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› Standard Motor Products AC141 Idle Air Control Valve User Manual

## Standard Motor Products AC141

# Standard Motor Products AC141 Idle Air Control Valve User Manual

Model: AC141

## INTRODUCTION

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This manual provides essential information for the proper installation, operation, and maintenance of the Standard Motor Products AC141 Idle Air Control Valve. The AC141 is designed to regulate the amount of air bypassing the throttle plate, thereby controlling the engine's idle speed.

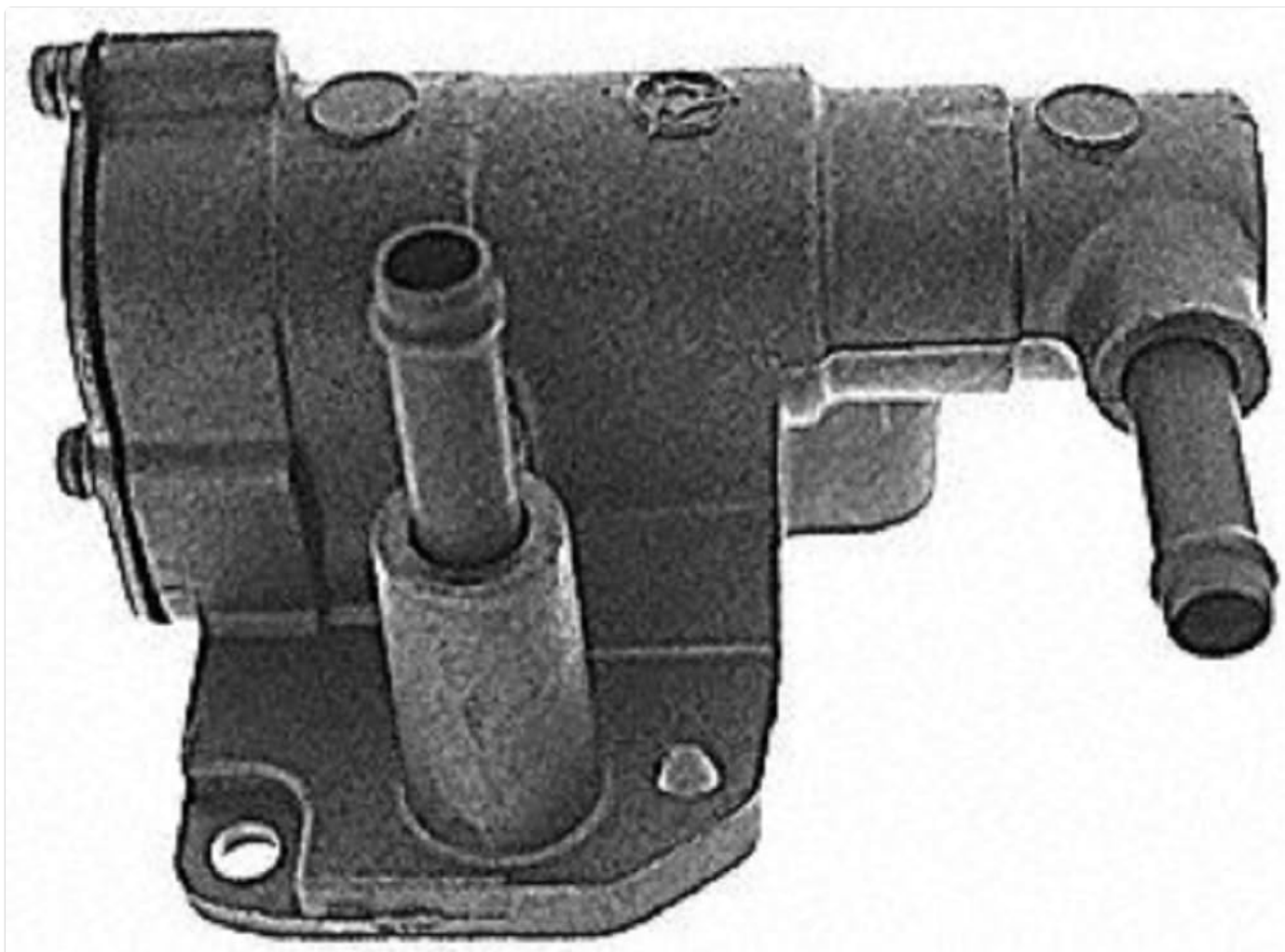
## PRODUCT FEATURES

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- Country Of Origin : China
- Compact dimensions for easy integration: 5.9 inches (Length) x 3.86 inches (Width) x 2.97 inches (Height)
- Designed for precise idle speed control
- Durable construction for reliable performance

## PRODUCT IMAGE

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*Image: Standard Motor Products AC141 Idle Air Control Valve. This image displays the main body of the valve, featuring its various ports and mounting points. The valve is typically made of metal, designed for automotive engine environments.*

## SPECIFICATIONS

Attribute	Detail
Brand	Standard Motor Products
Model	AC141 (Air Control Valve)
Item Weight	13 ounces
Product Dimensions (L x W x H)	4.25 x 3.44 x 4.25 inches
Exterior Finish	Machined
Inlet Connection Type	Barb
Number of Ports	1
Valve Type	Air Control Valve
Country of Origin	China
UPC	091769233372

## SETUP AND INSTALLATION

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Installation of the AC141 Idle Air Control Valve typically involves replacing an existing unit in a vehicle's fuel injection system. It is recommended that installation be performed by a qualified automotive technician.

## General Installation Steps:

1. **Safety First:** Disconnect the vehicle's battery before beginning any work on the engine. Ensure the engine is cool.
2. **Locate the IAC Valve:** Identify the existing Idle Air Control Valve, usually mounted on the throttle body.
3. **Disconnect Electrical Connector:** Carefully unplug the electrical connector from the old IAC valve.
4. **Remove Mounting Bolts:** Unscrew the bolts or screws securing the old IAC valve to the throttle body.
5. **Remove Old Valve:** Gently remove the old valve. Be aware that some coolant or air might escape.
6. **Clean Mounting Surface:** Thoroughly clean the mounting surface on the throttle body to ensure a proper seal with the new valve. Remove any old gasket material.
7. **Install New Gasket (if applicable):** If a new gasket is provided or required, place it onto the mounting surface or the new valve. *Note: Some users have reported that a gasket may not be included with the AC141. Verify and acquire one if necessary.*
8. **Mount New Valve:** Position the new AC141 valve and secure it with the mounting bolts. Tighten to manufacturer specifications (refer to vehicle service manual).
9. **Reconnect Electrical Connector:** Plug the electrical connector firmly back into the new IAC valve.
10. **Reconnect Battery:** Reconnect the vehicle's battery.
11. **Engine Start and Idle Learn:** Start the engine. The vehicle's computer may need to "learn" the new valve, which might involve a specific idle relearn procedure. Consult your vehicle's service manual for details.

Always refer to your specific vehicle's service manual for detailed, model-specific installation instructions and torque specifications.

## OPERATING PRINCIPLES

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The Standard Motor Products AC141 Idle Air Control Valve is a critical component in maintaining stable engine idle speed. It operates by allowing a controlled amount of air to bypass the throttle body, which is otherwise closed at idle. The vehicle's Engine Control Unit (ECU) sends signals to the IAC valve, adjusting its opening based on various engine parameters such as engine temperature, load, and air conditioning status. This precise control ensures the engine idles smoothly and efficiently under different operating conditions.

For models utilizing a wax pellet design, the valve's opening is mechanically controlled by the temperature of the engine coolant. As the engine warms up, the wax pellet expands, gradually closing the valve and reducing the bypass air, thus lowering the idle speed to its normal operating range.

## MAINTENANCE

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The AC141 Idle Air Control Valve is generally a sealed unit and does not require routine user maintenance. However, its proper function can be affected by carbon buildup from engine blow-by gases. If idle issues arise, cleaning the throttle body and the IAC valve's air passages can sometimes resolve the problem without replacing the valve.

### Cleaning Recommendations:

- Use a specialized throttle body cleaner or carburetor cleaner.
- *Do not* use harsh solvents or abrasive materials.
- Ensure the electrical connector and internal components are not damaged during cleaning.
- Always disconnect the battery before performing any cleaning or maintenance.

Regular engine maintenance, including air filter replacement and fuel system cleaning, can help prevent excessive carbon

buildup that might affect the IAC valve's performance.

## TROUBLESHOOTING

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Issues with the Idle Air Control Valve often manifest as problems with the engine's idle speed. Below are common symptoms and potential solutions:

Symptom	Possible Cause	Solution
<b>High or Erratic Idle:</b> Engine idles too high or fluctuates significantly.	Stuck open IAC valve, vacuum leak, dirty throttle body.	Inspect for vacuum leaks. Clean throttle body and IAC valve passages. If problem persists, replace IAC valve.
<b>Low Idle or Stalling:</b> Engine idles too low, struggles, or stalls, especially when cold or coming to a stop.	Stuck closed or clogged IAC valve, electrical issue.	Clean IAC valve and throttle body. Check electrical connection to IAC valve. If problem persists, replace IAC valve.
<b>Check Engine Light (CEL):</b> Accompanied by idle issues.	Faulty IAC valve, related sensor issue.	Retrieve diagnostic trouble codes (DTCs) using an OBD-II scanner. Address specific codes. Replacement of IAC valve may be indicated.
<b>Rough Idle:</b> Engine shakes or vibrates excessively at idle.	Partially clogged or malfunctioning IAC valve.	Clean or replace IAC valve. Ensure proper idle relearn procedure is followed after replacement.

For complex issues or if symptoms persist after basic troubleshooting, it is advisable to consult a professional automotive mechanic.

## WARRANTY AND SUPPORT

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Specific warranty information for the Standard Motor Products AC141 Idle Air Control Valve is typically provided at the point of purchase or can be found on the official Standard Motor Products website. Please retain your proof of purchase for warranty claims.

For technical support or further inquiries regarding this product, please contact Standard Motor Products customer service or visit their official website. Contact details are usually available on the product packaging or their corporate website.

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