216061-048 rev-6

INSTALLATION INSTRUCTIONS

KIM HOTSTART SINCE 1942

TL Series
Direct Immersion
Engine Heaters

CATB-151	**CATB-152**	**MA-151**	**MA-152**
JD3/4-101IN	**JD3/4-102IN**	**TL751-000**	**TL752-000**
JD3/4-151IN	**JD3/4-152IN**	**TL151-000**	**TL152-000**
JD1-101IN	**JD1-102IN**	**TL151-004**	**TL152-004**
JD1-151IN	**JD1-152IN**	**VTMR-151**	**VTMR-152**
JDS-751	**JDS-752**	**VT6-101**	**VT6-102**
JDS-101	**JDS-102**	**VT6-151**	**VT6-152**

⚠ WARNING READ CAREFULLY FOR PROPER INSTALLATION & OPERATION

Customer Support: 509-536-8660

I. LOCATING THE PROPER AREA OF INSTALLATION

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

CATB-151 CATB-152

Caterpillar
1674 (638 CID)

Replaces 1-1/2” threaded plug on right side of engine.

JD3/4-101IN JD3/4-102IN
JD3/4-151IN JD3/4-152IN
JD1-101IN JD1-102IN
JD1-151IN JD1-152IN

Caterpillar
3208

Replaces 3/4” or 1” threaded plug on right front of engine in water pump casting. Use any of the three vertical openings.

Caterpillar
3208

Replaces 3/4” or 1” NPT plug on rear face of engine at end of water passage.

JDS-751 JDS-752
JDS-101 JDS-102

John Deere

Replaces threaded plug on left side of engine in center of water manifold.

MA-151 MA-152

Mack
E6

Replaces 1-3/4” threaded plug in center of right side of engine. Some engines — left side, behind starter assembly.

TL751-000 TL752-000

Volvo
TD-45

Replaces 1-1/4” - 12 threaded plug on right side of the engine.

TL151-000 TL152-000
VT6-101 VT6-102

Volvo
TD-60’s, TD-70’s, TD-120’s, TD-160’s

Replaces 1-3/4” - 16 threaded plug on left side of engine.

VTMR-151 VTMR-152
VT6-151 VT6-152

Volvo (alternative installation)
TD-60’s, TD-70’s, TD-120’s, TD-160’s

Replaces 1-3/4” - 16 threaded plug on left side of engine.

TL151-004 TL152-004

Deutz 1015

Replace threaded plug in water intake elbow. Point element towards engine.

II. MOUNTING THE IN-BLOCK DIRECT IMMERSION HEATER

A. Drain the cooling system.

B. Remove the existing 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.