with Installation Instructions

Owner's Manual

Banks DynaFact

TEMPERATURE GAUGE

THIS MANUAL IS FOR USE WITH SYSTEMS 64100-64135

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General Installation Practices

1. For ease of installation , please read this entire 4-page manual before starting any work. Become thoroughly familiar with all components and phases of the installation to determine what additional tools or materials you will need. This manual is an installation guide for all Banks Temperature Gauges. For each segment of gauge installation, select the text that closely corresponds to your vehicle. If you cannot correspond your vehicle to the text provided, please contact Technical Service at (888) 839-2700 for assistance.

2. Any time the vehicle is raised off its wheels, it should be supported by jack stands or ramps of adequate capacity for the vehicle's weight. **NEVER PERFORM ANY WORK UNDER A VEHICLE SUPPORTED ONLY BY ITS SERVICE JACK OR A HYDRAULIC JACK. DO NOT USE CONCRETE BLOCKS OR OTHER MASONRY ITEMS THAT MAY COLLAPSE UNDER THE VEHICLE WEIGHT.**

3. Pay particular attention to the routing of wires or hoses. Keep them away from exhaust heat, moving parts, and sharp edges that may cause cuts or other damage. Route or tie wires away from critical areas as required. Keep all wires a minimum of 6" from hot exhaust parts, 8" or more is recommended whenever possible.

4. Right-hand and left-hand designations refer to the driver's right or left, as seated in the vehicle, (i.e.: Right-hand refers to the passenger side of the vehicle, unless noted otherwise).

Installation Procedure

GAUGE PANEL INSTALLATION

Choose a suitable location under the lower edge of the dash panel for mounting the instrument panel or on top of the dash for the molded instrument console. Be certain that the instruments can be conveniently viewed by the driver.

Under Dash: Using the panel as a template, drill two 3/16" diameter holes in the dash and mount the panel with two No. 10 x 1/2" machine screws, nuts, and star washers provided.

On Top Of Dash: Wipe the dash top clean with an alcohol pad or other surface cleaner. Remove the backing from the adhesive Velcro tape on the bottom of the console adapter in the appropriate location, and press down firmly. Once the gauges are wired and secured to the console (see the following instructions below), attach the console assembly to the console adapter using the two machine screws provided.

ENGINE OIL TEMPERATURE SENDER LOCATION

NOTE: Maximum engine oil temperature will vary depending on the type and grade of oil used. As a general rule, caution should be used if oil temperature exceeds 240°F. (Consult your vehicle owners manual or the oil manufacture for maximum oil temperature specifications. Always use sealant tape or paste on threaded fittings to prevent leaks.)

1988-2000 Chevrolet/GMC 5.0/ 5.7/ 7.4L gasoline: Locate 1/4" NPT plug in engine block directly above the oil filter location. Remove the plug, and install the oil temperature sending unit with a 1/8" to 1/4" adapter.

1982-2000 Chevrolet/GMC 6.2L/6.5L diesel: Remove the factory oil drain plug, and replace it with the temperature sending unit.

1989-2002 Cummins powered Pickups and RVs: Locate the 1/8" NPT plug in the top of the oil filter housing. For ISC motorhomes, locate the lower 1/8" NPT plug on the side of the engine block, just behind the oil filter. Remove the plug and replace with the sending unit.

1988-1997 Ford 7.5L Gasoline: Remove the factory oil drain plug and replace it with the temperature sending unit.

1999-2003 Ford 6.8L V-10 Gasoline: Locate the 1/8" NPT plug above the rear exhaust port on the left side cylinder head. Remove the plug and replace with the sending unit.

1994-2003 Ford 7.3L Power Stroke diesel: Locate the 1/8" NPT plug in the aluminum oil filter adapter housing. Remove the plug and install the sending unit.

TRANSMISSION OIL TEMPERATURE SENDER LOCATION

NOTE: Transmission oil temperature is most appropriately observed at its hottest point. This is commonly found in the transmission oil pan. Most transmissions do not provide a location for installing a sensor in the pan. Therefore it is necessary to weld a bung into the pan to measure temperature. On most transmissions, alternate sensor locations are available. While the use of an alternate location will give accurate temperature readings under fully loaded conditions, temperatures may read low under light to moderate load conditions.

OIL PAN

NOTE: This procedure is provided for transmissions with steel pans. For aluminum pans, locate a portion of the pan with a thickness of at least 3/16". Drill a hole with a letter R drill (.399") and tap the hole with a 1/8" NPT tap. Install the sensor in this location.

1. Place a clean drain pan large enough to hold the contents of the transmission oil pan (2 gallons or larger) underneath the transmission.

2. Loosen the bolts holding the pan onto the bottom of the transmission, starting at the rear and working forward. When oil begins to drain, make sure the drain pan is underneath it. Sometimes it is necessary to tap the edge of the transmission pan with a hammer, or to lightly pry it to get the fluid to begin draining. Do this before removing all of the bolts.

3. As the fluid drains out, carefully remove the bolts, continuing to drain the fluid into the drain pan.

4. After the pan has been removed, clean it thoroughly with solvent or brake degreaser and dry it thoroughly.

5. Select a sensor location on the side of the pan along the lower edge, where the sensor will be below the fluid level in the pan and clear of valve body. Mark the location and drill a 3/8" hole. Before drilling check to make sure that the bung will sit flat on the sheet metal of the pan.

6. Deburr both sides of the hole and remove any paint around the hole where the weld will be made.

7. Weld the bung onto the pan. The temperature sending unit may be used for locating the bung over the hole, but only for tack welding or marking. Do not weld the bung with the sending unit screwed into it. The bung and sensor have a tapered pipe thread. Be

sure that the bung is oriented properly before welding.

8. Clean and repaint the pan before reinstalling it If necessary replace the gasket, then reinstall the oil pan.

9. Refill the transmission with the previously removed fluid, or use new fluid that meets the manufacturer's specifications.

10. Start the vehicle, check for leaks around the pan gasket, and check the fluid level. Repair leaks and add fluid as necessary.

ALTERNATE LOCATIONS

Chevrolet/GMC 700R4: Remove the main line pressure tap plug located on the left side of the transmission above the outside manual lever and install the 1/8" NPT transmission temperature sending unit.

Chevrolet/GMC 4L60E: Remove the main line pressure tap plug located on the left side of the transmission above the outside manual lever and install the 1/8" NPT transmission temperature sending unit.

Chevrolet/GMC 4L80E: Install the 1/8" NPT transmission temperature sending unit into the main line pressure tap behind the Park/Neutral Position Switch.

With a pen or scribe, make marks around the heads of the bolts that hold the Park/Neutral Position Switch to the transmission and remove the bolts.

Once the bolts are removed, rotate the switch clockwise until the pressure tap plug on the transmission, is accessible. Remove the plug, insert the sending unit and connect the wire.

Rotate the Park/Neutral Positioning Switch counter-clockwise until the slots in the mounting bracket line up with the holes in the transmission.

Insert the bolts and position the switch such that the marks that were made around the heads of the bolts, line up in the same position that they were in before the switch was removed.

Tighten the bolts securing the switch to 27 N.m (20 lb. Ft.). Check the switch for proper operation. The engine must start in the (P) Park or (N) Neutral positions only. If adjustment is required, loosen the switch retaining bolts and rotate the switch slightly, then tighten the bolts and check the switch.

Cummins Pwered ISB/ISC RV's with Allison 6-Speed Transmission: Wrap Teflon tape around the threads of the 1/8" NPT transmission temperature sending unit and assemble the sender into the 1/8" NPT to 7/16" pulg on the left side of the transmission oil reservoir. Remove the plug and replace with the sending unit.

Dodge 47RE: Remove the rear servo test port plug located on the right-rear side of the transmission and install the 1/8" NPT transmission temperature sending unit.

Ford C6/E40D/4R100: Locate the 1/8" NPT plug forward of the gear selector on the driver's side of the transmission. Remove the plug and install the sending unit in its place.

WIRING INSTALLATION

All gauge wiring should be routed away from heat sources such as exhaust manifolds or piping, and away from sharp edges. Avoid sharp bends or kinks. Secure the wiring or tubing to other wiring inside the engine compartment with cable ties provided. When passing through the firewall, either make a hole in a factory grommet or drill a hole and use a new grommet. If a hole needs to be drilled, drill a $^{5}/_{16}$" hole and deburr it on both sides, so that the wiring does not get cut as it passes through the hole. For added protection, wrap the wiring with several layers of electrical tape in the area where it passes through the hole. When drilling, check the backside to make sure that there are no components blocking the back side of the hole that would be damaged by drilling.

Crimp one of the supplied Push-on terminal to the stripped end of the blue wire provided. Install Push-on terminal to temperature sending unit. See **Figure 2**.

NOTE: Sender damage can occur if the battery lead, (+) 12 volts, touches the sender unit.

GAUGE INSTALLATION

Remove the U-clamp from the studs, then install the gauge through the panel using the U-clamp and two hex nuts provided with the gauge.

Use a test light or voltmeter to find a connection on the fuse block or wire under the dash, which has key-on (+) 12 volts. Tap into the wire or fuse on the fuse block using the appropriate T-tap or Fuse tap connector provided in the kit.

Using the appropriate spade terminal and the **black** wire provided in the kit, connect to the key-on (+) 12 volt supply and run the wire up to the gauge location and connect to the yellow wire on the 4-pin gauge connector. See **Figure 1**.

Locate the headlight circuit or factory instrumentation light circuit on the fuse block or a wire under the dash.

Typical wires for instrument illumination circuits are:

Chevrolet - Gray
Dodge - Orange
Ford - Light Blue with red tracer

Using a volt meter or test light, verify that voltage varies with change in instrument panel illumination.

Connect the **red** wire provided to an 18-ga. or larger wire connected to the headlight circuit, or to the factory instrument light circuit. Connect the red wire to the red wire on the 4-pin Gauge connector. See **Figure 1**.

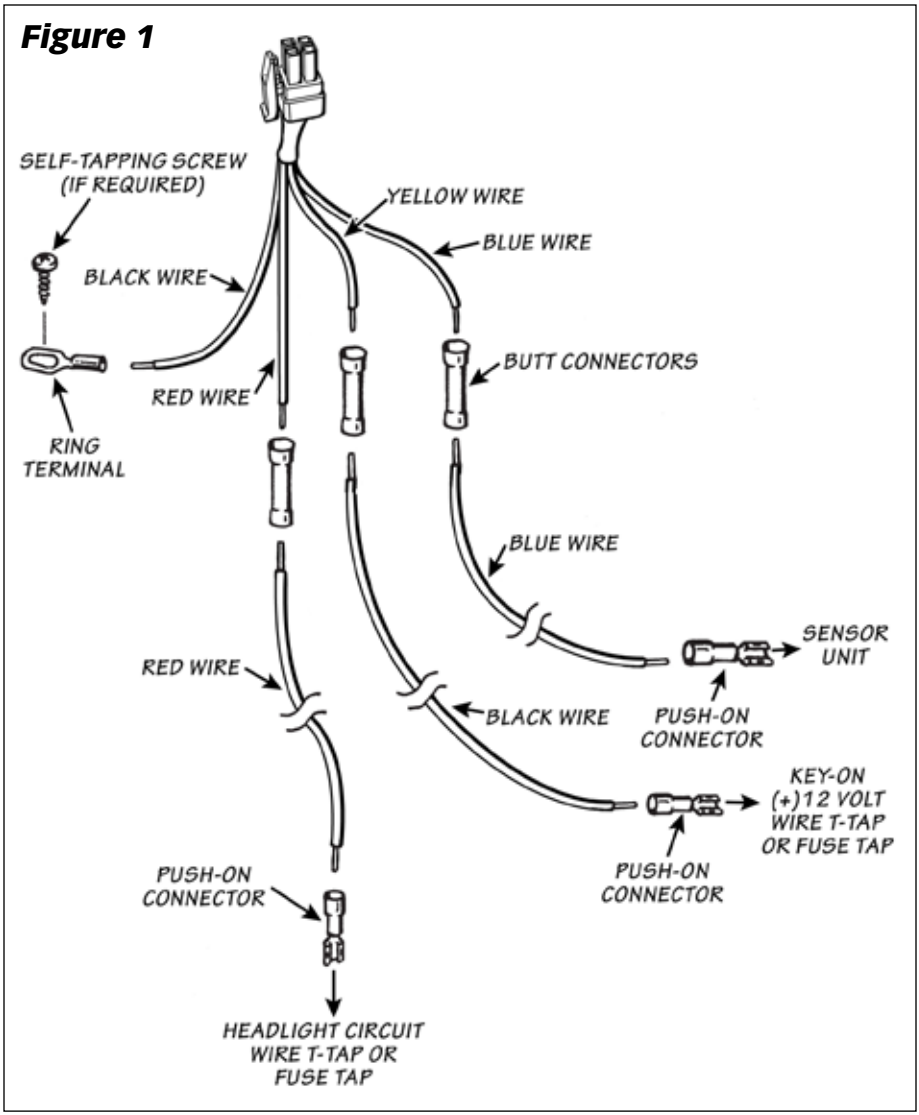
The Blue wire on the 4-pin gauge connector connects to the blue wire connected to the sending unit. See **Figure 1.**

NOTE: sender damage can occur if the battery lead, (+) 12 volts, touches the sender unit.

The Black wire on the 4-pin gauge connector connects to a clean chassis ground such as metal dash support brackets where other wires may already be grounded. See **Figure 1**.

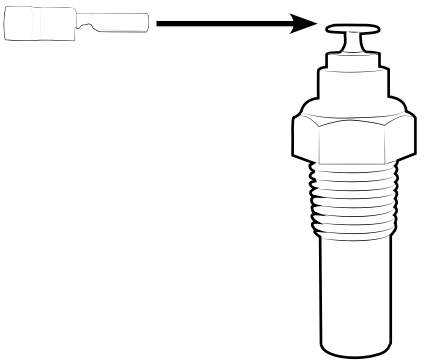
Connect the 4-pin male connector to the 4-pin female connector on the back of the gauge. Route all wiring away from any pedals or other moving components. Using the cable ties supplied, secure the wiring under the dash.

Figure 1


SELF-TAPPING SCREW
(IF REQUIRED)
BLACK WIRE
RED WIRE
RING
TERMINAL
YELLOW WIRE
BLUE WIRE
BUTT CONNECTORS
BLUE WIRE
SENSOR
UNIT
RED WIRE
BLACK WIRE
PUSH-ON
CONNECTOR
KEY-ON
(+)12 VOLT
WIRE T-TAP
OR FUSE TAP
PUSH-ON
CONNECTOR
PUSH-ON
CONNECTOR
HEADLIGHT CIRCUIT
WIRE T-TAP OR
FUSE TAP

Notes

Figure 2



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