



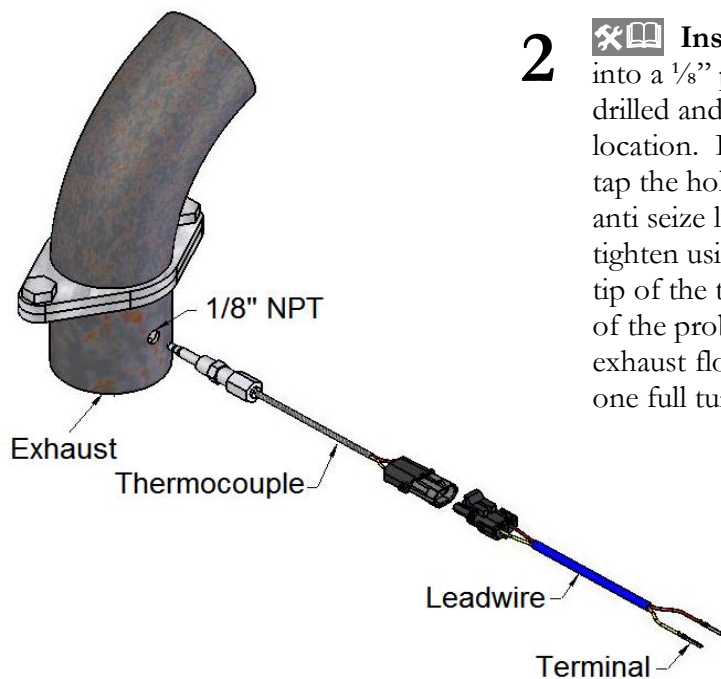



## PYROMETER AND THERMOCOUPLE INSTALLATION INSTRUCTIONS

**Models:** R43021 R43022 R43031 R43032 R52021 R52022  
R52031 R52032 R53021 R53022 R53031 R53032  
R59021 R59022 R59031 R59032 R68021 R68022  
R68031 R68032 R69021 R69022 R69031 R69032  
R82021 R82022 R82031 R82032

ICON KEY	
	CAUTION
	Tools may be required
	Shown in picture


-  **Disconnect batteries.** Do not reconnect battery power until system is fully configured to avoid risk of shock or fire.



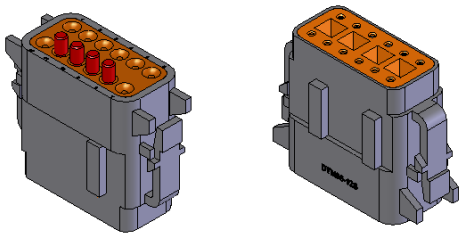
-  **Install Thermocouple.** The Thermocouple mounts into a 1/8" pipe thread. If the exhaust manifold is already drilled and tapped, the thermocouple can be installed at the location. If none is provided, drill (with letter "R" bit) and tap the hole using 1/8" NPT tap. Apply a small amount of anti seize lubricant to the exposed threads of the fitting and tighten using the hex (wrench flats) which are closer to the tip of the thermocouple. Adjust the depth of the probe (tip of the probe should be approximately at the center of the exhaust flow), and tighten the outermost nut no more than one full turn past finger tight.

**Figure 1:**  
Exhaust, thermocouple and lead wire.

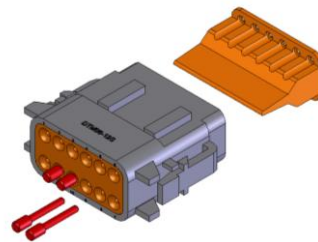
- Install Lead Wire.** The lead wire assembly and the thermocouple are supplied with Delphi connectors for assembly convenience. Simply snap together the connectors at either end of the thermocouple and lead wire assemblies. Route the terminal end of the lead wire assembly to the Electronic Signal Processor (ESP), making sure that the lead wire is clear of obstructions that might cut or otherwise damage it.


- 4**  Install Pyrometer.
- Remove plugs from cavities 8 and 9 of connector A (gray) of the ESP.
  - Using a pair of needle nose pliers, pull the orange wedge lock out of connector A.
  - Insert the terminal from the red wire (thermocouple (-)) into cavity 8 of connector A on the ESP, pushing until it snaps into connector A.
  - Insert the terminal from the yellow wire (thermocouple (+)) into cavity 9 of connector A on the ESP, pushing it until it snaps in place.
  - Note: Terminals will be close to flush with the top of the connector when fully seated.
  - A firm pull of the wire will confirm whether they are properly seated.
  - Push the orange wedge lock back into position. If any of the wires are not fully seated, the wedge lock will not insert into position.
  - Reconnect connector A (gray) to the ESP.
  - Pyrometers require a 2.040" mounting hole; mount the pyrometer in the pillar or pod. Connect the pyrometer to the ESP via the orange connector. See ESP Installation Instructions for more details. The pyrometer has been set to ambient (room) temperature at the factory and should not require further adjustment.

**Figure 2:** Connector A top and bottom view. Shown with plugs and wedge lock installed. Wires pre-installed in holes 1 through 7 and 12 are not shown.



**Figure 3:** Remove plugs and wedge lock as shown. Wedge lock is replaced once wires are positioned properly.



- 5**  Secure all wiring so that it does not interfere with moving parts or chafe on sharp edges. This may be accomplished by routing the wiring within the factory wire harness sheath, using wire ties and sheathing, and using appropriate grommets when passing through the firewall.