

THERMOSTAT IMMERSION HEATER SYSTEM GUIDE



The Thermostat Immersion Heater system is designed to reduce your electric costs by regulating the engine block heater operating hours.

How the System Works

Typically, heavy duty operators or fleet managers use block heaters to prevent costly 'no starts'. The block heater is routinely plugged in when the ambient temperature is 32°F (0°C) or colder. The heater draws electrical current from the time it is plugged in, until the driver unplugs the block heater prior to start up.

The thermostat system regulates the coolant temperature by cycling the engine block heater on and off based on the temperature range setting. This system can be utilized when the truck is parked or over the road and eliminates the need for preset timers.

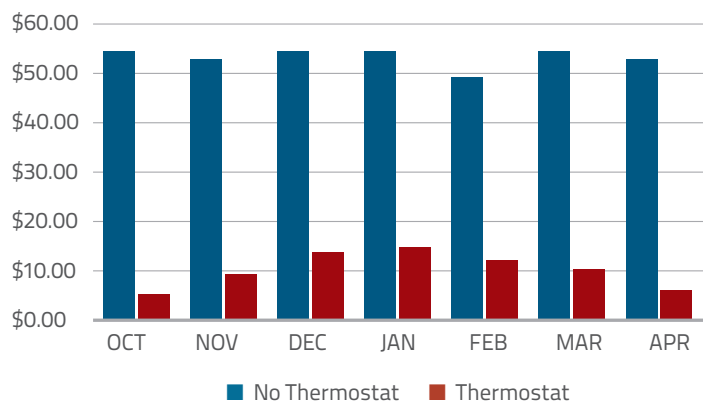
The system has 4 main components:

- Thermostat
- Series Y-Cord
- Receptacle & Indicator Lights
- Engine Block Heater

Energy Savings

Reduce energy cost by controlling electric power consumption of the engine block heater with a thermostat.

MINNESOTA



Use the online calculator to determine your payback

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Thermostat

Use the thermostat application chart provided or select one of the standard thermostat options provided below.

APPLICATION CHART

Engine	Part No.	On/Off	Description
CATERPILLAR			
3406E	3600066	40°F / 55°F	3/4" NPT
C9, 11, 13, 15 & 16	3600081	40°F / 55°F	#8 STOR
CUMMINS			
ISB	3600066	40°F / 55°F	3/4" NPT
ISC	3600066	40°F / 55°F	3/4" NPT
ISM	3600068	40°F / 55°F	1/2" NPT
ISX	3600087	40°F / 55°F	M27
DETROIT DIESEL			
SERIES 60	3600066	40°F / 55°F	3/4" NPT
DD13, 15 & 16	3600087	40°F / 55°F	M27
INTERNATIONAL			
DT-456 (NON-EGR 1998-2005)	3600068	40°F / 55°F	1/2" NPT
DT 5, 7, 11 & 13	3600087		M27
MACK			
E-TECH	3600068	40°F / 55°F	1/2" NPT
PACCAR			
PX 6, 7, 8 & 9	3600066	40°F / 55°F	3/4" NPT

STANDARD THERMOSTATS



Part No. 3600066
3/4" NPT –
On 40°F / Off 55°F



Part No. 3600068
1/2" NPT –
On 40°F / Off 55°F



Part No. 3600081
#8 STOR –
On 40°F / Off 55°F



Part No. 3600087
M27 –
On 40°F / Off 55°F

Determining the Thermostat Location on the Engine Block

The thermostat is installed on the far opposite side of the engine block from the block heater in an open port. The placement of the engine block heater to the thermostat is important because the thermostat senses the temperature of the coolant. So, if the thermostat and block heater are placed next to each other the thermostat will sense the temperature of the coolant closest to the block heater and

will quickly cycle on and off. The system will only regulate the temperature of the coolant in the small area around the block heater and thermostat, in return, creating hot and cold coolant pockets within the engine block.

When the block heater and thermostat are placed at the opposite far ends of the engine block the thermostat will sense the temperature of the coolant in the large area between the block heater and thermostat.

2 Series Y-Cord

Features

- Weatherproof cord
- Connections for the dual indicator light are color coded for easy installation
- Thermostat and block heater cords are labeled for easy installation



Part No.	Description	Volts	Tstat Length	Heater Length	Guage	Receptacle Finish	Connector Angle		T-Stat Range
							T-Stat	Block Htr	
3600054	WP Series Y-Cord Kit - Receptacle Housing, Thermostat & Dual Indicator Light	120	72"	72	16	Chrome	R	R	100° F / 120° F (on/off)
3600079	WP Series Y-Cord & Dual Indicator Light Connections	120	72"	72	16	-	R	R	-
3600102	WP Series Y-Cord & Dual Indicator Light Connections	120	96"	84	16	-	R	R	-
3600091	WP Series Y-Cord & Dual Indicator Light Connections	120	168"	100	16	-	R	R	-
3600090	WP Series Y-Cord & Dual Indicator Light Connections	120	55"	110	16	-	S	R	-
3600097	WP Series Y-Cord & Dual Indicator Light Connections	120	168"	168	16	-	R	R	-

Selecting the Appropriate Series Y-Cord

Step 1

- Determine the location of the dual indicator light location on the outside of the cab

Step 2

- Determine the location of the engine block heater
- Route the path the cordset will be installed from the dual indicator light to the engine block
- Measure the length of the determined path

Step 3

- Determine the location of the thermostat on the engine block
- Route the path the cordset will be installed from the dual indicator light to the thermostat
- Measure the length of the determined path

Step 4

- Using the Series Y-Cord chart determine the appropriate cordset

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Receptacle & Indicator Lights

Features

- LED indicator light for voltage confirmation and heater operation at a single glance
- Connections are color coded to the Series Y-Cord for easy installation

Part No.	Description	Specifications	Finish
8606080	Receptacle Housing & Gasket	2.5" W x 2.5" H	Chrome
3600060	Dual Indicator Light Plate	3.5" W x 2.5" H	Chrome
3600133	Receptacle Housing & Gasket	2.5" W x 2.5" H	Thunder Gray
3600134	Dual Indicator Light Plate	3.5" W x 2.5" H	Thunder Gray



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Engine Block Heater

See the Heavy Duty Application guide in the Zerostart/Tempro product catalog located online at www.phillipsandtempro.com.

The guide will call out specific engines by OEM to identify the appropriate heavy duty engine block heater.



PREVENTATIVE MAINTENANCE

THERMOSTAT BY-PASS TOOL

Part No. 3600115

The thermostat by-pass tool confirms the engine block heater and Series Y-Cord are operational. A step-by-step testing guide is available online at www.phillipsandtempro.com.

