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Standard Motor Products TX157

Standard Motor Products TX157 Coolant Temperature Sensor

Model: TX157

Introduction

This manual provides essential information for the installation, operation, and maintenance of the Standard Motor Products TX157 Coolant Temperature Sensor. This sensor is designed to accurately measure the temperature of the engine's coolant, providing critical data to the vehicle's engine control unit (ECU) for optimal engine performance and fuel efficiency.

Safety Information

WARNING:

- Always disconnect the vehicle's battery before performing any electrical work to prevent electrical shock or damage to components.
- Allow the engine to cool completely before working on the cooling system. Hot coolant can cause severe burns.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, during installation.
- Coolant is toxic. Dispose of used coolant properly according to local regulations.
- If you are unsure about any step, consult a qualified automotive technician.

What's in the Box

- 1 x Standard Motor Products TX157 Coolant Temperature Sensor

No additional accessories or tools are included with the sensor.

Setup and Installation

Installation of the TX157 Coolant Temperature Sensor typically involves replacing an existing sensor. The exact location and procedure may vary by vehicle make and model. Always refer to your vehicle's specific service manual for detailed instructions.

General Installation Steps:

1. **Preparation:** Ensure the engine is cool. Locate the existing coolant temperature sensor. It is usually found near the

thermostat housing or on the engine block.

2. **Drain Coolant (if necessary):** Depending on the sensor's location, you may need to drain some coolant from the radiator or engine block to prevent spills when removing the old sensor.
3. **Disconnect Electrical Connector:** Carefully disconnect the electrical connector from the old sensor.
4. **Remove Old Sensor:** Use an appropriate wrench or socket to unscrew and remove the old sensor. Be prepared for some coolant to leak out.
5. **Inspect and Clean:** Inspect the sensor's mounting hole for any debris or old sealant. Clean the area thoroughly.
6. **Install New Sensor:** Apply a small amount of thread sealant (if recommended by your vehicle's manual) to the threads of the new TX157 sensor. Carefully thread the new sensor into the opening by hand to avoid cross-threading.
7. **Tighten Sensor:** Tighten the sensor with a wrench to the manufacturer's specified torque. Do not overtighten.
8. **Reconnect Electrical Connector:** Reconnect the electrical connector to the new sensor, ensuring it clicks securely into place.
9. **Refill Coolant:** If coolant was drained, refill the cooling system to the appropriate level with the correct type of coolant for your vehicle. Bleed any air from the system as per your vehicle's manual.
10. **Test:** Start the engine and check for leaks around the new sensor. Monitor the engine temperature gauge to ensure proper operation.



Figure 1: Front view of the Standard Motor Products TX157 Coolant Temperature Sensor, showing the electrical connector and threaded brass body.



Figure 2: Side view of the Standard Motor Products TX157 Coolant Temperature Sensor, highlighting the threaded portion and the temperature sensing probe.

Operation

The Standard Motor Products TX157 Coolant Temperature Sensor is a passive component that changes its electrical resistance based on the temperature of the engine coolant. As the coolant temperature increases, the sensor's resistance decreases, and vice-versa. The vehicle's Engine Control Unit (ECU) monitors this resistance change and uses the data to:

- Adjust fuel injection and ignition timing for optimal performance.
- Control cooling fan operation.
- Provide temperature readings to the dashboard gauge.
- Manage emissions control systems.

Once installed correctly, the sensor operates automatically as part of the vehicle's engine management system.

Maintenance

The TX157 Coolant Temperature Sensor is designed for long-term reliability and typically requires no routine maintenance. However, it is advisable to:

- Periodically inspect the sensor's electrical connector for corrosion or damage.
- Ensure the wiring harness connected to the sensor is secure and free from abrasion.
- Maintain your vehicle's cooling system by regularly checking coolant levels and condition, as a properly maintained cooling system contributes to the longevity of all its components, including sensors.

Troubleshooting

A faulty coolant temperature sensor can lead to various engine performance issues. If you experience any of the following symptoms, the TX157 sensor may need inspection or replacement:

- **Check Engine Light (CEL):** The most common indicator, often accompanied by a diagnostic trouble code (DTC) related to the coolant temperature circuit.

- **Poor Fuel Economy:** If the ECU receives incorrect temperature readings, it may enrich the fuel mixture, leading to increased fuel consumption.
- **Hard Starting (Cold or Hot):** Incorrect temperature data can affect the engine's starting strategy.
- **Engine Overheating or Running Cold:** Inaccurate readings can prevent cooling fans from activating or cause the engine to run at an incorrect temperature.
- **Erratic Temperature Gauge Readings:** The dashboard temperature gauge may show inconsistent or incorrect readings.
- **Black Smoke from Exhaust:** An overly rich fuel mixture due to a faulty sensor can cause black smoke.

If you suspect a sensor issue, it is recommended to have the vehicle's diagnostic trouble codes read by a qualified technician or using an OBD-II scanner.

Specifications

Feature	Specification
Brand	Standard Motor Products
Model Number	TX157
Product Dimensions (L x W x H)	1.5 x 1.16 x 2.88 inches
Item Weight	0.8 ounces (22.68 g)
Measurement Accuracy	±2%
Mounting Type	Plug Mount
Output Type	Analog
Specific Uses	Temperature Sensing (Coolant)
Upper Temperature Rating	257 Degrees Fahrenheit
UPC	707390712994
Country of Origin	Japan

Warranty and Support

Standard Motor Products stands behind the quality of its products. For specific warranty information and terms, please refer to the official Standard Motor Products website or contact their customer support directly. Keep your purchase receipt as proof of purchase.
For technical assistance or further inquiries, please visit the Standard Motor Products official website or contact their customer service department. Contact information can typically be found on their website or product packaging.

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