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› HWATPS AJ0320180A Fuel Injection Pressure Regulator User Manual

HONGWIN PR4034

User Manual: Fuel Injection Pressure Regulator

Model: PR4034 (AJ0320180A) | **Brand:** HONGWIN

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your HONGWIN Fuel Injection Pressure Regulator, model PR4034 (AJ0320180A). This component is designed for specific Ford, Mazda MPV, Mercury, and Lincoln Ranger models from 1999-2006. Please read this manual thoroughly before installation and retain it for future reference.



Image 1.1: HONGWIN Fuel Injection Pressure Regulator (Model PR4034). This image displays the main product, a metallic fuel pressure regulator with a blue O-ring and a small hose barb connection.

2. PRODUCT OVERVIEW

2.1 Key Features

- Part numbers: PR4034, AJ03-20180A, AJ03-20-180A, ZZR113290, FPD21.
- Constructed from high-quality stainless steel for durability.
- Designed for reliable fuel pressure regulation in compatible vehicles.
- Easy installation for qualified technicians.

2.2 Compatibility

This fuel injection pressure regulator is compatible with the following vehicle models:

- Ford (1999-2006)
- Mazda MPV (1999-2006)
- Mercury (1999-2006)

- Lincoln Ranger (1999-2006)

Important: Always verify compatibility using the part numbers (PR4034, AJ03-20180A, AJ03-20-180A, ZZR113290, FPD21) and your vehicle's year, make, and model before purchasing and installing.

3. SAFETY INFORMATION

WARNING:



Image 3.1: General Warning Sign. This image shows a yellow triangular warning sign with a black exclamation mark, indicating caution.

- Automotive repairs, especially those involving fuel systems, can be hazardous. It is highly recommended that installation be performed by a certified automotive technician.
- Always disconnect the vehicle's battery before beginning any work on the fuel system.
- Relieve fuel system pressure before disconnecting any fuel lines or components. Refer to your vehicle's service manual for specific procedures.
- Fuel is highly flammable. Work in a well-ventilated area, away from open flames, sparks, or other ignition sources.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure all connections are secure and leak-free after installation.

4. SETUP AND INSTALLATION

The following steps provide a general guide for the installation of the fuel injection pressure regulator. Specific procedures may vary by vehicle model. Always consult your vehicle's factory service manual for detailed instructions.

1. **Preparation:** Park the vehicle on a level surface and engage the parking brake. Allow the engine to cool completely. Disconnect the negative terminal of the battery.
2. **Relieve Fuel Pressure:** Locate the fuel pressure relief valve (if present) or follow your vehicle's manual to safely depressurize the fuel system. This is a critical safety step.
3. **Locate and Remove Old Regulator:** Identify the existing fuel pressure regulator. It is typically located on the fuel rail or near the fuel pump. Carefully disconnect any vacuum lines and fuel lines attached to it. Be prepared for residual fuel leakage.
4. **Install New Regulator:**

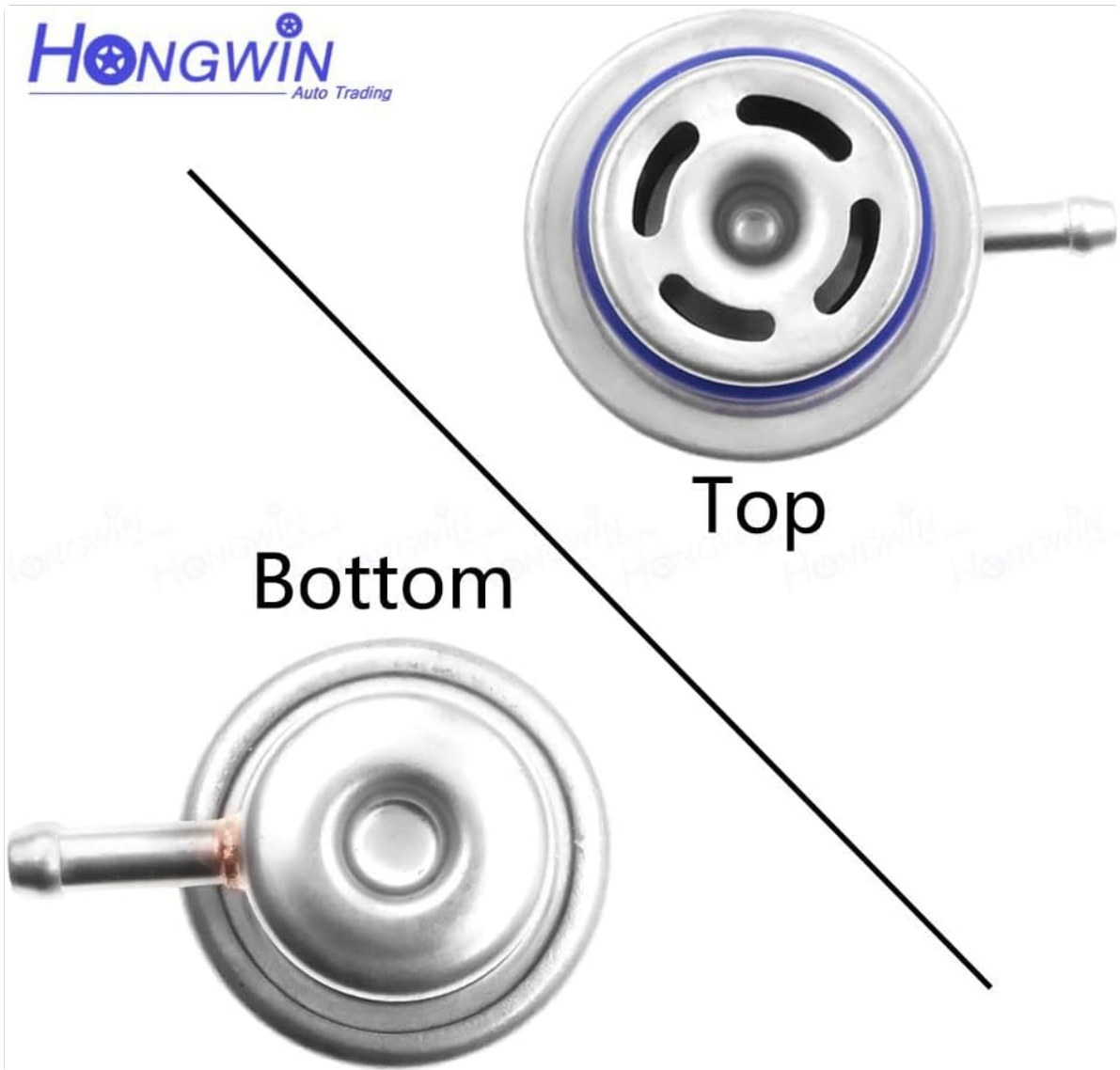


Image 4.1: Fuel Pressure Regulator with O-ring. This image shows the HONGWIN fuel pressure regulator alongside its blue sealing O-ring, which is crucial for proper installation.

- Ensure the new regulator's O-ring (blue in color) is properly seated and lubricated with a small amount of clean engine oil or fuel to prevent damage during installation.
 - Carefully insert the new regulator into its mounting position.
 - Reconnect all fuel lines and vacuum lines, ensuring they are securely fastened.
5. **Leak Check and System Prime:** Reconnect the battery. Turn the ignition key to the "ON" position (without starting the engine) for a few seconds, then turn it off. Repeat this a few times to prime the fuel system. Inspect all connections for any signs of fuel leaks.
6. **Start Engine:** If no leaks are detected, start the engine and allow it to run for a few minutes. Re-check for leaks and ensure the engine runs smoothly.

5. OPERATING PRINCIPLES

The fuel injection pressure regulator maintains a consistent fuel pressure differential across the fuel injectors. This ensures that the fuel injectors deliver the correct amount of fuel regardless of engine vacuum or load conditions. It achieves this by returning excess fuel from the fuel rail back to the fuel tank, thereby regulating the pressure within the system.

6. MAINTENANCE

The HONGWIN Fuel Injection Pressure Regulator is designed for long-lasting durability and typically requires no routine maintenance. However, regular vehicle maintenance, including fuel filter replacement as per your vehicle manufacturer's recommendations, can help ensure the longevity and proper function of your entire fuel system, including the pressure regulator.

Inspect the regulator and its connections periodically for any signs of leaks, corrosion, or damage. If any issues are observed, consult a qualified technician for inspection and potential replacement.

7. TROUBLESHOOTING

If you experience issues after installing the fuel pressure regulator, consider the following common problems and solutions:

- **Fuel Leaks:**

- **Symptom:** Visible fuel dripping or strong fuel odor around the regulator.
- **Possible Cause:** Improperly seated O-ring, damaged O-ring, loose connections, or a defective regulator diaphragm.
- **Solution:** Re-check O-ring seating, tighten connections. If leaks persist, the regulator may be faulty and require replacement. *(Note: Some user feedback indicates potential issues with the diaphragm allowing fuel to pass through, leading to engine problems.)*

- **Engine Performance Issues (Rough Idling, Misfires, Poor Acceleration):**

- **Symptom:** Engine runs poorly, check engine light may illuminate with fuel system related codes (e.g., P0171, P0174 for lean conditions, or P2196, P2198 for rich conditions).
- **Possible Cause:** Incorrect fuel pressure (too high or too low) due to a faulty regulator.
- **Solution:** Verify fuel pressure with a gauge. If pressure is outside specifications, the regulator may need replacement.

- **Difficulty Starting:**

- **Symptom:** Engine cranks but does not start, or takes a long time to start.
- **Possible Cause:** Loss of residual fuel pressure when the engine is off, often due to a leaking regulator diaphragm.
- **Solution:** Check for fuel pressure drop after the engine is shut off. If pressure drops rapidly, the regulator is likely faulty.

If troubleshooting steps do not resolve the issue, seek assistance from a professional automotive technician.

8. SPECIFICATIONS

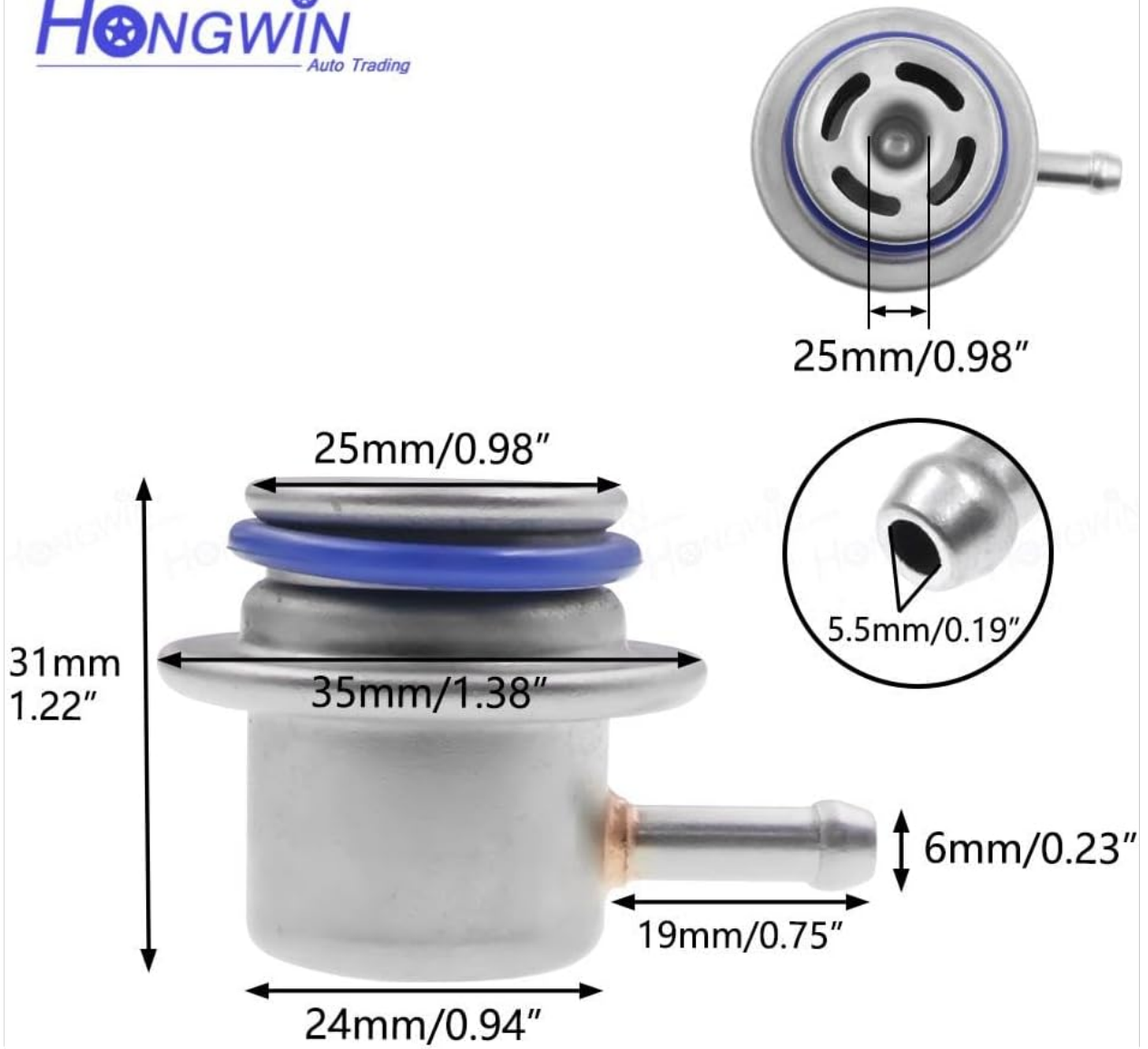


Image 8.1: Product Dimensions. This image provides detailed measurements of the HONGWIN fuel pressure regulator, including its height, width, and connection sizes in millimeters and inches.

Attribute	Value
Manufacturer	HONGWIN
Brand	HONGWIN
Model	pressure regulator
Item Weight	1.44 ounces
Product Dimensions	2.17 x 2.17 x 1.26 inches
Item Model Number	PR4034
Manufacturer Part Number	AJ0320180A
OEM Part Numbers	PR4034, AJ03-20180A, AJ03-20-180A, ZZR113290, FPD21
Material Type	Stainless Steel
Position	Front Inside

9. WARRANTY AND SUPPORT

For information regarding product warranty or technical support, please contact HONGWIN directly through their official channels. Refer to the product packaging or the seller's information for contact details. It is recommended to keep your purchase receipt as proof of purchase for any warranty claims.