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Instructions for 10605 Fuel Rail Kit

This kit is for 1996-'98 4.6L 2V Ford engines. This Fuel Rail Kit may work on other versions of this engine that use the same, or similar O.E. fuel rails. This kit may fit a 5.4L 2V engine if a longer crossover fuel hose is utilized. The hose ends on the supplied crossover hose are reusable allowing a longer hose to be substituted if desired.

Kit #10605 - Fits 1996-'98 4.6L 2V Ford engines. For 1999-'04 4.6L 2V engines, use our Complete Fuel Rail Kit #10603.

NOTE: Check the drawing and bill of materials on the back side of these instructions to make sure you have all the parts listed. This kit is supplied with an adjustable fuel pressure regulator. The supplied fittings for the fuel inlet and outlet are for -6AN plumbing. If you can position the regulator so that the stock fuel inlet and return lines can be connected, you will need our optional fittings for this purpose. We offer the inlet fitting in either a straight (#54180) or 90° (54181) style. The return fitting is available in a straight (#54184) style or one that has a 30° angle on it (#54187). The angle style has 1/4-NPT threads and will require a 3/8-NPT to 1/4-NPT reducer fitting (Russell #661560, or equivalent, to fit into the supplied regulator).

REMOVAL OF EXISTING FUEL RAILS (If applicable)

1. Disconnect the ground connection to your vehicle's battery. This is a safety precaution. Allow engine to cool before proceeding.
2. Your stock fuel rails will have a valve on them that looks like a tire valve. This will usually be at the front end of one rail and will have a black plastic cap on it. Remove the cap. If you press on the core of the valve, it will release the pressure in the fuel rails. Caution!! Fuel will spray out and you should have a towel or other absorbent cloth to catch any fuel that is released. Bleed system until flow stops. Wipe up any spills that may occur.
3. Remove any bolts or screws that hold the rails to the engine. You may want to save these screws as some of them have other uses. However, new stainless screws are provided in the kit for reattaching our rails if you do not need or want to use the stock screws.
4. Remove inlet fuel line and return line. Not all systems will have a return line. This engine does not. Most EFI systems use a type of push-on fuel line connector to the fuel rails. A special tool is required to remove these connections. These tools are very inexpensive and are available at most regular auto parts stores. Your local NAPA store would be a good source.
4. Detach electrical connections from each injector. Disconnect anything attached to fuel rails. Remove the fuel rail assembly. Each injector has an O-ring on each end of it. One end fits tightly into the rail and the other end fits tightly into the manifold. When you lift up on the rails, it may pull off of the injectors or it may bring some of them with it. If so, be careful that they do not drop out and become damaged. Handle injectors with care.
5. Inspect the O-rings on the injectors. If you see any deterioration or cuts or slices, they must be replaced. It's not a bad idea to replace them in any event if the vehicle is not new.

INSTALLATION OF FUEL RAIL KIT

1. Lubricate O-rings on both ends of injectors with a light oil or WD-40 or equivalent.
2. Carefully push injectors into manifold. Do not cock them sideways when you do this or you can damage the O-ring.
3. Determine where you want to mount the fuel pressure regulator (Item #9). It can mount it on the firewall or inner fender panel and plumb a fuel line from the regulator to the rails.
4. Install all necessary fittings into fuel rails. Clamp rails in a vise with special jaws to protect finish. Follow these instructions for installing fittings.
5. Thread blue 3/8-NPT to -6AN 90° fitting (Item #5) into end of rail where you want to connect the regulator and fuel inlet. Do not use Teflon tape as it can shred and get into the fuel system, clogging the injectors. Use a special sealant for pipe threads available in any hardware store, such as Loctite #569. Please carefully follow these steps when installing any fitting into any of the fuel rail parts. Thread fitting (with pipe sealer on threads) into rail. Tighten it with a wrench until it stops. Then back it out about a half a turn. Then retighten it. Each time you do this, it will go in a little further. Keep doing this until it reaches the correct position that you want it. Do not over tighten as you may split the rail. This is not covered in warranty.
6. Thread the two 3/8-NPT to -6AN straight fitting (Item #4) into the front end of passenger rail and the 90° fitting (Item #5) into the front of the driver's side rail.
7. Thread the 3/8-NPT to 1/8-NPT reducer (#2) into back of driver's side rail.

Then thread the supplied 1/8-NPT (#3) pipe plug into the reducer.

8. For remote mounting of regulator, please follow these steps: The regulator will need to be mounted on the firewall or inner fender panel. It is then connected to the rail with a length of -6AN stainless braided hose. This kit comes with a 16" length of hose (#14). If you need a shorter hose, you can cut the supplied hose to the length needed. If it is not long enough, you will need to purchase a length of hose. We recommend Professional Products -6 hose or Aeroquip -6 hose. We recommend -6AN inlet lines for street use and -8AN for racing. Only -6 hose and fittings are supplied in this kit.
9. If you want to use the supplied -6AN fittings, thread the 3/8-NPT to -6AN (#4) fittings into the three tapped holes in the regulator. Use sealant on the threads. Mount the regulator in the desired position. The bottom fitting is for the fuel return line back to the fuel tank.
10. Position each fuel rail over the injectors and with lubrication on the injector O-rings, carefully but firmly push rails down until you feel them seat.
11. Take stainless clamps (#6) and place over the fuel rails aligning them with the stock mounting holes on the manifold. You can use the stock screws or the supplied (4) M6 x 15 stainless screws (#11) supplied in the kit. Thread screws into holes and tighten securely with a Phillips screwdriver.
12. Connect the regulator to the fitting in the back end of the passenger's side rail with the hose assembly you have made up using the supplied hose and hose ends. Tighten with an 11/16" wrench.
11. Take supplied crossover hose assembly (#12) and attach it to the two -6AN fittings. Tighten snugly with an 11/16" wrench.
12. Connect the inlet fuel line to the fitting on the side of the regulator and the return line to the fitting at the bottom of the regulator.

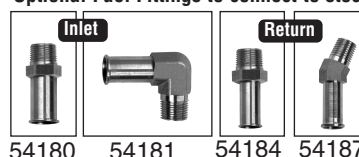
FINAL STEPS OF INSTALLATION

12. Go over entire system and check that every single connection is tight.
13. Reconnect battery.
14. Turn on ignition so that electric fuel pump begins pumping but do not start car. Recheck all connections for any leaks. This includes where injectors go into fuel rails. If leaks occur, turn off ignition. Correct any problems. Wipe up any gas puddles.
15. Repeat step 14, again carefully checking for any leaks.
16. Once you are confident that no leaks occur, start engine and check for leaks again with engine running. Check where injectors seat into manifold. Again, if you see any leaks, immediately stop engine and fix the problem.
17. It is a good idea to check your system on a regular basis to make sure that no leaks develop, especially in the first few days you drive the vehicle. Gasoline leaks can turn into a very dangerous and expensive proposition.

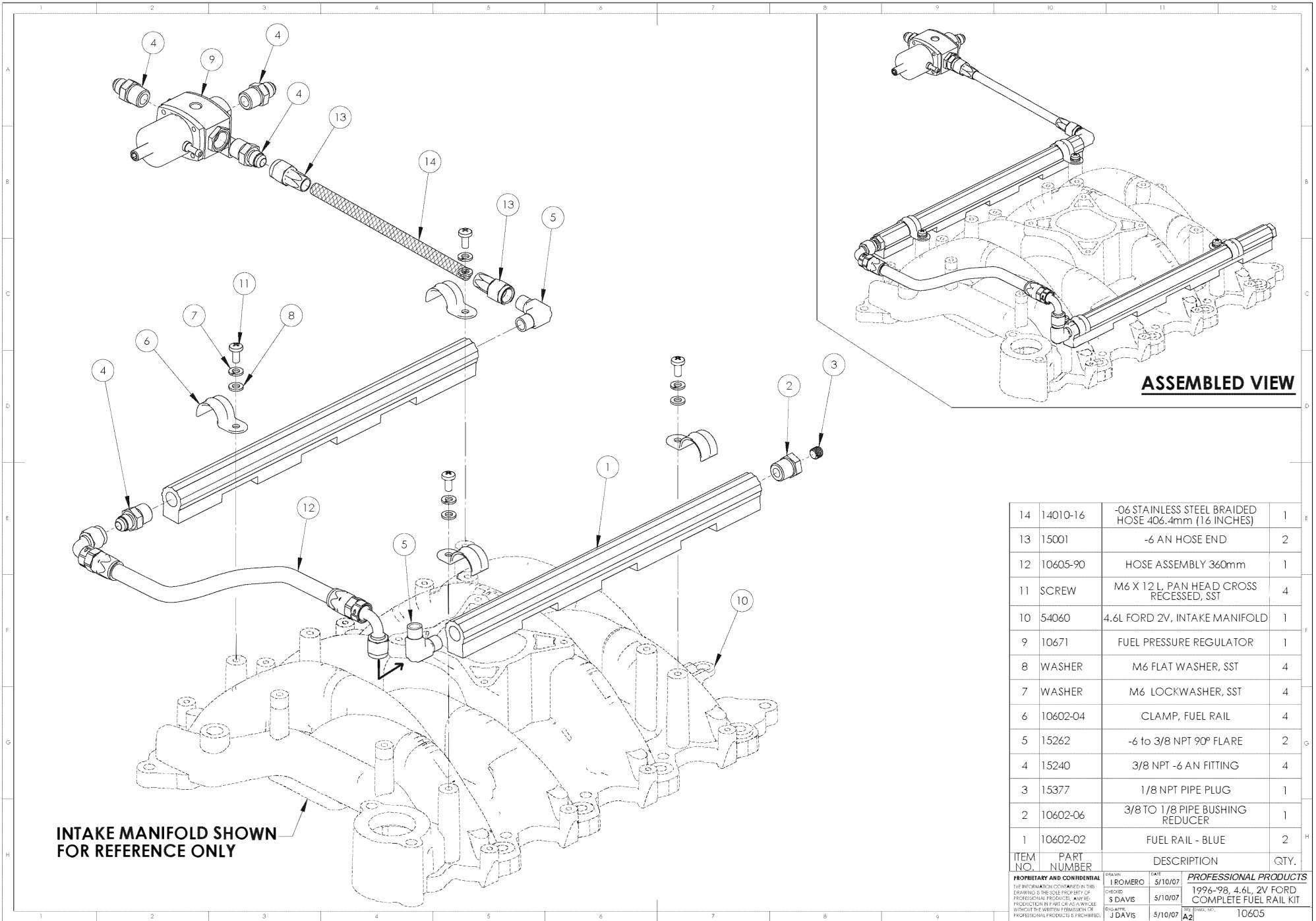
SPECIAL INSTRUCTIONS FOR FUEL PRESSURE REGULATORS

Special Instructions for Fuel Pressure Regulators: The regulators used in these fuel rail kits are factory pre-set for 40 PSI of fuel pressure. We suggest you check the pressure with a fuel pressure gauge. **Pressure adjustments must always be made with the engine idling.** Turn the top adjustment stud clockwise for more pressure, counter-clockwise for less. Tighten lock nut once desired pressure is obtained. Typically pressure should be set in the 40 to 50 PSI range for EFI equipped engines depending upon the application. Check specifications for your specific system. The 3/8-NPT port on the bottom of the regulator is the bypass or return line. Either of the the two 3/8-NPT ports on the sides of the regulator can be used as inlet or outlet. The 1/8-NPT port in the side is for a fuel pressure gauge. You can use a Professional Products #11113 (or equivalent) which will thread directly into this port.

Optional Fuel Fittings to connect to stock Ford inlet and return fuel lines:



These fittings are made of stainless steel. All have 3/8-NPT threads except the 54187 which has 1/4-NPT threads and will require a reducer bushing to thread into supplied regulator. These are Professional Products fittings.



INTAKE MANIFOLD SHOWN FOR REFERENCE ONLY

ASSEMBLED VIEW

14	14010-16	-06 STAINLESS STEEL BRAIDED HOSE 406.4mm (16 INCHES)	1
13	15001	-6 AN HOSE END	2
12	10605-90	HOSE ASSEMBLY 360mm	1
11	SCREW	M6 X 12 L, PAN HEAD CROSS RECESSED, SST	4
10	54060	4.6L FORD 2V, INTAKE MANIFOLD	1
9	10671	FUEL PRESSURE REGULATOR	1
8	WASHER	M6 FLAT WASHER, SST	4
7	WASHER	M6 LOCKWASHER, SST	4
6	10602-04	CLAMP, FUEL RAIL	4
5	15262	-6 TO 3/8 NPT 90° FLARE	2
4	15240	3/8 NPT -6 AN FITTING	4
3	15377	1/8 NPT PIPE PLUG	1
2	10602-06	3/8 TO 1/8 PIPE BUSHING REDUCER	1
1	10602-02	FUEL RAIL - BLUE	2
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
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