

Installation of Coolant Heater Kit 333-0358 For ES Generator Set

GENERAL

The installation of this coolant heater provides enhanced cold weather starting capability for generator sets. In addition, the heaters provide ease in starting during normal temperature ranges.

⚠ CAUTION Always disconnect a battery charger from its AC source before disconnecting the battery cables. Otherwise, disconnecting the cables can result in voltage spikes high enough to damage the DC control circuits of the set.

⚠ WARNING Accidental starting of the generator set while working on it can cause severe personal injury or death. Prevent accidental starting by disconnecting the starting battery cables (negative [-] first).

Arcing can ignite the explosive hydrogen gas given off by batteries, causing severe personal injury. Arcing can occur if the negative (-) battery cable is connected and a tool being used to connect or disconnect the positive (+) battery cable accidentally touches the frame or other grounded metal part of the set. To prevent arcing, always remove the negative (-) cable first, and reconnect it last.

TABLE 1. KIT 333-0358

Item	Qty	Description
1	1	Heater (With Bracket)
2	1	Lock Screw (1/4-20 x 5/8)
3	1	Nut (1/4-20)
4	1	Hose (Male) Connector 1/4 NFP
5	2	Hose (14 in.)
6	6	Hose Clamp
7	1	Tee Connector

INSTALLATION

1. Move RUN/STOP/REMOTE switch to the STOP position.

2. Disconnect the battery cables at the battery terminals to prevent accidental starting of the gen-set. Disconnect the negative (-) cable first.

⚠ WARNING Contact with hot coolant can result in serious burns. Allow coolant to cool before draining and loosen radiator cap to relieve cooling system pressure.

- Loosen radiator cap to relieve pressure, drain radiator and engine coolant. Save coolant for reuse.
- Install heater (Item 1) on the right side of radiator using attached mounting bracket and 1/4-20 lock screw and nut (Items 2 and 3). See Table 1 for part item numbers and Figure 1 for parts location.
- Position heater within mounting bracket so that inlet and outlet ends are parallel to the engine block. Torque screw to 11 ft lbs (15 N•m). Cut excess material from heater bracket.
- Remove the 1/4-inch plug on the right side of cylinder block to accommodate heater hose.
- Install Hose (Male) Connector (Item 4) into the 1/4-inch plug hole of step 6. Use thread sealant on connection.
- Attach one hose (Item 5) to outlet of heater and male connector (Item 4) using two hose clamps (Item 6).
- Cut water pump hose and install tee connector (Item 7) using two hose clamps (Item 6).
- Attach one hose (Item 5) to inlet of heater and tee connector (Item 7) using two hose clamps (Item 6).

⚠ CAUTION The heater must not be operated while the coolant system is empty or the heater will be damaged.

- Refill coolant system. Refer to the Operator's manual.
- Plug heater electrical cord into a polarized 120 or 240 VAC, single phase, 60 Hz power source separate from the generator set.

13. Reconnect battery cables (positive [+] cable first).
14. Operate the generator set for 15 to 20 minutes checking for any coolant leaks. Repair any leaks before using the unit.

15. Move RUN/STOP/REMOTE switch to STOP position for remote stand alone operated units or REMOTE position for standby parallel operated unit.

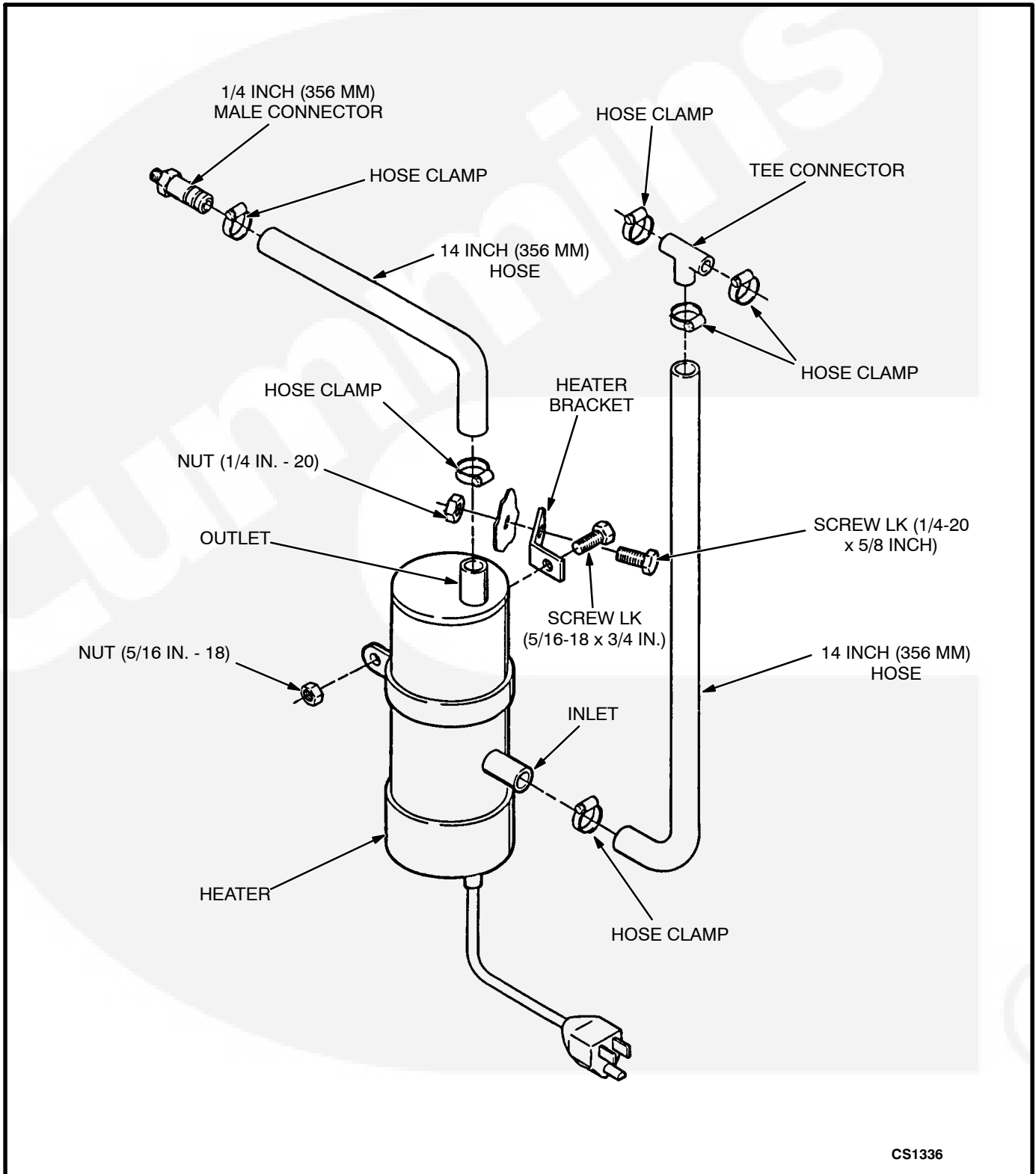


FIGURE 1. COOLANT HEATER INSTALLATION