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## **Shuttering / Quivering on Acceleration / Failing EGR Function Test or NOx Test**

### **SYMPTOM**

The car "quivers" under acceleration when the EGR valve first opens. This is more noticeable on the automatics. Note that the car has to be hot and above 1800 RPM for the EGR to operate. The car might not have any driveability symptoms, but will fail an EGR functionality test or NOx test. In some cases there is also a noticeable noise like a spark knock or connecting rod bearing noise during the time of EGR valve activation.

On OBD-II equipped cars a P0401 (Low EGR Flow) is often stored, too.

### **THE CAUSE**

Some, or all of the 4 EGR runners in the intake manifold clog up. The rough running apparently comes from some ports clogging and all the exhaust gas being fed to the working ports and causing them to have too much exhaust and consequently cause them to misfire. If all the EGR ports clog, the car will not have any driveability symptoms but will fail an EGR functionality or NOx test

### **THE FIX**

#### **90-93 ACCORD**

The blockage is usually right at the point where the EGR runner enters the main intake runner. This is at the top of the intake runner and about 2 inches back from the head. You will have to pull the intake back from the head to check this. The actual fix varies from tech to tech.

Some techs pull the manifold back and reach in the runner with a tool (modified pick or air nozzle) and "poke" it up in the runner to open it up. Some techs pull the manifold off the car and

really give the manifold a good cleaning, and flow parts washer solvent through the ports. Some techs even heat up the EGR runner area with a torch to remove the carbon.

The following fix seems to be the most effective.

#### **1990 Accord L-4**

**(models without a removable EGR passage plugs)**

For easier access to the EGR ports remove the IAC Valve and Fast Idle Thermo Valve from the front of the intake manifold. You should be able to see a machined boss on the top of each intake runner about 2 inches from the head. The four bosses are all in a line and are parallel to the head.

Center punch and drill a 5MM (or #8,#9) hole in the center of the boss. This is the proper tap drill size for 6MMx1 which is the size you will tap this hole later in the repair process. Remember to put grease on the drill bit to catch the aluminum chips and drill just far enough to get into the EGR runner.

You can now clean out the EGR port by running a rod (or drill bit) through the port and into the intake manifold. You can also use de-carbonizing chemicals and compressed air as needed to help clean out these ports. Tap the holes 6MMx1 (remember to use grease in the tap's flutes to catch the aluminum chips). Install 4 - 6MMx1 short flange bolts, with sealant on the threads and flange.

### **1990 Accord L-4 (with removable EGR passage plugs) and all 1991-93 Accords**

The 1991 and up Accords (and some 1990s) have a "removable" plug that will allow access to the EGR port. These plugs are located in the middle of the machined bosses that are described in the 1990 Accord repair process. Follow the repair procedure described in the 1990 Accord section except instead of drilling an access hole, remove the plugs as follows:

Drill a small hole in the middle of the plugs. The hole doesn't have to go all the way through the plug, just about a 1/4" deep (remember to put grease on the bit to catch the chips just in case you drill through).

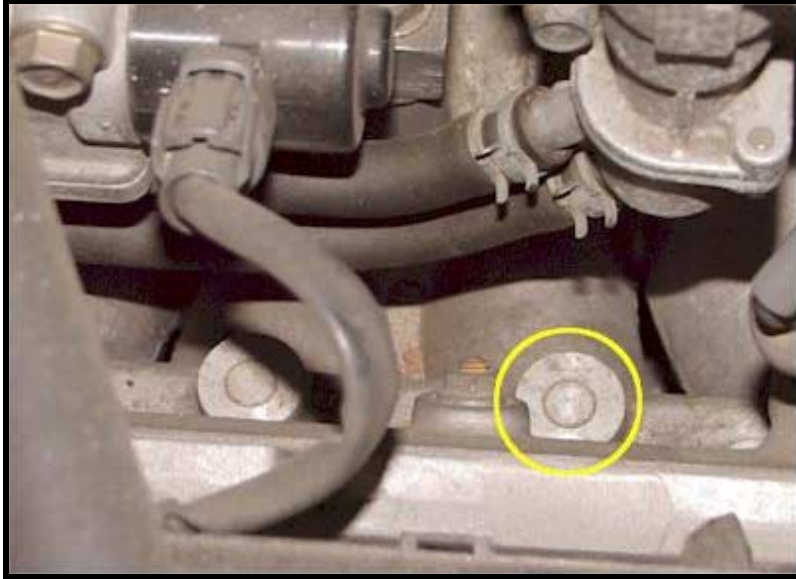
Pull the plugs by using a small slide hammer, that uses a screw tip. It usually helps to break the plug loose by first knocking it down a short distance before trying to pull it out with the slide hammer.

Replace these plugs when you are finished cleaning the EGR ports. If you drilled all the way through the plug you can either epoxy or solder the hole shut. The replacement plugs are also available from Honda P/N 17199-PT3-AHM.

### **94 and up Accord L-4**

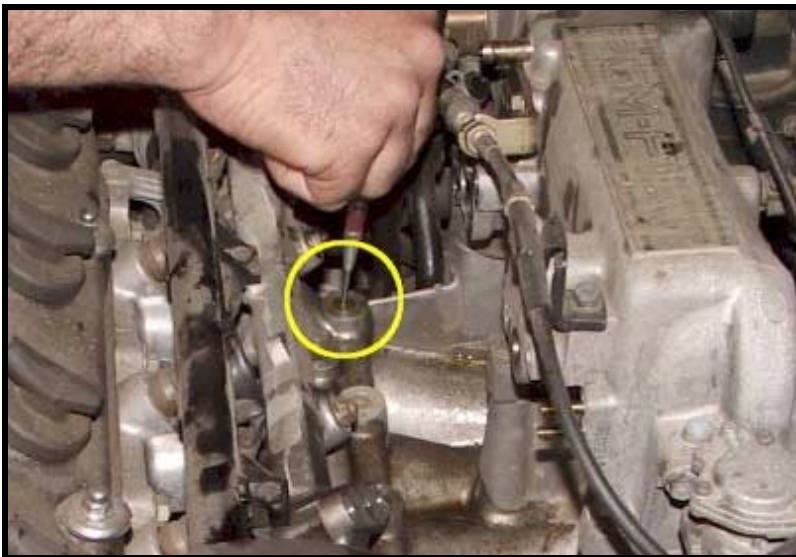
The 94 and up Accords have a removable EGR port service plate. After removing the fuel rail and injectors, simply remove the EGR port service plate that is bolted to the top of the intake runners. Then clean the ports using a bottle brush and solvents

## 1990-1993 Accord L-4 Engine EGR Port Cleaning Procedure



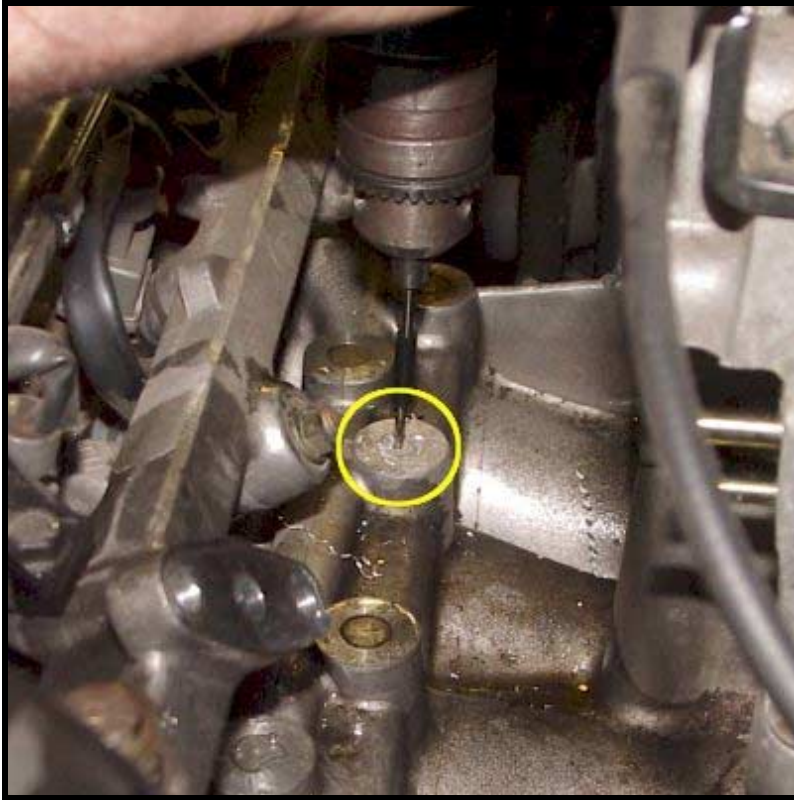
The four EGR port plugs are visible by looking at the top of the intake manifold runners, close to the head area. An EGR passage port is circled in yellow on this image.

On a 1990 model these plugs would not be present. On those models drill a hole in the middle of the boss area.

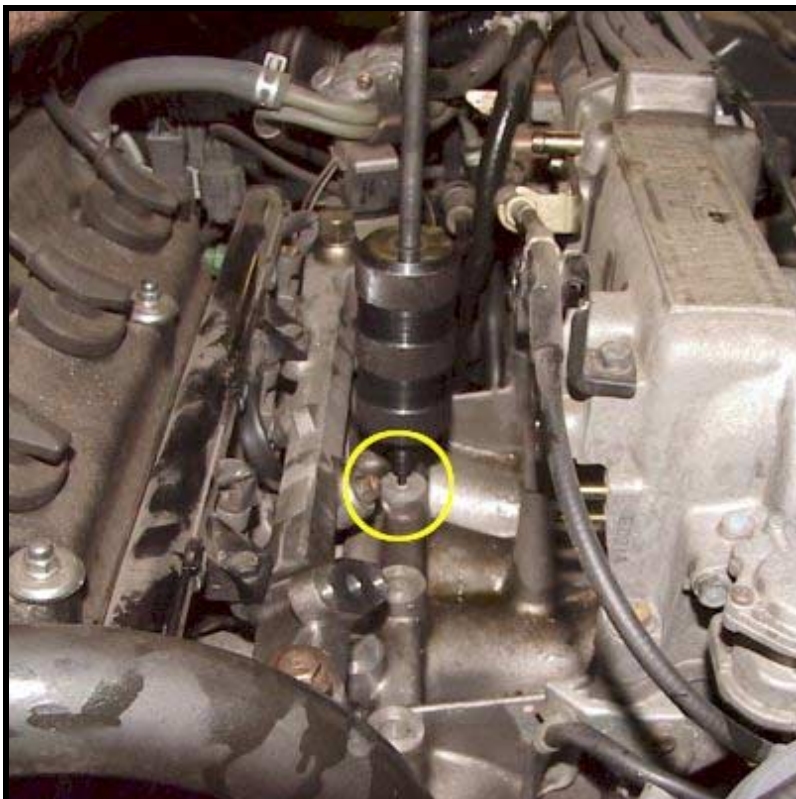


Remove the IAC valve and Fast Idle Thermo Valve if needed for room.

Start by center punching each EGR passage plug.



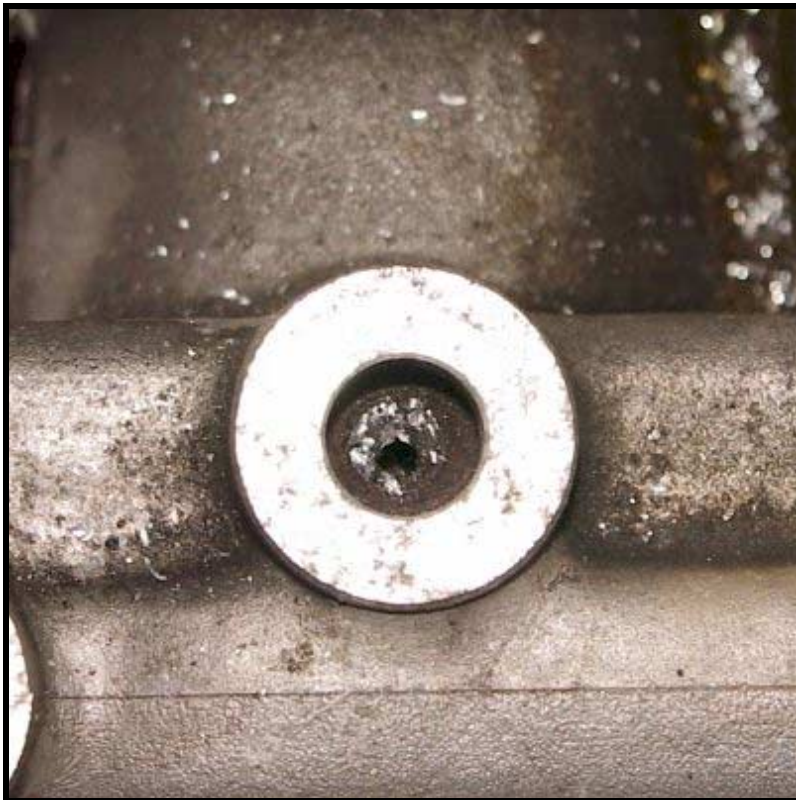
Using the center punch mark as a guide, drill a hole in each port. The actual size of the hole depends on the screw you are using in the slide hammer unit. It is not necessary to drill all the way through the plug, just deep enough for the slide hammer screw to work



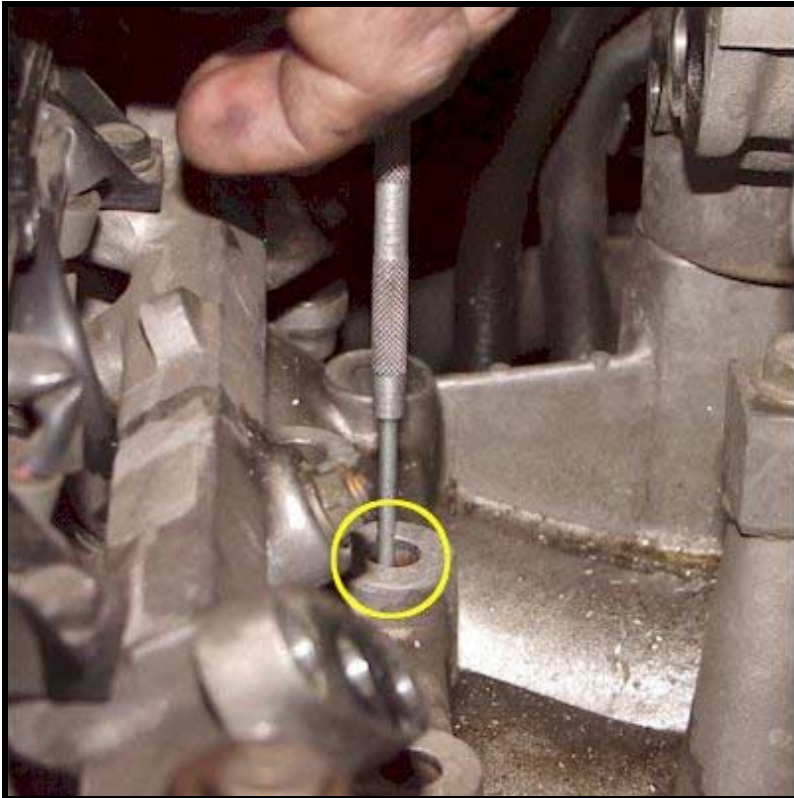
Use a standard small 2 pound slide hammer to remove the EGR port plugs. It is best to first drive the plug down until it starts to move, then drive it up and out.



A picture of an EGR passage port still attached to the slide hammer.

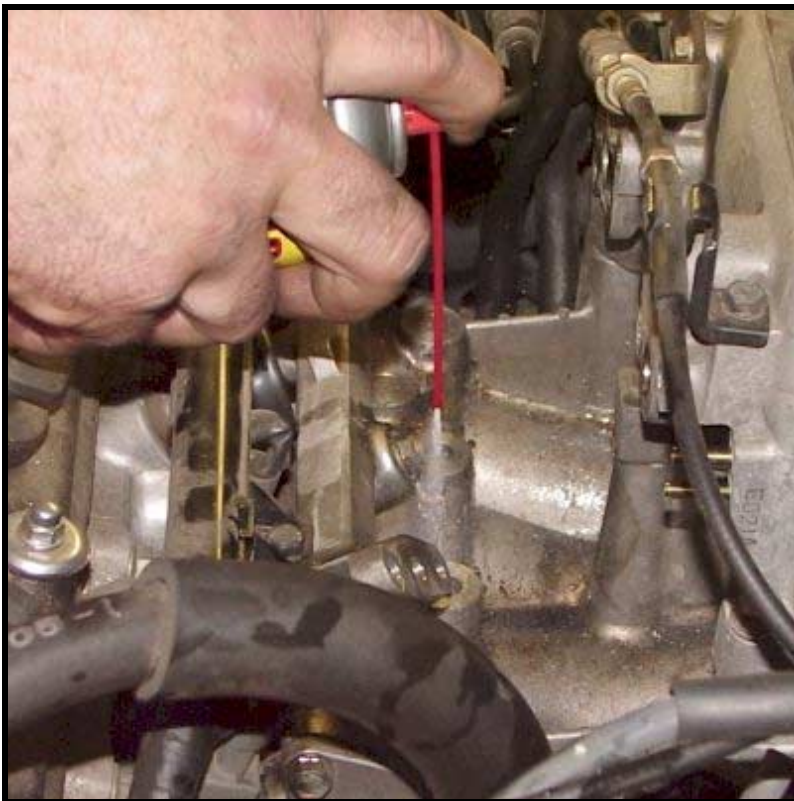


After removing the plug, you can see the excessive carbon build-up in the EGR port.

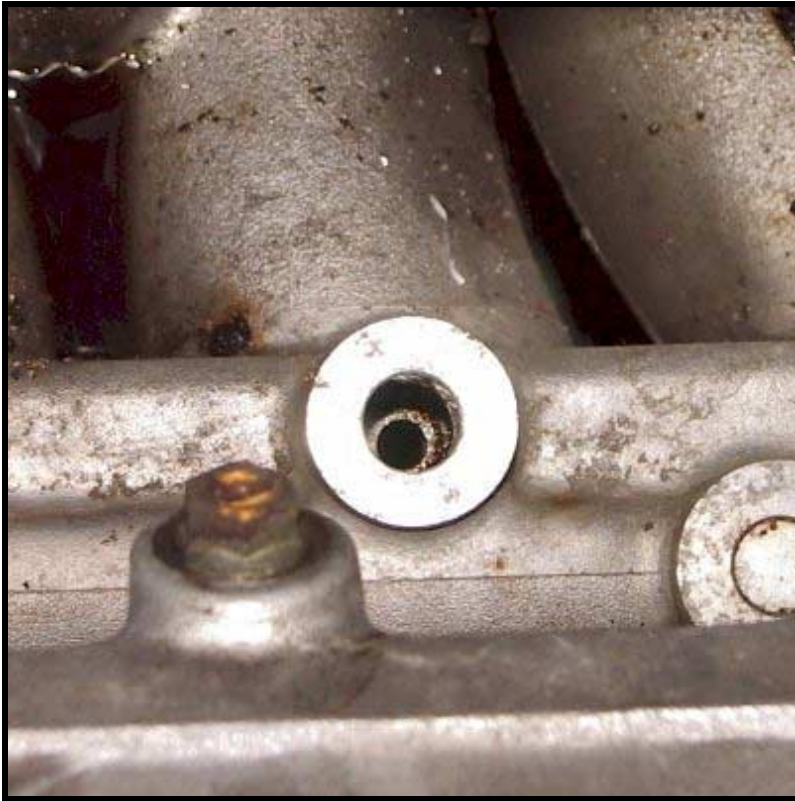


Use a pick or drill bit to clean out the passageway. Go straight down and be sure and clear the hole at the bottom of the runner.

This is the hole where the exhaust gasses enter the intake runner.



After using a pick or drill bit to break the carbon loose, use compressed air and carb cleaner to make sure the port is clear.

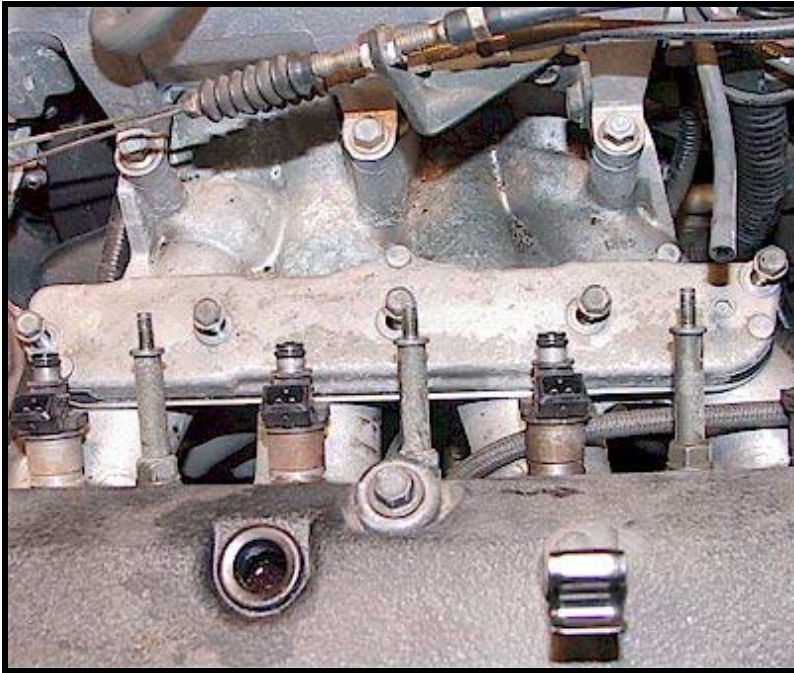


A clean port will look like this. The hole at the bottom of the runner must be clear.

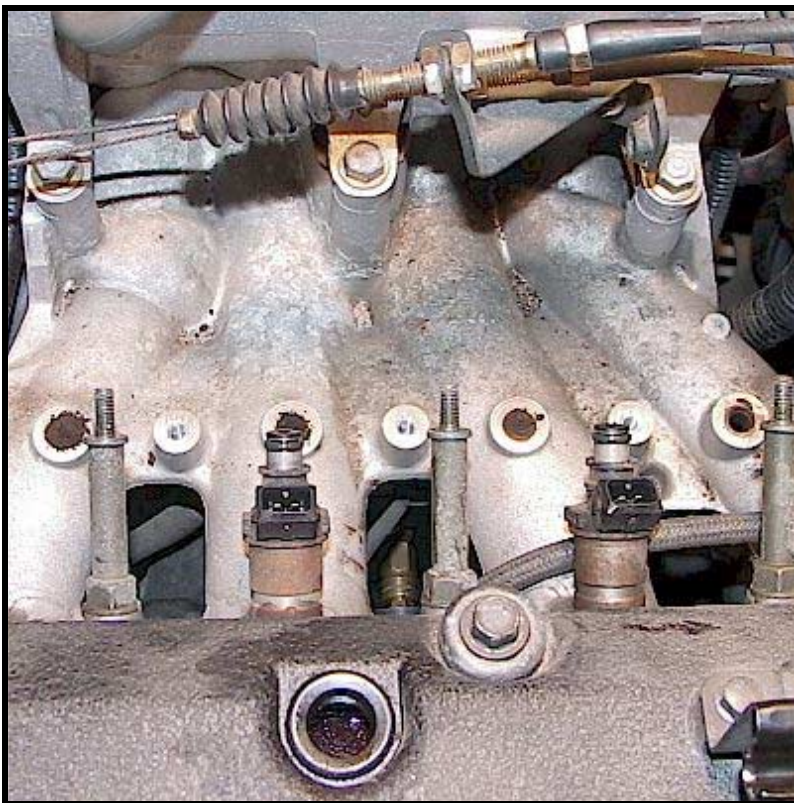


When everything is clean, drive the original plugs right back into the intake manifolds. The top of the plug should be flush with the top of the manifold.

## 1994 and Up Accord L-4 Engine EGR Port Cleaning Procedure



On 94 and up 2.2 engines, the EGR ports can be reached by removing a cover. This cover is shown below.



After removing the EGR port top cover and base gasket the 4 EGR ports are easily accessible. In this photo you can see that 3 of the 4 EGR ports are completely clogged with carbon.



Here is a close-up shot of a clogged EGR port.



Here is a picture of all 4 ports cleaned up and ready for re-assembly. Cleaning is best done with a pick and then a bottle type wire brush.