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 - › Standard Motor Products AC147 Idle Air Control Valve User Manual

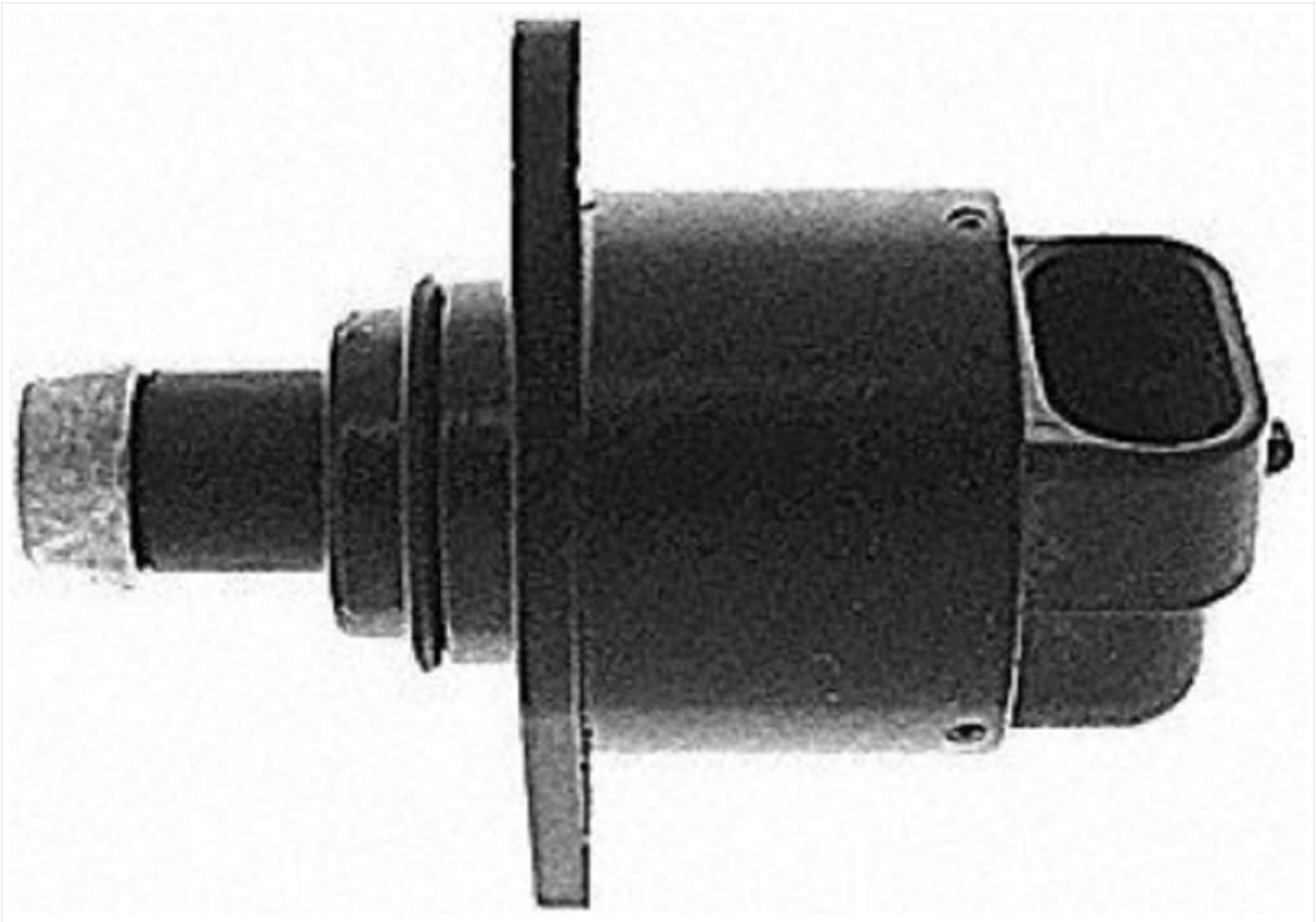
Standard Motor Products AC147

Standard Motor Products AC147 Idle Air Control Valve User Manual

Model: AC147 | Brand: Standard Motor Products

1. PRODUCT OVERVIEW

The Standard Motor Products AC147 Idle Air Control (IAC) Valve is a critical component in your vehicle's engine management system. It is designed to regulate the amount of air bypassing the throttle plate, thereby controlling the engine's idle speed. A properly functioning IAC valve ensures a smooth and stable idle, preventing stalling and rough engine operation.



An image showing the Standard Motor Products AC147 Idle Air Control Valve. It is a black, cylindrical component with a rectangular electrical connector on one end and a tapered shaft on the other, designed to regulate engine idle speed.

2. SETUP AND INSTALLATION

Installation of the Idle Air Control Valve requires mechanical aptitude and specific tools. It is highly recommended that installation be performed by a certified automotive technician to ensure proper function and safety.

Safety Precautions:

- Always disconnect the vehicle's battery before beginning any work on the electrical system.
- Ensure the engine is cool to the touch to prevent burns.
- Wear appropriate personal protective equipment, including gloves and eye protection.
- Refer to your vehicle's specific service manual for detailed instructions and torque specifications.

General Installation Steps (Consult Vehicle Manual for Specifics):

1. Locate the existing Idle Air Control Valve, typically mounted on the throttle body.
2. Disconnect the electrical connector from the old IAC valve.
3. Remove the mounting screws or bolts securing the old IAC valve.
4. Carefully remove the old valve, noting the position of any gaskets or O-rings.
5. Clean the mounting surface on the throttle body thoroughly to ensure a good seal.
6. Install the new Standard Motor Products AC147 IAC valve with a new gasket or O-ring (if applicable).
7. Secure the new valve with the mounting screws/bolts, tightening to the manufacturer's specified torque.
8. Reconnect the electrical connector.
9. Reconnect the vehicle's battery.
10. Start the engine and allow it to idle. The vehicle's computer may need time to relearn the idle parameters.

3. OPERATING PRINCIPLES

The Idle Air Control Valve is an electromechanical actuator controlled by the vehicle's Engine Control Unit (ECU). When the engine is idling, the throttle plate is closed, and the IAC valve precisely controls the amount of air that bypasses the throttle plate to maintain the desired idle speed. The ECU adjusts the IAC valve's position based on various inputs such as engine temperature, load, and electrical demands (e.g., air conditioning, power steering). This dynamic adjustment ensures a consistent and smooth idle under varying operating conditions.

4. MAINTENANCE

The Standard Motor Products AC147 Idle Air Control Valve is designed for long-term reliability. While it generally does not require routine maintenance, periodic inspection of the valve and its electrical connector can help identify potential issues early.

Inspection Tips:

- Check the electrical connector for corrosion, damage, or loose connections.
- Inspect the wiring harness leading to the IAC valve for any signs of fraying or damage.
- Ensure the mounting bolts are secure and there are no air leaks around the valve's mounting surface.

If carbon buildup is suspected on the throttle body passages affecting IAC operation, it is recommended to clean the throttle body according to your vehicle manufacturer's guidelines. Avoid directly spraying harsh chemicals into the IAC valve itself, as this can damage internal components.

5. TROUBLESHOOTING

Issues with the Idle Air Control Valve can manifest in several ways. Here are common symptoms and potential troubleshooting steps:

Symptom	Possible Cause	Action
Rough or Unstable Idle	Faulty IAC valve, vacuum leak, dirty throttle body.	Inspect for vacuum leaks. Clean throttle body. Test IAC valve operation (professional diagnosis recommended).
Engine Stalling (especially when coming to a stop)	IAC valve not opening sufficiently, electrical issue.	Check electrical connections. Diagnose IAC valve.
High Idle Speed	IAC valve stuck open, vacuum leak.	Inspect for vacuum leaks. Diagnose IAC valve.
Check Engine Light (CEL) with IAC-related codes (e.g., P0505)	IAC circuit malfunction, valve failure.	Retrieve diagnostic trouble codes (DTCs). Follow vehicle manufacturer's diagnostic procedures.

If you experience any of these symptoms, it is advisable to have your vehicle inspected by a qualified mechanic. They can perform proper diagnostic tests to confirm if the IAC valve is the cause of the issue.

6. SPECIFICATIONS

Key specifications for the Standard Motor Products AC147 Idle Air Control Valve:

- **Model Number:** AC147
- **Manufacturer Part Number:** AC147
- **Material:** Viton
- **Item Dimensions (L x W x H):** 2 x 1.4 x 3.4 inches
- **Exterior Finish:** Rubber
- **Inlet Connection Type:** Compression
- **Outlet Connection Type:** Compression
- **Number of Ports:** 2
- **Valve Type:** Air Control Valve
- **Item Weight:** 0.353 ounces
- **OEM Part Numbers:** 17113209, 217435, 3843751

7. WARRANTY INFORMATION

For detailed warranty information regarding the Standard Motor Products AC147 Idle Air Control Valve, please refer to the official warranty statement provided by Standard Motor Products at the time of purchase or visit their official website. Warranty terms and conditions may vary.

8. SUPPORT AND CONTACT

If you require further assistance, have questions about installation, or need to troubleshoot an issue not covered in this manual, please contact Standard Motor Products customer support directly.

Standard Motor Products Official Website: www.smpcorp.com

Please have your product model number (AC147) and any relevant vehicle information ready when contacting support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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