



Adjustable Fuel Pressure Regulator Rebuild Kit

Installation Instructions for:
Part Number
25-392



WARNING:

Due to the fact that this installation deals with your fuel system this installation is not for the mechanically challenged! If you are not mechanically inclined or do not understand the procedure please do not attempt the installation. Refer the installation to a reputable mechanic.

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Part Number: 10-7054

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This part is legal in California for racing vehicles ONLY and should NEVER be used on public highways.

Congratulations! You have purchased the finest adjustable fuel pressure regulator for your car at any price!

AEM billet aluminum adjustable pressure regulator.

The AEM adjustable regulator is CNC machined from 6061 T-6 aluminum. The fuel outlet port is tapped to 9/16-18 threads, which allows the use of several different hoses up to –8 AN hose. The vacuum reference is 1:1 ratio so for every pound of boost on a turbocharged or supercharged application yields a 1-pound rise in fuel pressure. The range of adjustability is from 20 PSI to the maximum the fuel pump can deliver.

A unique feature of the AEM adjustable pressure regulator is that the discharge port in the regulator is changeable. This allows the user to tailor the regulator return volume to match their fuel pump. A common problem that occurs when using a fixed orifice in a “universal” regulator is that the fuel pressure cannot be effectively controlled when the fuel pump volume is significantly higher than stock. In the case of too small of a discharge orifice, there is a large pressure spike associated with rapid deceleration because the orifice cannot flow enough fuel when the diaphragm is fully deflected to the open position. This causes a momentary rich condition, which may lead to a rough idle quality until the pressure stabilizes. Conversely if the discharge orifice is too large the adjustment is difficult because the response of the fuel flow out of the orifice is too rapid which makes the adjustment screw too sensitive. The AEM regulator is packaged with three orifice sizes, .100”, .150” and .200”. They are easily changed by removing the diaphragm, unscrewing the orifice, and replacing it with the desired size orifice. The size range provided with the kit is enough to cover any pump up to the largest after-market pump available. The replaceable orifices are color coded for easy identification.

Bill of Materials for 25-392:

Qty	Part Number	Description
1	2-301	Diaphragm, Fuel Pressure Regulator
1	2-696	.1 Orifice, Ball Press Reg
1	2-697	.175 Orifice, Ball Press Reg
1	2-698	.250 Orifice, Ball Press Reg
1	1-3010	O Ring, Fuel Pressure Regulator
1	10-7054	Instructions, 25-392

Note: There are two different styles of AEM adjustable fuel pressure regulator diaphragm/orifice sets- a flat seat and a ball seat. Parts from the two different styles are not interchangeable. When replacing an old diaphragm with a new one from this rebuild kit, the fuel return orifice **MUST be changed to the ball seat style (included in this rebuild kit) if your regulator is not already so equipped.**

Read and understand these instructions **BEFORE** attempting to install this product

WARNING!!!

- **Do not smoke while working on the fuel system.**
- **Keep open flames or sparks away from your work area.**
- **Be sure to relieve fuel pressure while engine is off.**

1) Getting started

- a) Make sure vehicle is parked on a level surface.
- b) Set parking brake.
- c) **Disconnect the negative cable from the negative battery terminal.**
- d) If engine has run within the past two hours let it cool down.
- e) Clean the area on the fuel rail adjacent to the regulator.
- f) **Relieve fuel pressure. Refer to factory service manual for proper procedure.**

2) Fuel pressure regulator removal

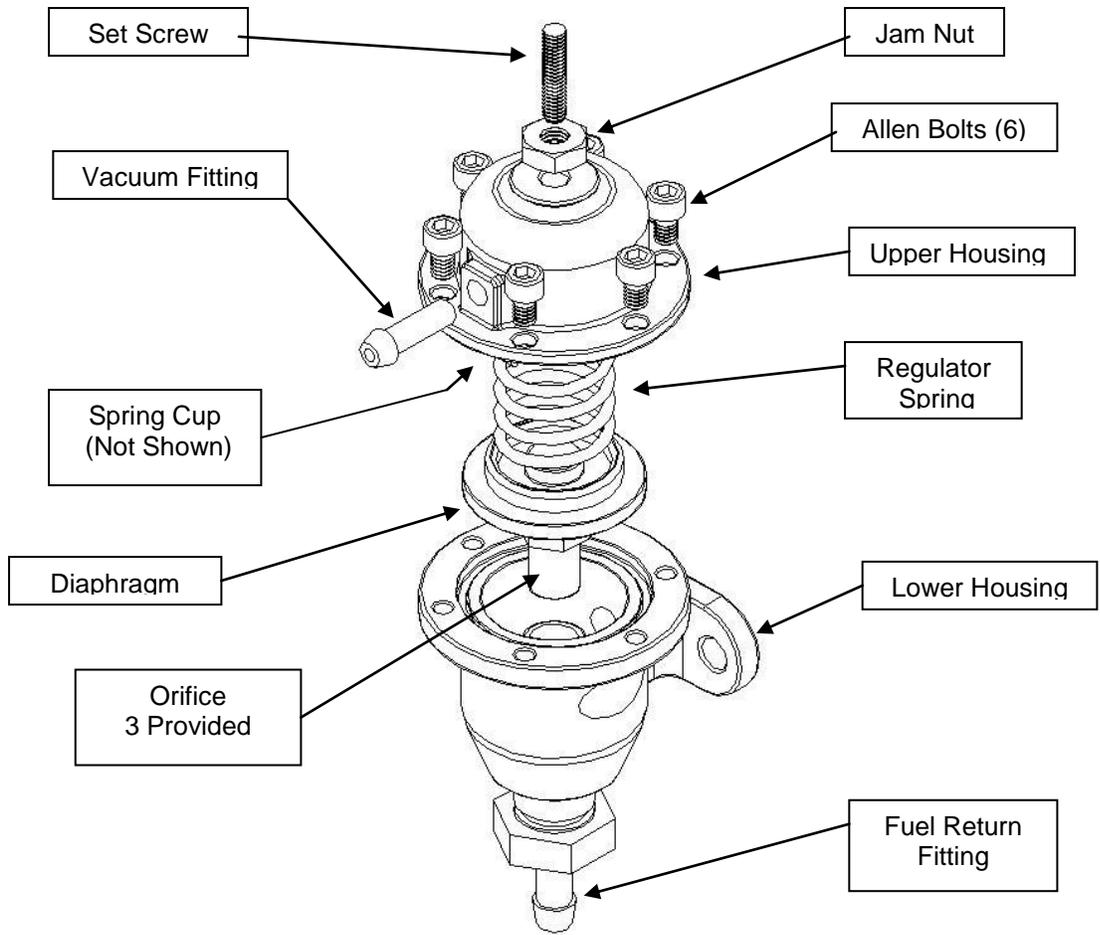
- a) Place a rag or shop towel under the fuel pressure regulator return line.
- b) Disconnect the fuel return line at the bottom of the fuel pressure regulator.
- c) Disconnect the vacuum hose from the fuel pressure regulator.
- d) Place a rag or shop towel over the fuel pressure regulator.
 - i) Remove the two 6mm retaining bolts if regulator is mounted to a factory fuel rail.
 - (1) If using an AEM universal fuel pressure regulator, remove fuel inlet hose.
 - ii) Remove the fuel pressure regulator from the vehicle.

3) Changing the diaphragm/orifice

- a) Remove the six bolts from the top of the fuel pressure regulator.
 - i) When removing the six bolts from the top of the fuel pressure regulator a 9/64" allen key should be used.
 - (1) Torque to 24 **lbf-in.**
 - (2) There is a constant pressure applied to the diaphragm by the spring inside the fuel regulator. Make sure parts do not get lost upon removal of these bolts.
 - ii) When removing the orifice a 3/8" socket should be used.
 - (1) Note: **Be careful not to scratch or damage the surface of the orifice in any way, as it is a precision ground surface for the diaphragm to seal on.**
 - (2) Torque to 10 **lbf-ft.**
 - (3) There are three different size orifices supplied in the AEM fuel pressure regulator kit, which are indicated by three different colors. Black = .100" Silver = .150" Gold = .200"
 - (4) Upon re-installation of the orifice use a light coat of oil on the threads to prevent galling.
 - iii) Re-assemble the fuel pressure regulator. Assembly diagram at the end of the instructions. Make sure the diaphragm is properly seated in its groove. Use care to avoid pinching the diaphragm between the top and bottom regulator housing.

4) Finishing touches

- a) Reinstall the regulator by reversing the removal procedures from step 2.
- b) Connect the negative battery terminal.
- c) Turn the ignition switch to the on position for approximately two seconds. **Do not operate the starter.** Then turn the ignition switch to the off position.
- d) Repeat this procedure three times, and then check all components that were removed during installation for any signs of fuel leakage.
- e) If there are signs of leakage you **MUST** correct the leak before proceeding.
- f) If there are no signs of leakage, then start engine and again check for leaks. If there is any sign of leaking you **MUST** repair the leak before driving the vehicle.
- g) **Note: To check the fuel pressure, start the engine. Measure the fuel pressure with the engine idling and vacuum hose of the fuel pressure regulator disconnected from the fuel pressure regulator and pinched.**



**For Technical Inquiries
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