



Installation Instructions

216061-044 rev-7



TF 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
ALLIS CHALMERS				
670T, 670I (426 CID) 685T, 685I (516 CID) 6138LT, 6138T, 6138I 25000 (844 CID)	AC-101 CATV-151	AC-102 CATV-152	1000 1500	Replaces 1" threaded plug on the oil cooler at rear of engine on right side.
CATERPILLAR				
C10 C12 3176 10.3L POST 1996 3196 12.0L Industrial	TF121-000	TF122-000	1250	Replaces 1" threaded plug on the oil cooler bonnet on right side of engine.
C11 ACERT C13 ACERT C15 ACERT with brakesaver 3456 ACERT	TF151-008	TF152-008	1500	Replaces any 1.3125" (1 5/16") core plug at rear of oil cooler on right side of engine.
C13 2007 ACERT C15 2007 ACERT	TF151-012	TF152-012	1500	Replaces 1.1875" (1 3/16") core plug at rear of oil cooler on right side of engine.
C15 ACERT w/o brakesaver	TF151-009	TF152-009	1500	Replaces 1.1875" (1 3/16") core plug at rear of oil cooler on right side of engine.
C15 C16 3406C 3406E 3456	CATV-151	CATV-152	1500	Replaces 1" threaded plug on the oil cooler bonnet on right side of engine.
CUMMINS				
A Series 4, 6 cyl	CUA-101F	CUA-102F	1000	Replaces any core plug on right side of engine. Element points down.
B Series 3.3L	FP531-004	FP532-004	530	Replaces core plug at left rear of engine
FORD LEHMAN				
4 cylinder 6 cylinder	FP531-002 FP751-000 FP101-002	FP532-002 FP752-000 FP102-002	530 750 1000	Replaces any core plug on left side of engine
HINO				
J08E	FP151-003	FP152-003	1500	Replaces front core plug on right side of engine. Element points to 6 O'clock
INTERNATIONAL by NAVISTAR				
9.0L V8	INT9-101F	INT9-102F	1000	Replaces any core plug
MAZDA				
L3E	FP401-000		400	Replaces front core plug on right side of engine. Element points to 9 O'clock
S3L	FP401-001		400	Replaces core plug in rear of cylinder head. Element points to 4 O'clock
4M40	FP401-002		400	Replaces a core plug on left rear side of engine, directly behind oil level dipstick.
PERKINS				
103.15 104.22 404.22	FP531-003	FP532-003	530 530	Replaces core plug on left front of engine
704.30	FP531-000 FP531-001	FP532-000 FP532-001	530	Replaces core plug located at rear of head

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. Keep the bolts and lockwashers.
- C. Clean and dry the walls of the opening and mounting surface. Remove any burrs, sharp edges or debris from the machined surfaces. **Do not nick or scar the mounting surface of engine.**
- D. Apply teflon tape or thread sealant to heater threads.
- E. Thread the heater into the core plug opening so that the element is centered in cavity and tighten securely.

NOTICE The element should not touch any cavity walls.

III. ATTACHING THE CORD

- A. Align the cord with element pins on the heater. 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 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 ENGINE 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.