



Installation Instructions

216061-045 rev-9



PF 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 core plug on the engine.

Engine	120 Volt	240 Volt	Watts	Installation	
CATERPILLAR					
3044	PF531-001	PF532-001	530	Replaces two-bolt plate in oil cooler case on left side of engine.	
3046	PF531-000		530	Replaces core plug on left side of engine behind rear cylinder.	
CUMMINS					
ISM/QSM	PF151-003	PF152-003	1500	Replaces square plate at right rear side of engine.	
ISX/QSX Pre 2007 Signature 600 Pre 2007	PF151-004	PF152-004	1500	Replaces two-bolt plate on front, right side of engine.	
ISX/QSX Pre 2007 & Later	PF151-009	PF152-009	1500	Replaces core plug on right side of engine.	
M11 Industrial Only 1999 - on	PF151-003	PF152-003	1500	Replaces casting on right rear side of engine.	
DETROIT DIESEL					
6V-71 6V-92	8V-71 8V-92	DDV-151B	DDV-152B	1500	Mounts in the square plate on engine block.
DEUTZ					
1012 and 1013	PF751-000 PF121-001	PF752-000 PF122-001	750 1250	Replaces oval shaped plate on the oil cooler housing.	
2012 4 CYL 2012 6 CYL	PF751-002	PF752-002	750	Replaces oval shaped plate on the top of oil cooler housing.	
IVECO					
NEF 4 CYL	PF751-001	PF752-001	750	Mount in front opening on right side of engine.	
NEF 6 CYL				Mount in either front or rear opening on right side of engine.	
MACK					
E7 <i>Except E-Tech water pump mount</i>	PF151-001	PF152-001	1500	Replaces the 1.375" core plug at front or rear face of engine block in water jacket passage. For 2002 engine, heater mounts in rear face of engine block.	
MS200 MS250	MAM-101	MAM-102	1000	Replaces core plug in rear face of engine block.	
MS300 Midliner E5	MAM-151	MAM-152	1500	Mounts in the oil cooler bonnet.	
MAN					
D2840 D2842 D2848	PF121-003	PF122-003	1250	Replaces oval shaped plate in lower water pipe on right side of engine.	
D2866 D2876	PF151-006	PF152-006	1500	Replaces 3-bolt plate on left side of engine.	
MERCEDES					
MBE904 and MBE906	PF101-001	PF102-001	1000	Replaces 60mm core plug on right rear side of engine.	
MBE924 and MBE926	PF151-003	PF152-003	1500	Replaces 60mm core plug on right rear side of engine.	
VOLVO					
D9	PF151-007	PF152-007	1500	Replaces oval shaped plate on right side of engine.	
D12C	PF121-002 PF151-005	PF122-002 PF152-005	1250 1500	Replaces oval shaped plate on right side 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 plate or core plug.
- 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. If a gasket is to be used, apply gasket sealant on plate and engine mounting surface. If O-ring seal is used, apply a light coat of grease to the O-ring and bore.
- E. Place the gasket on the in-block heater or the O-ring into the engine groove.
- F. Mount the in-block heater on the engine. If new mounting hardware is not supplied with heater, use the original hardware.

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 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.