



Engine Block Heater Service Kits (Tank Type)
50-100RZ (LSG-875 Ford-Powered)
Standby Generator Sets

Model	Voltage	Kit No.
50-70RZ	120	276235
50-70RZ	240	276236
80-100RZ	120	276237
80-100RZ	240	276238

This service kit details removal of the immersion type block heater and replaces it with a tank type block heater kit.

The engine block heater kit (tank type) heats engine coolant, making starting easier and warm-up quicker. The thermostat will automatically turn off when coolant temperature reaches 120°F (49°C).



Accidental starting can cause death or serious personal injury. Turn Generator 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. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.

INSTALLATION

1. Place controller master switch to OFF position. Disconnect battery of generator set, negative lead first. Disconnect power from existing block heater.

⚠ WARNING



Hot coolant can cause severe burns.

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 turn it slowly counterclockwise to the first stop. After pressure has been completely released and the engine has cooled, remove cap. If generator set is equipped with a coolant recovery tank, check coolant level at tank.

2. With generator set sufficiently cooled, drain the coolant into a suitable container.

Do NOT pollute the environment. Dispose of used coolant and other contaminants in a safe and approved manner.

NOTE

Petcock valve is located on radiator bottom and/or engine bottom.

3. If an immersion type block heater was previously installed, follow Step 3. Otherwise, proceed to Step 4.

NOTE

If Step 3 is not required, reference Parts Listing for components.

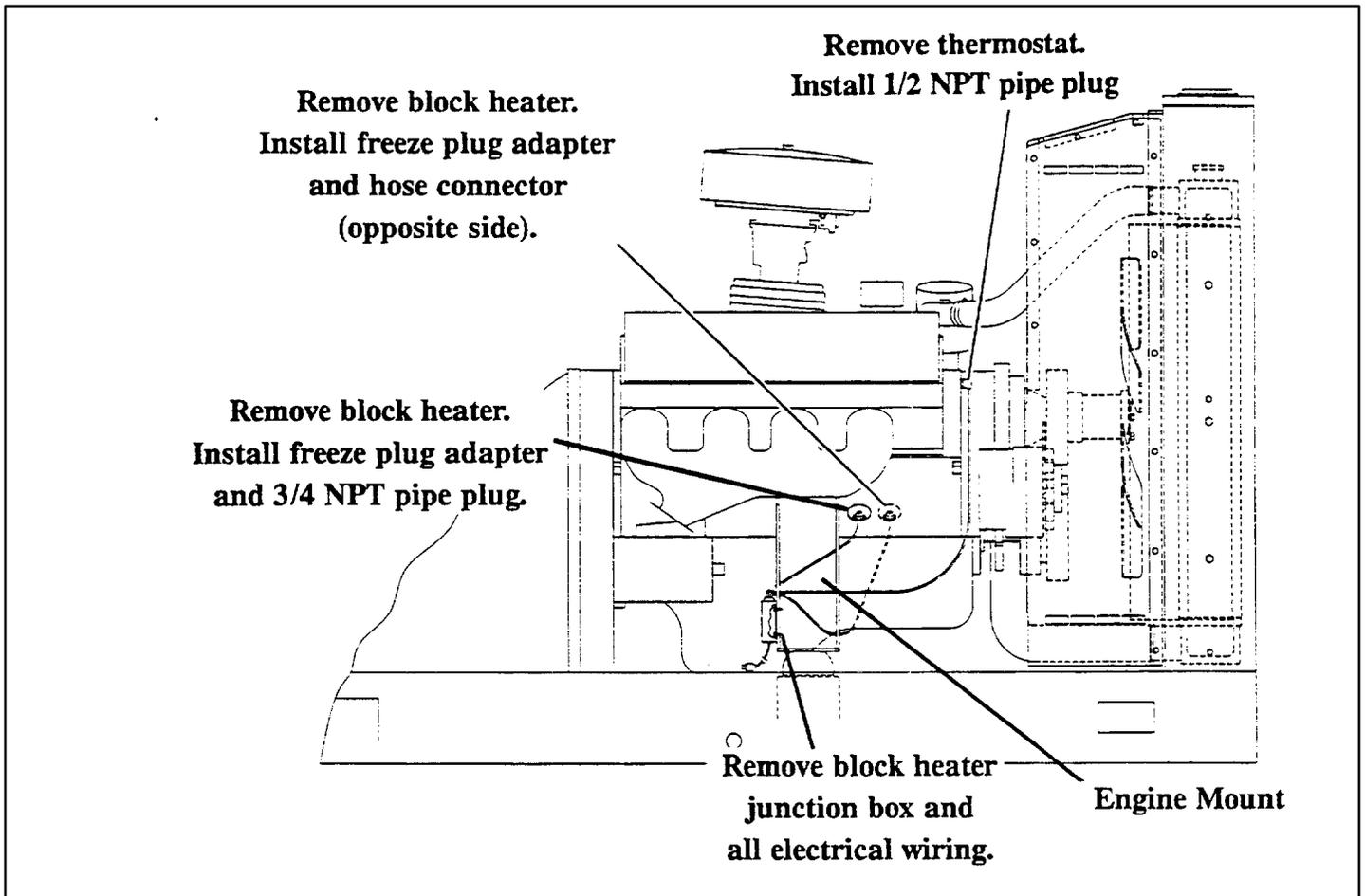


Figure 1. Block Heater Kit Removal (Immersion Type)

3a. Remove electrical connections to block heaters and thermostat. Remove block heater junction box from generator set. These parts will not be reused. See Figure 1.

3b. Remove thermostat. This part will not be reused.

Clean threads on engine block sender adapter and apply pipe sealant to 1/2 NPT pipe plug X-75-28 and install into engine block.

3c. Remove block heaters from engine block. These items will not be reused.

With components clean and dry, apply Loctite® threadlocker 290 (green) or equivalent to freeze plug adapter 276212 and hole. Install freeze plug adapters using hardwood dowel and hammer. Drive freeze

plug adapter into engine block so that it is flush with outside surface of block. Do NOT drive freeze plug adapter beyond that point or it may be forced into the water jacket.

Apply pipe sealant to 3/4 NPT pipe plug X-75-6 and install into freeze plug adapter on right side of engine (as viewed from generator end). Torque pipe plug to 15 ft. lbs. (20 Nm).

4. Apply pipe sealant to hose connector X-582-3 and install into freeze plug adapter on left side of engine. See Figure 2. Torque hose connector to 15 ft. lbs. (20 Nm).

5. Locate lower radiator hose and mark hose at 4 in. (102 mm) and 5 in. (127 mm) from radiator outlet. Cut at these marks to remove 1 in. (25 mm) from hose.

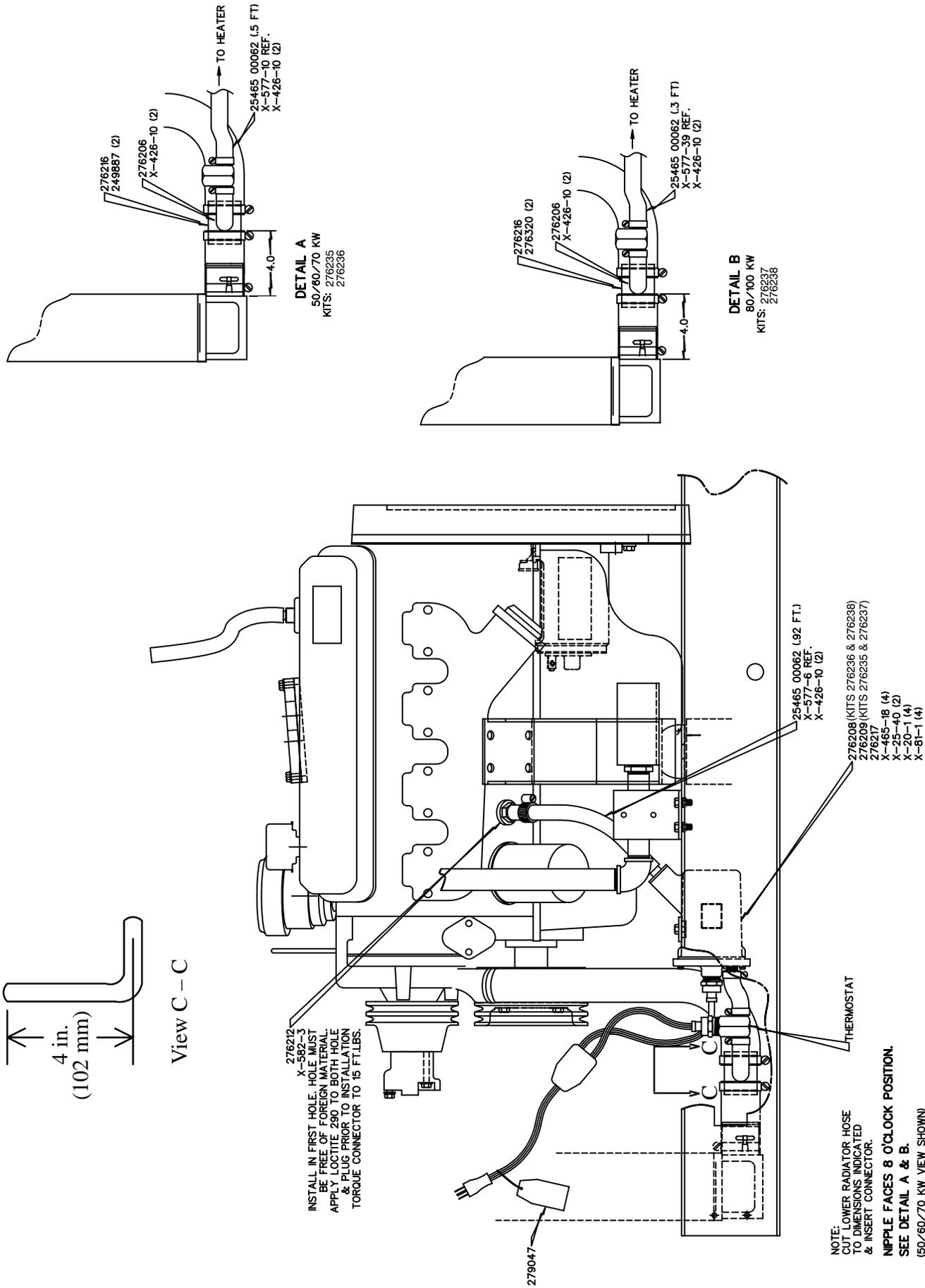


Figure 2. Block Heater Installation (Tank Type)

6. Place two large hose clamps 246887/276320 on cut radiator hose (one on each end). Install tee hose connector 276216 with nipple pointing to the 8 o'clock position (as viewed from the generator end). Locate hose clamps 1/4 in. (6 mm) from end of hose and tighten.
 7. Attach block heater bracket 276217 to skid using two screws X-468-18, lock washers X-20-1, and nuts X-81-1.
- NOTE**
- Early generator sets may not have pre-drilled holes in skid. Use bracket as a template and drill two 19/64 in. dia. holes. Locate holes 18-3/4 in. (476 mm) from end of skid and 1/2 in. (13 mm) from edge of skid. Center-to-center dimension is 3/4 in. (19 mm). See Figure 3.
8. Install block heater 276208/276209 to bracket using two screws X-468-18, plain washers X-25-40, lock washers X-20-1, and nuts X-81-1.
 9. Cut molded hose 276206, see Figure 2. Place hose clamps X-426-10 over each end of molded hose. Connect short end to tee hose connector and the other end to thermostat. Thermostat can be installed with either end toward radiator. Locate hose clamps 1/4 in. (6 mm) from end of hose and tighten.
 10. Place hose clamps X-426-10 over each end of rubber hose X-577-10/X-577-39. Connect rubber hose to thermostat and block heater inlet. Locate hose clamps 1/4 in. (6 mm) from end of hose and tighten.
 11. Place hose clamps X-426-10 over each end of rubber hose X-577-6. Connect rubber hose to block heater outlet and hose connector in engine block. Locate hose clamps 1/4 in. (6 mm) from end of hose and tighten.
 12. Use cable ties, as necessary, to protect and secure wiring from sharp objects, exhaust system, and any moving parts.
 13. Close petcock valves on radiator and/or engine block.
 14. Fill cooling system to proper level with fresh coolant. A solution of 50% ethylene glycol and 50% clean, softened water is recommended to inhibit rust/corrosion and provide freezing protection. See Table 1 for coolant capacities.
- NOTE**
- Coolant mixtures exceeding 50% ethylene glycol may cause block heater element failure.

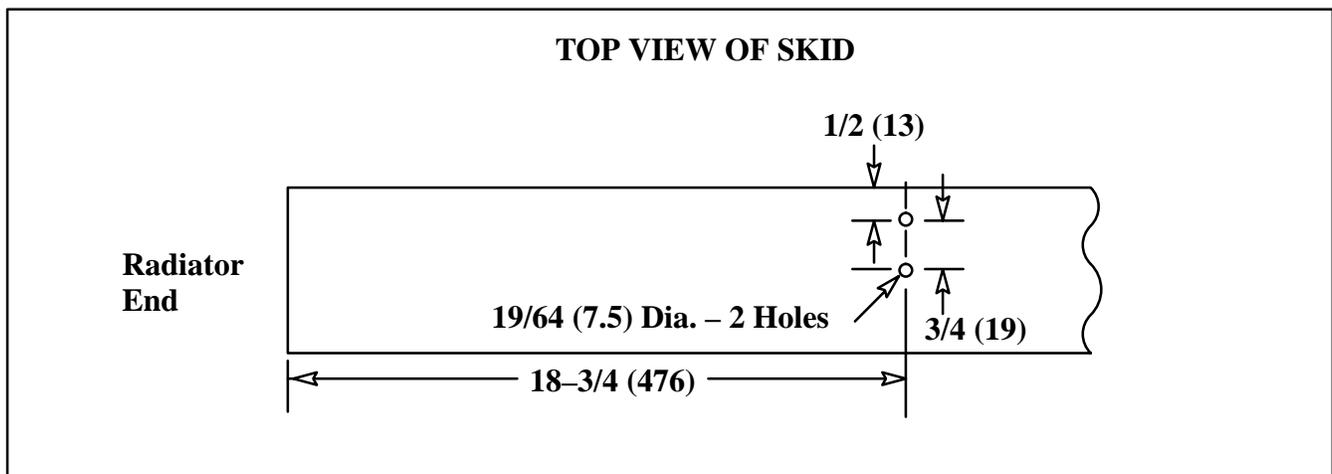


Figure 3. Skid Drilling Instructions

Model	Standard Radiator	Remote Radiator	City–Water Cooled
50–80RZ	7.3 (27.6)	9 (34)	6.6 (25)
100RZ	8.2 (31.0)	9 (34)	6.6 (25)

NOTE: Capacities shown may vary from model to model and are subject to change.

Table 1. Coolant Capacities – U.S. Gal. (L)

15. Check that the controller master switch is in the OFF position. Reconnect battery, negative lead last.

16. Test run the generator set for a few minutes and check for leaks.

NOTE

Special attention should be given when checking for proper coolant level. After a radiator has been drained, it normally requires some time before complete refill of all air cavities takes place.

17. Connect block heater electrical plug to proper voltage outlet.

Parts Listing

Qty.	Description	Common Parts	Kit Numbers			
			276235	276236	276237	276238
4	Washer, 1/4 split lock	X–20–1				
2	Washer, 9/32 x 5/8 x 1/16 plain	X–25–40				
6	Clamp, 1 in. hose	X–426–10				
4	Screw, 1/4–20 x 7/8, Gr. 5	X–465–18				
1	Hose, 5/8 ID x 6 in.		X–577–10	X–577–10	–	–
1	Hose, 5/8 ID x 4 in.		–	–	X–577–39	X–577–39
1	Hose, 5/8 ID x 11	X–577–6				
1	Connector, hose	X–582–3				
1 *	Plug, 1/2 NPT pipe	X–75–28				
1 *	Plug, 3/4 NPT pipe	X–75–6				
4	Nut, 1/4–20	X–81–1				
2	Clamp, 2.56 in. hose		249887	249887	–	–
1	Hose, molded	276206				
1	Heater, block		276209	276208	276209	276208
1	Adapter, freeze plug	276212				
1 *	Adapter, freeze plug	276212				
1	Connector, tee hose	276216				
1	Bracket, block heater	276217				
2	Clamp, 2.69 in. hose		–	–	276320	276320

* Items used only if Step 3 applies.