

# VBG1 for EVO X. My impressions and install



I was fortunate to be a beta tester for the Evo X version of the VBG1. This product has been fully developed and tested in other cars, but this is the beta version for fitment in the Evolution X air vent. I am not affiliated with the manufacturer or developer, other than signing up to beta test. All opinions are mine and not sanctioned or discussed with the folks at [gtboostgauge.com](http://gtboostgauge.com). If you use this write up for your own install, I accept no liability for your car or VBG1. Damage or destruction is at your own risk.

Install was very simple. Even with taking pictures for the step by step, it took about 3hrs. So I figure 1.5 hours if you are not trying to document along the way. honestly the hardest part was fitting it in the vent and routing the ribbon cable.

Pros: It has ALOT of features. It is more of a gauge display system, than just a boost gauge. I was looking into a HUD and this is meeting all the needs I wanted for that and I am calling off the search for a HUD. I know it is not technically in my forward field of view, but it is very easy to read and get the info I need at a blink glance.

I will be doing the PLX AFR addition as soon as the PLX arrives in the mail. But even without the ARF as the aux input gauge, you get boost/vac (with boost plot graph which is pretty cool, and the red LED sweep options) and voltmeter.

Out of the package the faceplate looks very small. Much smaller that I was expecting, it has to fit within the vent, but somehow the pictures made it seem bigger. However this turned out not to be a Con, but rather made the gauge very stealth. I love that I don't have the 3 dingleberrys hanging off my A pillar like my Z had for the same gauges this one display does. Also the brightness and crispness of the OLED screens make the display much more legible than one might think looking at pictures. It is very clear and easy to discern from a glance. I have read on the forum of concern with the heat going through the air vent, all of the soldering and circuitry looks top notch. It would take more heat than a heater vent can put out to melt this solder job. Plus they have been in Subies and other cars for a while and tested that aspect so I am not at all concerned about the heat or cold coming through the vent.

As for the AC reaching me, it is only 85 here in Texas where I live, but the vent still seems to blow as much air on me as it did before and the move-ability of the louvers remains intact so I can still direct the air. I don't see an issue here either.

I have been commuting for a week since the install and keep finding cool features that are outlined in the manual, but don't really become clear until you try it out. This is a very customizable, "gear head" oriented gauge system.

# Interior panel removal

## Step 1:

- Remove drivers kick panel. Snaps off at two points and has a plastic nut near dead panel on floor board. **fig 1a**
- Remove knee airbag surround. Remove 2 philips screws at lower corners and snaps off. Disconnect electrical connections on switches from left side (mark connectors to be able to put them back in correct order, can be different depending on cars options). **fig 1b**
- Remove carbon simulated trim panel from below air vent. Snaps off straight forward pull. **fig 1c**



Most of the Evo interior snaps apart, but there are some areas with screws. Use patience and light force and pressure. take your time so you don't have to visit the dealer to buy new interior pieces.



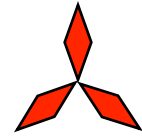
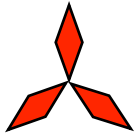


Step 2:

- Remove side dash panel in preparation to remove air vent. Snaps off forward. **fig 2a** and **fig 2b**
- Gently pull on lower tab on air vent, toward you and up slightly. Snaps out. **fig 2c**



# Vent dissection and VBG1 face panel install



## Step 3:

- Use small flat blade screw driver to pry tabs on both sides of air vent surround. **fig 3a**
- Remove the surround. **fig 3b**
- Remove top two vent louvers. **fig 3c**
- Test fit face panel. Note the two tabs on each side that fit in vent louver side recesses. The face panel should fit flush to side frame of vent. **fig 3d**



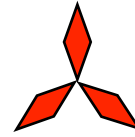
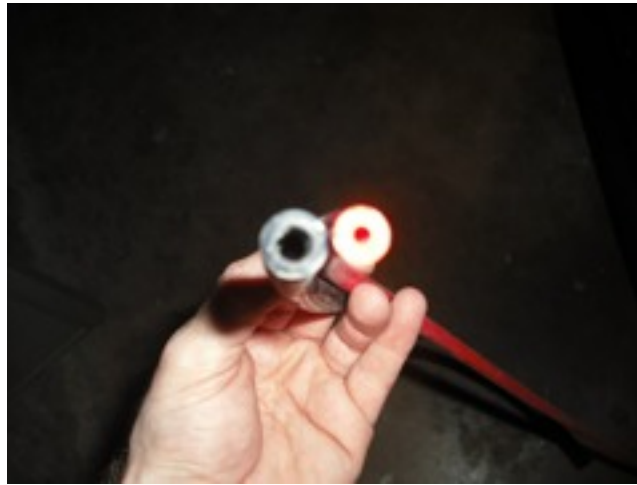
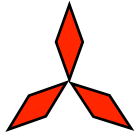
#### Step 4:

- Insert ribbon cable into clamp as instructed in VBG1 install manual. Fold as shown in **fig 4a** and attach to back of circuit board with provided double sided tape.
- Insert face plate into vent and route ribbon cable with exit as show in **fig 4b**.
- Snap vent face to vent frame being careful not to pinch ribbon cable. Make sure louver side tabs are seated in side recesses. **fig 4c**
- Rear view of vent showing proper ribbon cable routing. **fig 4d**
- slit between vent face and vent frame that you should be looking for to route the ribbon cable through when snapping vent back together. **fig 4e**





## Vacuum line routing - engine bay



### Step 5:

- I used 3mm and 6mm silicone vacuum line and a 3/8" plastic T that I had laying around. A "T" with the correct size for the 3 mm end would have been better because I had to stretch the 3mm line a bit to get it to fit around the 3/8" T, but it works.
- Use a large screwdriver to push through the lower right side of the main engine wiring harness from the engine bay side into the interior of the cabin. **fig 5a**. The tip of the screwdriver will show up just to the right of the steering linkage under the dash on drivers floorboard side. **fig 5b**

Note: This is not the only way to get from the engine bay into the cabin, if you are routing an O2 sensor wire for AFM or temperature probe wiring for an aux input into the VBG1 you may choose to go another path. This was just the shortest path I could find, which minimized the vacuum line used and will make it easier to trace leaks later, should I develop one. I highly recommend silicone line, as it will most likely out live your car.

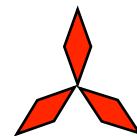


**fig 5a**



**fig 5b**

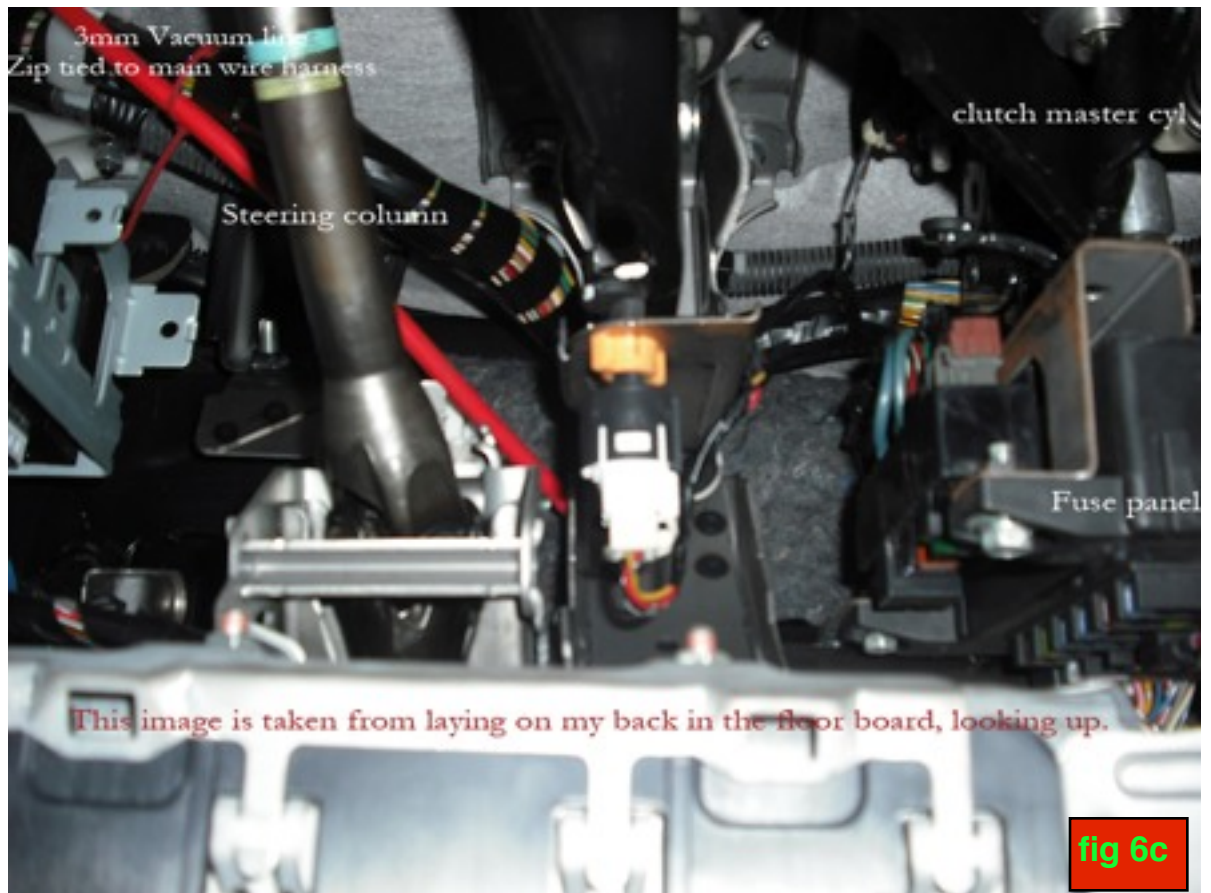
- From engine bay, feed 3mm vacuum hose through space next to screw driver into cabin. Do not remove the screwdriver, flex it back and forth as you force the hose through the gap created by the screwdriver. Red silicone vacuum line in **fig 5a**.
- In engine bay, make up T fitting to hoses. Route 6mm hose from metal hard line on plenum to BOV or recirculation valve (depending on your setup). Tap into 6mm hose about half way to BOV for T fitting. Ziptie every joint to insure there are no vacuum/boost leaks. **fig 5c** and **fig 5d**
- Fig 5d shows the vacuum line on the other end of the hard line that goes to the the throttle body. If you have extra 6mm line, this is a good opportunity to replace that section as well, but not necessary.



## Vacuum line routing - cabin

### Step 6:

- **fig 6a** shows the vacuum line once run into the cabin.
- Zip tie vacuum line to main wire harness and route upward toward top of drivers side air vent (air vent where VBG1 will be mounted). **fig 6c** The goal here is stay above pedals and out of the way of tangling the line in your feet while driving. There is a metal 2" round bar that goes through dashboard. I'll call it the "dash roll cage". I routed up and over that dash roll cage. **fig 6b**
- Your vacuum line should end up like **fig 6d**.





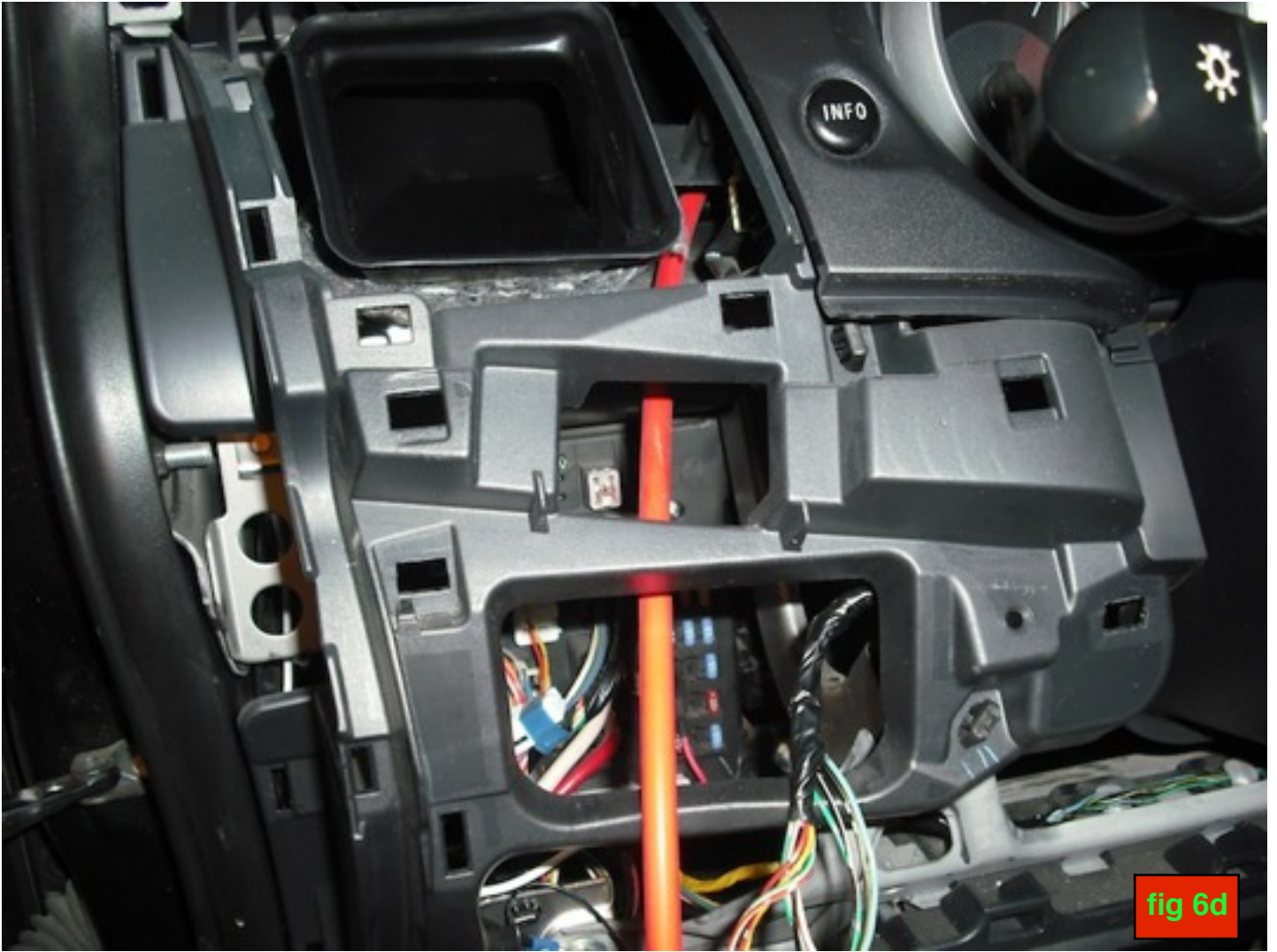


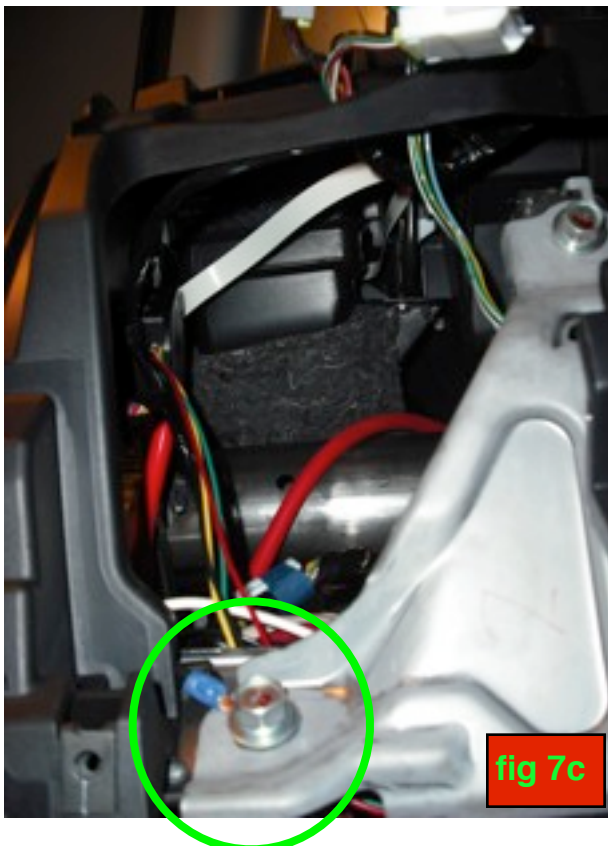
fig 6d



# Electrical connection

## Step 7:

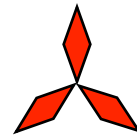
- disconnect negative battery cable before beginning this step and reconnect after this step.
- Solder or butt splice power cable from VBG1 boost solenoid module to provided "add a fuse". **fig 7a**
- Tap "add a fuse" into non interrupted power accessory power source. You want the boost gauge to only have power when the key is turned, but the power can not be interrupted while the engine is cranking. Depending on car accessories, this tap point could be different. On my '08 GSR this was fuse location 12. **fig 7b**
- Crimp a ring on the ground wire and remove 10mm bolt to attach ground at location **circled** in **fig 7c**. If needing an additional grounding point for other gauges, or AFM control brain, this make a good common ground point.



## Boost control solenoid mounting

### Step 8:

- You will need good quality high temp double sided tape for this step.
- Feed boost control solenoid through vent hole and install vent into dash. **fig 8a**
- In the hole just below the air vent there is room to mount the boost control solenoid by sticking the double sided tape to the inside of the side of the dash. Before sticking to dash, attach vacuum line to boost solenoid nipple and zip tie securely. Then connect electrical connector and stick solenoid to dash with the tape. **fig 8b**





## Congratulations! Last step

### Step 9:

- Snap and screw all the interior dash panels and kick panel back in the car.
- Set your preferences in the VBG1 sub menus as per the manual.
- Test drive and check for vacuum/boost leaks.

