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## Standard Motor Products AS60

# Standard Motor Products MAP Sensor - AS60 Instruction Manual

Model: AS60 | Brand: Standard Motor Products

## 1. PRODUCT OVERVIEW

The Standard Motor Products MAP Sensor (Manifold Absolute Pressure) model AS60 is a critical component in your vehicle's engine management system. It measures the absolute pressure within the intake manifold, providing essential data to the engine control unit (ECU) for calculating air density and determining engine load. This information is crucial for optimizing fuel delivery and ignition timing, ensuring efficient engine operation and reduced emissions.



*Figure 1: Standard Motor Products AS60 MAP Sensor. This image shows the compact, black sensor unit with its electrical connector on one end and the pressure sensing port on the other, designed for flange mounting.*

## **2. INSTALLATION AND SETUP**

Installation of the MAP sensor typically involves replacing an existing faulty unit. Due to the critical nature of this component and its integration with the vehicle's ECU, professional installation by a certified mechanic is highly recommended. Incorrect installation can lead to engine performance issues or damage.

### **2.1 Safety Precautions**

- Always disconnect the vehicle's battery negative terminal before beginning any electrical work.
- Ensure the engine is cool to the touch to prevent burns.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.
- Refer to your vehicle's specific service manual for detailed instructions and torque specifications.

### **2.2 General Installation Steps (Consult Vehicle Manual)**

1. Locate the existing MAP sensor on the intake manifold. Its exact location varies by vehicle make and model.
2. Carefully disconnect the electrical connector from the old sensor.
3. Remove any mounting bolts or clips securing the old sensor.
4. Gently remove the old sensor from its mounting location.

5. Inspect the mounting surface and O-rings (if applicable) for any damage or debris.
6. Install the new Standard Motor Products AS60 MAP sensor, ensuring it seats correctly.
7. Secure the sensor with its mounting bolts or clips, tightening to the vehicle manufacturer's specified torque.
8. Reconnect the electrical connector, ensuring a secure fit.
9. Reconnect the vehicle's battery negative terminal.
10. Start the engine and check for proper operation and the absence of any warning lights. It may be necessary to clear any stored diagnostic trouble codes (DTCs) using an OBD-II scanner.

### 3. OPERATING PRINCIPLES

The Manifold Absolute Pressure (MAP) sensor measures the pressure inside the engine's intake manifold. This pressure changes based on engine load and speed. When the engine is idling or decelerating, manifold pressure is low (high vacuum). During acceleration or under heavy load, manifold pressure increases (low vacuum, closer to atmospheric pressure).

The AS60 sensor converts this pressure reading into an electrical signal, which is then sent to the vehicle's Engine Control Unit (ECU). The ECU uses this signal, along with data from other sensors (like the Throttle Position Sensor and Oxygen Sensor), to precisely calculate the amount of air entering the engine. This calculation allows the ECU to determine the optimal fuel-to-air ratio for combustion, controlling fuel injector pulse width and ignition timing for maximum efficiency, power, and minimal emissions.

### 4. MAINTENANCE

MAP sensors are generally robust and designed for long service life. Regular maintenance primarily involves ensuring the sensor and its connections remain clean and secure. There are no user-serviceable parts within the sensor itself.

- **Inspection:** Periodically inspect the sensor and its wiring harness for any signs of physical damage, corrosion, or loose connections.
- **Cleaning:** While not typically required, if the sensor's port becomes contaminated with oil or carbon deposits, it can affect readings. Cleaning should only be done with specialized sensor cleaner, never with harsh chemicals or abrasive materials. Consult a professional if cleaning is deemed necessary.
- **Replacement:** If the sensor begins to fail, it will typically trigger a "Check Engine" light and store a diagnostic trouble code (DTC). Common symptoms include poor fuel economy, rough idle, hesitation, or stalling. In such cases, replacement with a new, high-quality sensor like the AS60 is the recommended solution.

### 5. TROUBLESHOOTING

A malfunctioning MAP sensor can lead to various engine performance issues. If you suspect a problem with your MAP sensor, consider the following:

#### 5.1 Common Symptoms of a Faulty MAP Sensor

- Illuminated "Check Engine" light (Malfunction Indicator Lamp - MIL).
- Poor fuel economy.
- Rough idle or stalling.
- Engine hesitation or misfires.
- Black smoke from the exhaust (indicating a rich fuel mixture).
- Difficulty starting the engine.
- Failed emissions test.

## 5.2 Basic Diagnostic Steps

- 1. Check for Diagnostic Trouble Codes (DTCs):** Use an OBD-II scanner to retrieve any stored codes. Common MAP sensor related codes include P0105, P0106, P0107, P0108, P0109.
- 2. Inspect Wiring and Connector:** Visually check the sensor's electrical connector and wiring harness for any signs of damage, corrosion, or loose connections. Ensure the connector is fully seated.
- 3. Vacuum Leaks:** A vacuum leak in the intake manifold can affect MAP sensor readings. Inspect all vacuum lines and manifold gaskets for leaks.
- 4. Sensor Voltage Check (Advanced):** With a multimeter, a qualified technician can check the sensor's reference voltage, signal voltage, and ground connection while the engine is running or with the ignition on. This requires specific knowledge of the vehicle's wiring diagrams and expected voltage ranges.
- 5. Professional Diagnosis:** If symptoms persist or you are unsure about performing diagnostics, it is best to consult a professional automotive technician. They have specialized tools and expertise to accurately diagnose and repair the issue.

## 6. SPECIFICATIONS

Feature	Detail
Brand	Standard Motor Products
Model Number	AS60
Product Dimensions (L x W x H)	1.5 x 1.2 x 2.9 inches
Item Weight	0.704 ounces
Country of Origin	United States
Mounting Type	Flange Mount
Output Type	Push Button
Specific Uses For Product	Pressure Sensor
UPC	091769316693
Global Trade Identification Number	00091769316693
Measurement Accuracy	[Acceptable Industry Standard]

## 7. WARRANTY AND SUPPORT

Specific warranty information for the Standard Motor Products AS60 MAP Sensor is typically provided at the point of purchase or can be found on the official Standard Motor Products website. Please retain your proof of purchase for warranty claims.

For technical support, installation assistance, or warranty inquiries, please contact Standard Motor Products customer service directly or consult with a certified automotive professional.

*Note: This manual provides general guidance. Always refer to your vehicle's specific service manual and consult with a qualified technician for precise installation and diagnostic procedures.*

