
INSTALLATION INSTRUCTIONS

Original Issue Date: 6/99

Model: 230-400 kW Diesel

Market: Industrial

Subject: Prealarm Sender Kits PA-343471 and PA-343471-SD

The prealarm sender kits provide switches to monitor two conditions:

- **Low water temperature.** The prealarm low water temperature indicator activates if the engine coolant temperature is below the desired level.
- **Low oil pressure.** The prealarm low oil pressure indicator activates if the engine oil pressure is lower than normal.

NOTE

The prealarm high engine temperature switch is a standard engine control on 230-350 kW models.

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



Hot coolant and steam.
Can cause severe injury or death.

Before removing the pressure cap, stop the generator set and allow it to cool. Then loosen the pressure cap to relieve pressure.

Checking the coolant level. Hot coolant can cause severe injury or death. Allow the engine to cool. Release pressure from the cooling system before opening the pressure cap. To release pressure, cover the pressure cap with a thick cloth and then slowly turn the cap counterclockwise to the first stop. Remove the cap after pressure has been completely released and the engine has cooled. Check the coolant level at the tank if the generator set has a coolant recovery tank.

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. Allow the generator set to cool. Remove radiator cap to relieve radiator pressure. Drain coolant into suitable container.

NOTE

Locate the petcock valve on the radiator bottom and/or on the engine block.

NOTE

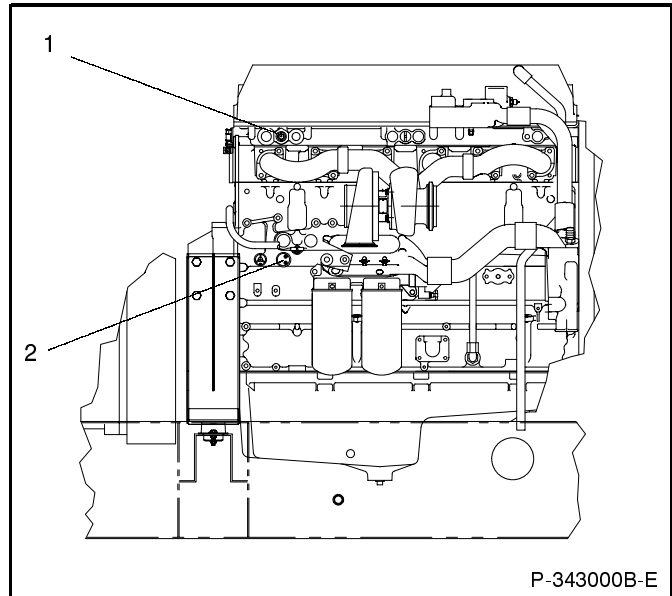
It is not necessary to drain all coolant to install the engine temperature switch. Drain enough coolant so that leakage does not occur when the engine temperature switch is removed.

5. Remove the pipe plug in the engine block. Do not reuse the original pipe plug. See Figure 1 for location.
6. Coat the threads of the reducer bushing (153659) with pipe sealant and install where the pipe plug was removed in step 5.
7. Coat the threads of the low water temperature switch (290090) with pipe sealant and install.
8. Remove the pipe plug for the engine oil galley. Do not reuse the original pipe plug. See Figure 1 for location.
9. Coat the threads of the reducer bushing (X-202-27) with pipe sealant and install.
10. Coat the threads of the prealarm low oil pressure switch (271425) with pipe sealant and install.
11. Find the end of the engine wiring harness near the low water temperature switch (290090). Pull back the plastic sheathing to expose the wire bundle and pull out wire 35A.
12. Connect lead 35A of the engine wiring harness to one terminal of the low water temperature switch (290090). Connect the N ground lead of the engine wiring harness from the bell housing bolt to the other terminal of the switch.
13. Find the end of the engine wiring harness near the prealarm low oil pressure switch (271425). Pull back the plastic sheathing to expose the wire bundle and pull out wire 41A.
14. Connect lead 41A of the engine wiring harness to the push-on terminal of prealarm low oil pressure switch (271425).
15. Close the petcock valve on the bottom of the radiator and/or the engine block. Fill the cooling system with fresh coolant. Dispose of all waste materials (engine oil, fuel, coolant, etc.) in an environmentally safe manner. Contact local authorities for disposal procedures and location.
16. Check that the generator master switch is in the OFF position.
17. Reconnect the generator set engine starting battery, negative (-) lead last.
18. Reconnect the power to the battery charger, if equipped.

19. Test run the generator set for several minutes and check for leaks at the switches. Stop generator set.

NOTE

Pay special attention to the coolant level. After the coolant has been drained, allow time for complete refill of the engine water jacket. Check coolant level as prescribed in the Prestart Checklist of the Operation Manual.



1. Low water temperature switch (290090) and reducing bushing (153659)
2. Prealarm low oil pressure switch (271425) and reducing bushing (X-202-27)

Figure 1. Switch and Bushing Installation Locations

Prealarm Sender Kits

Parts List		
Kits: PA-343471, PA-343471-SD		
Qty.	Description	Part Numbers
1	Bushing, reducing, 1/8" x 1/4"	X-202-27
1	Bushing, reducing, 1/2" x 3/4"	153659
1	Switch Assy., pressure	271425
1	Switch, low water temperature	290090