



HEWITT PYROMETERS Installation Instructions

NOTE:

Hewitt pyrometers require no power. NEVER apply vehicle voltage to pyrometer terminals, damage beyond repair will occur. Only the illumination requires 12 VDC.

Instrument Installation:

The pyrometer instrument should be mounted securely to minimize vibration; flexible brackets are not advised. Locate in best viewing position. If lamp is removed during installation, lamp hole should be plugged or taped over to prevent dirt or metal particles from contaminating the movement.

Thermocouple Installation:

When installing pyrometers and thermocouples, thermocouple extension wire must be used to maintain the integrity and accuracy of the pyrometer.

Various threaded mounting adapters are available, ie 1/8" NPT, 1/4" NPT, 3/8" NPT and 1/2" NPT. If not specified, 1/4" NPT will be supplied.

Location will vary depending on application and engine. On turbo charged engines, when possible, thermocouple should be installed in manifold before the turbo charger. This will give the highest temperature indication and the best response time. Hewitt thermocouples are designed to tolerate this location safely and carry a lifetime warranty. If mounting pre-turbo is not possible a lower temperature of 150°-200° Fahrenheit will result when mounting after the turbo.

For non-turbo engines, thermocouple may be installed in the manifold before or just after the exhaust pipe flange, as is convenient.

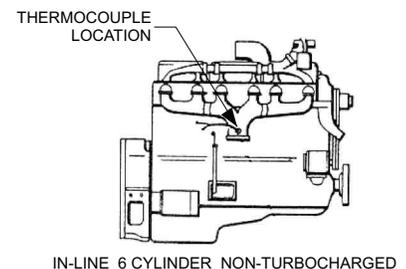
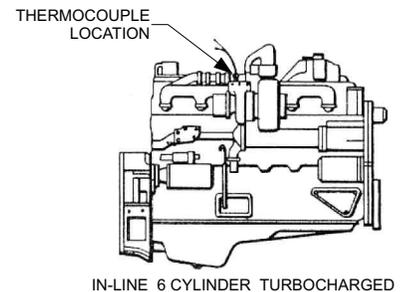
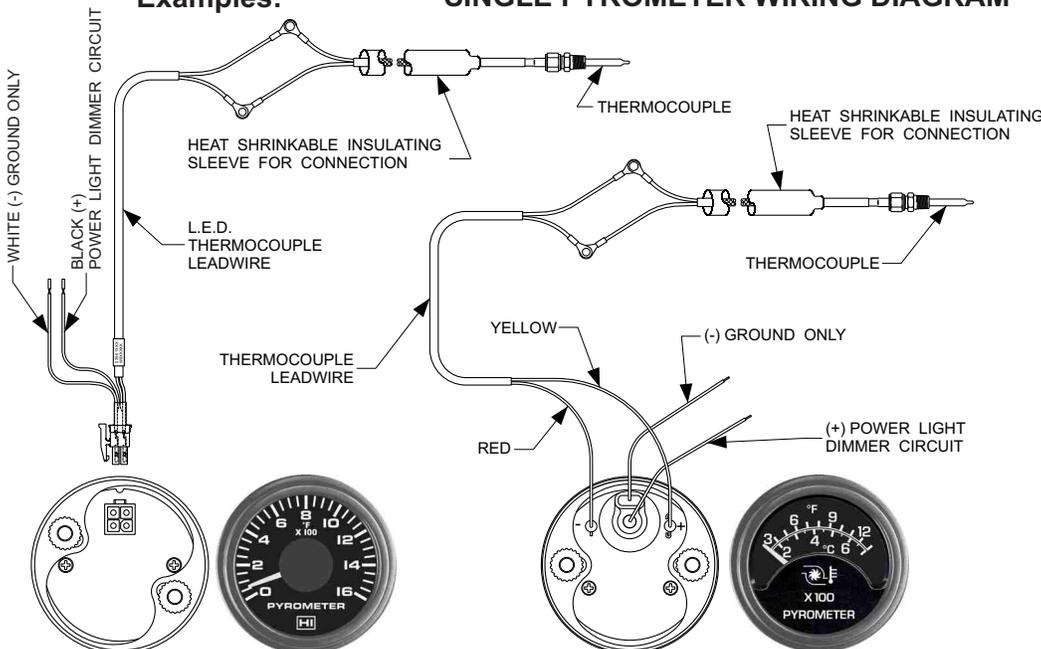
Connecting terminals have staggered lengths to ensure correct polarity, plus color match to extension wire. A plastic heat shrinkable tube is supplied with the thermocouples and should be slid over the terminals after connection is made with the extension wire and shrunk in place with heat for insulation purposes. The stainless steel over-braid portion of the thermocouple should be tied down to a firm part of the engine to prevent it from lashing. If this is not done properly, the wire will break at the collar of the thermocouple and void the warranty.

Extension Wire:

Standard available lengths are 7 ft, 10 ft and 14 ft maximum. If longer length is required, two-conductor, 18 gauge copper may be added to 7 ft "K" wire between extension wire and instrument. Also available and color coded from Hewitt. When installing the extension wire, care should be taken to stay clear of the exhaust system and any chafing areas. Secure with tie wraps, etc... to eliminate wire movement. Terminal connections to pyrometer are designed to insure correct polarity.

Examples:

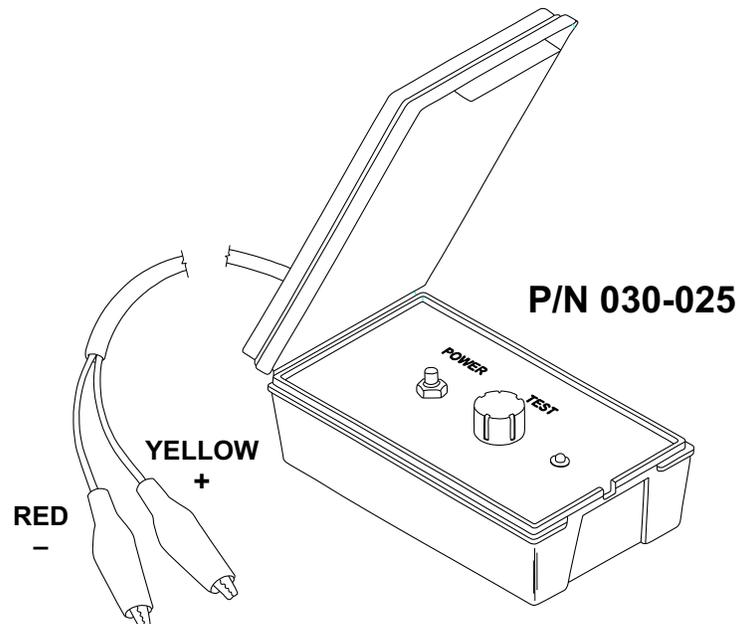
SINGLE PYROMETER WIRING DIAGRAM





PYROMETER SYSTEM TESTER

Installation Instructions



The Pyrometer Tester is a variable millivolt power supply powered by a 9-volt battery emitting the same signal as a thermocouple. With this device you can (1) drive a pyrometer up and down scale, verifying it's circuit and free movement, (2) check continuity of a thermocouple, (3) check continuity or short to ground of the extension wire, or (4) use to adjust Pyro-Alarm settings without disconnecting any part of the system.

Pyrometer Test:

If installed test can be made without removal or disconnecting wires (DO NOT connect to voltage).

1. Turn power knob of tester counter-clockwise fully.
2. Connect yellow tester lead to positive terminal and red lead to negative terminal (reversing will not cause damage).
3. Depress power button and slowly rotate test knob, driving pointer up scale. Pointer should move freely to full scale. If there is no pointer movement, disconnect thermocouple wires and re-test; also verify test lead connections. If again there is no pointer movement, replace pyrometer.

Thermocouple Test:

1. Disconnect and remove from engine.
2. Inspect for broken wires or bad insulation.
3. Connect either tester lead to either thermocouple terminal (no polarity).
4. Turn tester knob clockwise fully and press power button. Test light should illuminate. Flexing wire at thermocouple tube may interrupt light, indicating broken wire. Intermittent or no light: replace thermocouple.

Extension Wire Test:

1. With wires connected to pyrometer and disconnected at thermocouple, connect tester lead to thermocouple end of extension wire with matching colors.
2. Rotate tester knob counter-clockwise fully. Press the power button and rotate test knob. Pyrometer pointer should move up scale.
3. If no pyrometer indication with test knob turned fully clockwise, make continuity test of each wire and to ground. If circuit is shorted or open, replace extension wire.

Pyro-Alarm Testing and Setting:

After installation of all system components is completed and power is applied, simply connect the corresponding tester leads to the pyrometer terminals, press the power button and turn test knob until pointer indicates desired switch point. If Pyro-Alarm does not switch, adjust alarm as needed. Repeat to assure desired switch point.

NOTES: Tight clean wire connections to thermocouple are critical. Heat shrink tubing on thermocouple supplied for insulation after connections are made. **DO NOT connect tester leads to voltage, damage will occur!** Once calibrated, pyrometer calibration does not change.