## ENGINE SENSORS

### ENGINE OIL PRESSURE SENDER

The oil pressure sender is located on the top front side of the engine. The switch opens under normal oil pressure (above 6 PSI) and closes when oil pressure is low (3 - 6 PSI) to complete the ground circuit of the oil pressure warning light.

When the ground circuit is completed, the oil pressure warning light illuminates on the instrument panel when the key switch is turned to the “ON” position and goes out when the engine is started. If the light does not go out after the engine has started, first check the engine oil level. If oil level is correct, check for a malfunctioning sender or engine oil pump.

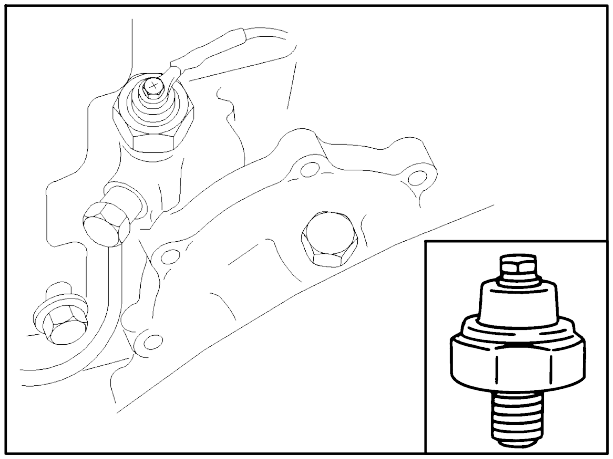

Figure 3-73

### ENGINE COOLANT TEMPERATURE SWITCH (1725, 1925, TC25, TC29, and TC33)

The coolant temperature switch, 1, is located at the front left side of the engine inside the thermostat housing. This switch is open under normal operating temperatures and closes when operating temperatures reach higher than normal limits, 101° - 109°C (214° - 228°F), illuminating the indicator bulb on the instrument panel.

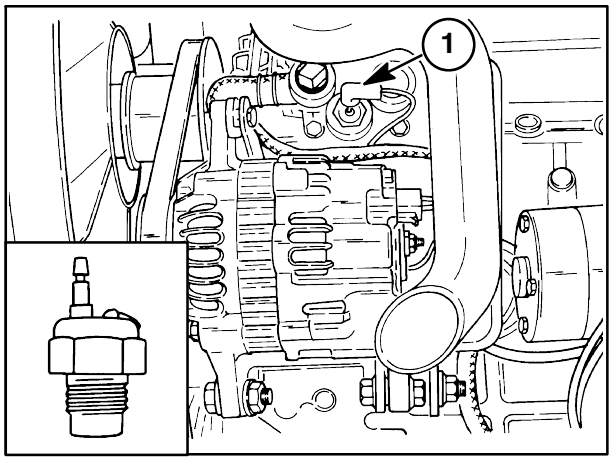


Figure 3-74

## ENGINE COOLANT TEMPERATURE SENDER (1530, 1630, TC25D, TC29D, and TC33D)

The coolant temperature sender is located at the left front side of the engine inside the thermostat housing. This sender regulates a variable resistance to ground, which translates into the movement of the temperature gauge.

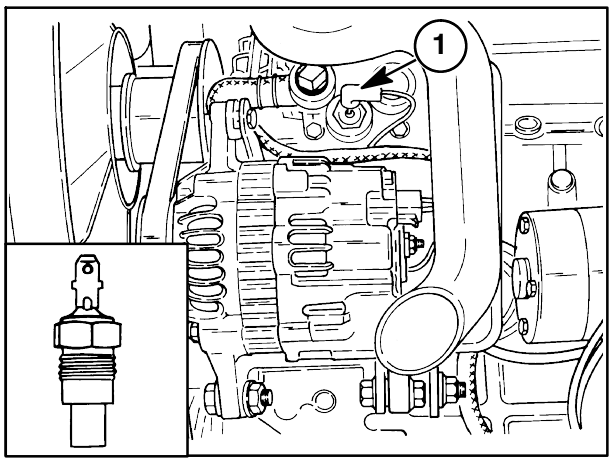


Figure 3-75

## Engine Coolant Temperature Sender Testing

| Coolant Temperature | Sender Resistance |
|---|---|
| 122°F (50°C) | 154 Ohms |
| 176°F (80°C) | 52 Ohms |
| 212°F (100°C) | 27 Ohms |
| 248°F (120°C) | 16 Ohms |

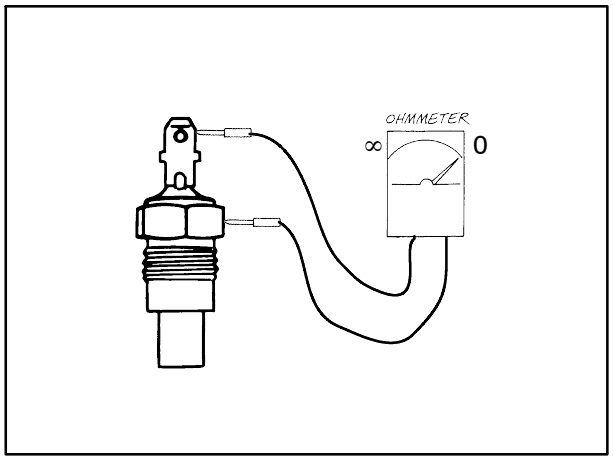


Figure 3-76

## FUEL LEVEL SENDER

### Description

The fuel level sender, 1, is mounted on the top of the inside of the fuel tank. The sender float moves up and down with the fuel level in the tank, while changing the resistance to the ground circuit of the fuel gauge.

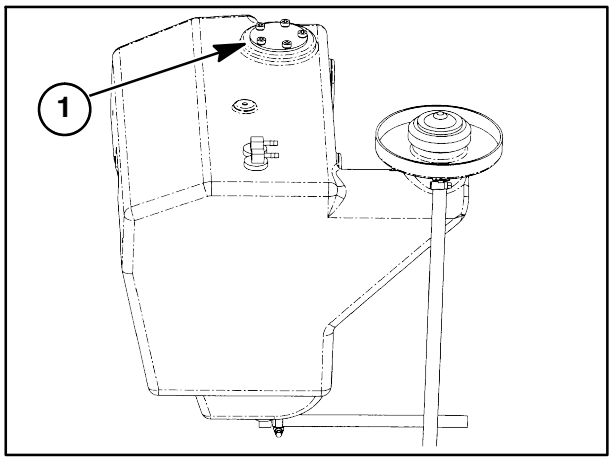


Figure 3-77

## ENGINE COOLANT TEMPERATURE (30 SERIES)

1. Current flows from the battery to the 30 amp main fuse.
2. From the main fuse, current is supplied to the (B) terminal of the starter switch. When the starter switch is in the (RUN) position, current is transferred from the (B) terminal to the (ACC) terminal.
3. The current then travels from the (ACC) terminal to the (F2) 7.5 amp fuse, and from the 7.5 amp fuse to pin 21 of the instrument panel connector, providing current to the instrument panel.
4. The gauge's temperature reading is controlled by the variable resistance of the coolant temperature sender located on the engine's thermostat housing. The higher the engine temperature, the lower the resistance of the sender, resulting in a higher temperature reading.
5. The ground circuit for the temperature gauge is completed from pin 15 of the instrument panel connector, through the temperature sender, to the ground of the engine block.

**TROUBLESHOOTING**
**ENGINE COOLANT TEMPERATURE CIRCUIT**
**30 SERIES**

| CONDITION | POSSIBLE CAUSE | REMEDY |
|---|---|---|
| Inoperative temperature gauge. | Blown (F2) 7.5 amp fuse | Replace the 7.5 amp fuse. |
| | Malfunctioning temperature sender | Test the sender and replace if necessary. |
| | Malfunctioning temperature gauge | Replace the gauge. |

# 30 Series Deluxe Coolant Temperature Monitoring Circuit

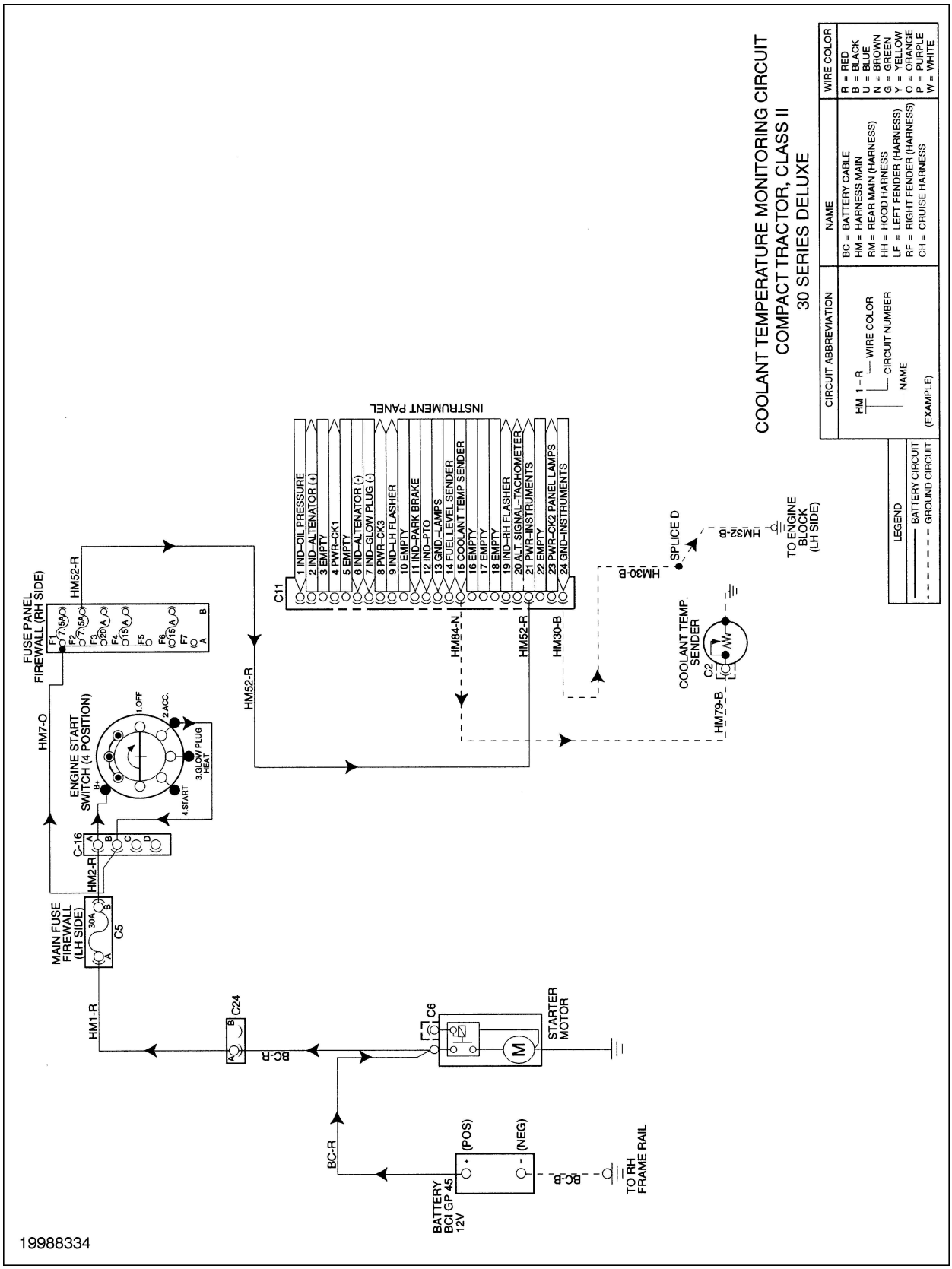


Figure 3-112