

**INSTALLATION  
INSTRUCTIONS**

**CATERPILLAR 3054, PERKINS 1104**



**WARNING**

**PERSONAL INJURY. Never operate heater if element is not immersed in coolant.** Element sheath could burst and cause personal injury.

**HEATER DAMAGE. Never run engine while heater is in operation.** Shortened heater life will result.

**HEATER DAMAGE. Do not use stop leak additives or improper coolant mixtures.** Shortened heater life will result.

**HEATER INSTALLATION PROCEDURE**

1. Drain engine coolant. Flush system if necessary.
2. Remove core plug on right side, rear of engine (see picture).
3. Clean core hole surface thoroughly. Remove any burrs, paint or sharp edges on diameter of core hole. Burnish core hold surface with sandpaper or steel wool.
4. Apply a coating of grease to the heater O-ring to ease installation and prevent damage to O-ring.
5. Install heater into core hole with element pointing to 3 o'clock (or pointing toward the front of the engine when viewing from the right rear side). See picture below.
6. Install heater assembly and tighten to 20-25 inch pounds torque. **Do not overtighten.**
7. Insert power cord connector firmly into socket, taking care to align pins with sockets of connector on cord. Tighten strain relief nut securely by hand.
8. Route cord to outside, securing where necessary to allow slack for engine vibration and ensure that cord does not touch engine, hot pipes, or any moving parts. Connect only to a GFCI protected 120-Volt AC outlet. If an extension cord is used, it must be the three-wire grounded type.
9. Refill cooling system with coolant mixture. Use a standard 50/50 mixture of coolant and water. Do not use more than 60% concentration of coolant as it will reduce the heater life.
10. Run engine up to operating temperature and check for leaks. Let engine run for 5-10 minutes after thermostat opens to ensure all air is bled from system.



**NOTE**

**HEATER DAMAGE. Do not operate heater until all air is bled from system.** Shortened heater life will result.

**WARRANTY**

The Phillips & Temro Industries warranty statement is located on the website at [phillipsandtemro.com/terms](http://phillipsandtemro.com/terms).