



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

Model	Voltage	Kit No.
50-70RZ	120	PA-276218
50-70RZ	240	PA-276219
80/100RZ	120	PA-276220
80/100RZ	240	PA-276221

The engine block heater kit 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.

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. Remove freeze plug from engine. See Figure 1 for location. To remove freeze plug, use a freeze plug puller, or puncture center with punch and pry out. Clean hole and remove burrs.

NOTE

Be careful not to damage sealing surface.

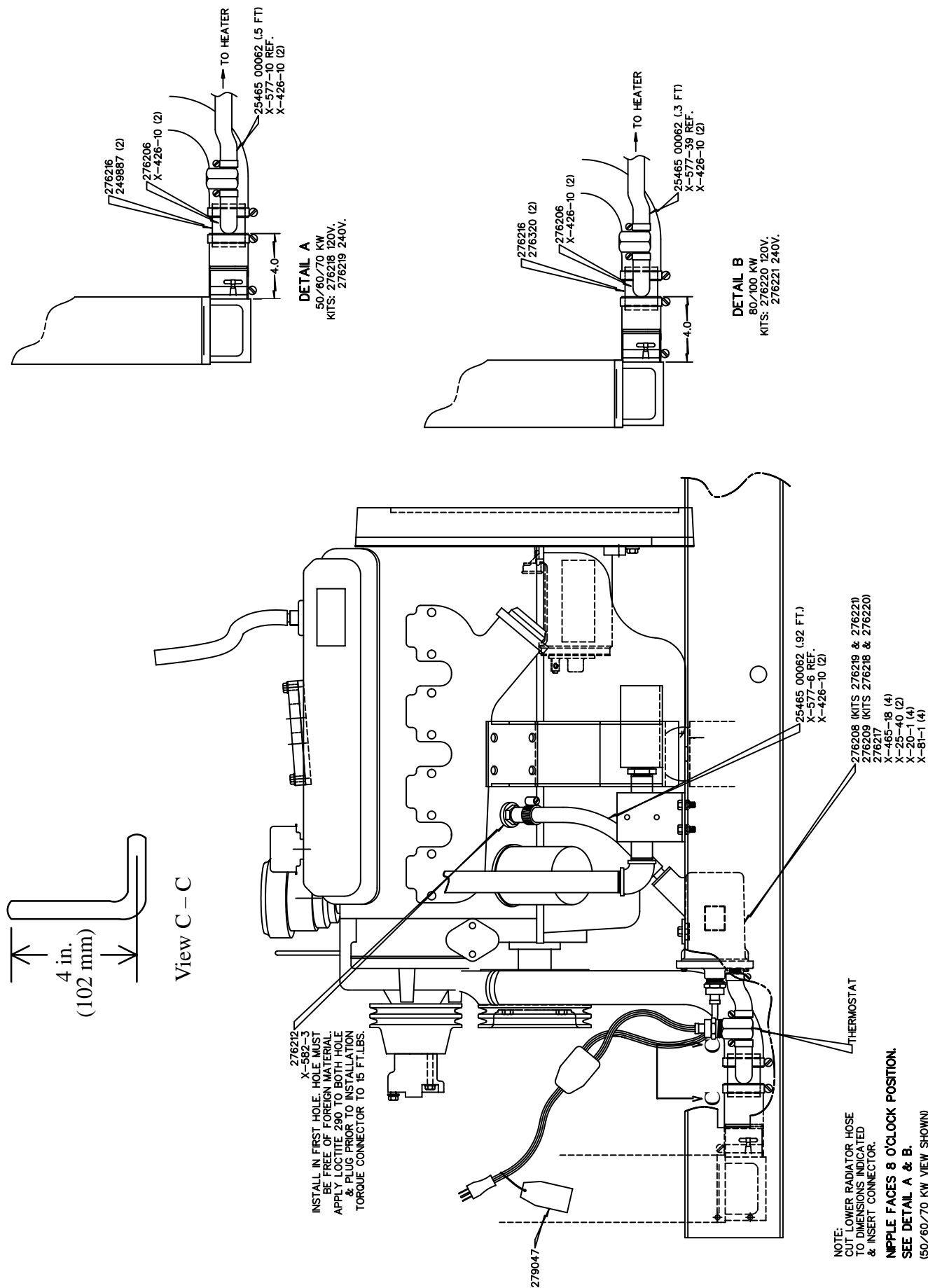


Figure 1. Block Heater Installation

4. With components clean and dry, apply Loctite® threadlocker 290 (green) or equivalent to freeze plug adapter 276212 and hole. Install freeze plug adapter 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.
5. Apply pipe sealant to hose connector X-582-3 and install into freeze plug adapter. Torque connector to 15 ft. lbs. (20 Nm).
6. 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.
7. 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.
8. 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 2.

9. 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.
10. Cut molded hose 276206, see Figure 1. 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.
11. 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.
12. 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.

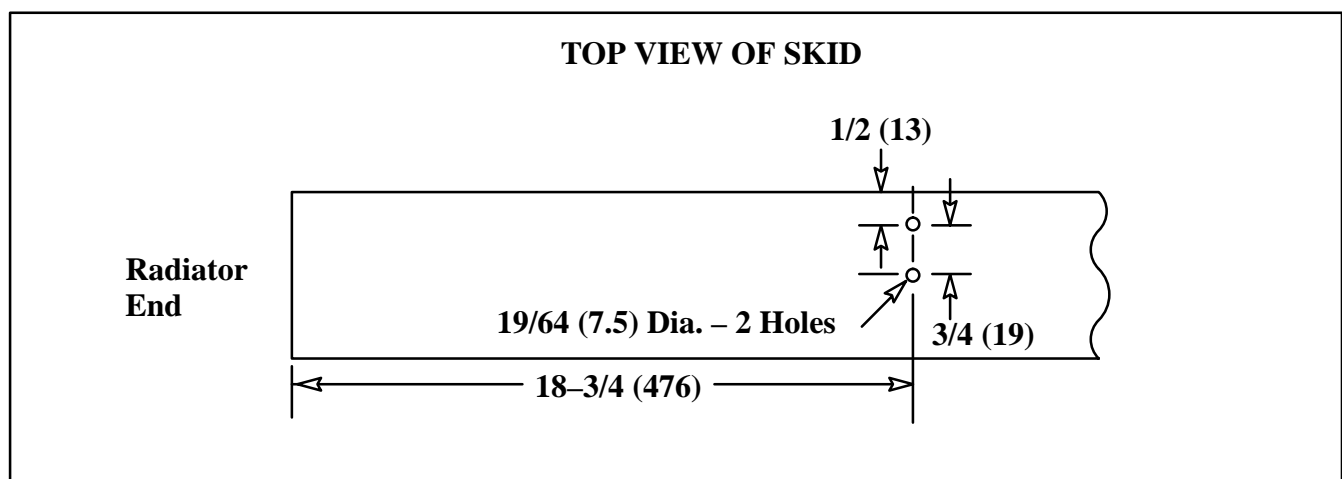


Figure 2. Skid Drilling Instructions

13. Use cable ties, as necessary, to protect and secure wiring from sharp objects, exhaust system, and any moving parts.

14. Close petcock valves on radiator and/or engine block.

15. 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.

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

	Standard	Remote	City–Water
Model	Radiator	Radiator	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)

17. 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.

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

Parts Listing

Qty.	Description	Common Parts	Kit Numbers			
			PA–276218	PA–276219	PA–267220	PA–276221
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				
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	Connector, tee hose	276216				
1	Bracket, block heater	276217				
2	Clamp, 2.69 in. hose		–	–	276320	276320