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› Standard Motor Products TH209 Throttle Position Sensor User Manual

Standard Motor Products TH209

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Model: TH209

INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of the Standard Motor Products TH209 Throttle Position Sensor. The TH209 is designed to accurately measure the throttle valve's position, providing critical data to the engine control unit (ECU) for optimal engine performance and fuel efficiency. Please read this manual thoroughly before installation and use.

SAFETY INFORMATION

Always prioritize safety when working with automotive components. Failure to follow safety precautions can result in injury or damage to the vehicle.

- Disconnect the vehicle's battery before beginning any electrical work to prevent accidental short circuits or electrical shock.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the vehicle is on a stable, level surface and properly supported if lifting is required.
- Refer to your vehicle's service manual for specific procedures and torque specifications related to throttle body components.
- Keep work area clean and well-lit.

PACKAGE CONTENTS

Upon opening the package, verify that all components are present and undamaged.

- 1 x Standard Motor Products TH209 Throttle Position Sensor

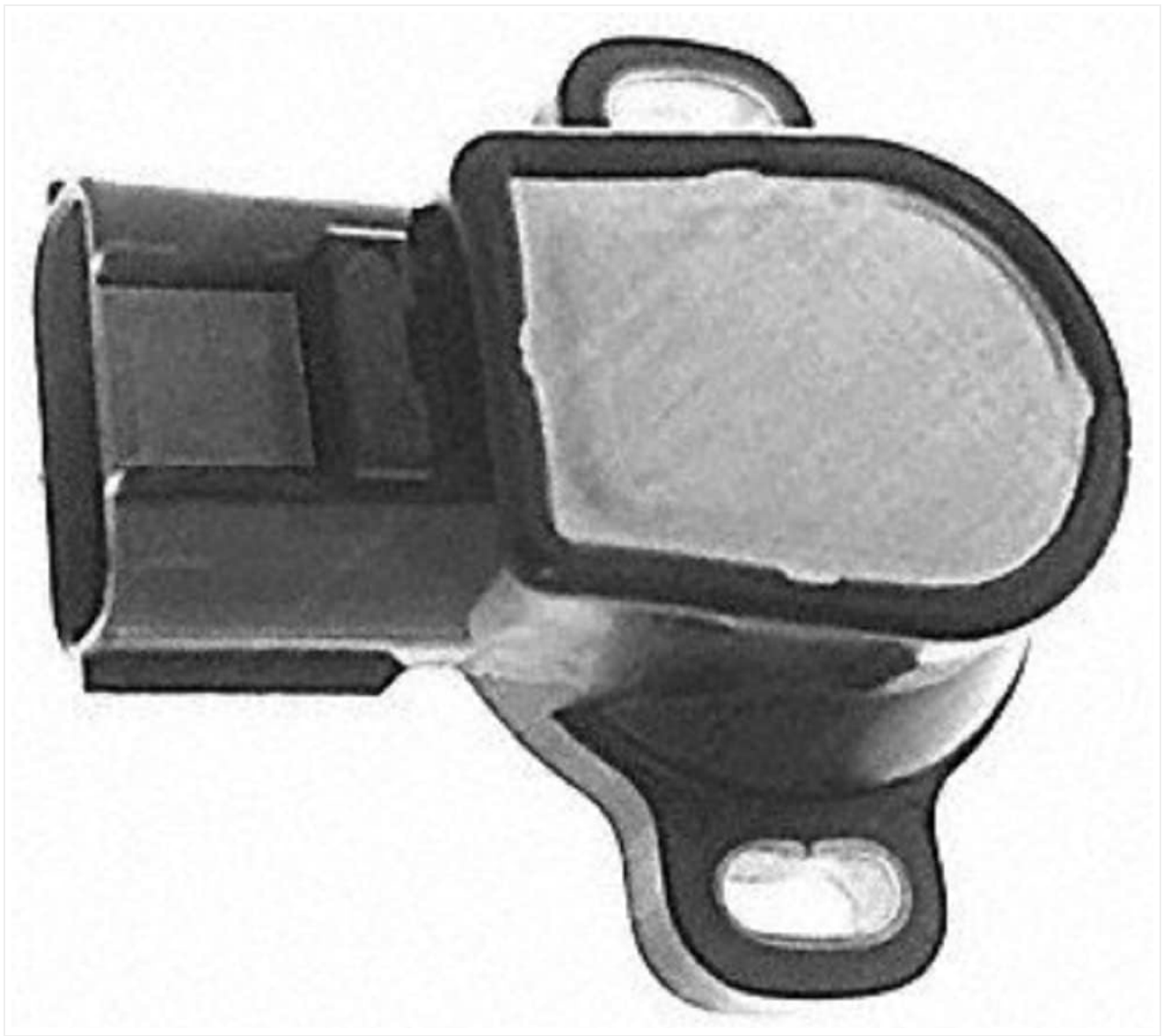


Image: The Standard Motor Products TH209 Throttle Position Sensor, showing its electrical connector and mounting points. This sensor is a critical component for engine management.

SETUP AND INSTALLATION

Proper installation is crucial for the correct function of the throttle position sensor.

1. **Preparation:** Ensure the engine is cool. Disconnect the negative terminal of the vehicle's battery. Locate the existing throttle position sensor on the throttle body.
2. **Removal of Old Sensor:** Carefully disconnect the electrical connector from the old TPS. Remove any mounting screws or clips securing the sensor to the throttle body. Gently pull the old sensor off the throttle shaft.
3. **Installation of New Sensor:** Align the new TH209 sensor with the throttle shaft. Ensure the sensor's D-shaped or keyed shaft aligns correctly with the throttle body's mating surface. Push the sensor firmly into place.
4. **Secure Sensor:** Reinstall any mounting screws or clips. Tighten screws to the vehicle manufacturer's specified torque. Avoid overtightening.
5. **Connect Electrical Connector:** Reconnect the electrical connector to the new TH209 sensor, ensuring it clicks securely into place.
6. **Final Steps:** Reconnect the negative terminal of the vehicle's battery. Some vehicles may require a throttle

body relearn procedure after TPS replacement. Consult your vehicle's service manual for specific instructions.

OPERATING PRINCIPLES

The TH209 Throttle Position Sensor is a potentiometer that converts the mechanical position of the throttle plate into an electrical signal. As the throttle pedal is pressed, the throttle plate opens, rotating the sensor's internal wiper. This rotation changes the sensor's electrical resistance, which in turn alters the voltage signal sent to the ECU. The ECU uses this voltage signal to determine engine load, adjust fuel injection, ignition timing, and control other engine parameters for optimal performance and emissions.

MAINTENANCE

The Standard Motor Products TH209 Throttle Position Sensor is designed for long-term reliability and typically requires minimal maintenance. However, periodic inspection of the sensor and its wiring can help ensure continued optimal performance.

- **Visual Inspection:** Periodically inspect the sensor and its electrical connector for any signs of damage, corrosion, or loose connections. Ensure the wiring harness is not frayed or pinched.
- **Cleaning:** If the throttle body is being cleaned, ensure no cleaning solvents or debris enter the TPS itself, as this could damage the internal electronics. Clean the exterior of the sensor with a dry, lint-free cloth if necessary.
- **Avoid Tampering:** Do not attempt to disassemble or modify the sensor, as this will void any warranty and may lead to malfunction.

TROUBLESHOOTING

If you experience issues after installing the TH209 or suspect a TPS malfunction, consider the following common symptoms and checks:

Symptom	Possible Cause	Action
Rough idle or stalling	Incorrect TPS signal, vacuum leak, dirty throttle body	Check TPS connection. Inspect for vacuum leaks. Clean throttle body.
Hesitation or poor acceleration	Intermittent TPS signal, faulty sensor	Verify electrical connection. Test TPS output voltage with a multimeter (refer to vehicle service manual for specifications).
Check Engine Light (CEL) with TPS codes (e.g., P0120, P0121)	TPS circuit malfunction, sensor out of range	Scan for diagnostic trouble codes (DTCs). Inspect wiring for damage. Replace sensor if testing confirms failure.
High or low idle speed	Incorrect TPS calibration or faulty sensor	Perform throttle body relearn procedure if applicable. Verify sensor output.

If troubleshooting steps do not resolve the issue, it is recommended to consult a certified automotive technician or refer to your vehicle's specific service manual for advanced diagnostics.

SPECIFICATIONS

Attribute	Value
Brand	Standard Motor Products
Model Number	TH209
Product Type	Throttle Position Sensor
Item Weight	0.02 Pounds (approx. 0.32 ounces)
Product Dimensions (L x W x H)	2.44 x 2.44 x 2.38 inches
Output Type	Electrical Signal
Mounting Type	Engine Bay Mount
Specific Uses For Product	Automotive
UPC	091769291945

WARRANTY AND SUPPORT

For specific warranty information regarding your Standard Motor Products TH209 Throttle Position Sensor, please refer to the warranty documentation provided with your purchase or visit the official Standard Motor Products website. For technical support or further assistance, please contact Standard Motor Products customer service.

Contact Information: Please refer to the manufacturer's official website or product packaging for the most current contact details.