

# Installation Directions for FINGER STICK and Blocker Plate

**What is a Finger Stick?** A Finger Stick is a simple circuit that modifies the MAF signal on LLY and LBZ engines (not LB7 engines) to expected levels when the EGR is blocked or a free flowing exhaust system causes the ECM to set codes. This will prevent a Service Engine Soon light from illuminating and will prevent the ECM from displaying DTC codes related to the EGR modification.

**What is a Blocker Plate?** It is a plate designed to fit between the EGR cooling jacket and exhaust pipe flanges.

*Everyone must be reminded that the stick and plate are providing it "as is" and that you install it **at your own risk**. The manufacturer can not and will not be responsible for any damages, real or perceived, to you, your truck, or your marital life in whole or in part. **Read all these directions before installing.***

## **Gather these things for the install:**

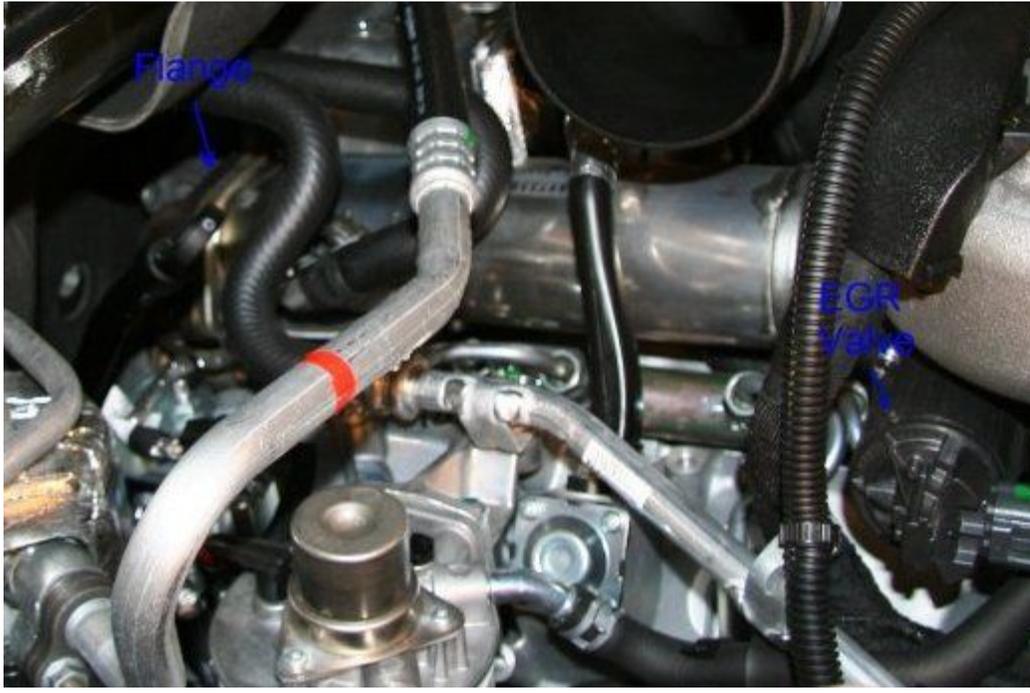
- 12mm 6 pt deep socket
- 12 mm 6 pt shallow socket
- 3/8 ratchet
- 3/8 mini breaker bar
- 3/8 short extension
- Thin flat bladed screwdrivers
- Long handled screwdriver
- Soldering iron and solder
- An old blanket, gloves and a long sleeved shirt
- 3M 33 electrical tape
- Penetrating oil

## **Blocker Plate Install:**

First things first. It is probably a good idea to give the EGR nuts a blast of penetrating oil a day before doing this. It seems to help to loosen the nuts on the flange while warm, thus the blanket, long sleeves and gloves.

Remove the intake boot to make some room. You may want to take the 6.6 plastic resonator off too to get some more room.

Here is a picture of the LBZ. The LLY is similar.



Put the blanket over the top of the engine for comfort and a bit of insulation, get on the shirt and gloves and do the “belly flop”:



The top EGR nut can be loosened with the 12 mm deep socket and ratchet. The lower EGR nut can be accessed with the same set up, but you might need the breaker bar (some use a swivel head ratchet) and short socket to get it broken loose (it did in this case). You do not need to remove the nut, but will want to loosen them up a little bit past the end of the stud to give yourself some wiggle room.

If your blocker plate came without the eased edges, grab a grinder or file and ease them now. The plate can hang up on the bottom of the gasket or cooling jacket, easing the edges slightly will greatly aid in getting the plate in.

Using a long handled screwdriver, push on the edge of the flange near the driver's side stud and insert the plate. Try to get the plate on the front side of the gasket. The flange can be hard to push apart.

If you can seat one side, you can then use the screwdriver on the plate itself near the passenger's side stud and rotate it down onto the other stud. The tolerances are pretty close, but it will fit.

Tighten up the bolts and you are done with the blocker plate install.

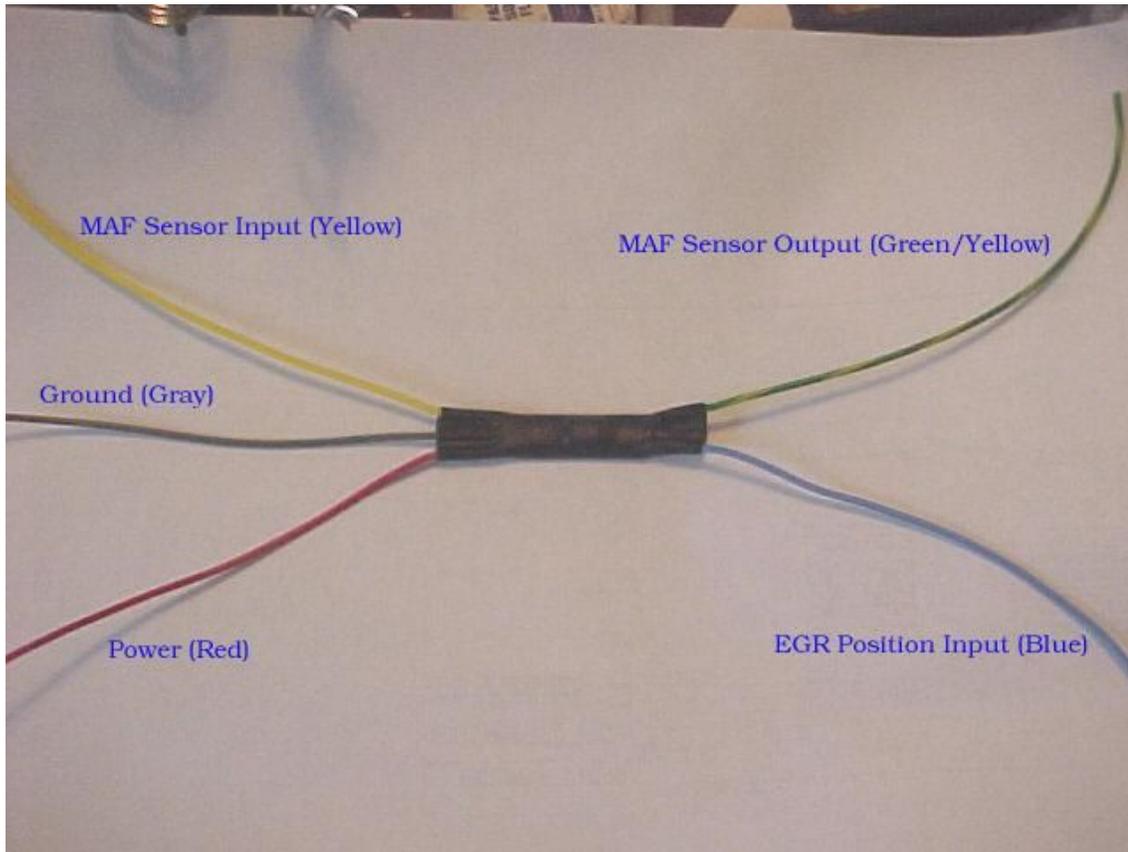
### **What follows are the connection instructions for the Fingers stick:**

Though ScotchLocks or other quick connecting splice will work, it is strongly suggested that you solder all connections and then weatherproof the new connections.

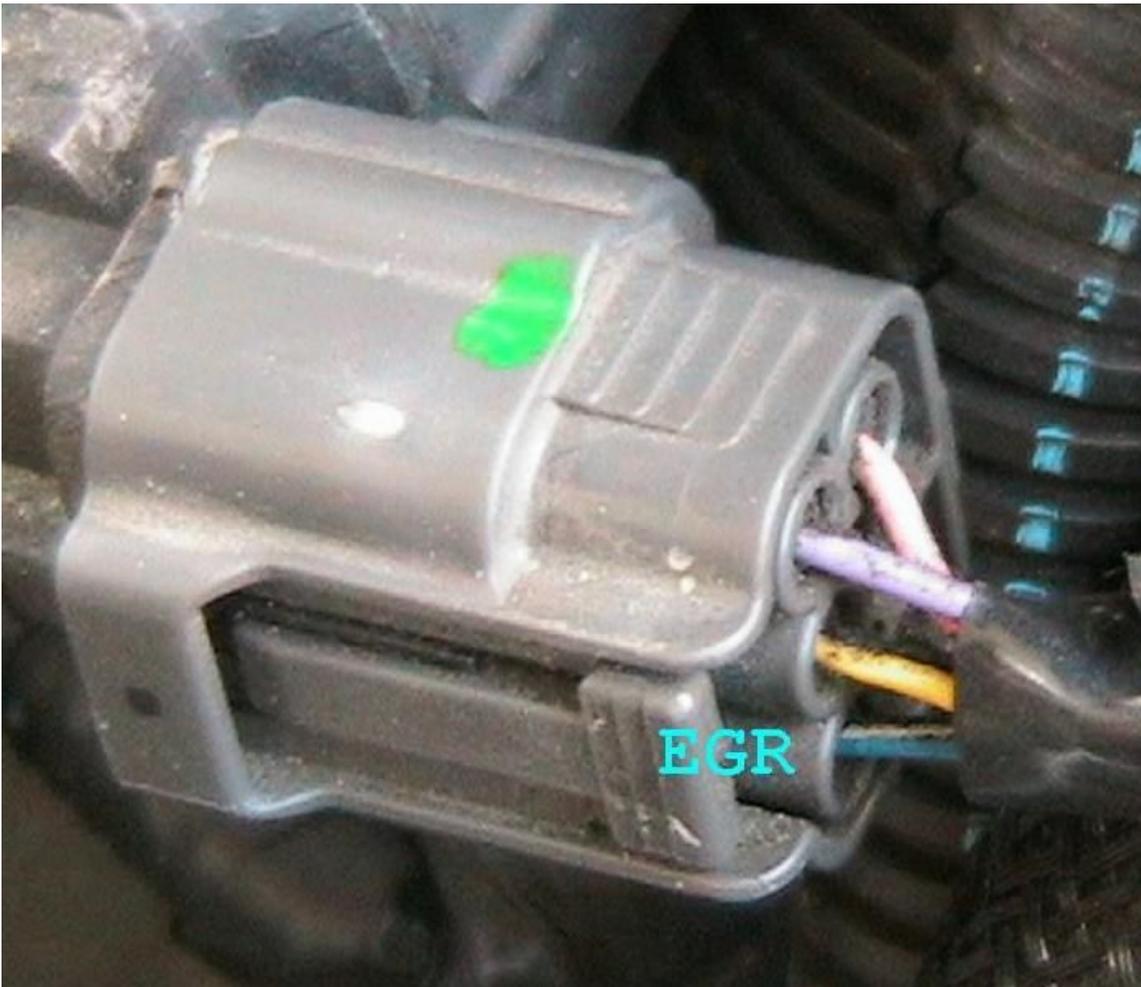
Make sure you follow the wires back from the MAF and EGR sensors. You never know when GM will change colors. The wires you will be working with in the harness are identified by their position in the connectors, **not their colors**. Take the time to trace each wire back.

### **The Sensors:**

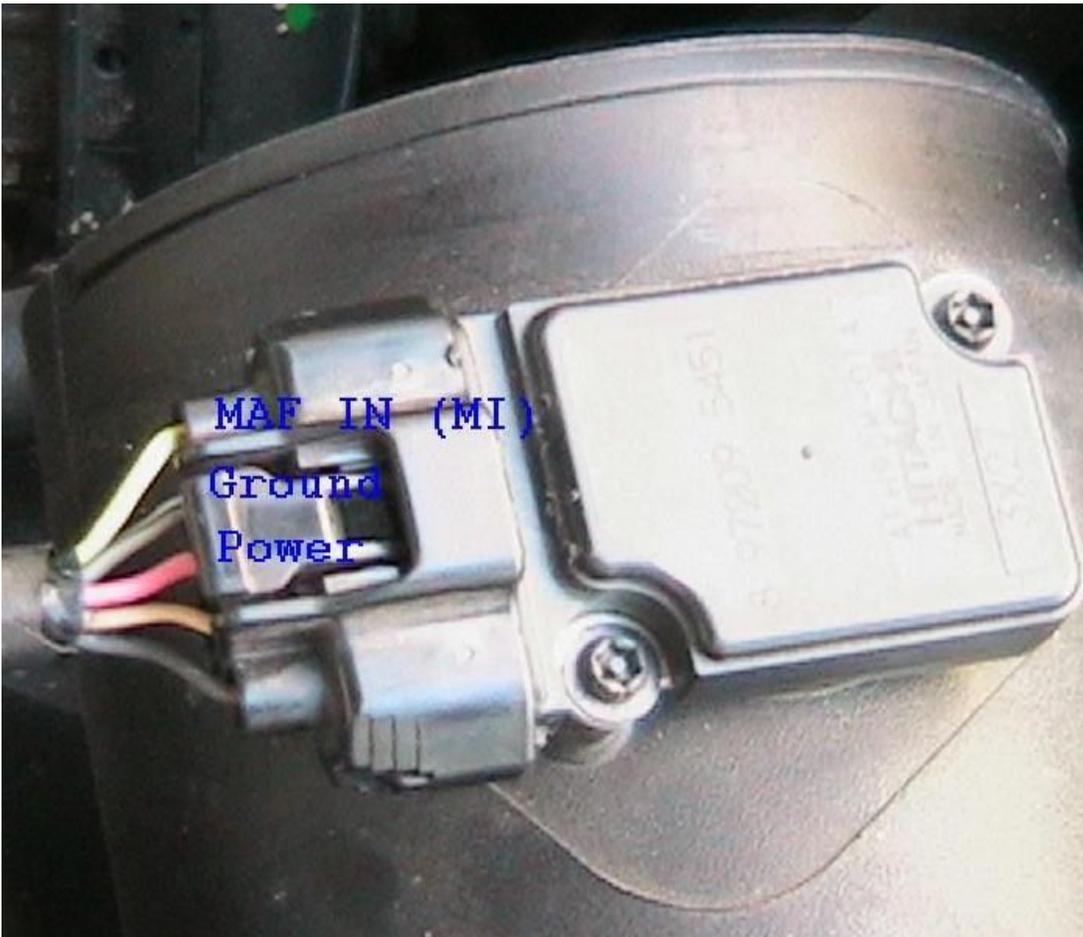
The first picture below is of the LLY Stick as shipped with each wire labeled. Your stick may differ slightly in shape. The LBZ Stick has the exact same wire colors.



The next picture is of the EGR connector on the LLY. The lowest passenger side wire on the connector is the EGR position sensor wire. On the LLY is blue with a white stripe. On the LBZ it is brown with a white stripe. The position on the connector is what matters, not the color! The BLUE wire on the Stick should be tapped into this wire.



The third picture below is of the MAF sensor near the air filter. The LLY and LBZ MAF sensors are identical.



The wires here are Yellow, Gray w/black, and Pink.

Grab your thin blade screwdriver and remove the cover on the harness raceway that goes over the intake. The LLY has a black tie wrap over the cover that you will have to cut and replace. You will get the EGR lead in here, and hide the stick here as well. On the LLY, find the Blue wire and tease it out of the bundle. On the LBZ it will be a brown wire with a white stripe. What you are looking for is the same wire that exits the lower left hand pin of the EGR connector. Take the time to trace the wire back to the connector.

Here is the raceway with cover removed on the LBZ. The LLY is similar. Cut the tape if needed to get to the wire you want.



Here is the blue Finger Stick lead tapped into the harness ready for soldering. Use your wire stripper's 22 ga. Cutter to break the insulation and then just force the insulation away from the cut with your fingernails to open up enough room to tap into.



The other wires are in the harness that is pictured under the blue wire in the last shot.

Open up the loom and go find the 3 wires in this harness that you need: yellow, gray and red(Pink?). Pull them out and stuff everything back into the loom to keep yourself organized. Again, if you have doubts about what leads you are looking for, look at the MAF sensor connector and make sure you have grabbed the first 3 leads (from L to R) off the connector.

This shot shows the 3 wires (yellow already cut) and the raceway lead under my finger.



Notice that the joints on the Pink Gray and Yellow wires are staggered. This is so you don't end up with a giant bunch in your loom. (I hate bunches in my looms....)

Trim up the leads on the Finger Stick to follow the staggered joints.

Make your connections – Red to Pink, Gray to Gray, Yellow to Yellow on the MAF side. The Green/Yellow gets connected to the Yellow to the remaining Yellow and Blue gets tapped into the Brown/White (LBZ) or Blue/White(LLY) wire in the raceway.

Solder up all of your connections and wrap them up with a good electrical tape.



The leads that come out of the harness can be wrapped in black tape and exit the loom just under the raceway and will be unnoticeable.

The yellow lead on the 2 wire side of the Finger Stick can also be covered with a piece of black tape and be brought into the raceway through the little slot about in the middle of the tray (It's like they put it there for us on the LBZ. You might have to make your own on the LLY)

The stick fits nicely in the raceway tray, and once the cover is back on you would be hard pressed to find anything out of order. This works much better on the LBZ than the LLY.

That's it. You are now blocked and stuck. Start her up and go for a spin to check for leaks or codes. Go through a couple ignition cycles before declaring victory and putting the raceway cover back on.



Happy soot-free motoring....

### **Installation Notes:**

The EGR MUST be plugged in for the stick to operate properly.

It is much easier if you disconnect the air intake filter tube from the filter before you start. This will give you more room to work.

Wait until after you install your Stick, then clear all EGR DTC codes that may have been set, if desired, or 50 ignition cycles will eventually clear them. CEL lights should clear in 3-5 ignition cycles.

Once the yellow wire is cut, the yellow wire of the stick will go towards the MAF wire on the air cleaner, letting the output of the stick (yellow/green) go into the harness that goes across the engine.

**For a clean install:** Pull the plastic wire looms back far enough to make all the wire connections and splices easier, and don't put any wires back inside the looms until all the connections are finished. Then, when you're completely done, tuck everything back inside and finish with a little electrical tape to make the ends sanitary. For even a cleaner install, after plugging the EGR back in, you can put a piece of 1" wire loom from the MAF sensor down a foot to where the wires "T" in.

**Other Notes of Interest:** For dealer / warranty work the stick may be left on the truck, but like all aftermarket things, out of sight out of mind. You may want to remove the Blocker Plate (remember, out of sight, out of mind). The ECM should stay happy with the Stick installed and the Blocker Plate removed. You may have to leave the stick on to keep the big exhausts from setting codes. To the manufacturers' knowledge, it is invisible to the Tech II diagnostic computer. The EGR works the same with or without the stick. What is modified is the signal coming from the MAF sensor. So, disconnecting the Blue EGR wire stops the MAF signal modification.

If you are coding because of the exhaust, disabling the Stick will bring the codes back.

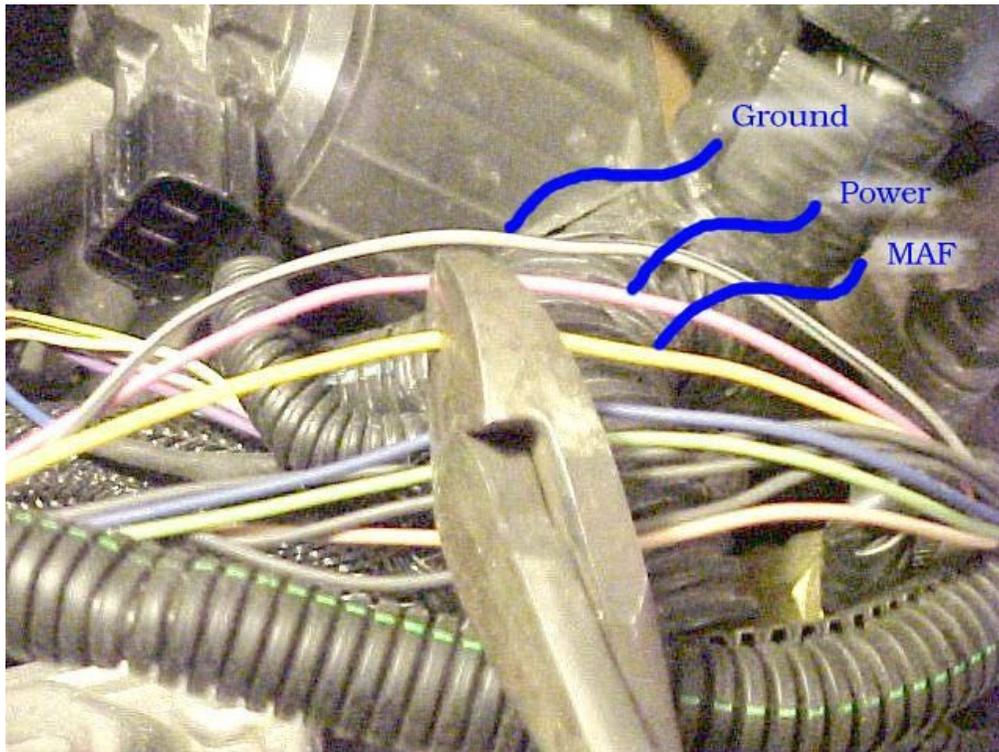
**How to disable the Stick if needed:** If you disconnect the EGR wire on the stick (the blue wire), the Stick just passes the MAF signal to the ECM without modification. If you are blocking codes, the codes will come back with the EGR wire disconnected.

**Is there a way to tell if it's working (without using a DTC scanner)?**

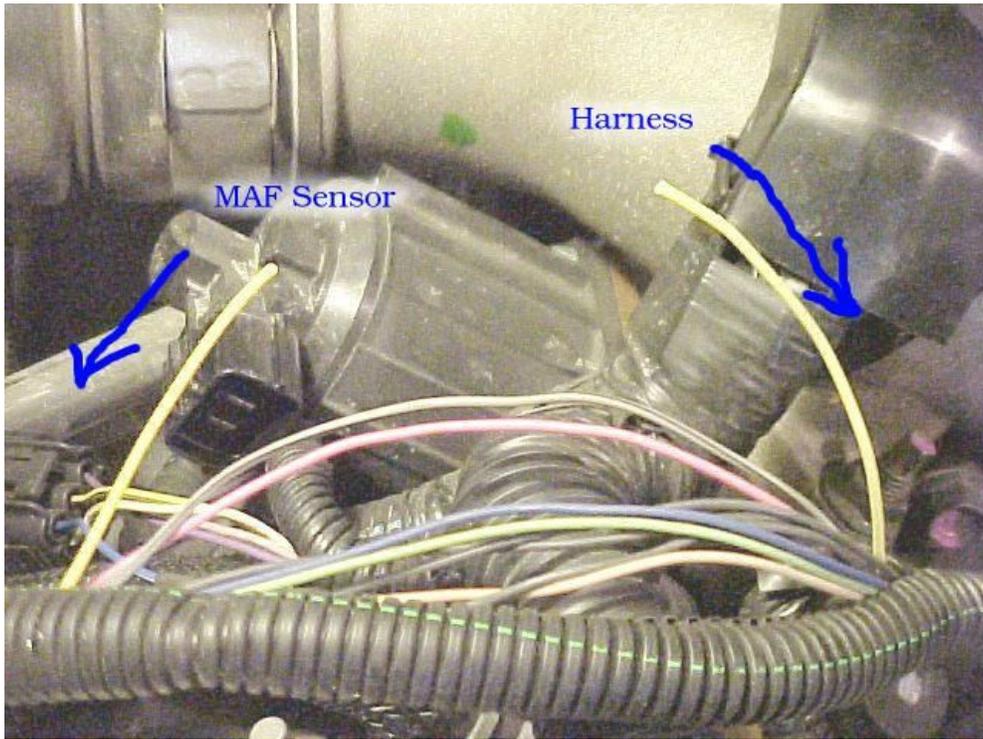
Remember, if the EGR Blocker Plate is installed along with the Stick and you are not getting any DTC codes, it is working. Disconnecting the blue (EGR) wire as stated above will disable the Stick and cause DTC codes to be displayed again. If you installed the EGR Blocker Plate which caused the SES light to go on (CA & N/E Emission trucks mostly) – the SES light will be off if all is working fine. If you installed the Blocker Plate and never got a SES light (mostly Federal emission trucks) then you could also try this:

*If you have a volt meter, you can look at the voltage coming out of the EGR position sensor relative to ground. That signal is in the blue wire you tapped coming from the EGR. If the voltage reading is greater than ~1.25 volts at idle, the EGR is being used and there are no EGR codes. If you watch the voltage while you rev the engine, it will fluctuate. Any EGR codes and the ECM will discontinue EGR positioning. A closed EGR valve reads about 1.25 volts. Full open is near 5 volts. Normal idle is about 3 volts.*

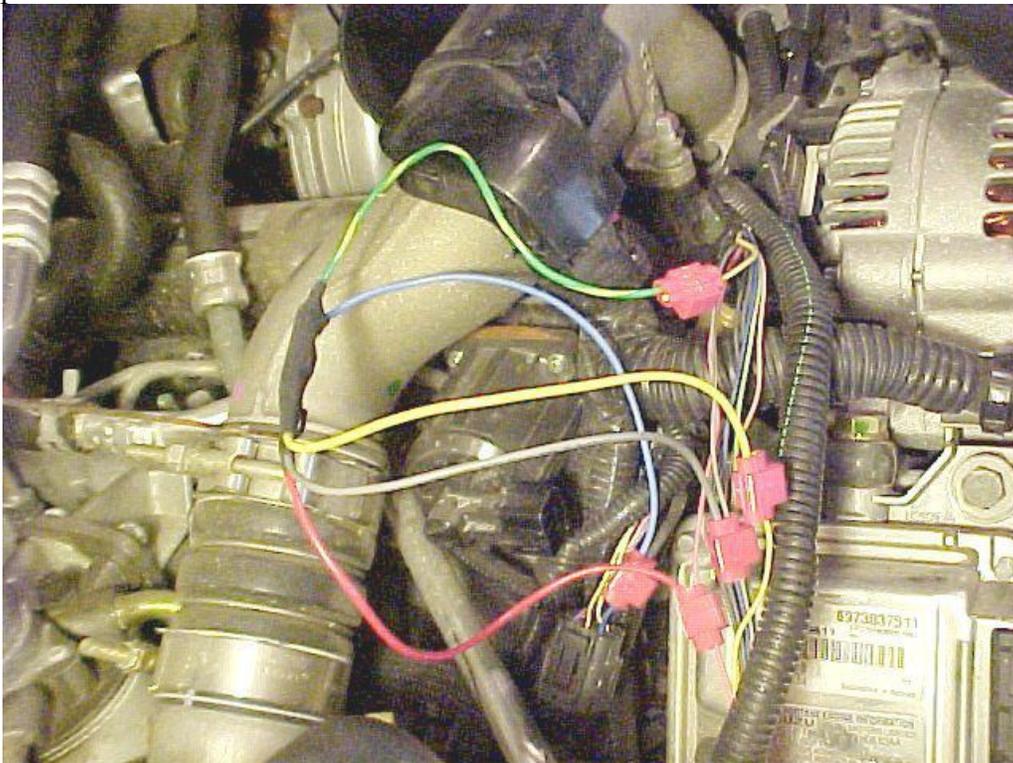
**Below are pictures of an actual install on an LLY (later changed to soldered connections)**



After the cut



All the wires tapped



All buttoned up after install

