

INSTALLATION INSTRUCTIONS

FUEL RAIL KIT

LAMBORGHINI HURACAN
AUDI R8 TYPE 4S

Document: 19-0297
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.


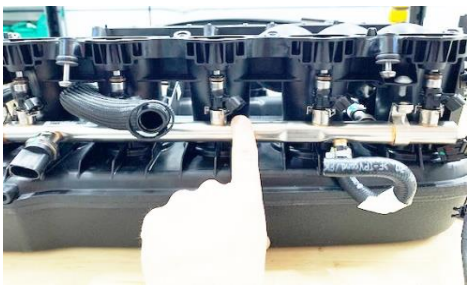




Gasoline and other fuels are flammable and can be explosive.




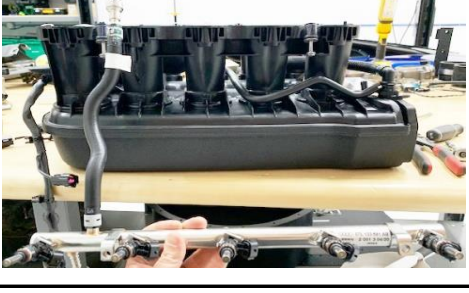
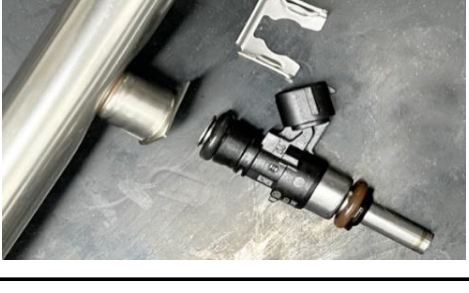

Only install in a well-ventilated location to minimize buildup of fuel vapors. No sparks, open flames, smoking or other ignition sources are to be present. Draining and removal of all fuel from the fuel system is recommended. Proper eye and personal protection is required at all times during installation.

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	10mm Socket Wrench	Be sure to remove the negative terminal from the battery. CAUTION: Disconnecting the battery may cancel fault memories of some control units.	
		These instructions do NOT detail the removal of the intake manifold. Reference the factory service manual.	
2	Pliers	Be sure to catch and dispose the fuel that leaks out of the barbed connections (shown) on both right hand (RH) and left hand (LH) fuel rails.	
		Place the intake manifold assembly on a workbench.	
3		To disconnect the 5 LH fuel injectors on the intake manifold, squeeze the thumb locks and pull to release.	
4	Pliers	Starting from the LH fuel rail, dislodge the plastic stays and pull the wiring harness away, as shown.	

5	T30 Torx	Loosen and remove the 2 Torx fasteners that secure the LH fuel rail. NOTE: these bolts will be reused.	
6	Rag	Carefully pull the LH fuel rail away from the intake manifold to dislodge the injector lower O-rings. Fuel may spill so have a rag handy. NOTE: The injectors will remain attached to the fuel rail.	
7		Because the fuel injectors have extra long nozzles, the rail will need to move quite a bit to clear the intake manifold, as shown.	
8	Pliers Rag	There is a crossover fuel hose that attaches the 2 fuel rails. To disconnect, there is an SAE quick connector on the LH fuel rail. To disconnect, pull the hose fitting further onto the LH fuel rail. While holding the crossover hose, push the black SAE lock into the fitting and simultaneously pull the hose off the fuel rail. Place the LH fuel rail onto a workbench.	
9	Pliers	Moving over to the RH fuel rail, dislodge the plastic stays, as shown.	
10		To disconnect the 5 RH fuel injectors on the intake manifold, squeeze the thumb locks and pull to release.	

11		Pull the fuel injector wiring harness away, as shown.	
12	T30 Torx	Loosen and remove the 2 Torx fasteners that secure the RH fuel rail. NOTE: these bolts will be reused.	
13	Rag	Carefully pull the RH fuel rail away from the intake manifold to dislodge the injector lower O-rings. Fuel may spill so have a rag handy. NOTE: The injectors will remain attached to the fuel rail. Because the fuel injectors have extra long nozzles, the rail will need to move quite a bit to clear the intake manifold.	
14	Rag	Pull the RH fuel rail assembly away from the intake manifold. Be careful as fuel will spill out of the crossover hose. Place the RH fuel rail onto a workbench.	
15	Flathead Screwdriver	As shown, slide off the retaining clips. These will be reused.	
	Rag	Pull the injectors from the fuel rail injector ports. NOTE: Fuel will spill from these connections.	
16	15mm Wrench	Remove the fuel pressure sensor from the LH fuel rail.	
	27mm Wrench	NOTE: Fuel will spill from this connection.	

17	Thread Locker	<p>Apply a high-strength thread locker to the provided M5x0.8mm bolts. Secure the mounting feet to the fuel rails, as shown.</p> <p>NOTE: The mounting positions are specific to each fuel rail.</p>	
	3mm Allen Wrench		
18	Oil Lubrication	<p>The 20-0866 fuel rail does not include adapters, fittings, hoses, etc.</p> <p>If the 20-0866-PK FUEL RAIL PLUMBING kit was purchased, the fuel pressure sensor assembly will be installed to the LH fuel rail first.</p> <ol style="list-style-type: none"> Lubricate the O-ring and secure the 8AN ORB to 1/8NPT fitting. Apply PTFE paste to the tapered 1/8NPT male threads. Hand tighten the 1/8NPT fitting, then add 1.5 to 3 turns. No lubrication or paste are required when securing the sensor. To avoid surface finish marring, use aluminum wrenches. 	
	7/8" Wrench		
	3/4" Wrench		
	27mm Wrench		
19	Oil Lubrication	<p>If the 20-0866-PK FUEL RAIL PLUMBING kit was purchased, secure the adapter fittings as shown.</p> <p>NOTES:</p> <ol style="list-style-type: none"> To avoid damage, lubricate all O-rings prior to installing. To avoid surface finish marring, use aluminum wrenches. Two 8AN ORB to 6AN male adapter fittings are provided. These can replace the barb fittings if the OEM rubber hoses will not be reused. 	
	7/8" Wrench		
	5/16" Allen Wrench		
	5mm Allen Wrench		
20		<p>Just like factory, the electrical connectors for the fuel injectors will be rotated at the proper angle when installed.</p> <p>But know that the retaining clip slots integrated into the top of the aftermarket injectors are most likely oriented 90 degrees when compared to the OEM injectors, as shown.</p>	
21		<p>Fortunately, the Radium Engineering fuel rails have provisions for this fuel injector variance so this is a moot point. The injectors can be clocked to the correct "OEM" position with either type of fuel injector (factory or aftermarket Bosch EV14).</p>	
22	Oil Lubrication	<p>Lubricate the upper injector O-rings. Push each injector in until they click in place.</p>	

23	Oil Lubrication	For ease of installation, lubricate the lower injector O-rings.	
	T30 Torx	Line-up and place the fuel rail assemblies onto the intake manifold. Once everything is positioned correctly, push on the rails to fully seat the injectors. Secure the fuel rails using the OEM bolts, as shown.	
24	1" Wrench	If the 20-0866-PK FUEL RAIL PLUMBING kit was purchased, secure the provided crossover hose to the fuel rail end ports, as shown.	
25		Reroute the fuel injector harness and plug in the 10 connectors.	
26		As shown, clip the wire harness stays back into the same positions they came from.	
27	Pliers	Reinstall all components in reverse order. Install the OEM rubber hoses from the HPFPs and secure with the OEM clamps. Reconnect the battery.	
	10mm Socket Wrench		
		Turn ON the ignition to prime the fuel pump. Check for leaks.	
		INSTALLATION COMPLETE	