GFB FX-D LP

8AN Low Pressure Regulator

Part # 8070-LP

Introduction

The GFB FX-D LP is a low-pressure bypass style regulator intended for use on carbureted engines using an EFI style electric fuel pump and 8AN fuel lines/fittings.

The FX-D LP is street and race fuel safe, suitable for regular unleaded, methanol, ethanol or diesel fuels.

Warning!!! – Fuel systems with electric pumps can operate under considerable pressure both during operation and when powered down. Caution must be taken when working with fuels as they are extremely flammable and dangerous.

Legal Disclaimer:

Any modification of a vehicle's fuel system is accompanied by a certain level of risk associated with combustible materials and methods of ignition.

Go Fast Bits accept no responsibility for any damage to property, or personal injury, which occurs due to improper installation, use, or adjustment, or failure to adequately address the risks associated with the use of this product.

GFB products are engineered for best performance, however incorrect use or modification of factory systems may cause serious damage to or reduce the longevity of the engine.

This product is intended for racing use only, and it is the owner's responsibility to be aware of the legalities of fitting this product in their state/territory regarding emissions and modifications.

Installation Recommendation:

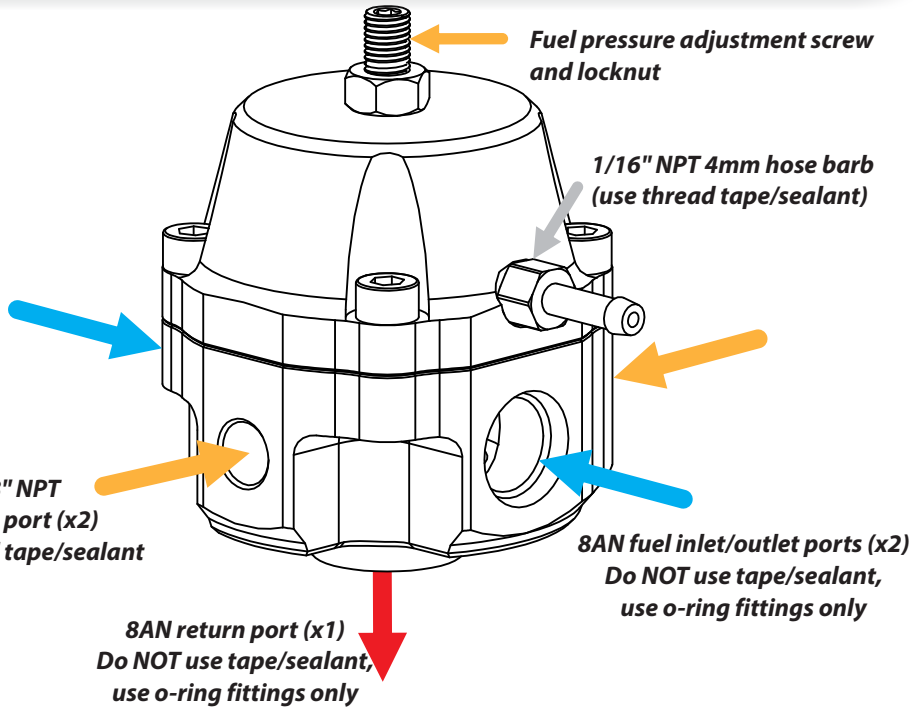
The installation of this product is a modification of the vehicle's fuel system, which requires in-depth training and knowledge of automotive systems and repair methods.

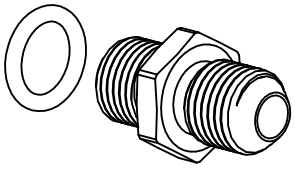
Due to the hazardous nature of installing fuel system components, Go Fast Bits recommend that this product is installed only by a qualified automotive technician.

Installation of this product involves handling of combustible materials. Ensure installation takes place in a well-ventilated area free from sources of ignition, with an approved fire extinguisher nearby. Always follow relevant workplace safety procedures including the use of appropriate protective equipment when installing this product.

Included in 8070-LP kit:

- »FX-D LP Fuel Pressure Regulator
- »1/16" NPT 4mm hose barb
- »2x 1/8" NPT blanking plugs
- »1x 8AN blanking plug
- »Mounting bracket
- »2x M4 x 10 bracket screws





8AN ORB example coupling (not included)

Caution!!! The fuel inlet/outlet and return ports use 8AN ORB (O-Ring Boss) type fittings and adapters. Be aware that they are NOT pipe threads and do NOT require thread sealant - they are reliant on the o-rings for a positive seal. Please ensure that you use ORB-type fittings.

The remaining 2x ports on the regulator body are 1/8" NPT and are intended to be used for either a fuel pressure gauge, an electronic fuel pressure sender, or both. If either of these outlets are not used, block them with the provided 1/8" NPT pressure plugs. These WILL require a fuel-safe thread sealant.

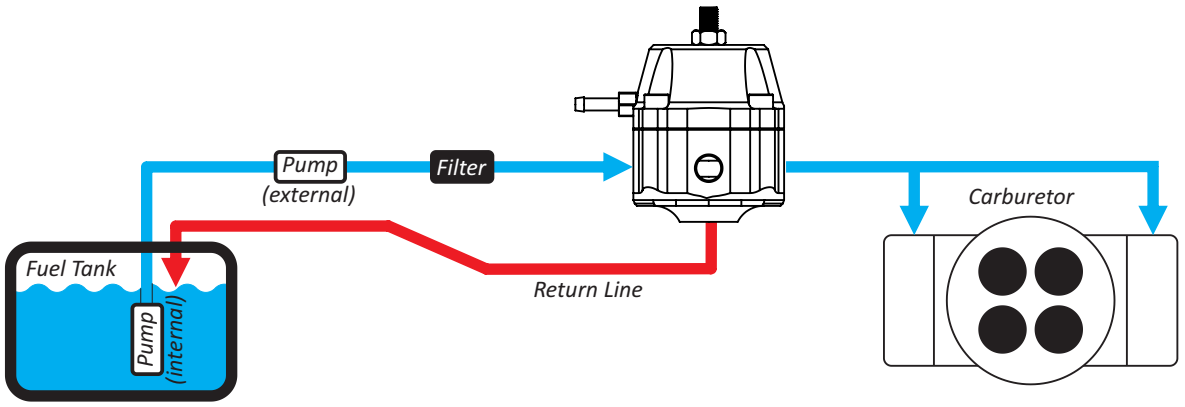
Fuel Line Configurations

There are two main configurations for connecting the FX-D LP, shown below. The fuel pump can be internal or external, both types are shown in the diagrams.

Option 1: Fuel flows through the regulator to the carburetor, with excess pressure bleeding off before the carb. This installation is generally simpler than option 2.

The downside to this setup is the fuel downstream of the regulator flows only as fast as the engine consumes it, so during low demand conditions it is possible the fuel will end up hotter than in option 2.

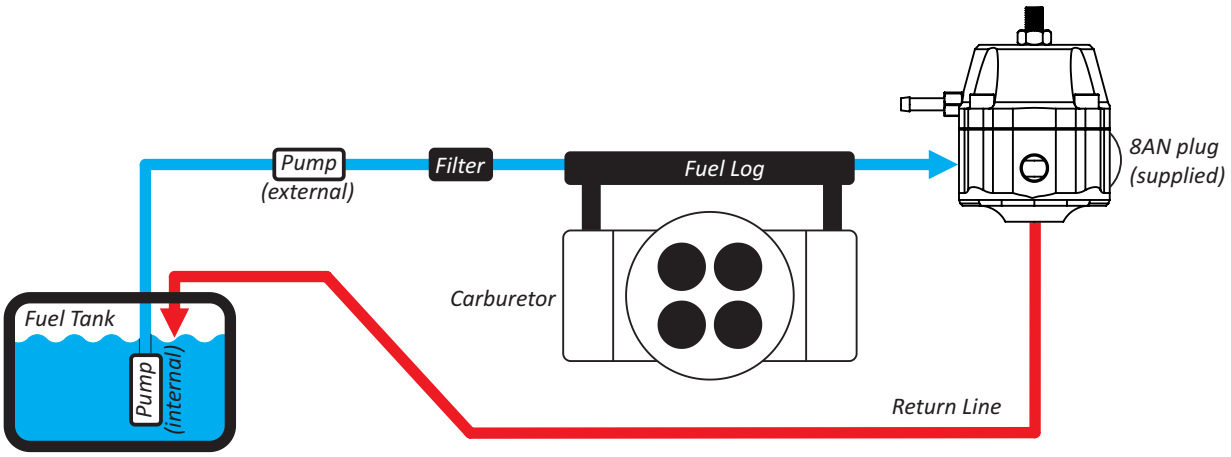
However, this should only be a concern if your carburetor has suffered issues from fuel heating in the past.



Option 2: Fuel flows through a fuel log on the carburetor, then to the regulator where excess pressure bleeds off after the carb.

Although not necessary, the regulator can be mounted directly on the end of the fuel log to simplify installation.

This setup ensures fuel is always circulating through the fuel log regardless of engine demand, which reduces the temperature of the fuel at the carb.



Installation

- If installing this product in an existing fuel system, first ensure fuel pressure in the system is relieved, the vehicle's battery terminals are removed, and the engine is cool.

- Determine the best mounting location for the FX-D LP that is protected from direct heat sources (such as exhaust components) and vibration, and is as close to the carburetor as *practical*, meaning prioritize protection from heat and vibration first, followed by distance to carburetor.

- Install supplied plugs in any un-used ports on the FX-D LP.

- Install the supplied bracket to the chosen mounting location using M6 or ¼" threaded fasteners. Secure the FX-D LP to the bracket using the supplied M4x10 button head screws (use a ***metric*** 2mm hex key).

- Connect the fuel hoses and fittings, making sure everything is tightened and any braided hoses are correctly fitted. ENSURE YOU HAVE THE FUEL SUPPLY AND DRAIN HOSES CONNECTED TO THE CORRECT CORRESPONDING PORTS ON THE FX-D LP. Since the inlet/outlet and drain ports are the same size, it is possible to accidentally swap them. If this happens the FX-D LP will not function correctly and may result in damage to the engine or fuel pump.

- Optional: The supplied 1/16" NPT hose barb can be used to connect a vacuum/boost reference to the regulator. This will increase/decrease the fuel pressure with a 1:1 relationship to the reference signal. This feature is typically used on boosted blow-through applications where the carb's fuel bowls are boost referenced, which also requires the fuel pressure to increase with boost pressure. If a pressure/vacuum reference is not required, leave this port open - do NOT plug it.

Fuel Pressure Setup and Adjustment

Whilst it is not necessary to have a fuel pressure gauge permanently installed, a gauge is required during initial installation and set up.

NOTE: Before taking fuel pressure readings on a liquid filled gauge, it is important that the gauge casing is relieved of any pressure by pinching or temporarily removing the plug. Failure to do so may result in inaccurate readings.

This is because temperature or altitude changes can alter the pressure inside the casing of a sealed liquid filled gauge, which will offset the gauge reading.

Because of this effect it is not unusual to see fuel pressure readings drop as the gauge temperature increases, and therefore it is important to relieve the casing pressure before taking readings and making adjustments.

- Loosen the locknut on the pressure adjustment screw, and ensure the screw is set to the minimum setting by turning it back and forth until you feel the screw first engage the spring. If the initial pressure is set too high, you risk flooding the engine and potential fire hazard.

- Re-connect the battery and fuel pump fuse, then prime the fuel pump to check for any leaks. It is normal to hear a "squeaking" noise when you prime the fuel pump for the first time - this is caused by air in the lines which will be purged shortly after priming.

- With the pump operating, you can now increase the fuel pressure to the desired level, then tighten the locknut. Note that changes to fuel pressure will require the float level to be re-adjusted.

- Perform a final check of all hoses and fittings for leaks.