

INSTALLATION INSTRUCTIONS

Original Issue Date: 3/07

Model: 60REOZJB

Market: Industrial

Subject: Fuel Overspill Kit GM36148-KP5, ES-70982-KP1

Introduction

This fuel overspill service kit is intended to aid with the installation of the 19 L (5 gal.) overspill fuel tank on the above generator set model.

Read the entire installation procedure and compare the kit parts with the parts list in this publication before beginning installation. Perform steps in the order shown.

Maintenance Requirements

On occasion, some parts may become damaged during shipping, receiving, service removal, or service installation. When using replacement parts, use only parts supplied from an authorized Kohler distributor/dealer.

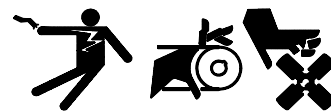
Tools and supplies needed:

- Metric wrenches and socket sets up to 13 mm.
- Pipe wrench and pliers, minimum size 12 in.
- A secure ladder.
- A drill with drill bits up to 1/4 in. dia.
- Scribe tool or marker.
- PVC primer.
- PVC adhesive.
- Sand paper.
- Deburring tool.
- Pipe sealant approved for use with diesel fuel.
- An assistant to aid with the installation of the upper vent pipe to the top of the enclosure.

Safety Precautions

Observe the following safety precautions while installing the kit.

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.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

WARNING



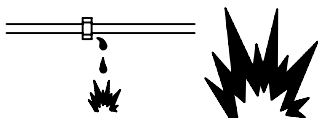
Fire.
Can cause severe injury or death.

Do not smoke or permit flames or sparks near fuels or the fuel system.

Servicing the fuel system. A flash fire can cause severe injury or death. Do not smoke or permit flames or sparks near the fuel injection system, 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 fuel system.

Leaking or accumulated engine fluids. A fire can cause severe injury or death. Clean up engine fluids including fuel, oil, grease, and coolant. Determine the source of engine leaks and correct before starting the generator set. Keep the generator set area clean and remove combustible materials.

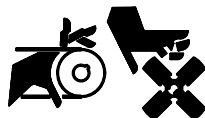
⚠ WARNING



**Explosive fuel vapors.
Can cause severe injury or death.**

Use extreme care when handling, storing, and using fuels.

⚠ WARNING



**Rotating parts.
Can cause severe injury or death.**

Operate the generator set only when all guards, screens, and covers are in place.

⚠ WARNING



**Airborne particles.
Can cause severe injury or blindness.**

Wear protective goggles and clothing when using power tools, hand tools, or compressed air.

1 Removal Procedure

1.1 Open the enclosure.

1.1.1 Secure the enclosure doors. See Figure 1.

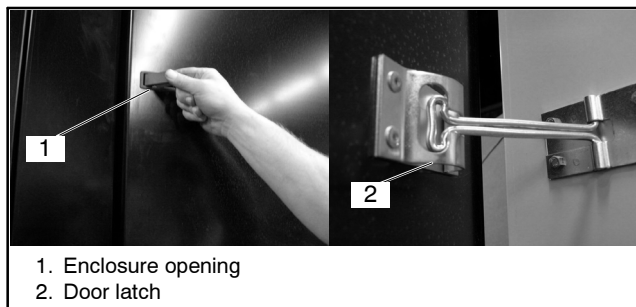


Figure 1 Open Enclosure and Secure Doors

1.2 Remove the generator set from service.

- 1.2.1 Place the generator set master switch in the OFF/RESET position.
- 1.2.2 Disconnect the power to the battery charger, if equipped.
- 1.2.3 Disconnect the generator set engine starting battery(ies), negative (-) lead first.

Note: Configuration of components in subbase fuel tank may vary by accessories previously installed.

- 1.2.4 Locate fittings A thru F inside enclosure located on top of the subbase fuel tank. See Figure 2.
- 1.2.5 Remove and discard plastic caps from openings C and D. See Figure 2.

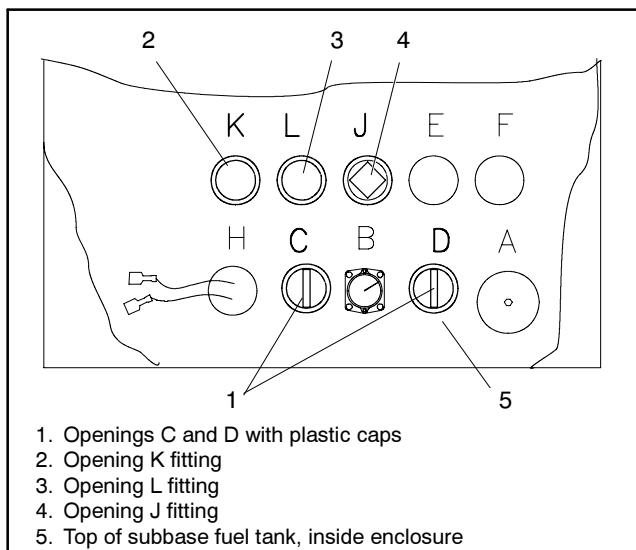


Figure 2 Fittings A thru F with Plastic Caps

- 1.2.6 Move 2 in. NPT pipe plug from opening J to opening C. See Figure 2 and Figure 3.

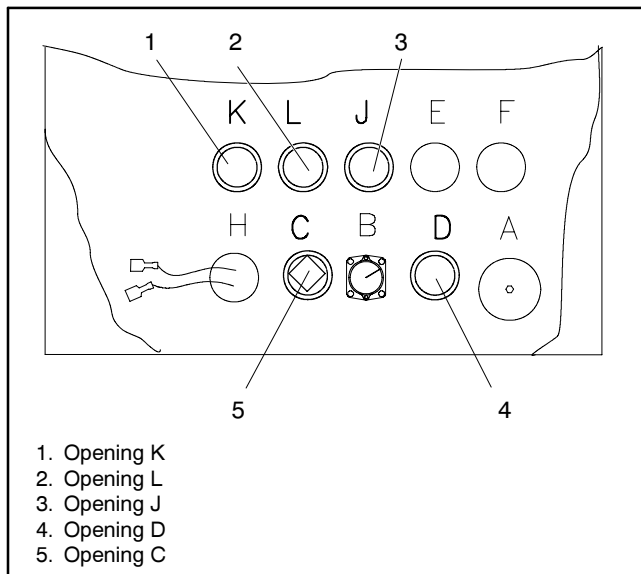


Figure 3 Fittings A thru F without Plastic Caps

- 1.2.7 Move fitting from opening L to opening J. See Figure 3.

- 1.2.8 Move fitting from opening K to opening D.

Note: Opening K will be used for the vent pipe application. Opening L will be used for the overspill tank application.

- 1.2.9 Remove two 63.5 mm (2 1/2 in.) dia. knockouts from the skid. See Figure 4.

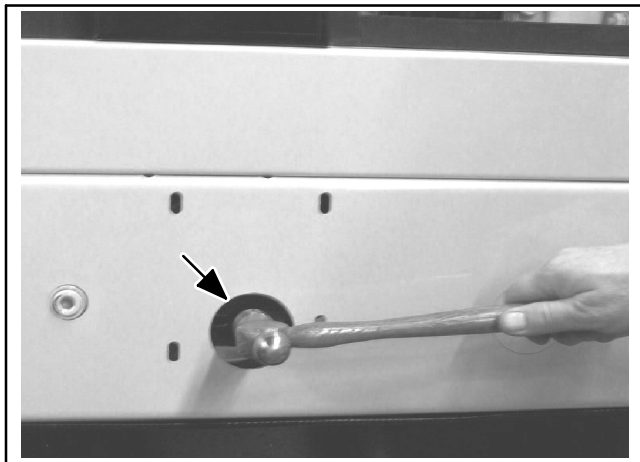


Figure 4 Remove Knockouts

2 Installation Procedure

2.1 Install the overspill tank components.

- 2.1.1 Apply pipe sealant to bottom threads on tank fill extension tube GM36064-5. See Figure 5.

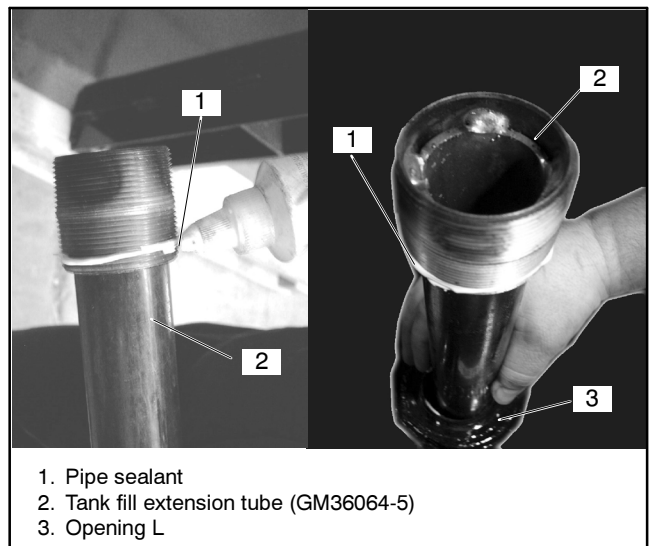


Figure 5 Overspill Vent Pipe Installation

- 2.1.2 Insert tank fill extension tube GM36064-5 into opening L. Tighten securely. See Figure 3 and Figure 5.

- 2.1.3 Apply pipe sealant to top threads on tank fill extension tube GM36064-5. See Figure 6.

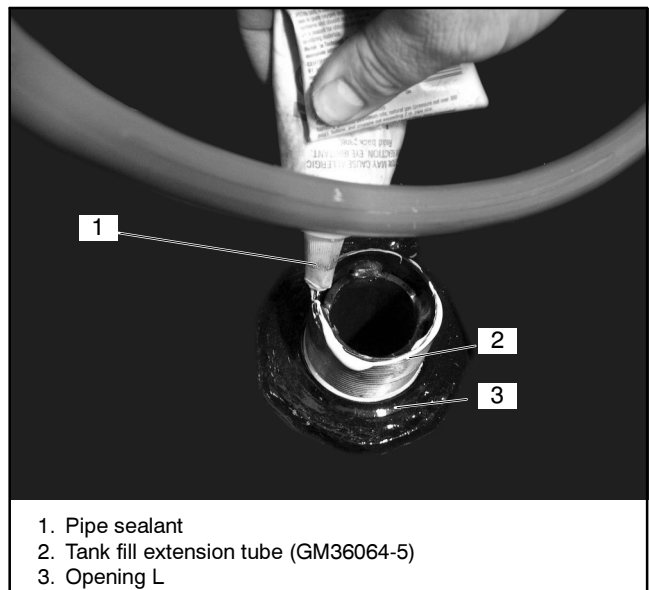


Figure 6 Apply Pipe Sealant to Top of Threads

- 2.1.4 Apply pipe sealant to 2 in. NPT elbow X-215-6.

- 2.1.5 Attach 2 in. NPT elbow X-215-6 to top of tank fill extension tube GM36064-5 and tighten securely. See Figure 7.

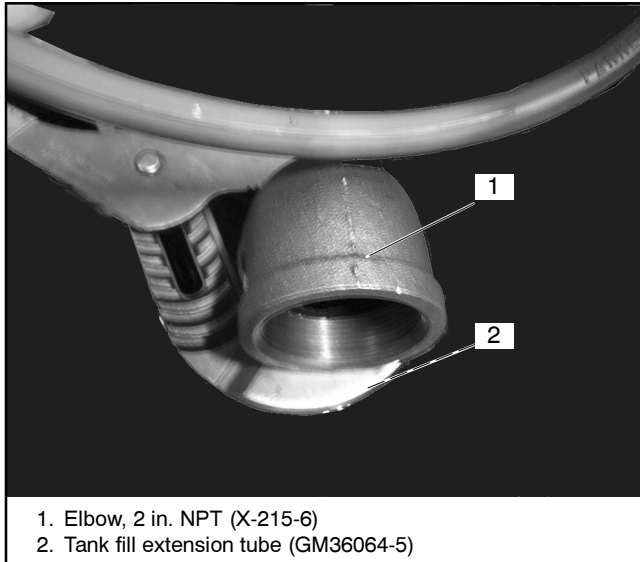


Figure 7 Secure Elbow to Overspill Vent Pipe

- 2.1.6 Apply pipe sealant to 2 in. NPT reducing bushing 160212. See Figure 8.

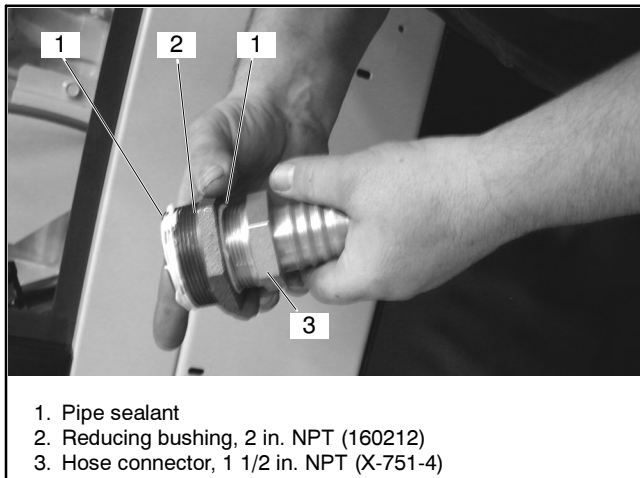


Figure 8 Subassembly of Adapter and Fitting

- 2.1.7 Apply pipe sealant to 1 1/2 in. NPT hose connector X-751-4. See Figure 8.
- 2.1.8 Assemble 1 1/2 in. NPT hose connector X-751-4 and 2 in. NPT reducing bushing 160212. See Figure 8.
- 2.1.9 Attach subassembly to 2 in. NPT elbow X-215-6 and tighten securely. See Figure 9.

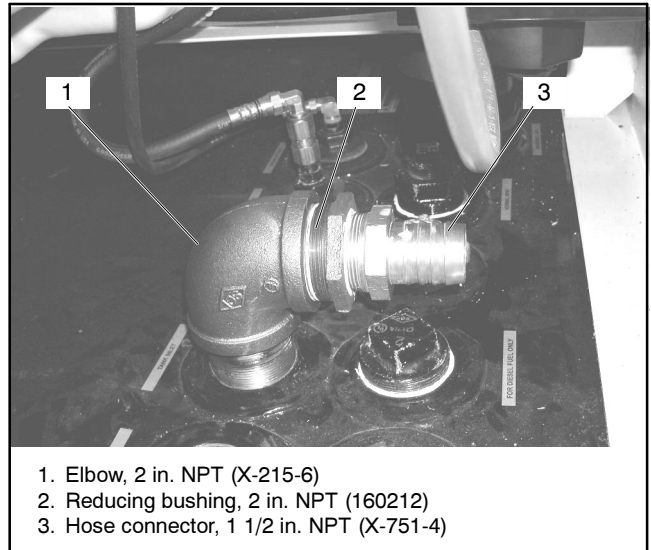


Figure 9 Secure Subassembly of 2 in. NPT Elbow

Note: Adjust the angles for hose SA22383 connection points from 2 in. NPT elbow X-215-6, at opening L, to tank fill extension tube GM46940. See Figure 10.

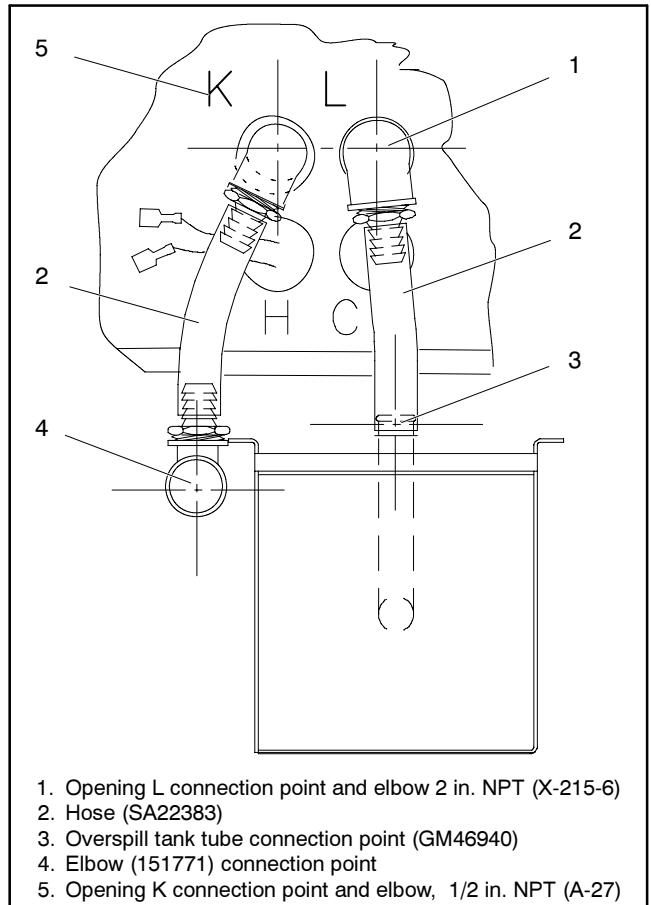


Figure 10 Adjust Angles for Hose Connection Points

2.1.10 Slide hose SA22383 over 1 1/2 in. NPT hose connector X-751-4. Use a ruler to measure the required length of hose. Mark the point of required length on hose. See Figure 11.

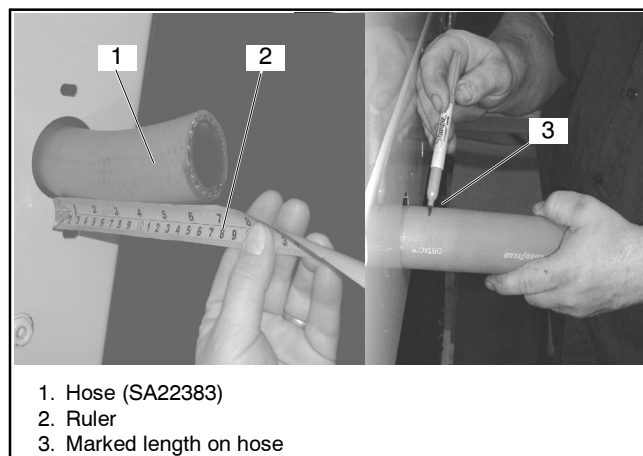


Figure 11 Measure and Mark Hose SA22383 Length

2.1.11 Remove hose SA22383 from 1 1/2 in. NPT hose connector X-751-4 and cut to required length.

2.1.12 Slide hose SA22383 onto overspill tank tube GM46940. See Figure 12.

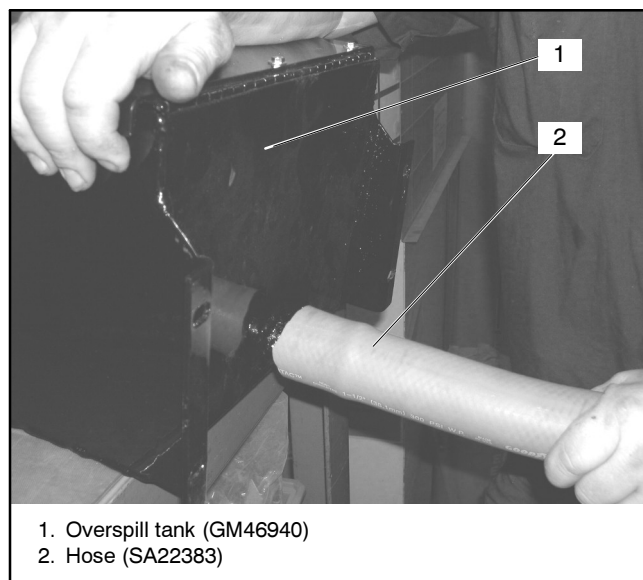


Figure 12 Hose SA22383 Connection to Overspill Tank Tube GM46940

2.1.13 Slide two hose clamps X-426-6 over hose SA22383.

2.1.14 Slide hose SA22383 over 1 1/2 in. NPT hose connector X-751-4. Tighten hose clamps X-426-6 securely to 1 1/2 in. NPT hose connector and overspill tank tube GM46940. See Figure 13.

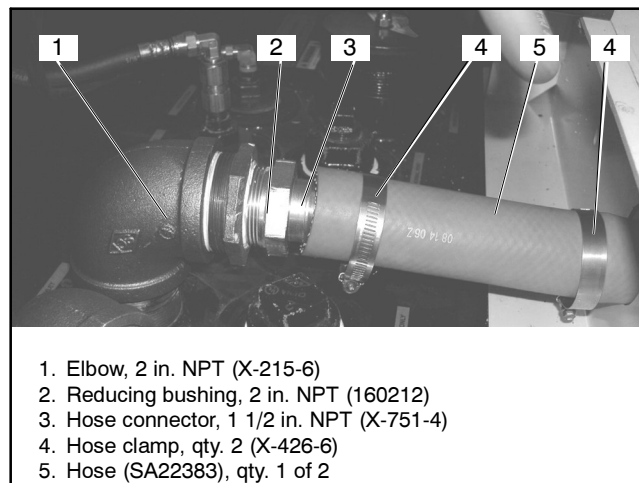


Figure 13 Subassembly for Hose Connections on Opening L

2.1.15 Locate mounting slots on enclosure and attach overspill tank GM46940 to enclosure.

- Place 8 mm (5/16 in.) hex nuts M6923-08-80 behind enclosure piece.
- Place 8 mm (5/16 in.) washers M125A-08-80 with M8-25 bolts M933-08025-60 thru mounting slot on overspill tank GM46940. Tighten all fasteners securely. See Figure 14.

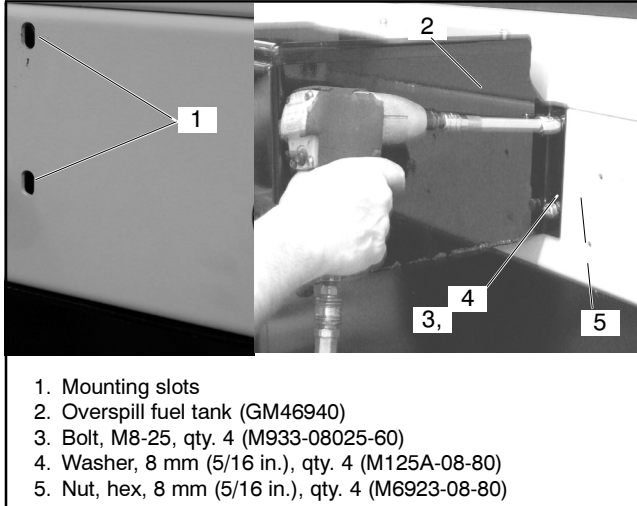


Figure 14 Secure Fuel Tank to Enclosure

2.2 Install the lower vent pipe components.

Note: This kit may contain a different number of upper and lower vent pipes including couplings than mentioned below, but will function the same.

2.2.1 Locate opening K, inside enclosure located on top of the subbase fuel tank. See Figure 3.

2.2.2 Apply pipe sealant to bottom threads on 1 1/2 in. NPT street elbow A-27. Attach 2 in. NPT reducing bushing 160212 to elbow and tighten securely. See Figure 15.

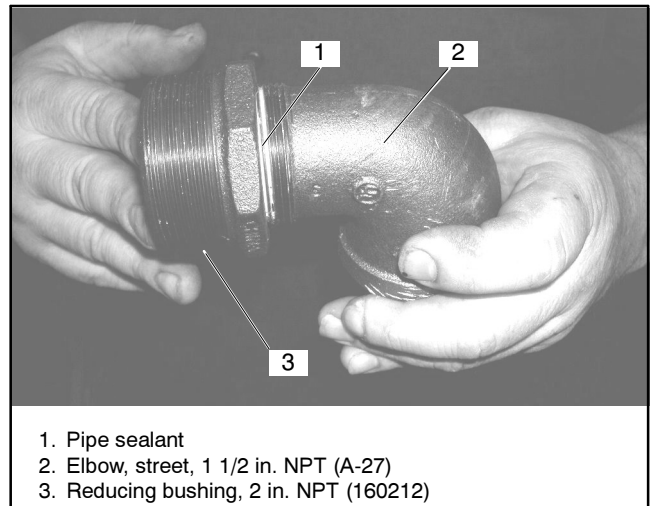


Figure 15 Bushing 160212 and Elbow A-27 Subassembly

2.2.3 Apply pipe sealant to threads on other end of 1 1/2 in. NPT street elbow A-27. Attach 1 1/2 in. NPT hose connector X-751-4 to 1 1/2 in. NPT street elbow A-27 and tighten securely. See Figure 16.

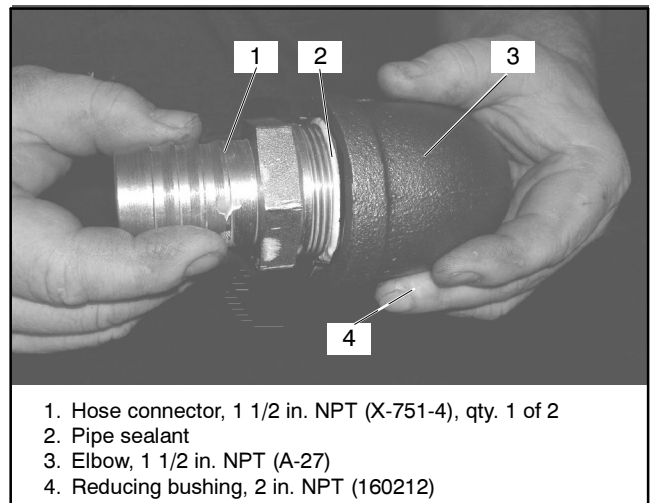


Figure 16 Elbow A-27 and Hose Connector X-751-4 Subassembly

Note: Adjust the angles for hose SA22383 from 1 1/2 in. NPT elbow angle A-27 at opening K to 1 1/2 in. NPT elbow 151771 connection point. See Figure 10.

Note: Ensure fuel gauge wire casement is over the subassembly for opening K. See Figure 17.

- 2.2.4 Attach 2 in. NPT reducing bushing 160212 to opening K on top of subassembly fuel tank. Tighten securely. See Figure 17.

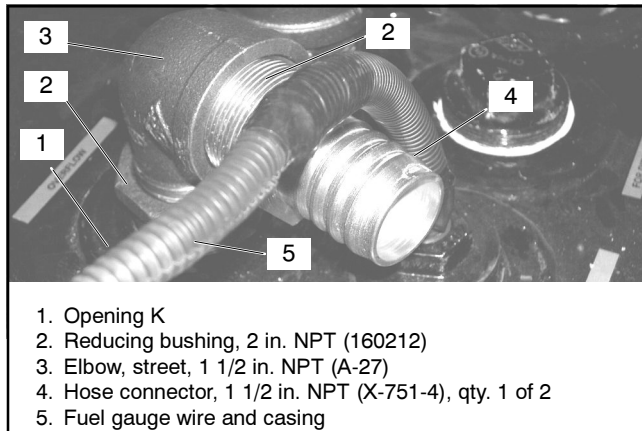


Figure 17 Secure Subassembly into Opening K

- 2.2.5 Slide hose SA22383 over 1 1/2 in. NPT hose connector X-751-4. See Figure 17.
- 2.2.6 Use a ruler to measure the required length of hose. Mark the point of required length on hose. See Figure 11.
- 2.2.7 Remove hose SA22383 from 1 1/2 in. NPT hose connector X-751-4 and cut to required length. See Figure 17.
- 2.2.8 Apply pipe sealant to 1 1/2 in. NPT hose connector X-751-4. See Figure 17.
- 2.2.9 Apply pipe sealant to threads on 1 1/2 in. NPT elbow 151771 and an additional 1 1/2 in. NPT hose connector X-751-4. See Figure 18.

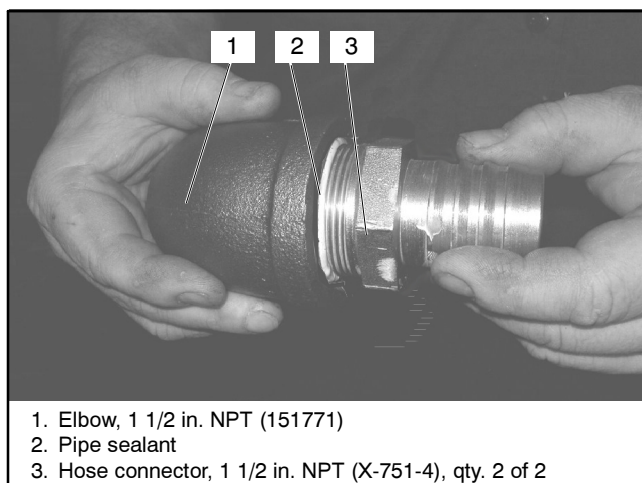


Figure 18 Elbow 151771 and Hose Connector X-751-4 Subassembly

- 2.2.10 Attach 1 1/2 in. NPT elbow 151771 to 1 1/2 in. NPT hose connector X-751-4. Tighten securely. See Figure 18.

- 2.2.11 Slide two hose clamps X-426-6 over fuel hose SA22383. See Figure 19.

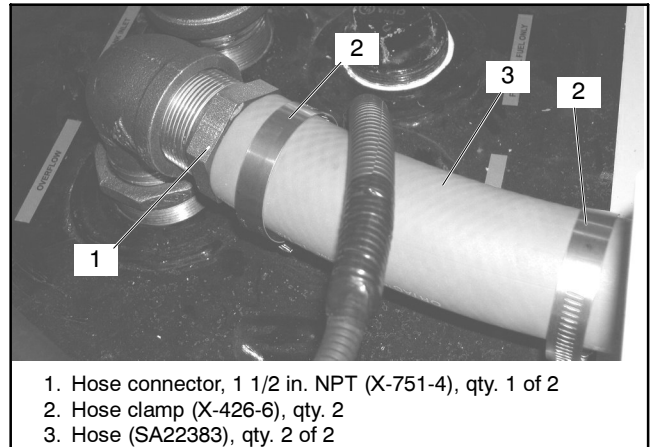


Figure 19 Subassembly for Hose Connections on Opening K

- 2.2.12 Slide hose SA22383 over 1 1/2 in. NPT hose connector X-751-4. See Figure 17 and Figure 19.
- 2.2.13 Apply pipe sealant to threads to 1 1/2 in. NPT hose connector X-751-4. See Figure 18.
- 2.2.14 Attach 1 1/2 in. NPT hose connector X-751-4 with 1 1/2 in. NPT elbow 151771 to hose SA22383. See Figure 20.

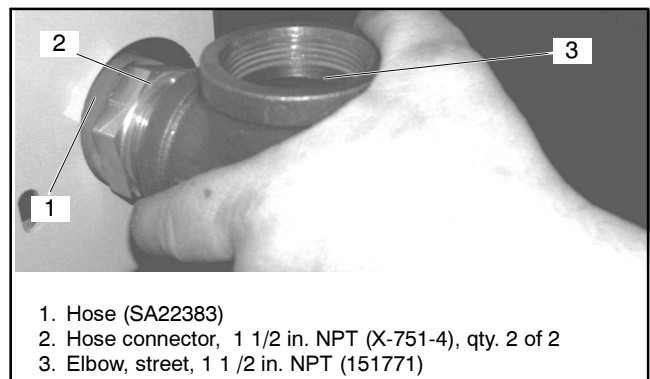


Figure 20 Elbow 151771 to Vent Pipe Subassembly

- 2.2.15 Tighten both hose clamps X-426-6 to both 1 1/2 in. NPT hose connectors, securely. See Figure 19.

2.2.16 Locate mounting slots located to the left of overspill tank GM49620 and attach lower vent pipe mounting bracket GM36057 to the enclosure.

- Place 8 mm (5/16 in.) hex nuts M6923-08-80 behind enclosure piece.
- Place 8 mm (5/16 in.) washers M125A-08-80 with M8-25 bolts M933-08025-60 thru mounting slot on overspill tank GM46940. Hand tighten all fasteners. See Figure 21.

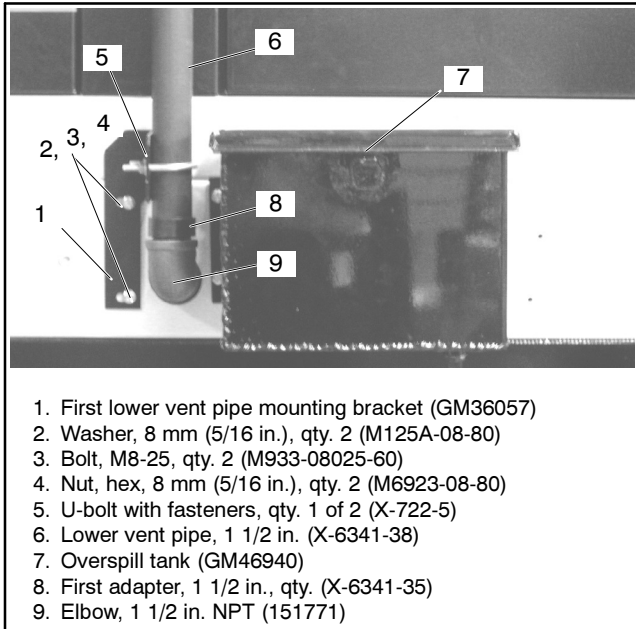


Figure 21 Attach Vent Pipe to Mounting Bracket

2.2.17 Verify lower vent pipe mounting bracket GM36057 and 1 1/2 in. NPT lower vent pipe X-6341-38 are 90° to the enclosure. Tighten fasteners securely. See Figure 21.

2.2.18 Apply pipe sealant to threads on 1 1/2 in. NPT elbow 151771. See Figure 20.

2.2.19 Attach first 1 1/2 in. adapter X-6341-35 to 1 1/2 in. NPT elbow 151771. See Figure 21.

2.2.20 Discard saddle on U-bolt X-722-5. Slide U-bolt through lower vent pipe mounting bracket GM36057 slots and re-attach fasteners. Hand tighten fasteners. See Figure 21.

Note: Before joining PVC pipes and connectors, scuff up mating surfaces with sand paper. Deburr the edges as needed. Apply PVC primer and allow to dry before applying PVC adhesive.

2.2.21 Insert the first lower vent pipe thru U-bolt X-722-5. Use PVC adhesive and attach the top of first 1 1/2 in. adapter X-6341-35 to the bottom of first 1 1/2 in. lower vent pipe X-6341-38. See Figure 21.

2.2.22 Use PVC adhesive and attach first 1 1/2 in. coupling X-6341-36 to the top of first 1 1/2 in. lower vent pipe X-6341-38.

2.2.23 Use PVC adhesive and attach second lower vent pipe X-6341-38 to the top of first 1 1/2 in. coupling X-6341-36.

2.2.24 Use PVC adhesive and attach second 1 1/2 in. coupling X-6341-36 to the top of second lower vent pipe X-6341-38.

2.3 Install the upper vent pipe components.

Note: This kit may contain a different number of upper and lower vent pipes including couplings than mentioned below, but will function the same.

2.3.1 Use PVC adhesive and attach first upper vent pipe X-6341-38 to the top of second 1 1/2 in. coupling X-6341-36 .

2.3.2 Use PVC adhesive and attach third 1 1/2 in. coupling X-6341-36 to the top of first upper vent pipe X-6341-38.

2.3.3 Use PVC adhesive and attach second 1 1/2 in. coupling X-6341-36 to the top of second upper vent pipe X-6341-38.

2.3.4 Discard saddle on U-bolt X-722-5 and attach U-bolt with fasteners to upper vent pipe mounting bracket GM36056. Slide 1 1/2 in. upper vent pipe X-6341-38 through U-bolt. Hand tighten fasteners attached to U-bolt. See Figure 22.

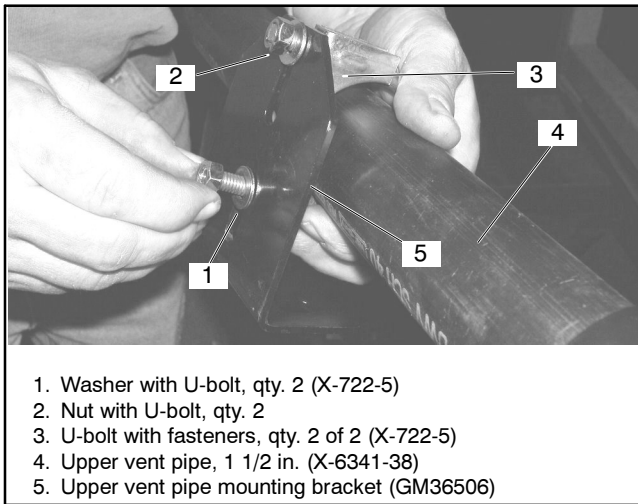


Figure 22 Upper Vent Pipe Mounting Bracket

2.3.5 Attach vented pipe cap GM40262 to second 1 1/2 in. adapter X-6341-35. See Figure 23.

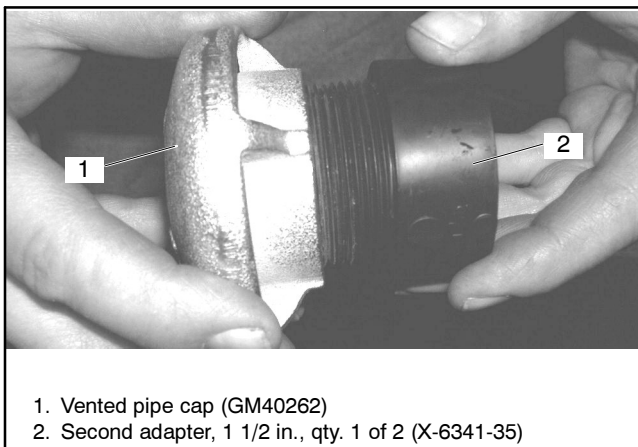


Figure 23 Assemble Vented Pipe Cap and Adapter

2.3.6 Use PVC adhesive and attach second 1 1/2 in. adapter X-6341-35 to the top of second 1 1/2 in. upper vent pipe X-6341-38. See Figure 24.

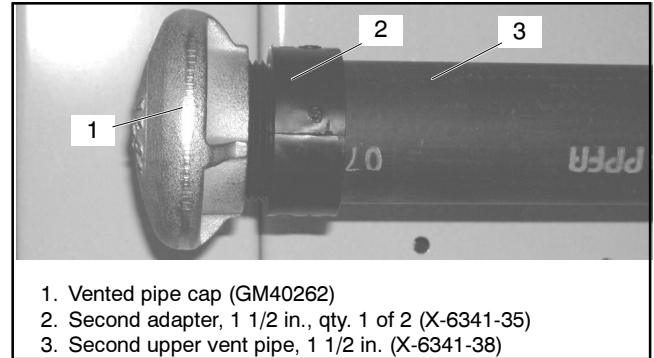


Figure 24 attach Pipe Cap Adapter to Upper Vent Pipe

2.3.7 Place second 1 1/2 in. upper vent pipe X-6341-38 into third 1 1/2 in. coupling X-6341-36. See Figure 25.

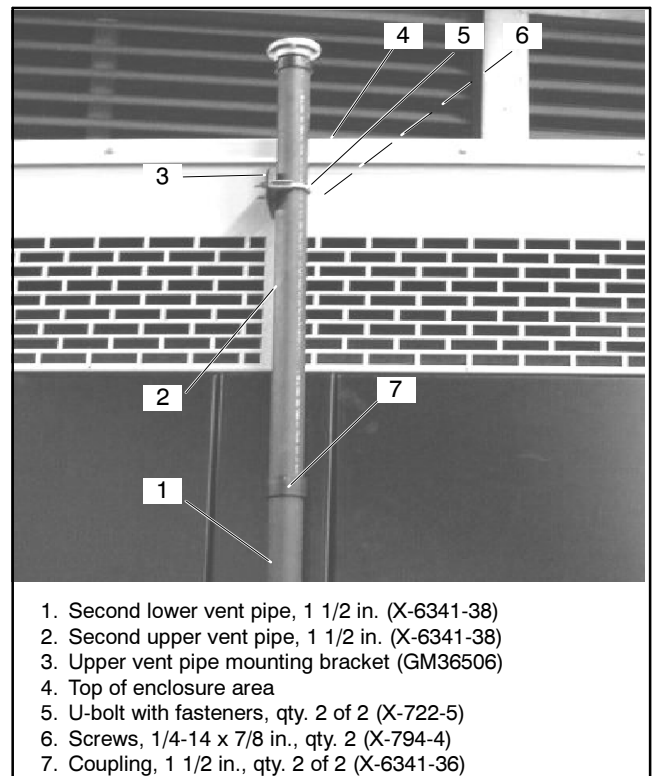


Figure 25 Upper and Lower Vent Pipe Assembly Typical

2.3.8 Slide upper vent pipe mounting bracket GM36056 subassembly to mounting area near the top of the enclosure. See Figure 25.

2.3.9 Mark the slots with a scribe or marker where the bracket will be mounted onto the enclosure.

2.3.10 Remove second 1 1/2 in. upper vent pipe X-6341-38 and upper vent pipe bracket subassembly from third 1 1/2 in. coupling X-6341-36. See Figure 25.

2.3.11 Drill two upper vent support bracket mounting holes for location of fasteners.

2.3.12 Use 1/4-14 x 7/8 screws X-794-4 to mount upper vent pipe support bracket GM36056 to enclosure.

2.3.13 Use PVC adhesive and attach the bottom of second 1 1/2 in. upper vent pipe X-6341-38 to the top of third 1 1/2 in. coupling X-6341-36. See Figure 25.

Note: Third coupling X-6341-36 was previously attached to second 1 1/2 in. lower vent pipe X-6341-38. See Figure 25.

2.3.14 Slide through U-bolt X-722-5 over 1 1/2 in. upper vent pipe X-6341-38 and thru slots of upper vent pipe support bracket GM36056. Attach fasteners to ends of U-bolts. See Figure 22.

2.3.15 Tighten and secure all fasteners on both U-bolts X-722-5 and lower vent pipe mounting bracket GM36057. See Figure 21.

2.4 Test run the generator set to check for leaks.

2.4.1 Place the generator set master switch to the RUN position to start the generator set.

2.4.2 Immediately stop the generator set if a fuel leak is detected. Otherwise, run the unit for five minutes and stop the generator set.

2.4.3 Check for leaks. If any leaks are found, disable the generator set and repair the leaks. Restore the generator for operation.

2.4.4 Place the generator set master switch to the RUN position to start the generator set and run for a minimum of 30 minutes. Immediately stop the generator set if a fuel leak is detected.

2.4.5 Check for leaks. If any leaks are found, disable the generator set and repair the leaks.

2.5 Restore the generator set from service.

2.5.1 Check that generator set master switch in the OFF/RESET position.

2.5.2 Reconnect the generator set engine starting battery(ies), negative (-) lead last.

2.5.3 Reconnect the power to the battery charger, if equipped.

2.5.4 Release door latches. Close and secure enclosure doors. See Figure 1.

3 Parts List by Group

Fuel Overspill Service Kit GM36148-KP3, GM36148-KP5

Note: This kit may contain a different number of upper and lower vent pipes including couplings than mentioned below, but will function the same.

Qty.	Description	Part No.
Overspill Tank Assembly Components-Opening L		
1	Tube, tank fill extension	GM36064-5
1	Elbow, pipe, 2 in. NPT	X-215-6
1	Bushing, reducing, 2 in. NPT	160212
1	Connector, hose, 1 1/2 in. NPT	X-751-4
1	Hose, fuel, 305 mm (1.0 ft.) cut to fit	SA22383
2	Clamp, hose	X-426-6
1	Overspill tank, 19 L (5 gal.)	GM46940
4	Bolts, M8-25	M933-08025-60
4	Washers, 8 mm (5/16 in.)	M125A-08-80
4	Nut, hex, 8 mm (5/16 in.)	M6923-08-80
Vent Pipe Assembly Components-Opening K		
1	Elbow, street, 1 1/2 in. NPT	A-27
1	Bushing, reducing, 2 in. NPT	160212
2	Connector, hose, 1 1/2 in. NPT	X-751-4
1	Elbow, pipe, 1 1/2 in. NPT	151771
2	Fitting, PVC, 1 1/2 X 1 1/2 in. NPT adapter	X-6341-35
1	Mounting bracket, lower vent pipe	GM36057
2	Bolts, M8-25	M933-08025-60
2	Washers, 8 mm (5/16 in.)	M125A-08-80
2	Nut, hex, 8 mm (5/16 in.)	M6923-08-80
2	Clamp, hose (1/2 in.)	X-426-6
1	Hose, fuel, 305 mm (1.0 ft.) cut to fit	SA22383
1	Mounting bracket, upper vent pipe	GM36056
3	Couplings, 1 1/2 in.	X-6341-36
1	Lower vent pipe, 1 1/2 in.	X-6341-38
1	Upper vent pipe, 1 1/2 in.	X-6341-38
1	Cap, pipe vented	GM40262
2	Screw, hex nut, 1/4-14 x 7/8 in.	X-794-4
2	U-bolt	X-722-5

Notes