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Standard Motor Products PC428

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Model: PC428

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of the Standard Motor Products PC428 Crankshaft Sensor. Please read this manual thoroughly before beginning any procedures to ensure proper function and safety.



Figure 1: The Standard Motor Products PC428 Crankshaft Sensor. This image shows the sensor unit with its attached wiring and blue electrical connector, designed for precise engine timing applications.

2. PRODUCT OVERVIEW

The Standard Motor Products PC428 is a high-quality crankshaft position sensor designed to accurately monitor the rotational speed and position of the engine's crankshaft. This critical data is then transmitted to the engine control unit (ECU) to ensure precise ignition timing and fuel injection, contributing to optimal engine performance and efficiency.

2.1. What's in the Box

- 1 x Standard Motor Products PC428 Crankshaft Sensor

3. SETUP AND INSTALLATION

Proper installation of the crankshaft sensor is crucial for its correct operation and the overall performance of your vehicle's engine. It is recommended that installation be performed by a qualified automotive technician.

3.1. Safety Precautions

- Always disconnect the vehicle's battery before beginning any electrical work.
- Ensure the engine is cool to the touch before working on engine components.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.
- Refer to your vehicle's specific service manual for detailed instructions on accessing and replacing the crankshaft sensor.

3.2. Installation Steps

1. Locate the existing crankshaft position sensor on your vehicle. Its location varies by make and model, but it is typically found near the crankshaft pulley or flywheel.
2. Carefully disconnect the electrical connector from the old sensor.
3. Remove the retaining bolt(s) that secure the old sensor in place.
4. Gently pull out the old sensor from its mounting bore.
5. Inspect the mounting bore for any debris or damage and clean if necessary.
6. Apply a small amount of clean engine oil to the O-ring of the new PC428 sensor (if applicable) to aid in installation and ensure a proper seal.
7. Insert the new PC428 sensor into the mounting bore, ensuring it is fully seated.
8. Reinstall the retaining bolt(s) and tighten them to the manufacturer's specified torque. **Do not overtighten.**
9. Reconnect the electrical connector to the new sensor, ensuring it clicks securely into place.
10. Reconnect the vehicle's battery.
11. Start the engine and check for proper operation and any diagnostic trouble codes (DTCs).

4. OPERATION

The Standard Motor Products PC428 Crankshaft Sensor operates continuously once installed and the engine is running. It is a passive component that generates a signal based on the rotation of the crankshaft. This signal is then interpreted by the vehicle's ECU.

4.1. Functionality

- **Engine Speed Monitoring:** Provides real-time data on engine RPM.
- **Crankshaft Position:** Determines the exact angular position of the crankshaft, which is vital for ignition timing and fuel injection synchronization.
- **Engine Start-up:** Essential for the ECU to determine engine position during cranking, allowing for proper engine start.

5. MAINTENANCE

The Standard Motor Products PC428 Crankshaft Sensor is designed to be a maintenance-free component. Regular inspection of the sensor and its wiring during routine vehicle maintenance is recommended to ensure its longevity and proper function.

5.1. Inspection Points

- **Wiring:** Check for any signs of fraying, cuts, or damage to the sensor's wiring harness.
- **Connector:** Ensure the electrical connector is clean, free of corrosion, and securely seated.
- **Mounting:** Verify that the sensor is firmly mounted and not loose.
- **Debris:** Inspect the sensor tip for any accumulation of metal shavings or other debris that could interfere with its signal.

If any damage or excessive wear is observed, replacement of the sensor may be necessary.

6. TROUBLESHOOTING

Issues with the crankshaft position sensor can lead to various engine performance problems. Below are common symptoms and potential solutions.

Table 1: Common Troubleshooting Scenarios

Symptom	Possible Cause	Solution
Engine cranks but does not start	Faulty crankshaft sensor, damaged wiring, or poor connection.	Check sensor wiring and connector. Test sensor signal with a diagnostic tool. Replace sensor if faulty.
Intermittent stalling or misfires	Intermittent signal loss from sensor, loose connection.	Inspect wiring and connector for looseness or corrosion. Consider sensor replacement.
Check Engine Light (CEL) illuminated with P0335 code (or similar)	Crankshaft position sensor circuit malfunction.	Retrieve diagnostic trouble codes (DTCs) using an OBD-II scanner. Diagnose according to specific code. Often indicates sensor failure.
Rough idle or poor acceleration	Inaccurate signal from sensor affecting timing.	Verify sensor installation and connection. If symptoms persist, sensor may be failing.

Note: For accurate diagnosis, it is highly recommended to use an OBD-II scanner to retrieve any stored diagnostic trouble codes (DTCs) and consult a professional automotive technician.

7. SPECIFICATIONS

Table 2: Product Specifications

Attribute	Detail
Brand	Standard Motor Products
Model Number	PC428

Attribute	Detail
Product Type	Crankshaft Sensor
Item Dimensions (L x W x H)	4 x 1.75 x 4.06 inches
Item Weight	3.04 ounces
Manufacturer Part Number	PC428
UPC	091769581626
ASIN	B000C7ZSHQ
Date First Available	November 11, 2005

8. WARRANTY INFORMATION

Specific warranty details for the Standard Motor Products PC428 Crankshaft Sensor are 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.

Standard Motor Products generally offers a limited warranty against defects in materials and workmanship for a specified period. For detailed terms and conditions, please refer to the warranty documentation included with your product or visit the manufacturer's official support channels.

9. CUSTOMER SUPPORT

For technical assistance, installation questions, or warranty inquiries regarding your Standard Motor Products PC428 Crankshaft Sensor, please contact Standard Motor Products customer support.

- **Manufacturer:** Standard Motor Products
- **Website:** www.smpcorp.com *(Note: This is a general link, specific support contact information may vary)*
- **Contact Information:** Refer to the manufacturer's website for the most current contact methods, including phone numbers or online contact forms.

When contacting support, please have your product model number (PC428) and purchase information readily available.