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› Standard Motor Products TH408 Throttle Position Sensor Instruction Manual

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Model: TH408

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Standard Motor Products TH408 Throttle Position Sensor (TPS). The TH408 is designed to accurately measure the throttle valve's position, sending this data to the vehicle's engine control unit (ECU) for optimal fuel delivery and ignition timing.

2. PRODUCT OVERVIEW

The Standard Motor Products TH408 Throttle Position Sensor is a critical component in your vehicle's engine management system. Key features include:

- **Model:** TH408
- **Mounting Type:** Flange Mount
- **Dimensions:** Approximately 1.16 x 1.5 x 2.88 inches (W x L x H)
- **Weight:** Approximately 0.65 pounds
- **Included Components:** One (1) Throttle Position Sensor



Figure 1: Front view of the Standard Motor Products TH408 Throttle Position Sensor, showing the main body and electrical connector.

3. SAFETY INFORMATION

Always observe the following safety precautions when working on vehicle systems:

- Disconnect the vehicle's battery before beginning any electrical work to prevent accidental short circuits or electrical shock.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Ensure the vehicle is securely supported on a level surface if lifting is required.
- Refer to your vehicle's specific service manual for detailed instructions and torque specifications.
- If you are unsure about any step, consult a qualified automotive technician.

4. INSTALLATION (SETUP)

The TH408 Throttle Position Sensor is designed for a flange mount installation. The following general steps outline the replacement process. Always consult your vehicle's specific service manual for precise instructions and component locations.

1. **Preparation:** Park the vehicle on a level surface, engage the parking brake, and turn off the engine. Disconnect the negative terminal of the vehicle's battery.
2. **Locate the Existing TPS:** Identify the current Throttle Position Sensor, typically mounted on the throttle body.
3. **Disconnect Electrical Connector:** Carefully disconnect the electrical connector from the existing TPS. Avoid pulling on the wires.

4. **Remove Old TPS:** Unscrew or unbolt the old TPS from the throttle body. Note its orientation for correct installation of the new sensor.
5. **Install New TH408:** Position the new Standard Motor Products TH408 sensor onto the throttle body, ensuring proper alignment with the throttle shaft. Secure it with the appropriate fasteners. Do not overtighten.
6. **Connect Electrical Connector:** Reconnect the electrical connector to the new TH408 sensor, ensuring it clicks into place securely.
7. **Final Steps:** Reconnect the negative battery terminal. Some vehicles may require a throttle body relearn procedure after TPS replacement. Refer to your vehicle's service manual for details.



Figure 2: Side view of the TH408 sensor, highlighting the electrical connector for proper wiring connection.



Figure 3: Bottom view of the TH408 sensor, showing the flange mount and bolt holes for secure attachment to the throttle body.

5. OPERATION

The Throttle Position Sensor (TPS) is a passive component that works in conjunction with the vehicle's Engine Control Unit (ECU). It continuously monitors the angle of the throttle plate, which is directly controlled by the accelerator pedal. As the throttle plate opens or closes, the TPS sends a corresponding voltage signal to the ECU. The ECU uses this signal to:

- Adjust fuel injection timing and quantity.
- Control ignition timing.
- Manage automatic transmission shift points.
- Regulate idle speed.

The TH408 operates automatically once installed and properly calibrated (if required by the vehicle). There is no direct user interaction with the sensor during vehicle operation.

6. MAINTENANCE

The Standard Motor Products TH408 Throttle Position Sensor is designed for long-term reliability and typically requires minimal maintenance. However, periodic inspection can help ensure optimal performance:

- **Visual Inspection:** Periodically check the sensor and its electrical connector for any signs of physical damage, corrosion, or loose connections.
- **Cleaning:** If the throttle body becomes excessively dirty, it may affect the TPS's operation. When cleaning the throttle body, ensure no cleaning agents directly enter the TPS unit.
- **Wiring:** Ensure all wiring leading to the TPS is intact and free from fraying or damage.

Replacement is generally recommended only when diagnostic tests indicate a malfunction.

7. TROUBLESHOOTING

A malfunctioning Throttle Position Sensor can lead to various drivability issues. If you experience any of the following symptoms, the TPS may require inspection or replacement:

- **Check Engine Light:** Illumination of the Check Engine Light (CEL) with associated diagnostic trouble codes (DTCs) related to the TPS.
- **Rough Idle or Stalling:** Inconsistent engine idle speed, or the engine stalling, especially when coming to a stop.
- **Hesitation or Surging:** Engine hesitation, stumbling, or surging during acceleration.
- **Poor Fuel Economy:** Incorrect fuel delivery due to inaccurate throttle position readings.
- **Transmission Shifting Issues:** Erratic or hard shifting in automatic transmissions.

Diagnostic Steps:

1. **Scan for DTCs:** Use an OBD-II scanner to retrieve any stored diagnostic trouble codes.
2. **Inspect Wiring:** Check the TPS wiring harness for damage, corrosion, or loose connections.
3. **Test TPS Voltage:** Using a multimeter, test the voltage output of the TPS across its full range of motion (from closed throttle to wide-open throttle). The voltage should increase smoothly without drops or spikes. Refer to your vehicle's service manual for expected voltage ranges.

If diagnostic tests confirm a faulty TPS, replacement with the Standard Motor Products TH408 is recommended.

8. SPECIFICATIONS

Attribute	Value
Brand	Standard Motor Products
Model Number	TH408
Item Dimensions (L x W x H)	1.5 x 1.16 x 2.88 inches
Item Weight	0.65 Pounds (approx. 10.4 ounces)
Mounting Type	Flange Mount
UPC	707390658407
Manufacturer Part Number	TH408

9. WARRANTY AND SUPPORT

For information regarding the warranty coverage for your Standard Motor Products TH408 Throttle Position Sensor, please refer to the documentation included with your purchase or visit the official Standard Motor Products website. For technical support or further inquiries, please contact Standard Motor Products directly.

Official Brand Website: www.smpcorp.com

