



**Support:** [info@radiumauto.com](mailto:info@radiumauto.com)

## CAUTION

Only a qualified technician following applicable safety procedures should perform the installation of this product.  
One must have knowledge in repair and modification of fuel systems and general vehicle modifications to install this product.  
**Gasoline and other fuels are flammable and can be explosive.**

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Only install in a well-ventilated location to minimize buildup of fuel vapors.

No sparks, open flames, smoking or other ignition sources are to be present. Draining and removal of all fuel from the fuel system is recommended.

Proper eye and personal protection is required at all times during installation.

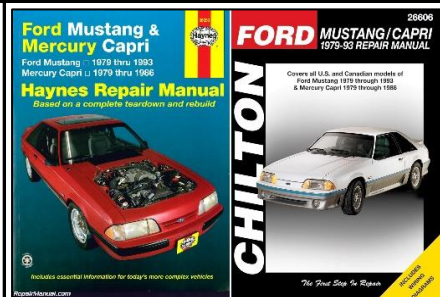
**Follow BLUE areas below**


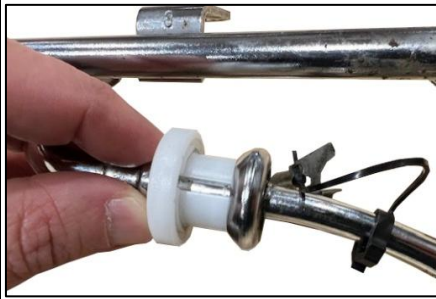


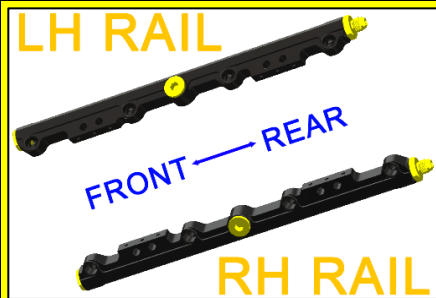

## WARNING

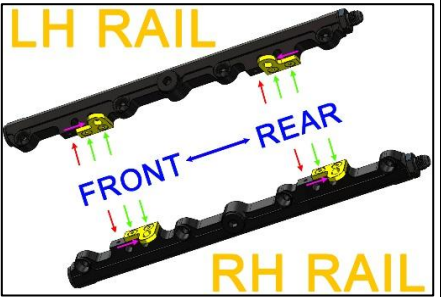


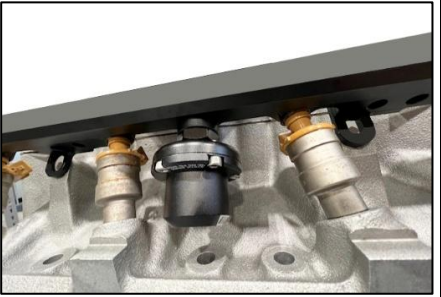


The fuel system is under pressure! Do not loosen any connections until relieving the fuel system pressure.

Consult a service manual for instructions on relieving fuel pressure safely. This product is designed for off-highway and racing use only. Fuel system components may not be legal for sale or use on emissions controlled motor vehicles. Consult local, state, and federal laws.



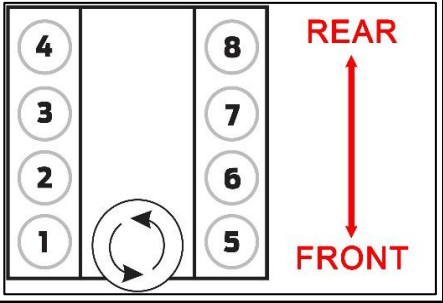



A top-down diagram of a car. The word "FRONT" is at the top, and "REAR" is at the bottom. On the left side, the text "LH SIDE" is written in green, with "LH" in large letters and "SIDE" below it. On the right side, the text "RH SIDE" is written in green, with "RH" in large letters and "SIDE" below it. The car's body is white with black outlines and features two vertical black stripes running down the center from front to rear.

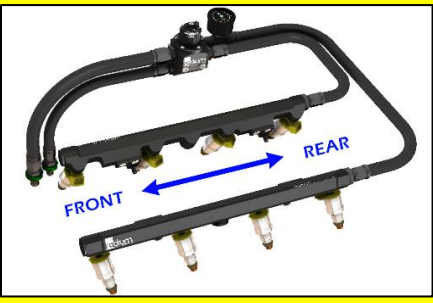
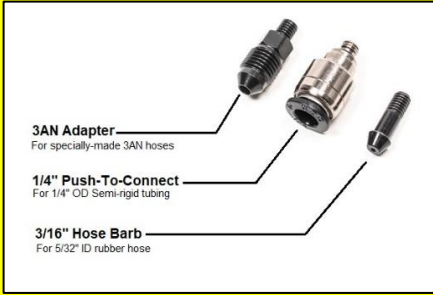



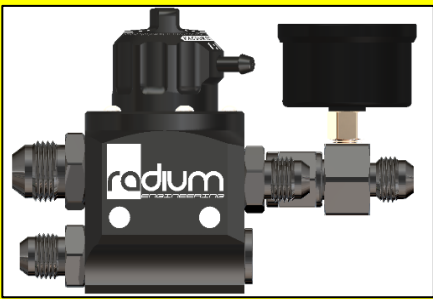


5		On the fuel feed and return lines, pry off the fuel line safety clips that protect the spring lock connections. If the plastic tether is still attached, they can hang in place.	
6		<p>Provided are 2 different sized spring lock disconnect tools. The large tool is used for the feed line and the small tool is used for the return line. First, push and hold the disconnect tool into larger diameter side of the spring lock connections. Next, pull the connections apart.</p> <p>NOTE: This make take some work if the lines have never been removed on the vehicle.</p>	
7	Rag	<p>When removing the fuel lines, have a rag handy.</p> <p>To unplug the 8 fuel injectors, squeeze the connector locks and pull.</p>	
8	Rag	<p>Remove the four 1/4"-20 mounting screws. They will NOT be reused.</p> <p>Transport the fuel rail assembly to a work bench. To remove the injectors from the fuel rails, gently pull to release.</p>	
	5/16" Socket Wrench		
9	Lubrication	<p><b>20-1302-PK PLUMBING KIT INSTALLATION</b></p> <p>Each rail has three 8AN ORB (3/4"-16) ports. Install the 8AN ORB plugs to the front and center ports. Install the 8AN ORB to 6AN fitting to the rear ports.</p> <p><i>Blue: Depicts the orientation when installed in the vehicle.</i></p> <p><i>Orange: Shows each fuel rail location when installed in the vehicle.</i></p> <p>NOTE: If this plumbing kit wasn't purchased, go to <a href="http://radiumauto.com">radiumauto.com</a> to find an array of compatible adapters.</p>	
	5/16" Allen Wrench		
	7/8" Wrench		
	19mm Wrench		
10		<p>If fuel pulse dampers will be used, they must be purchased separately.</p> <p>If mounted in the center ports, the following manifolds are compatible with Radium Engineering 8AN ORB fuel pulse dampers (FPDs): 302 HO, GT40, Explorer, Cobra, and 351 intake manifolds.</p> <p>Because of the EGR fitting and casting bosses, Radium Engineering fuel pulse dampers are NOT compatible in the center fuel rail ports with the 302 truck lower intake manifold.</p>	

11	3mm Allen Wrench	<p>The included mounting feet must be installed with a medium strength thread locker in a specific location and orientation.</p> <p>Blue: Depicts the orientation when installed in the vehicle.  Orange: Shows each fuel rail location when installed in the vehicle.  Green Arrows: Correct screw holes to use per fuel rail.  Red Arrows: Empty threaded holes to not use per fuel rail.  Purple Arrows: Correct direction of the mounting feet holes.</p>	
	Thread Locker		
12	Lubrication	<p>Inspect the 8 fuel injectors. If necessary, replace the upper and/or lower O-rings.</p>	
13	Lubrication	<p>For ease of installation, lubricate the injector O-rings, intake manifold injector seats, and fuel rail injector bores.</p> <p>Fully insert the injectors into the fuel rail bores, as shown.</p>	
14		<p>Line-up and place the fuel rail assemblies onto the lower intake manifold. Once everything is positioned correctly, push the fuel rails downward to fully seat the injectors (302 Mustang manifold shown).</p> <p>If Radium Engineering fuel pulse dampers were installed, verify if there is adequate clearance.</p>	
15	3/16" Allen Wrench	<p>Install the 4 black oxide stainless steel 1/4"-20 mounting screws.</p> <p>Temporarily place the upper intake manifold onto the lower intake manifold to verify there is fuel rail clearance.</p>	
16		<p>These fuel rails have very large bores. And to stay clear of the distributor and the upper intake manifold, they have a unique profile.</p> <p>Because of their physical shape, OEM fuel injectors will need to be strategically oriented inwards (towards the runners).</p> <p>Ford GT40 lower intake manifold shown.</p>	





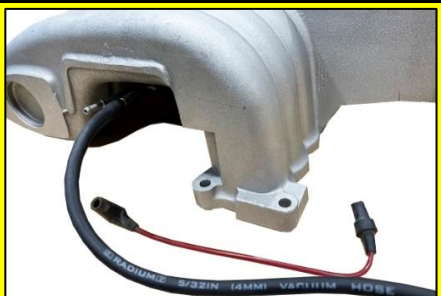
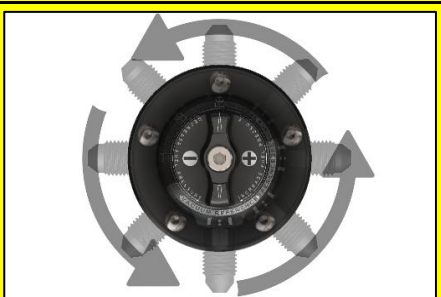


17		However, the connector on many aftermarket fuel injectors is lower. In this case, the injector connector can face outwards like normal.	
18		Shown at left is a short (34mm) Bosch EV14 injector with a billet top hat effectively making it 60mm tall. The mating connector would have no interference with the fuel rail.	
19		Shown at the right is an OEM Ford injector. The OEM mating connector would have interference with the fuel rail.	
20		<b>17-0064 INJECTOR CONNECTOR ADAPTER INSTALLATION</b>	
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23		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		There are different vehicles compatible with this kit. For instance, some vehicle's fuel lines come from the RH side and some come from the LH side of the engine bay. Because of the variances, these instructions may slightly differ.	
		Pictured is a general idea of how this plumbing kit will be installed.	
24	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	8mm Allen Wrench	To get a 1:1 fuel pressure ratio (like OEM), install one of the 3 provided fittings (pictured) to the multi-port regulator (MPR) vacuum port.	
	Thread Locker		
		NOTES:	
		1. Vacuum tubing is provided for the hose barb ONLY.	
		2. Use a wicking thread lock, such as green Loctite.	
25		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	Oil Lubrication		
	3/4" Wrench	As shown, install 2 of the 6AN ORB to 6AN male fittings (shown blue) to the upper MPR high pressure ports.	
	1/4" Allen Wrench		
		Install the 6AN ORB plug (shown red) to the lower MPR low pressure return port, as shown.	
26	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	3/4" Wrench	As shown, install 1 of the 6AN ORB to 6AN male fittings (shown blue) to the lower MPR low pressure return port.	
	7/8" Wrench		
		Install the 8AN ORB to 8AN male fitting (shown orange) to the upper MPR high pressure port, as shown.	
27	PTFE Paste	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	11mm or 7/16" Wrench	Apply plumber's paste to the tapered male 1/8" NPT threads on the gauge.	
	Vice		
		Hand tighten the gauge to the inline 6AN adapter, then add 1.5-3 turns with a wrench.	
28	11/16" Wrench	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Install the 6AN inline adapter gauge assembly to one of the 6AN MPR high pressure ports, as shown.	

29	4mm Allen Wrench	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	10mm Wrench	Determine where the MPR will be installed. This location will be unique for every vehicle.	
		NOTES:	
		1. A pair of M6x1mm screws and nuts are included.	
		2. The provided mounting bracket may or may not be needed.	
		3. The MPR can be oriented in any direction including upside down.	
30		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Provided are a mix of PushLok hose ends with different angles that will cover all unique applications. Temporarily thread the hose ends to the fuel rails and the MPR fittings (shown) that would fit best.	
		Also, there are 8AN feed and 6AN return quick connect spring lock fittings provided. These will be installed after the hoses are assembled but take these into consideration for plumbing as well.	
31	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	Hose Cutter	To assemble PushLok hose ends, lubricate the barbs and the inner walls of the hose. Apply excessive force until the hose bottoms out on the hose end. NOTE: hose clamps are not required for PushLok hose ends.	
		A 3/8" (6AN) hose with a straight PushLok hose end is shown.	
32	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	Hose Cutter	A 3/8" (6AN) hose with a 90 degree PushLok hose end is shown. A bench vice can sometimes be useful.	
	Vice		
33	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	Hose Cutter	A 1/2" (8AN) hose with a straight PushLok hose end is shown.	
34	Hose Cutter	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	11/16" Wrench	As previously mentioned, it can be easier to install the hose assembly to the quick connect spring lock fitting prior to installing the quick connect spring lock fitting to the OEM fuel lines.	
	Adjustable Wrench		



35	Oil Lubrication	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Lubricate the quick connect spring lock fitting O-rings.	
36		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Push on each quick connect spring lock fitting until they snap in place. Give each hose a tug to confirm they have locked in place.	
37	11/16" Wrench	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
	7/8" Wrench	Shown is the assembled 6AN hose from the MPR return port to the OEM return fuel line.	
	Cutters	When connecting the assembled 8AN hose from the OEM feed line to the MPR (not shown), cable zip ties are provided to secure the 2 lines together.	
38	11/16" Wrench	<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Confirm all hose ends are secure.	
39		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Remove the OEM fuel pressure regulator vacuum line (shown red).	
		Push on the provided vacuum hose to the fuel pressure regulator vacuum port on the intake manifold, as shown.	
40		<b>20-1302-PK PLUMBING KIT INSTALLATION</b>	
		Spin the MPR vacuum fitting to an ideal direction, as shown.	

