

13101 / 13151 - 13109 / 13159 and 13114 Installation Instructions

WARNING!

The fuel system is under pressure. Do not open [the fuel system](#) until the pressure has been relieved. Refer to the appropriate vehicle service manual for the procedure and precautions for relieving the fuel system pressure.

NOTE: Testing the enclosed regulator by applying air pressure or vacuum to the vacuum port with a hand-held pump will yield poor results, due to the slight air leakage through the adjustment screw threads. This minute leakage, which is typical of all adjustable fuel pressure regulators, does not, in any way, affect the performance of the regulator.
The enclosed regulator will not necessarily seal to hold fuel pressure after the fuel pump stops running.

Part #13101, 13151 (Platinum Version) and 13114 (Marine Version) regulators utilize two o-ring sealed ORB-10 inlet/outlet ports and one o-ring sealed ORB-06 style bypass or return port.

P/N #13109 and 13159 (Platinum Version) are equipped with all ORB-06 ports for inlet/outlet and bypass/return connections.

ORB ports are NOT PIPE THREAD and utilize NO THREAD SEALANT. You must install ORB port fittings with o-rings, high pressure fuel lines and/or fuel injector rails to use this regulator. Each regulator has one 1/8" NPT gauge port which does requires thread sealant to seal.

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of gasoline. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sprayed gasoline.

This regulator features a vacuum/boost port and fitting in the cap which, if connected to your intake manifold, will reference fuel pressure to manifold pressure. It works on a ratio of 1:1 with PSI, raising fuel pressure with boost and reducing it with vacuum. If unused, please do not plug.

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

The following steps are typical of most installations:

1. Once the engine has been allowed to cool, disconnect the negative battery cable and relieve the fuel system pressure.
2. Remove any cosmetic covers necessary to allow access to the fuel pressure regulator.
3. Remove the vacuum line from the regulator (some vehicles do not have vacuum operated regulators).
4. Place shop towels around the regulator to catch any gasoline that is spilled during this step of the installation. Remove any regulator mounting hardware and connecting fuel lines, then carefully remove the regulator.
5. Find a suitable place in the vehicle's engine compartment to mount the Aeromotive regulator. Using the supplied mounting bracket as a template, mark the bracket mounting holes and drill to accept a #10 screw.
6. With the bracket attached to the regulator, mount the bracket and regulator to the vehicle using two #10 screws, nuts and lock washers.
7. Attach the fuel line(s) from the fuel rail outlet port(s) to the regulator **side** ports using AN-10 (AN-06 if regulator is Aeromotive P/N 13109 or 13159) style fittings and o-rings. If only one inlet/outlet port is required (see figure 1-3 below) install an AN-10 style port plug with o-ring (AN-06 if regulator is Aeromotive P/N 13109 or 13159) into the unused port.

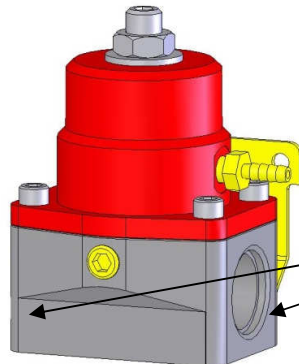
Suggested Inlet/Outlet Port Fittings:

P/N 13101, 13151, 13114

ORB-10 to AN-10 – P/N 15608
ORB-10 to AN-08 – P/N 15610
ORB-10 to AN-06 – P/N 15609
ORB-10 Port Plug – P/N 15610

P/N 13109, 13159

ORB-06 to AN-06 – P/N 15606
ORB-06 to AN-08 – P/N 15649
ORB-06 Port Plug – P/N 15626



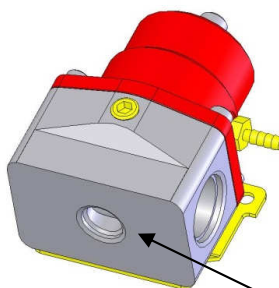
Inlet Ports/Outlet Ports Type/Size:
ORB-10 – P/N 13101, 13151 & 13114
ORB-06 – P/N 13109 & 13159

8. Attach the fuel return line to the regulator **bottom** port using an AN-6 style fitting and o-ring. Tighten all connections.

Suggested Bypass/Return Fittings:

**P/N 13101, 13151, 13114
& P/N 13109, 13159**

ORB-06 to AN-06 – P/N 15606
ORB-06 to AN-08 – P/N 15649



Vacuum/Boost Line
Connection for 5/32" line

ORB-06
Bypass/Return Port

9. Figure 1-1 depicts a fuel rail with only one fuel line connection, such as is commonly found on OEM factory fuel rails as used in late model “returnless” fuel systems beginning in 1999. Positioning the regulator after the fuel rail is optimum for performance applications, however your new Aeromotive regulator may be configured for a “returnless” type of engine/fuel rail by flowing into one of the regulator side ports from the pump and out of the opposite side port into the fuel rail. A return line must be routed from from the regulator bottom/return port back to the top of the fuel tank.

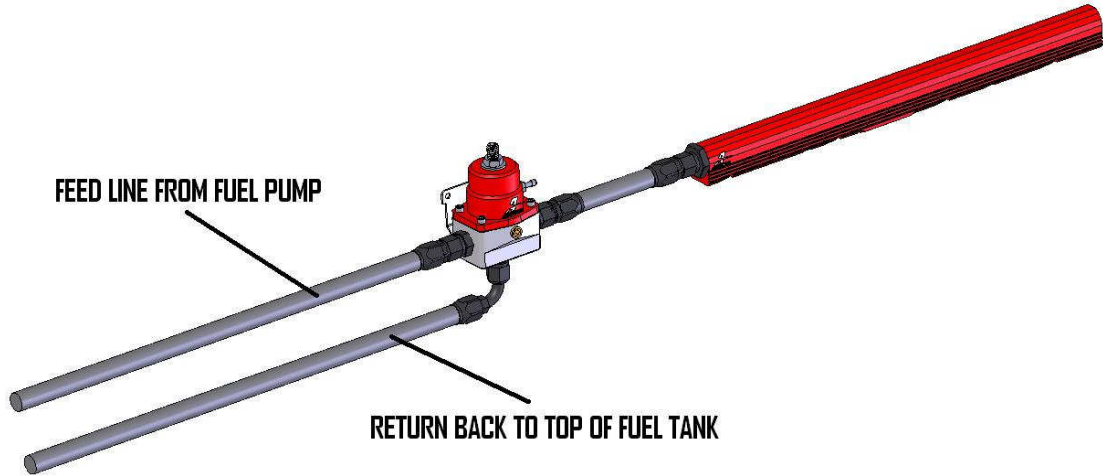


FIGURE 1-1

Figure 1-2 is optimum for performanc V8 engines with duel fuel rails, offering both inlet and outlet ports.

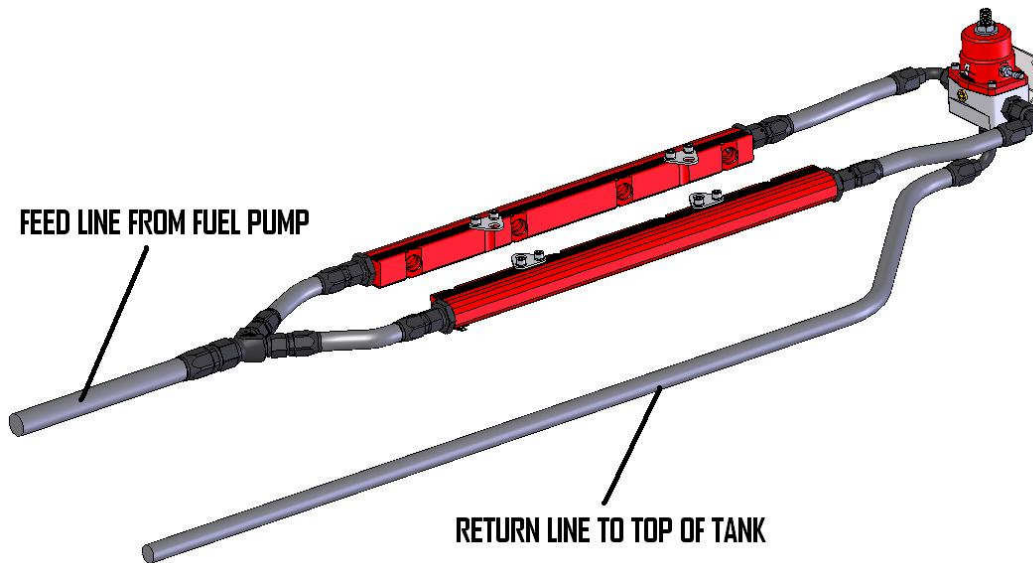


FIGURE 1-2

Figure 1-3 is optimum for single rail fuel rail applications equipped with both inlet and outlet ports.

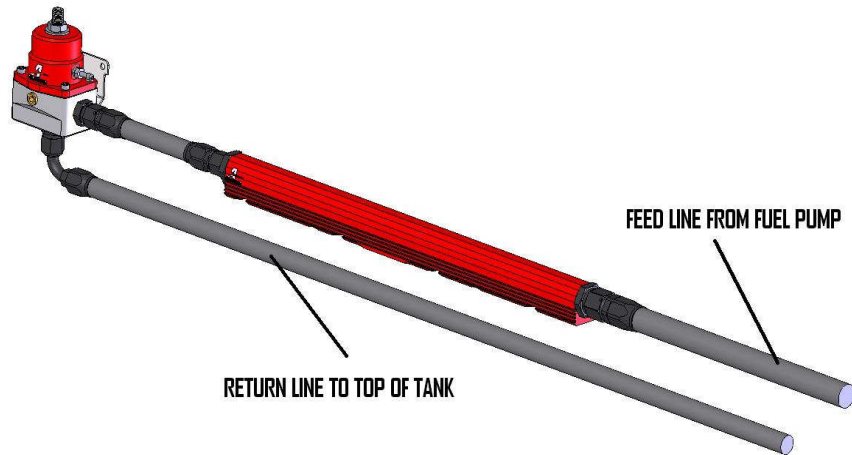


FIGURE 1-3

10. Once the regulator is installed, attach a suitable fuel pressure gauge to the 1/8 NPT port on the fuel pressure regulator (0-100psi 1.5" fuel pressure gauge, part # 15633). Requires thread sealant.
11. **Ensure that any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!**
12. Reconnect the battery and turn the ignition to the ON position **WITHOUT** starting the car. After several seconds, check the fuel pressure. If there is no fuel pressure, turn the ignition key to the OFF position, wait one minute, return the ignition to the ON position, and recheck the fuel pressure. Repeat this ignition OFF and ON procedure until the fuel pressure gauge registers fuel pressure.
13. **With the fuel pressure gauge registering fuel system pressure, check for fuel leaks from and around the Aeromotive regulator and all fuel lines and connections near the regulator! If any fuel leaks are found, turn the ignition key to the OFF position, remove any spilled fuel and repair the leak before proceeding!**
14. Once the fuel pressure gauge registers fuel system pressure and there are no fuel leaks, start the engine and adjust the regulator to the desired fuel pressure. Turning the adjustment screw clockwise will increase fuel pressure. OEM regulators are typically set at approximately 43 psi, without the vacuum line attached. The fuel pressure adjustment range for the enclosed regulator is 40-75 psi.
15. Once the desired fuel pressure is achieved, tighten the regulator adjustment jam nut and attach the vacuum line if the vehicle has one. If the vehicle is not equipped with a vacuum line, leave vacuum port open to atmosphere. Blocking the vacuum port will yield poor regulator performance. If vacuum port fitting becomes lost or broken replacement fittings can be purchased (part # 15630).
16. If you do not want to keep the fuel pressure gauge on the vehicle, relieve the fuel system pressure as instructed in the appropriate vehicle service manual and remove the fuel pressure gauge.
17. Test drive the car to insure proper operation and re-check the fuel system for leaks. **If any leaks are found, immediately shut off the engine and repair the leak(s)!**