

ECS TUNING

Installation Instructions - ECS Tuning Vent Pod Vacuum/Boost Gauge Kit



This tutorial is provided as a courtesy by ECS Tuning.

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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Part Number **ES2593076**
(also available as
steering wheel mounted kit **ES2593109**)
for **VW MKV GTI FSI**
(2006-2009)

VW MKVI GTI (FSI) Vent Pod Vacuum/Boost Gauge Installation

Kit Contents:

- vacuum/boost gauge
- gauge vent pod
- vacuum tee
- crimp clamps
- gauge power supply wiring harness
- crimp (butt and bullet) connectors
- vacuum/boost sensor (transducer with integral harness)
- extension wire harness
- rigid plastic hose
- braided rubber hose
- zip ties

Tools

- non-marring trim removal tool
- electric drill with 1/2-inch drill bit
- wire stripper/crimping tool
- diagonal cutters
- end nippers
- work light
- T20 Torx® driver



Overview - How the tutorial is organized

This tutorial is broken into two sections:

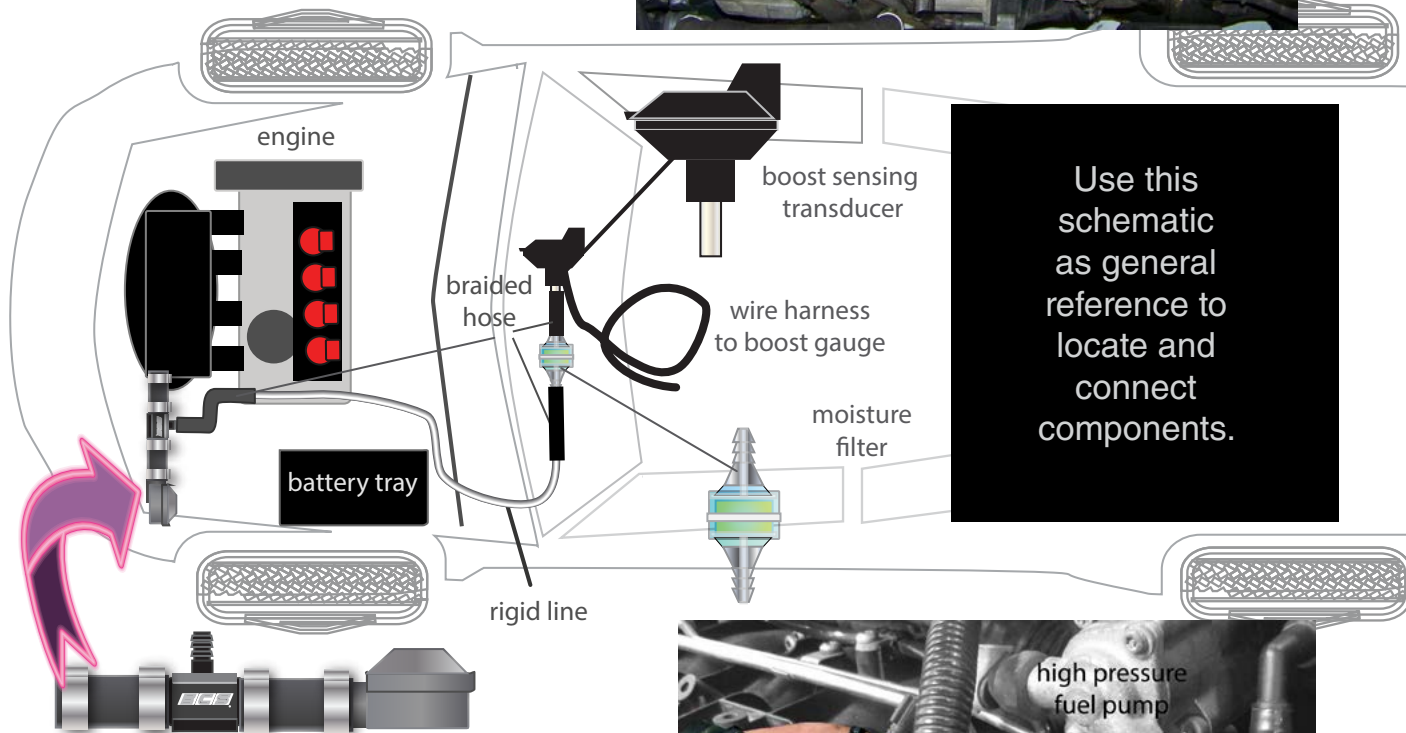
- 1) Run the Vacuum Line** - Shows how to connect the vacuum tee at the intake manifold and route the rigid vacuum line from the tee to the vacuum transducer inside the cabin.
- 2) Install the Vent Pod and Gauge** - Shows how to disassemble the dashboard vents and install the vent pod and vacuum/boost gauge.
- 3) Connect the wiring** - Shows how to splice the gauge harnesses to the headlight switch wiring.

Section 1 - Run the Vacuum Line

VW MKV GTI (FSI)

Step 1 - Locate the vacuum hose at the intake manifold

Locate the vacuum line, located at the front left of the intake manifold (arrow).



Step 2 - Install the vacuum tee

Cut the vacuum line in the middle. Slide hose clamps from the kit over the hose sections.

Install the vacuum tee from the kit inline, between the hose sections, as shown.

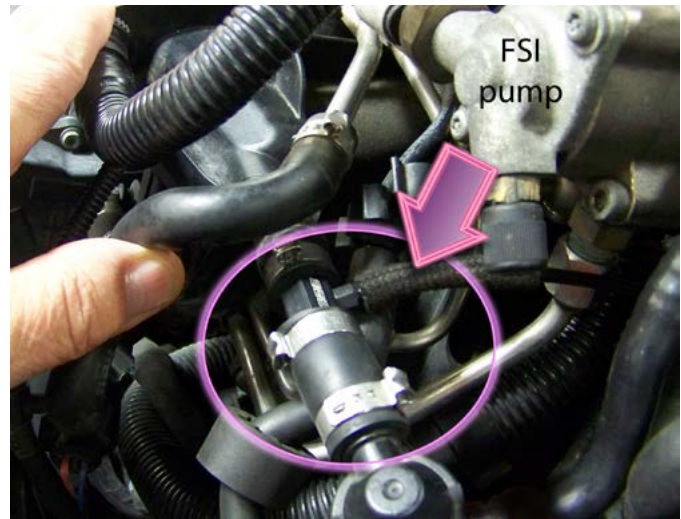


Section 1 - Run the Vacuum Line

VW MKV GTI (FSI)

Step 3 - Install braided hose

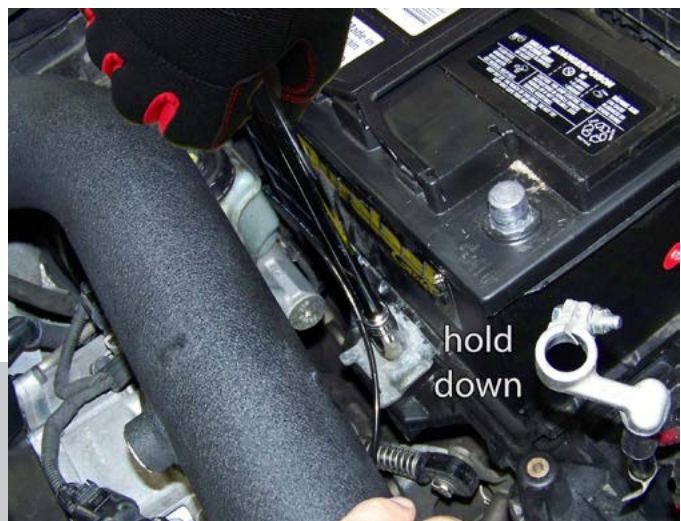
Cut a 4-5 inch length of braided vacuum hose from the longer length of hose included in the kit, then push it onto the small barbed vacuum port at the vacuum tee. It's a tight fit, so push hard.



Step 4 - Remove the battery

Next, move to the battery area.

- Remove the plastic battery cover.
- Disconnect the battery cables.
- Remove the battery hold down.
- Lift the battery out of the tray and set it aside, out of your way.



Special Caution - Battery Safety

There are several things to consider before you disconnect and remove the battery:

- 1) **Use extreme caution when working around any battery.** Wear full wrap-around safety glasses, approved for shop use. Before touching the battery, put on gloves and wear protective clothing. Battery acid is highly caustic. Do not allow it come in contact with exposed skin, hair, or your eyes.
- 2) **Battery gases are explosive.** Never introduce a spark or open flame near the battery. Hydrogen gas is highly flammable, and batteries have exploded under the right circumstances.
- 3) **Disconnecting the battery will erase keep-alive-memory data** stored in the vehicle electronic control unit, car radio, and any module that stores user presets, adaptive strategies, or user preferences. Make sure you have your anti-theft radio code handy, and that you know how to use it. Store any radio station presets so you can reprogram the radio later. Do not disconnect the battery immediately before a scan tool emissions test, or you will not pass.

If you are uncomfortable with these safety issues, please seek the assistance of a qualified automotive service professional.

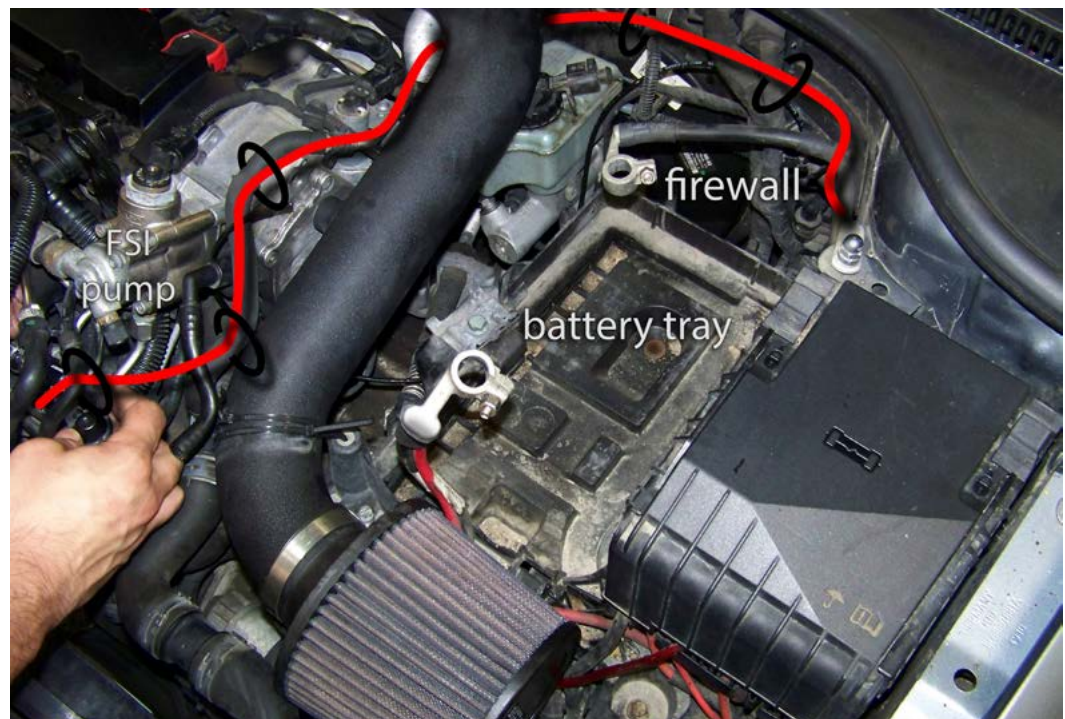
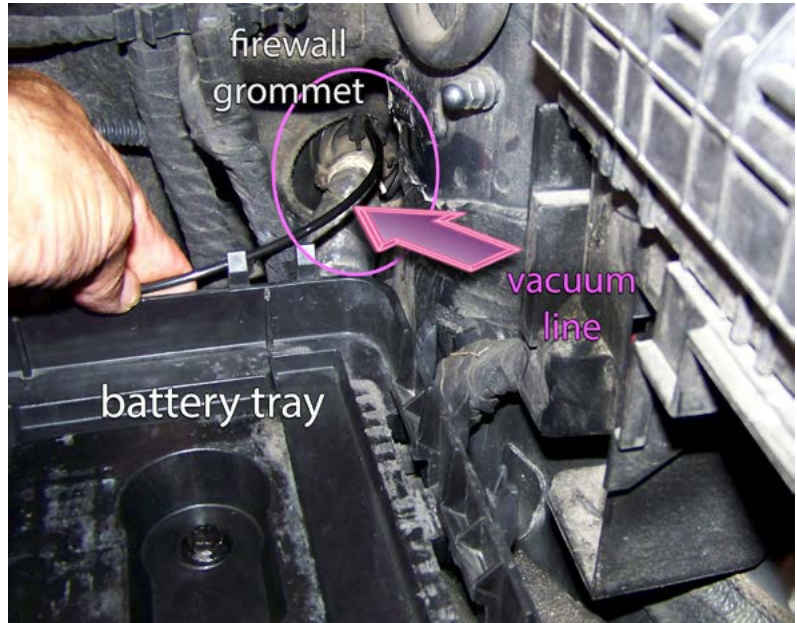
Section 1 - Run the Vacuum Line

Step 5 - Run the line

Locate the rubber firewall grommet near the rear of the battery tray. Take the long plastic line from the kit and push it through the grommet into the interior of the car. (Use a thin punch or awl to poke a small access hole in the grommet.)

Run the other end of the line along the front edge of the rain tray, then forward, over the engine to the braided hose installed at the vacuum tee in step 3. Connect the plastic line to that hose.

(See the next photo for more on plastic line routing.)



Step 6 - Route the vacuum line and secure it

This image shows a typical vacuum line routing between the vacuum tee and the firewall grommet. After you have run the line, secure it at several places using the zip ties included in the kit.

Now it's time to move inside the cabin and install the vent pod and gauge.

Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 1 - Remove and unplug the headlight switch

With the headlight switch in the off position, push in on the center knob and rotate it clockwise until it stops. Then pull straight out to remove the switch from the dash.

Unplug the switch from its wire harness electrical connector and lay it aside.



Step 2 - Remove the fuse panel cover

Using a non-marring trim removal tool, pry at the front edge of the fuse panel cover on the left side of the dash.

Pivot the panel outward and remove it.

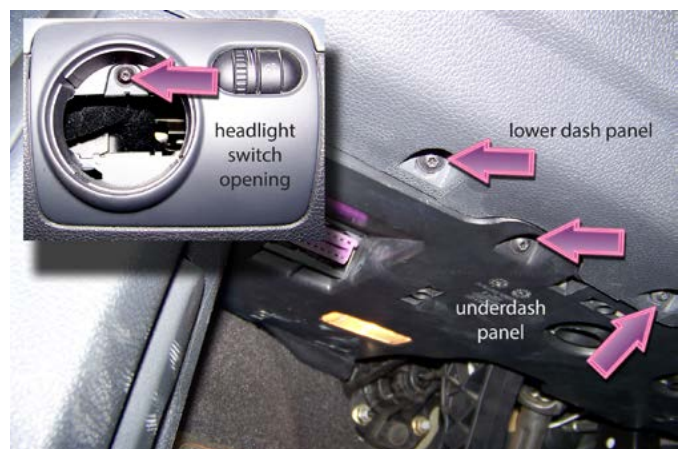


Step 3 - Remove the underdash panel

Remove the Torx screws located in the recess behind the headlight switch and in the lower and underdash panels.

After dropping the underdash panel, unsnap the data link connector and footwell light and let them hang from their wiring.

Remove the panels and lay them aside.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 4 - Disassemble the center dash

Using a non-marring trim removal tool, pry the center top grille from the dash. Pry carefully at several points until the grille panel pops free.



Step 5 - Remove plate

Lift and remove the stamped metal plate beneath the grille.



Step 6 - Remove screws

Using a T20 Torx driver, remove the three screws beneath the plate.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 7 - Remove the center vent housing

Lift up at the front of the dash center vent assembly. If necessary, use a flat-tipped non-marring trim removal tool to pry upward in the gap between the top of the radio and panel, releasing the tabs (arrows).



Step 8 - Remove the center vent housing

Lift the entire assembly out of the dash far enough to remove the emergency flasher switch and disconnect the electrical connector from the seat belt indicator light.



Step 9 - Remove the radio trim surround

Using the trim removal tool, pry around the edges of the trim panel surrounding the radio. Pop it free and remove it.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

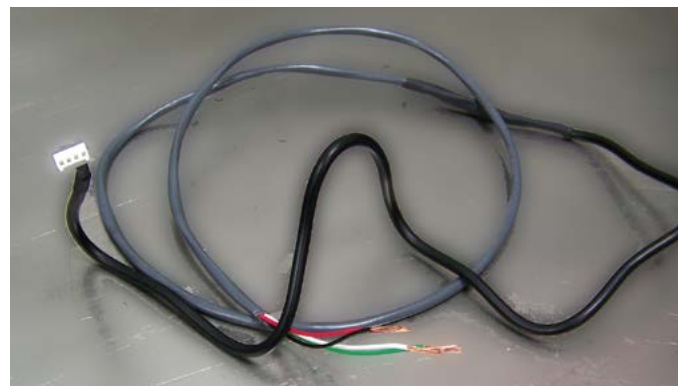
Step 10 - Remove the radio

Remove the four Torx screws holding the radio in place. Then slide the radio out and rest it on the gear shift lever; do not disconnect the antenna or any radio wiring.



Step 11 - Prepare the power cable

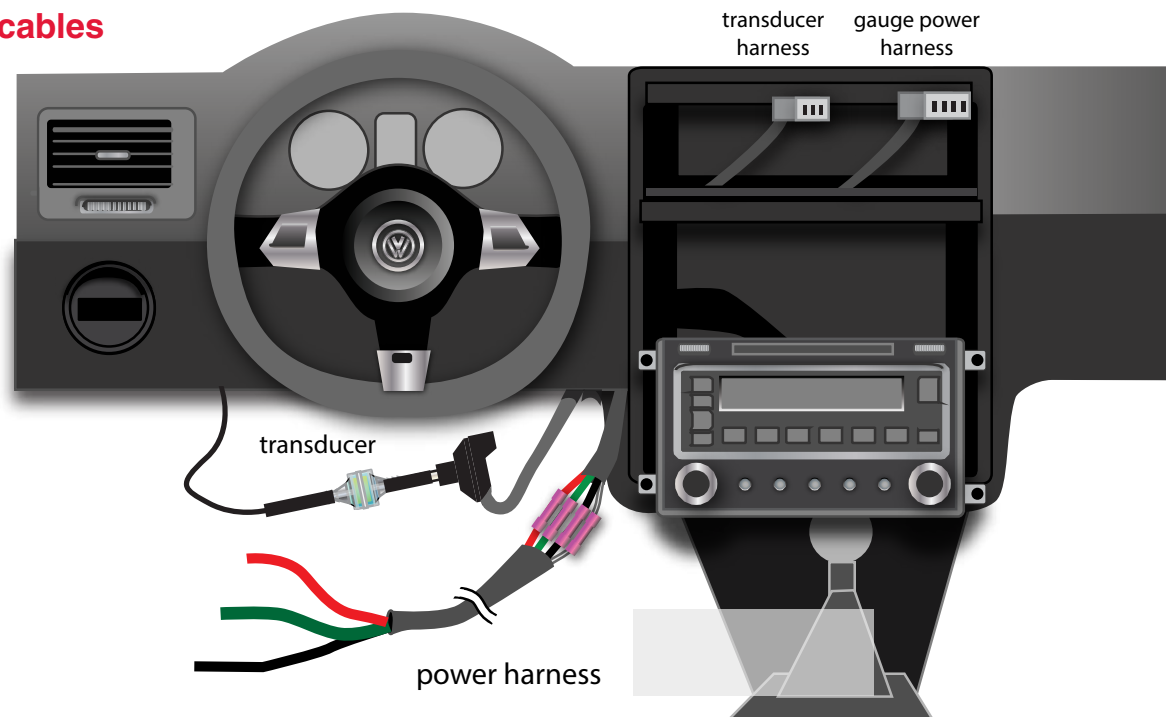
Splice the extension cable to the four-wire power cable. We prefer soldering these connections and insulating them with heat shrinkable tubing. If you do not have access to a soldering iron, your kit includes four crimp-style butt connectors (see page 13 of this pdf for a detailed explanation of these connectors).



Step 12 - Route the cables

Route the transducer cable and power cable from the underdash area, up through the left side of the center console to the center dash opening.

Pull the cables through far enough to reach the area where the gauge will be installed in the vent pod.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 13 - Install the vent pod

Remove the front trim surround from the center vent housing.

Using a small screwdriver or similar tool, work your way around the perimeter, prying on the snap-lock tabs holding the sections together.

Lift off the front trim.



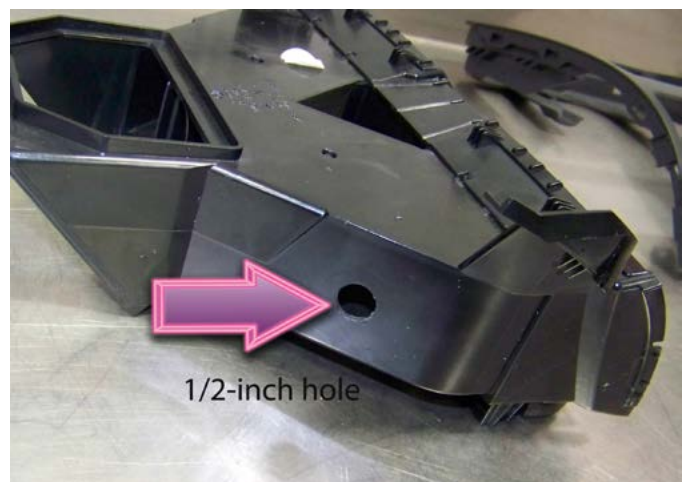
Step 14 - Remove the old vent louvers

Pull/pry the vertical and horizontal vent louvers from the left side vent opening.



Step 15 - Drill the harness hole

Drill a 1/2-inch hole for the wiring harnesses, at the location shown.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 16 - Install the vent pod

Snap the new vent pod into the vent opening.



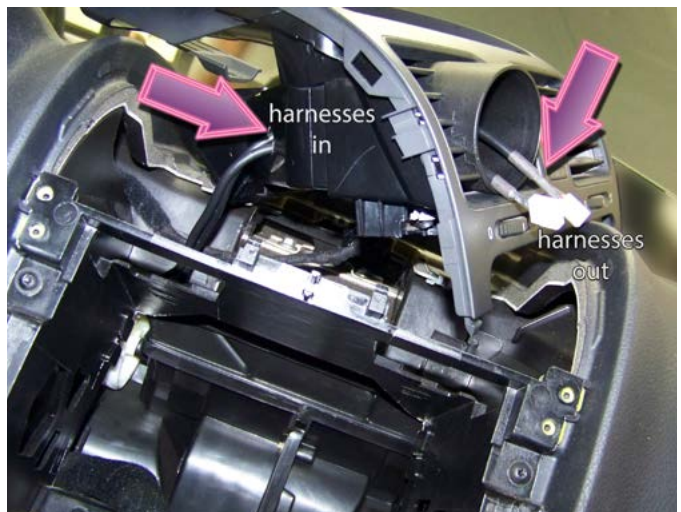
Step 17 - Install the vent pod

Reinstall the trim face on the vent assembly. Align the cover with the housing, then push them together evenly until all plastic perimeter snap-clips are engaged.



Step 18 - Route harnesses

- Route the two harnesses through the ½-inch hole, into the vent housing, until they exit through the round hole in the vent pod.
- Reinstall the emergency flasher switch and reconnect the air bag light.
- Slide the radio back into the dash and screw it in place. Reinstall the radio trim surround.
- Reinstall the vent assembly with pod in the top of the dash.



Section 2 - Install the Vent Pod and Gauge

VW MKV GTI (FSI)

Step 19 - Install the gauge

Remove the rubber band from the kit and stretch it over the gauge, as shown.

Lightly lube the exterior of the band with grease or petroleum jelly.



Step 20 - Install the gauge

- Plug the harnesses into the gauge.
- Plug the 3-wire transducer harness into the center receptacle.
- Plug the 4-wire power harness into either of the outer receptacles.
- Push the gauge into the pod until it sits flush.



Step 21 - Install the gauge

- Replace the Torx screws remove back in Step 6.
- Reinstall the plate and top grille removed earlier.

Now it's time to make the wiring connections and test our gauge.



Section 3 - Connect the Wiring

VW MKV GTI (FSI)

Your kit contains both bullet style and butt connectors. Use the bullet connectors to splice the gauge power harness into the light switch harness. Use the butt connectors to connect the extension wire to the power harness. Directions below show how to use the connectors.

Using crimp connectors

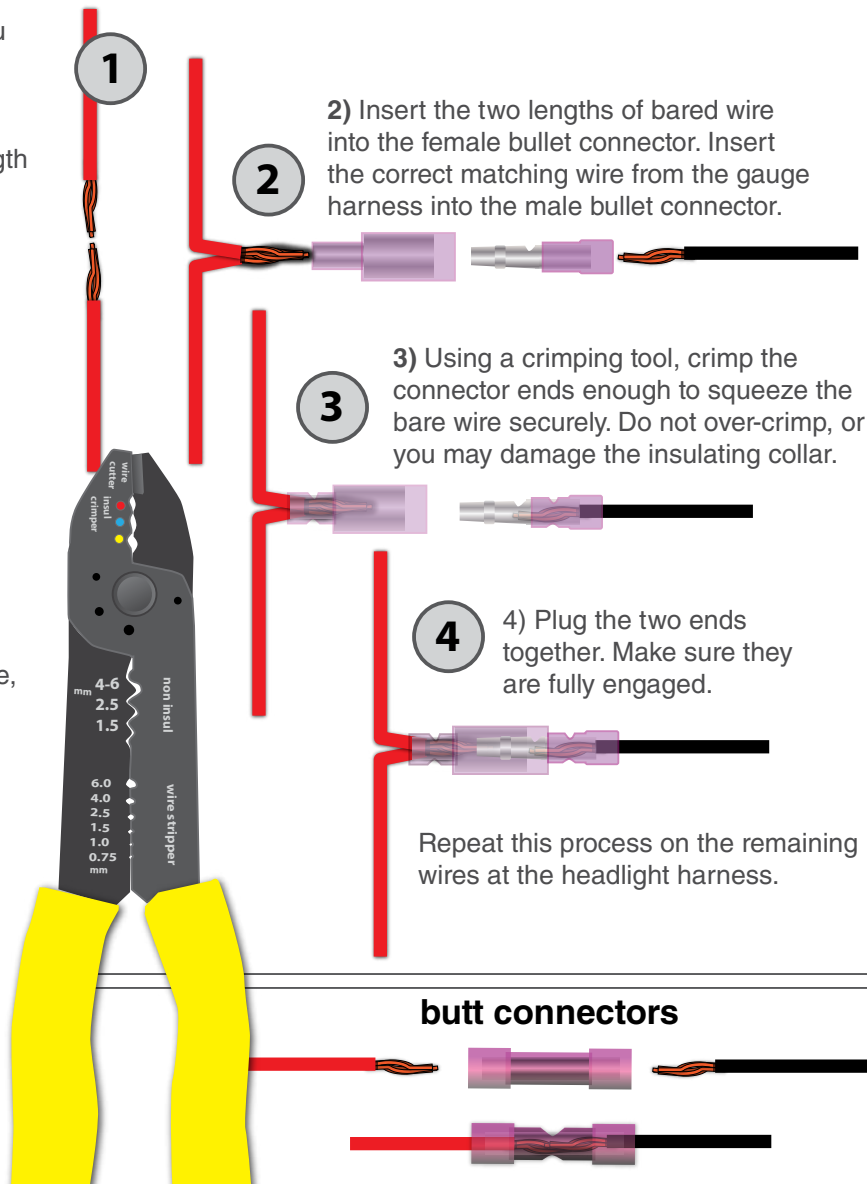
1) Cut the headlight harness wire you want to tap into.

Remove enough insulation from both lengths of wire to expose a short length of wire (about 3/8-inch).

Note:

Use a suitable wire stripper that will remove the insulation without cutting away wire strands.

Use a crimping tool of the correct size, not side cutters or other pliers that may damage the insulation on the connectors.



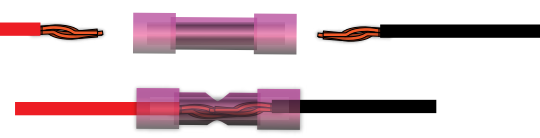
2) Insert the two lengths of bared wire into the female bullet connector. Insert the correct matching wire from the gauge harness into the male bullet connector.

3) Using a crimping tool, crimp the connector ends enough to squeeze the bare wire securely. Do not over-crimp, or you may damage the insulating collar.

4) Plug the two ends together. Make sure they are fully engaged.

Repeat this process on the remaining wires at the headlight harness.

butt connectors



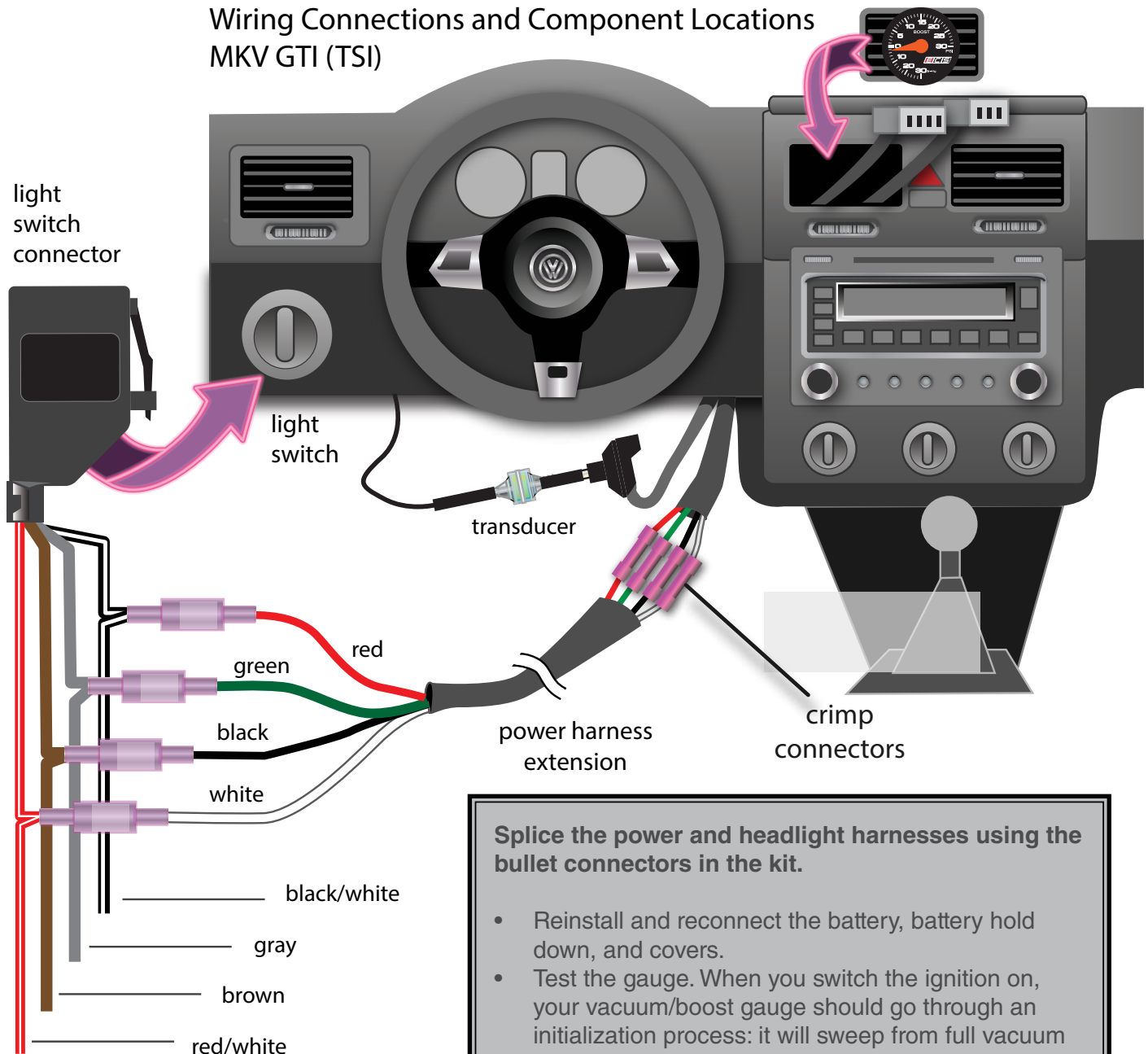
Use the same methods to splice the gauge power harness to the extension harness using butt connectors.

See page 14 for a schematic showing component locations, electrical connections, and wire colors.

Section 3 - Connect the wiring

VW MKV GTI (FSI)

Vent Pod Vacuum Boost Gauge
Wiring Connections and Component Locations
MKV GTI (TSI)



Splice the power and headlight harnesses using the bullet connectors in the kit.

- Reinstall and reconnect the battery, battery hold down, and covers.
- Test the gauge. When you switch the ignition on, your vacuum/boost gauge should go through an initialization process: it will sweep from full vacuum to full boost, and then settle back to zero before your engine starts.
- Your gauge backlight should illuminate and respond to changes in your dash light dimmer settings.

ECS Tuning Vent Pod Vacuum/Boost Gauge Kit
for VW MKV GTI (FSI)

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Finishing up

VW MKV GTI (FSI)

Finish up:

When you are sure the gauge is working properly, replace the fuse cover, lower and underdash panels, and headlight switch. Slide the headlight switch into the dash until it snaps in place.

ES2593076



Thanks!

Thank you for purchasing the ECS Tuning Vent Pod Vacuum/Boost Gauge.

We appreciate your business, and hope this installation guide has been helpful.

ECS Tuning also sells a steering column mounted gauge set, visible through the steering wheel [ES2593109](#).

