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› Standard Motor Products S20001 Electronic Throttle Body User Manual

Standard Motor Products S20001

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Model: S20001

INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Standard Motor Products S20001 Electronic Throttle Body. Standard Motor Products, Inc. (SMP) is a leading independent manufacturer and distributor of replacement parts for motor vehicles. This product is designed to meet the rigorous demands of the automotive aftermarket, ensuring reliable performance for your vehicle's fuel injection system.

SAFETY INFORMATION

Always prioritize safety when working on vehicle systems. 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 negative terminal of the vehicle's battery to prevent electrical hazards.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Refer to your vehicle's service manual for specific procedures and torque specifications.
- Keep all tools and parts organized to prevent misplacement.
- If you are unsure about any step, consult a qualified automotive technician.

WHAT'S IN THE BOX

Your Standard Motor Products S20001 Electronic Throttle Body package includes:

- One (1) Standard Motor Products S20001 Electronic Throttle Body
- *Note: Gasket may be sold separately and is often required for proper installation.*

SETUP AND INSTALLATION

The S20001 Electronic Throttle Body is designed for vehicle-specific fitment. Proper installation and post-installation calibration are crucial for optimal performance.

Tools and Materials (Not Included):

- Basic automotive hand tools (wrenches, sockets)
- Torque wrench (for specific fasteners)
- New throttle body gasket (if not included)
- Battery terminal wrench
- Jumper cables (for PCM reset procedure)

Installation Steps:

1. **Preparation:** Ensure the engine is off and cool. Disconnect the negative battery cable. If present, remove any engine covers or air intake components obstructing access to the throttle body.
2. **Removal of Old Throttle Body:** Disconnect electrical connectors and vacuum lines from the old throttle body. Unbolt the old throttle body from the intake manifold. Carefully remove the old unit and any old gasket material.
3. **Installation of New Throttle Body:** Clean the mating surface on the intake manifold. Place the new gasket onto the intake manifold or the new throttle body. Position the new S20001 throttle body onto the intake manifold and secure it with the mounting bolts. Tighten bolts to vehicle manufacturer's specifications. Reconnect all electrical connectors and vacuum lines.
4. **Initial Power-Up:** Reconnect the negative battery cable.

Post-Installation PCM Reset and Calibration:

After replacing the throttle body, it is critical to reset the Powertrain Control Module (PCM) and allow it to recalibrate to the new component. Failure to do so may result in rough idling, erratic engine behavior, or "engine failsafe mode" warnings.

1. **Engine Off:** Ensure the engine is completely off.
2. **Disconnect Battery:** Disconnect the negative battery cable from the vehicle's battery.
3. **Drain PCM Memory:** Using a set of jumper cables, connect the negative (black) clamp of the jumper cable to the disconnected negative battery cable. Connect the other negative (black) clamp of the jumper cable to the positive terminal of the battery. This creates a circuit that drains residual power from the PCM, effectively clearing its learned settings. Maintain this connection for at least 10 minutes.
4. **Reconnect Battery:** Disconnect the jumper cables. Reconnect the negative battery cable to the vehicle's battery.
5. **Idle Relearn Procedure:**
 - Ensure all vehicle electronics (radio, air conditioning, chargers, lights) are turned off.
 - Start the vehicle and allow it to idle for 15 minutes without touching the accelerator pedal. Do not rev the engine.
 - After 15 minutes, turn off the engine.
6. **Driving Relearn:** Drive the vehicle for approximately 15-20 minutes, including some highway driving if possible. This allows the PCM to learn your driving patterns and fully adapt to the new throttle body.

Following these steps should resolve common post-installation issues and ensure smooth operation.

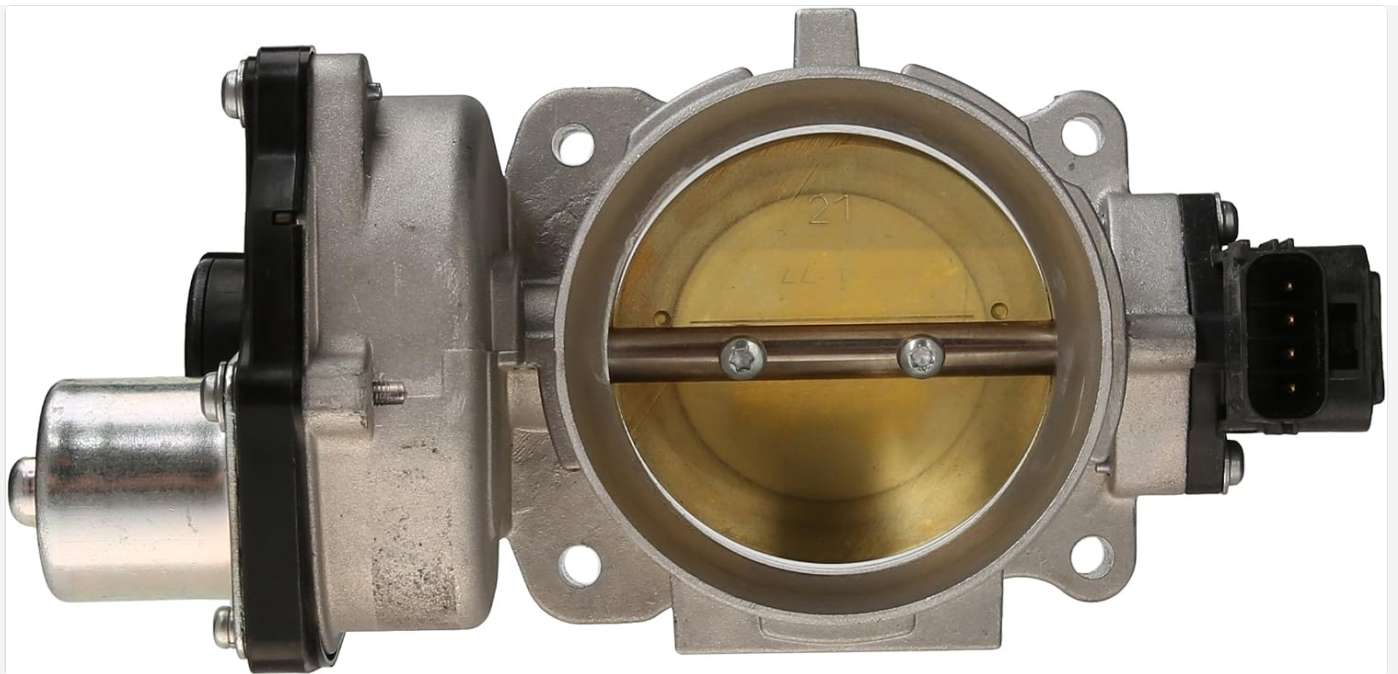


Figure 1: Front view of the S20001 Electronic Throttle Body, highlighting the internal butterfly valve.



Figure 2: Angled view of the S20001, illustrating the electronic motor and connector.



Figure 3: Side view of the S20001, detailing mounting points and casting.

OPERATING PRINCIPLES

The electronic throttle body (ETB) is a critical component of modern fuel injection systems. It precisely controls the amount of air entering the engine in response to accelerator pedal input. Unlike traditional cable-actuated throttle bodies, the ETB uses an electric motor to open and close the throttle plate, allowing the vehicle's engine control unit (ECU) to manage engine speed and power output more accurately for improved fuel efficiency and emissions control.

MAINTENANCE

The Standard Motor Products S20001 Electronic Throttle Body is designed for long-term reliability with minimal maintenance. However, periodic inspection and cleaning can help ensure its longevity and proper function.

- **Inspection:** During routine vehicle maintenance, visually inspect the throttle body for any signs of damage, excessive dirt buildup, or loose connections.
- **Cleaning:** If carbon or oil deposits accumulate around the throttle plate or bore, carefully clean them using a throttle body cleaner specifically designed for electronic throttle bodies. Avoid harsh chemicals or abrasive tools that could damage the delicate electronic components or coatings. Always disconnect the battery before cleaning.
- **Gasket Integrity:** Ensure the throttle body gasket remains in good condition to prevent vacuum leaks. Replace if signs of wear or damage are present.

TROUBLESHOOTING

If you experience issues after installing the S20001 Electronic Throttle Body, consider the following common problems

and solutions:

• **Rough Idle or Engine Failsafe Mode Immediately After Installation:**

This is often due to the vehicle's PCM not being properly reset or calibrated to the new throttle body. Refer to the "Post-Installation PCM Reset and Calibration" section under "Setup and Installation" and follow the steps precisely.

• **Check Engine Light (CEL) with Throttle Body Related Codes:**

Ensure all electrical connectors are securely attached and not damaged. Verify that vacuum lines are properly connected and free of leaks. If the issue persists after PCM reset, professional diagnostic scanning may be required to identify specific fault codes.

• **Poor Engine Performance (Hesitation, Stalling):**

While less common with a new part, ensure the throttle body is clean and free of obstructions. Re-verify all installation steps. Other vehicle systems (fuel delivery, ignition) should also be checked if the throttle body is confirmed to be functioning correctly.

For persistent issues, it is recommended to consult a certified automotive technician.

SPECIFICATIONS

Attribute	Detail
Manufacturer	Standard
Brand	Standard Motor Products
Model	Throttle Body
Item Model Number	S20001
Item Weight	2.85 pounds (1.29 kg)
Product Dimensions	9.6 x 4.5 x 4.6 inches (24.38 x 11.43 x 11.68 cm)
Exterior Finish	Machined
Product Type	Auto Part

WARRANTY AND SUPPORT

Standard Motor Products stands behind the quality of its products. For specific warranty information regarding your S20001 Electronic Throttle Body, please refer to the warranty documentation included 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

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