

## How To: Replacing Fuel Injector O-Rings Engine

The fuel injector o-rings, found on the fuel injectors themselves, ensure an air-tight seal between the intake manifold and injectors. Old and dried up o-rings can lead to a poor idle, hesitation, and other problems. There is a fast, free test to check if your o-rings are in need of replacing. Very simply, take a cup of water, and while the car is running, pour it around the area where the injector enters the intake manifold. Do it with a little water at a time, and if the car sputters for a few seconds, then the o-rings need replacing. There are two o-rings between each injector and sleeve, and one o-ring between the sleeve and intake manifold, although the sleeve/injector o-rings are most likely to go. So for a Volkswagen 4 cylinder, there is a total of 12 o-rings, but these instructions will tell you how to replace the main 8.

1. It is very important that in removing the injectors you do not pull on the fuel line itself, if it breaks you have to get a new one. And if it doesn't break, you will probably kink it a little, reducing flow to the injector (losing power). So it is your choice to remove the injectors with the fuel lines attached or disconnected. Also, do not lose any of the small o-rings when pulling out, they will go straight into the head, ending up in the combustion chamber. Just pull them out slow, everything will be fine.
2. Use a flathead screwdriver to pry out the body of the injector itself, they are only press fitted into place. I used a vice grips and had no trouble, they helped get a good grab on the injector. Take out all four injectors at once, don't worry, you won't mix them up.
3. The old o-rings, one large, one small, should come off easily. The small ones usually can stretch off, using a needle-nose pliers. The large one will probably break off, so don't worry about it. Soak the new o-rings in some gasoline to get them soft and flexible.
4. The small o-rings go on easily, careful not to break them. The larger ones are harder, I found it easy to slip the o-ring on the needle-nose plier, and then open the plier a little bit, stretching the seal. Then slip it over the injector. It will be loose as soon as you get it on, but after 30 seconds it will tighten and constrict into place.
5. They are installed the reverse way they were taken out. Careful when press fitting them in, you don't want to do anything to those lines. You can use a little (I mean a thin film) of motor oil on the seals to help slip them into place. Don't use a silicon based lubricant, as they could clog the injectors and will leave a residue.
6. After everything is completed, you can re-test them by pouring the water on them.