

Installation Instructions for 159120

EFI Fuel Pressure Regulator

IMPORTANT: This regulator must be used with a return fuel line which runs between the fuel bypass port of the regulator and the fuel tank. Fuel pressure cannot be adjusted or regulated without the return fuel line.

PARTS INCLUDED IN THIS KIT

1 - Fuel Pressure Regulator 2 – 3/8” NPT plugs 1 – Mounting Bracket
2 – O-rings for -08AN port type fittings 2 - Bracket Mounting Screws

SPECIFICATIONS:

- Fuel types: Gasoline, E10 and E85 (**Not for use with Methanol fuels**)
- Inlet and return port thread sizes: -08AN for port type O-ring fitting
- Outlet port thread sizes: 3/8” NPT (tapered threads) fittings
- Adjustment range: 30-100 PSI (**NOTE:** Exact adjustment range depends on the fuel pump capacity and return line size.)

GENERAL INFORMATION

This return style regulator regulates the fuel pressure between the high pressure fuel pump and the fuel injection systems. The return style regulator returns excess fuel and fuel pressure back to the fuel tank through the return fuel line. The return fuel line runs between the regulator's return fuel port and the fuel tank. The fuel tank must have provisions for a return fuel line. This regulator is recommended for fuel pumps with a flow rate up to 200 gallons per hour.

This regulator is a linear raising rate design. It is equipped with a vacuum/boost compensation port (barb fitting) that can automatically adjust the fuel pressure for a variety of load conditions. It will reduce fuel pressure during high vacuum conditions at idle and part throttle, as well as increase fuel pressure under boost conditions. For this automatic compensation feature to work correctly, the initial pressure setting at idle must be set with the vacuum line running from the intake manifold to the vacuum/boost compensation port being disconnected and plugged.

The return style regulator can be mounted at any angle. For maximum efficiency, mount it as close as possible to the fuel injection system. DO NOT mount the regulator on or near an exhaust manifolds. A mounting bracket is included.

INSTALLATION

The return style regulator can be installed either prior to or after the fuel flows through the fuel rail(s), depending on the desired system setup.

1a. Regulator to be mounted after the fuel rails: Connect the supply fuel line to the inlet of fuel rail(s) and the return fuel line to the bottom -08AN port on the regulator. Connect the outlet of the fuel rail(s) to the -08AN inlet port on the side of the regulator. The three unused outlet port(s) in the regulator must be plugged. This is a “flow through” setup where all the fuel flows through the fuel rail(s).

1b. Regulator to be mounted before the fuel rails: Connect the supply fuel line to the -08AN port on the side of the regulator. Connect the return fuel line to the bottom -08AN port on the regulator. The outlet fuel line(s) to the fuel rail(s) are attached to the 3/8” NPT outlet ports on the side of the regulator. The unused outlet port(s) in the regulator must be plugged. In this setup the fuel rail(s) are “dead headed”.

There is also a 1/8” NPT gauge port for mounting a fuel pressure gauge on the regulator. Fittings must be purchased to adapt the fuel lines to the regulator ports. The vacuum line runs from the intake manifold source to the compensation barb fitting on the regulator.

2. Turn the fuel pump on and check for leaks. If leaks are found on any of the NPT (tapered thread) fittings, make sure the threads are covered properly with Teflon sealer.

NOTE: If the fuel system does not purge and prime, loosen the jam nut and back the adjustment screw all the way out of the regulator until the system is purged and primed. Then reinstall the adjustment screw.

3. To set the fuel pressure, loosen the jam nut on the top of the regulator and turn the adjustment screw to adjust the pressure. Clockwise increases pressure, counter clockwise reduces pressure. Make sure that the line to the vacuum/boost compensation port is disconnected and plugged when setting the base idle fuel pressure.



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