

INSTALLATION INSTRUCTIONS

Original Issue Date: 7/97

Model: 15/20CCFO/CCFOZ

Market: RV

Subject: EMI/RFI Filter Kits PA-226218 and 226218

The EMI/RFI filter kit allows the 15/20CCFO/CCFOZ generator sets to meet the CE standard EN55022 emission standard for ITE. Install the filter kit as described to prevent line impedance on the EMI/RFI filters. Increasing lead length between alternator and filter decreases the filter effectiveness. Observe the following safety precautions while installing the kit.



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

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

Disabling generator set. 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 the generator set or connected equipment. The generator set can be started by the remote start/stop switch unless this precaution is followed.

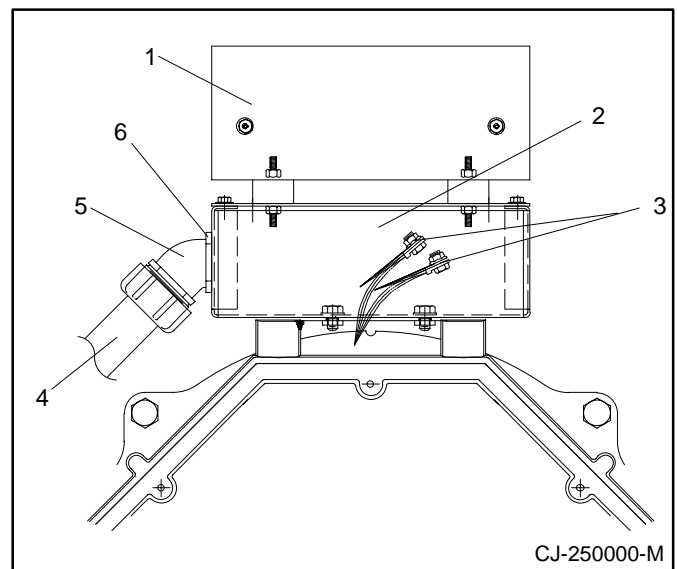
Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the generator set engine starting battery, negative (-) lead first.
3. Disconnect controller harness and remote switch connection, if equipped, from the back of controller.
4. Loosen four screws securing junction box cover to junction box.
5. Remove junction box cover and controller. See Figure 1.

NOTE

Clearly mark all leads during procedure and use an ohmmeter to check work. Crossing alternator output leads results in an alternator short circuit.

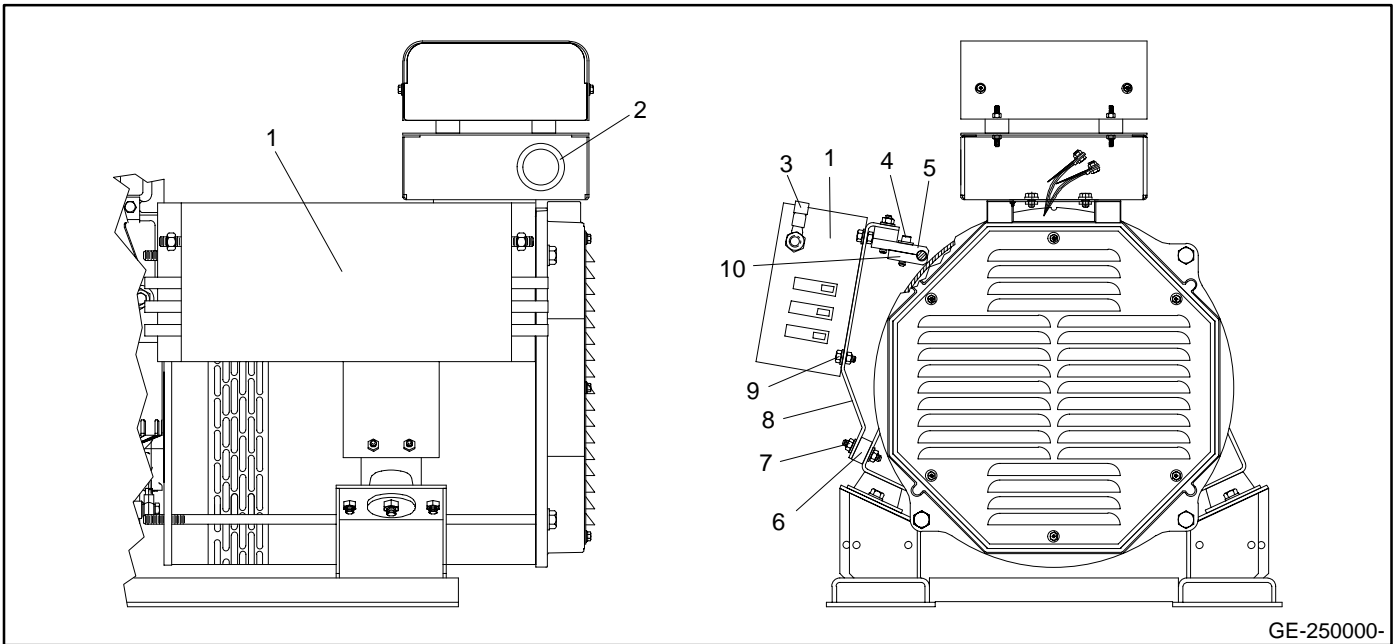
6. Mark all generator power leads at connection lugs and end points.
7. Disconnect L1, L2, N, and Ground leads at lug points.
8. Loosen and remove lock ring on elbow inside of the junction box. Remove the elbow and leads from the junction box. See Figure 1.
9. Cut 30 in. (76 cm) from each of the four generator leads at the lugged end.



1. Controller
2. Junction box
3. Leads L1 and L2
4. AC wiring harness
5. Elbow
6. Lock ring

Figure 1. Generator Set Controller and Junction Box

10. Strip 1.5 in. (4 cm) of insulation from each end of cut leads, eight ends total.
11. Crimp terminal connectors (X-283-19) onto Ground leads.
12. Install rubber grommet (X-284-14) in hole where elbow was removed from junction box in step 8.
13. Loosely secure top clamp (226222) and bottom clamp (226220) with screws (X-55-2) to alternator overbolt. See Figure 2.
14. Install two vibration mounts (241769) one each in upper filter mounting brackets. See Figure 2.
15. Install two vibration mounts (241769), one each in alternator base. Secure vibration mounts using nuts (X-6210-2) and lock washers (X-22-11).
16. Secure lower mounting bracket (226221), to vibration mounts with lock washers (X-22-11) and nuts (X-6210-2).
17. Secure filter (226219) to mounting bracket with bolts (X-465-2), lock washers (X-22-11), and nuts (X-6210-2).
18. With all brackets correctly aligned and filter secured to bracket, final tighten all mounting bracket bolts.
19. Connect alternator leads L1, L2, N, and G to filter as shown in Figure 3.
20. Connect 30 in. (76 cm) L1, L2, N, and G leads to filter as shown in Figure 3.
21. Route the 30 in. (76 cm) L1 and L2 leads through the rubber grommet in the junction box and connect them to the corresponding alternator lugs.
22. Wrap the lug connections of the L1 and L2 leads with an insulating tape covering all bare metal of the connections.
23. Route the 30 in. (76 cm) N and Ground leads through the rubber grommet in the junction box and connect them to the corresponding lugs.
24. Reinstall junction box cover with controller. Secure four mounting screws.
25. Individually ground each filter ground lug to the engine frame for maximum filtering effectiveness.
26. Secure any loose conduit away from heat of the alternator and engine exhaust.
27. Reconnect controller harness and remote switch connection, if equipped, to the back of the controller.
28. Check that the generator set master switch is in the OFF position.
29. Reconnect the generator set engine starting battery, negative (-) lead last.



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| <ol style="list-style-type: none"> 1. EMI/RFI filter (226219) 2. Grommet (X-284-14) 3. Terminal (X-283-19) 4. Hex. socket head screw (X-55-2) and plain washers (X-25-40) 5. Top clamp (226220) | <ol style="list-style-type: none"> 6. Controller mount (241769) 7. Whiz nut (X-6210-2) 8. Filter mounting bracket (226221) 9. Screw (X-465-2), lock washer (X-22-11), and nut (X-6210-2) 10. Bottom clamp (226222) |
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Figure 2. Filter Installation

EMI/RFI Filter Kit

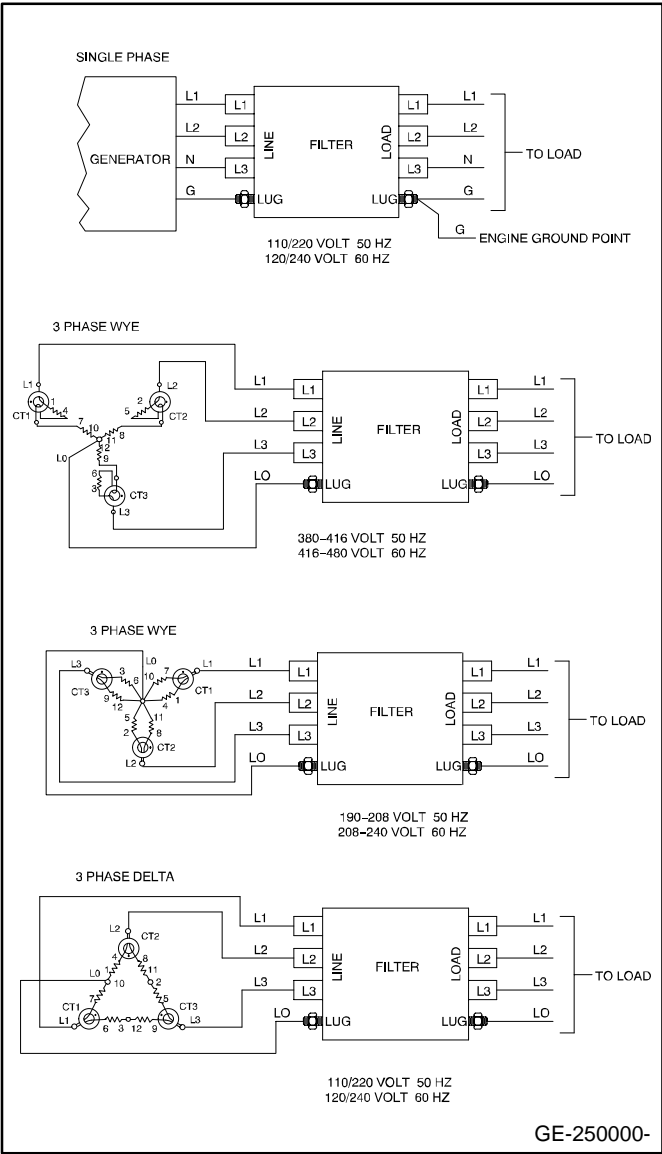


Figure 3. EMI/RFI Filter Wiring Diagram

Parts List

Kits: PA-226218, 226218		
Qty.	Description	Part Number
4	Washer, lock	X-22-11
2	Washer, plain	X-25-40
2	Screw, hex. socket hd.	X-55-2
2	Terminal	X-283-19
1	Grommet, rubber 1.75 in.	X-284-14
4	Bolt, hex head	X-465-2
10	Nut, hex	X-6210-2
1	Filter, EMI/RFI	226219
1	Clamp, top	226220
1	Bracket, filter mounting	226221
2	Clamp, bottom	226222
4	Mount, vibration	241769