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**INSTALLATION INSTRUCTIONS**


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## Engine Block Heater Kits

### Models 6-15ROY/ROZ (Yanmar-Powered Models)

Model	Voltage	Kit No.
6 ROY/ROZ	120	PA-225252
10 ROY/ROZ and 15 ROY/ROZ	120	PA-225253
6 ROY/ROZ	240	PA-225254
10 ROY/ROZ and 15 ROY/ROZ	240	PA-225255

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


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

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

**Accidental starting can cause severe injury or death.**

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.

**WARNING**

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

Before removing pressure cap stop generator, allow to cool and 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 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.

**NOTE**

Special attention should be given when checking for proper coolant level. After the coolant has been drained, it normally requires some time before complete refill of the engine water jacket takes place.

## Installation

The following steps provide detailed instructions only in cases where an instruction is not detailed or apparent on Figure 1.

1. Move generator master switch to OFF position. Disconnect battery of generator set, negative lead first.

- When engine and radiator have cooled sufficiently, drain the coolant into a suitable container. **Dispose of used engine coolant in an environmentally safe manner. Take used coolant to a suitable collection facility in your area. Do not pour used coolant on the ground, down sewers, or into streams or other bodies of water.**

**NOTE**

Drain valve is located on radiator bottom and/or on side of engine crankcase.

- Cut away one (1) inch (25 mm) of lower radiator hose at 3 inch (76 mm) dimension from hose end as noted on Figure 1, and install connector (225250). Secure connector to radiator hose using two hose clamps (X-426-8) as shown.
- Install heater mounting bracket (225246) and block heater (276358 or 276359), using hardware as noted on Figure 1.
- Install hoses (276206 and X-577-10) and regulator between block heater and connector (225250) as noted on Figure 1. Secure hoses and regulator using four clamps (X-426-3).

**NOTE**

Apply pipe sealant to male threads of all components before installing the component.

- Install freeze plug (226351) and hose connector (X-582-2) at location noted on Figure 1, Section B-B. Observe detailed instructions pertaining to this installation.
- Connect and clamp hose (X-577-26 or X-577-41) between connector (X-582-2) and the block heater.
- Connect electrical cord to block heater and to regulator. Bundle cord together using cable ties (X-468-1) as noted on Figure 1.

- Attach hang tag (279047) as shown on Figure 1.
- Close drain valves on radiator and/or engine block.
- Fill cooling system to proper level with fresh coolant, consisting of a mixture of 50% ethylene glycol and 50% clean, softened water. This mixture will provide the necessary freeze protection as well as inhibit corrosion. See Table 1 for cooling system capacities.

**NOTE**

Coolant mixtures exceeding 50% ethylene glycol may cause the block heater heating element to fail.

Model	Standard Radiator
6 ROY/ROZ	2.0 gal. (7.6 L)
10 ROY/ROZ	2.0 gal. (7.6 L)
15 ROY/ROZ	4.7 gal. (17.8 L)
<b>NOTE:</b> Capacities shown are subject to change without notice.	

**Table 1. Coolant Capacities — U.S. Gal. (L).**

- Check to make sure the generator master switch is in the OFF position; then, reconnect the generator set battery, negative lead last.
- Test run generator set for a few minutes and check for coolant leaks. Correct any leakage, after engine and radiator have cooled.
- After allowing engine and radiator to cool, recheck coolant level.

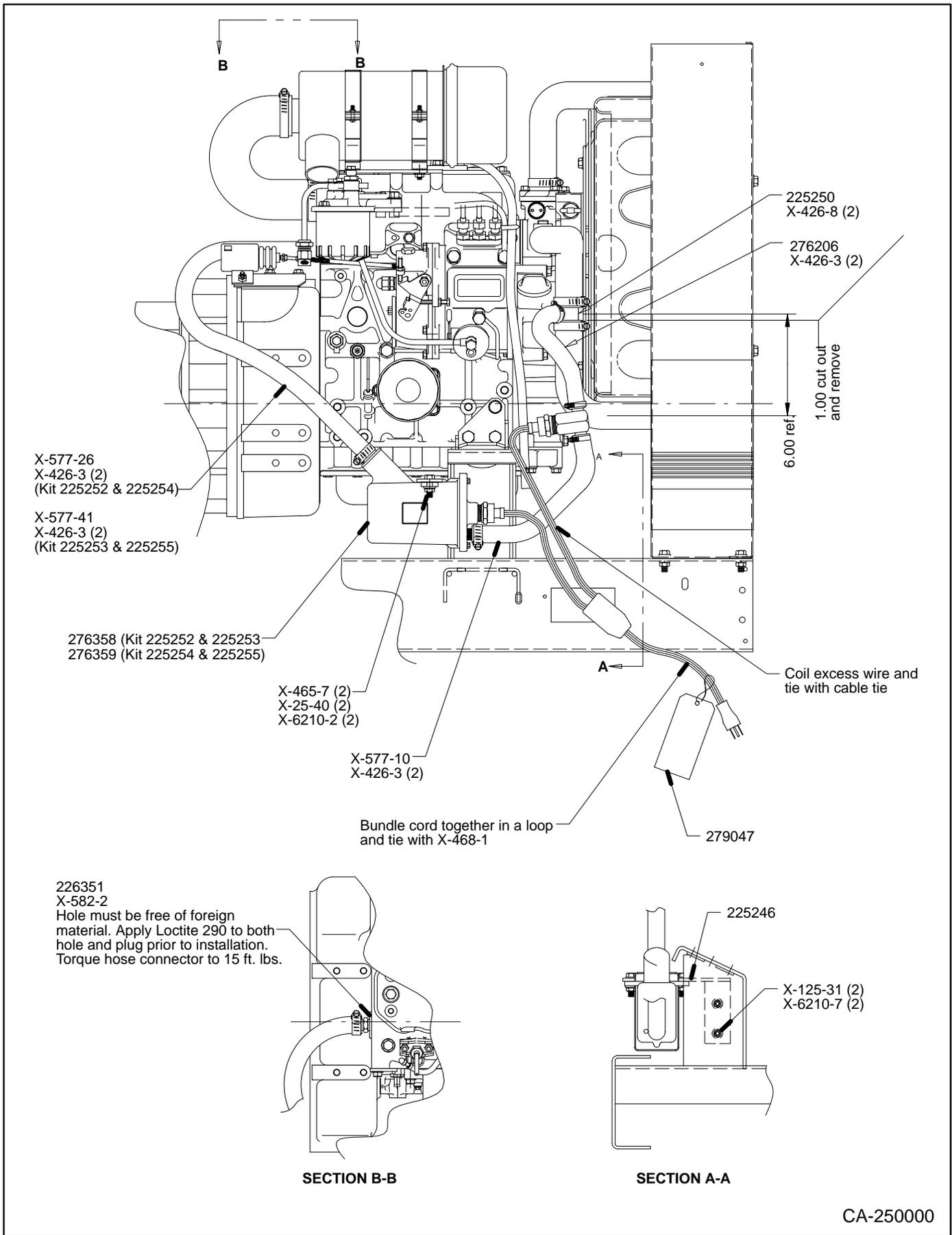
**NOTE**

Special attention should be given when checking for proper coolant level. After the coolant has been drained, it normally requires some time before complete refill of the engine water jacket takes place.

- Connect block heater electrical plug to proper voltage outlet.

## Parts List

			Kit Numbers	
Qty.	Description	Common Parts	PA-225252 PA-225254	PA-225253 PA-225255
1	Bracket, heater mounting	225246		
2	Screw, H.C., 5/16-18 x 7/8	X-125-31		
2	Nut, whiz, 5/16-18	X-6210-7		
1	Heater, block		276358 276359	276358 276359
2	Screw, H.C., 1/4-20 x 1	X-465-7		
2	Washer, plain, 1/4	X-25-40		
2	Nut, whiz, 1/4-20	X-6210-2		
1	Connector, hose	225250		
2	Tie, cable	X-468-8		
1	Hose, molded	276206		
1	Hose, oil proof	X-577-10		
1	Plug, freeze	226351		
1	Connector, hose	X-582-2		
1	Hose, 5/8 ID x 29 in.		X-577-26 X-577-26	
1	Hose, 5/8 ID x 29 in.			X-577-41 X-577-41
6	Clamp, hose 1/2-1-13	X-426-3		
2	Tie, cable	X-468-1		
1	Tag, hang	279047		



**Figure 1. Engine Block Heater Kit Installation.**