

# INSTALLATION INSTRUCTIONS

3.2L 24V VR6 FUEL RAIL

VW/AUDI/PORSCHE

P/N: 20-0872

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## 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.

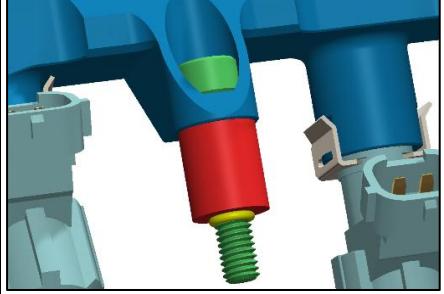
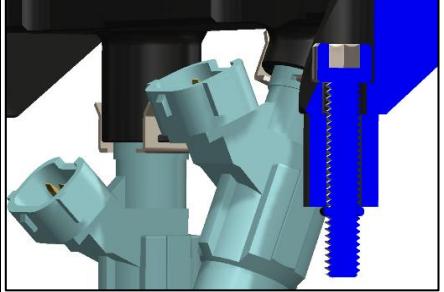
## WARNING

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		<p>NOTES:</p> <ul style="list-style-type: none"> <li>- This fuel rail is compatible with many different models.</li> <li>- In depth instructions will NOT be covered.</li> <li>- A factory Workshop Manual for the vehicle is recommended.</li> <li>- Late model engines are returnless and have a Schrader valve.</li> <li>- Early model engines have an fuel pressure regulator mounted directly on the fuel rail and do NOT have a Schrader valve.</li> </ul>	
		First, the fuel system will need to be depressurized. On late model fuel rails there is a Schrader valve that can be pressed.	
		For all other applications, temporarily remove the 15A fuel pump fuse from the fuse box. Next, start the vehicle and allow the engine to stall. Reinstall the fuse and remove the key from the ignition switch.	
	10mm Socket	To disconnect the battery, first remove the plastic covers. Next, remove the negative terminal (as shown).	
		CAUTION: Disconnecting the battery may cancel the fault memories of some control units.	
		Getting to the point where the intake manifold can be removed, can be quite tedious.	

5	Pliers Rag	<p>Before disconnecting the fuel feed line and return line, note which fuel line is the feed and which is the return.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. Late model engines do NOT have a fuel rail return line.</li> <li>2. If equipped, carefully pull off the vacuum hose (as shown) from the fuel pressure regulator (FPR).</li> <li>3. For late model engines, the FPR is at the rear of the vehicle.</li> </ol>	
6	5mm Allen Wrench	<p>Squeeze all 6 fuel injector connectors and simultaneously pull up to release. Remove the 4 fuel rail mounting bolts.</p>	
7	Rag	<p>Pull up and separate the fuel rail injectors from the cylinder head.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. Be careful as fuel will drip out of the fuel rail ports.</li> <li>2. The fuel injectors should remain attached to the fuel rail.</li> <li>3. Bring the fuel rail assembly to a workbench.</li> </ol>	
8	Rag Pick	<p>To unlock the fuel injectors, pry off the 6 metal retaining clips from the fuel rail. These will be reused.</p> <p>Next, pull the 6 fuel injectors from the fuel rail.</p> <p>Inspect the fuel injector O-rings and replace if necessary.</p>	
9	Oil Lubrication	<p>Adapter fittings will need to purchased separately. There are two 3/4"-16 (8AN ORB) threaded ports on the fuel rail.</p> <p>Go to <a href="http://www.radiumauto.com">www.radiumauto.com</a> and click on the 8AN ORB fittings product page to see the plethora of options. Be sure to lubricate the O-rings (shown) prior to installation.</p>	<p><b>8AN ORB</b></p>
10	Oil Lubrication	<p>For ease of installation, lubricate the injector O-rings, cylinder head injector seats, and fuel rail injector bores.</p> <p>Fully insert the injectors into the fuel rail injector bores. Orientate the fuel injectors until they face the proper direction. Next, insert the OEM injector clips making sure they lock in place.</p>	

11	<p>As shown, there are 4 sets of M6x1mm stainless steel screws, thermal insulating spacers, and rubber spacer retainers included in the kit.</p> <p>These spacers are specific to the height of OEM fuel injectors. NOTE: If taller (aftermarket) fuel injectors are installed, the fuel rail will interfere with the OEM intake manifold.</p>	
12	<p>First, insert the appropriate length screws (green) down through the fuel rail mounting holes (blue). Next, insert the appropriate length spacers (red) over the screws from the bottom side of the fuel rail. Lastly roll the rubber spacer retainers (yellow) up the screws.</p>	
13	<p>Shown is a section view of how this assembly works. This procedure keeps everything in tact and will prevent the hardware from falling into the engine bay when servicing.</p>	
14	<p>5mm Allen Wrench</p> <p>Line-up and place the fuel rail assembly onto the intake manifold. Push the fuel rail downwards to fully seat the injectors into the cylinder head ports. Once everything is positioned correctly, tighten the four M6x1mm socket head screws to secure the fuel rail, as shown.</p>	
15	<p>Plumb the rail to your fuel system (not covered in this manual).</p> <p>Reinstall the upper intake manifold and verify clearance with the new large bore fuel rail, as shown.</p>	
16	<p>10mm Wrench</p> <p>After everything is reinstalled, reconnect the battery.</p> <p>Cycle the keyed ignition switch ON/OFF a few times (without starting the engine). This allows the fuel pump to prime the system. Check for leaks.</p> <p>Start the engine and confirm again while the engine is running.</p> <p><b>INSTALLATION COMPLETE</b></p>	