

KOHLER® POWER SYSTEMS

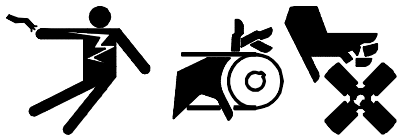


INSTALLATION INSTRUCTIONS

Regulator Relocation Kit 227947 For LP Liquid-Fueled 7CCKM/CCKMR RV/Mobile Units

This kit deals with relocating the primary regulator in a vertical position allowing for drainage of any accumulated contaminants from the primary regulator. After installation of this kit service the unit every 50 hours of operation by draining the contaminants from the collection pipe into a suitable container and disposing in an environmentally safe manner.

⚠ WARNING



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

Disconnect battery cables before working on generator set (negative lead first and reconnect it last).

Accidental starting can cause severe injury or death. Disconnect battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to generator set. The generator set can be started by the remote start/stop switch unless this precaution is followed.

⚠ WARNING



**Fire.
Can cause severe injury or death.**

Do not smoke or permit flame or spark to occur near fuel or fuel system.

A flash fire can cause severe injury or death. Do not smoke or permit flame or spark to occur near carburetor, fuel line, fuel filter, fuel pump, or other potential sources of spilled fuel or fuel vapors. Use a suitable container to catch all fuel when removing fuel line or carburetor.

⚠ WARNING



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

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

Explosive fuel vapors can cause severe injury or death. All fuels are highly explosive in a vapor state. Use extreme care when handling and storing fuels. Store fuel 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 since spilled fuel may ignite on contact with hot parts or from ignition spark. Do not smoke or permit flame or spark to occur near potential sources of spilled fuel or fuel vapors. Keep fuel lines and connections tight and in good condition. Do not replace flexible fuel lines with rigid lines. Flexible sections are used to avoid breakage due to vibration. If any fuel leakage, fuel accumulation, or electrical sparks are noted, **DO NOT OPERATE GENERATOR SET.** Repair systems before resuming generator set operation

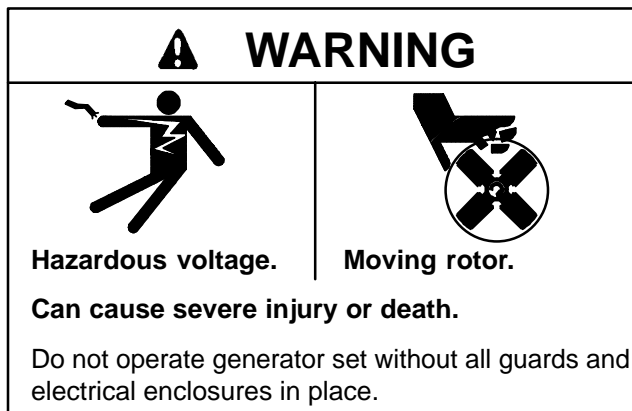
Explosive fuel vapors can cause severe injury or death. Take additional precautions when using the following fuels:

Gasoline—Store gasoline only in approved red containers clearly marked GASOLINE.

Propane (LP)—Adequate ventilation is mandatory. Propane is heavier than air; install gas detectors low in room. Inspect detectors often.

Explosive fuel vapors can cause severe injury or death. Spilled fuel can cause an explosion. Use a container to catch fuel when draining fuel system. Wipe up all spilled fuel after draining system.

Explosive fuel vapors can cause severe injury or death. Fuel leakage can cause an explosion. Check LP liquid withdrawal gas fuel system for leakage using a soap-water solution with fuel system test pressurized not less than 90 psi (621 kPa). Do not use test solutions that contain ammonia or chlorine, since the soap will not bubble for an accurate leakage test.



Hazardous voltage 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 adjustments are made. Remove wristwatch, rings, and jewelry that can cause short circuits.

Installation

1. If removing the generator set from a coach, move the controller master switch to the STOP position. Disconnect the battery of the generator set, negative lead first. Disconnect the fuel lines, load leads, electrical leads, and exhaust system. Remove the generator set from the coach according to the procedure supplied by the coach manufacturer.
2. Remove the screws securing the hood to the generator. Remove the hood and outlet screen to expose the engine end of the generator.

NOTE

Refer to Figure 1 and Figure 2 for generator and kit component identification.

3. Disconnect the fuel line (227420) from the primary regulator by loosening the fuel fitting (X-6290-2).
4. Disconnect the regulator bracket from the primary regulator. Save all hardware (two 8-32 size screws, and two #10 washers). Discard regulator bracket.
5. Disconnect the primary regulator (278889) from the antidiesel solenoid.
6. Save the primary regulator with pipe nipple and condensation hose attached.
7. Cut a drain hole in the generator tray. See Figure 2 for location and size.
8. Remove existing street elbow (X-555-2) from the primary regulator's condensation hose. Discard street elbow and save hose connector.

NOTE

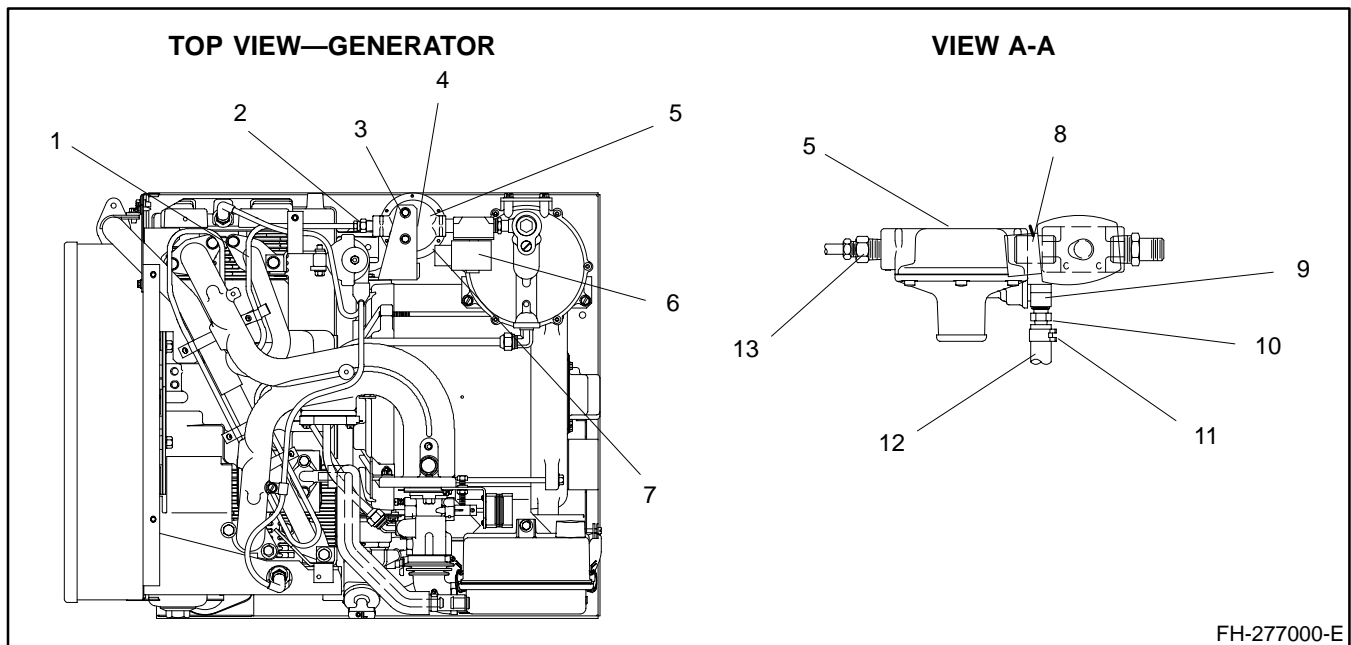
Use pipe sealant on all pipe connections. Do not use any type of tape on pipe connections. Do not get pipe sealant in any pipe.

9. Install street elbow (X-555-3) into the antidiesel solenoid.
10. Install pipe (X-204-21) into street elbow.
11. Secure regulator bracket (227933) to alternator using hardware (two 10-24 screws, and two #10 washers) removed in step #4.
12. Connect elbow (X-215-9) to pipe (X-204-21). Tighten elbow as shown in Figure 2.
13. Connect pipe nipple (X-204-9) into elbow (X-215-9).
14. Rotate elbow (X-215-9) back away from generator.
15. Connect black iron tee (X-203-15) to pipe nipple (X-204-9) and tighten tee as shown in Figure 2.
16. Install regulator in black iron tee (X-203-15). It may be necessary to slightly offset the tee temporarily to the left when installing the regulator. Final position regulator as shown in Figure 2.
17. Rotate elbow (X-215-9) and regulator assembly back to tight position. It may be necessary to rotate regulator for correct alignment. See Figure 2 for alignment.
18. Attach regulator to bracket (227933) using two 8-32 screws, and two #8 washers from step #4.
19. Connect pipe (X-204-19) into the bottom hole of the black iron tee. Align pipe directly over newly drilled hole in the generator mounting tray.
20. Install pipe cap (X-268-9) onto the end of pipe (X-204-19).

NOTE

Drain off the contaminants collected in pipe (X-204-19) every 50 hours of engine operation.

21. Install existing hose connector (X-380-1) from step #8 into regulator. Connect condensation hose (X-386-75) and hose clamp (X-309-14) onto the primary regulator. Route the condensation hose to the existing drain hole and secure with a cable tie.
22. Install street elbow (X-555-1) into the primary regulator's top hole. Opening must point toward installer.
23. Install pipe (X-220-15) into street elbow.
24. Install elbow (X-215-5) onto pipe.
25. Attach nipple (X-220-5), pipe coupling (X-216-11) and existing fuel fitting to elbow (X-215-5).
26. Install half of insulation sleeve (227578) on fuel line (227420).
27. Slice second half of insulation sleeve lengthwise and install on fuel line directly adjacent to fuel line in #26.
28. Connect fuel line to fuel fitting and torque to 15 in. lbs.
29. Remove generator controller cover.
30. Loosen fuel line to the left of controller.
31. Remove fitting from fuel shutoff solenoid.
32. Connect restricted pipe adapter (227941) to existing fitting.
33. Reinstall assembly on fuel shutoff solenoid.
34. Reattach fuel line and torque to 15 in. lbs.
35. Reinstall controller cover.
36. Install reflective liner (227405). Reflective liner must cover exhaust manifold and fuel lines.
37. Cut 9 inches (228.6 mm) from reflective liner. Peel off backing to expose adhesive. Cover exhaust manifold and fuel lines on controller side of generator. Reflective liner must be placed under intake manifold. Secure liner to manifold and fuel lines with wire where needed.
38. Cut remainder of reflective liner as needed to cover all of exhaust manifold and fuel lines. Peel off backing on reflective liner to expose adhesive. Reflective liner must be under intake manifold and cover exhaust manifold and all adjacent fuel lines. Secure liner with wire where needed.
39. Check all pipe joints for air leaks.
40. Replace the generator hood and outlet screen using existing hardware.
41. Reconnect the battery, negative lead last. Connect the fuel lines, load leads, electrical leads, and exhaust system.

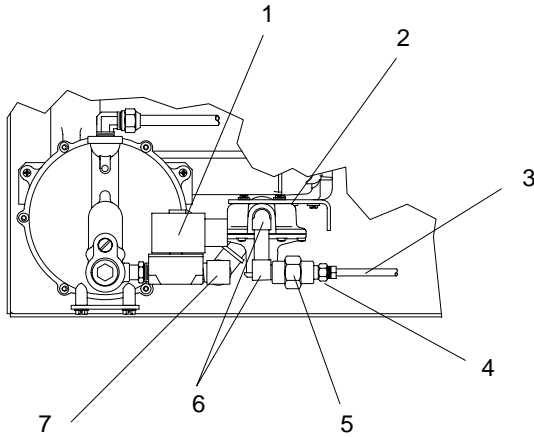


1. Fuel Line (227420)
2. Fuel Fitting (X-6290-2)
3. Two 8-32 size Screws and two #8 Washers
4. Regulator Bracket (227414)
two 10-24 size Screws and two #10 Washers
5. Primary Regulator (278889)
6. Antidiesel Solenoid (A-227540)

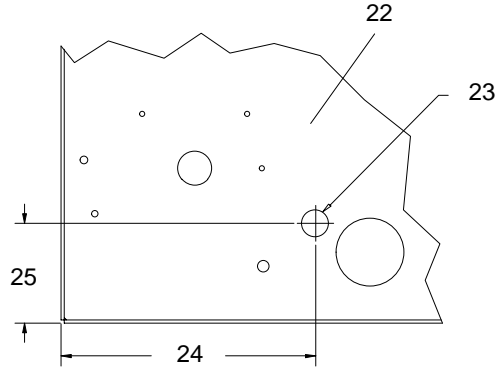
7. See View A-A
8. Pipe Nipple (X-204-9)
9. Street Elbow (X-555-2)
10. Hose Connector (X-380-1)
11. Hose Clamp (X-309-14)
12. Hose (X-386-75)
13. Fuel Fitting (X-6290-2)

Figure 1. LP Liquid-Fueled Unit With Primary Regulator Mounted In Original Horizontal Position

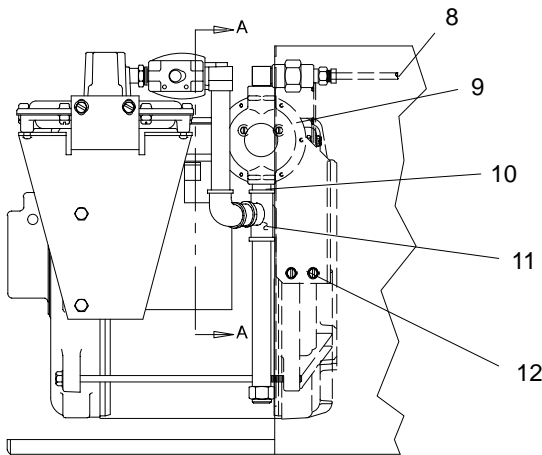
TOP VIEW—GENERATOR



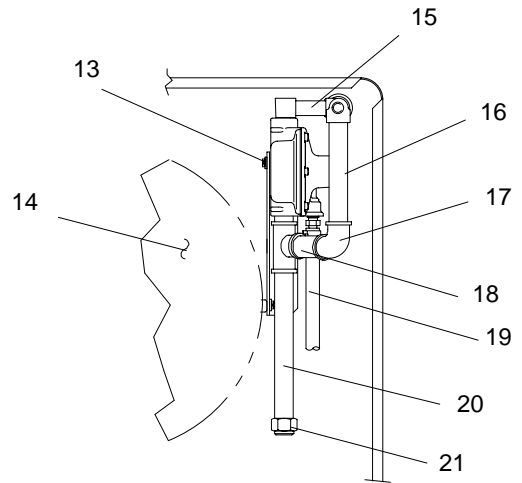
**TOP VIEW—TRAY
DRAIN HOLE LOCATION
(NONSERVICE SIDE)**



NONSERVICE SIDE VIEW—GENERATOR



**VIEW A-A—
REGULATOR MOUNTING POSITION**



FP-277000-

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Antidiesel solenoid 2. Regulator Bracket (227933) 3. Use existing fuel line (227420) 4. Use existing fuel fitting (X-6290-2) 5. Pipe Coupling (X-216-11) 6. Street Elbow (X-555-1) 7. Street Elbow (X-555-3) 8. Connects to fuel shut-off solenoid 9. Use existing primary regulator (278889) 10. Use existing pipe nipple (X-204-9) 11. Black Iron Tee (X-203-15) 12. Use existing hardware—
two 10-24 size screws and two #10 washers 13. Use existing hardware—
two 8-32 size screws and two #8 washers | <ol style="list-style-type: none"> 14. Alternator 15. Pipe (X-220-15) 16. Pipe (X-204-21) 17. Elbow (X-215-9) 18. Pipe Nipple (X-204-9) 19. Use existing hose connector (X-380-1), hose (X-386-75),
and hose clamp (X-309-14). Discard street elbow (X-555-2).
Secure with cable tie. 20. Pipe (X-204-19) 21. Pipe Cap (X-268-9) 22. Generator mounting tray 23. 1.00-inch diameter 24. 9.35 ± 0.06 inch 25. 3.66 ± 0.06 inch |
|---|---|

Figure 2. LP Liquid-Fueled Unit With Primary Regulator Mounted In Relocated Vertical Position

Parts List

KIT 227947

Qty.	Description	Part Number
1	Elbow, Street 3/8 NPT	X-555-3
2	Elbow, Street 1/4 NPT	X-555-1
1	Coupling, Pipe	X-216-11
1	Bracket, Regulator	227933
1	Tee, Black Iron 3/8 x 3/8 x 3/8	X-203-15
1	Pipe 1/4 NPT (1.88 in.)	X-220-15
1	Pipe 3/8 NPT (4.50 in.)	X-204-21
1	Elbow 3/8 NPT x 0.94	X-215-9
1	Nipple, Pipe 3/8 x 1-1/2	X-204-9
1	Pipe 3/8 NPT (6.00 in.)	X-204-19
1	Cap, Pipe 3/8 NPT	X-268-9
1	Elbow. Pipe 1/4	X-215-5
1	Nipple, Pipe 1/4 x 7/8	X-220-5
1	Insulation, Sleeve	227578
1	Liner, Reflective	227405
1	Adapter, Restricted Pipe	227941