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## Standard Motor Products V514

# Standard Motor Products V514 PCV Valve Instruction Manual

Model: V514 | Brand: Standard Motor Products

## 1. INTRODUCTION

The Positive Crankcase Ventilation (PCV) valve is a crucial component in your vehicle's emission control system. It regulates the flow of crankcase gases, preventing them from escaping into the atmosphere and instead routing them back into the engine's intake manifold to be re-burned. This process helps maintain engine cleanliness, reduces harmful emissions, and can improve fuel efficiency.

This manual provides essential information regarding the Standard Motor Products V514 PCV Valve, including its features, installation guidelines, maintenance, and troubleshooting tips. Proper installation and regular maintenance are vital for the optimal performance and longevity of your vehicle's engine.

## 2. PRODUCT OVERVIEW

The Standard Motor Products V514 PCV Valve is designed to meet or exceed OEM specifications, ensuring reliable performance and a precise fit for compatible vehicles. It is constructed from durable materials to withstand the demanding conditions within an engine's crankcase.

### Key Features:

- **Vehicle Specific Fit:** Engineered for direct replacement in specific vehicle models.
- **Durable Construction:** Made from materials such as stainless steel, brass, bronze, cast iron, or high-temperature plastic (e.g., PVC or PTFE) for long-lasting performance.
- **Optimal Dimensions:** Compact design with dimensions of approximately 1.5 x 1.16 x 2.88 inches.
- **Single Unit Packaging:** Each package contains one PCV valve.

### Product Images:



Front view of the Standard Motor Products V514 PCV Valve, showing the threaded end and the barb fitting. This image highlights the primary connection points of the valve.



Side view of the Standard Motor Products V514 PCV Valve, highlighting its metallic construction and overall shape. This perspective provides a clear view of the valve's body.



Close-up view of the Standard Motor Products V514 PCV Valve, focusing on the threaded connection and internal mechanism. This detailed image shows the precision machining.

### 3. INSTALLATION

Replacing a PCV valve is a common maintenance task. However, the exact location and removal procedure can vary significantly between vehicle makes and models. Always consult your vehicle's specific service manual for detailed instructions and safety precautions before beginning any work.

#### General Installation Steps (Consult Vehicle Manual for Specifics):

1. **Safety First:** Ensure the engine is cool and the vehicle is safely parked with the ignition off. Disconnect the negative battery terminal if required by your vehicle's manual.
2. **Locate the PCV Valve:** The PCV valve is typically located on the valve cover or intake manifold. Its appearance can

vary, but it usually has a hose connected to it.

3. **Disconnect Hose:** Carefully disconnect the hose(s) attached to the PCV valve. Some hoses may be secured with clamps that need to be loosened or removed.
4. **Remove Old PCV Valve:** Depending on the design, the valve may be threaded into the valve cover/manifold, or it may be a push-in type secured with a grommet. Use an appropriate wrench or pliers if threaded, or gently twist and pull if push-in. Be careful not to damage surrounding components or hoses.
5. **Inspect Grommet (if applicable):** If your old valve used a grommet, inspect it for cracks or hardening. Replace it if necessary to ensure a proper seal.
6. **Install New PCV Valve:** Insert the new Standard Motor Products V514 PCV Valve into its opening. If threaded, hand-tighten first, then use a wrench to tighten to the manufacturer's specified torque. If push-in, ensure it seats firmly in the grommet.
7. **Reconnect Hose:** Reattach the PCV hose(s) securely to the new valve. Ensure all connections are tight to prevent vacuum leaks.
8. **Final Checks:** Reconnect the battery terminal if disconnected. Start the engine and check for any leaks or unusual noises.

*Note: Some vehicles, like certain Toyota Camry models, may have the PCV valve located in hard-to-access areas. Consider professional installation if you are not comfortable performing this task.*

## 4. OPERATION

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The PCV valve operates as a one-way valve, allowing blow-by gases (unburnt fuel and exhaust gases that escape past the piston rings) to be drawn from the crankcase into the intake manifold. From there, these gases are re-routed into the combustion chambers to be burned, preventing their release into the atmosphere and reducing sludge buildup within the engine. The valve's internal mechanism adjusts the flow rate based on engine vacuum, ensuring efficient ventilation under various operating conditions.

## 5. MAINTENANCE

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A properly functioning PCV valve is essential for engine health and emissions compliance. Over time, the valve can become clogged with oil sludge and carbon deposits, impairing its function.

### Inspection and Replacement Schedule:

- It is generally recommended to inspect the PCV valve every 20,000 to 30,000 miles or annually.
- Replacement is typically recommended every 30,000 to 50,000 miles, or as specified in your vehicle's owner's manual.
- If the valve rattles when shaken, it is likely still functional. If it does not rattle, it may be clogged and require replacement.

### Signs of a Failing PCV Valve:

- Increased oil consumption
- Engine oil leaks (due to increased crankcase pressure)
- Rough idle or stalling
- Engine surging
- Check Engine Light illumination (though this can indicate many issues)
- Sludge buildup in the engine

## 6. TROUBLESHOOTING

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If you experience symptoms that suggest a PCV valve issue, consider the following troubleshooting steps:

- **Check for Clogs:** Remove the PCV valve and shake it. A healthy valve should rattle. If it doesn't, it's likely clogged and needs replacement.
- **Inspect Hoses:** Check all hoses connected to the PCV system for cracks, kinks, or blockages. Leaks in these hoses can cause vacuum issues.
- **Verify Fit:** Ensure the V514 valve is the correct part for your specific vehicle model. An incorrect fit, even if visually similar, can lead to improper sealing and performance issues (e.g., as reported for some 2013 Scion tC models if the thread does not match).
- **Listen for Vacuum Leaks:** With the engine running, listen for hissing sounds around the PCV valve and its hoses, which could indicate a vacuum leak.
- **Consult a Professional:** If symptoms persist after checking the valve and hoses, or if you are unsure about the diagnosis, it is advisable to consult a certified automotive technician.

## 7. SPECIFICATIONS

Detailed specifications for the Standard Motor Products V514 PCV Valve are provided below:

| Specification               | Value                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------------|
| Model Number                | V514                                                                                       |
| Brand                       | Standard Motor Products                                                                    |
| Material                    | Stainless steel, brass, bronze, cast iron, or high-temperature plastic (e.g., PVC or PTFE) |
| Item Dimensions (L x W x H) | 1.5 x 1.16 x 2.88 inches                                                                   |
| Item Weight                 | 2.08 ounces                                                                                |
| Exterior Finish             | Machined                                                                                   |
| Inlet Connection Type       | Positive Crankcase Ventilation                                                             |
| Outlet Connection Type      | Positive Crankcase Ventilation                                                             |
| Number of Ports             | 2                                                                                          |
| UPC                         | 025623949741                                                                               |
| Manufacturer Part Number    | V514                                                                                       |

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For technical assistance, please refer to your vehicle's service manual or consult a qualified mechanic.

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