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## INSTALLATION INSTRUCTIONS

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Original Issue Date: **8/95**

Model: **200-350 kW**

Market: **Industrial**

Subject: **Anticipatory Alarm Kits PA-272711, PA-272711-SD**

The anticipatory alarm kit provides switches to monitor three conditions:

- Low water temperature. The low water temperature indicator activates if the optional engine block heater malfunctions and/or the engine coolant temperature is too low.
- High water temperature. The anticipatory high water temperature indicator activates if the engine coolant approaches shutdown range.
- Low oil pressure. The anticipatory low oil pressure indicator activates if the engine oil pressure approaches shutdown range.

Use these switches with the microprocessor controller and the remote annunciator options.

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

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

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**Accidental starting can cause severe injury or death.** Turn generator set master switch to OFF position, disconnect power to battery charger, and remove 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 automatic transfer switch or remote start/stop switch unless these precautions are followed.

### ⚠ WARNING



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

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

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

## Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the battery from the generator set, negative (–) lead first.
3. Allow the generator set to cool. Remove radiator cap to relieve radiator pressure. Drain coolant into a 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.

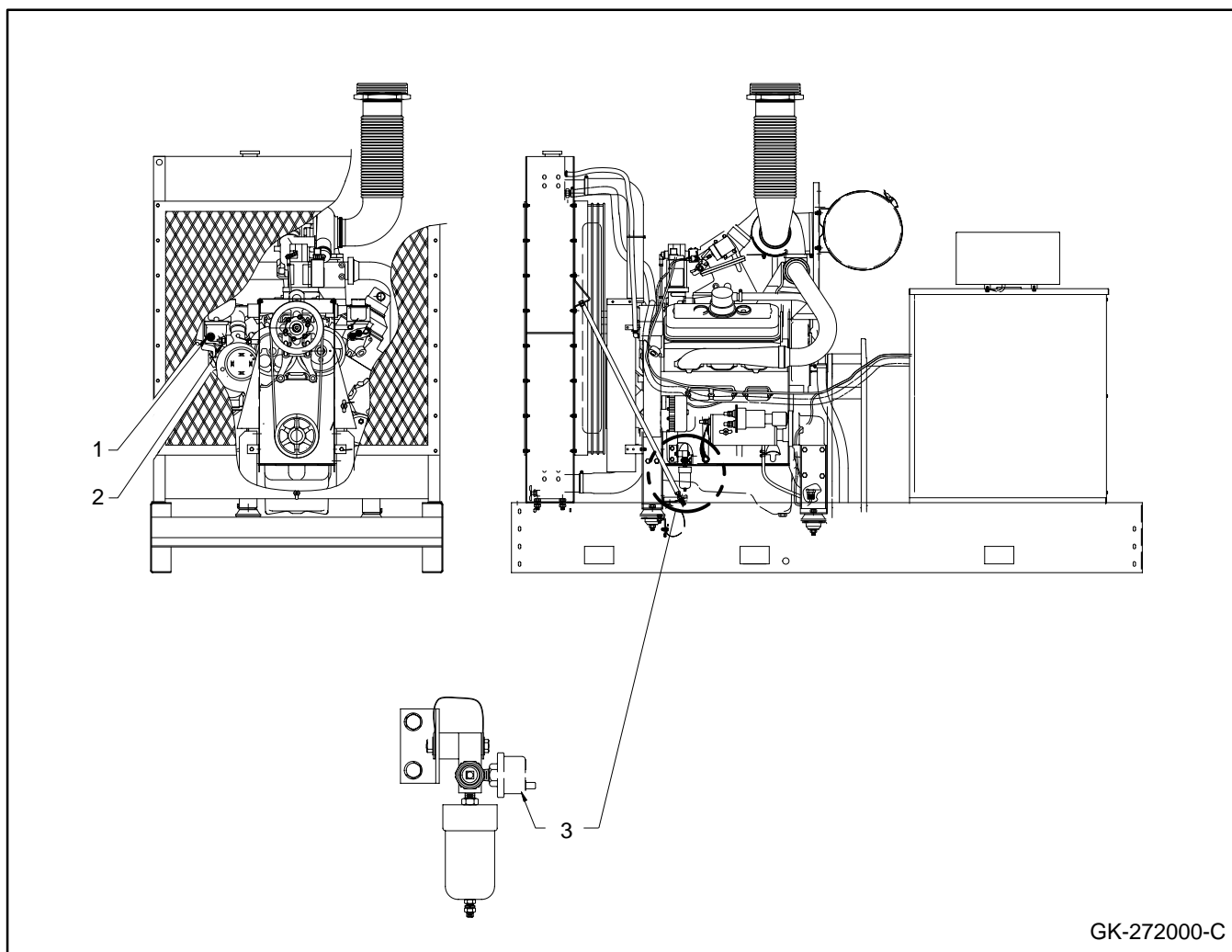
4. Remove the existing pipe plug for the low water temperature switch. See Figure 1 for location. Coat the threads of the reducer bushing (153659) with pipe sealant and install. Coat the threads of the low water temperature switch (290090) with pipe sealant and install. The original pipe plug is not reused.
5. Remove the existing pipe plug for the anticipatory high water temperature switch. See Figure 1 for locations. Coat the threads of the anticipatory high water temperature switch (240976) and install. The original pipe plug is not reused.
6. Remove the existing pipe plug for the anticipatory low oil pressure switch. See Figure 1 for locations. Coat the threads of the anticipatory low oil pressure switch (289282) with pipe sealant and install. The original pipe plug is not reused.

7. Connect lead 35A of the engine wiring harness to one terminal of anticipatory low water temperature switch (290090). Connect the N ground lead of the engine wiring harness from the bell housing ground screw to the other terminal of the switch.
8. Connect lead 40A of the engine wiring harness to the terminal of anticipatory high water temperature switch (240976).
9. Connect lead 41A of the engine wiring harness to the push-on terminal of anticipatory low oil pressure switch (289282).
10. 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.
11. Check that the generator set master switch is in the OFF position. Reconnect the battery, negative (–) lead last.
12. 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.

Parts List		
Kits: PA-272711, PA-272711-SD		
Qty.	Description	Part Numbers
1	Switch, anticipatory low oil pressure	289282
1	Switch, anticipatory high water temperature	240976
1	Switch, low water temperature	290090
1	Bushing, reducer 3/4 x 1/2	153659



1. Anticipatory high water temperature switch (240976)
2. Low water temperature switch (290090)  
Reducer bushing (153659)

3. Anticipatory low oil pressure switch (289282)

**Figure 1. Plug Removal and Switch Installation Locations**