
INSTALLATION INSTRUCTIONS

Original Issue Date: 5/99

Model: 230-400 kW Diesel

Market: Industrial

Subject: Flexible Fuel Line Kits PA-343478 and PA-343478-SD

The flexible fuel line kit provides a flexible connection between the engine fuel fittings and the fuel tank plumbing. Observe the following safety precautions while installing the kit:

WARNING

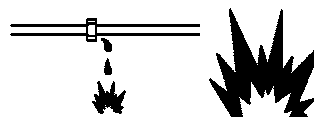


Accidental starting.
Can cause severe injury or death.

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



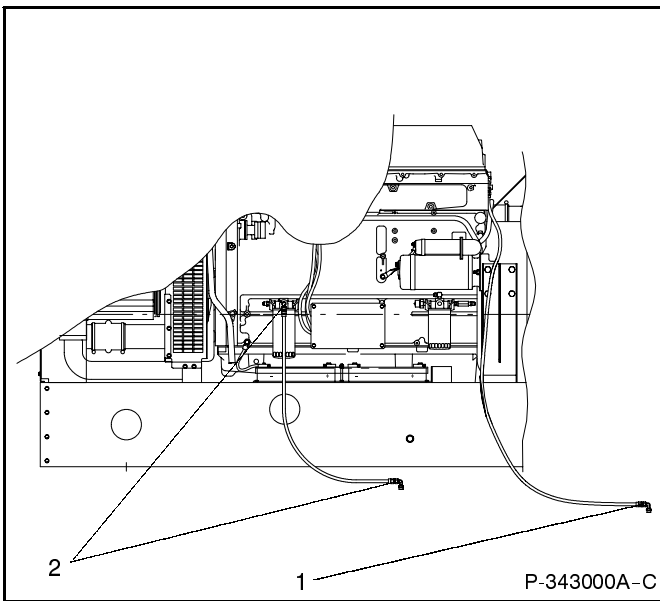
Explosive fuel vapors.
Can cause severe injury or death.

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

The fuel system. Explosive fuel vapors can cause severe injury or death. Vaporized fuels are highly explosive. Use extreme care when handling and storing fuels. Store fuels in a well-ventilated area away from spark-producing equipment and out of the reach of children. Never add fuel to the tank while the engine is running because spilled fuel may ignite on contact with hot parts or from sparks. Do not smoke or permit flames or sparks to occur near sources of spilled fuel or fuel vapors. Keep the fuel lines and connections tight and in good condition. Do not replace flexible fuel lines with rigid lines. Use flexible sections to avoid fuel line breakage caused by vibration. Do not operate the generator set in the presence of fuel leaks, fuel accumulation, or sparks. Repair fuel systems before resuming generator set operation.

Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the power to the battery charger, if equipped.
3. Disconnect the generator set engine starting battery(ies), negative (-) lead first.
4. Refer to Figure 1 for installation of the flexible fuel line kit. Apply pipe sealant to all NPT threaded fittings. Refer to Parts List for description of components.
5. Bleed air from the fuel system according to the engine manufacturer's instructions. If air is trapped in the fuel system, the engine will be difficult to start and/or engine operation will be erratic.

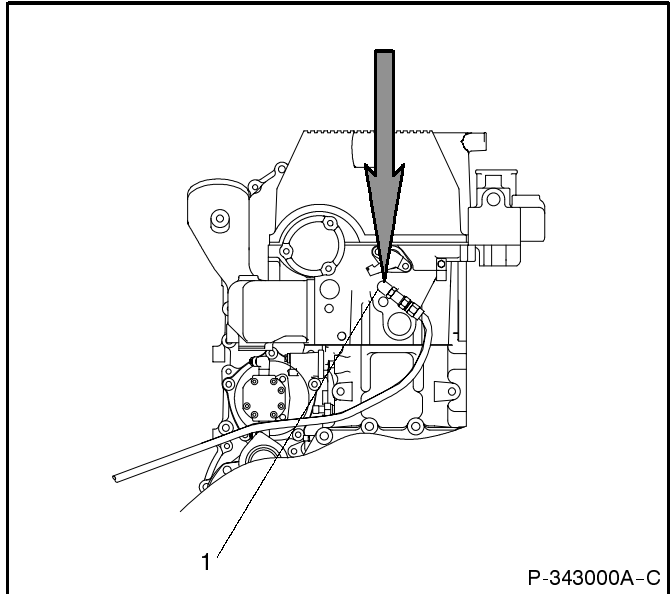


1. Oil line elbow (X-447-20) and flexible fuel line (343604)
2. Oil line elbows (X-447-14) and flexible fuel line (274228)

Figure 1. Oil Line Elbow and Flexible Fuel Line Locations

NOTE

After connecting the elbow fitting to the fuel line, rotate the fitting downward as far as possible. See Figure 2 below.



1. Oil line elbow fitting (existing)

Figure 2. Oil Line Elbow Fitting Position

Flexible Fuel Line Kits

Parts List		
Kits: PA-343478, PA-343478-SD		
Qty.	Description	Part Numbers
2	Elbow, oil line 7/8" -14 x 3/8", 45°swivel	X-447-14
1	Elbow, oil line 3/4" -16 x 3/8", 45°swivel	X-447-20
1	Line, flex. fuel 7/8" -14 x 3/8", 45°swivel	274228
1	Line, flex. fuel 3/4" -16 x 3/8", 45°swivel	343604