Aeromotive 13138

Aeromotive 13138 A1000 EFI Fuel Pressure Regulator Instruction Manual

Model: 13138

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Aeromotive 13138 A1000 EFI Fuel Pressure Regulator. This high-performance regulator is designed for medium to high horsepower applications, ensuring precise fuel pressure control and optimal fuel delivery. Please read this manual thoroughly before installation and operation to ensure proper function and safety.

The Aeromotive 13138 A1000 EFI Fuel Pressure Regulator is compatible with various fuel types, including gasoline and diesel, and features dual ORB-06 inlet/outlet ports, one ORB-06 return port, and a 1/8″ NPT gauge port for comprehensive monitoring.

2. Safety Information

- **Fuel System Safety:** Working with fuel systems can be hazardous. Ensure the vehicle's battery is disconnected and the fuel system is depressurized before beginning any work.
- **Fire Hazard:** Fuel is highly flammable. Work in a well-ventilated area away from open flames, sparks, or other ignition sources. Have a fire extinguisher readily available.
- **Eye Protection:** Always wear appropriate eye protection to prevent injury from fuel splashes or debris.
- **Professional Installation:** If you are not experienced with fuel system modifications, it is recommended to have this product installed by a qualified professional.
- **Leak Checks:** After installation, thoroughly check all connections for leaks before operating the vehicle.

3. Package Contents

Verify that all components are present before proceeding with installation:

- Aeromotive 13138 A1000 EFI Fuel Pressure Regulator
- Mounting Bracket
- Associated Hardware (screws, washers)

- Instruction Manual (this document)



Image 1: Front view of the Aeromotive 13138 A1000 EFI Fuel Pressure Regulator, showing the main body and adjustment screw.

4. Setup and Installation

4.1. Pre-Installation Steps

1. **Depressurize Fuel System:** Refer to your vehicle's service manual for the correct procedure to safely depressurize the fuel system.

2. **Disconnect Battery:** Disconnect the negative terminal of the vehicle's battery.
3. **Gather Tools:** Ensure you have all necessary tools, including wrenches, AN fittings (if applicable), thread sealant, and a fuel pressure gauge.

4.2. Mounting the Regulator

1. Select a suitable mounting location that is secure, away from heat sources, and allows for easy access to ports and the adjustment screw.
2. Use the provided mounting bracket and hardware to securely attach the regulator to the chosen surface.



Image 2: Side view of the regulator, illustrating the integrated mounting bracket for secure installation.

4.3. Fuel Line Connections

The Aeromotive 13138 features two ORB-06 inlet/outlet ports and one ORB-06 return port. A 1/8″ NPT port is also available for a fuel pressure gauge.

- **Inlet/Outlet Ports:** Connect the fuel supply line from the fuel pump to one of the ORB-06 inlet ports. Connect the fuel line to the fuel rail/injectors from the other ORB-06 port.

- **Return Port:** Connect the ORB-06 return port to the fuel tank. This port is crucial for maintaining consistent fuel pressure by returning excess fuel.
- **Gauge Port:** Install a fuel pressure gauge into the 1/8″ NPT port for accurate pressure monitoring. Use appropriate thread sealant.
- **Vacuum/Boost Reference Port:** Connect a vacuum/boost reference line from the intake manifold to the dedicated port on the regulator. This allows for a 1:1 fuel pressure increase with boost pressure.



Image 3: Close-up view of the regulator's side, highlighting the ORB-06 inlet/outlet ports and the vacuum/boost reference barb.

Ensure all AN fittings are properly tightened to prevent leaks. Use a high-quality thread sealant on NPT fittings only.

5. Operating Instructions

5.1. Initial Startup and Leak Check

1. Reconnect the vehicle's battery.
2. Turn the ignition key to the "ON" position (without starting the engine) to prime the fuel system. Check all connections for any signs of fuel leaks. Repeat this step several times if necessary.
3. If no leaks are detected, start the engine and allow it to idle. Re-check for leaks.

5.2. Adjusting Fuel Pressure

The Aeromotive 13138 regulator is adjustable from 40-70 PSI. Adjustments should be made with the engine running and the vacuum/boost reference line disconnected (if applicable) to set the base pressure.

1. Locate the adjustment screw on the top of the regulator.
2. Using an appropriate hex key, turn the adjustment screw **clockwise** to increase fuel pressure and **counter-clockwise** to decrease fuel pressure.
3. Monitor the fuel pressure gauge while making small adjustments.
4. Once the desired base pressure is set, reconnect the vacuum/boost reference line (if applicable). The pressure should then increase 1:1 with boost pressure.



Image 4: Angled view of the regulator, clearly showing the hex-head adjustment screw on the top for precise fuel pressure tuning.

Note: Always consult your engine tuner or vehicle manufacturer's specifications for the recommended fuel pressure settings for your application.

6. Maintenance

The Aeromotive 13138 A1000 EFI Fuel Pressure Regulator is designed for durability and minimal maintenance. However, periodic checks are recommended:

- **Visual Inspection:** Regularly inspect the regulator and all fuel lines for any signs of wear, damage, or leaks.

- **Connection Integrity:** Periodically check that all fittings and mounting hardware remain tight.
- **Filter Maintenance:** Ensure your fuel system's pre-filter and post-filter are maintained according to their respective manufacturer's recommendations to prevent contamination of the regulator.

7. Troubleshooting

Problem	Possible Cause	Solution
Fuel Leaks	Loose fittings, damaged O-rings/seals, incorrect thread sealant.	Tighten fittings, replace damaged seals, ensure proper thread sealant application on NPT fittings.
Incorrect Fuel Pressure	Improper adjustment, faulty fuel pump, clogged fuel filter, vacuum/boost line issue.	Adjust regulator, check fuel pump function, inspect/replace fuel filters, verify vacuum/boost line connection.
Pressure Fluctuation	Air in system, faulty fuel pump, restricted return line, regulator diaphragm issue.	Bleed air from system, check fuel pump, ensure return line is clear, contact Aeromotive support if diaphragm is suspected.

For issues not listed or if troubleshooting steps do not resolve the problem, please contact Aeromotive technical support.

8. Specifications

Feature	Detail
Model Number	13138
Adjustable Pressure Range	40-70 PSI
Inlet/Outlet Ports	Dual ORB-06
Return Port	ORB-06
Gauge Port	1/8" NPT
Vacuum/Boost Reference	1:1 Ratio
Compatible Fuel Types	Gasoline, Diesel (verify specific E85 compatibility with Aeromotive)
Dimensions (L x W x H)	5.5 x 5.5 x 2.75 inches
Weight	14.6 ounces

9. Warranty and Support

For warranty information, technical support, or to purchase replacement parts, please visit the official Aeromotive website or contact their customer service department directly. Keep your purchase receipt as proof of ownership.

Aeromotive Contact Information:

- **Website:** www.aeromotiveinc.com

- Refer to the website for current contact numbers and support hours.

© 2023 Aeromotive Inc. All rights reserved. Specifications are subject to change without notice.

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.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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.

Submit question