

MSD INSTALLATION INSTRUCTIONS

15-90 PSI EFI Regulator PN 2938

ONLINE PRODUCT REGISTRATION: Register your MSD product online. Registering your product will help if there is ever a warranty issue with your product and helps the MSD R&D team create new products that you ask for! Go to www.msperformance.com/registration.

Thank you for choosing the Atomic Fuel Pressure Regulator. This is recommended when using the Atomic Throttle Body EFI and Atomic LS EFI systems.

Parts Included:

1 - Adjustable Regulator

1 - Regulator Parts Bag includes:

- 1 - Regulator Mounting Bracket
- 1 - Brass Hose Barb Fitting
- 1 - Stainless Steel Pipe Plug
- 2 - 10-32 x 0.375 Button Head Cap Screws
- 1 - High Pressure Fuel Hose Clamp

CAPABILITIES

The Atomic Adjustable Regulator is configured for a single -6AN inlet, and dual -6AN outlets (for regulator-to-tank line routing flexibility). The recommended operating range is 15-90 psig (pounds per square inch gauge). The maximum recommended flow rate is 500 liters/hour (2.2 GPM). The vacuum/boost compensation ratio is 1:1.

RECOMMENDED PLUMBING SCHEMATICS

Use the schematic below as a guide when installing the regulator in conjunction with an Atomic throttle body EFI system (Figure 1). There are two possible connection points on the throttle body unit, one of which will be the fuel supply in an operational system. DO NOT "tee" into the supply line and leave the -6AN port plug installed on the throttle body. Remove the -6AN port plug from the throttle body and route fuel from that port to the regulator inlet port. The hose length between the throttle body and regulator is not critical, but generally speaking, should be kept to a minimum.

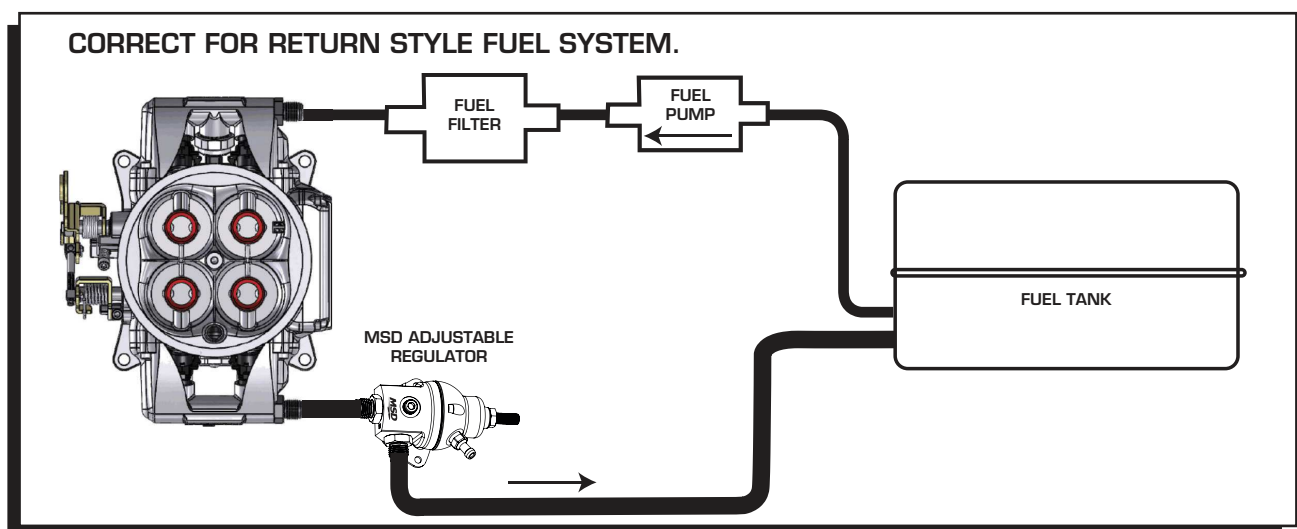


Figure 1 Atomic TBI Return Fuel System.

Use the schematic below as a guide when installing the kit in conjunction with an Atomic LS EFI system (Figure 2). There are two possible connection points (one at the rear of each fuel rail assembly). One rail will be connected to the fuel supply in an operational system. DO NOT “tee” into the supply line and leave the opposing fuel rail plugged or capped (Figure 4). Fuel from the opposing rail should be routed to the regulator inlet port (using the supplied hose and fittings). The hose length between the rail and regulator is not critical, but generally speaking, should be kept to a minimum.

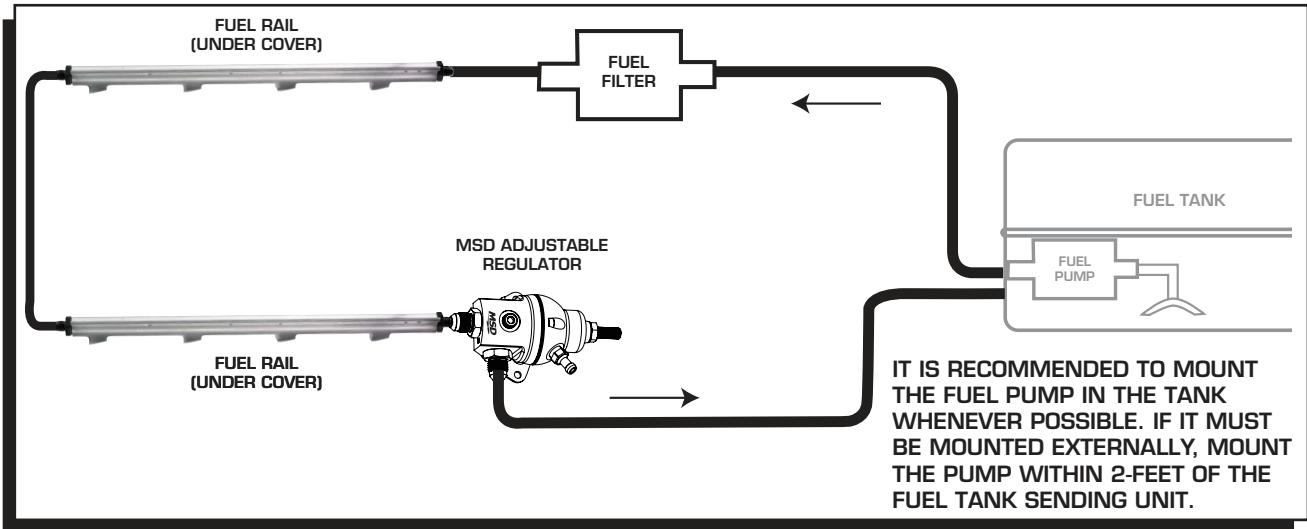


Figure 2 Atomic LS Return Fuel System.

REGULATOR MOUNTING

Using the two (2) supplied 10-32 x 0.375 Button Head Cap Screws and a 1/8-inch hex key (Allen wrench), attach the regulator bracket to the regulator body. The regulator may then be mounted to the firewall, or other convenient surface. Regulator orientation is not critical, but be mindful of adjustment screw access and hose routing. Refer to Figure 3 for a mounting bracket template.

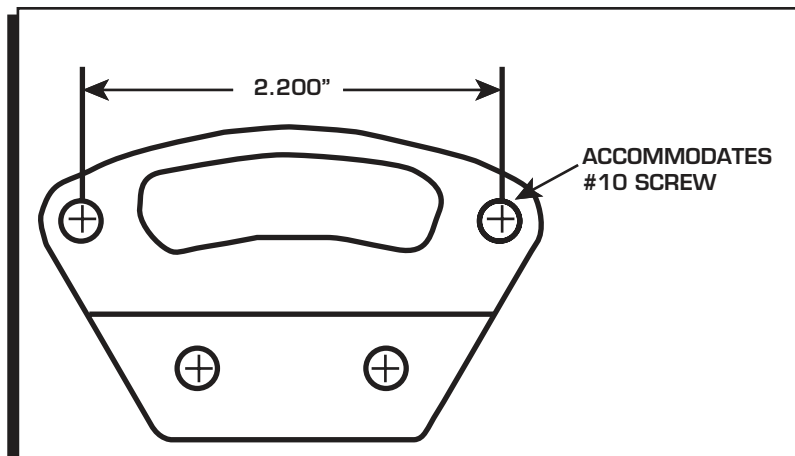


Figure 3 Regulator Mounting Bracket Template

REGULATOR CONNECTIONS AND ADJUSTMENT

The regulator inlet port is located on the bottom surface, and clearly marked with an identifier machined in the housing (see Figure 4 below). Two (2) outlet ports are available, but typically only one (1) will be used. Install the supplied -6AN port plug in the unused outlet port using a 5/16-inch hex key (Allen wrench). The -6AN straight port fittings should be snugged with an 11/16-inch wrench or deep socket.

Install the supplied 1/8-27 NPT brass hose barb fitting in the upper regulator housing (see Figure 4 below) using a 7/16-inch wrench or deep socket. Thread sealer is not required on this fitting, but can be used if desired. Connect an intake manifold vacuum / boost source to this fitting, or leave it open to the atmosphere if manifold pressure compensation is not required. DO NOT plug this opening. Ensure that contaminants (such as water and road spray) cannot enter the open fitting. In the event that vacuum / boost reference is not required, a more cosmetically pleasing option is to install a sintered metal exhaust muffler in this port (such as McMaster-Carr PN 4450K1-Bronze or PN 4402K51-Stainless Steel)

The 1/8-27 NPT port in the lower housing allows the installation of a fuel pressure gauge (direct or remote-reading). If use of this port is not required, install the supplied stainless steel pipe plug using a 3/16-inch hex key (Allen wrench). Use of a fuel compatible paste-type thread sealer is REQUIRED on this plug. Thread sealing tape is also an option, but not recommended due to the potential for particulate and debris generation.

Use a 5/32-inch hex key (Allen wrench) to adjust the regulator set point. Clockwise rotation (screw advancing inward) increases the set point, and counter-clockwise rotation (screw advancing outward) decreases the set point. When the desired set point has been reached, snug the jam nut using a 1/2-inch wrench.

Refer to the user installation instructions, supplied with the Atomic EFI kit, for regulator set point recommendations.

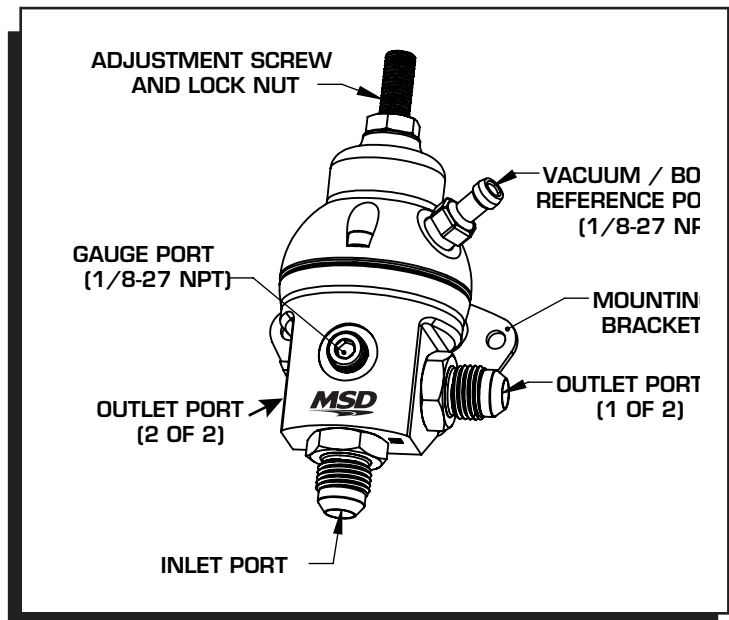


Figure 4 Regulator Feature Identification Guide

STOP HERE

REVIEW YOUR INSTALLATION

Take a few extra minutes to check all aspects of your return fuel system installation at this point. Cycle the key on and off several times to ensure a complete fuel system prime, and verify that all connections and fittings are leak-tight. Don't forget to make the final regulator adjustment with the engine idling.

REGULATOR SERVICE

The regulator diaphragm assembly is available as a service kit from MSD and considered a user-serviceable item. Detailed instructions are available in the service kit, but for completeness, the following guidelines must be observed if it is necessary to separate the regulator housings.

- Use a 9/64-inch hex key (Allen wrench) to remove the three (3) 8-32 x 0.375 Socket Head Cap Screws
- Use care not to lose any internal parts (particularly the 1/4-inch ball beneath the adjustment screw)
- Upon re-assembly, ensure that no debris or particulates are trapped between the housing mating surfaces (these may cut or damage the diaphragm)
- Align the diaphragm slots with the three (3) screw holes and stack the spring assembly prior to installing the upper housing
- Install the three (3) 8-32 x 0.375 SHCS to a staged final torque of 25-28* in-lb.
 - o Stage 1 Torque: 10 in-lb
 - o Stage 2 Torque: 20 in-lb
 - o Stage 3 (final) Torque: 25-28* in-lb.

* Verify the Stage 3 torque after at least one hour has elapsed (to allow for diaphragm compression set)

Use compressed air (or equivalent) to ensure that all complete hose / fitting assemblies are clean prior to final installation.

Service

In case of malfunction, this MSD component will be repaired free of charge according to the terms of the warranty. When returning MSD components for warranty service, **Proof of Purchase** must be supplied for verification. After the warranty period has expired, repair service is based on a minimum and maximum fee.

All returns must have a Return Material Authorization (RMA) number issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at 1 (888) MSD-7859 or visit our website at www.msdpower.com/rma to automatically obtain a number and shipping information.

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle. The repaired unit will be returned as soon as possible using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

Limited Warranty

MSD warrants this product to be free from defects in material and workmanship under its intended normal use*, when properly installed and purchased from an authorized MSD dealer, for a period of one year from the date of the original purchase. This warranty is void for any products purchased through auction websites. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD. Any item that is covered under this warranty will be returned free of charge using Ground shipping methods.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representation whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD or its suppliers be liable for special or consequential damages.

*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD. Any modifications to this item or if it is used on an application other than what MSD markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD will accept no liability for custom applications.