



## INSTALLATION INSTRUCTIONS

# HIGH VOLUME FUEL RAILS FOR FORD V8

Part No. 4306M

**APPLICATIONS: 1986-95 Ford 5.0L and 5.8L V8 with fuel injection.**

PARTS LIST:	1	Driver's Side Fuel Rail	1	Fitting, 3/8 NPT to -8AN
	1	Passenger Side Fuel Rail	2	Fitting, 3/8 NPT to -6AN
	1	Rear Crossover Hose	1	Fitting, (90°) 3/8 NPT to -8AN Swivel
	1	Front Crossover Hose	1	Fitting, (45°) 3/8 NPT to -6AN
	1	Pressure Regulator	1	Fitting, (90°) 1/4 NPT to -6AN
	4	Brackets	2	O-Rings for -8AN Fittings
	2	Fitting, -8AN	8	Flathead Screws
			2	NPT Plugs

**GENERAL INFORMATION**

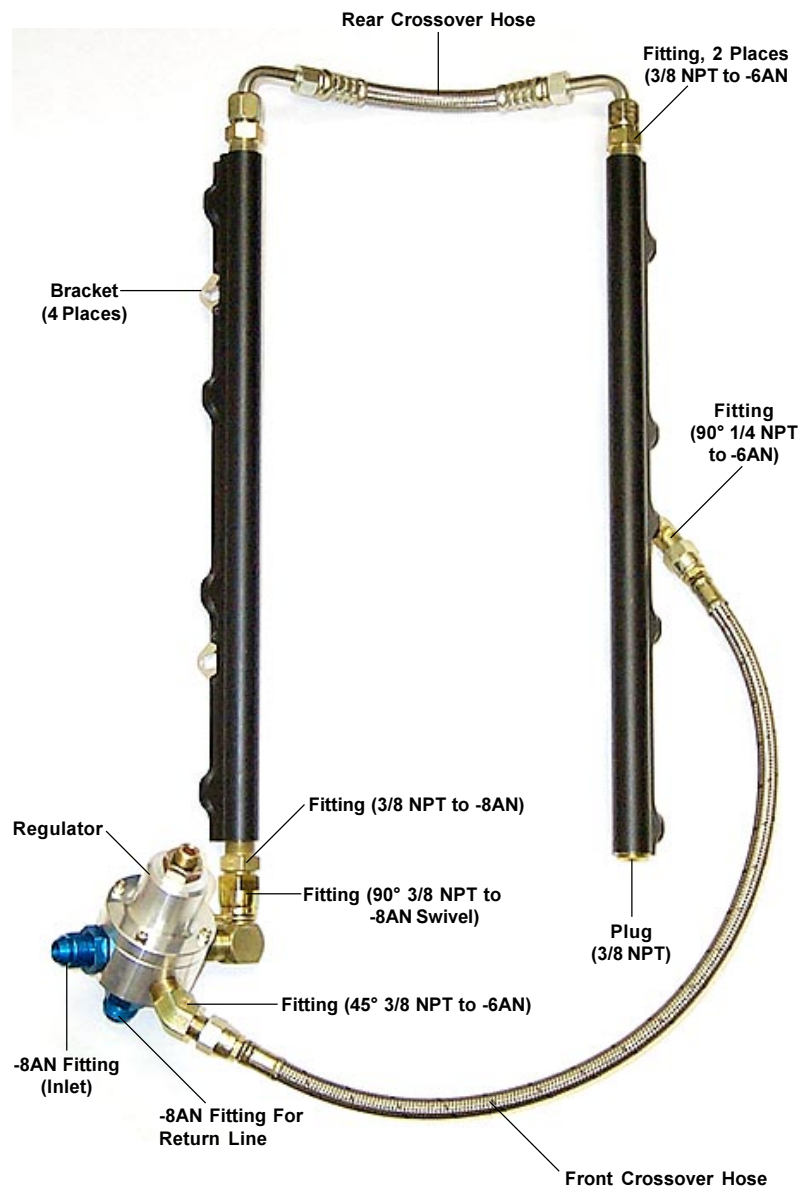
Mallory high volume fuel rails can be used on stock engines. However, they are intended for high performance engines which require more fuel than the stock rails can provide. Stock rails should not be used on engines which produce over 350 horsepower or on engines using injectors larger than 22 lbs/hr. Engines producing over 350 hp must use a fuel line (and return line) larger than stock. Recommended line sizes follow the installation portion of this form.

**ASSEMBLE THE MALLORY FUEL RAILS***(See Photos)*

1. Attach the brackets to the rails with the flat head screws. The use of a thread locking compound is recommended.
2. Screw the two straight fittings (-6AN to 3/8 NPT) into the rear of each fuel rail. Use Teflon sealer on all the NPT threads to prevent galling and leaks.
3. Attach the rear crossover hose to the fittings, **but do not tighten until after rails are installed on engine.**
4. Apply Teflon sealer to the NPT plug and install it in the front end of the driver's side rail
5. Install straight fitting (3/8 NPT to -8AN) into the front end of the passenger side rail.
6. Attach the regulator to the front of the passenger side rail using the 90° (3/8 NPT to -8AN) swivel fitting.

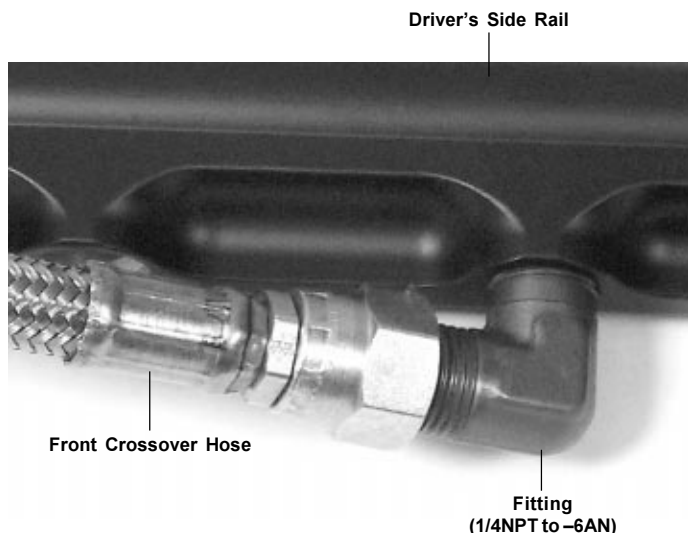
**NOTE: The regulator can also be mounted remotely, then connected to the rail using another braided hose (not supplied).**

7. Screw the 45° (3/8 NPT to -6AN) fitting into one of the upper ports on the regulator.
8. Screw the 90° (1/4 NPT to -6AN) into the port on the bottom of the driver's side rail. The port is located between the second and third injectors.
9. Attach one end of the front crossover hose to the regulator and the other end to the fitting between the injectors.



## INSTALL THE RAIL ASSEMBLY ON THE ENGINE

1. Remove the upper manifold and stock fuel rails (consult a repair manual for further information)
  2. It may be necessary to remove the distributor. A small amount of oil on the injector o-rings will make it easier to push the rails onto the injectors. With the electrical connectors on the injectors, press the rails down as far as they will go. You may have to rotate the injectors slightly to get the rails all the way down. Use the stock screws to secure the rails to the manifold.
  3. Connect the fuel line and the return line. The return line must be attached to the bottom port on the regulator. The fuel line must be attached to the upper -8AN port on the regulator. Fittings must be purchased to adapt the fuel line and the return line to the regulator. The unused port in the regulator can be plugged or used as a gauge port.
  4. Check for interference at the distributor. In some cases it may be necessary to clearance the front end of the driver's side rail so that it will clear the distributor.
  5. Check for interference with the upper manifold. If the driver's side rail interferes with the bottom of the upper manifold, a small amount of clearancing on the manifold may be necessary (or a spacer may be used between the upper and lower manifold). Reinstall the upper manifold.
  6. Turn the fuel pump on and check for leaks. If leaks are found on the NPT (tapered) fittings, make sure the threads are covered properly with Teflon sealer.
- NOTE: If the fuel system will not prime properly, back the adjustment screw all the way out of the regulator until the system is primed. Then reinstall the adjustment screw.**
7. Connect the vacuum hose that was originally connected to the stock regulator to the small nipple on the Mallory regulator. This will reduce fuel pressure at idle and during light-throttle cruise.



8. Set the fuel pressure. Loosen the jam nut on the top of the regulator and turn the brass adjustment screw to adjust the pressure. Clockwise increases pressure.

The best fuel pressure to run depends on many variables. However, a starting point of about 40 psi is usually close. If the car runs best with 60 psi or more, larger injectors should be considered.

### FUEL LINE SIZE

Fuel line size is determined by the horsepower of the engine.

Up to 350 HP:	5/16" or -4AN
Up to 500 HP:	3/8" or -6AN
Up to 700 HP:	1/2" or -8AN
Up to 1200 HP:	5/8" or -10AN

### RETURN LINE SIZE

The size of the return line is determined by the output of the fuel pump.

Up to *29 gal/hr (110 liter/hr):	1/4" or -3AN
Up to *45 gal/hr (170 liter/hr):	5/16" or -4AN
Up to *90 gal/hr (340 liter/hr):	3/8" or -6AN
Up to *180 gal/hr (680 liter/hr):	1/2" or -8AN

\* **Pump output at 40 psi.**

### INJECTOR SIZE

Injector size is determined by horsepower. Multiply horsepower by .062 for injector size:

$$\text{lb/hr} = \text{HP} \times .062$$

#### Examples:

Up to 300 hp:	19 lb/hr
Up to 600 hp:	38 lb/hr
Up to 1200 hp:	75 lb/hr

**NOTE: Use 25% larger injectors for supercharged applications.**

These are just examples. To determine optimum injector size for your engine, you must do the math.

### PUMP SIZE

Pump size is determined by horsepower.

Multiply horsepower by .083 to determine pump size in gallons per hour.

**Example: 500 HP x .083 = \*42 gal/hr**

Multiply horsepower by .314 to determine pump size in liters per hour.

**Example: 500 HP x .314 = \*157 liters/hr**

\***Pump output at 40 psi.**

**NOTE: Add 25% larger pump for supercharged applications.**