

Standard Motor Products TJ12

Standard Motor Products Fuel Injector - TBI - New - TJ12 User Manual

Model: TJ12

PRODUCT OVERVIEW

The Standard Motor Products TJ12 Fuel Injector is a new Throttle Body Injection (TBI) unit designed for automotive fuel systems. This component is crucial for delivering fuel to the engine, ensuring efficient combustion and optimal vehicle performance. It is manufactured in the United States and adheres to precise specifications for reliable operation.



Image: Side view of the Standard Motor Products TJ12 Fuel Injector, showing its main body and electrical connectors.

WHAT'S INCLUDED

The package for the Standard Motor Products TJ12 Fuel Injector typically includes the following:

- One (1) Standard Motor Products TJ12 Fuel Injector

INSTALLATION AND SETUP

Installation of a fuel injector requires mechanical knowledge and appropriate tools. It is recommended that installation be performed by a qualified automotive technician.

Safety Precautions:

- Always disconnect the vehicle's battery before beginning work on the fuel system.
- Relieve fuel system pressure before disconnecting fuel lines. Refer to your vehicle's service manual for specific procedures.

- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure adequate ventilation when working with fuel.
- Keep fire extinguishers or other fire suppression equipment readily available.

General Installation Steps (Consult Vehicle Service Manual for Specifics):

1. Locate the throttle body assembly where the fuel injector is situated.
2. Carefully disconnect electrical connectors and fuel lines from the existing injector.
3. Remove any retaining clips or bolts securing the old injector.
4. Gently remove the old fuel injector. Be prepared for residual fuel.
5. Inspect the injector bore for debris and clean if necessary.
6. Lubricate new O-rings on the TJ12 injector with clean engine oil or a suitable lubricant to aid installation and prevent damage.
7. Carefully insert the new TJ12 fuel injector into its bore, ensuring it seats properly.
8. Secure the injector with retaining clips or bolts.
9. Reconnect fuel lines and electrical connectors, ensuring all connections are secure and leak-free.
10. Reconnect the vehicle's battery.
11. Turn the ignition to the "ON" position (without starting the engine) several times to prime the fuel system and check for leaks.
12. Start the engine and check for proper operation and any fuel leaks.



Image: Top view of the TJ12 Fuel Injector, showing the electrical connection points and the top of the injector body.

OPERATING PRINCIPLES

The Standard Motor Products TJ12 Fuel Injector operates as a critical component in a Throttle Body Injection (TBI) system. In a TBI system, one or two fuel injectors are mounted in a central throttle body unit, typically located on top of the engine's intake manifold. These injectors spray fuel directly into the intake air stream, which then mixes with air before entering the engine's cylinders.

When the engine's Electronic Control Unit (ECU) determines that fuel is needed, it sends an electrical signal to the injector. This signal energizes a solenoid within the injector, which opens a pintle or disc valve, allowing pressurized fuel to spray out in a fine mist. The duration of this opening (pulse width) is precisely controlled by the ECU to deliver the correct amount of fuel for various engine operating conditions, such as idle, acceleration, and cruising.



Image: Detailed diagram illustrating the internal components of a fuel injector, including the disc and pintle types, highlighting parts like O-rings, fuel filter, coil windings, and the spray pattern insert.

MAINTENANCE

Fuel injectors are generally designed for long-term reliability and do not require routine maintenance in the same way as other engine components like oil filters. However, their performance can be affected by fuel quality and system

cleanliness.

Recommendations:

- **Use Quality Fuel:** Always use high-quality, clean fuel from reputable sources to minimize the risk of deposits forming within the injector.
- **Fuel System Cleaners:** Periodically using a high-quality fuel system cleaner (added to the fuel tank) can help prevent and remove minor deposits from the injector nozzles. Follow the product manufacturer's instructions.
- **Fuel Filter Replacement:** Ensure your vehicle's fuel filter is replaced according to the manufacturer's recommended service intervals. A clogged fuel filter can reduce fuel pressure to the injector, affecting its performance and potentially leading to premature wear.
- **Professional Cleaning:** If symptoms of a clogged or malfunctioning injector persist, professional ultrasonic cleaning or replacement may be necessary.

TROUBLESHOOTING

Issues with a fuel injector can manifest in various ways, often impacting engine performance. Below are common symptoms and potential causes related to the fuel injector.

Symptom	Possible Cause	Action
Engine Misfire / Rough Idle	Clogged or faulty injector, inconsistent fuel spray pattern.	Check for diagnostic trouble codes (DTCs). Inspect injector for proper operation. Consider fuel system cleaner or professional injector service/replacement.
Reduced Fuel Economy	Leaking or stuck-open injector, improper spray pattern.	Inspect for fuel leaks. Check injector pulse width and spray pattern. Replace if leaking or faulty.
Hard Starting	Insufficient fuel delivery due to clogged or weak injector.	Verify fuel pressure. Check injector operation.
Check Engine Light (CEL)	Injector circuit malfunction, misfire detection.	Retrieve DTCs using an OBD-II scanner. Diagnose based on specific code.

Note: Many engine performance issues can have multiple causes. Always consult a qualified mechanic for accurate diagnosis and repair.



Image: Bottom view of the TJ12 Fuel Injector, showing the nozzle and the base of the unit.

SPECIFICATIONS

Attribute	Detail
Brand	Standard Motor Products
Model	Fuel Injector - TBI - New
Item Model Number	TJ12
Item Weight	4.7 ounces
Product Dimensions	2.16 x 1.94 x 4.13 inches
Exterior	Machined
Country of Origin	United States
ASIN	B000C81U54
Date First Available	December 2, 2005

WARRANTY AND SUPPORT

For specific warranty information regarding the Standard Motor Products TJ12 Fuel Injector, please refer to the documentation provided with your purchase or contact Standard Motor Products directly. Warranty terms typically cover defects in materials and workmanship under normal use.

For technical support, installation guidance, or warranty claims, please contact Standard Motor Products customer service or visit their official website. It is advisable to have your product model number (TJ12) and purchase details ready when contacting support.

Disclaimer: This manual provides general information and guidance. Always refer to your vehicle's specific service manual and consult with a certified automotive technician for detailed repair procedures and safety information.

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