



Installation Instructions

216061-048 rev-6



TL Series In-Block Engine Heaters

WARNING READ CAREFULLY FOR PROPER INSTALLATION & OPERATION

Customer Support: 509-536-8660
www.hotstart.com

I. LOCATING THE PROPER AREA OF INSTALLATION

A. This in-block engine heater replaces a similar threaded plug on the engine.

Engine	120 Volt	240 Volt	Watts	Installation
Caterpillar				
1674 (638 CID)	CATB-151	CATB-152	1500	Replaces 1.5" core plug on right side of engine.
3208	JD3/4-101IN	JD3/4-102IN	1000	Replaces any of the .75" or 1" core plugs on the water transfer casting (right front of engine).
	JD3/4-151IN	JD3/4-152IN	1500	
	JD1-101IN	JD1-102IN	1000	
	JD1-151IN	JD1-152IN	1500	
Deutz				
1015	TL151-004	TL152-004	750 1250	Replaces core plug in water intake elbow on front of engine.
John Deere				
Series ???	JDS-751 JDS-101	JDS-752 JDS-102	750 1000	Mounts in the oil cooler bonnet.
Mack				
E6	MASB-151	MASB-152	1500	Replaces 1.75" core plug on side of engine.
Volvo				
TD45	TL751-000	TL752-000	750	Replaces 1.25" threaded core plug on right side of engine.
TD60, TD61 TD70, TD71, TD74 TD100, TD101 TD120, TD121	VT6-101	VT6-102	1000	Mounts into 44mm threaded opening on left side of engine.
TD63 TD73 TD103 TD122 TD164	TL151-000	TL152-000	1500	
VE10	VT6-101	VT6-102	1000	Mounts into 44mm threaded opening in the front of engine.

See reverse side for further installation instructions.

II. MOUNTING THE IN-BLOCK ENGINE HEATER

- A. Drain the cooling system.
- B. Remove the existing core plug.
- C. Install element:

For elements with tapered fit:

1. If bushing is a pipe thread, apply thread sealant. If bushing is a straight thread, install o-ring or copper washer as applicable. Install bushing in opening of engine.
2. Apply a thin film of high-temperature/high-strength retaining compound (Loctite 640 recommended) to the tapered surface on the element adapter.
3. Insert the element into the bushing. Position the element in the center of the water cavity.
4. When the heater is properly positioned, tap into place with a rubber mallet.

For elements with jam nut:

1. If bushing is a pipe thread, apply thread sealant. If bushing is a straight thread, install o-ring or copper washer as applicable. Install bushing in opening of engine.
2. Insert the element and bushing into the cavity. Position the element in the center of the water cavity.
3. Tighten jam nut while holding the element adapter with a wrench.

NOTICE

The element should not touch any cavity walls.

III. ATTACHING THE CORD

- A. Align cord with element pins and press on. If thread-on style plug, tighten nut "hand tight". If push-on style plug, position clamp around plug and tighten "hand tight" plus two clicks with the help of pliers.
- B. Route the cord to any convenient point and tie cord down to prevent damage and strain. Keep cord away from hot surfaces, moving objects, abrasion points and road hazards.

NOTICE

Do not plug heater into power supply prior to installing heater, filling the engine with coolant and bleeding the coolant system of trapped air. Premature element failure can occur (within minutes) if all of the trapped air is not bled from the cooling system. Premature element continuity failure is not warrantable.

IV. TESTING THE IN-BLOCK DIRECT IMMERSION HEATER

- A. Refill the coolant system. Run engine until internal thermostat opens and continue running engine for 15 to 20 minutes to eliminate air pockets. Allow engine to cool. Check for leaks and proper coolant level.
- B. Plug heater into power supply and test for proper operation. The block near the heater should get hot.

V. OPERATION & MAINTENANCE

- A. Plug heater into appropriate power supply based on wattage and voltage listed on heater label.

CAUTION

Use appropriate type and size extension cord based on extension cord manufacturer's recommendation.

CAUTION

To avoid possibility of electrical or fire hazard, inspect power plug and exposed cord for damage or wear before each use.

- B. To avoid heater damage, disconnect power to heater before starting engine.