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**INSTALLATION INSTRUCTIONS**


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Original Issue Date: **8/00**  
 Model: **5EOZ/4EFOZ**  
 Market: **Marine**  
 Subject: **Sound Shield Kit GM13540-KP1**

**Introduction**

The sound shield quiets operation of generator sets used in marine applications. When installing the sound shield, follow the installation procedure and observe the safety precautions listed below.


Read the entire installation procedure before beginning installation. Perform the steps in the order shown.

<b>⚠ WARNING</b>

<p><b>Fire.</b>  <b>Can cause severe injury or death.</b></p> <p>Do not smoke or permit flames or sparks near fuels or the fuel system.</p>

**Safety Precautions**

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**⚠ WARNING**




**Accidental starting.**  
**Can cause severe injury or death.**

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

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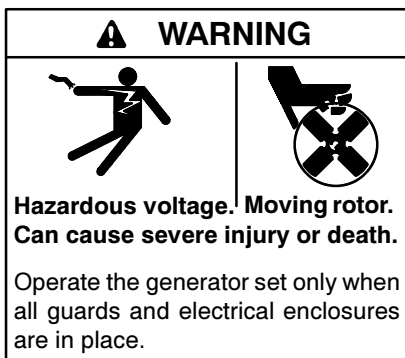
**Servicing the fuel system. A flash fire can cause severe injury or death.** Do not smoke or permit flames or sparks near the carburetor, fuel line, fuel filter, fuel pump, or other potential sources of spilled fuels or fuel vapors. Catch fuels in an approved container when removing the fuel line or carburetor.

<b>⚠ WARNING</b>

<p><b>Carbon monoxide.</b>  <b>Can cause severe nausea, fainting, or death.</b></p> <p>The exhaust system must be leakproof and routinely inspected.</p>

**Disabling the generator set. Accidental starting can cause severe injury or death.** Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Disconnect the power to the battery charger, if equipped. (2) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

**Operating the generator set. Carbon monoxide can cause severe nausea, fainting, or death.**

Carbon monoxide is an odorless, colorless, tasteless, nonirritating gas that can cause death if inhaled for even a short time. Use the following precautions when installing and operating the generator set. Do not install the exhaust outlet where exhaust can be drawn in through portholes, vents, or air conditioners. If the generator set exhaust discharge outlet is near the waterline, water could enter the exhaust discharge outlet and close or restrict the flow of exhaust. Never operate the generator set without a functioning carbon monoxide detector. Be especially careful if operating the generator set when moored or anchored under calm conditions because gases may accumulate. If operating the generator set dockside, moor the craft so that the exhaust discharges on the lee side (the side sheltered from the wind). Always be aware of others, making sure your exhaust is directed away from other boats and buildings. Avoid overloading the craft.



**Short circuits. Hazardous voltage/current can cause severe injury or death.** Short circuits can cause bodily injury and/or equipment damage. Do not contact electrical connections with tools or jewelry while making adjustments or repairs. Remove wristwatch, rings, and jewelry before servicing the equipment.

## Installation Procedure

See Figure 4 and Figure 5 for the installed kit illustration. Refer to the generator set operation or service manual for items not shown.

**Note:** Apply pipe sealant to the male threads of all pipe fittings before installation.

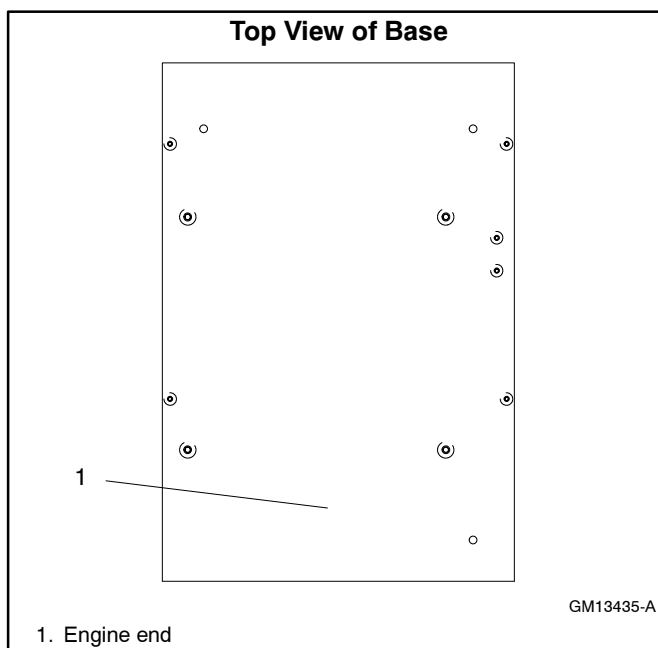
### 1 Remove the Generator Set from Service.

- 1.1 Place the generator set start/stop switch in the STOP position.
- 1.2 Disconnect the generator set engine starting battery, the negative (-) lead first.
- 1.3 Remove the controller cover and disconnect the following:

- 22-pin connector (P4)

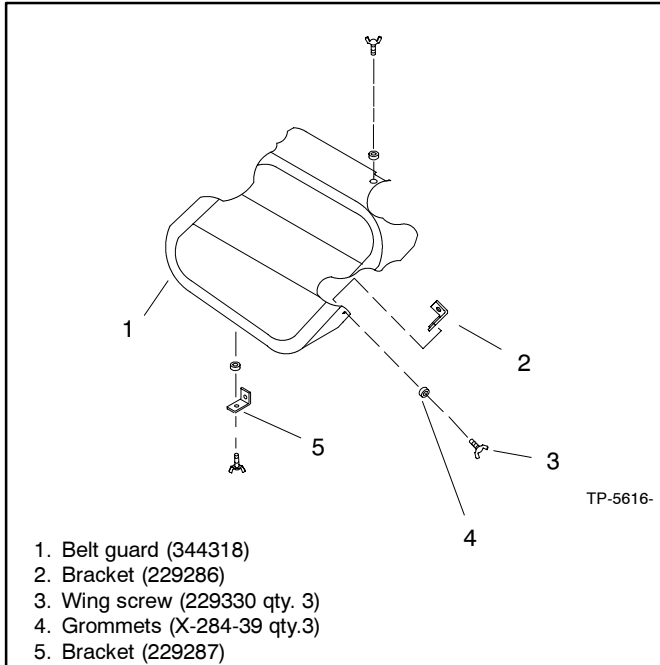
**Note:** Output leads can be connected in various positions for different volt configurations. Mark leads 1, 2, 3, and 4 for reconnection.

- Generator output leads 1, 2, 3, and 4
  - Neutral stud (L0)
  - Ground strap by removing the bolt
- 1.4 Position the generator set onto the sound shield base (GM13435) and secure the set with 4 screws (X-6238-2) and 4 washers (X-25-37). See Figure 1 and Figure 5, items 12 and 15.



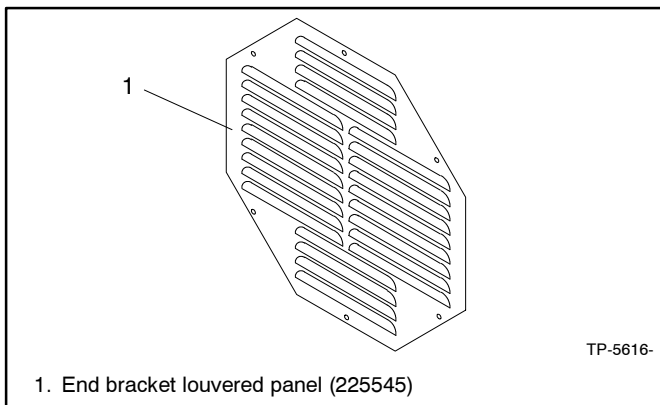
**Figure 1** Sound Shield Base Mounting Position

- 1.5 Remove the belt guard (344318), brackets (229286 and 229287), grommets (X-284-39 qty. 3), and wing screws (229330 qty. 3). See Figure 2.



**Figure 2** Belt Guard Components

- 1.6 Remove the controller. Save the mounting hardware to remount the controller onto the roof of the sound shield. Discard the 4 controller mounts.
- 1.7 Remove the end bracket louvered panel (225545). See Figure 3. Save the mounting hardware and louvered panel.



**Figure 3** End Bracket Louvered Panel

## 2 Install the End Bracket Duct.

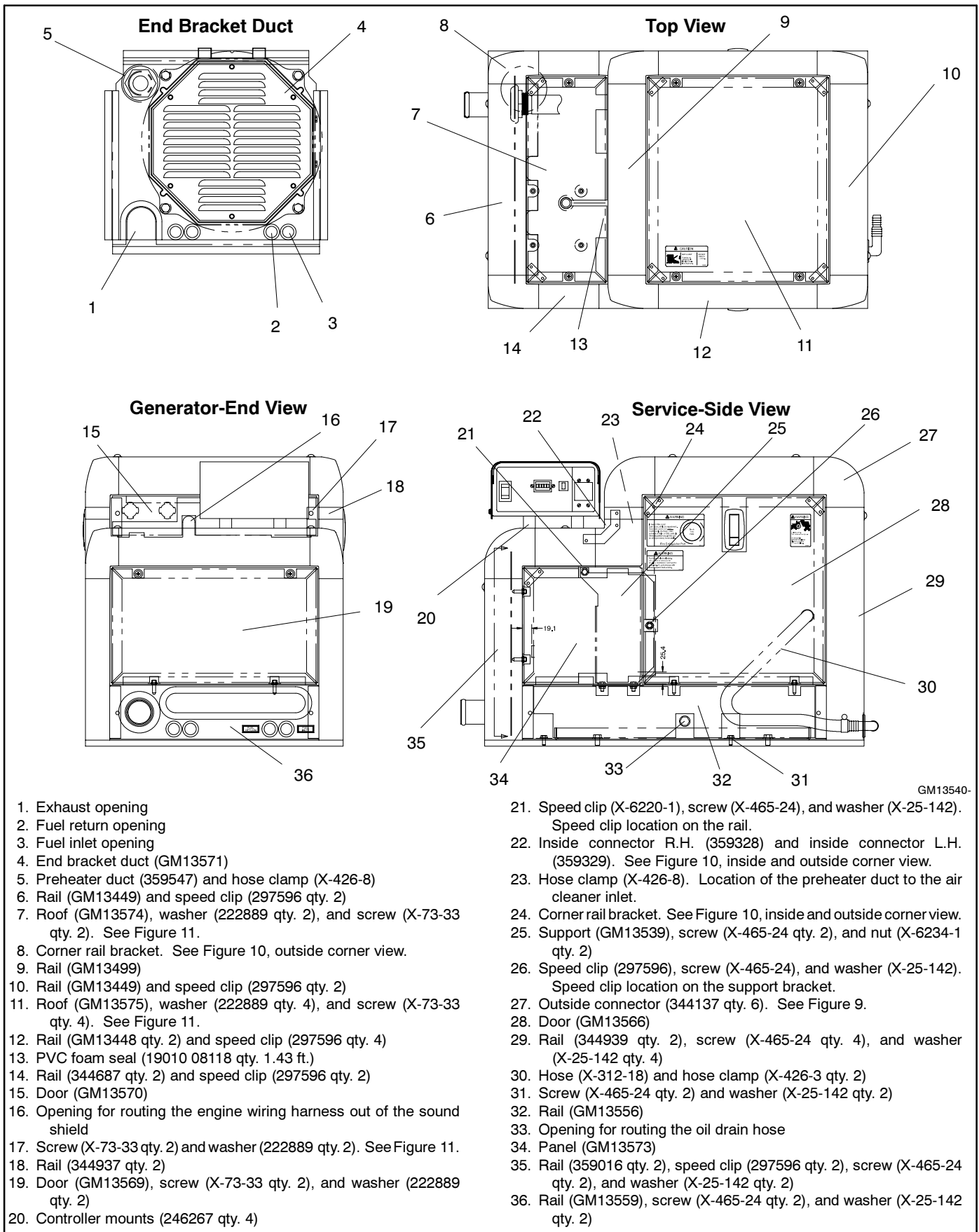
- 2.1 Position the end bracket duct (GM13571) onto the end bracket. See Figure 4, item 4.
- 2.2 Position the preheater duct (359547) onto the hose connector on the end bracket duct (GM13571) at the position shown in Figure 4, item 5. Secure the preheater duct with a hose clamp (X-426-8).
- 2.3 Route the preheater duct to the air cleaner inlet and secure the preheater duct with a hose clamp (X-426-8). See Figure 4, item 23.
- 2.4 Place the end bracket louvered panel onto the end bracket duct using the existing hardware to secure.

## 3 Connect the Exhaust.

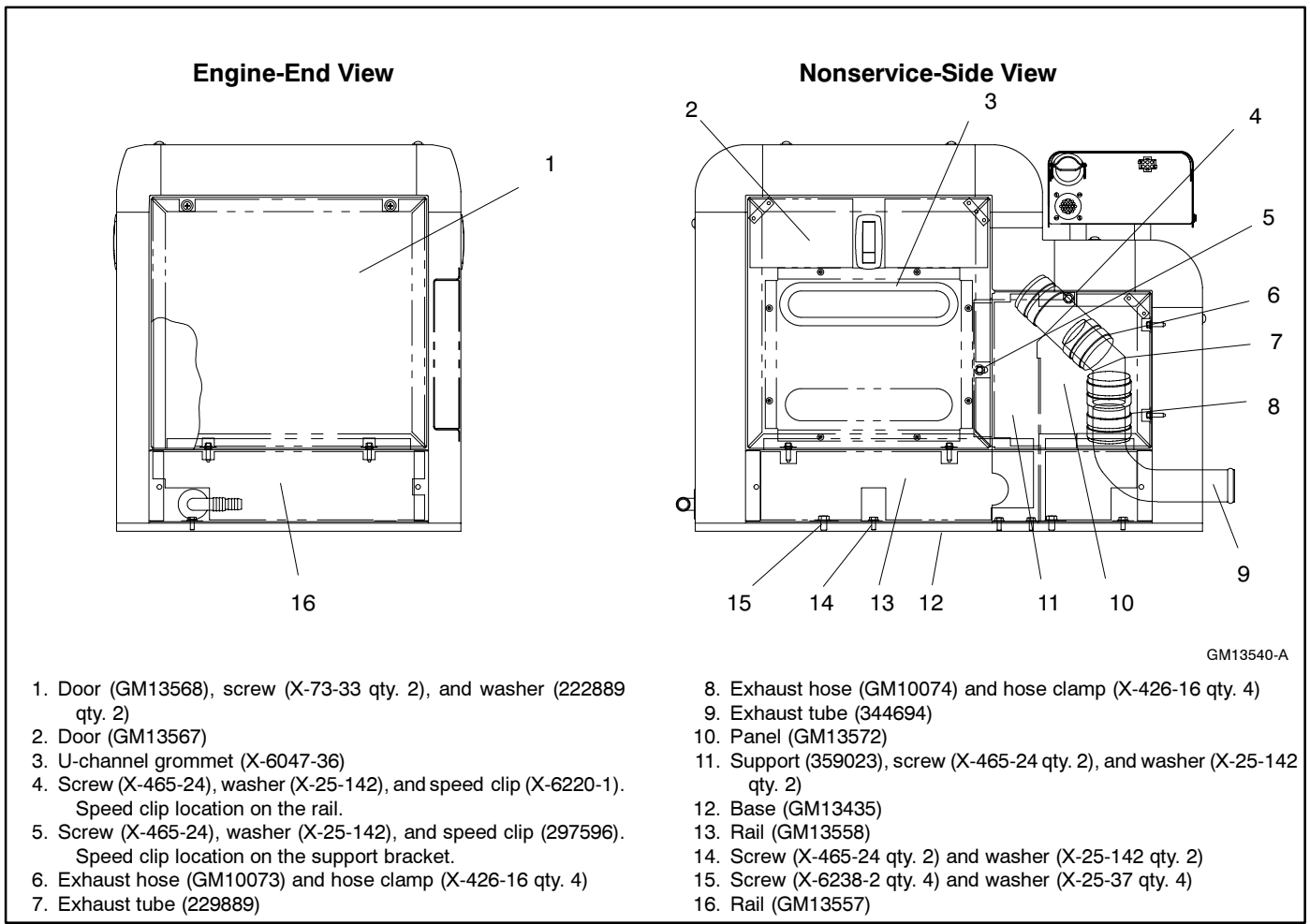
- 3.1 Connect the exhaust hose (GM10073) to the exhaust elbow, securing the hose with 2 hose clamps (X-426-16). See Figure 5, item 6.
- 3.2 Connect the exhaust tube (229889) to the exhaust hose installed in step 3.1. Secure the tube with 2 hose clamps (X-426-16). See Figure 5, item 7.
- 3.3 Connect the exhaust hose (GM10074) to the exhaust tube. Secure the hose with 2 hose clamps (X-426-16). See Figure 5, item 8.
- 3.4 Connect the exhaust tube (344694) to the exhaust hose installed in step 3.3 and secure the tube with 2 hose clamps (X-426-16). See Figure 5, item 9.
- 3.5 Route the exhaust tube outlet through the opening in the end bracket duct. See Figure 4, item 1.

## 4 Connect the Fuel Lines.

- 4.1 Route the fuel inlet line through the end bracket duct's right hole. See Figure 4, item 3.
- 4.2 Route the fuel return line through the end bracket duct's left hole. See Figure 4, item 2.



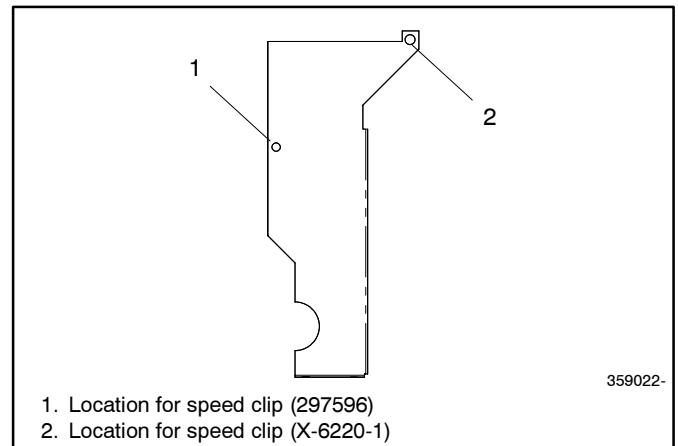
**Figure 4** Sound Shield



**Figure 5** Sound Shield

## 5 Install the Nonservice-Side Support.

- 5.1 Attach the sound shield support (359023) to the base (nonservice side of unit) using 2 screws (X-465-24) and 2 washers (X-25-142). See Figure 5, item 11 and Figure 6.
- 5.2 Place a speed clip (297596) on the support (359023). See Figure 5, item 5 and Figure 6, item 1.
- 5.3 Place a speed clip (X-6220-1) on the support (359023). See Figure 5, item 4 and Figure 6, item 2.



**Figure 6** Nonservice-Side Support Identification

## 6 Connect the Seawater Pump.

Connect the hose (X-312-18) to the seawater pump inlet. Secure the hose with a hose clamp (X-426-3). See Figure 4, item 30.

## 7 Install the Rails.

7.1 Attach the rails (GM13556, GM13558, and GM13559) to the base. See Figure 7 for rail identification. Use 6 screws (X-465-24) and 6 washers (X-25-142) to secure the rails.

7.2 Route the existing oil drain hose to the hose connector in the rail (GM13556). Cut the hose to fit. See Figure 4, item 33.

7.3 Route the exhaust tube, fuel inlet line, fuel return line, and battery cables through the openings in the rail (GM13559). See Figure 4, item 36.

**Note:** The exhaust tube should protrude from the back of the sound enclosure by approx. 51 mm (2 in.).

7.4 Install the 2 rails (359016) on the corners of the rail (GM13559) on the generator end. Use the speed clips (297596 qty. 2), screws (X-465-24 qty. 2), and washers (X-25-142 qty. 2) to secure the rails. See Figure 4, item 35.

7.5 Position the engine-end rail (GM13557) on the base. This rail (GM13557) attaches to the extruded rails installed in step 7.7.

7.6 Route the seawater pump hose to the connector in the rail (GM13557) securing the hose with a hose clamp (X-426-3). See Figure 5, item 16.

7.7 Install the 2 rails (344939) on the corners of the rail (GM13557) on the engine end. Use screws (X-465-24 qty. 4) and washers (X-25-142 qty. 4) to secure the rails. See Figure 4, item 29.

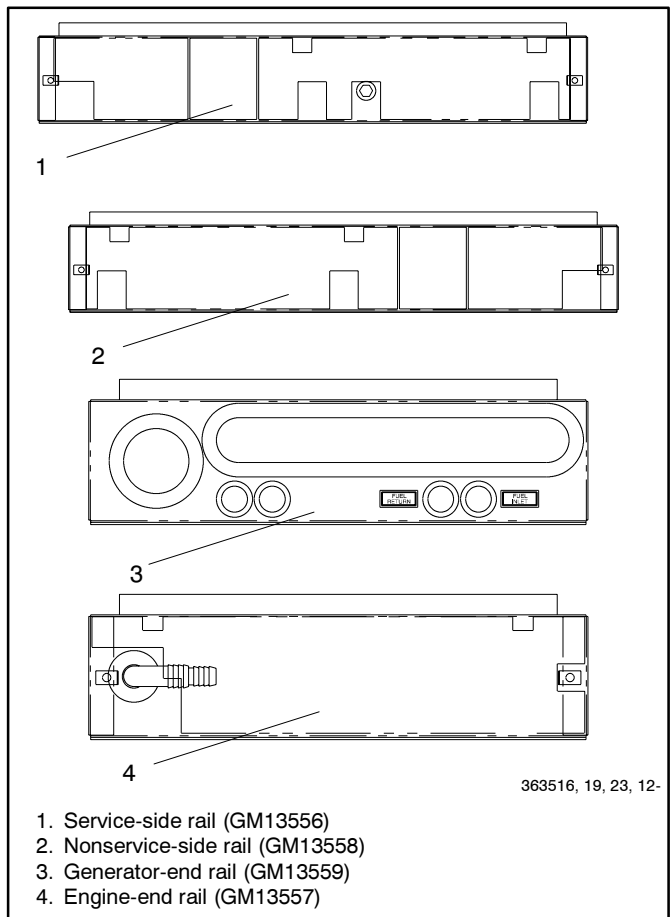


Figure 7 Rail Identification

## 8 Install the Service-Side Support.

8.1 Attach the sound shield support (GM13539) to the service-side rail (GM13556) using 2 screws (X-465-24) and 2 nuts (X-6234-1). See Figure 4, item 25 and Figure 8.

8.2 Place a speed clip (297596) on the support (GM13539). See Figure 4, item 26 and Figure 8, item 2.

8.3 Place a speed clip (X-6220-1) on the support (GM13539). See Figure 4, item 21 and Figure 8, item 1.

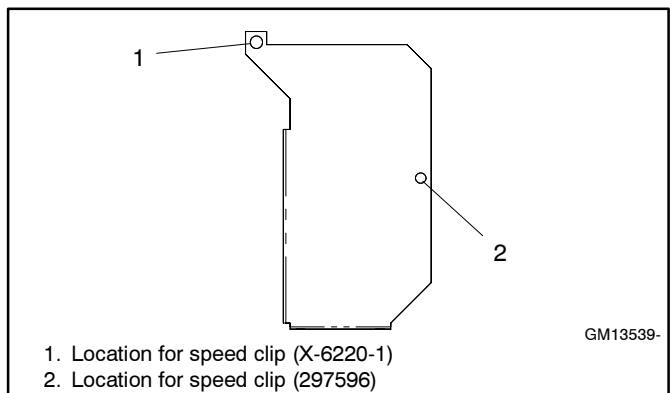


Figure 8 Service-Side Support Identification

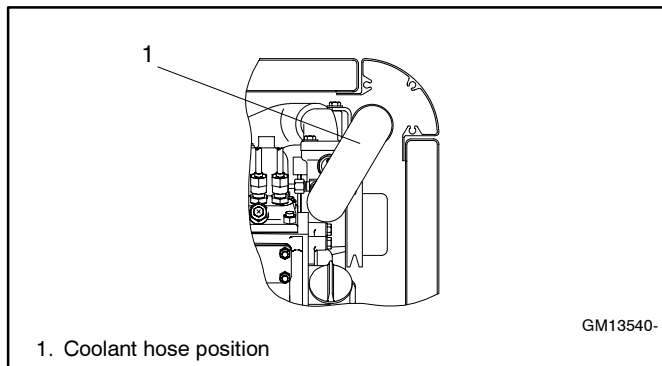
## 9 Install the Rails and Corner Connectors.

9.1 Construct the remaining framework of the sound shield. See Figure 11 for speed clip position.

- Rail (GM13449) and speed clips (297596 qty. 2). See Figure 4, item 10.
- Rail (GM13499). See Figure 4, item 9.
- Rail (GM13449) and speed clips (297596 qty. 2). Locate the notches in the rail to clear the top bosses on the end bracket. See Figure 4, item 6.
- Rails (GM13448 qty. 2) and speed clips (297596 qty. 4). See Figure 4, item 12.
- Rails (344687 qty. 2) and speed clips (297596 qty. 2). See Figure 4, item 14.
- Rails (344937 qty. 2). See Figure 4, item 18.
- Outside corner connectors (344137 qty. 6). See Figure 4, item 27.

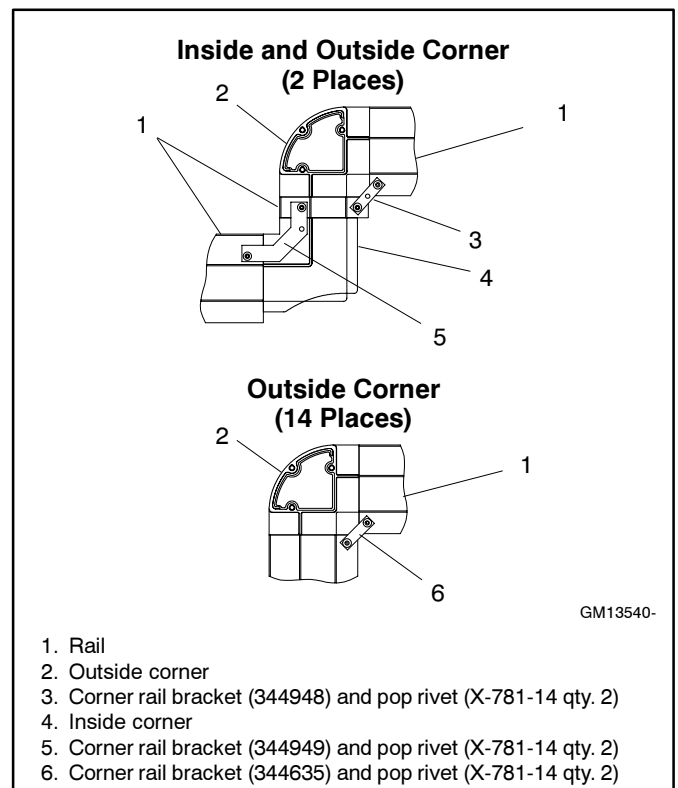
**Note:** Reposition the coolant hose inside the sound shield rail. See Figure 9.

- Inside corner connector (359328 qty. 1). See Figure 4, item 22.
- Inside corner connector (359329 qty. 1). See Figure 4, item 22.



**Figure 9** Coolant Hose Position

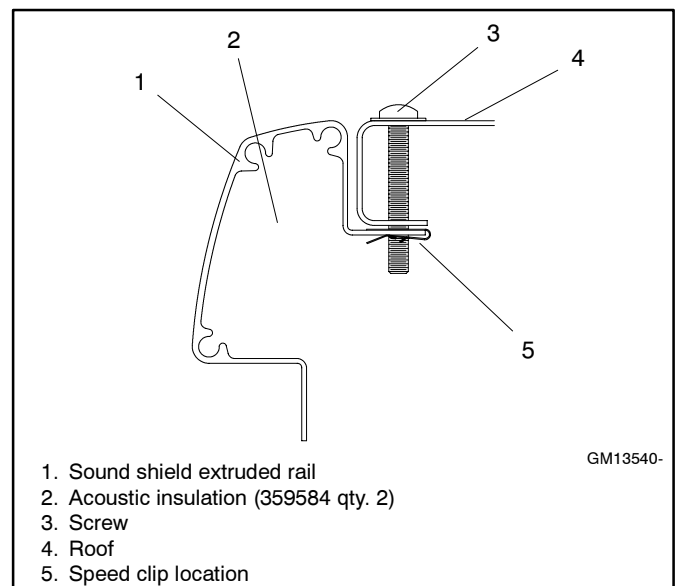
- 9.2 Using 2 pop rivets (X-781-14), attach the corner rail brackets (344949) to secure the inside corner connectors (359328 and 359329). See Figure 10.
- 9.3 Using 2 pop rivets (X-781-14), attach the brackets (344948) to secure the outside corner connectors (344137). See Figure 10 and Figure 4, item 27.
- 9.4 Using 2 pop rivets (X-781-14), attach the brackets (344635) to secure the outside corner connectors (344137). See Figure 10 and Figure 4, item 8.



**Figure 10** Corner Rail Bracket Installation

## 10 Install the Insulation.

Cut the insulation (359584) to length and insert it in all of the extruded rails. Refer to the parts list for extruded rail lengths. See Figure 11.

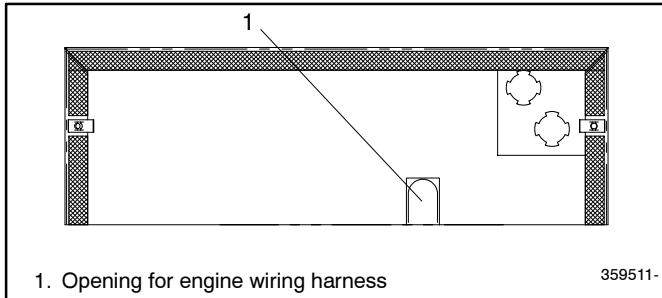


**Figure 11** Speed Clip Position

## 11 Install the Sound Shield Door.

11.1 Route the engine wiring harness out the sound shield door (GM13570) opening. See Figure 4, item 16 or Figure 12, item 1.

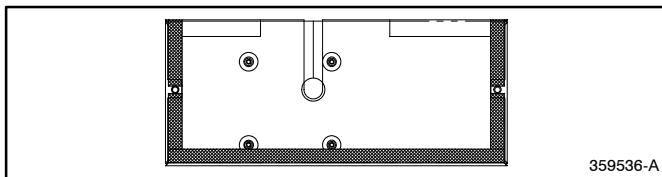
11.2 Position the door (GM13570) using 2 screws (X-73-33) and 2 washers (222889) as shown in Figure 4, items 15 and 17.



**Figure 12** Door Identification

## 12 Install the Roof.

12.1 Position the roof (GM13574) using 2 washers (222889) and 2 screws (X-73-33) as shown in Figure 11. See Figure 13 for the generator roof identification. See Figure 4, item 7.

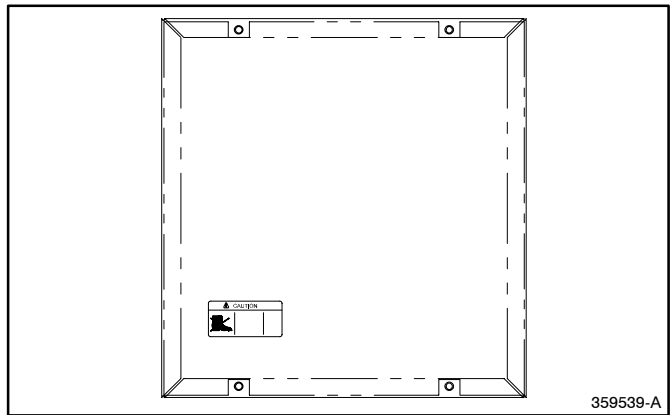


**Figure 13** Generator Roof Identification

**Note:** Route the generator leads (connectors) up through the hole in the roof.

12.2 Install the foam seal (19010 08118) along the seam where the roof (GM13574) and the door (GM13570) meet. See Figure 4, item 13.

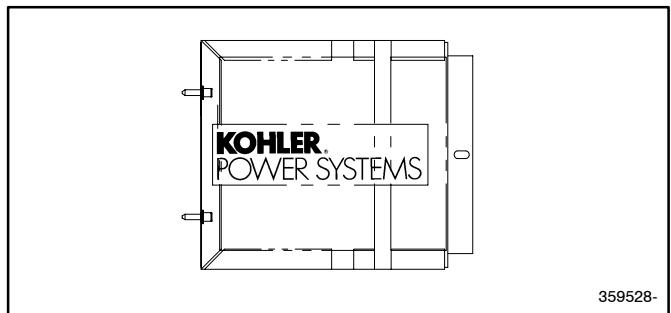
12.3 Install the roof (GM13575) using 4 washers (222889) and 4 screws (X-73-33) as shown in Figure 11. Locate the cutout in the roof to clear the thermostat housing. See Figure 14 for the engine roof identification. See Figure 4, item 11.



**Figure 14** Engine Roof Identification

## 13 Install the Panels.

Install the panels (GM13572 and GM13573) as shown in Figure 4, item 34 and Figure 5, item 10, securing the panels with a screw (X-465-24) and a washer (X-25-142). Use a screw (X-465-24) and washer (X-25-142) to secure each panel to the support. See Figure 15 for the panel identification.



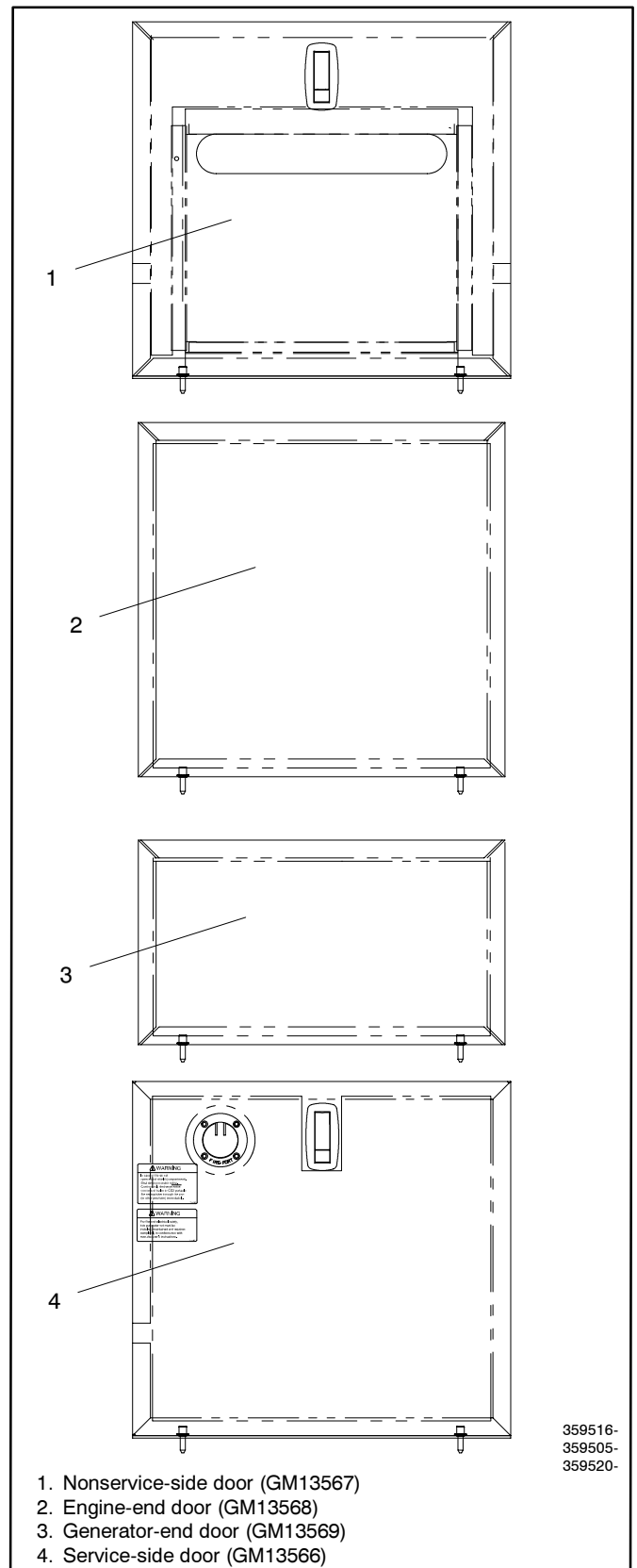
**Figure 15** Panel Identification (Service Side Shown)

## 14 Install the Remaining Doors.

- 14.1 Install the U-channel grommet (X-6047-36) in the door (GM13567). See Figure 5, item 3.
- 14.2 Align the pins to the holes in the rail and install the door (GM13567) on the nonservice side of the unit. See Figure 5, item 2 and Figure 16.
- 14.3 Align the pins to the holes in the rail and install the door (GM13568) on the engine end of the unit. Secure the door to the top rail using 2 screws (X-73-33) and 2 washers (222889). See Figure 5, item 1 and Figure 16.
- 14.4 Align the pins to the holes in the rail and install the door (GM13569) on the generator end of the unit. Secure the door to the top rail using 2 screws (X-73-33) and 2 washers (222889). See Figure 4, item 19 and Figure 16.
- 14.5 Align the pins to the holes in the rail and install the door (GM13566) on the service side of the unit. See Figure 4, item 28 and Figure 16.

## 15 Restore the Generator Set to Service.

- 15.1 Reconnect the leads that were disconnected in step 1.3. Position the controller on the mounts (246267 qty. 4) and secure the controller on the roof using the existing hardware. See Figure 4, item 20.
- 15.2 Check that the generator set start/stop switch is in the STOP position.
- 15.3 Reconnect the generator set engine starting battery, the negative (-) lead last.



**Figure 16** Door Identification

## Parts List

### Sound Shield Kit

<b>Kit: GM13540-KP1</b>		
<b>Qty.</b>	<b>Description</b>	<b>Part Number</b>
18	Washer (0.281 x 0.625 x 0.065)	X-25-142
4	Washer, plain (0.406 x 0.812 x 0.065)	X-25-37
8	Clamp, hose (2.75 x 1.81)	X-426-16
2	Clamp, hose (1.06 x 0.56)	X-426-3
2	Clamp, hose (1.75 x 0.81)	X-426-8
20	Screw, hex cap (1/4-20)	X-465-24
1	Channel, U grommet (25.37 in.)	X-6047-36
2	Clip, speed	X-6220-1
4	Screw, hardened (3/8-16 x 0.62)	X-6238-2
12	Screw, PHM (1/4-20)	X-73-33
36	Rivet, pop (0.187 in.)	X-781-14
1	Exhaust, hose (2 x 6.5 in.)	GM10073
1	Foam, PVC seal tape (1.43 ft.)	19010 08118
12	Washer, fiber (0.25 x 0.71)	222889
1	Hose (0.62 in. ID)	X-312-18
1	Tube, exhaust, fiberglass (2 in. ID)	229889
4	Mount, controller	246267
14	Clip, speed	297596
6	Connector, outside corner	344137
14	Bracket, corner rail (outside)	344635
2	Extruded rail (5.00 in.)	344687
1	Tube, exhaust, stainless steel (2 in. ID)	344694
2	Extruded rail (0.98 in.)	344937
2	Extruded rail (13.19 in.)	GM13448
2	Extruded rail (19.31 in.)	344939
1	Extruded rail (15.88 in.)	GM13499
2	Bracket, corner rail (outside)	344948
2	Bracket, corner rail (inside)	344949
1	Base	GM13435
1	Connector, inside (R.H.)	359328
1	Connector, inside (L.H.)	359329
2	Extruded rail (13.40 in.)	359016
1	Support (service side)	GM13539
1	Support (nonservice side)	359023
1	Door, engine end (17.1 x 15.6 in.)	GM13568
1	Door (17.1 x 3.4 in.)	GM13570
1	Door, generator end (17.1 x 9.7 in.)	GM13569
1	Door, nonservice (15.1 x 15.6 in.)	GM13567
1	Door, service side (15.1 x 15.6 in.)	GM13566
1	Duct, end bracket	GM13571
1	Panel, nonservice (9.9 x 9.7 in.)	GM13572
1	Panel, service side (9.9 x 9.7 in.)	GM13573
1	Roof (generator)	GM13574
1	Roof (engine)	GM13575
1	Duct, preheater	359547
2	Insulation, acoustic	359584
1	Rail (service side)	GM13556
1	Rail (engine end)	GM13557
1	Rail (nonservice side)	GM13558
1	Rail (generator end)	GM13559
2	Nut, hex	X-6234-1
2	Rail (15.88 in.)	GM13449
1	Hose, exhaust (2 x 4 in.)	GM10074