

[Manuals.plus](#) /

- › [Standard Motor Products](#) /
- › Standard Motor Products AC101 Idle Air Control Valve User Manual

Standard Motor Products AC101

Standard Motor Products AC101 Idle Air Control Valve User Manual

Model: AC101 | Brand: Standard Motor Products

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Standard Motor Products AC101 Idle Air Control (IAC) Valve. The IAC valve is a critical component in your vehicle's fuel injection system, responsible for regulating the engine's idle speed by controlling the amount of air bypassing the throttle plate.

For optimal performance and longevity, please read this manual thoroughly before attempting any installation or service.

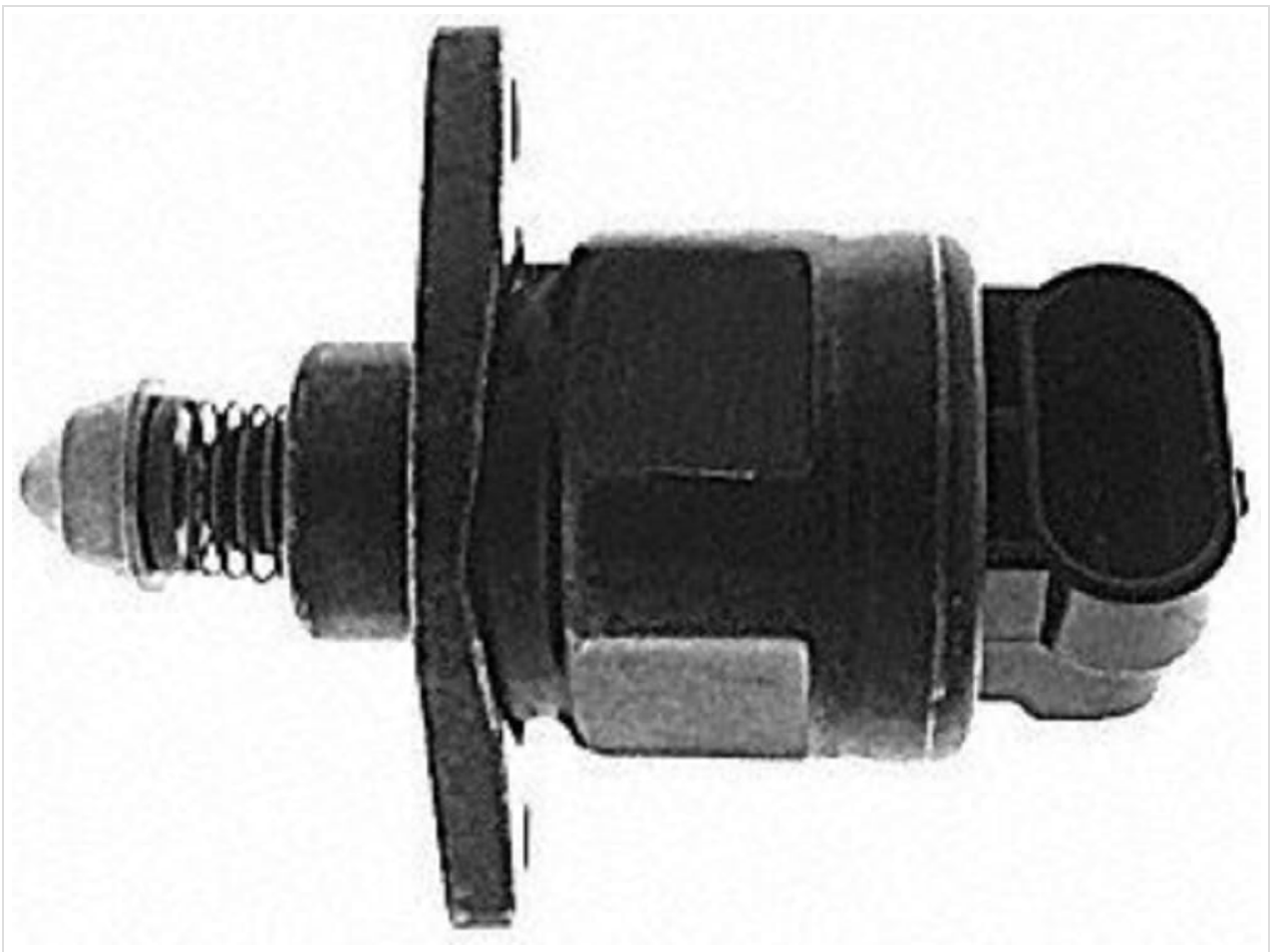


Figure 1: Standard Motor Products AC101 Idle Air Control Valve. This image shows the compact, cylindrical design of the valve, featuring a mounting flange, an electrical connector, and a spring-loaded plunger mechanism on one end.

2. SAFETY INFORMATION

Always prioritize safety when working on your vehicle. Failure to follow these safety guidelines may result in personal injury or damage to the vehicle.

- Ensure the vehicle's engine is off and cool before beginning any work.
- Disconnect the vehicle's battery to prevent accidental electrical shorts or component damage.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves.
- Refer to your vehicle's specific service manual for detailed instructions and torque specifications.
- Keep all tools and parts organized to prevent misplacement.
- Dispose of old parts and fluids responsibly according to local regulations.

3. INSTALLATION (SETUP)

The AC101 Idle Air Control Valve is designed for vehicle-specific fitment. Always verify compatibility with your vehicle's make, model, and year before installation.

Installation Steps:

1. **Preparation:** Park the vehicle on a level surface, engage the parking brake, and ensure the engine is off and cool. Disconnect the negative terminal of the battery.
2. **Locate the Old IAC Valve:** The IAC valve is typically located on the throttle body. Consult your vehicle's service manual for its exact location.

3. **Disconnect Electrical Connector:** Carefully disconnect the electrical connector from the old IAC valve. Avoid pulling on the wires.
4. **Remove Mounting Screws:** Using the appropriate tools, remove the mounting screws or bolts securing the old IAC valve to the throttle body.
5. **Remove Old Valve:** Gently remove the old IAC valve. Note the orientation for proper installation of the new valve. Inspect the mounting surface for any debris or old gasket material and clean thoroughly.
6. **Install New IAC Valve:** Position the new Standard Motor Products AC101 IAC valve with a new gasket (if applicable) onto the throttle body. Ensure proper alignment.
7. **Secure Mounting Screws:** Install and tighten the mounting screws or bolts to the vehicle manufacturer's specified torque. Overtightening can damage the valve or throttle body.
8. **Reconnect Electrical Connector:** Firmly connect the electrical connector to the new IAC valve until it clicks into place.
9. **Reconnect Battery:** Reconnect the negative terminal of the battery.
10. **Perform Idle Relearn Procedure:** Many vehicles require an idle relearn procedure after replacing the IAC valve. Refer to your vehicle's service manual for the specific steps, which often involve driving cycles or specific ignition key sequences.

4. OPERATION

The Standard Motor Products AC101 Idle Air Control Valve operates under the command of the vehicle's Engine Control Unit (ECU). Its primary function is to maintain a stable engine idle speed under varying load conditions (e.g., air conditioning on, power steering engaged, cold start).

When the engine is idling, the throttle plate is closed, and the IAC valve controls the amount of air that bypasses the throttle plate. By precisely adjusting this bypass air, the ECU can increase or decrease the engine's RPM to the desired idle speed, ensuring smooth operation and preventing stalling.

A properly functioning IAC valve contributes to consistent idle, improved fuel efficiency, and reduced emissions.

5. MAINTENANCE

The Standard Motor Products AC101 Idle Air Control Valve is a sealed unit and generally does not require routine maintenance or lubrication. However, carbon buildup on the pintle (the moving part of the valve) and in the throttle body's air passages can affect its performance over time.

- **Inspection:** During routine vehicle maintenance, you may inspect the IAC valve and the throttle body for excessive carbon deposits.
- **Cleaning (if necessary):** If carbon buildup is observed, the throttle body and IAC valve passages can be carefully cleaned using a throttle body cleaner specifically designed for this purpose. **Do not spray cleaner directly into the IAC valve's electrical connector or internal components.** Remove the valve from the throttle body before cleaning if possible.
- **Replacement:** If the IAC valve exhibits signs of failure (e.g., erratic idle, stalling), replacement with a new unit like the AC101 is typically the recommended solution.

6. TROUBLESHOOTING

If you experience issues after installing the AC101 IAC valve, or if your vehicle exhibits symptoms of a faulty IAC valve, refer to the table below for common problems and potential solutions.

Symptom	Possible Cause	Solution
High or Erratic Idle	Improper idle relearn procedure, vacuum leak, dirty throttle body, faulty IAC valve.	Perform idle relearn. Check for vacuum leaks. Clean throttle body. Verify IAC valve function.
Engine Stalling (especially when coming to a stop)	Faulty IAC valve, dirty throttle body, vacuum leak.	Perform idle relearn. Clean throttle body. Inspect IAC valve.
Check Engine Light (CEL) with IAC-related codes (e.g., P0505)	Electrical connection issue, faulty IAC valve, wiring harness damage.	Check electrical connector. Inspect wiring. Test IAC valve.
Rough Idle	Dirty IAC valve, vacuum leak, other engine issues.	Clean IAC valve and throttle body. Check for vacuum leaks. Consult a mechanic for further diagnosis.

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

7. SPECIFICATIONS

Attribute	Detail
Model Number	AC101
Product Type	Idle Air Control Valve
Brand	Standard Motor Products
Material	Polymer
Item Dimensions (L x W x H)	3 x 2 x 5 inches
Item Weight	4 ounces
Exterior Finish	Machined
Inlet Connection Type	Threaded
Outlet Connection Type	Flare
Number of Ports	2
Fit Type	Vehicle Specific
UPC	091769254100, 091769154103

8. WARRANTY AND SUPPORT

Standard Motor Products provides high-quality automotive parts. Specific warranty terms and conditions for the AC101 Idle Air Control Valve are typically provided at the point of purchase or can be found on the official Standard Motor Products website.

For technical support, warranty claims, or further assistance, please contact Standard Motor Products customer service directly or refer to their official website for contact information and support resources.

Important: Always retain your proof of purchase for warranty purposes.

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This manual is for informational purposes only. Always consult a qualified professional for vehicle repairs.