             | 1           | 1           |
| 16   | GM77297        | Guard, Belt (RH)                                  | 1             | 1           | 1           | 1           |
| 17   | GM77298        | Guard, Belt (LH)                                  | 1             | 1           | 1           | 1           |
| 18   | GM77299        | Guard, Belt (Top)                                 | 1             | 1           | 1           | 1           |
| 19   | GM77300        | Guard, Belt (Bottom)                              | 1             | 1           | 1           | 1           |
| 20   | GM77301        | Bracket, Belt Guard Mtg.                          | 2             | 2           | 2           | 2           |
| 21   | GM77303        | Support, Radiator (RH)                            | 1             | 1           | 1           | 1           |
| 22   | GM77304        | Support, Radiator (LH)                            | 1             | 1           | 1           | 1           |
| 23   | GM77635        | Gasket, CAC Graphite                              | 1             | 1           | 1           | 1           |
| 24   | GM77637        | Connector, Hose                                   | 1             | 1           | 1           | 1           |
| 25   | GM77638        | Clamp, Exhaust (5.25 In.)                         | 1             | 1           | 1           | 1           |
| 26   | GM78800        | Clamp, Hose                                       | 4             | 4           | 4           | 4           |
| 27   | M125A-08-80    | Washer, Plain, 8.4 ID x 16.0 OD                   | 2             | 2           | 2           | 2           |
| 28   | M125A-10-80    | Washer, Plain, 10.5 ID x 20.0 OD                  | 9             | 9           | 9           | 9           |
| 29   | M125A-16-80    | Washer, Plain                                     | 4             | 4           | 4           | 4           |
| 30   | M6921-06016-60 | Screw, Hex Flnge M6x16mm fly thrd js500           | 18            | 18          | 20          | 20          |
| 31   | M6923-10-80    | Nut, Hex 10mm                                     | 9             | 9           | 9           | 9           |
| 32   | M931-10120-82  | Screw, Hex Cap                                    | 6             | 6           | 6           | 6           |
| 33   | M933-08020-60  | Screw, Hex Cap                                    | 2             | 2           | 2           | 2           |
| 34   | M933-10025-60  | Screw, hex cap,fully thrd M10 x 25mm              | 8             | 8           | 8           | 8           |
| 35   | M933-10030-60  | Screw, Hex Cap                                    | 1             | 1           | 1           | 1           |
| 36   | M933-16040-60  | Screw, Hex Cap                                    | 4             | 4           | 4           | 4           |
| 37   | X-220-6        | Pipe (1/4"npt x 1.50")                            | 1             | 1           | 1           | 1           |
| 38   | X-250-2        | Coupling, reducer ( 3/8" x 1/4"npt)               | 1             | 1           | 1           | 1           |
| 39   | X-426-12       | Clamp, hose, .69/1.25 in.                         | 2             | 2           | 2           | 2           |
| 40   | X-426-9        | Clamp, hose, .25/.70 in.                          | 2             | 2           | 2           | 2           |
| 43   | X-652-3        | Connector, hose                                   | 2             | 2           | 2           | 2           |
| 44   | X-801-3        | Washer,hardened, .406 ID x .812 in.OD             | 6             | 6           | 6           | 6           |
| 45   | X-6014-53      | Hose, Radiator Wire Inset 3.00 ID                 | 1             | 1           | 1           | 1           |
| 46   | X-6014-91      | Hose, Radiator Wire Inset 4.00 ID                 | 2             | 2           | 2           | 2           |
| 50   | GM77295        | Tube, Turbo CAC                                   | 1             |             |             |             |
| 50   | GM78799        | Tube, Turbo CAC                                   |               | 1           |             |             |
| 50   | GM84896        | Tube, Turbo CAC                                   |               |             | 1           |             |
| 50   | GM85634        | Tube, Turbo CAC                                   |               |             |             | 1           |
| 51   | GM77635        | Gasket, CAC Graphite                              | 1             |             |             | 1           |
| 52   | GM77638        | Clamp, Exhaust (5.25 In.)                         | 1             |             |             | 1           |
| 53   | 343175         | Clamp, hose, 3.06/3.38 in.                        |               | 2           | 2           |             |
| 54   | GM85118        | Hose, Charged Air Cooler                          |               | 1           | 1           |             |
| 55   | GM80658        | Bracket, Belt Guard (LH)                          | 1             | 1           | 1           | 1           |
| 56   | GM80659        | Bracket, Belt Guard (RH)                          | 1             | 1           | 1           | 1           |
| 57   | GM84769        | Bracket, Tube CAC (not shown)                     | 1             | 1           | 1           | 1           |
| 57   | 289372         | Clamp, muffler, 4.12 in. (not shown)              | 1             | 1           | 1           | 1           |
| 58   | 286283         | Clamp, muffler, 3.12 in. (not shown)              | 1             | 1           | 1           | 1           |
| 59   | GM84770        | Bracket, CAC Tube (not shown)                     | 1             | 1           | 1           | 1           |
| 60   | GM109949       | Coolant, 50/50 Blend EG Gal. Case of 4(not shown) | 1             | 1           | 1           | 1           |
| 60   | GM109951       | Coolant, 50/50 Blend EG 55 Gal. Drum (not shown)  | 1             | 1           | 1           | 1           |
| 60   | GM109952       | Coolant, 50/50 Blend EG 264 Gal. Tote (not shown) | 1             | 1           | 1           | 1           |

# Cooling, Unit Mounted Radiator



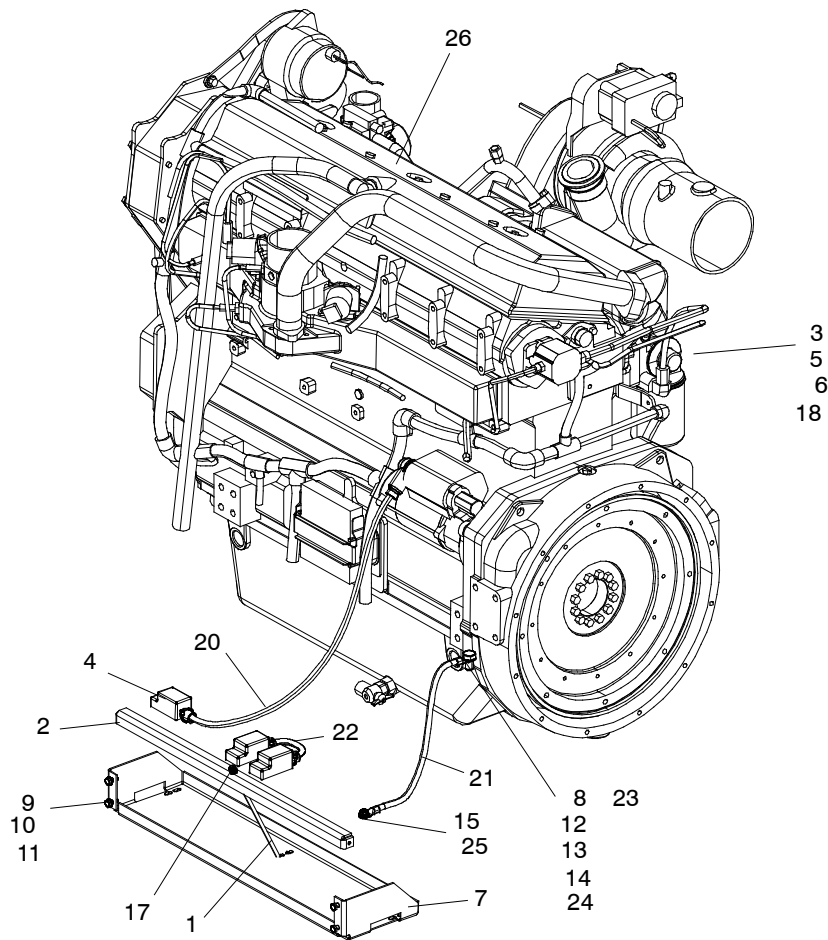
GM110206

# Cooling, Unit Mounted Radiator

Find the installed module number on the generator set nameplate.

| Item | Part Number    | Description                                        | Quantity                       |
|------|----------------|----------------------------------------------------|--------------------------------|
|      |                |                                                    | Module Number<br>GM110206- MA1 |
| 1    | GM54994        | Cap, Radiator                                      | 1                              |
| 2    | 336228         | Clamp, Hose, 2.63/2.94 in.                         | 2                              |
| 3    | 343175         | Clamp, Hose, 3.06/3.38 in.                         | 2                              |
| 4    | 291542         | Clamp, Hose, 3.25/3.56 in.                         | 2                              |
| 5    | X-6014-91      | Hose, Radiator Wire Inset 4.00 ID                  | 2                              |
| 6    | M125A-16-80    | Washer, Plain                                      | 4                              |
| 7    | GM64267        | Bracket, Belt Guard                                | 1                              |
| 8    | M125A-08-80    | Washer, Plain 8.4 ID x 16.0 OD                     | 2                              |
| 9    | M933-10030-60  | Screw, Hex Cap M10 X 30                            | 1                              |
| 10   | GM84769        | Bracket, CAC Tube                                  | 1                              |
| 11   | 365237         | Bracket, Support                                   | 1                              |
| 12   | GM110205       | Radiator Assembly                                  | 1                              |
| 13   | M125A-10-80    | Washer, Plain 10.5 ID x 20.0 OD                    | 9                              |
| 14   | GM77298        | Guard, Belt (LH)                                   | 1                              |
| 15   | GM84895        | Tube, Intake                                       | 1                              |
| 16   | M933-08020-60  | Screw, Hex Cap M8 X 20                             | 2                              |
| 17   | X-6359-22      | Hose, Rubber, Straight, .25 In. ID                 | 1                              |
| 18   | 278788         | Valve, Drain ( 3/8 in. nptf)                       | 1                              |
| 19   | GM77635        | Gasket, CAC Graphite                               | 1                              |
| 20   | X-125-3        | Bolt, Hex Cap                                      | 2                              |
| 21   | X-220-6        | Pipe (1/4 in. npt x 1.50 in.)                      | 1                              |
| 22   | M933-10025-60  | Screw, Hex Cap M10 X 25                            | 8                              |
| 23   | X-426-12       | Clamp, Hose, .69/1.25 in.                          | 2                              |
| 24   | X-468-2        | Cable Tie                                          | 1                              |
| 25   | X-801-3        | Washer, Hardened, .406 ID X .812 in. OD            | 6                              |
| 26   | GM77293        | Hose, Radiator (Lower)                             | 1                              |
| 27   | GM77303        | Support, Radiator (RH)                             | 1                              |
| 28   | 289372         | Clamp, Muffler, 4.12 in.                           | 1                              |
| 29   | GM77637        | Connector, Hose                                    | 1                              |
| 30   | GM78761-1      | Screw, Sheetmetal                                  | 2                              |
| 31   | 336668         | Spacer, Fan, 4 in.                                 | 1                              |
| 32   | GM84896        | Tube, Turbo CAC                                    | 1                              |
| 33   | GM78800        | Clamp, Hose                                        | 4                              |
| 34   | GM84770        | Bracket, CAC Tube                                  | 1                              |
| 35   | GM77299        | Guard, Belt (Top)                                  | 1                              |
| 36   | GM80658        | Bracket, Belt Guard (LH)                           | 1                              |
| 37   | X-652-3        | Connector, Hose, Vibra Seal 6.4                    | 2                              |
| 38   | X-6014-110     | Hose, Exhaust 3 in.                                | 1                              |
| 39   | GM21337        | Fan                                                | 1                              |
| 40   | GM77301        | Bracket, Belt Guard Mtg.                           | 2                              |
| 41   | X-250-2        | Coupling, Reducer (3/8 in. x 1/4 in. npt)          | 1                              |
| 42   | X-426-9        | Clamp, Hose, .25/.70 in.                           | 2                              |
| 43   | GM77304        | Support, Radiator (LH)                             | 1                              |
| 44   | M931-10120-82  | Screw, Hex Cap M10 X 120                           | 6                              |
| 45   | GM77297        | Guard, Belt (RH)                                   | 1                              |
| 46   | X-356-51       | Hose, Radiator, Straight, 1 in. ID                 | 1                              |
| 47   | M6921-06016-60 | Screw, Hex Flange, M6x16 mm                        | 20                             |
| 48   | M6923-10-80    | Nut, Hex, 10 mm                                    | 5                              |
| 49   | GM110207       | Hose, Radiator (Upper)                             | 1                              |
| 50   | GM77638        | Clamp, Exhaust (5.25 in.)                          | 1                              |
| 51   | GM80659        | Bracket, Belt Guard (RH)                           | 1                              |
| 52   | X-25-85        | Washer, Plain, .344 ID X .687 in. OD               | 2                              |
| 53   | M933-16040-60  | Screw, Hex Cap M16 X 40                            | 4                              |
| 54   | X-468-1        | Cable Tie                                          | 2                              |
| 55   | GM77300        | Guard, Belt (Bottom)                               | 1                              |
| 56   | M6921-08020-60 | Screw, Hex Flange, M8 x 20                         | 2                              |
| 57   | GM85118        | Hose, Charged Air Cooler                           | 1                              |
| 58   | GM98923        | Clamp, Hose                                        | 2                              |
| 59   | 286283         | Clamp, Muffler, 3.12 in.                           | 1                              |
| 60   | GM109949       | Coolant, 50/50 Blend EG Gal. Case of 4 (not shown) | 1                              |
| 61   | GM109951       | Coolant, 50/50 Blend EG 55 Gal. Drum (not shown)   | 1                              |
| 62   | GM109952       | Coolant, 50/50 Blend EG 264 Gal. Tote (not shown)  | 1                              |

# Engine



GM75801 - C

# Engine

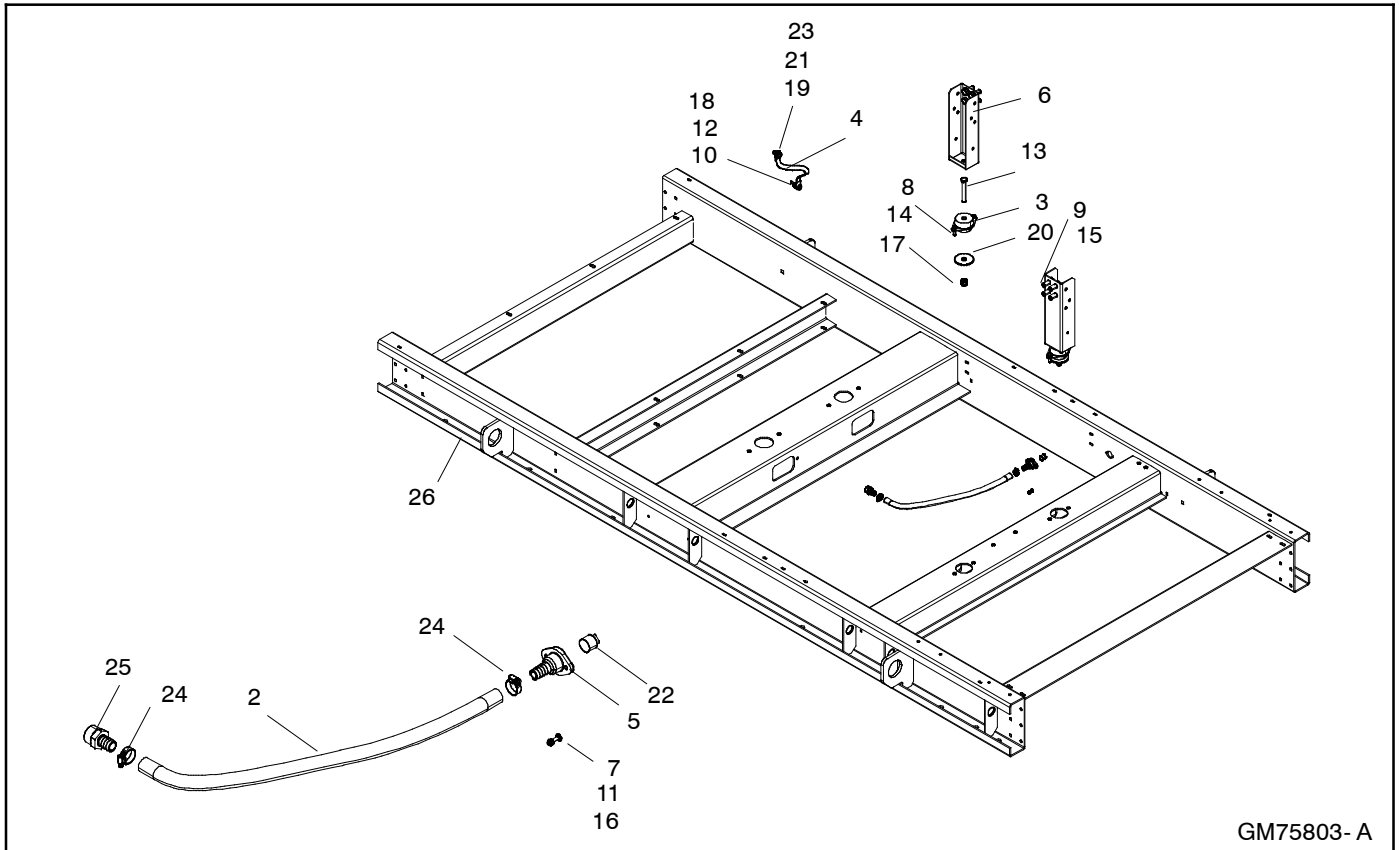
| Item | Part Number   | Description                             | Quantity         |   |   |
|------|---------------|-----------------------------------------|------------------|---|---|
|      |               |                                         | Variation Number |   |   |
|      |               |                                         | 1                | 2 | 3 |
| 1    | GM13268       | Bolt, Angle (NRP)                       | 1                | 1 | 1 |
| 2    | 343221        | Clamp, battery                          | 1                | 1 | 1 |
| 3    | GM11694       | O-ring, ISO 6149 (15.3mm ID)            | 1                | 1 | 1 |
| 4    | GM20745       | Boot, Battery Lug                       | 1                | 1 | 1 |
| 5    | GM22991       | Bushing, Adapter                        | 1                | 1 | 1 |
| 6    | GM39538       | Fitting, Fuel                           | 1                | 1 | 1 |
| 7    | GM63164       | Rack, Battery                           | 1                | 1 | 1 |
| 8    | GM74535       | Terminal, Ground                        | 1                | 1 | 1 |
| 9    | M125A-08-80   | Washer, Plain, 8.4 ID x 16.0 OD         | 5                | 5 | 5 |
| 10   | M6923-08-80   | Nut, Hex 8mm                            | 4                | 4 | 4 |
| 11   | M933-08020-60 | Screw, Hex Cap                          | 4                | 4 | 4 |
| 12   | M933-12040-60 | Screw, Hex Cap                          | 1                | 1 | 1 |
| 13   | M934-12-60    | Nut, Hex 12mm                           | 1                | 1 | 1 |
| 14   | X-25-26       | Washer, Plain, .531 IDx1.062 in.OD      | 2                | 2 | 2 |
| 15   | X-25-37       | Washer, plain, .406 ID x.812 in. OD     | 4                | 4 | 4 |
| 17   | M982-08-80    | Nut, hex elastic stop, 8MM              | 1                | 1 | 1 |
| 18   | X-211-1       | Elbow, Street(90 deg x 1/2"nptf)        | 1                | 1 | 1 |
| 19   | X-468-2       | Cable Tie                               | 3                | 3 | 3 |
| 20   | X-545-129     | Cable, battery (No.0 x 30") red+        | 1                | 1 | 1 |
| 21   | X-545-167     | Cable, Battery                          | 1                | 1 | 1 |
| 22   | X-545-73      | Cable, battery (No.0 x 8") black        | 1                | 1 | 1 |
| 23   | X-6021-3      | Screw, hex head machine                 | 1                | 1 | 1 |
| 24   | X-6086-5      | Washer, spring, .515 ID x 1.06 in.OD    | 1                | 1 | 1 |
| 25   | X-6210-9      | Nut, flange spiralock, 3/8-16           | 4                | 4 | 4 |
| 26   | GM76154       | Engine, JD6135HF485, 350/400kW 60Hz,24V | 1                |   |   |
| 26   | GM76155       | Engine, JD6135HFG75, 450/500kW 60Hz,24V |                  | 1 |   |
| 26   | GM88213       | Engine, 24V 6135HFG84                   |                  |   | 1 |

# Nameplate and Decals

Nameplate and Decals are not illustrated.

| Item | Part Number | Description                       | Quantity         |   |
|------|-------------|-----------------------------------|------------------|---|
|      |             |                                   | Variation Number |   |
|      |             |                                   | 1                | 2 |
| 1    | 226917      | Decal, Negative Battery Conn      | 1                | 1 |
| 2    | 238402      | Decal, Caution Positive Term.Only | 1                | 1 |
| 3    | 249808      | Decal, Warning Rotating Parts     | 1                |   |
| 4    | 249809      | Decal, Caution Hot Engine         | 2                |   |
| 4    | GM107366    | Decal, Caution Hot Surface        |                  | 2 |
| 5    | 249810      | Decal, Warning Hot Coolant        | 1                |   |
| 5    | GM107367    | Decal, Warning Hot Coolant        |                  | 1 |
| 6    | 273780      | Decal, Warning Explosion          | 1                |   |
| 6    | GM107369    | Decal, Warning Spark Explosion    |                  | 1 |
| 7    | 343165      | Decal, Caution-Not A Step         | 1                | 1 |
| 8    | 345211      | Decal, Ground                     | 1                | 1 |
| 9    | 364116      | Decal, Caution Welding Disconnect | 2                |   |
| 9    | GM107368    | Decal, Caution Welding            |                  | 2 |
| 10   | GM15300     | Decal, Exhaust Piping             | 1                | 1 |
| 11   | GM19296     | Decal, Fuel Type                  | 1                | 1 |
| 12   | GM20171     | Decal, Warning Fan                | 1                |   |
| 13   | GM78897     | Decal, Lift Warning               | 1                |   |
| 14   | 224233      | Decal, 1-800 Number               | 1                | 1 |
| 15   | 255882      | Decal, Caution Stdby Svc Connect  | 2                |   |
| 15   | GM107355    | Decal, Caution Stdby Svc Connect  |                  | 2 |
| 16   | 257438      | Decal, Danger Moving Rotor        | 2                |   |
| 16   | GM107363    | Decal, Danger Rotating Parts      |                  | 3 |
| 17   | 258815      | Decal, Warning Voltage Backfeed   | 2                |   |
| 17   | GM107362    | Decal, Warning Voltage Backfeed   |                  | 2 |
| 18   | 294520      | Decal, Danger, High Voltage       | 2                |   |
| 18   | GM107361    | Decal, Danger, High Voltage       |                  | 2 |
| 19   | 345211      | Decal, Ground                     | 1                | 1 |
| 20   | GM39683     | Tag, Hang Lug Selection           | 1                | 1 |
| 21   | GM49352     | Tag, Hang                         | 1                | 1 |
| 22   | GM60531     | Decal, Control Height             | 1                | 1 |
| 23   | GM79042     | Decal, Phasing A-B-C              | 2                | 2 |
| 24   | GM79043     | Decal, Phasing C-B-A              | 2                | 2 |
| 25   | X-6232-6    | Decal, Stripe                     | 2                |   |
| 26   | X-6246-1    | Decal, Kohler Power System        | 2                |   |
| 26   | X-6348-24   | Decal, KohlerPower.Com            |                  | 2 |
| 27   | GM62217     | Nameplate, 5" Tall, Blank         |                  | 2 |
| 28   | GM91124-18  | Decal, Kohler Logo                |                  | 2 |
| 29   | GM106122    | Decal, UL                         |                  | 1 |
| 30   | GM106121    | Decal, Warning                    |                  | 1 |
| 31   | GM106120    | Decal, Warning                    |                  | 1 |

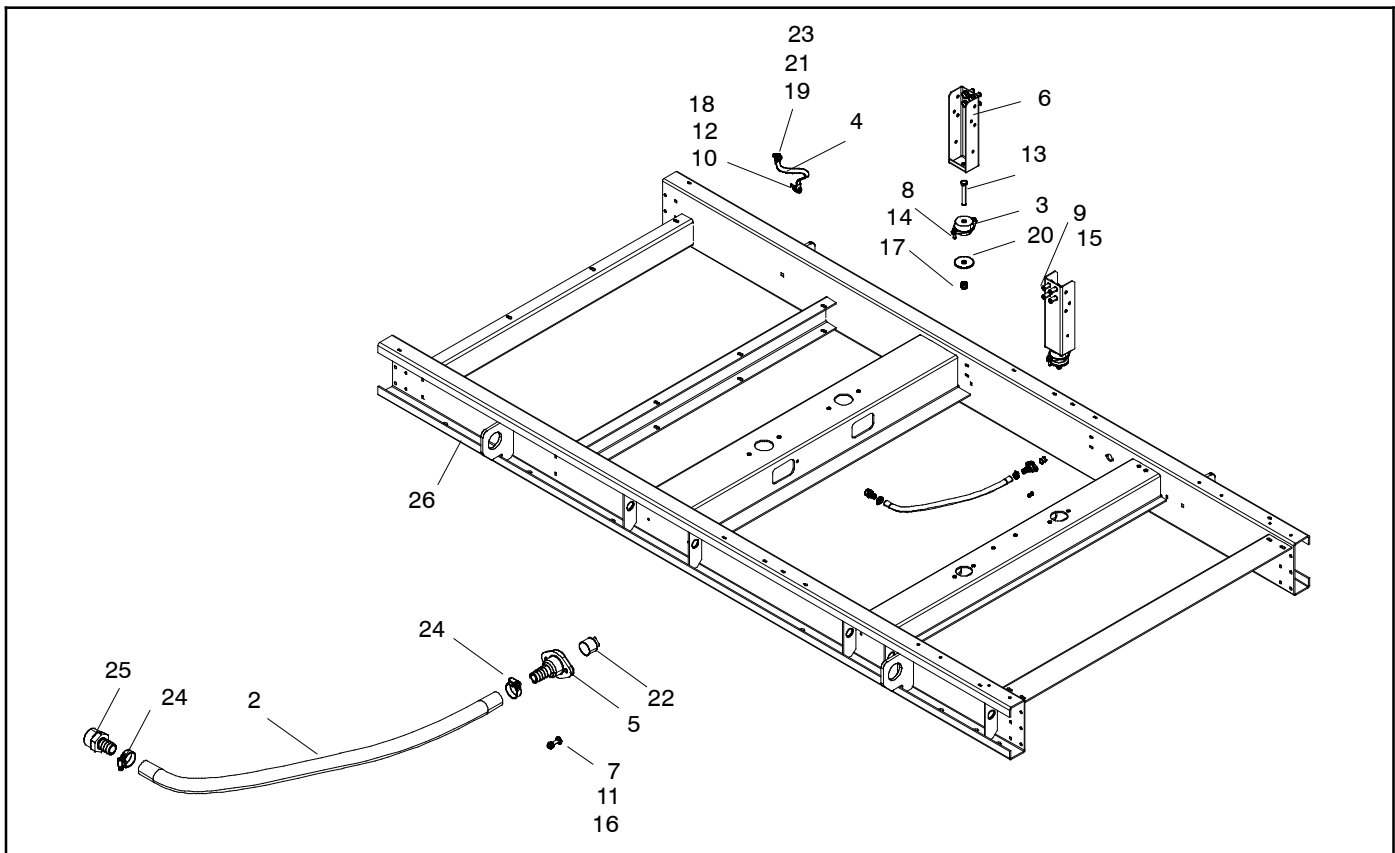
# Skid and Plant Mounting



Find the installed module number on the generator set nameplate.

| Item | Part Number     | Description                        | Quantity      |             |             |             |
|------|-----------------|------------------------------------|---------------|-------------|-------------|-------------|
|      |                 |                                    | Module Number |             |             |             |
|      |                 |                                    | GM75803-MA1   | GM75803-MA2 | GM85632-MA1 | GM85632-MA2 |
| 2    | X-577-35        | Hose, rubber, straight, .62 in. ID | 1             | 1           | 1           | 1           |
| 3    | 336024          | Vibromount                         | 2             | 2           | 2           | 2           |
| 4    | GM21085         | Strap, ground (16 in.)             | 1             | 1           | 1           | 1           |
| 5    | GM59015         | Fitting, Bulkhead Drain            | 1             | 1           | 1           | 1           |
| 6    | GM64142         | Bracket, Engine Mounting           | 2             | 2           | 2           | 2           |
| 7    | M125A-05-80     | Washer, Plain                      | 2             | 2           | 2           | 2           |
| 8    | M125A-10-80     | Washer, Plain, 10.5 ID x 20.0 OD   | 6             | 6           | 6           | 6           |
| 9    | M125A-16-80     | Washer, Plain                      | 8             | 8           | 10          | 10          |
| 10   | M6923-10-80     | Nut, Hex 10mm                      | 1             | 1           | 1           | 1           |
| 11   | M7985A-05020-20 | Screw, Pan Head Machine            | 2             | 2           | 2           | 2           |
| 12   | M931-10045-60   | Screw, Hex Cap                     | 1             | 1           | 1           | 1           |
| 13   | M931-16100-60   | Screw, Hex Cap                     | 2             | 2           |             |             |
| 13   | M931-16120-82   | Screw, Hex Cap                     |               |             | 2           | 2           |
| 14   | M933-10030-60   | Screw, Hex Cap                     | 4             | 4           | 4           | 4           |
| 15   | M933-16040-60   | Screw, Hex Cap                     | 8             | 8           | 8           | 8           |
| 16   | M934-05-50      | Nut, Hex 5mm                       | 2             | 2           | 2           | 2           |
| 17   | M982-16-80      | Nut, hex elastic stop              | 2             | 2           | 2           | 2           |
| 18   | X-22-15         | Washer,lock, .456 ID x 1.058 in.OD | 2             | 2           | 2           | 2           |
| 19   | X-22-26         | Washer,lock, .521 ID x 1.24 in. OD | 1             | 1           | 1           | 1           |
| 20   | X-25-112        | Washer, plain                      | 2             | 2           | 2           | 2           |
| 21   | X-25-26         | Washer, Plain, .531 IDx1.062 in.OD | 1             | 1           | 1           | 1           |
| 22   | X-75-58         | Plug, Pipe                         | 1             | 1           | 1           | 1           |
| 23   | X-129-17        | Bolt, Hex Cap (1/2-13 x 1") Gr5    | 1             | 1           | 1           | 1           |
| 24   | X-426-10        | Clamp, hose, .5/1 in.              | 2             | 2           | 2           | 2           |
| 25   | X-582-3         | Connector, hose + Vibra Seal       | 1             | 1           | 1           | 1           |
| 26   | GM78894         | Skid, 4M                           | 1             |             |             |             |
| 26   | GM78895         | Skid, 5M                           |               | 1           |             |             |
| 26   | GM84830         | Skid, 4M                           |               |             | 1           |             |
| 26   | GM84831         | Skid, 5M                           |               |             |             | 1           |

# Skid and Plant Mounting

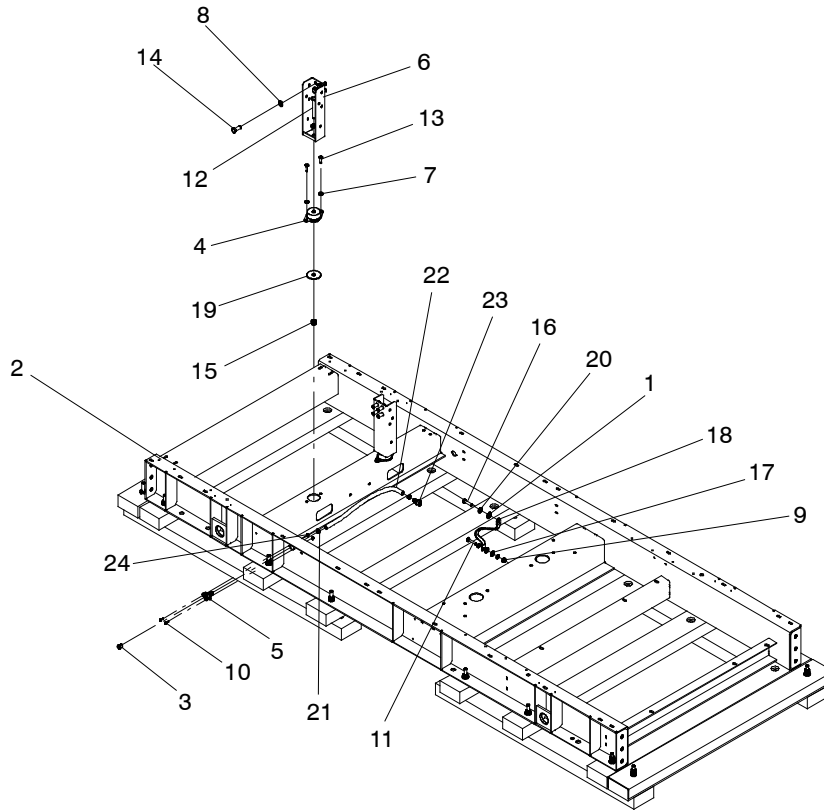


Find the installed module number on the generator set nameplate.

| Item | Part Number     | Description                        | Quantity      |             |             |             |
|------|-----------------|------------------------------------|---------------|-------------|-------------|-------------|
|      |                 |                                    | Module Number |             |             |             |
|      |                 |                                    | GM84173-MA1   | GM84173-MA2 | GM84829-MA1 | GM84829-MA2 |
| 2    | X-577-35        | Hose, rubber, straight, .62 in. ID | 1             | 1           | 1           | 1           |
| 3    | GM86134         | Engine Mount, Seismic              | 2             | 2           |             |             |
| 3    | GM84169         | Engine Mount, Seismic              |               |             | 2           | 2           |
| 4    | GM21085         | Strap, ground (16 in.)             | 1             | 1           | 1           | 1           |
| 5    | GM59015         | Fitting, Bulkhead Drain            | 1             | 1           | 1           | 1           |
| 6    | GM84174         | Bracket, Engine Mounting Seismic   | 2             | 2           | 2           | 2           |
| 7    | M125A-05-80     | Washer, Plain                      | 2             | 2           | 2           | 2           |
| 8    | M125A-10-80     | Washer, Plain, 10.5 ID x 20.0 OD   | 6             | 6           | 2           | 2           |
| 9    | M125A-16-80     | Washer, Plain                      | 8             | 8           | 10          | 10          |
| 10   | M6923-10-80     | Nut, Hex 10mm                      | 1             | 1           | 1           | 1           |
| 11   | M7985A-05020-20 | Screw, Pan Head Machine            | 2             | 2           | 2           | 2           |
| 12   | M931-10045-60   | Screw, Hex Cap                     | 1             | 1           | 1           | 1           |
| 13   | M931-16120-82   | Screw, Hex Cap                     | 2             | 2           | 2           | 2           |
| 14   | M933-10030-60   | Screw, Hex Cap                     | 4             | 4           | 4           | 4           |
| 15   | M933-16040-60   | Screw, Hex Cap                     | 8             | 8           | 8           | 8           |
| 16   | M934-05-50      | Nut, Hex 5mm                       | 2             | 2           | 2           | 2           |
| 17   | M982-16-80      | Nut, hex elastic stop              | 2             | 2           | 2           | 2           |
| 18   | X-22-15         | Washer,lock, .456 ID x 1.058 in.OD | 2             | 2           | 2           | 2           |
| 19   | X-22-26         | Washer,lock, .521 ID x 1.24 in. OD | 1             | 1           | 1           | 1           |
| 20   | X-25-112        | Washer, plain                      | 2             | 2           | 2           | 2           |
| 21   | X-25-26         | Washer, Plain, .531 IDx1.062 in.OD | 1             | 1           | 1           | 1           |
| 22   | X-75-58         | Plug, Pipe                         | 1             | 1           | 1           | 1           |
| 23   | X-129-17        | Bolt, Hex Cap (1/2-13 x 1") Gr5    | 1             | 1           | 1           | 1           |
| 24   | X-426-10        | Clamp, hose, .5/1 in.              | 2             | 2           | 2           | 2           |
| 25   | X-582-3         | Connector, hose + Vibra Seal       | 1             | 1           | 1           | 1           |
| 26   | GM78894         | Skid, 4M                           | 1             |             |             |             |
| 26   | GM78895         | Skid, 5M                           |               | 1           |             |             |
| 26   | GM84830         | Skid, 4M                           |               |             | 1           |             |
| 26   | GM84831         | Skid, 5M                           |               |             |             | 1           |



# Skid and Plant Mounting

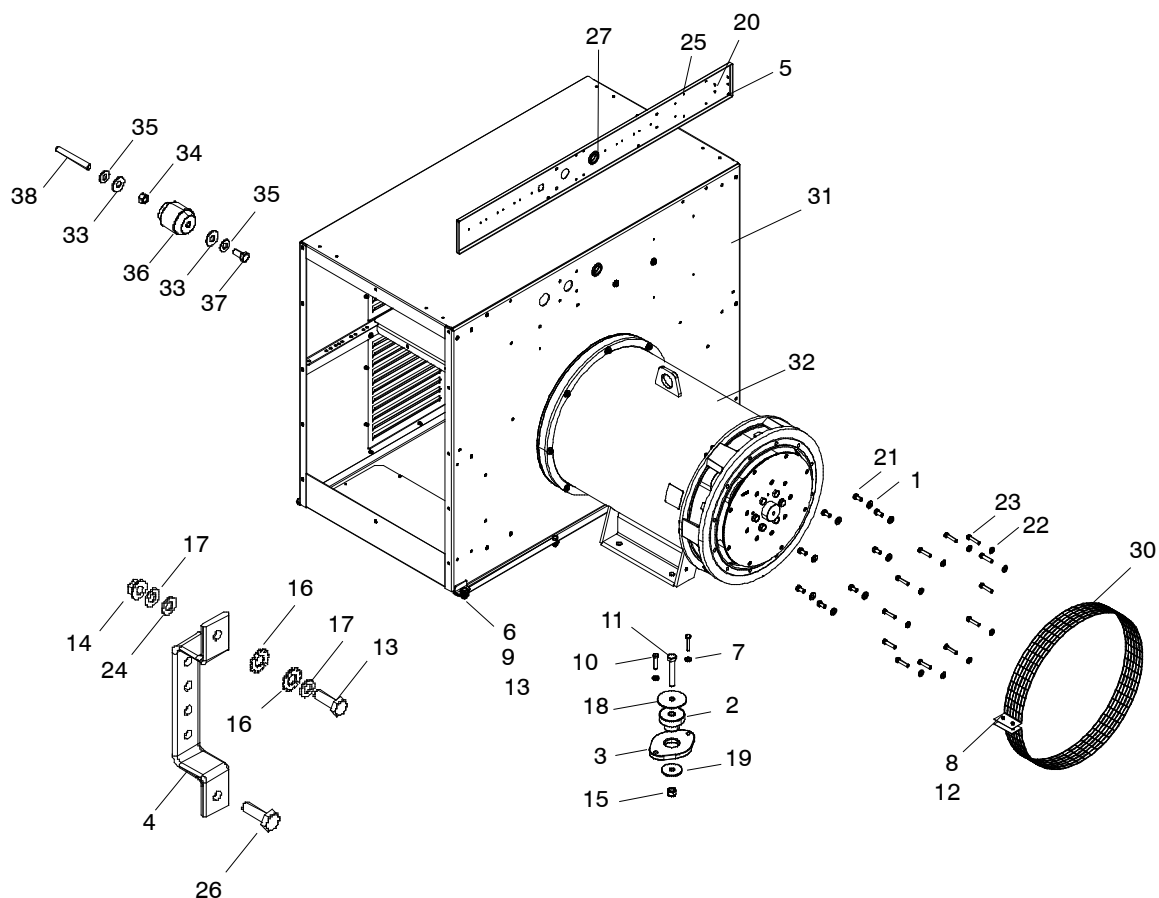


GM111112

Find the installed module number on the generator set nameplate.

| Item | Part Number     | Description                           | Quantity      |              |              |              |
|------|-----------------|---------------------------------------|---------------|--------------|--------------|--------------|
|      |                 |                                       | Module Number |              |              |              |
|      |                 |                                       | GM109394-MA1  | GM109394-MA2 | GM111112-MA1 | GM111112-MA2 |
| 1    | GM21085         | Strap, Ground (16 in.)                | 1             | 1            | 1            | 1            |
| 2    | GM110011        | Skid Assy, 56 in., 4M                 |               | 1            |              | 1            |
| 2    | GM109397        | Skid Assy, 56 in., 5M                 | 1             |              | 1            |              |
| 3    | X-75-58         | Plug, Pipe                            | 1             | 1            | 1            | 1            |
| 4    | 336024          | Vibromount                            |               |              | 2            | 2            |
| 4    | GM86134         | Engine Mount, Seismic                 | 2             | 2            |              |              |
| 5    | GM59015         | Fitting, Bulkhead Drain               | 1             | 1            | 1            | 1            |
| 6    | GM64142         | Bracket, Engine Mounting              |               |              | 2            | 2            |
| 6    | GM84174         | Bracket, Engine Mounting Seismic      | 2             | 2            |              |              |
| 7    | M125A-10-80     | Washer, Plain, 10.5 ID x 20.0 OD      | 2             | 2            | 6            | 6            |
| 8    | M125A-16-80     | Washer, Plain                         | 10            | 10           | 10           | 10           |
| 9    | M6923-10-80     | Nut, Hex 10 mm                        | 1             | 1            | 1            | 1            |
| 10   | M7985A-05020-20 | Screw, Pan Head Machine               | 2             | 2            | 2            | 2            |
| 11   | M931-10055-60   | Screw, Hex Cap, M10 x 55              |               |              | 1            | 1            |
| 11   | M931-10045-60   | Screw, Hex Cap, M10 x 45              | 1             | 1            |              |              |
| 12   | M931-16120-82   | Screw, Hex Cap, M16 x 120             | 2             | 2            | 2            | 2            |
| 13   | M933-10030-60   | Screw, Hex Cap, M10 x 30              |               |              | 4            | 4            |
| 13   | M7380-10030-80  | Screw, Button Head Cap                | 4             | 4            |              |              |
| 14   | M933-16040-60   | Screw, Hex Cap, M16 x 40              | 8             | 8            | 8            | 8            |
| 15   | M982-16-80      | Nut, Hex Elastic Stop                 | 2             | 2            | 2            | 2            |
| 16   | X-129-21        | Bolt, Hex Cap (1/2-13 x 2 in.) Gr5    |               |              | 1            | 1            |
| 16   | X-129-17        | Bolt, Hex Cap (1/2-13 x 1 in.) Gr5    | 1             | 1            |              |              |
| 17   | X-22-15         | Washer, Lock, .456 ID x 1.058 in. OD  | 2             | 2            | 2            | 2            |
| 18   | X-22-26         | Washer, Lock, .521 ID x 1.24 in. OD   | 1             | 1            | 1            | 1            |
| 19   | X-25-112        | Washer, Plain                         | 2             | 2            | 2            | 2            |
| 20   | X-25-26         | Washer, Plain, .531 ID x 1.062 in. OD | 1             | 1            | 1            | 1            |
| 21   | X-426-10        | Clamp, hose, .5/1 in.                 | 2             | 2            | 2            | 2            |
| 22   | X-577-35        | Hose, rubber, straight, .62 in. ID    | 1             | 1            | 1            | 1            |
| 23   | X-582-3         | Connector, hose + Vibra Seal          | 1             | 1            | 1            | 1            |
| 24   | X-6351-7        | Nut, Flange Serrated Lock, M5-0.8     | 2             | 2            | 2            | 2            |

# Alternator and Mounting



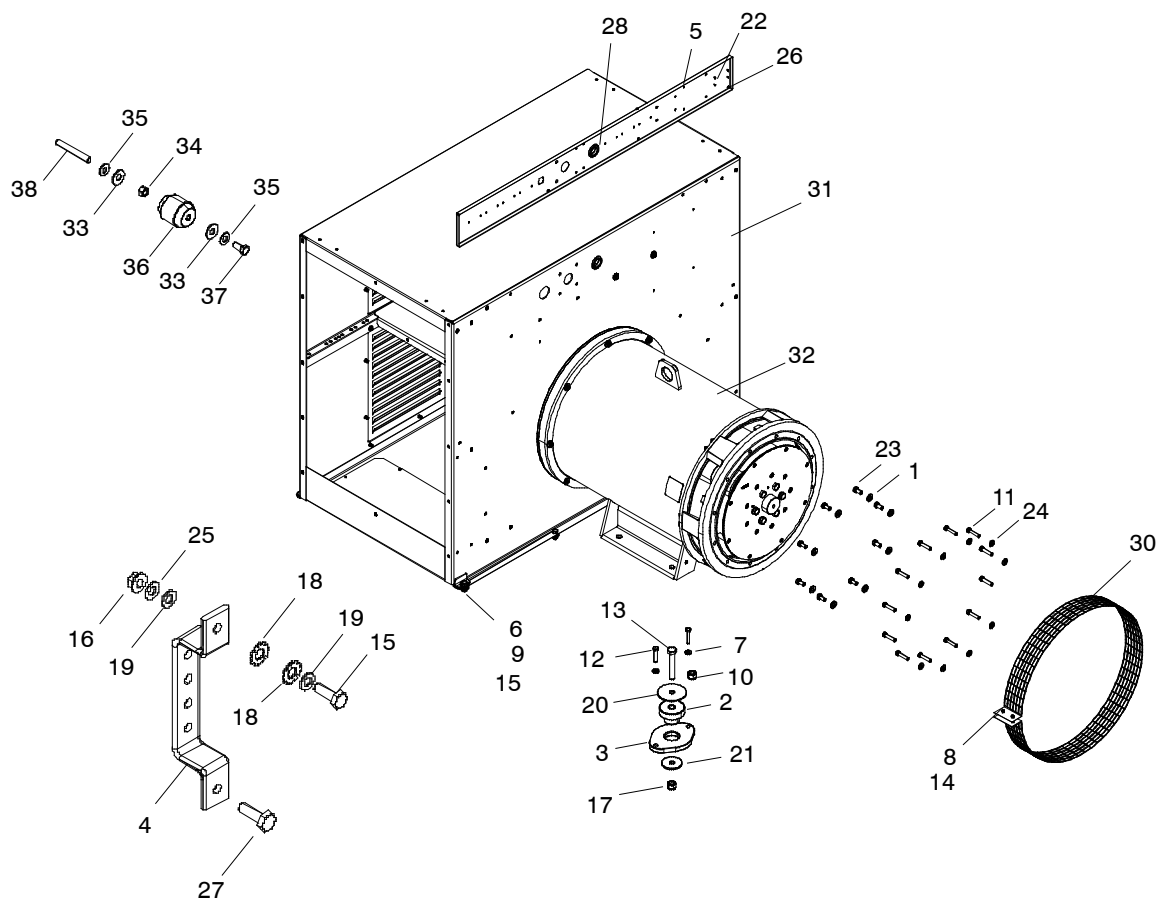
GM75808- B

# Alternator and Mounting

Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |             |             |             |             |
|------|---------------|----------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|
|      |               |                                        | Module Number |             |             |             |             |             |
|      |               |                                        | GM75808-MA1   | GM75808-MA2 | GM75808-MA3 | GM75808-MA4 | GM75808-MA5 | GM75808-MA6 |
| 1    | 290945        | Washer, hardened, .531 IDx1.06 in.OD   | 8             | 8           | 8           | 8           | 8           | 8           |
| 2    | 354634        | Vibromount                             | 2             | 2           | 2           | 2           | 2           | 2           |
| 3    | 354717        | Plate, generator mounting              | 2             | 2           | 2           | 2           | 2           | 2           |
| 4    | 361271        | Bus, ground                            | 1             | 1           | 1           | 1           | 1           | 1           |
| 5    | GM75910       | Panel, Component Mtg.                  | 1             | 1           | 1           | 1           | 1           | 1           |
| 6    | M125A-10-80   | Washer, Plain                          | 7             | 7           | 7           | 7           | 7           | 7           |
| 7    | M125A-12-80   | Washer, Plain                          | 4             | 4           | 4           | 4           | 4           | 4           |
| 8    | M6923-06-80   | Nut, Hex 6mm                           | 2             | 2           | 2           | 2           | 2           | 2           |
| 9    | M6923-10-80   | Nut, Hex                               | 8             | 8           | 8           | 8           | 8           | 8           |
| 10   | M931-12055-60 | Screw, Hex Cap                         | 4             | 4           | 4           | 4           | 4           | 4           |
| 11   | M931-20120-60 | Screw, Hex Head                        | 2             | 2           | 2           | 2           | 2           | 2           |
| 12   | M933-06050-60 | Screw, Hex Cap                         | 2             | 2           | 2           | 2           | 2           | 2           |
| 13   | M933-10035-60 | Screw, Hex Cap                         | 9             | 9           | 9           | 9           | 9           | 9           |
| 14   | M934-10-60    | Nut, hex 10mm                          | 3             | 3           | 3           | 3           | 3           | 3           |
| 15   | M982-20-80    | Nut, hex elastic stop                  | 2             | 2           | 2           | 2           | 2           | 2           |
| 16   | X-22-14       | Washer, lock, .391 ID x .975 in. OD    | 7             | 7           | 7           | 7           | 7           | 7           |
| 17   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 5             | 5           | 5           | 5           | 5           | 5           |
| 18   | X-25-150      | Washer, plain, .8 ID x 4.25 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           |
| 19   | X-25-151      | Washer, plain, .8 ID x 3 in. OD        | 2             | 2           | 2           | 2           | 2           | 2           |
| 20   | X-67-59       | Screw, hex washer, thread-forming      | 4             | 4           | 4           | 4           | 4           | 4           |
| 21   | X-129-59      | Bolt, Hex Cap                          | 8             | 8           | 8           | 8           | 8           | 8           |
| 22   | X-801-6       | Washer,hardened, .469 ID x .922 in. OD | 12            | 12          | 12          | 12          | 12          | 12          |
| 23   | X-6024-16     | Bolt, Hex Cap                          | 12            | 12          | 12          | 12          | 12          | 12          |
| 24   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           |
| 25   | X-6210-2      | Nut, flange spiralock, 1/4-20          | 8             | 8           | 8           | 8           | 8           | 8           |
| 26   | M931-10045-60 | Screw, Hex Cap                         | 1             | 1           | 1           | 1           | 1           | 1           |
| 27   | X-284-25      | Grommet                                | 1             | 1           | 1           | 1           | 1           | 1           |
| 30   | 328902        | Screen                                 | 1             |             |             | 1           |             | 1           |
| 30   | 328903        | Screen                                 |               | 1           |             |             | 1           |             |
| 31   | GM75930-1     | Junction Box Assembly 4M (See page 28) | 1             |             |             | 1           |             | 1           |
| 31   | GM75930-2     | Junction Box Assembly 5M (See page 28) |               | 1           |             |             | 1           |             |
| 32   | GM77505-2     | Alternator Assy, 4M4021, Reconn, SAE14 | 1             |             |             |             |             |             |
| 32   | GM77506-2     | Alternator Assy, 5M4027, Reconn, SAE14 |               | 1           |             |             |             |             |
| 32   | GM77506-3     | Alternator Assy, 5M4028, Reconn, SAE14 |               |             | 1           |             |             |             |
| 32   | GM77505-4     | Alternator Assy, 4M4266, 600V, SAE14   |               |             |             | 1           |             |             |
| 32   | GM77506-11    | Alternator Assy, 5M4272, 600V, SAE14   |               |             |             |             | 1           |             |
| 32   | GM77505-1     | Alternator Assy, 4M4019, Reconn, SAE14 |               |             |             |             |             | 1           |
| 33   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 6             | 6           | 6           |             |             | 6           |
| 34   | X-83-7        | Nut, hex, 3/8-16, zinc                 | 3             | 3           | 3           |             |             | 3           |
| 35   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 6             | 6           | 6           |             |             | 6           |
| 36   | X-6128-29     | Standoff insulator, 3/8-16 x 2 in.     | 3             | 3           | 3           |             |             | 3           |
| 37   | X-6238-10     | Bolt, Hex Cap                          | 3             | 3           | 3           |             |             | 3           |
| 38   | X-6274-7      | Stud                                   | 3             | 3           | 3           |             |             | 3           |

# Alternator and Mounting, continued



GM78808- B

# Alternator and Mounting, continued

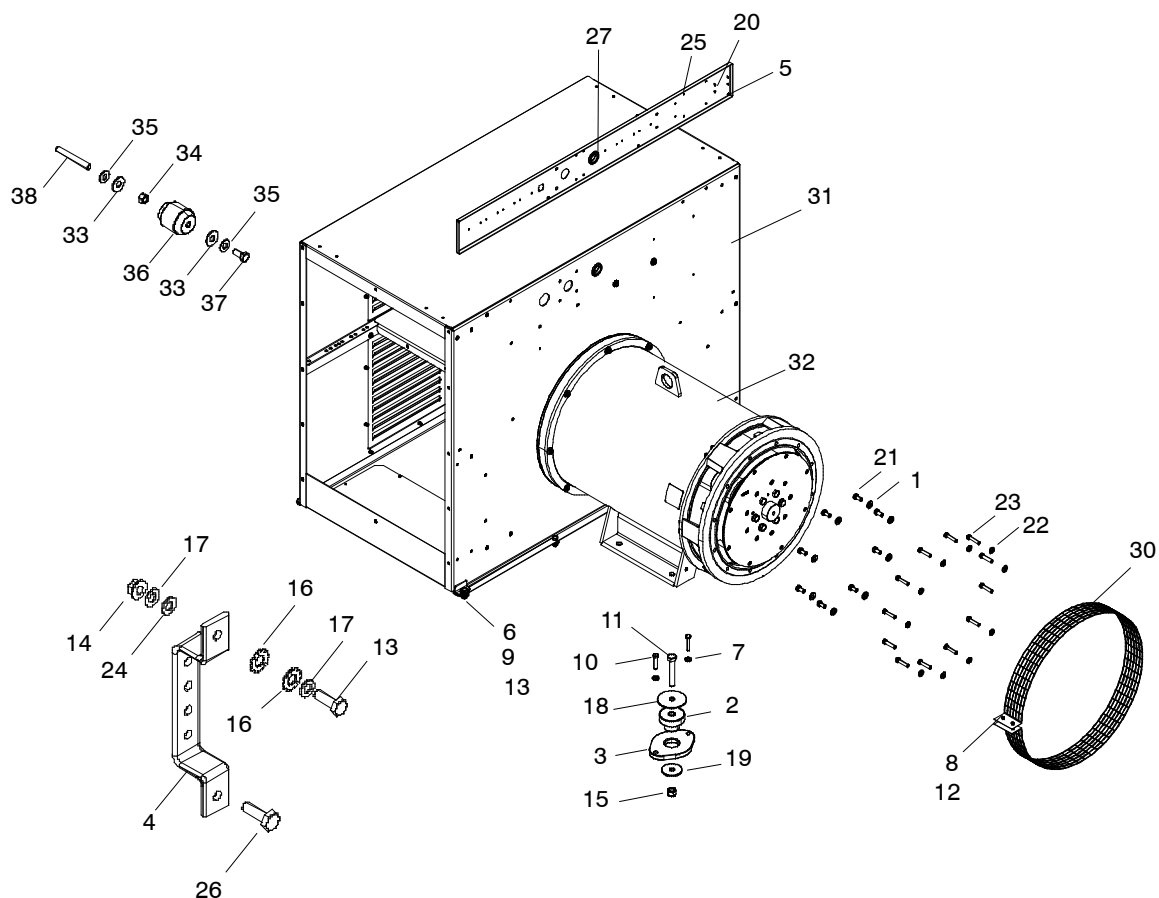
Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |             |             |             |             |             |             |
|------|---------------|----------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|      |               |                                        | Module Number |             |             |             |             |             |             |             |
|      |               |                                        | GM78808-MA1   | GM78808-MA2 | GM78808-MA3 | GM78808-MA4 | GM78808-MA5 | GM78808-MA6 | GM78808-MA7 | GM78808-MA8 |
| 1    | 290945        | Washer, hardened, .531 IDx1.06 in.OD   | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 2    | 354634        | Vibromount                             | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 3    | 354717        | Plate, generator mounting              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 4    | 361271        | Bus, ground                            | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 5    | GM75910       | Panel, Component Mtg.                  | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 6    | M125A-10-80   | Washer, Plain                          | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 7    | M125A-12-80   | Washer, Plain                          | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 8    | M6923-06-80   | Nut, Hex 6mm                           | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 9    | M6923-10-80   | Nut, Hex                               | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 10   | M6923-12-80   | Nut, Hex                               | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 11   | X-6024-17     | Bolt, Hex Cap                          | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 12   | M931-12055-60 | Screw, Hex Cap                         | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 13   | M931-20120-60 | Screw, Hex Head                        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 14   | M933-06050-60 | Screw, Hex Cap                         | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 15   | M933-10035-60 | Screw, Hex Cap                         | 9             | 9           | 9           | 9           | 9           | 9           | 9           | 9           |
| 16   | M934-10-60    | Nut, hex 10mm                          | 3             | 3           | 3           | 3           | 3           | 3           | 3           | 3           |
| 17   | M982-20-80    | Nut, hex elastic stop                  | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 18   | X-22-14       | Washer, lock, .391 ID x .975 in. OD    | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 19   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 5             | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
| 20   | X-25-150      | Washer, plain, .8 ID x 4.25 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 21   | X-25-151      | Washer, plain, .8 ID x 3 in. OD        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 22   | X-67-59       | Screw, hex washer, thread-forming      | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 23   | X-129-59      | Bolt, Hex Cap                          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 24   | X-801-6       | Washer,hardened,.469 ID x .922 in.OD   | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 25   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 26   | X-6210-2      | Nut, flange spiralock, 1/4-20          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 27   | M931-10045-60 | Screw, Hex Cap                         | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 28   | X-284-25      | Grommet                                | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 30   | 328903        | Screen                                 | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 30   | 328902        | Screen                                 |               |             |             |             |             | 1           | 1           | 1           |
| 31   | GM75930-2**   | Junction Box Assembly 5M (See page 28) | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 31   | GM75930-1**   | Junction Box Assembly 4M (See page 28) |               |             |             |             |             | 1           | 1           | 1           |
| 32   | GM77506-1     | Alternator Assy, 5M4024, Reconn, SAE14 | 1             |             |             |             |             |             |             |             |
| 32   | GM77506-2     | Alternator Assy, 5M4027, Reconn, SAE14 |               | 1           |             |             |             |             |             |             |
| 32   | GM77506-3     | Alternator Assy, 5M4028, Reconn, SAE14 |               |             | 1           |             |             |             |             |             |
| 32   | GM77506-10    | Alternator Assy, 5M4270, 600V, SAE14   |               |             |             | 1           |             |             |             |             |
| 32   | GM77506-11    | Alternator Assy, 5M4272, 600V, SAE14   |               |             |             |             | 1           |             |             |             |
| 32   | GM77505-2     | Alternator Assy, 4M4021                |               |             |             |             |             |             |             |             |
| 32   | GM77505-4     | Alternator Assy, 4M4266                |               |             |             |             |             |             |             |             |
| 32   | GM77505-1     | Alternator Assy, 4M4019                |               |             |             |             |             |             |             |             |
| 33   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 34   | X-83-7        | Nut, hex, 3/8-16, zinc                 | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 35   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 36   | X-6128-29     | Standoff insulator, 3/8-16 x 2 in.     | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 37   | X-6238-10     | Bolt, Hex Cap                          | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 38   | X-6274-7      | Stud                                   | 3             | 3           | 3           | 3           |             | 3           |             | 3           |

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

| Kit No.           | Color Dependant Parts |                               |
|-------------------|-----------------------|-------------------------------|
|                   | Part Number Suffix    | Part Number Example (item 31) |
| GM78808- MA1- BLK | - BLK                 | GM75930- 2- BLK               |
| GM78808- MA2- BLK | - BLK                 | GM75930- 2- BLK               |
| GM78808- MA3- BLK | - BLK                 | GM75930- 2- BLK               |
| GM78808- MA4- BLK | - BLK                 | GM75930- 2- BLK               |
| GM78808- MA5- BLK | - BLK                 | GM75930- 2- BLK               |
| GM78808- MA6- BLK | - BLK                 | GM75930- 1- BLK               |
| GM78808- MA7- BLK | - BLK                 | GM75930- 1- BLK               |
| GM78808- MA8- BLK | - BLK                 | GM75930- 1- BLK               |

# Alternator and Mounting, continued



GM75808- B

# Alternator and Mounting, continued

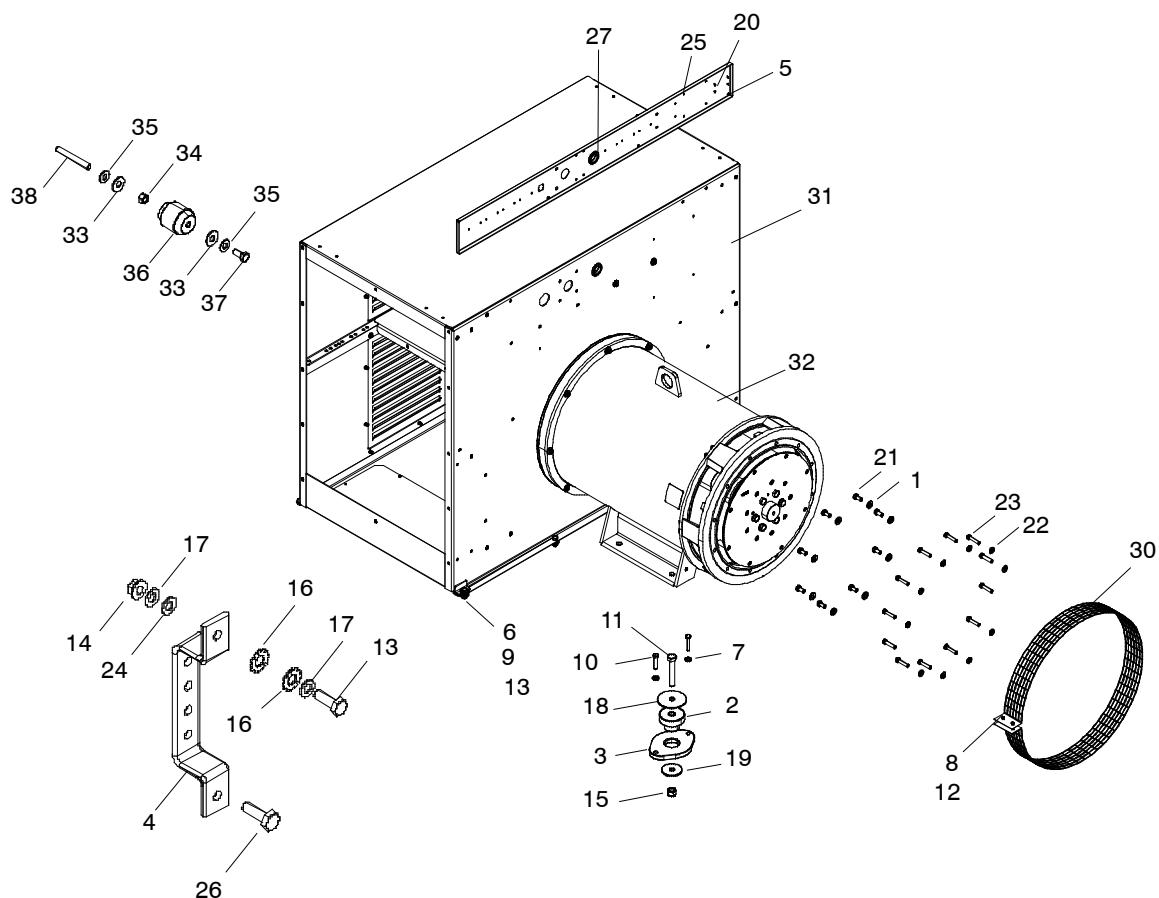
Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |             |             |             |             |             |             |
|------|---------------|----------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|      |               |                                        | Module Number |             |             |             |             |             |             |             |
|      |               |                                        | GM84175-MA1   | GM84175-MA2 | GM84175-MA3 | GM84175-MA4 | GM84175-MA5 | GM84175-MA6 | GM84175-MA7 | GM84175-MA8 |
| 1    | 290945        | Washer, hardened, .531 IDx1.06 in.OD   | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 2    | GM84170       | Alternator Mount, Seismic              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 3    | GM84170       | Alternator Mount, Seismic              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 4    | 361271        | Bus, ground                            | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 5    | GM75910       | Panel, Component Mtg.                  | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 6    | M125A-10-80   | Washer, Plain                          | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 7    | M125A-12-80   | Washer, Plain                          | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 8    | M6923-06-80   | Nut, Hex 6mm                           | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 9    | M6923-10-80   | Nut, Hex                               | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 10   | M931-12055-60 | Screw, Hex Cap                         | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 11   | M931-20140-60 | Screw, Hex Head                        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 12   | M933-06050-60 | Screw, Hex Cap                         | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 13   | M933-10035-60 | Screw, Hex Cap                         | 9             | 9           | 9           | 9           | 9           | 9           | 9           | 9           |
| 14   | M934-10-60    | Nut, hex 10mm                          | 3             | 3           | 3           | 3           | 3           | 3           | 3           | 3           |
| 15   | M982-20-80    | Nut, hex elastic stop                  | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 16   | X-22-14       | Washer, lock, .391 ID x .975 in. OD    | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 17   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 5             | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
| 18   | X-25-150      | Washer, plain, .8 ID x 4.25 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 20   | X-67-59       | Screw, hex washer, thread-forming      | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 21   | X-129-59      | Bolt, Hex Cap                          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 22   | X-801-6       | Washer,hardened, .469 ID x .922 in. OD | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 23   | X-6024-17     | Bolt, Hex Cap                          | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 24   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 25   | X-6210-2      | Nut, flange spiralock, 1/4-20          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 26   | M931-10045-60 | Screw, Hex Cap                         | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 27   | X-284-25      | Grommet                                | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 30   | 328902        | Screen                                 |               |             |             |             |             | 1           | 1           | 1           |
| 30   | 328903        | Screen                                 | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 31   | GM75930-1**   | Junction Box Assembly 4M (See page 28) |               |             |             |             |             | 1           | 1           | 1           |
| 31   | GM75930-2**   | Junction Box Assembly 5M (See page 28) | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 32   | GM77506-1     | Alternator Assy, 5M4024                | 1             |             |             |             |             |             |             |             |
| 32   | GM77506-2     | Alternator Assy, 5M4027, Reconn, SAE14 |               | 1           |             |             |             |             |             |             |
| 32   | GM77506-3     | Alternator Assy, 5M4028, Reconn, SAE14 |               |             | 1           |             |             |             |             |             |
| 32   | GM77506-10    | Alternator Assy, 5M4270, 600V, SAE14   |               |             |             | 1           |             |             |             |             |
| 32   | GM77506-11    | Alternator Assy, 5M4272, 600V, SAE14   |               |             |             |             | 1           |             |             |             |
| 32   | GM77505-2     | Alternator Assy, 4M4021, Reconn, SAE14 |               |             |             |             |             | 1           |             |             |
| 32   | GM77505-4     | Alternator Assy, 4M4266, 600V, SAE14   |               |             |             |             |             |             | 1           |             |
| 32   | GM77505-1     | Alternator Assy, 4M4019, Reconn, SAE14 |               |             |             |             |             |             |             | 1           |
| 33   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 34   | X-83-7        | Nut, hex, 3/8-16, zinc                 | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 35   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 36   | X-6128-29     | Standoff insulator, 3/8-16 x 2 in.     | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 37   | X-6238-10     | Bolt, Hex Cap                          | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 38   | X-6274-7      | Stud                                   | 3             | 3           | 3           | 3           |             | 3           |             | 3           |

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

| Kit No.           | Color Dependant Parts |                               |
|-------------------|-----------------------|-------------------------------|
|                   | Part Number Suffix    | Part Number Example (item 31) |
| GM84175- MA1- BLK | - BLK                 | GM75930- 2- BLK               |
| GM84175- MA2- BLK | - BLK                 | GM75930- 2- BLK               |
| GM84175- MA3- BLK | - BLK                 | GM75930- 2- BLK               |
| GM84175- MA4- BLK | - BLK                 | GM75930- 2- BLK               |
| GM84175- MA5- BLK | - BLK                 | GM75930- 2- BLK               |
| GM84175- MA6- BLK | - BLK                 | GM75930- 1- BLK               |
| GM84175- MA7- BLK | - BLK                 | GM75930- 1- BLK               |
| GM84175- MA8- BLK | - BLK                 | GM75930- 1- BLK               |

# Alternator and Mounting, continued



GM75808- B



# Alternator and Mounting, continued

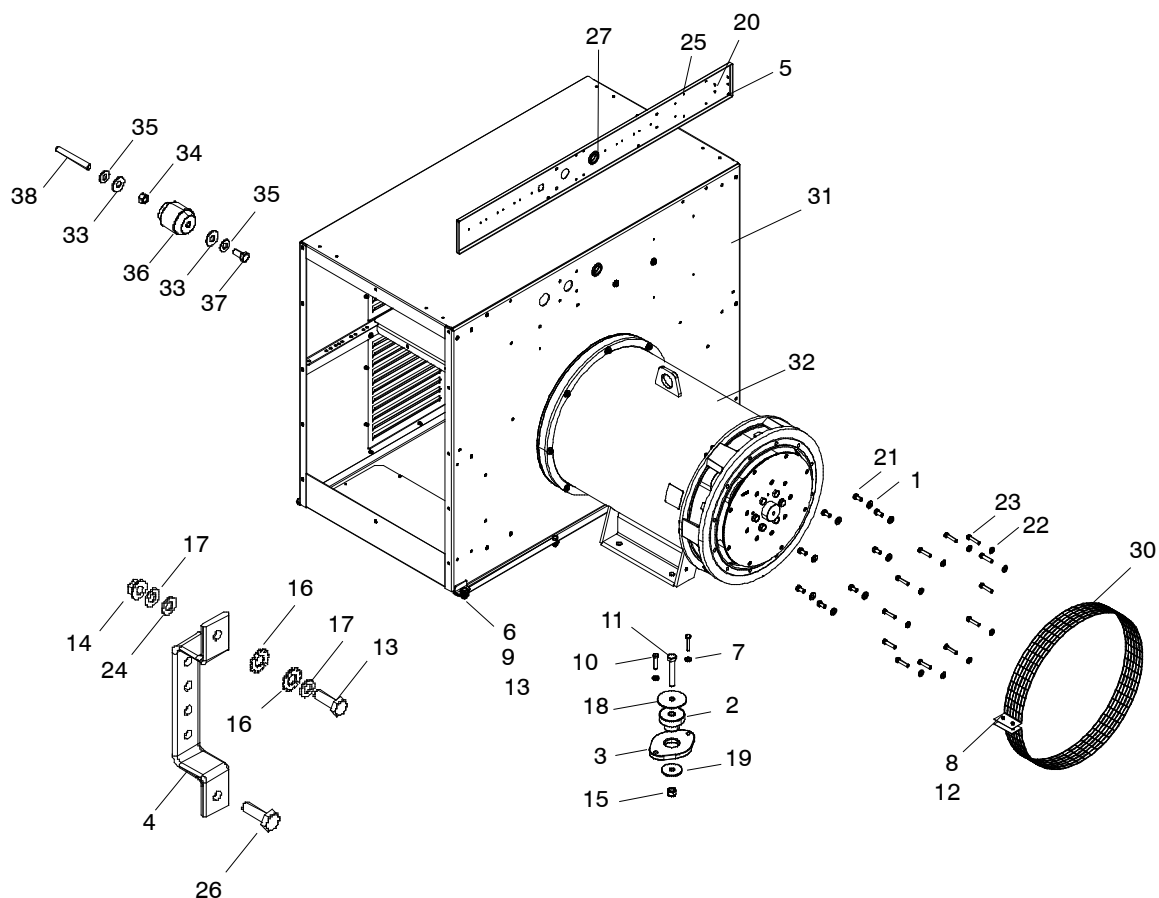
Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |             |             |             |             |             |             |
|------|---------------|----------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|      |               |                                        | Module Number |             |             |             |             |             |             |             |
|      |               |                                        | GM84918-MA1   | GM84918-MA2 | GM84918-MA3 | GM84918-MA4 | GM84918-MA5 | GM84918-MA6 | GM84918-MA7 | GM84918-MA8 |
| 1    | 290945        | Washer, hardened, .531 IDx1.06 in.OD   | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 2    | GM84170       | Alternator Mount, Seismic              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 3    | GM84170       | Alternator Mount, Seismic              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 4    | 361271        | Bus, ground                            | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 5    | GM84527       | Panel, Component Mtg.                  | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 6    | M125A-10-80   | Washer, Plain                          | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 7    | M125A-12-80   | Washer, Plain                          | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 8    | M6923-06-80   | Nut, Hex 6mm                           | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 9    | M6923-10-80   | Nut, Hex                               | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 10   | M931-12055-60 | Screw, Hex Cap                         | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 11   | M931-20140-60 | Screw, Hex Head                        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 12   | M933-06050-60 | Screw, Hex Cap                         | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 13   | M933-10035-60 | Screw, Hex Cap                         | 9             | 9           | 9           | 9           | 9           | 9           | 9           | 9           |
| 14   | M934-10-60    | Nut, hex 10mm                          | 3             | 3           | 3           | 3           | 3           | 3           | 3           | 3           |
| 15   | M982-20-80    | Nut, hex elastic stop                  | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 16   | X-22-14       | Washer, lock, .391 ID x .975 in. OD    | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 17   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 5             | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
| 18   | X-25-150      | Washer, plain, .8 ID x 4.25 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 20   | X-67-59       | Screw, hex washer, thread-forming      | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 21   | X-129-59      | Bolt, Hex Cap                          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 22   | X-801-6       | Washer,hardened, .469 ID x .922 in. OD | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 23   | X-6024-17     | Bolt, Hex Cap                          | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 24   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 25   | X-6210-2      | Nut, flange spiralock, 1/4-20          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 26   | M931-10045-60 | Screw, Hex Cap                         | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 27   | X-284-25      | Grommet                                | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 30   | 328902        | Screen                                 |               |             |             |             |             | 1           | 1           | 1           |
| 30   | 328903        | Screen                                 | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 31   | GM85248-1**   | Junction Box Assembly 4M (See page 29) |               |             |             |             |             | 1           | 1           | 1           |
| 31   | GM85248-2**   | Junction Box Assembly 5M (See page 29) | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 32   | GM77506-1     | Alternator Assy, 5M4024                | 1             |             |             |             |             |             |             |             |
| 32   | GM77506-2     | Alternator Assy, 5M4027, Reconn, SAE14 |               | 1           |             |             |             |             |             |             |
| 32   | GM77506-3     | Alternator Assy, 5M4028, Reconn, SAE14 |               |             | 1           |             |             |             |             |             |
| 32   | GM77506-10    | Alternator Assy, 5M4270, 600V, SAE14   |               |             |             | 1           |             |             |             |             |
| 32   | GM77506-11    | Alternator Assy, 5M4272, 600V, SAE14   |               |             |             |             | 1           |             |             |             |
| 32   | GM77505-2     | Alternator Assy, 4M4021, Reconn, SAE14 |               |             |             |             |             | 1           |             |             |
| 32   | GM77505-4     | Alternator Assy, 4M4266, 600V, SAE14   |               |             |             |             |             |             | 1           |             |
| 32   | GM77505-1     | Alternator Assy, 4M4019, Reconn, SAE14 |               |             |             |             |             |             |             | 1           |
| 33   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 34   | X-83-7        | Nut, hex, 3/8-16, zinc                 | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 35   | X-6086-6      | Washer,spring, .39 ID x .81 in. OD     | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 36   | X-6128-29     | Standoff insulator, 3/8-16 x 2 in.     | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 37   | X-6238-10     | Bolt, Hex Cap                          | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 38   | X-6274-7      | Stud                                   | 3             | 3           | 3           | 3           |             | 3           |             | 3           |

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

| Kit No.           | Color Dependant Parts |                               |
|-------------------|-----------------------|-------------------------------|
|                   | Part Number Suffix    | Part Number Example (item 31) |
| GM84918- MA1- BLK | - BLK                 | GM85248- 2- BLK               |
| GM84918- MA2- BLK | - BLK                 | GM85248- 2- BLK               |
| GM84918- MA3- BLK | - BLK                 | GM85248- 2- BLK               |
| GM84918- MA4- BLK | - BLK                 | GM85248- 2- BLK               |
| GM84918- MA5- BLK | - BLK                 | GM85248- 2- BLK               |
| GM84918- MA6- BLK | - BLK                 | GM85248- 1- BLK               |
| GM84918- MA7- BLK | - BLK                 | GM85248- 1- BLK               |
| GM84918- MA8- BLK | - BLK                 | GM85248- 1- BLK               |

# Alternator and Mounting, continued



GM75808- B

# Alternator and Mounting, continued

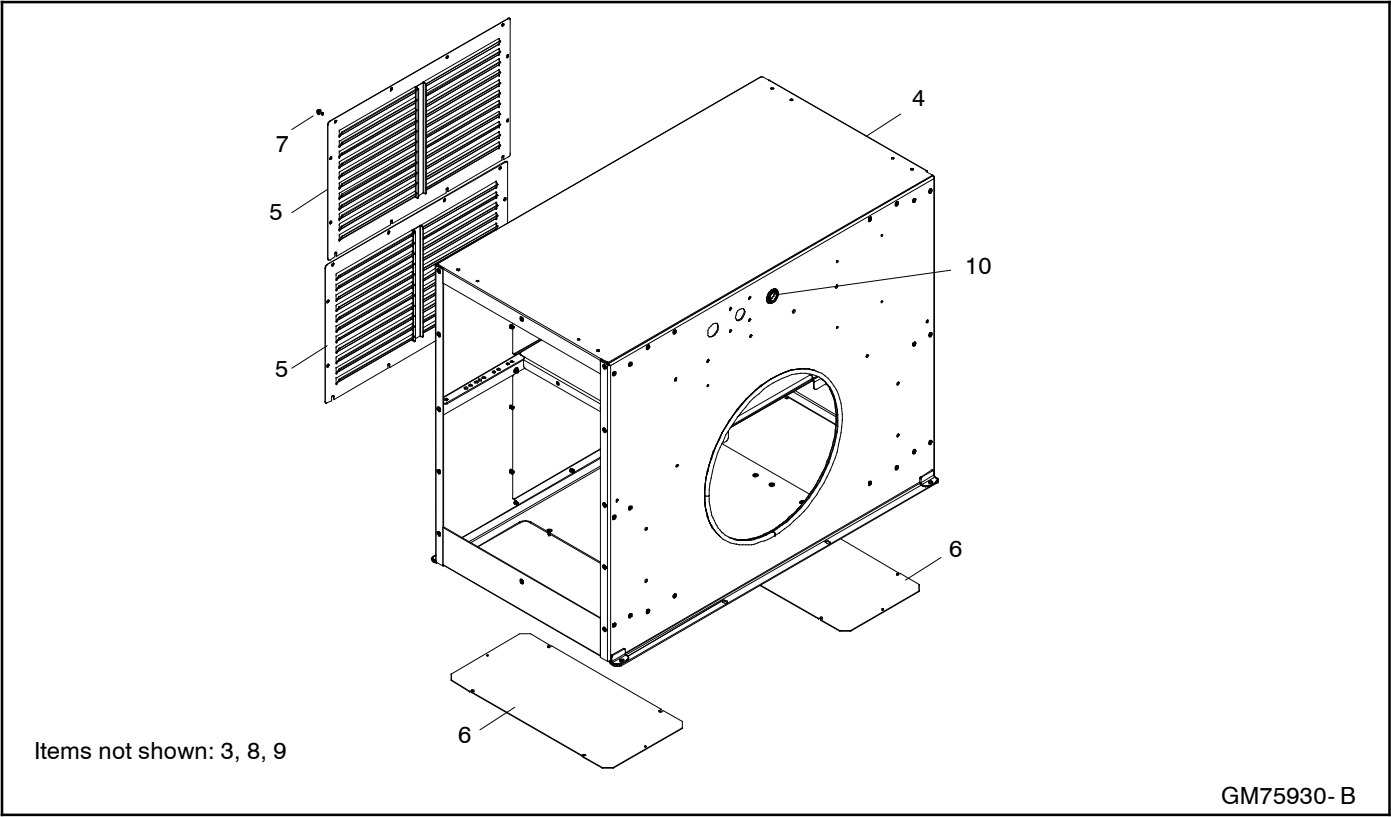
Find the installed module number on the generator set nameplate.

| Item | Part Number   | Description                            | Quantity      |             |             |             |             |             |             |             |
|------|---------------|----------------------------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|      |               |                                        | Module Number |             |             |             |             |             |             |             |
|      |               |                                        | GM85633-MA1   | GM85633-MA2 | GM85633-MA3 | GM85633-MA4 | GM85633-MA5 | GM85633-MA6 | GM85633-MA7 | GM85633-MA8 |
| 1    | 290945        | Washer, hardened, .531 IDx1.06 in.OD   | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 2    | 354634        | Vibromount                             | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 3    | 354717        | Plate, generator mounting              | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 4    | 361271        | Bus, ground                            | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 5    | GM84527       | Panel, Component Mtg.                  | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 6    | M125A-10-80   | Washer, Plain                          | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 7    | M125A-12-80   | Washer, Plain                          | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 8    | M6923-06-80   | Nut, Hex 6mm                           | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 9    | M6923-10-80   | Nut, Hex                               | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 10   | M931-12055-60 | Screw, Hex Cap                         | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 11   | M931-20140-60 | Screw, Hex Head                        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 12   | M933-06050-60 | Screw, Hex Cap                         | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 13   | M933-10035-60 | Screw, Hex Cap                         | 9             | 9           | 9           | 9           | 9           | 9           | 9           | 9           |
| 14   | M934-10-60    | Nut, hex 10mm                          | 3             | 3           | 3           | 3           | 3           | 3           | 3           | 3           |
| 15   | M982-20-80    | Nut, hex elastic stop                  | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 16   | X-22-14       | Washer, lock, .391 ID x .975 in. OD    | 7             | 7           | 7           | 7           | 7           | 7           | 7           | 7           |
| 17   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 5             | 5           | 5           | 5           | 5           | 5           | 5           | 5           |
| 18   | X-25-150      | Washer, plain, .8 ID x 4.25 in. OD     | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 19   | X-25-151      | Washer, plain, .8 ID x 3 in. OD        | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 20   | X-67-59       | Screw, hex washer, thread-forming      | 4             | 4           | 4           | 4           | 4           | 4           | 4           | 4           |
| 21   | X-129-59      | Bolt, Hex Cap                          | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 22   | X-801-3       | Washer, hardened, .406 ID x .812 in.OD | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 23   | M931-10040-82 | Bolt, Hex Cap                          | 12            | 12          | 12          | 12          | 12          | 12          | 12          | 12          |
| 24   | X-6086-6      | Washer, spring, .39 ID x .81 in. OD    | 2             | 2           | 2           | 2           | 2           | 2           | 2           | 2           |
| 25   | X-6210-2      | Nut, flange spirallock, 1/4-20         | 8             | 8           | 8           | 8           | 8           | 8           | 8           | 8           |
| 26   | M931-10045-60 | Screw, Hex Cap                         | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 27   | X-284-25      | Grommet                                | 1             | 1           | 1           | 1           | 1           | 1           | 1           | 1           |
| 30   | 328902        | Screen                                 |               |             |             |             |             | 1           | 1           | 1           |
| 30   | 328903        | Screen                                 | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 31   | GM85248-1**   | Junction Box Assembly 4M (See page 29) |               |             |             |             |             | 1           | 1           | 1           |
| 31   | GM85248-2**   | Junction Box Assembly 5M (See page 29) | 1             | 1           | 1           | 1           | 1           |             |             |             |
| 32   | GM77505-2     | Alternator Assy, 4M4021, Reconn, SAE14 |               |             |             |             |             | 1           |             |             |
| 32   | GM77506-1     | Alternator Assy, 5M4024                | 1             |             |             |             |             |             |             |             |
| 32   | GM77506-2     | Alternator Assy, 5M4027, Reconn, SAE14 |               | 1           |             |             |             |             |             |             |
| 32   | GM77506-3     | Alternator Assy, 5M4028, Reconn, SAE14 |               |             | 1           |             |             |             |             |             |
| 32   | GM77505-4     | Alternator Assy, 4M4266, 600V, SAE14   |               |             |             |             |             |             | 1           |             |
| 32   | GM77506-10    | Alternator Assy, 5M4270                |               |             |             | 1           |             |             |             |             |
| 32   | GM77506-11    | Alternator Assy, 5M4272, 600V, SAE14   |               |             |             |             | 1           |             |             |             |
| 32   | GM77505-1     | Alternator Assy, 4M4019, Reconn, SAE14 |               |             |             |             |             |             |             | 1           |
| 33   | X-25-118      | Washer, plain, .406 ID x 1 in. OD      | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 34   | X-83-7        | Nut, hex, 3/8-16, zinc                 | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 35   | X-6086-6      | Washer, spring, .39 ID x .81 in. OD    | 6             | 6           | 6           | 6           |             | 6           |             | 6           |
| 36   | X-6128-29     | Standoff insulator, 3/8-16 x 2 in.     | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 37   | X-6238-10     | Bolt, Hex Cap                          | 3             | 3           | 3           | 3           |             | 3           |             | 3           |
| 38   | X-6274-7      | Stud                                   | 3             | 3           | 3           | 3           |             | 3           |             | 3           |

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

| Kit No.           | Color Dependant Parts |                               |
|-------------------|-----------------------|-------------------------------|
|                   | Part Number Suffix    | Part Number Example (item 31) |
| GM85633- MA1- BLK | - BLK                 | GM85248- 2- BLK               |
| GM85633- MA2- BLK | - BLK                 | GM85248- 2- BLK               |
| GM85633- MA3- BLK | - BLK                 | GM85248- 2- BLK               |
| GM85633- MA4- BLK | - BLK                 | GM85248- 2- BLK               |
| GM85633- MA5- BLK | - BLK                 | GM85248- 2- BLK               |
| GM85633- MA6- BLK | - BLK                 | GM85248- 1- BLK               |
| GM85633- MA7- BLK | - BLK                 | GM85248- 1- BLK               |
| GM85633- MA8- BLK | - BLK                 | GM85248- 1- BLK               |

Alternator and Mounting, continued

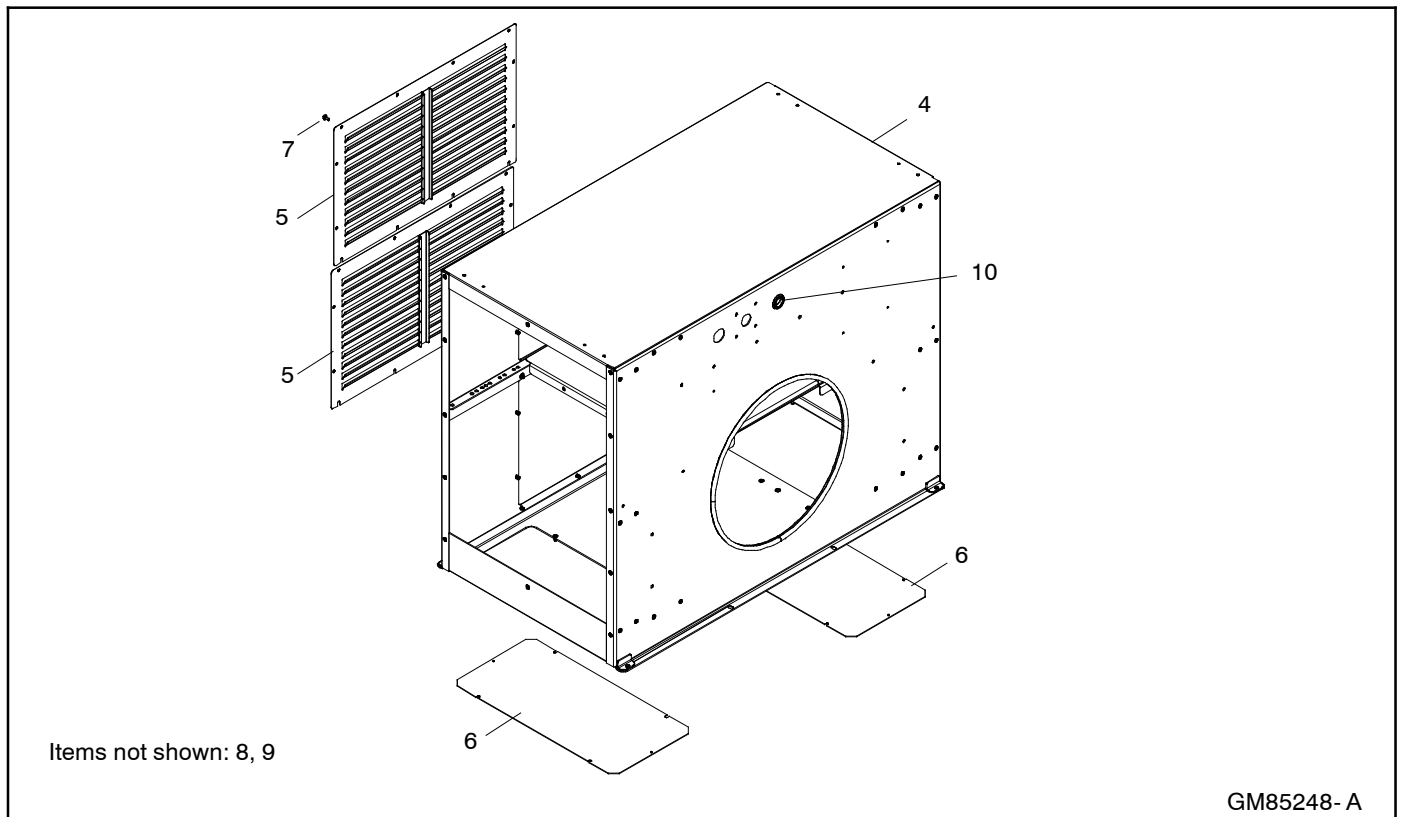


| Item | Part Number    | Description                             | Quantity      |           |           |
|------|----------------|-----------------------------------------|---------------|-----------|-----------|
|      |                |                                         | Module Number | 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

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

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

# Alternator and Mounting, continued

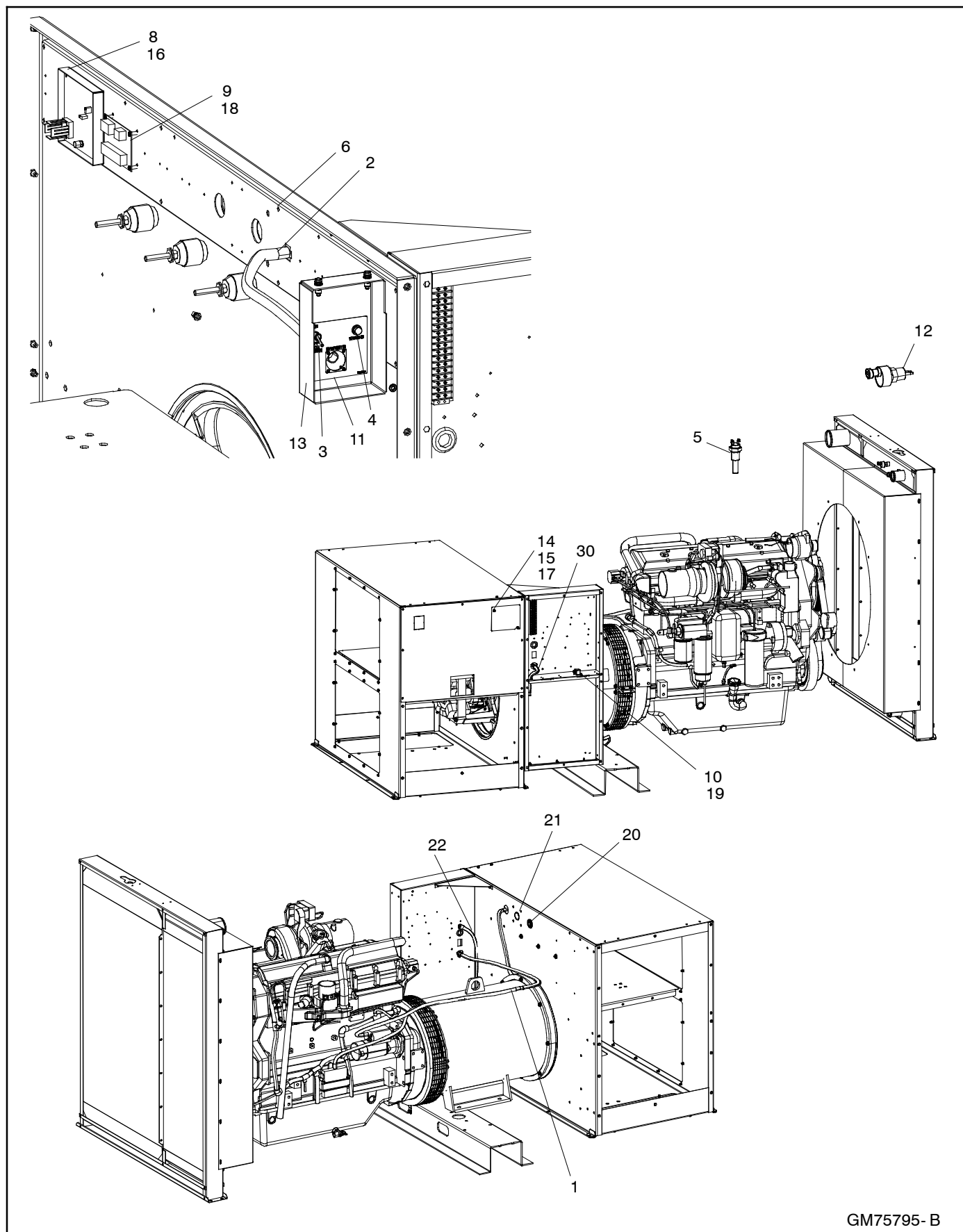


| Item | Part Number | Description                | Quantity      |           |
|------|-------------|----------------------------|---------------|-----------|
|      |             |                            | Module Number |           |
|      |             |                            | GM85248-1     | GM85248-2 |
| 4    | GM84524**   | Box, Junction (4M)         | 1             |           |
| 4    | GM84525**   | Box, Junction (5M)         |               | 1         |
| 5    | GM75892     | Panel, J-Box (Louvered)    | 2             | 2         |
| 6    | GM75895     | Panel, J-Box (Cable Entry) | 2             | 2         |
| 7    | GM78761-1   | Screw, Sheetmetal          | 32            | 32        |
| 8    | X-284-2     | Grommet, round             | 1             | 1         |
| 9    | 361567      | Base, tie wrap snapin      | 5             | 5         |
| 10   | X-284-25    | Grommet, round             | 1             | 1         |

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

| Module No.      | Color Dependant Parts |                              |
|-----------------|-----------------------|------------------------------|
|                 | Part Number Suffix    | Part Number Example (item 4) |
| GM85248- 1- BLK | - BLK                 | GM84524- BLK                 |
| GM85248- 2- BLK | - BLK                 | GM84525- BLK                 |

# Control and Harness



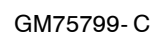
GM75795- B

# Control and Harness

Find the installed module number on the generator set nameplate.

| Item | Part Number     | Description                            | Quantity      |             |             |
|------|-----------------|----------------------------------------|---------------|-------------|-------------|
|      |                 |                                        | Module Number |             |             |
|      |                 |                                        | GM75795-MA1   | GM75795-MA2 | GM85393-MA1 |
| 1    | GM77970         | Harness, Engine 350-500 kW JD Tier III | 1             | 1           | 1           |
| 2    | GM77977         | Harness, Diagnostic 350-500 kW JD      | 1             | 1           | 1           |
| 3    | 295030          | Switch, toggle, 1 pole                 | 1             | 1           | 1           |
|      | 324861          | Plug, Black Plastic                    | 12            | 12          | 12          |
| 4    | 343684          | Lamp assy 28VDC yel/amb led            | 1             | 1           | 1           |
| 5    | GM51705         | Switch, low water temp                 | 1             | 1           | 1           |
| 6    | 361567          | Base, tie wrap snapin                  | 5             | 5           | 5           |
| 8    | GM79677         | PCB assy Marathon excitation interface | 1             | 1           | 1           |
| 9    | GM13980         | PCB Assy CT Burden Resistor            | 1             | 1           | 1           |
| 10   | GM49747         | Relay, 24V DC                          | 1             | 1           | 1           |
| 11   | GM62565         | Decal, Diagnostic                      | 1             | 1           | 1           |
| 12   | GM66270         | Sensor, Low Coolant Level              | 1             | 1           | 1           |
| 13   | GM77904         | Bracket, Mtg (Diagnostic)              | 1             | 1           | 1           |
| 14   | GM77909         | Cover, Diagnostic                      | 1             | 1           | 1           |
| 15   | M6921-06016-60  | Screw                                  | 10            | 10          | 10          |
| 17   | GM11040-7       | Insert, Threaded (M6 x 1.0 Hex)        | 4             | 4           | 4           |
| 18   | M7985A-04010-20 | Screw, Pan Head Machine                | 4             | 4           | 4           |
| 19   | X-67-155        | Screw, Tapping                         | 1             | 1           | 1           |
| 20   | X-67-156        | Screw, Tapping                         | 4             | 4           | 4           |
| 21   | X-301-34        | Plug, Button                           | 7             | 7           | 7           |
| 22   | X-301-47        | Plug, Button                           | 10            | 10          | 10          |
| 23   | X-301-48        | Plug, Button                           | 1             | 1           | 1           |
| 30   | GM77981         | Harness, Control Box 350-500 kW JD     | 1             |             |             |
| 30   | GM77976         | Harness, Control Box 350-500 kW JD     |               | 1           |             |
| 30   | GM85395         | Harness, Control Box 350-500 kW JD     |               |             | 1           |

## APM402/Decision-Maker 3000 Controller





# Control and Harness, continued

Find the installed module number on the generator set nameplate.

| Item | Part Number     | Description                              | Quantity      |              |
|------|-----------------|------------------------------------------|---------------|--------------|
|      |                 |                                          | Module Number |              |
|      |                 |                                          | GM75799-MA1   | GM104388-MA1 |
| 1    | GM77978         | Harness, A/C Control Box                 | 1             | 1            |
| 3    | 324861          | Plug, black plastic                      | 12            | 12           |
| 4    | 343684          | Lamp assy 28VDC yel/amb led              | 1             | 1            |
| 5    | 361567          | Base, tie wrap snapin                    | 5             | 5            |
| 6    | GM39458         | Sender, Temperature                      | 1             | 1            |
| 7    | GM11040-7       | Insert, Threaded (M6 x 1.0 Hex)          | 4             | 4            |
| 9    | GM13980         | PCB Assy CT Burden Resistor              | 1             | 1            |
| 10   | GM49747         | Relay, 24V DC                            | 1             | 1            |
| 11   | GM66270         | Sensor, Low Coolant Level                | 1             | 1            |
| 12   | GM69565         | Decal, Diagnostic                        | 1             | 1            |
| 13   | GM77903         | Bracket, Mtg (Diagnostic)                | 1             | 1            |
| 14   | GM77909         | Cover, Diagnostic                        | 1             | 1            |
| 15   | GM77970         | Harness, Engine 350-500 kW JD Tier III   | 1             | 1            |
| 16   | GM77977         | Harness, Diagnostic 350-500 kW JD        | 1             | 1            |
| 17   | GM77979         | Harness, Control Box 350-500 kW JD       | 1             | 1            |
| 18   | GM79677         | PCB assy Marathon excitation interface   | 1             | 1            |
| 19   | M6921-06016-60  | Screw, Hex Flange M6x16mm fly thrd js500 | 10            | 10           |
| 20   | M7985A-04010-20 | Screw, Pan Head Machine                  | 4             | 4            |
| 21   | X-67-155        | Screw, Tapping                           | 1             | 1            |
| 22   | X-67-156        | Screw, Tapping                           | 4             | 4            |
| 23   | X-301-34        | Plug, Button                             | 7             | 7            |
| 24   | X-301-47        | Plug, Button                             | 10            | 10           |
| 25   | X-301-48        | Plug, Button                             | 1             | 1            |

## APM603 Controller, GM105024-MA1



# Control and Harness, continued

APM603 Controller, GM105024-MA1

| Item | Part Number     | Description                             | Quantity |
|------|-----------------|-----------------------------------------|----------|
| 1    | 324861          | Plug, Black plastic                     | 12       |
| 2    | 343684          | Lamp assy 28VDC yel/amb LED             | 1        |
| 3    | 361567          | Base, Tie wrap snapin                   | 5        |
| 4    | GM105805        | Harness, Pedestal, JD 350- 500kW APM603 | 1        |
| 5    | GM105806        | Diagram, Wiring, JD350- 500kW, APM603   | 1        |
| 6    | GM13980         | PCB assy CT burden resistor             | 1        |
| 7    | GM39458         | Sender, High temp                       | 1        |
| 8    | GM66270         | Sensor, Low coolant level               | 1        |
| 9    | GM69565         | Decal, Diagnostic                       | 1        |
| 10   | GM77903         | Bracket, Mtg (diagnostic)               | 1        |
| 11   | GM77909         | Cover, Diagnostic                       | 1        |
| 12   | GM77970         | Harness, Engine 350- 400 kW             | 1        |
| 13   | GM77977         | Harness, Diagnostic                     | 1        |
| 14   | GM78761-1       | Screw, Sheet metal M6 x 1.0 x 16 mm     | 8        |
| 15   | GM88453         | Assy, 4D activator board                | 1        |
| 16   | M7985A-04010-20 | Screw, Pan head machined                | 4        |
| 17   | M933-06016-60   | Screw, Hex cap                          | 2        |
| 18   | X-25-40         | Washer, Plain, .281 ID x .625 in. OD    | 2        |
| 19   | X-67-156        | Screw, Tapping                          | 4        |
| 20   | X-301-34        | Plug, Button                            | 7        |
| 21   | X-301-47        | Plug, Button                            | 10       |
| 22   | X-301-48        | Plug, Button                            | 1        |

# Literature

| Item | Part Number | Description                                            | Quantity         |     |     |     |     |     |     |     |     |     |     |
|------|-------------|--------------------------------------------------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      |             |                                                        | Variation Number |     |     |     |     |     |     |     |     |     |     |
|      |             |                                                        | 452              | 453 | 480 | 495 | 496 | 497 | 570 | 571 | 572 | 573 | 574 |
| 1    | TP-5374     | Warranty 1- Year Limited, Industrial                   | 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   |
| 3    | TP-6140     | O/I/M Cntrlr Setup & Appl, DecMaker550                 | 1                | 1   | 1   | 1   | 1   | 1   |     |     |     |     |     |
| 3    | TP-6200     | O/M 20- 3250 kW, DecMaker550, Ver 2.10+                | 1                | 1   | 1   | 1   | 1   | 1   |     |     |     |     |     |
| 3    | TP-6694     | O/M DEC3000 Controller                                 | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 3    | TP-6747     | O/I/M DPS System Installation and Setup                | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 3    | TP-6750     | O/M DEC 6000 Controller                                | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 4    | TP-6373     | S/M Pilot- Excited PM Altrntr, 350- 3250kW             | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 4    | TP-6356     | S/M Controllers, 20- 3250 kW, Ind.                     | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 5    | TP-6785     | P/C 350/400REOZJ, Ind                                  | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 5    | TP-6746     | P/C DPS System                                         | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 5    | TP-6780     | P/C DEC 550 Controller (J- Box Panel Mt)               | 1                | 1   | 1   | 1   | 1   | 1   |     |     |     |     |     |
| 5    | TP-6781     | P/C DEC 3000 Controller                                | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 6    | TP-6797     | W/D 350- 500REOZJ, Industrial                          | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 7    | TP-6787     | O/M John Deere 6135HF485 Engine                        | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 8    | TP-6371     | S/M JD Alt & Starting Motors, (CTM77)                  | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 8    | TP-6788     | S/M John Deere 6135HF485 Engine                        | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 8    | TP-6789     | S/M John Deere 6135HF485 Engine Electronic Fuel System | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 9    | TP-6786     | P/C John Deere 6135HF485 Engine                        | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 10   | TP-5578     | O/I/S/M Marathon Altnr MmaxDVR (GPN008)                | 1                | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| 11   | TP-7100     | O/M APM603 Controller, JD, Industrial                  |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |
| 12   | TP-7131     | S/M Setup and Commissioning, APM603                    |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |
| 13   | TP-7138     | O/M Maint. Gensets 80- 500kW JD, Ind                   |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |
| 14   | TP-7139     | P/C APM603 Controller, Industrial                      |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |
| 15   | TP-7149     | S/M APM603 Controller, Ind                             |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |
| 16   | TP-7151     | S/M Communication Protocol APM603                      |                  |     |     |     |     |     | 1   | 1   | 1   | 1   | 1   |

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

|                                                                 | 350/400 kW  | 500 kW      |
|-----------------------------------------------------------------|-------------|-------------|
| <b>Controllers</b>                                              |             |             |
| See Group 701: Literature for list of controller parts manuals. |             |             |
| <b>Cooling Systems</b>                                          |             |             |
| Heater, block                                                   |             |             |
| 90- 120 V                                                       | GM75809-KA1 | GM75809-KA1 |
| 190- 208 V                                                      | GM75809-KA2 | GM75809-KA2 |
| 210- 240 V                                                      | GM75809-KA3 | GM75809-KA3 |
| 380- 480 V                                                      | GM75809-KA4 | GM75809-KA4 |
| Duct flange, radiator                                           | GM75810-KA1 | GM75810-KA1 |
|                                                                 | GM85627-KA1 | GM85627-KA1 |
| Remote Radiator Setup                                           | GM78803-MA1 | GM78803-MA2 |
| <b>Electrical Accessories</b>                                   |             |             |
| Battery, 2/12 V, 950CCA, Wet                                    | 324588      | 324588      |

# Cooling System Kits

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

|                                          |                                           |                    |
|------------------------------------------|-------------------------------------------|--------------------|
| <b>Block Heater, 2500W, 90/120V, 1Ph</b> |                                           | <b>GM75809-KA1</b> |
| 1                                        | Heater, Block                             | GM76113            |
|                                          | 1 Block Heater Service Element 120V/2500W | GM29477            |
| 1                                        | Tag, hang                                 | 279047             |
| 2                                        | Valve, Shutoff (3/4-14npt)                | GM19666            |
| 1                                        | Tag, Hang                                 | GM39752            |
| 1                                        | Bracket, Block Heater                     | GM51263            |
| 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        |
| 4                                        | Nut, Hex 6mm                              | M6923-06-80        |
| 1                                        | Nut, Hex 8mm                              | M6923-08-80        |
| 4                                        | Screw, Hex Cap                            | M933-06025-60      |
| 1                                        | Screw, Hex Cap                            | M933-08025-60      |
| 2                                        | Screw, hex cap,fully thrd M10 x 25mm      | M933-10025-60      |
| 3                                        | Pipe, Nipple (3/4" npt x 1.38")           | X-206-9            |
| 1                                        | Pipe (3/4"npt x 3.50")                    | X-206-6            |
| 4                                        | Washer, Plain                             | M125A-06-80        |
| 4                                        | Clamp, hose, .69/1.25 in.                 | X-426-12           |
| 2                                        | Connector, hose + Vibra Seal              | X-582-8            |
| 1                                        | Hose, Coolant 44"                         | X-6367-1           |
| 1                                        | Clamp, insulated, 1.25 in.                | X-672-20           |
| 1                                        | Hose, Coolant 65"                         | X-6367-9           |
| 2                                        | Elbow, pipe (90 deg x 3/4"npt)            | X-215-2            |

|                                            |                                           |                    |
|--------------------------------------------|-------------------------------------------|--------------------|
| <b>Block Heater, 2500W, 190/208V, 1 Ph</b> |                                           | <b>GM75809-KA2</b> |
| 1                                          | Heater, Block                             | GM76114            |
|                                            | 1 Block Heater Service Element 208V/2500W | GM29478            |
| 1                                          | Tag, hang                                 | 279047             |
| 2                                          | Valve, Shutoff (3/4-14npt)                | GM19666            |
| 1                                          | Tag, Hang                                 | GM39752            |
| 1                                          | Bracket, Block Heater                     | GM51263            |
| 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        |
| 4                                          | Nut, Hex 6mm                              | M6923-06-80        |
| 1                                          | Nut, Hex 8mm                              | M6923-08-80        |
| 4                                          | Screw, Hex Cap                            | M933-06025-60      |
| 1                                          | Screw, Hex Cap                            | M933-08025-60      |
| 2                                          | Screw, hex cap,fully thrd M10 x 25mm      | M933-10025-60      |
| 3                                          | Pipe, Nipple (3/4" npt x 1.38")           | X-206-9            |
| 1                                          | Pipe (3/4"npt x 3.50")                    | X-206-6            |
| 4                                          | Washer, Plain                             | M125A-06-80        |
| 4                                          | Clamp, hose, .69/1.25 in.                 | X-426-12           |
| 2                                          | Connector, hose + Vibra Seal              | X-582-8            |
| 1                                          | Hose, Coolant 44"                         | X-6367-1           |
| 1                                          | Clamp, insulated, 1.25 in.                | X-672-20           |
| 1                                          | Hose, Coolant 65"                         | X-6367-9           |
| 2                                          | Elbow, pipe (90 deg x 3/4"npt)            | X-215-2            |

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

|                                           |                                           |                    |
|-------------------------------------------|-------------------------------------------|--------------------|
| <b>Block Heater, 2500W, 210/240V, 1Ph</b> |                                           | <b>GM75809-KA3</b> |
| 1                                         | Heater, Block                             | GM76115            |
|                                           | 1 Block Heater Service Element 240V/2500W | GM29474            |
| 1                                         | Tag, hang                                 | 279047             |
| 2                                         | Valve, Shutoff (3/4-14npt)                | GM19666            |
| 1                                         | Tag, Hang                                 | GM39752            |
| 1                                         | Bracket, Block Heater                     | GM51263            |
| 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        |
| 4                                         | Nut, Hex 6mm                              | M6923-06-80        |
| 1                                         | Nut, Hex 8mm                              | M6923-08-80        |
| 4                                         | Screw, Hex Cap                            | M933-06025-60      |
| 1                                         | Screw, Hex Cap                            | M933-08025-60      |
| 2                                         | Screw, hex cap,fully thrd M10 x 25mm      | M933-10025-60      |
| 3                                         | Pipe, Nipple (3/4" npt x 1.38")           | X-206-9            |
| 1                                         | Pipe (3/4"npt x 3.50")                    | X-206-6            |
| 4                                         | Washer, Plain                             | M125A-06-80        |
| 4                                         | Clamp, hose, .69/1.25 in.                 | X-426-12           |
| 2                                         | Connector, hose + Vibra Seal              | X-582-8            |
| 1                                         | Hose, Coolant 44"                         | X-6367-1           |
| 1                                         | Clamp, insulated, 1.25 in.                | X-672-20           |
| 1                                         | Hose, Coolant 65"                         | X-6367-9           |
| 2                                         | Elbow, pipe (90 deg x 3/4"npt)            | X-215-2            |

|                                           |                                           |                    |
|-------------------------------------------|-------------------------------------------|--------------------|
| <b>Block Heater, 2500W, 380/480V, 1Ph</b> |                                           | <b>GM75809-KA4</b> |
| 1                                         | Heater, Block                             | GM76116            |
|                                           | 1 Block Heater Service Element 480V/2500W | GM29479            |
| 1                                         | Tag, hang                                 | 279047             |
| 2                                         | Valve, Shutoff (3/4-14npt)                | GM19666            |
| 1                                         | Tag, Hang                                 | GM39752            |
| 1                                         | Bracket, Block Heater                     | GM51263            |
| 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        |
| 4                                         | Nut, Hex 6mm                              | M6923-06-80        |
| 1                                         | Nut, Hex 8mm                              | M6923-08-80        |
| 4                                         | Screw, Hex Cap                            | M933-06025-60      |
| 1                                         | Screw, Hex Cap                            | M933-08025-60      |
| 2                                         | Screw, hex cap,fully thrd M10 x 25mm      | M933-10025-60      |
| 3                                         | Pipe, Nipple (3/4" npt x 1.38")           | X-206-9            |
| 1                                         | Pipe (3/4"npt x 3.50")                    | X-206-6            |
| 4                                         | Washer, Plain                             | M125A-06-80        |
| 4                                         | Clamp, hose, .69/1.25 in.                 | X-426-12           |
| 2                                         | Connector, hose + Vibra Seal              | X-582-8            |
| 1                                         | Hose, Coolant 44"                         | X-6367-1           |
| 1                                         | Clamp, insulated, 1.25 in.                | X-672-20           |
| 1                                         | Hose, Coolant 65"                         | X-6367-9           |
| 2                                         | Elbow, pipe (90 deg x 3/4"npt)            | X-215-2            |

# Cooling System Kits

| Qty.                         | Description                  | Part No. |
|------------------------------|------------------------------|----------|
| <b>Duct Flange, Radiator</b> |                              |          |
| 2                            | Frame, Air Duct (Vertical)   | GM70150  |
| 2                            | Frame, Air Duct (Horizontal) | GM70151  |
| <b>Duct Flange, Radiator</b> |                              |          |
| 2                            | Frame, Air Duct (Vertical)   | GM85625  |
| 2                            | Frame, Air Duct (Horizontal) | GM85626  |

| Qty.                         | Description                              | Part No.        |
|------------------------------|------------------------------------------|-----------------|
| <b>Remote Radiator Setup</b> |                                          |                 |
| 1                            | Tube, Turbo CAC                          | GM77295         |
| 1                            | Gasket, CAC Graphite                     | GM77635         |
| 1                            | Clamp, Exhaust (5.25 in.)                | GM77638         |
| 1                            | Bracket, Support                         | 365237          |
| 1                            | Hose, Radiator (Upper)                   | GM39269         |
| 1                            | Bracket, Belt Guard                      | GM64267         |
| 1                            | Hose, Radiator Lower                     | GM77293         |
| 1                            | Tube, Intake                             | GM77294         |
| 1                            | Guard, Belt (RH)                         | GM77297         |
| 1                            | Guard, Belt (LH)                         | GM77298         |
| 1                            | Guard, Belt (Top)                        | GM77299         |
| 1                            | Guard, Belt (Bottom)                     | GM77300         |
| 2                            | Bracket, Belt Guard Mtg                  | GM77301         |
| 2                            | Clamp, Hose, 4.13/4.44                   | GM78800         |
| 1                            | Guard, Pulley Cover                      | GM78805         |
| 1                            | Guard, Belt                              | GM79503         |
| 1                            | Washer, Plain 10.5 Id X 20.0 OD          | M125A-10-80     |
| 4                            | Washer, Plain                            | M125A-16-80     |
| 18                           | Screw, Hex Flnge M6x16mm Fily Thrd Js500 | M6921-06016-60  |
| 1                            | Nut, Hex 10mm                            | M6923-10-80     |
| 16                           | Screw, Metric Thread Forming 12mm        | M7500D-06012-81 |
| 1                            | Screw, Hex Cap, Fully Thrd M10 X 25mm    | M933-10025-60   |
| 4                            | Screw, Hex Cap                           | M933-16040-60   |
| 2                            | Clamp, hose, .69/1.25 in.                | X-426-12        |
| 1                            | Hose, Radiator Wire Inset 4.00 ID        | X-6014-91       |
| 1                            | Connector, Hose + Vibra Seal 6.4         | X-652-3         |

|                              |                                          |                 |                    |
|------------------------------|------------------------------------------|-----------------|--------------------|
| <b>Remote Radiator Setup</b> |                                          |                 | <b>GM78803-MA2</b> |
| 1                            | Clamp, muffler, 3.12 in.                 |                 | 286283             |
| 2                            | Clamp, Hose, 3.06/3.38 in.               |                 | 343175             |
| 1                            | Tube, Turbo CAC                          |                 | GM78799            |
| 1                            | Bracket, CAC Tube                        |                 | GM84770            |
| 1                            | Hose, Charged Air Cooler                 |                 | GM85118            |
| 1                            | Bracket, Support                         |                 | 365237             |
| 1                            | Hose, Radiator (Upper)                   |                 | GM39269            |
| 1                            | Bracket, Belt Guard                      |                 | GM64267            |
| 1                            | Hose, Radiator Lower                     |                 | GM77293            |
| 1                            | Tube, Intake                             |                 | GM77294            |
| 1                            | Guard, Belt (RH)                         |                 | GM77297            |
| 1                            | Guard, Belt (LH)                         |                 | GM77298            |
| 1                            | Guard, Belt (Top)                        |                 | GM77299            |
| 1                            | Guard, Belt (Bottom)                     |                 | GM77300            |
| 2                            | Bracket, Belt Guard Mtg                  |                 | GM77301            |
| 2                            | Clamp, Hose, 4.13/4.44                   |                 | GM78800            |
| 1                            | Guard, Pulley Cover                      |                 | GM78805            |
| 1                            | Guard, Belt                              |                 | GM79503            |
| 1                            | Washer, Plain 10.5 Id X 20.0 OD          |                 | M125A-10-80        |
| 4                            | Washer, Plain                            |                 | M125A-16-80        |
| 18                           | Screw, Hex Flnge M6x16mm Fily Thrd Js500 | M6921-06016-60  |                    |
| 1                            | Nut, Hex 10mm                            | M6923-10-80     |                    |
| 16                           | Screw, Metric Thread Forming 12mm        | M7500D-06012-81 |                    |
| 1                            | Screw, Hex Cap, Fully Thrd M10 X 25mm    | M933-10025-60   |                    |
| 4                            | Screw, Hex Cap                           | M933-16040-60   |                    |
| 2                            | Clamp, hose, .69/1.25 in.                | X-426-12        |                    |
| 1                            | Hose, Radiator Wire Inset 4.00 ID        | X-6014-91       |                    |
| 1                            | Connector, Hose + Vibra Seal 6.4         | X-652-3         |                    |

# Electrical Accessories

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

|                                     |                                          |               |
|-------------------------------------|------------------------------------------|---------------|
| <b>Battery, 2/12 V, 950CCA, Wet</b> |                                          | <b>324588</b> |
| 1                                   | 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                                                                                     | CG       | center of gravity                                                                    | etc.                 | et cetera (and so forth)                             |
| ABDC      | after bottom dead center                                                                   | CID      | cubic inch displacement                                                              | exh.                 | exhaust                                              |
| AC        | alternating current                                                                        | CL       | centerline                                                                           | ext.                 | external                                             |
| A/D       | analog to digital                                                                          | cm       | centimeter                                                                           | F                    | Fahrenheit, female                                   |
| ADC       | advanced digital control;<br>analog to digital converter                                   | CMOS     | complementary metal oxide<br>substrate (semiconductor)                               | fglass.              | fiberglass                                           |
| adj.      | adjust, adjustment                                                                         | cogen.   | cogeneration                                                                         | FHM                  | flat head machine (screw)                            |
| ADV       | advertising dimensional<br>drawing                                                         | com      | communications (port)                                                                | fl. oz.              | fluid ounce                                          |
| Ah        | amp-hour                                                                                   | coml     | commercial                                                                           | flex.                | flexible                                             |
| AHWT      | anticipatory high water<br>temperature                                                     | Coml/Rec | Commercial/Recreational                                                              | freq.                | frequency                                            |
| AISI      | American Iron and Steel<br>Institute                                                       | conn.    | connection                                                                           | FS                   | full scale                                           |
| ALOP      | anticipatory low oil pressure                                                              | cont.    | continued                                                                            | ft.                  | foot, feet                                           |
| alt.      | alternator                                                                                 | CPVC     | chlorinated polyvinyl chloride                                                       | ft. lb.              | foot pounds (torque)                                 |
| Al        | aluminum                                                                                   | crit.    | critical                                                                             | ft./min.             | feet per minute                                      |
| ANSI      | American National Standards<br>Institute (formerly American<br>Standards Association, ASA) | CRT      | cathode ray tube                                                                     | ftp                  | file transfer protocol                               |
| AO        | anticipatory only                                                                          | CSA      | Canadian Standards<br>Association                                                    | g                    | gram                                                 |
| APDC      | Air Pollution Control District                                                             | CT       | current transformer                                                                  | ga.                  | gauge (meters, wire size)                            |
| API       | American Petroleum Institute                                                               | Cu       | copper                                                                               | gal.                 | gallon                                               |
| approx.   | approximate, approximately                                                                 | cUL      | Canadian Underwriter's<br>Laboratories                                               | gen.                 | generator                                            |
| AQMD      | Air Quality Management District                                                            | CUL      | Canadian Underwriter's<br>Laboratories                                               | genset               | generator set                                        |
| AR        | as required, as requested                                                                  | cu. in.  | cubic inch                                                                           | GFI                  | ground fault interrupter                             |
| AS        | as supplied, as stated, as<br>suggested                                                    | cw.      | clockwise                                                                            | GND, ⊕               | ground                                               |
| ASE       | American Society of Engineers                                                              | CWC      | city water-cooled                                                                    | gov.                 | governor                                             |
| ASME      | American Society of<br>Mechanical Engineers                                                | cyl.     | cylinder                                                                             | gph                  | gallons per hour                                     |
| assy.     | assembly                                                                                   | D/A      | digital to analog                                                                    | gpm                  | gallons per minute                                   |
| ASTM      | American Society for Testing<br>Materials                                                  | DAC      | digital to analog converter                                                          | gr.                  | grade, gross                                         |
| ATDC      | after top dead center                                                                      | dB       | decibel                                                                              | GRD                  | equipment ground                                     |
| ATS       | automatic transfer switch                                                                  | dB(A)    | decibel (A weighted)                                                                 | gr. wt.              | gross weight                                         |
| auto.     | automatic                                                                                  | DC       | direct current                                                                       | H x W x D            | height by width by depth                             |
| aux.      | auxiliary                                                                                  | DCR      | direct current resistance                                                            | HC                   | hex cap                                              |
| avg.      | average                                                                                    | deg., °  | degree                                                                               | HCHT                 | high cylinder head temperature                       |
| AVR       | automatic voltage regulator                                                                | dept.    | department                                                                           | HD                   | heavy duty                                           |
| AWG       | American Wire Gauge                                                                        | DFMEA    | Design Failure Mode and<br>Effects Analysis                                          | HET                  | high exhaust temp., high<br>engine temp.             |
| AWM       | appliance wiring material                                                                  | dia.     | diameter                                                                             | hex                  | hexagon                                              |
| bat.      | battery                                                                                    | DI/EO    | dual inlet/end outlet                                                                | Hg                   | mercury (element)                                    |
| BBDC      | before bottom dead center                                                                  | DIN      | Deutsches Institut für Normung<br>e. V. (also Deutsche Industrie<br>Normenausschuss) | HH                   | hex head                                             |
| BC        | battery charger, battery<br>charging                                                       | DIP      | dual inline package                                                                  | HHC                  | hex head cap                                         |
| BCA       | battery charging alternator                                                                | DPDT     | double-pole, double-throw                                                            | HP                   | horsepower                                           |
| BCI       | Battery Council International                                                              | DPST     | double-pole, single-throw                                                            | hr.                  | hour                                                 |
| BDC       | before dead center                                                                         | DS       | disconnect switch                                                                    | HS                   | heat shrink                                          |
| BHP       | brake horsepower                                                                           | DVR      | digital voltage regulator                                                            | hsg.                 | housing                                              |
| blk.      | black (paint color), block<br>(engine)                                                     | E, emer. | emergency (power source)                                                             | HVAC                 | heating, ventilation, and air<br>conditioning        |
| blk. htr. | block heater                                                                               | ECM      | electronic control module,<br>engine control module                                  | HWT                  | high water temperature                               |
| BMEP      | brake mean effective pressure                                                              | EDI      | electronic data interchange                                                          | Hz                   | hertz (cycles per second)                            |
| bps       | bits per second                                                                            | EFR      | emergency frequency relay                                                            | IC                   | integrated circuit                                   |
| br.       | brass                                                                                      | e.g.     | for example ( <i>exempli gratia</i> )                                                | ID                   | inside diameter, identification                      |
| BTDC      | before top dead center                                                                     | EG       | electronic governor                                                                  | IEC                  | International Electrotechnical<br>Commission         |
| Btu       | British thermal unit                                                                       | EGSA     | Electrical Generating Systems<br>Association                                         | IEEE                 | Institute of Electrical and<br>Electronics Engineers |
| Btu/min.  | British thermal units per minute                                                           | EIA      | Electronic Industries<br>Association                                                 | IMS                  | improved motor starting                              |
| C         | Celsius, centigrade                                                                        | EI/EO    | end inlet/end outlet                                                                 | in.                  | inch                                                 |
| cal.      | calorie                                                                                    | EMI      | electromagnetic interference                                                         | in. H <sub>2</sub> O | inches of water                                      |
| CAN       | controller area network                                                                    | emiss.   | emission                                                                             | in. Hg               | inches of mercury                                    |
| CARB      | California Air Resources Board                                                             | eng.     | engine                                                                               | in. lb.              | inch pounds                                          |
| CB        | circuit breaker                                                                            | EPA      | Environmental Protection<br>Agency                                                   | Inc.                 | incorporated                                         |
| cc        | cubic centimeter                                                                           | EPS      | emergency power system                                                               | ind.                 | industrial                                           |
| CCA       | cold cranking amps                                                                         | ER       | emergency relay                                                                      | int.                 | internal                                             |
| ccw.      | counterclockwise                                                                           | ES       | engineering special,<br>engineered special                                           | int./ext.            | internal/external                                    |
| CEC       | Canadian Electrical Code                                                                   | ESD      | electrostatic discharge                                                              | I/O                  | input/output                                         |
| cert.     | certificate, certification, certified                                                      | est.     | estimated                                                                            | IP                   | iron pipe                                            |
| cfh       | cubic feet per hour                                                                        | E-Stop   | emergency stop                                                                       | ISO                  | International Organization for<br>Standardization    |
| cfm       | cubic feet per minute                                                                      |          |                                                                                      | J                    | joule                                                |
|           |                                                                                            |          |                                                                                      | JIS                  | Japanese Industry Standard                           |
|           |                                                                                            |          |                                                                                      | k                    | kilo (1000)                                          |
|           |                                                                                            |          |                                                                                      | K                    | kelvin                                               |
|           |                                                                                            |          |                                                                                      | kA                   | kiloampere                                           |

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

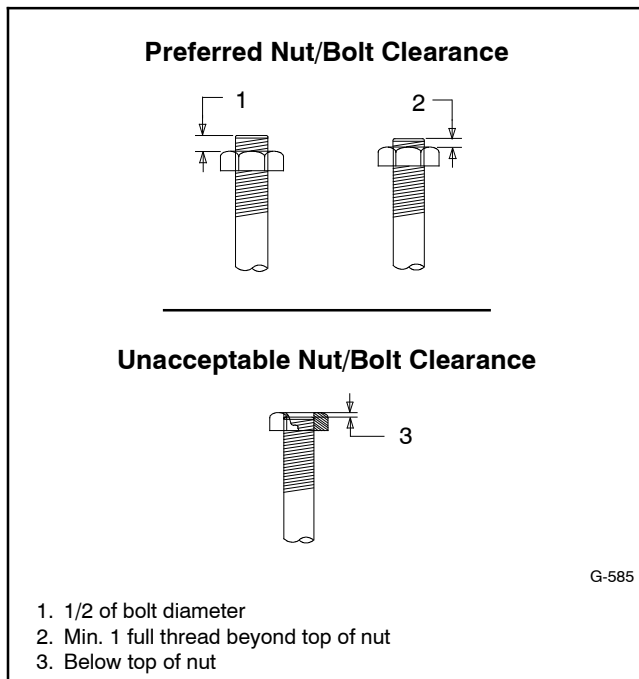
## Appendix B Common Hardware Application Guidelines

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.



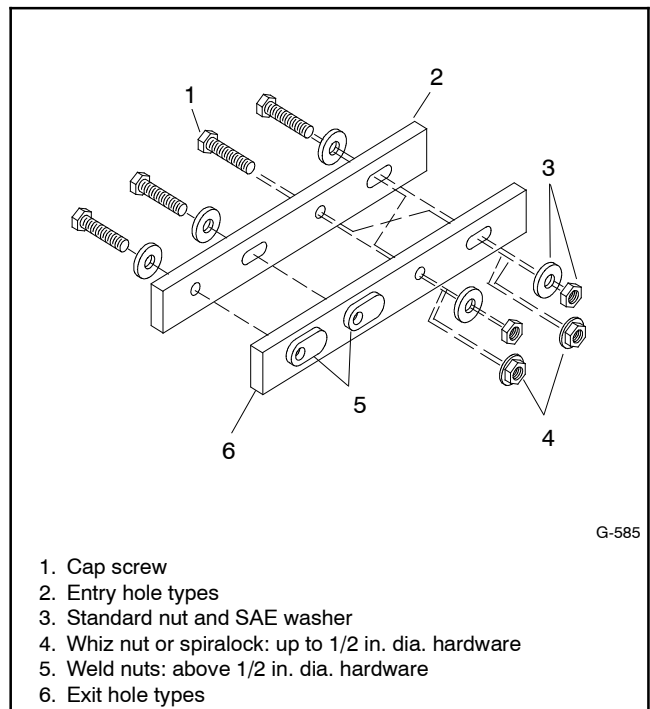
**Figure 1** Acceptable Bolt Lengths

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

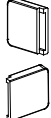
### Notes:

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 |  |

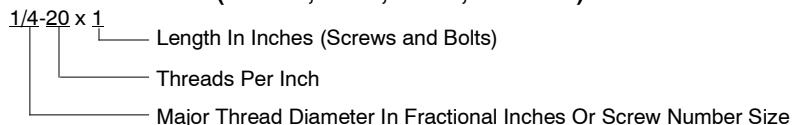
| Hardness Grades                             |                                                                                     |
|---------------------------------------------|-------------------------------------------------------------------------------------|
| American Standard                           |                                                                                     |
| 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.

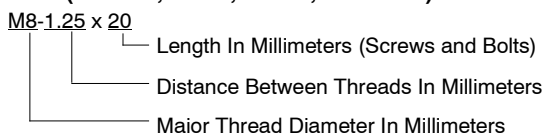
Phillips® screw is a registered trademark of Phillips Screw Company.

## Sample Dimensions

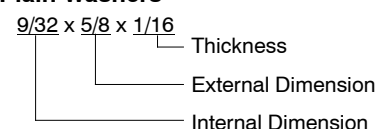
### American Standard (Screws, Bolts, Studs, and Nuts)



### 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/<br>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         |
|-----------------|------------|--------------|
| <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    | 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/<br>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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