

INSTALLATION INSTRUCTIONS

Original Issue Date: **6/02**
 Model: **8EOZ and 6.5EFOZ**
 Market: **Marine**
 Subject: **Sound Shield Kit GM22730-KP1**

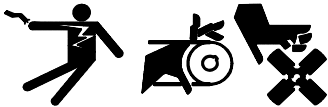
Introduction

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.


Safety Precautions

⚠ WARNING

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

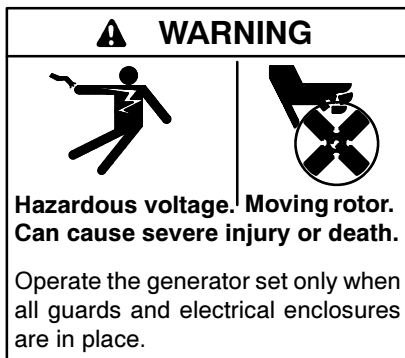
Servicing the fuel system. A flash fire can cause severe injury or death. Do not smoke or permit flames or sparks near the carburetor, fuel line, fuel filter, fuel pump, or other potential sources of spilled fuels or fuel vapors. Catch fuels in an approved container when removing the fuel line or carburetor.

⚠ WARNING

<p>Accidental starting. Can cause severe injury or death.</p> <p>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.</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) Place the generator set start/stop switch in the STOP position. (2) Disconnect the power to the battery charger, if equipped. (3) 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.

⚠ WARNING

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

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 all jewelry before servicing the equipment.

Installation Procedure

See Figure 4 and Figure 5 for the installed kit illustrations. Refer to the generator set operation or service manuals 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.
 - Note:** Before installing the sound shield, disconnect and route the battery leads through the holes provided in the end bracket duct.
 - 1.3 Remove the controller vibromounts and set the controller aside by sliding the wiring harness in the slot in the controller roof. Save the mounting hardware to remount the controller onto the sound shield roof. Discard the 4 controller vibromounts.
 - 1.4 Position the generator set onto the sound shield base (344961) and secure the set with 4 screws (X-6238-2) and 4 washers (X-25-37). See Figure 1.

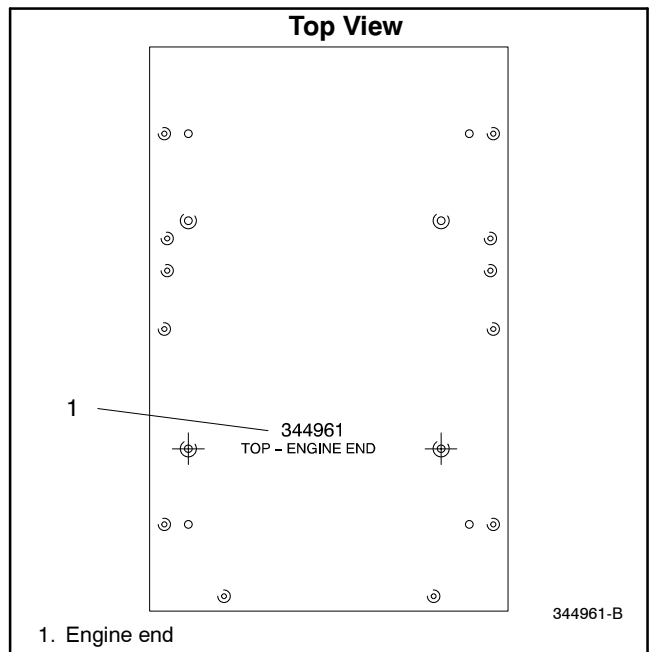


Figure 1 Sound Shield Base Mounting Position

- 1.5 Remove the belt guard (344878), brackets (344893, 344894, and 344897), grommets (X-284-39 qty. 3) and wing screws (229330 qty. 3). See Figure 2.

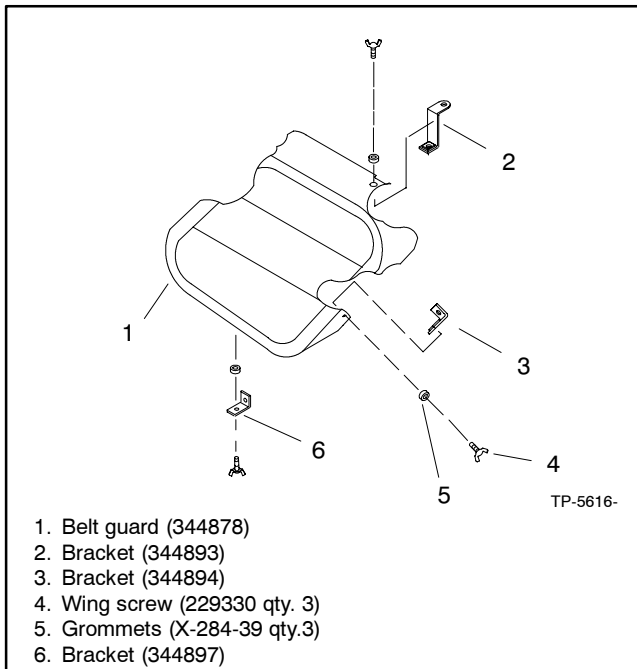


Figure 2 Belt Guard Components

- 1.6 Remove the end bracket louvered panel (225545). See Figure 3. Save the mounting hardware and louvered panel.

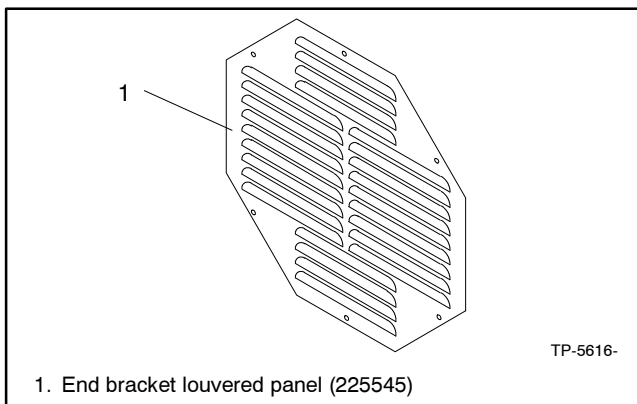


Figure 3 End Bracket Louvered Panel

2. Install the end bracket duct.

- 2.1 Position the end bracket duct (359527-S) onto the end bracket.
- 2.2 Locate the air hose that is attached to the end bracket duct. See Figure 4, item 5. Route the air hose to the air cleaner inlet and secure it with the hose clamp that is already on the air hose.
- 2.3 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 hose (GM10073) onto the exhaust elbow, securing with 2 hose clamps (X-426-16).
- 3.2 Connect the exhaust tube (229889) onto the hose installed in step 3.1. Secure with 2 hose clamps (X-426-16).
- 3.3 Connect the hose (GM10073) onto the exhaust tube. Secure with 2 hose clamps (X-426-16).
- 3.4 Connect the exhaust tube (344694) onto the hose installed in step 3.3 and secure with 2 hose clamps (X-426-16).
- 3.5 Position the exhaust tube outlet through the opening in the end bracket duct. See Figure 4, item 1.

4. Route 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.

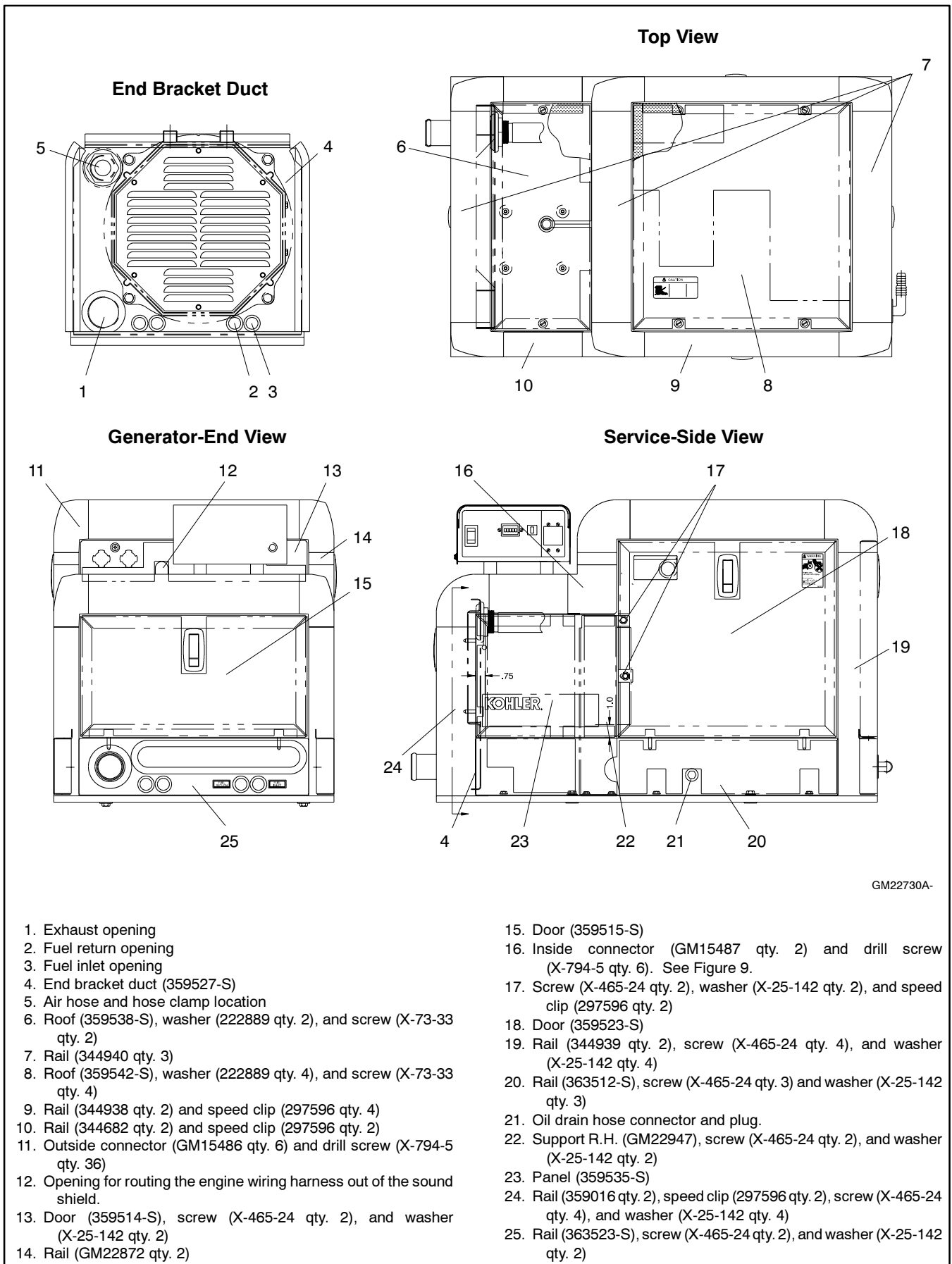


Figure 4 Sound Shield

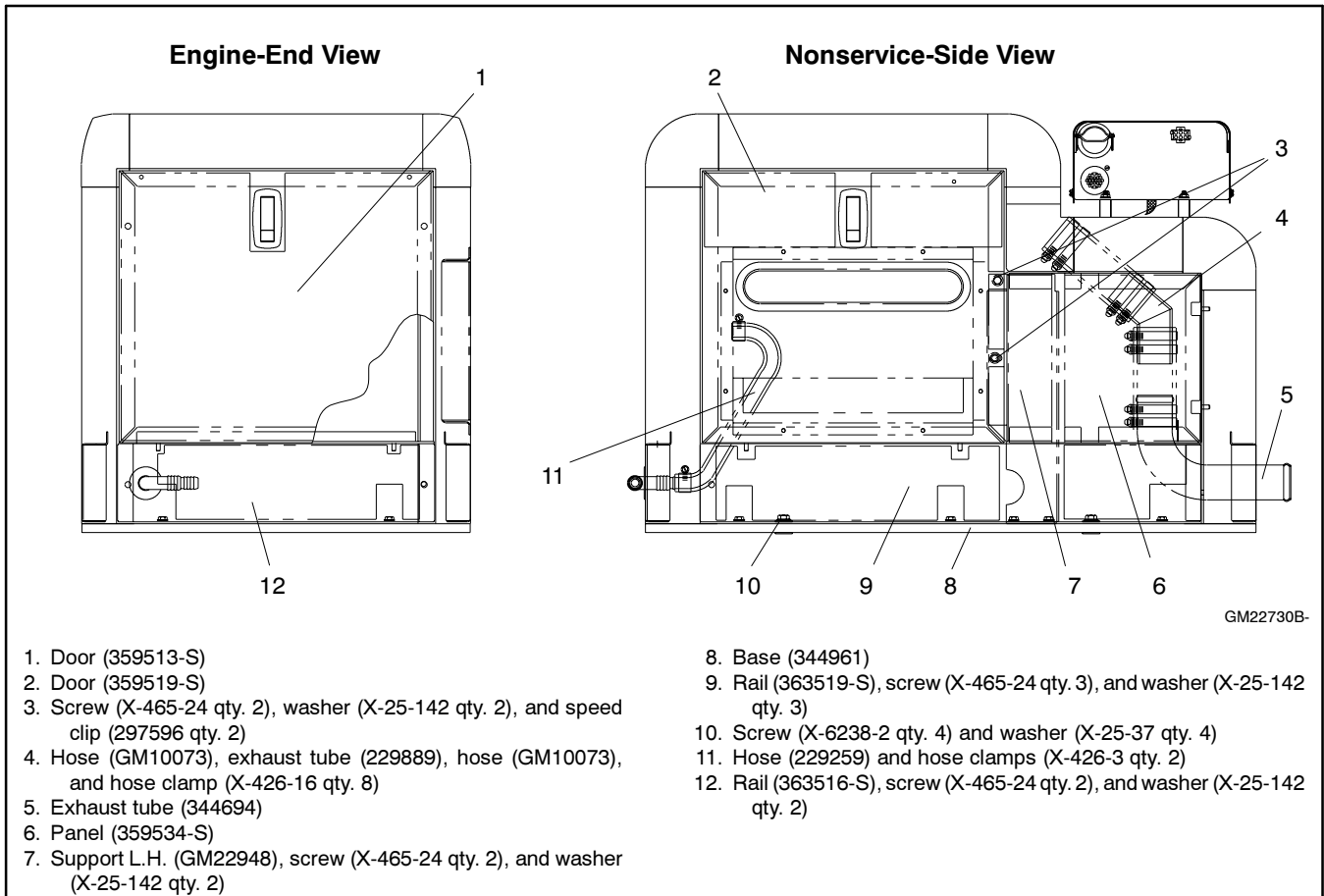


Figure 5 Sound Shield

5. Install the supports.

- 5.1 Position the sound shield support (GM22947) onto the base (service side of unit) using 2 screws (X-465-24) and 2 washers (X-25-142) to secure. See Figure 4 and Figure 6.
- 5.2 Place 2 speed clips (297596) onto the support. See Figure 4, item 17 for location.
- 5.3 Position the sound shield support (GM22948) onto the base (nonservice side of unit) using 2 screws (X-465-24) and 2 washers (X-25-142) to secure. See Figure 5 and Figure 6.
- 5.4 Place 2 speed clips (297596) onto the support. See Figure 5, item 3 for location.

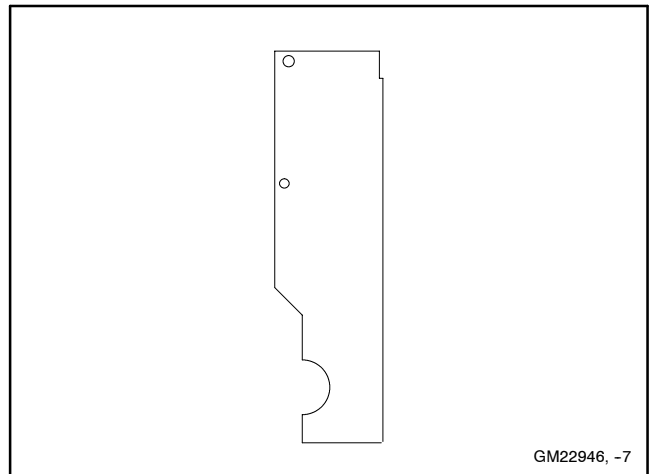


Figure 6 Support Identification

6. Connect the seawater pump hose.

- 6.1 Connect the hose (229259) to the seawater pump inlet. Secure it with a hose clamp (X-426-3).

7. Install the rails.

- 7.1 Assemble the rails (363512-S, 363516-S, 363519-S, and 363523-S) onto the base. See Figure 7 for rail identification. Use 10 screws (X-465-24) and washers (X-25-142) to secure.
- 7.2 Route the oil drain hose to the coupling in the rail (363512-S). See Figure 4, item 21. Cut the hose to fit.
- 7.3 Route the seawater pump hose to the connector in the rail (363516-S) securing with a hose clamp (X-426-3). See Figure 5 for location.
- 7.4 Route the exhaust tube, fuel inlet line, fuel return line, and battery cables through the openings in the rail (363523-S). See Figure 4 for locations.

Note: The exhaust tube should protrude from the back of the sound enclosure by approx. 2 inches.

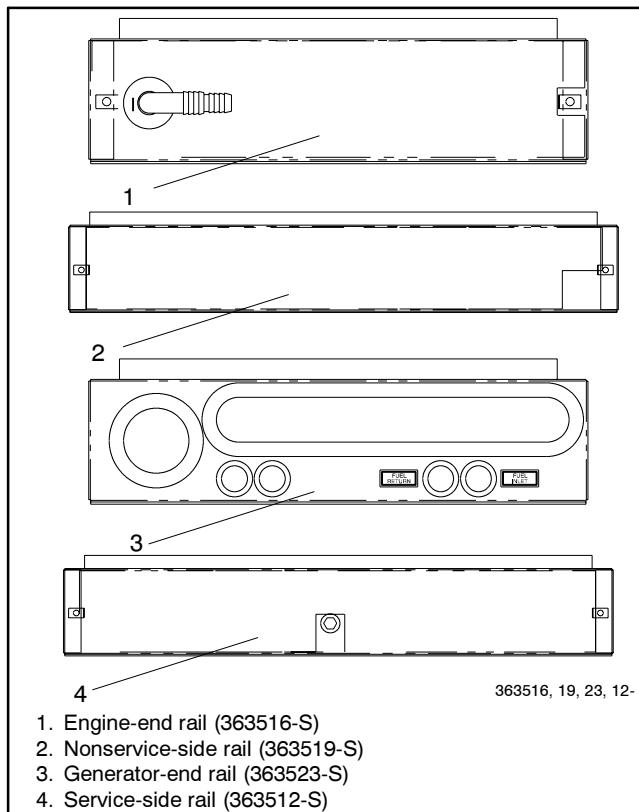


Figure 7 Rail Identification

8. Construct the framework.

- 8.1 See Figure 8. Construct a subassembly containing the following components:
 - Outside corner connector (GM15486 qty. 4) and drill screws (X-794-5 qty. 24)
 - Sound shield rail (GM22872 qty. 2)
 - Inside corner connector (GM15487 qty. 2) and drill screws (X-794-5 qty. 6)
 - Sound shield rail (344682 qty. 2) and speed clip (297596 qty. 2)
 - Sound shield rail (359016 qty. 2) and speed clip (297596 qty. 2)
 - Sound shield rail (344940 qty. 2)

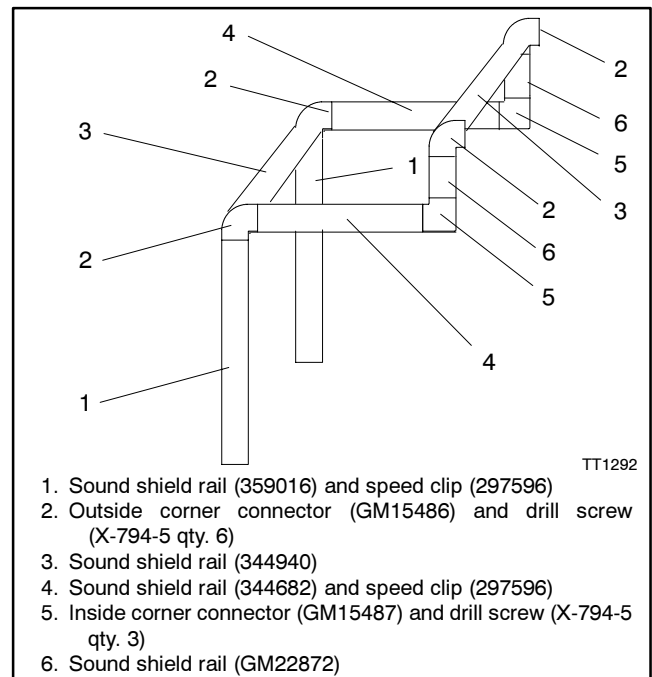


Figure 8 Rail Framework

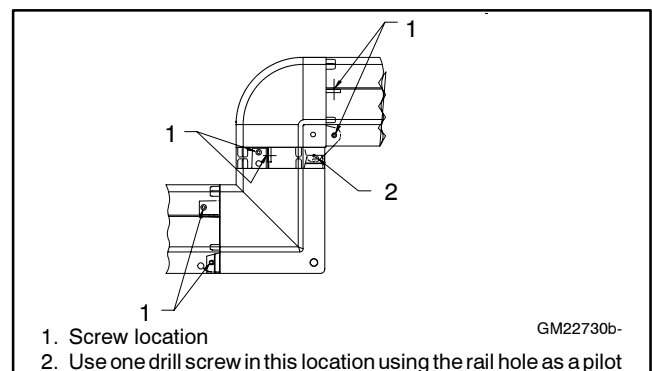


Figure 9 Corner Connector Installation

8.2 See Figure 10. On the service side, generator end, attach the subassembly from step 8.1 onto the corners of the rails (363512-S and 363523-S). Use the preassembled speed clip, screws (X-465-24 qty. 2), and washers (X-25-142 qty. 2) to secure.

8.3 See Figure 10. On the nonservice side, generator end, attach the other end of the subassembly from step 8.1 onto the corners of the rails (363519-S and 363523-S). Use the preassembled speed clip, screws (X-465-24 qty. 2), and washers (X-25-142 qty. 2) to secure.

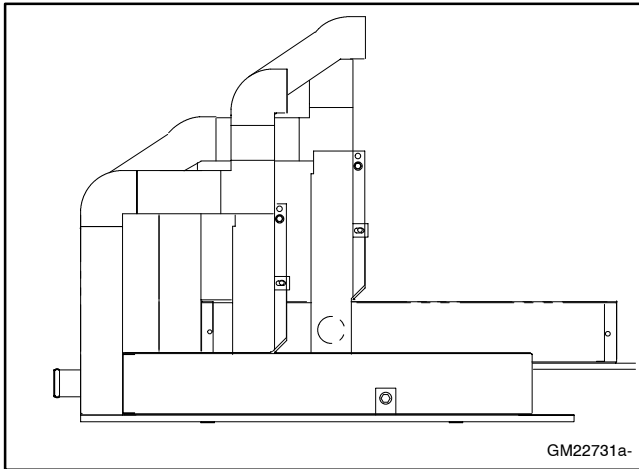


Figure 10 Rail Framework

8.4 See Figure 11. Construct a subassembly containing the following components:

- Outside corner connector (GM15486 qty. 2) and drill screws (X-794-5 qty. 12)
- Sound shield rail (344939 qty. 2)
- Sound shield rail (344940)

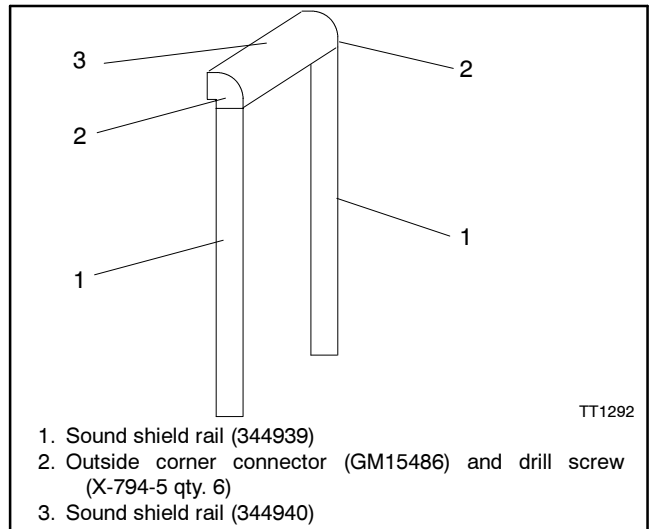


Figure 11 Rail Framework

8.5 See Figure 12. On the service side, engine end, place one end of the subassembly from step 8.4 onto the corners of the rails (363512-S and 363516-S). Do not final tighten at this time.

8.6 See Figure 12. On the nonservice side, engine end, place the other end of the subassembly from step 8.4 onto the corners of the rails (363519-S and 363516-S). Do not final tighten at this time.

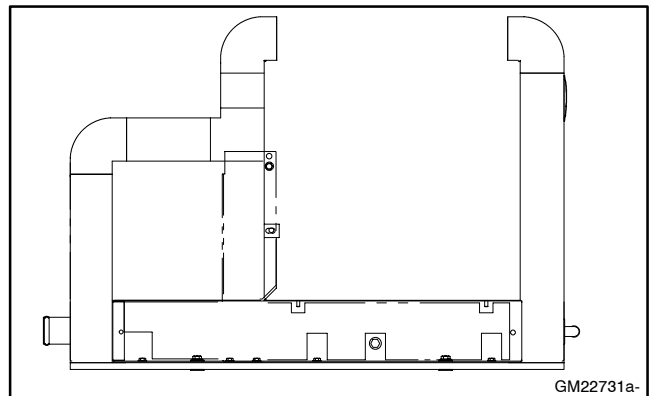


Figure 12 Rail Framework

8.7 See Figure 13. Attach the sound shield rails (344938 qty. 2) and speed clips (297596 qty. 4).

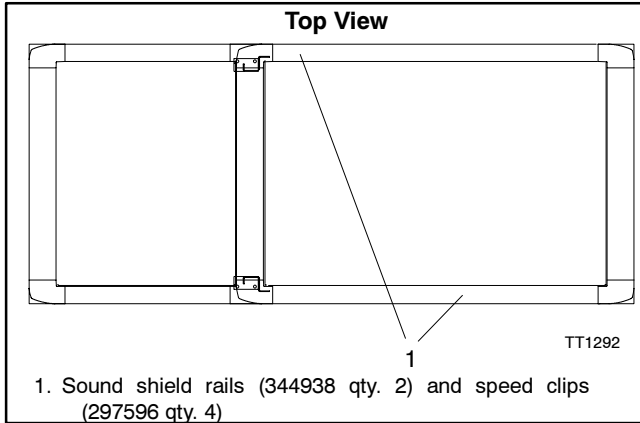


Figure 13 Rail Framework

8.8 Final tighten the two rails from steps 8.5 and 8.6 using screws (X-465-24 qty. 4) and washers (X-25-142 qty. 4).

9. Install the rear door.

9.1 Route the engine wiring harness out of the sound shield's rear door (359514-S) opening. See Figure 4, item 12.

9.2 Position the rear door (359514-S) using 2 screws (X-465-24) and 2 washers (X-25-142) as shown in Figure 4. See Figure 14 for the door identification.

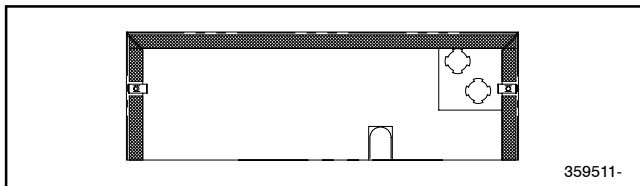


Figure 14 Door Identification

10. Install the roofs.

10.1 Position the roof (359538-S) using 2 washers (222889) and 2 screws (X-73-33) as shown in Figure 4. See Figure 15 for the generator roof identification. See Figure 16 for screw location.

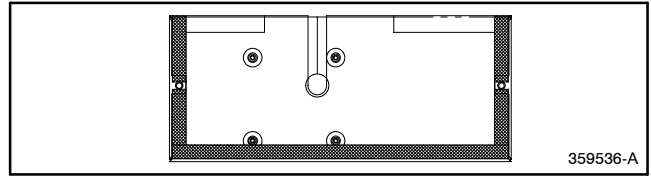


Figure 15 Generator Roof Identification

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

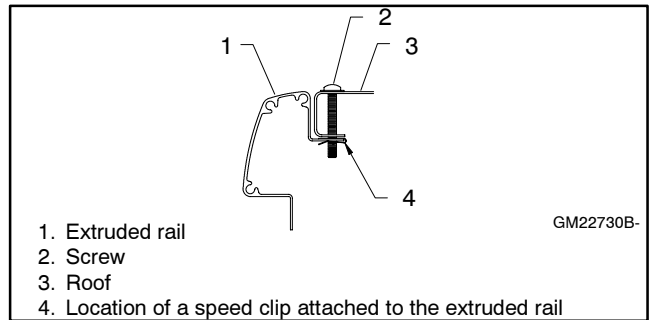


Figure 16 Screw Location

10.2 Secure the controller on the mounts that are preassembled on the generator roof (359538-S) using the existing hardware.

10.3 Install the foam seal (preassembled on the rear door) along the seam where the roof (359538-S) and the rear door (359514-S) meet.

10.4 Install the roof (359542-S) using 4 washers (222889) and 4 screws (X-73-33). See Figure 17 for the engine roof identification. See Figure 16 for screw location.

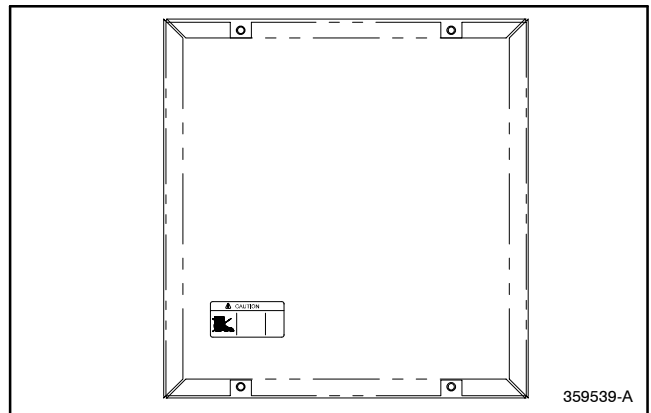


Figure 17 Engine Roof Identification

11. Install the panels.

- 11.1 Install the panels (359535-S and 359534-S) as shown in Figure 4 and Figure 5. Placing the panel (359535-S) that contains the Kohler logo on the service side of the unit. Use two screws (X-465-24) and two washer (X-25-142) to secure each panel to the support. See Figure 18 for the panel identification.

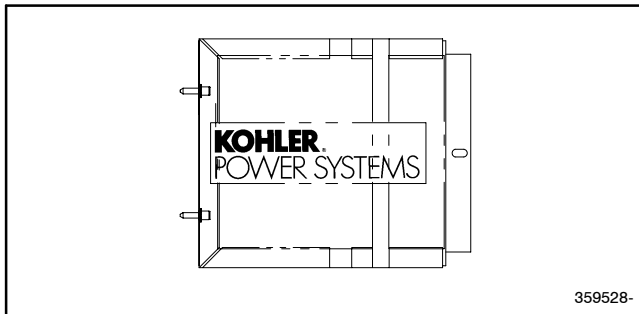


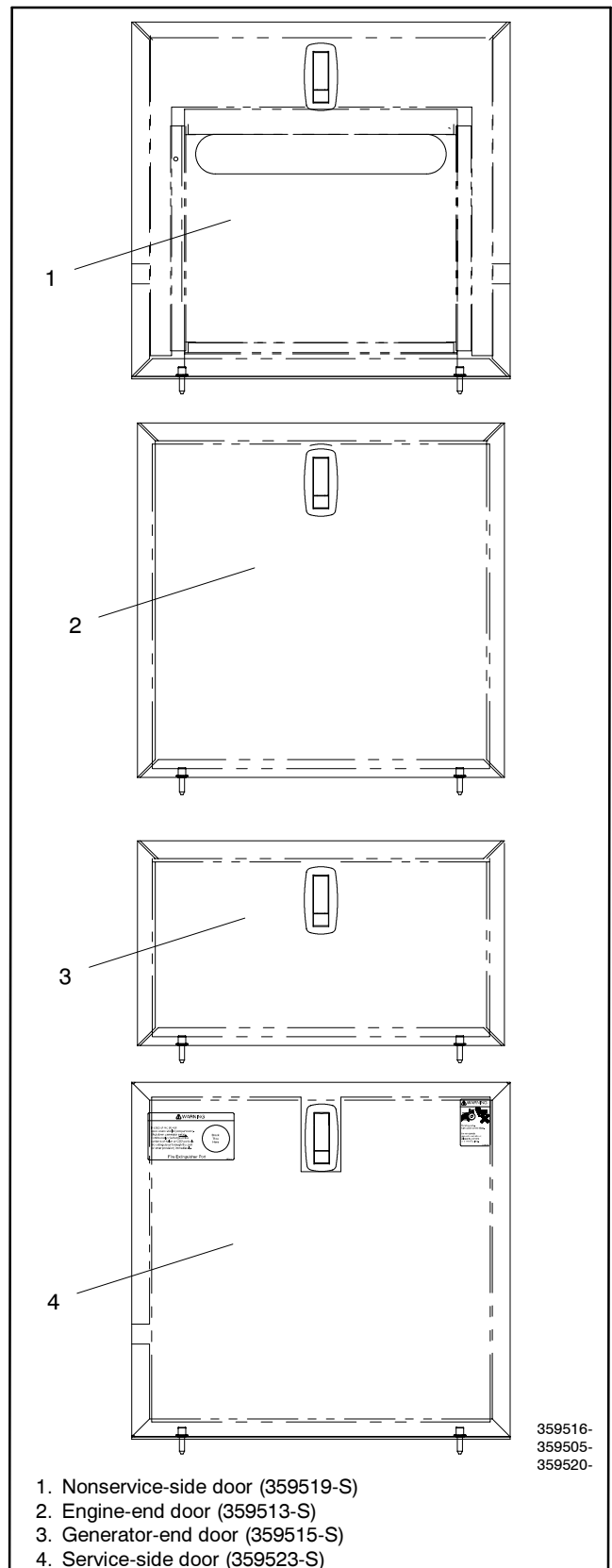
Figure 18 Panel Identification

12. Install the doors.

- 12.1 Align the pins to the holes in the rail and install the door (359519-S) on the nonservice side of the unit. See Figure 5 and Figure 19.
- 12.2 Align the pins to the holes in the rail and install the door (359513-S) on the engine end of the unit. See Figure 5 and Figure 19.
- 12.3 Align the pins to the holes in the rail and install the door (359515-S) on the generator end of the unit. See Figure 4 and Figure 19.
- 12.4 Align the pins to the holes in the rail and install the door (359523-S) on the service side of the unit. See Figure 4 and Figure 19.

13. Restore the generator set to service.

- 13.1 Check that the generator set start/stop switch is in the STOP position.
- 13.2 Reconnect the generator set engine starting battery, the negative (-) lead last.



1. Nonservice-side door (359519-S)
2. Engine-end door (359513-S)
3. Generator-end door (359515-S)
4. Service-side door (359523-S)

Figure 19 Door Identification

Sound Shield Parts List

Kit: GM22730-KP1		
Qty.	Description	Part Number
28	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
28	Screw, hex cap (1/4-20)	X-465-24
4	Screw, hardened (3/8-16 x 0.62)	X-6238-2
6	Screw, PHM (1/4-20 x 2)	X-73-33
2	Hose (2 x 6.5 in.)	GM10073
6	Washer, fiber (0.25 in. ID x 0.71 in. OD)	222889
1	Tube, exhaust (2 in. OD)	229889
6	Connector, outside	GM15486
2	Connector, inside	GM15487
1	Base (22.25 x 35.0 in.)	344961
1	Support, R.H. service side	GM22947
1	Support, L.H. nonservice side	GM22948
2	Extruded rail (13.40 in.)	359016
2	Extruded rail (6.25 in.)	344682
2	Extruded rail (0.98 in.)	GM22872
2	Extruded rail (15.44 in.)	344938
2	Extruded rail (19.31 in.)	344939
3	Extruded rail (16.75 in.)	344940
1	Tube, exhaust (2 in. OD)	344694
1	Door, engine end (18 x 15.6 in.)	359513-S
1	Door, generator end (18 x 9.69 in.)	359515-S
1	Door, rear (18 x 3.41 in.)	359514-S
1	Door, L.H. nonservice side (17.31 x 15.6 in.)	359519-S
1	Door, R.H. service side (17.31 x 15.6 in.)	359523-S
1	Duct, end bracket (18.06 x 15.12 in.)	359527-S
1	Panel, nonservice side (11.16 x 9.72 in.)	359534-S
1	Panel, service side, with decal (11.16 x 9.72 in.)	359535-S
1	Roof, generator (18 x 7.9 in.)	359538-S
1	Roof, engine (18 x 17.31 in.)	359542-S
1	Rail, service side (28.75 x 4.48 in.)	363512-S
1	Rail, engine end (18.25 x 4.48 in.)	363516-S
1	Rail, nonservice side (28.75 x 4.48 in.)	363519-S
1	Rail, generator end (18.25 x 4.48 in.)	363523-S
42	Screw, drill (#8 stainless steel)	X-794-5
12	Clip, speed	297596
1	Hose (0.62 in. ID)	229259

Notes

Notes