

[Manuals.plus](#) /

- › [Standard Motor Products](#) /
- › Standard Motor Products Canister Purge Solenoid - CP312 User Manual

Standard Motor Products CP312

Standard Motor Products Canister Purge Solenoid - CP312 User Manual

Model: CP312

INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Standard Motor Products CP312 Canister Purge Solenoid. This component is designed to control the flow of fuel vapor from the evaporative emission (EVAP) canister to the engine intake manifold, ensuring efficient engine operation and compliance with emission standards.

PRODUCT OVERVIEW



The image displays the Standard Motor Products CP312 Canister Purge Solenoid. It is a compact, black-colored automotive part, primarily made of durable plastic. Visible features include an electrical connector on the top for power and signal input, and two distinct hose ports on the side, designed for connection to the EVAP system and engine vacuum lines. The overall design is robust, indicating its function within the vehicle's emission control system.

The CP312 Canister Purge Solenoid is a critical component in the vehicle's Evaporative Emission Control (EVAP) system. It regulates the flow of fuel vapors from the charcoal canister to the engine to be burned, preventing their release into the atmosphere. Proper functioning of this solenoid is vital for maintaining vehicle emissions compliance and fuel efficiency.

SPECIFICATIONS

Manufacturer	Standard Motor Products
Model	CP312
Item Weight	9.6 ounces
Product Dimensions	6 x 4.63 x 3.75 inches
Exterior	Machined
Country of Origin	China

SETUP AND INSTALLATION

Disclaimer: Installation of automotive components should ideally be performed by a qualified technician. Incorrect installation can lead to vehicle malfunction or damage.

- Safety First:** Ensure the vehicle's engine is off and cool. Disconnect the negative terminal of the battery to prevent electrical hazards.
- Locate the Old Solenoid:** Refer to your vehicle's service manual for the exact location of the existing canister purge solenoid. It is typically found near the EVAP canister or on the intake manifold.
- Disconnect Electrical Connector:** Carefully unclip and remove the electrical connector from the old solenoid.
- Disconnect Hoses:** Detach the vacuum and vapor hoses connected to the solenoid. Note their positions for correct reattachment. Use appropriate hose removal tools if necessary to avoid damaging the hoses or ports.
- Remove Old Solenoid:** Unbolt or unclip the old solenoid from its mounting bracket.
- Install New Solenoid:** Position the new Standard Motor Products CP312 solenoid in the same location and secure it with the original fasteners.
- Reconnect Hoses:** Reattach the vacuum and vapor hoses to their correct ports on the new solenoid. Ensure a snug fit to prevent vacuum leaks.
- Reconnect Electrical Connector:** Plug the electrical connector firmly into the new solenoid until it clicks into place.
- Reconnect Battery:** Reconnect the negative terminal of the vehicle's battery.
- Test System:** Start the vehicle and check for any diagnostic trouble codes (DTCs) related to the EVAP system. A drive cycle may be required for the vehicle's computer to relearn and confirm proper operation.

OPERATING PRINCIPLES

The CP312 solenoid operates under the control of the vehicle's Engine Control Unit (ECU). When the engine is running and specific conditions are met (e.g., engine temperature, speed, load), the ECU sends a signal to the solenoid to open. This allows stored fuel vapors from the EVAP canister to be drawn into the engine's intake manifold and burned during combustion, rather than being released into the atmosphere. The solenoid's opening and closing are precisely timed to ensure optimal fuel efficiency and emission control.

MAINTENANCE

The Standard Motor Products CP312 Canister Purge Solenoid is designed for long-term reliability and typically requires no routine maintenance. However, it is part of a complex emission system, and its performance can be affected by other components. Regular vehicle maintenance, including checking for vacuum leaks and ensuring the EVAP canister is not saturated, can help prolong the life and proper function of the purge solenoid.

- **Inspect Hoses:** Periodically check the hoses connected to the solenoid for cracks, kinks, or loose connections that could cause vacuum leaks.
- **Check Electrical Connection:** Ensure the electrical connector remains clean and securely attached.
- **Listen for Operation:** A faint clicking sound from the solenoid when the engine is running and warmed up can indicate it is cycling correctly.

TROUBLESHOOTING

If you experience issues that may be related to the canister purge solenoid, consider the following common symptoms and potential solutions:

Symptom	Possible Cause	Solution
Check Engine Light (CEL) with EVAP codes (e.g., P0440, P0442, P0446)	Faulty purge solenoid, vacuum leak, or issue with EVAP system.	Inspect hoses and connections. Test solenoid operation (requires diagnostic tools). Replace solenoid if faulty.
Rough idle or stalling	Solenoid stuck open, causing a vacuum leak or rich fuel mixture.	Check for proper solenoid closure. Replace if stuck open.
Difficulty starting after refueling	EVAP system not purging correctly, leading to pressure buildup.	Inspect EVAP system components, including the purge solenoid and vent valve.
Fuel odor	EVAP system leak or improper vapor management.	Check all EVAP lines, canister, and solenoid for leaks or damage.

If troubleshooting steps do not resolve the issue, it is recommended to consult a certified automotive technician for diagnosis and repair.

WARRANTY AND SUPPORT

For information regarding the warranty of your Standard Motor Products CP312 Canister Purge Solenoid, 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 directly.

Standard Motor Products Official Website: www.smpcorp.com

resulting from improper installation or use of this product.