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1. PRODUCT OVERVIEW

The Standard Motor Products TS81 is a temperature sender/sensor designed for automotive applications. Its primary function is to monitor the temperature of the engine coolant and transmit this information as an electrical signal to the vehicle's engine control unit (ECU) or dashboard gauge. Accurate temperature readings are crucial for optimal engine performance and to prevent overheating.

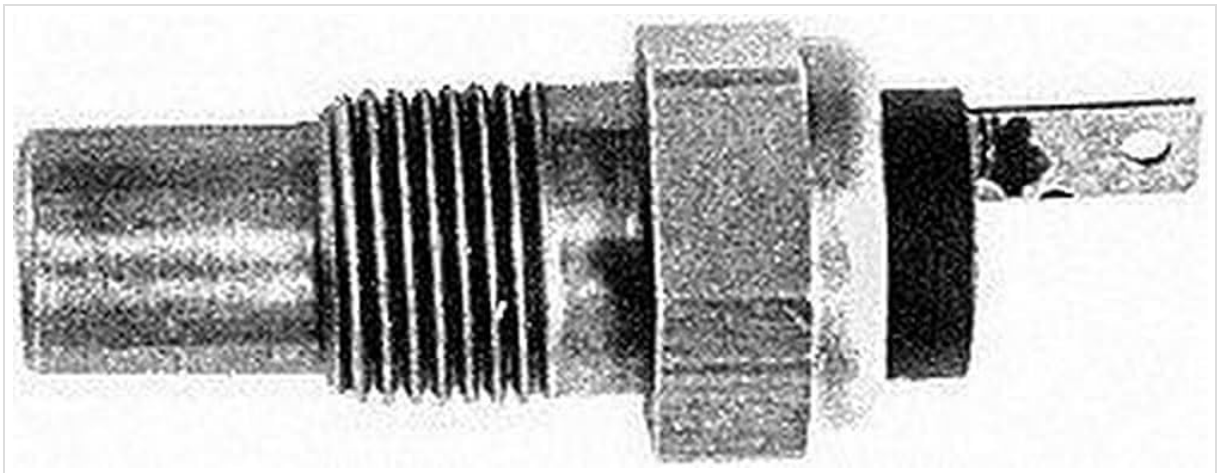


Image 1: The Standard Motor Products TS81 Temperature Sender/Sensor. This image displays the metallic sensor body with threaded section for installation, a hexagonal base for tightening, and an electrical connector at the end for signal transmission.

2. SETUP AND INSTALLATION

Installation of the TS81 temperature sender/sensor typically involves replacing an existing sensor or installing it in a designated port within the engine's cooling system. It is recommended that installation be performed by a qualified technician or an individual with appropriate automotive repair experience.

2.1 Safety Precautions

- Ensure the vehicle's engine is completely cool before beginning any work on the cooling system.

- Disconnect the vehicle's battery to prevent electrical hazards.
- Wear appropriate personal protective equipment, including gloves and eye protection.
- Be aware that coolant can be hot and under pressure; allow ample time for cooling.

2.2 Installation Steps (General)

1. **Locate the Sensor:** Identify the location of the existing temperature sender/sensor on your vehicle. Consult your vehicle's service manual for precise location and removal instructions.
2. **Drain Coolant:** Partially drain the engine coolant to a level below the sensor's mounting point to prevent spillage.
3. **Remove Old Sensor:** Disconnect the electrical connector from the old sensor. Using an appropriate wrench, carefully unscrew and remove the old sensor.
4. **Prepare New Sensor:** Apply a small amount of thread sealant (if not pre-applied) to the threads of the new TS81 sensor to ensure a leak-free seal.
5. **Install New Sensor:** Carefully thread the new TS81 sensor into the mounting port by hand to avoid cross-threading. Tighten with a wrench to the manufacturer's specified torque (refer to vehicle service manual). Do not overtighten.
6. **Connect Electrical:** Reconnect the electrical connector to the new sensor, ensuring a secure connection.
7. **Refill Coolant:** Refill the cooling system with the appropriate type and amount of coolant. Bleed any air from the system as per your vehicle's service manual.
8. **Test System:** Reconnect the battery. Start the engine and check for leaks around the new sensor. Monitor the temperature gauge or diagnostic tool to confirm proper operation.

Note: Specific installation procedures may vary by vehicle make and model. Always refer to your vehicle's official service manual for detailed instructions.

3. OPERATING INSTRUCTIONS

The Standard Motor Products TS81 Temp Sender/Sensor operates automatically once installed correctly. It continuously measures the temperature of the engine coolant and converts this physical measurement into an electrical signal. This signal is then transmitted to the vehicle's engine control unit (ECU) or directly to the dashboard temperature gauge.

- The sensor requires no direct user interaction during operation.
- Its function is integral to the vehicle's engine management system, providing critical data for fuel mixture, ignition timing, and cooling fan operation.
- Users should monitor the vehicle's temperature gauge for any abnormal readings, which could indicate a sensor malfunction or a cooling system issue.

4. MAINTENANCE

The TS81 temperature sender/sensor is designed for durability and typically requires minimal maintenance. However, periodic inspection can help ensure its longevity and proper function.

- **Visual Inspection:** During routine vehicle maintenance, visually inspect the sensor and its wiring for any signs of physical damage, corrosion, or loose connections.
- **Connection Integrity:** Ensure the electrical connector is securely attached to the sensor and that the wiring harness is free from fraying or damage.
- **Leak Check:** Periodically check for any coolant leaks around the sensor's mounting point.

If any issues are observed, it is recommended to address them promptly to prevent potential engine

problems.

5. TROUBLESHOOTING

If you suspect an issue with your TS81 temperature sender/sensor, consider the following common troubleshooting steps:

- **Inaccurate Temperature Readings:** If the dashboard gauge shows consistently high, low, or erratic temperatures, or if the engine runs poorly due to incorrect temperature data.
- **No Temperature Reading:** If the temperature gauge remains at its lowest setting or a 'check engine' light related to coolant temperature appears.

5.1 Potential Causes and Solutions

- **Faulty Sensor:** The sensor itself may have failed. Testing the sensor's resistance at various temperatures (if applicable and safe to do so) can confirm this. Replacement is the solution for a failed sensor.
- **Wiring Issues:** Damaged, corroded, or loose wiring to the sensor can disrupt the signal. Inspect the wiring harness and connector for continuity and secure connection. Repair or replace damaged wiring.
- **Poor Electrical Connection:** The connector might not be fully seated or could have corrosion on its terminals. Disconnect, inspect, clean, and re-secure the connector.
- **Low Coolant Level:** Insufficient coolant can cause the sensor to read air temperature instead of coolant temperature, leading to inaccurate readings. Check and top up coolant levels.
- **Thermostat Malfunction:** A stuck-open or stuck-closed thermostat can affect coolant flow and temperature, mimicking a sensor issue. This requires separate diagnosis.

If troubleshooting does not resolve the issue, it is advisable to consult a professional automotive technician for diagnosis and repair.

6. SPECIFICATIONS

The following table outlines key specifications for the Standard Motor Products TS81 Temp Sender/Sensor:

Specification	Value
Brand	Standard Motor Products
Model Number	TS81
Item Dimensions (L x W x H)	1.5 x 1.16 x 2.88 inches
Material	Metal
Item Weight	0.96 ounces (27.22 g)
Output Type	Electrical signal
Measurement Accuracy	±1.5%
UPC	091769032180
Country of Origin	Mexico

7. WARRANTY AND SUPPORT

For information regarding the warranty period and terms for the Standard Motor Products TS81 Temp Sender/Sensor, please refer to the documentation provided at the time of purchase or contact Standard Motor Products directly. Warranty coverage typically addresses manufacturing defects.

For technical support or further assistance, please contact Standard Motor Products customer service or consult with your automotive parts supplier.