

# INSTALLATION INSTRUCTIONS

## PORT INJECTION KIT PLUMBING

### LAMBORGHINI GALLARDO LP

Document: 19-0303

Support: 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.**

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.

### WARNING






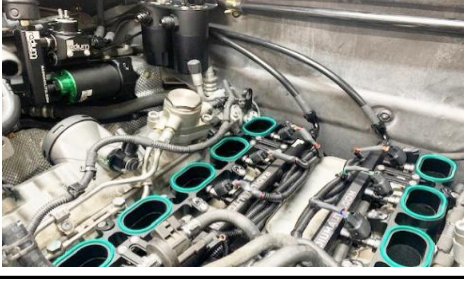
The fuel system is under pressure! Do not loosen any connections until relieving the fuel system pressure.




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.

STEP	TOOLS NEEDED	INSTRUCTIONS	PHOTO
1		The terms "driver-side" and "passenger-side" will NOT be referenced. As depicted, these instructions will always reference "LH" and "RH" areas of the vehicle.	
2	10mm Socket Wrench	<p>Disconnect the negative battery terminal in the front trunk.</p> <p>CAUTION: Disconnecting the battery may cancel fault memories of some control units. Consequently, before disconnecting the battery, always cross examine any fault memories.</p>	
3	Oil Lubrication 3/4" Wrench	<p>Lubricate the O-rings found on the three 6AN ORB to 6AN male fittings.</p> <p>Install the three fittings to the FPR (fuel pressure regulator) in the threaded ports shown.</p>	
4	Oil Lubrication 1/4" Allen Wrench	Lubricate the O-ring found on the 6AN ORB plug. Install the plug to the FPR in the threaded port shown.	

5	Oil Lubrication 1" Wrench	Lubricate the O-ring found on one of the 10AN ORB to 6AN ORB fittings. Install to the fuel filter inlet cap, as shown.	
6	Oil Lubrication	Find the other 10AN ORB to 6AN male fitting and the loose O-ring provided in the kit.	
		Install the O-ring to the 6AN male side of the fitting, as shown.	
7	Oil Lubrication 5/16" Allen Wrench 7/8" Wrench	Lubricate the O-ring found on the 8AN ORB plug. Find the 4 port manifold provided in the kit. Note that this part is symmetrical.	
		Install the plug and the fitting from the previous step to the 4-port manifold as shown.	
8	Oil Lubrication 8mm Allen Wrench 7/8" Wrench	Find the 8AN ORB to 6AN ORB swivel fitting and the 8AN ORB to 1/8" NPT female fitting provided in the kit. Lubricate the O-rings.	
		Install the fittings to the 4-port manifold as shown.	
9	Thread Sealing Paste	Apply a sealant on the 1/8" NPT threads found on the fuel pressure gauge.	
10	7/16" Wrench	Hand tighten the fuel pressure gauge to the port shown.	
		Next, add 1.5 to 3 turns with a wrench.	

11	7/8" Wrench	Secure the FPR to the 4 port manifold, as shown.	
12	Oil Lubrication	Lubricate the 10AN ORB O-ring on the 4 port manifold.	
	1-1/4" Wrench	Secure the fuel filter to the 4 port manifold, as shown.	
13	4mm Allen Wrench	As shown, secure the fuel filter mount base to the mounting bracket using the 3 supplied bolts and locking nuts.	
	8mm Wrench		
14	4mm Allen Wrench	Secure the FPR to the mounting bracket using the 2 supplied bolts and flange nuts, as shown.	
	10mm Wrench		
15	4mm Allen Wrench	As shown, secure the billet fuel filter clamp to the fuel filter mount base.	
16	T30 Torx	Open the rear deck lid.	
	Flathead Screwdriver	Remove the plastic LH vanity cover.	
		Remove the three M6x1mm bolts from the frame rail.	
		NOTE: The 3 OEM threaded holes depicted will be used for mounting the Radium Engineering assembly.	

17	T30 Torx	Lineup the assembly to the 3 threaded holes and secure using the OEM bolts.	
18	Oil Lubrication	<p><b>NOTE: Port injection fuel rails are not provided in this kit. Radium Engineering recommends P/N: 20-0865 PORT INJECTION KIT.</b></p> <p>Install the provided 8AN ORB plugs to the front fuel rail ports (shown right side) and the 8AN ORB to 6AN male fittings to the rear fuel rail ports (shown left side). Be sure to lubricate the O-rings first.</p>	
	7/8" Wrench		
	5/16" Allen Wrench		
19	11/16" Wrench	<p><b>NOTE: A port injection specific fuel pump is not provided in this kit. Radium Engineering recommends P/N: 20-086X-XX FUEL HANGER SURGE TANK.</b></p> <p>Find the provided PTFE hose with a 45 degree and a 90 degree hose end that is 30" (763mm) long. NOTE: There are 2 of these PTFE hoses in the kit. Install the 90 degree hose end to the fuel pump outlet (not included). As shown, route and secure the 45 degree hose end to the fuel filter inlet.</p>	
20	11/16" Wrench	<p><b>NOTE: A port injection specific fuel pump is not provided in this kit. Radium Engineering recommends P/N: 20-086X-XX FUEL HANGER SURGE TANK.</b></p> <p>Find the provided PTFE hose with a straight hose end and a 90 degree hose end that is 41" (1041mm) long. Install the 90 degree hose end to the FPR return inlet on the fuel hat (not included). As shown, route and secure the straight hose end to the lower return port on the FPR.</p>	
21	11/16" Wrench	<p>Find the last 2 PTFE hoses provided in the kit. They have identical hose end configurations. However, these PTFE hoses are different lengths. As shown, attach the 45 degree hose ends to the FPR ports.</p> <p>NOTE: For optimal hose routing fitment, install the short hose from the LH fuel rail to the RH (inboard) FPR port. Install the long hose from the RH fuel rail to the LH (outboard) FPR port.</p>	
22	11/16" Wrench	<p>Allow the PTFE hoses to swing around the outer LH side of the engine bay. This hose routing permits engine movement and can also prevent interference with other common upgrades. Example: Dual Radium Engineering catch cans (shown).</p> <p>Secure the 90 degree hose ends to the rear fuel rail ports.</p>	

23		The small vacuum barb on the FPR is for a 1:1 vacuum reference and can be used with a 3/16" rubber vacuum hose. If no pressure reference is needed, leave the vacuum barb on the FPR open to atmosphere, do NOT plug.							
		Optionally, Radium Engineering P/N: 14-0369 (shown) can be installed in the FPR vacuum port for connecting a 3AN vacuum hose.							
24	3/8" Wrench	Two orifices are provided with different inside flow diameters.	<table border="1"> <thead> <tr> <th>Orifice Color</th> <th>Manufacturer Rated Flow @ 43.5psi</th> </tr> </thead> <tbody> <tr> <td>Silver</td> <td>Up to 900 LPH total flow</td> </tr> <tr> <td>Gold</td> <td>Up to 1500 LPH total flow</td> </tr> </tbody> </table>	Orifice Color	Manufacturer Rated Flow @ 43.5psi	Silver	Up to 900 LPH total flow	Gold	Up to 1500 LPH total flow
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	3/32" Allen Wrench	These mechanically fine tune the system by matching the pump(s) flow rate, fuel hose restrictions, and targeted static fuel pressure.							
3/32" Allen Wrench	The silver orifice is preinstalled.								
7/16" Socket Wrench	The 0.175" silver orifice is typically the most compatible and is a great starting point for low to mid flowing fuel systems. However, if using high flow pump(s) in a low static pressure system, the 0.250" gold orifice can easily be swapped.								
25	3/8" Wrench	The FPR is NOT pre-set and must be calibrated.							
	3/32" Allen Wrench	To set static fuel pressure, disconnect the vacuum line from the FPR. Temporarily plug the vacuum line to prevent a leak. Activate the fuel pump. Loosen the jam nut. Tighten the set screw (clockwise) to increase pressure. Loosen the set screw (counter-clockwise) to decrease pressure. Once fuel pressure is set, tighten the jam nut. Reinstall the vacuum hose, if equipped.							
26	10mm Socket Wrench	Reconnect the battery and start the engine. Confirm there are no leaks. Reinstall all other components in reverse order.							
		<b>INSTALLATION COMPLETE</b>							