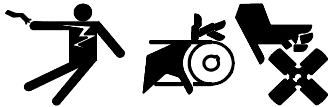


## INSTALLATION INSTRUCTIONS

Original Issue Date: 11/98  
 Model: 17/22RY  
 Market: Industrial  
 Subject: Oil Cooler Kit PA-358352

Use the oil cooler kit on generator sets operating at high loads in high ambient temperatures. Observe the following safety precautions while installing the kit.

### **⚠ WARNING**



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

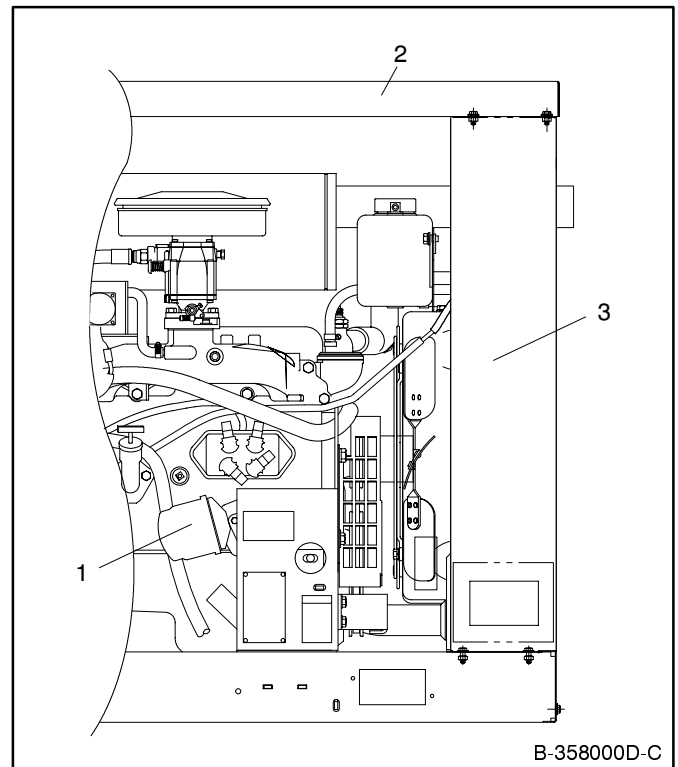
Disconnect battery cables before working on generator set. (Remove negative (-) lead first when disconnecting battery. Reconnect negative (-) lead last when reconnecting battery.)

**Disabling 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) Turn the generator set master switch to OFF position.  
 2) Disconnect power to battery charger. 3) Remove battery cables (remove negative (-) lead first). Reconnect negative (-) lead last when reconnecting battery. Follow these precautions to prevent starting of generator set by an automatic transfer switch or remote start/stop switch.

## 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.

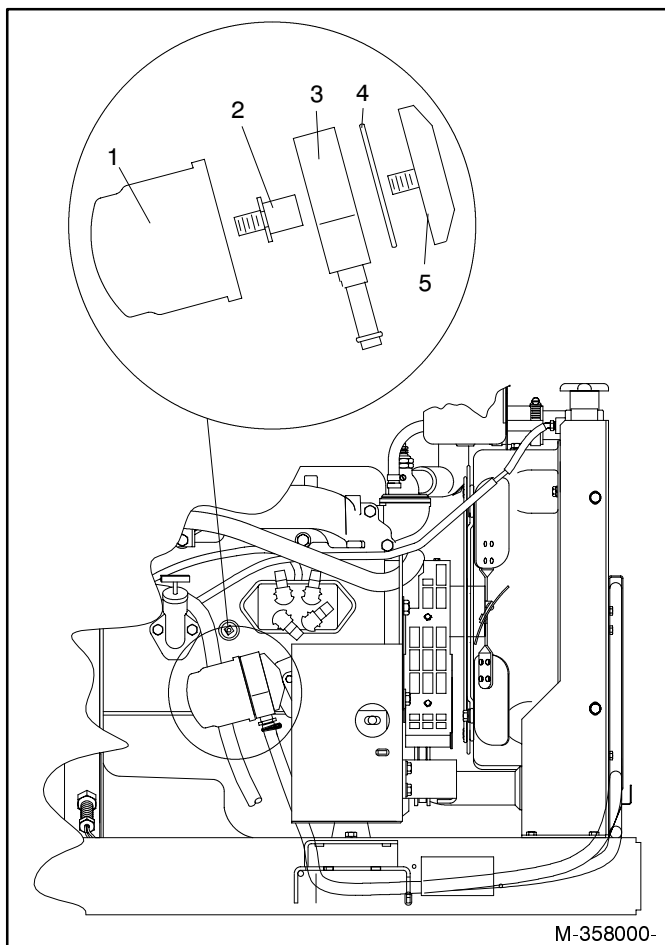
4. Remove the weather housing doors, if the generator set is equipped with a weather housing.
5. Remove the hardware securing the weather housing roof to the radiator and alternator end housing panels, if the generator set is equipped with a weather housing. See Figure 1.
6. Remove the hardware securing the radiator end panel to the generator set skid. See Figure 1.



1. Oil filter
2. Housing roof
3. Radiator end panel

**Figure 1. Radiator Shroud**

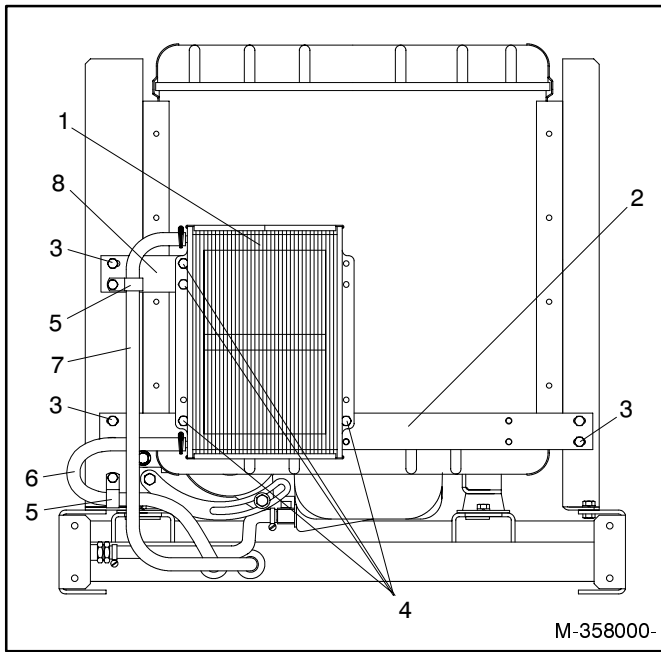
7. Remove the engine oil filter.
8. Install the oil cooler diverter O-ring in the oil cooler diverter. See Figure 2.
9. Secure the oil cooler diverter, with the O-ring installed against the original oil filter sealing surface, with the adapter. See Figure 2 for positioning of the diverter. Torque the adapter to 20 ft. lbs. (27.1 Nm).



1. Oil filter
2. Oil cooler adapter
3. Oil cooler diverter
4. Diverter O-ring
5. Original oil filter sealing surface

**Figure 2. Oil Filter Assembly**

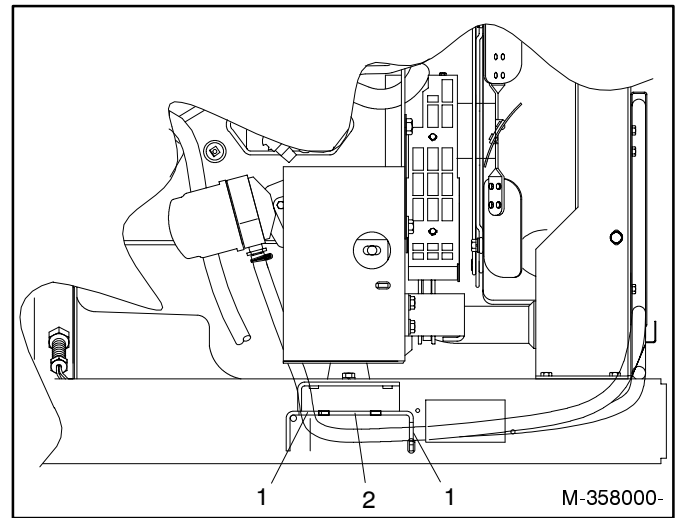
10. Apply a light coat of clean oil to the rubber seal of the new oil filter and install the filter following the instructions provided with the new filter.
11. Secure the 23.5 in. (597 mm) oil cooler bracket (358353) to the left and right radiator supports with 1/4-20 x 0.625 in. bolts (X-465-2) and 1/4-20 spirallock flange nuts (X-6210-2). See Figure 3 for mounting location.
12. Secure the 4.3 in. (109 mm) oil cooler bracket (358354) to the radiator support. Install only the top mounting hardware. See Figure 3.
13. Secure the oil cooler to the two brackets with 1/4-20 x 0.375 bolts (X-465-17), 1/4 in. internal tooth lock washers (X-22-11), and 1/4 in. plain washers (X-25-40). See Figure 3.
14. Connect the oil cooler hoses to the oil cooler. Install the 46 in. (1168 mm) hose to the upper oil cooler connection. Install the 34 in. (864 mm) hose to the lower oil cooler connection.
15. Clamp the upper oil cooler hose to the 4.3 in. (109 mm) bracket with a clamp (X-672-13), 1/4-20 x 0.625 in. bolt (X-465-2) and 1/4-20 spirallock flange nut (X-6210-2). See Figure 3. Verify that the hose from the oil cooler is not kinked.
16. Clamp the lower oil cooler hose to the radiator support with a clamp (X-672-13) and a 1/4-20 x 0.625 in. bolt (X-465-2) and 1/4-20 spirallock flange nut (X-6210-2). See Figure 3. Verify that the hose from the oil cooler is not kinked.



1. Oil cooler assembly (A-358351)
2. Oil cooler bracket, 23.5 in. (597 mm) (358353)
3. Bolt, 1/4-20 x 0.625 in. (X-465-2)
4. Bolt, 1/4-20 x 0.375 in. (X-465-17), 1/4 in. internal tooth lock washer (X-22-11), and 1/4 in. plain washer (X-25-40)
5. Clamp (X-672-13)
6. Hose, 34 in. (864 mm)
7. Hose, 46 in. (1168 mm)
8. Oil cooler bracket, 4.3 in. (109 mm) (358354)

**Figure 3. Oil Cooler Installation**

17. Install the four grommets (X-284-22) in the generator set skid cross-member. See Figure 4 for location.
18. Route the oil cooler lines from the oil cooler through the grommets in the skid cross-member to the oil filter location.
19. Verify that the oil lines are not kinked and not contacting any sharp or square edges.
20. Connect the oil cooler lines to the diverter with the supplied hose clamps. Place the hose clamps 0.25 in. (6 mm) from the end of the hose.
21. Check that all mounting hardware and clamps are tight.



1. Grommet (X-284-22)
2. Skid cross-member

**Figure 4. Oil Cooler Lines**

22. Check that the generator master switch is in the OFF position.
23. Reconnect the generator set engine starting battery, negative (-) lead last.
24. Reconnect the power to the battery charger, if equipped.
25. Test run the generator set for 5–10 minutes to purge air from the system and to check for oil leaks at all the oil cooler connections.
26. Stop the generator set.
27. Correct any leakage after the engine and radiator have cooled.
28. Check the oil level and add oil if necessary to bring the oil level to the full mark.

#### Oil Cooler Kit

Parts List		
Kit: PA-358352		
Qty.	Description	Part Number
1	Cooler assembly, oil	A-358351
4	Washer, lock, 1/4 in.	X-22-11
4	Washer, plain	X-25-40
4	Grommet	X-284-22
7	Bolt, 1/4-20 x 0.625 in.	X-465-2
4	Bolt, 1/4-20 x 0.375 in.	X-465-17
2	Clamp	X-672-31
7	Nut, whiz	X-6210-2
1	Bracket, oil cooler, 23.5 in.	358353
1	Bracket, oil cooler, 4.3 in.	358354