

VDO 5WK96857Z 13627599042 7599042

# VDO 5WK96857Z Manifold Absolute Pressure Sensor User Manual

Model: VDO 5WK96857Z 13627599042 7599042 | Brand: Generic

## 1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the VDO 5WK96857Z Manifold Absolute Pressure (MAP) Sensor. This sensor is designed to accurately measure the pressure inside the engine's intake manifold, providing crucial data to the engine control unit (ECU) for optimal fuel delivery and ignition timing. Adhering to these instructions will help ensure the sensor's longevity and proper function.

## 2. PRODUCT OVERVIEW

The VDO 5WK96857Z MAP sensor is a critical component in modern engine management systems. It typically consists of a pressure-sensing element, an electronic circuit for signal processing, and an electrical connector for interfacing with the vehicle's wiring harness. The sensor is designed for precise measurement and durability in automotive environments.



Figure 2.1: Front view of the VDO 5WK96857Z MAP Sensor, showing the main body and pressure port.



Figure 2.2: Angled view of the sensor, illustrating the mounting tabs and the multi-pin electrical connector.



Figure 2.3: Detailed view of the sensor's electrical connector, showing the pin configuration for connection to the vehicle's harness.

### 3. SPECIFICATIONS

Specification	Value
Item Model Number	VDO 5WK96857Z 13627599042 7599042
Brand	Generic
Measurement Accuracy	$\pm 3\%$
Output Type	Electrical Signal
Specific Uses For Product	Pressure Measurement

### 4. SETUP AND INSTALLATION

Installation of the MAP sensor should ideally be performed by a qualified automotive technician. Incorrect installation can lead to engine performance issues or damage to the sensor or vehicle.

## 4.1 Safety Precautions

- Ensure the vehicle's ignition is off and the battery is disconnected before beginning installation.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.
- Refer to the vehicle manufacturer's service manual for specific torque specifications and procedures.

## 4.2 Installation Steps

1. Locate the existing MAP sensor on the intake manifold. Its position varies by vehicle model.
2. Carefully disconnect the electrical connector from the old sensor.
3. Remove any retaining clips or bolts securing the old sensor.
4. Gently remove the old sensor from its mounting location. Note any O-rings or gaskets that need to be transferred or replaced.
5. Inspect the mounting surface for cleanliness and ensure no debris is present.
6. Install the new VDO 5WK96857Z sensor, ensuring any necessary O-rings or gaskets are correctly seated.
7. Secure the sensor with its retaining clips or bolts. Tighten to the vehicle manufacturer's specified torque *Do not overtighten*.
8. Reconnect the electrical connector to the new sensor, ensuring it clicks securely into place.
9. Reconnect the vehicle's battery.
10. Start the engine and check for proper operation and any diagnostic trouble codes (DTCs).

## 5. OPERATION

---

The Manifold Absolute Pressure (MAP) sensor measures the absolute pressure within the engine's intake manifold. This pressure changes based on engine load and speed. When the engine is off or at wide-open throttle, the manifold pressure is close to atmospheric pressure. During deceleration or at idle, the manifold pressure drops, creating a vacuum.

The MAP sensor converts this pressure reading into an electrical signal, which is then sent to the engine control unit (ECU). The ECU uses this signal, along with data from other sensors (like throttle position and engine speed), to calculate the air density and determine the appropriate amount of fuel to inject and the optimal ignition timing. This precise control helps ensure efficient combustion, good fuel economy, and reduced emissions.

## 6. MAINTENANCE

---

MAP sensors are generally low-maintenance components. However, periodic inspection can help identify potential issues before they lead to significant problems.

- **Visual Inspection:** Periodically check the sensor and its wiring for any signs of physical damage, corrosion, or loose connections.
- **Cleaning:** If the sensor's pressure port becomes contaminated with oil, carbon, or other debris from the intake manifold, it can affect its accuracy. Use a specialized sensor cleaner (e.g., MAF sensor cleaner) to gently clean the sensing element. *Do not use harsh chemicals or abrasive materials.*
- **Gasket/O-ring Check:** Ensure the sealing O-ring or gasket is in good condition to prevent vacuum leaks, which can significantly impact engine performance. Replace if cracked or worn.

Regular vehicle maintenance, including air filter replacement and PCV system checks, can help prevent excessive contamination of the intake manifold and, consequently, the MAP sensor.

## 7. TROUBLESHOOTING

---

If you suspect an issue with your MAP sensor, common symptoms may include:

- Check Engine Light (CEL) illuminated
- Poor fuel economy
- Rough idle or stalling
- Hesitation or poor acceleration
- Black smoke from the exhaust

### 7.1 Common Diagnostic Steps

1. **Check for Diagnostic Trouble Codes (DTCs):** Use an OBD-II scanner to retrieve any stored codes. Common MAP sensor codes include P0105, P0106, P0107, P0108, and P0109.
2. **Inspect Wiring and Connector:** Ensure the electrical connector is securely attached and that there are no frayed, broken, or corroded wires leading to the sensor.
3. **Vacuum Leaks:** A vacuum leak in the intake manifold can cause incorrect MAP sensor readings. Inspect all vacuum lines and manifold gaskets.
4. **Sensor Contamination:** As mentioned in the maintenance section, a dirty sensor can provide inaccurate readings. Clean the sensor if necessary.
5. **Voltage Check:** With the ignition on and engine off, check the reference voltage (typically 5V) and signal voltage at the sensor's connector using a multimeter. Refer to your vehicle's service manual for expected voltage ranges.
6. **Compare Readings:** If you have access to a scan tool, compare the live MAP sensor readings with expected values for your vehicle at idle and under acceleration.

If troubleshooting steps do not resolve the issue, or if you are unsure about performing these diagnostics, it is recommended to consult a professional automotive technician.

## 8. WARRANTY INFORMATION

---

Specific warranty details for this product were not provided in the available product information. Please refer to the seller or manufacturer's official website for any applicable warranty terms and conditions.

## 9. SUPPORT

---

For technical assistance or further inquiries regarding the VDO 5WK96857Z Manifold Absolute Pressure Sensor, please contact the seller or the manufacturer directly. Contact information was not provided in the product details.