Gauge Install, Triple Pillar

2001 - 2004 LB7
**Step 1:**

The Big 3 of diesel-specific gauges: fuel rail pressure, EGR and boost pressure. These PPE gauges will provide an inside view into the engine and will provide the driver with the info that they need to drive safely even under heavy towing or race conditions.

**Step 2:**

The pyrometer and lead wires for the ETG gauge (L) and the plastic tubing for the Boost Pressure gauge (R) come with the gauges.
**Step 3:**
These two leads, one for the Fuel Rail pressure gauge (L) and a T-fitting equipped rubber hose are optional. It’s possible to splice into the FRP harness (though we really don’t recommend it) and to make your own fitting and hose assembly, but PPE has done the work for you. Simply purchasing these pieces from PPE will make the installation process much easier.

**Step 4:**
PPE offers this 3-gauge, A-pillar mount. It comes in basic black, but can be painted easily though to match OEM interiors. It can also be had in a dual gauge set-up.
Step 5:
SEM makes Classic Coat flexible paint that comes in OEM colors, and was used to match the “Very Dark Pewter” interior color of this Chevy.

Step 6:
For those who want to place a pair of the gauges into their Chevy/GMC overhead console, PPE offers this billet unit. It is available with or without switches and can be had in a polished, brushed or black finish.
Step 7:
The gauges will be going into a 2001 LB7. This makes demonstration purposes easier because of the Boost gauge, to be discussed later.

Step 8:
You have to start somewhere, so we started with the EGT sender. To gain access to the exhaust manifold, the inner fender well is removed.
Step 9:
Rather than pulling and drilling the manifold off the truck, here’s a little trick to make this part of the install easier: starting with a cold engine, then start the engine and drill the 21/64-inch hole. Since the engine is running, the exhaust itself will blow the shavings out of the hole. Do Not simply drill and tap the hole without removing the shavings in some way, as they may damage the turbo when they pass through.

Step 10:
A lubricated NPT 1/8-inch tap is used to cut the threads. Again, the engine is running during this process to force the shavings out.
Step 11: After giving the threads a few shots of lube, the fitting is inserted into the manifold.

Step 12: The electrical leads from the pyrometer probe are connected to the main wire. Note that they are color-coded and have alternating length to make the job easier.
Step 13:
A heat gun shrinks the heat wrap over the connections, making the connections water resistant.

Step 14:
The pyro probe is inserted into the fitting and tightened up. The lead wire is fed up and will be ganged with the other wires and tubing and zip tied to the firewall.
**Step 15:**
Care needs to be taken when cutting the plastic boost tubing, especially if using side cutters and not a razor blade. To ensure a good seal, the cuts need to have a very square finish and the end needs to be rounded back out before installing it into the compression fitting.

**Step 16:**
On the LB7, we will be cutting into the existing tube that runs from the turbo to the wastegate. The rubber tubing is cut, then a small section (1/4-inch) is removed. The T-fitting and hose is installed and hose clamps are used to secure them into place. Getting a Boost reading on the LLY and LBZ is another matter. Check out the Side Bar for more info on these engines.
Step 17:

The electrical connection for the Fuel Rail Pressure sensor is unclipped and the PPE wiring harness is installed. The PPE harness simply snaps into the two ends and then leads off to the gauge. Believe us when we say that using the optional PPE harness is much easier than trying to splice into the existing harness.

Step 18:

The leads from the Pyrometer, FRP and Boost tube are ganged-up and zip tied and run along the upper edge of the firewall. Note that the Boost tube has been encased with a piece of high-temp plastic split loom for protection against heat and scuffing.
Step 19:
To gain access to the interior, a cut was made into this rubber seal using a utility knife and the assembled wires/hoses fed through.

Step 20:
With a good (careful) tug the dash and side panels will come away, providing access to the wiring inside.
Step 21: The lower panel has screws running along its lower edge and clips along its upper edge. The screws are removed and then tugging will be all it takes to remove the lower panel.

Step 22: The A-pillar is also held in place with clips, so it’s removed the same way.
**Step 23:**

The headlight switch assembly is pulled out and the lead wire for the dimmer switch is located using a test light.

**Step 24:**

A T-Tap slide connector is used to make the connection for the gauge lights. By connecting to the dimmer, the gauge lights will dim with the rest of the dash lights. The wire is run through the back with the rest of the wires and the switch is reinstalled.
**Step 25:**
A good ground is everything when it comes to sound electrical function. It so happens that there are mounting posts for the dash right beside the side panel that are perfect for our needs.

**Step 26:**
The test light finds a key-on hot wire for the EGT and FRP gauges.
Step 27:
PPE recommends that the hot lead to have an 10 AMP in-line fuse to make sure that the system is as safe as possible.

Step 28:
With the wire’s connections made, they are run up and out of the top of the dash. The various panels are also reinstalled.
**Step 29:**
Time to prep the pillars. The 3-gauge pillar pod doesn't so much replace the stock unit as much as it sandwiches to it. As stated, the new unit has been painted with the SEM Classic Coat “Very Dark Pewter” flexible paint.

**Step 30:**
With the two pillars mated to one another, 3/16-inch holes (3 per side) are to be drilled next.
Step 31: Plastic push fasteners are used to affix the two pillars together.

Step 32: Three, 1-inch holes are drilled into the back of the stock unit. These will allow the wire looms and tubing to be fed to the gauges.
**Step 33:**

Back in the cab, the connectors are removed from the gauges and the wires that will be running to the lights, power and ground are ganged-up together. The lead from the Fuel Rail Pressure sensor is attached to the leads from its connector plug.

**Step 34:**

The rest of the wires, such as the Fuel Rail Pressure are connected to the gauge pigtail.
Step 35:

Getting the pillars back into position while pulling the wires and Boost tubing through their respective holes sort of requires 3 hands, but it’s soon in place and securely affixed.

Step 36:

We know that most people will use side cutters or some other one-handed tool to cut the plastic Boost tube, but know that this will slightly deform (squash) the end of the tube. However you do it (pliers are best), make sure that the tube is round again before it’s inserted into the fitting.
Step 37:
With the gauge pigtail wired up, they are then inserted into their slots behind the gauges. With their removable harnesses, wiring these new gauges are much easier than wiring the fixed post gauges of the past.

Step 38:
Fitting the gauges into the pillar requires a little effort. Their not supposed to be loose (and they aren’t!) so make sure that you have them positioned perfectly (north, south, east and west) before you push them all the way in.
Step 39: With that, the gauges and pillar are in and looking good. Now this vehicle’s owner will be able to keep an eye on his ride and benefit from additional information that a set of (PPE) gauges will bring to his driving experience.