

ECS TUNING™

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



Part Number **ES8017**
for Audi B7/A4
(2005-2008)

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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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Audi B7 A4 Vent Pod Vacuum/Boost Gauge Installation

Kit Contents:

- Vacuum/boost gauge
- Rubber o-ring for mounting gauge body
- Gauge power supply wiring harness
- Vacuum/boost sensor (transducer with integral harness)
- Gauge vent pod
- 3/8-inch I.D vacuum hose
- Rigid plastic hose
- Braided rubber hose
- Crimp connectors
- Zip ties
- 3' gauge power harness extension

Tools:

- End nippers or side cutters
- T8, T20, and T25 Torx® drivers
- Flat head (common) screwdriver
- Electric drill with 3/8-inch drill bit
- Razor blade or xacto™ knife
- Non-marring plastic removal tool
- Work light



The gauge in your kit is used for several applications. The box it comes in contains parts not used in the B7 A4 (and not shown above), including a u-shaped mounting bracket, brass threaded attachment studs, two screws, and a plastic vacuum tee. (Throw them in your tool box for another project.)

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.

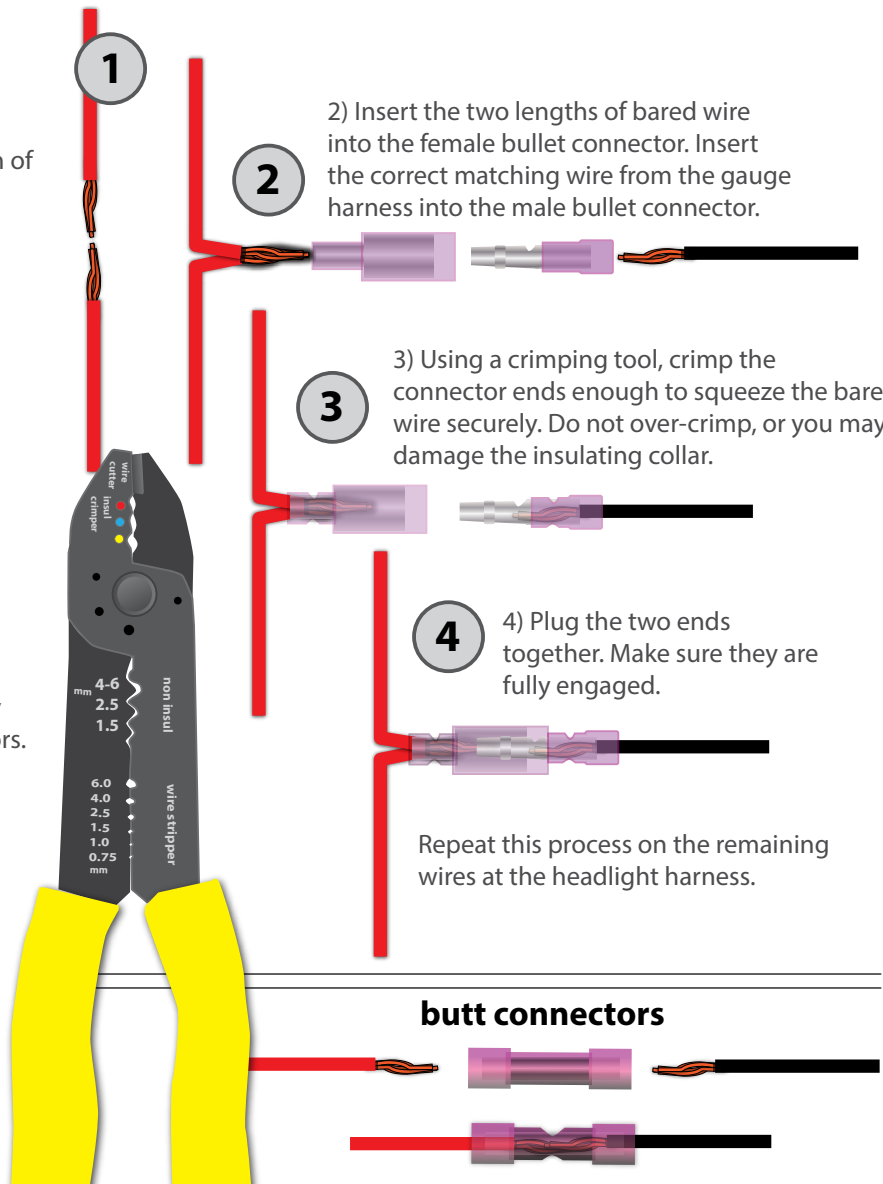
Remove enough insulation from both lengths of wire to expose a short length of wire (about 3/8-inch).

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.

See pages 15 and 16 of this document for a wiring schematic.



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

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

Overview

This tutorial is broken into three sections:

- 1) Run the Vacuum Line** - This section describes how to connect the vacuum tee at the intake manifold. It also shows how to route the rigid vacuum line from the tee through the firewall to the interior of the vehicle, where it is connected to the Vacuum/Boost Transducer.
- 2) Install the Vent Pod and Gauge** - This section shows how to disassemble the dashboard vents, and install the Vent Pod and Vacuum/Boost Gauge.
- 3) Connect the wiring** - This section shows how to route the power harness to the light switch and splice into the headlight switch and ignition switch wiring.

Section 1 - Run the Vacuum Line - Install the Transducer

Step 1 - Remove the engine cover

Open the hood. Remove the engine beauty cover.

The cover is attached to the engine by push pins inserted into rubber grommets.

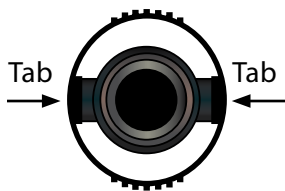
Pull or pry the cover free from the grommets and remove it.



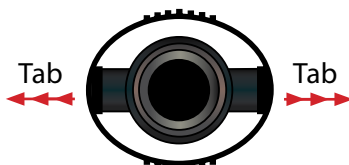
Step 2 - Disconnect the vacuum line

Remove the vacuum line from the intake manifold by releasing the locking tabs and pulling it off. The diagram below explains how to release the locking tabs:

Normal: The tabs keep the line "locked" onto the intake.



Released: Squeeze the knurled sides of the locking ring together and the tabs will expand and release the line from the intake.



Section 1 - Run the Vacuum Line - Install the Transducer

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Step 3 - Install the Boost Tap plug

There are two available vacuum ports in the boost tap. Holding it upright as shown, apply a drop of Loctite to the plug included with the boost tap, then thread it into the LH port and tighten it.



Step 4 - Install the Boost Tap nipple

Apply a drop of Loctite to one of the nipples included with the boost tap, then thread it into the RH port and tighten it by hand.

Note: You may install both nipples if you have an additional accessory that will require a vacuum/boost reading.



Step 5 - Install the boost tap

Push the boost tap onto the intake manifold until it is fully seated.



Section 1 - Run the Vacuum Line - Install the Transducer

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Step 6 - Install the retaining clip

Install the retaining clip into the groove of the boost tap, then push the crank vent hose onto the end of the boost tap.



Step 7 - Remove the water tray weatherstrip

Peel away the rain tray weatherstrip.



Step 8 - Remove the rain tray

Slide the water tray forward and out. Lay it aside.



Section 1 - Run the Vacuum Line - Install the Transducer

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Step 9 - Inside the car-remove the fuse cover

Move inside the car. Pry out the fuse panel cover from the left side of the dashboard.

Remove the underdash panel screw (arrow).



Step 10 - Remove the underdash panel

Remove the remaining two screws from the underdash panel (arrows) and drop the panel down into the footwell.



Step 11 - Remove DLC and light from dash panel

Disconnect the black/purple data link connector (DLC) (left arrow) and footwell light (right arrow) from the underdash panel; then remove the panel from the car to get it out of your way.



Section 1 - Run the Vacuum Line - Install the Transducer

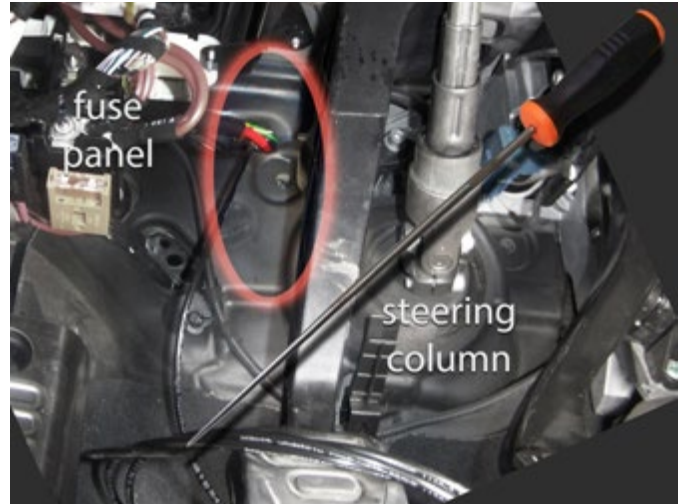
Audi B7/A4

Step 12 - Run the vacuum line

Locate the main red cable in the firewall that runs from the battery positive to the power distribution panel. It is located just to the left of the clutch pedal return spring mechanism, highlighted here inside the orange oval.

The power cable is routed through a heavy rubber grommet in the firewall. There is an open location right next to the cable hole, with a molded recess.

Using a long thin, sharp, punch, poke a hole in the empty recess. Then push the rigid plastic cable in the kit through the hole, into the water tray.



Step 13 - Run the vacuum line

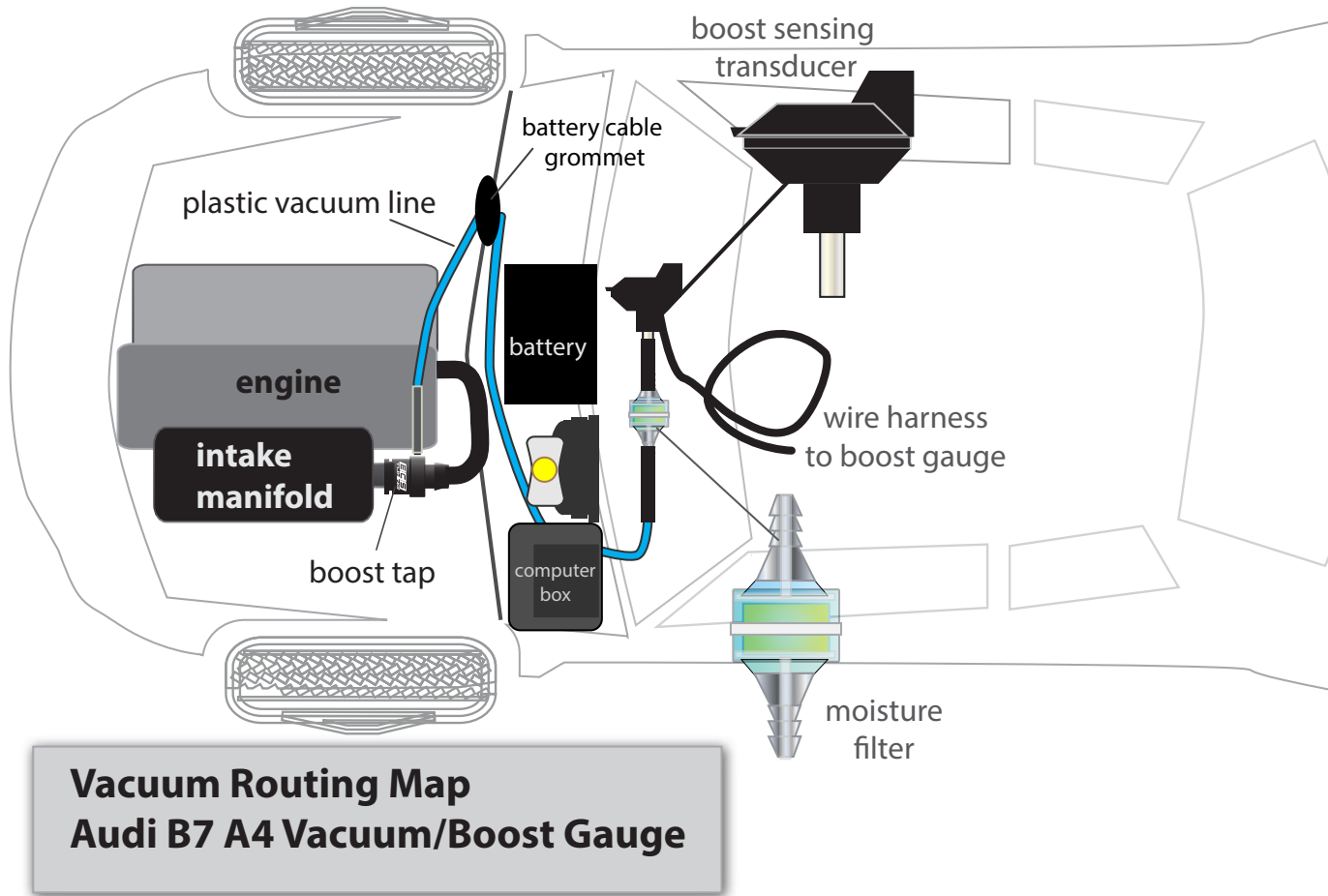
The plastic line will exit the grommet in the water tray in the general area between the computer and brake vacuum booster.

You may find it helpful to have someone under the hood to snag the line when it appears, and help pull it through.



Section 1 - Run the Vacuum Line - Install the Transducer

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**Step 14 - Under the hood -
Connect the rigid vacuum line.**

Under the hood

- Route the rigid vacuum line along the water tray in front of the battery.
- Push it through the large negative battery cable grommet.
- Route the line back across the front of the water tray to the braided hose at the vacuum tee.
- Connect the rigid line to the braided hose at the tee.
- Use zip ties to secure the plastic line. Do not pull the line it too tight at the vacuum tee. Leave a slight bend in the soft hose to compensate for engine movement.

Beneath the dash

Using short lengths of braided hose, connect the plastic line, moisture filter, and transducer. Using zip ties, secure all lines and hoses so they will not interfere with any components. Let the transducer wire harness hang free for now.

Section 2 - Install the Vent Pod and Gauge

Audi B7/A4

Step 1 - Loosen the vent

Using a plastic, non-marring trim removal tool, pry the center vent assembly from the dash. Pry carefully at several places until the entire vent assembly pops out.

ECS sells two trim removal tool sets, ideal for removing interior trim panels and other plastic components: [ES2500877](#) and [ES517779](#).



Step 2 - Remove the vent

Slide the vent assembly out of the dash and disconnect the yellow electrical connector at the rear.



Step 3 - Remove the vent front cover

With the assembly removed from the dash, pry on the plastic retainer clips securing the front cover to the vent housing.

When all tabs are released, separate the vent housing and front cover.



Section 2 - Install the Vent Pod and Gauge

Audi B7/A4

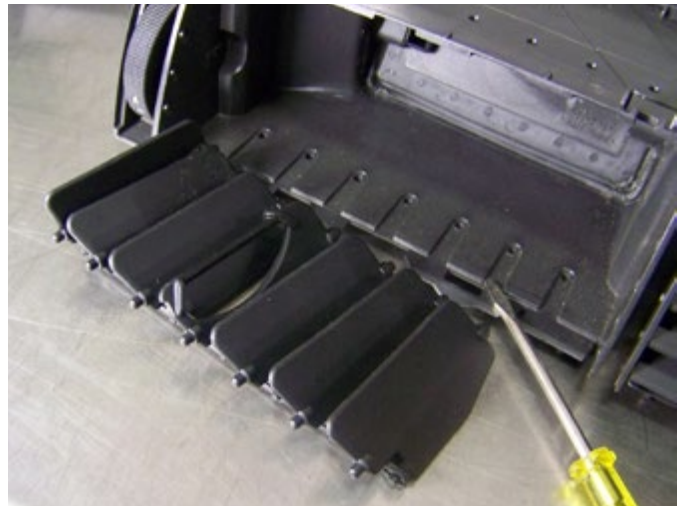
Step 4 - Remove the horizontal louvers

Using a flat-bladed trim removal tool or a small common screwdriver, pry on the horizontal louvers to remove them.



Step 5 - Remove the vertical louvers

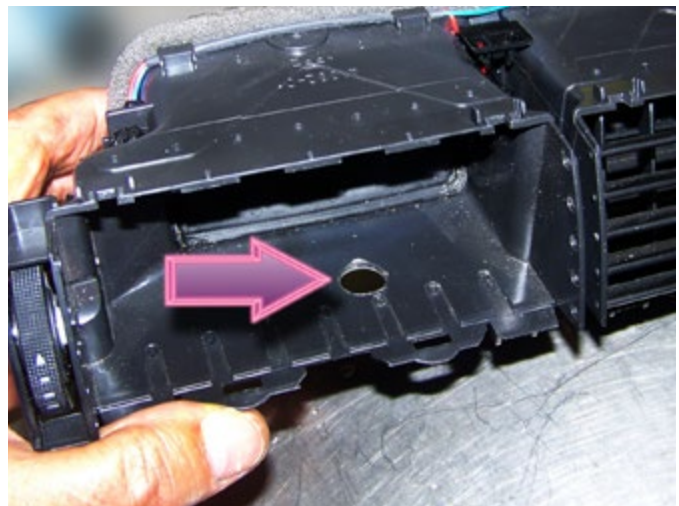
Using a flat-bladed trim removal tool or a small common screwdriver, pry on the vertical louvers to remove them.



Step 6 - Drill the harness hole

With all louvers removed, drill a 3/8-inch hole in the bottom of the vent opening, at the location shown.

We will route the gauge wiring harnesses through this hole to the back of the vacuum boost gauge, when it is installed.



Section 2 - Install the Vent Pod and Gauge

Audi B7/A4

Step 7 - Install the o-ring on the gauge

Lightly lubricate the rubber o-ring in the kit and slide it around the gauge body, as shown (arrow).



Step 8 - Install the gauge in the pod

Insert the gauge into the pod opening. Grip the base of the pod at its strongest point, as shown. Then push and twist the gauge at the same time until it sits flush with the pod.

Rotate the gauge after it is fully seated to properly align it in the pod.



Step 9 - Route the harnesses

Locate the connector end of the boost sensor transducer harness.

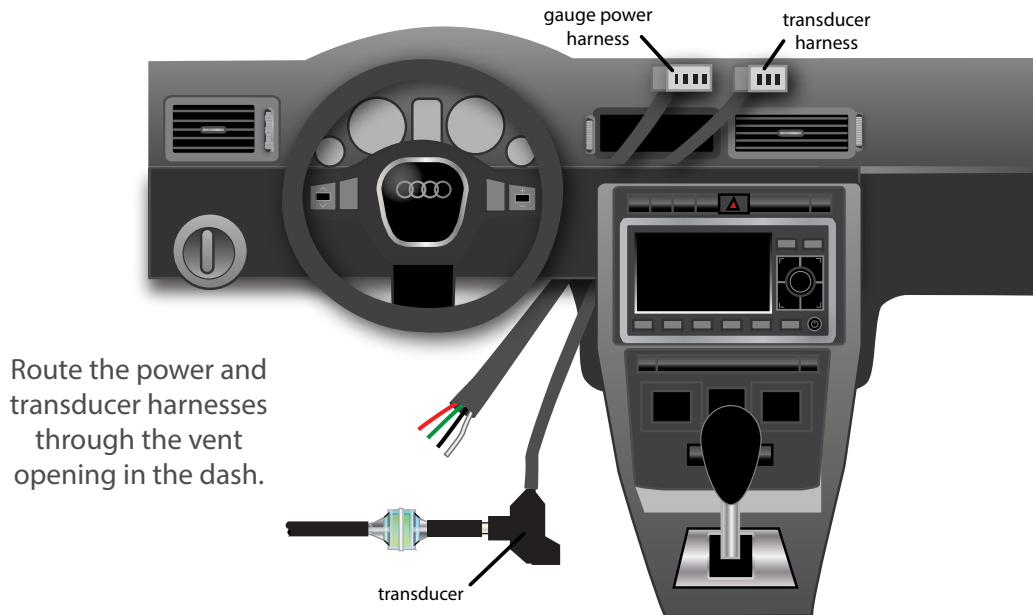
Temporarily tie it to the power harness from the kit, then route both harnesses up through the side of the center console to the vent opening in the dash.

See the next image for a schematic showing the harness routing.



Section 2 - Install the Vent Pod and Gauge

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Step 10 - Route the harnesses

Connect the two harnesses to the back of the gauge.



Step 11 - Install the vent pod

Install the vent pod assembly into the vent housing.

Align the small pins in the ends of the individual louvers with the mating holes in the vent housing.

(See next image for close-up photo.)



Section 2 - Install the Vent Pod and Gauge

Audi B7/A4

Step 12 - Install the vent pod

This close-up shows the louver pins and mating holes in the vent housing. Align the pins on both sides of the vent pod carefully as you install them to prevent breakage.



Step 13 - Install the front cover

Reinstall the front cover removed in Step 3. Snap it back in place.

Reconnect the small yellow electrical connector at the rear of the vent assembly.



Step 14 - Install the vent assembly

Slide the entire vent assembly back into the dash opening, being careful not to pinch any wiring. Push evenly until the retainer clips snap in place.

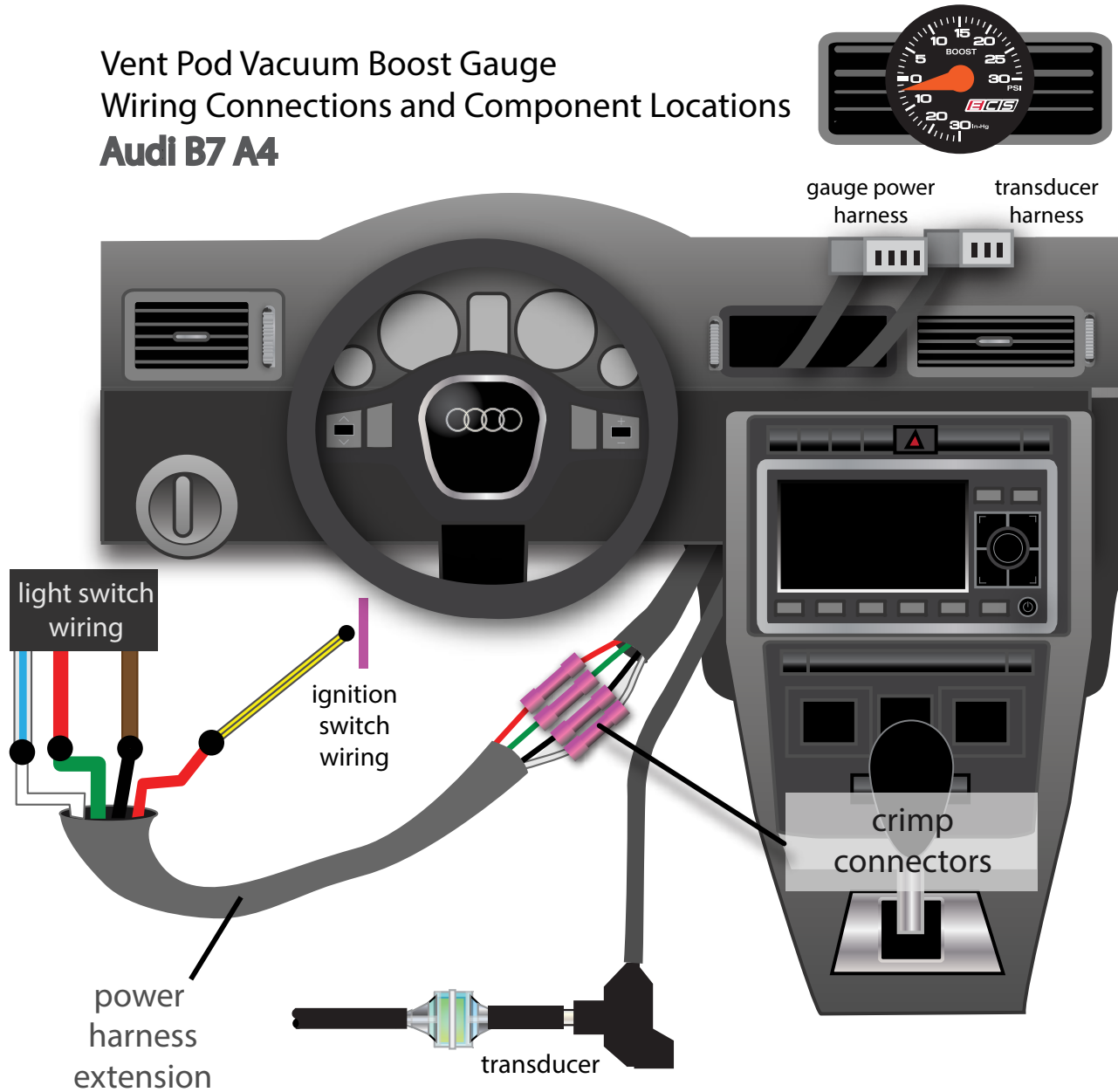
If you haven't already done so, you can peel off the protective plastic film from the gauge face.



Section 3 - Connect the Gauge Wiring

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**Vent Pod Vacuum Boost Gauge
Wiring Connections and Component Locations
Audi B7 A4**



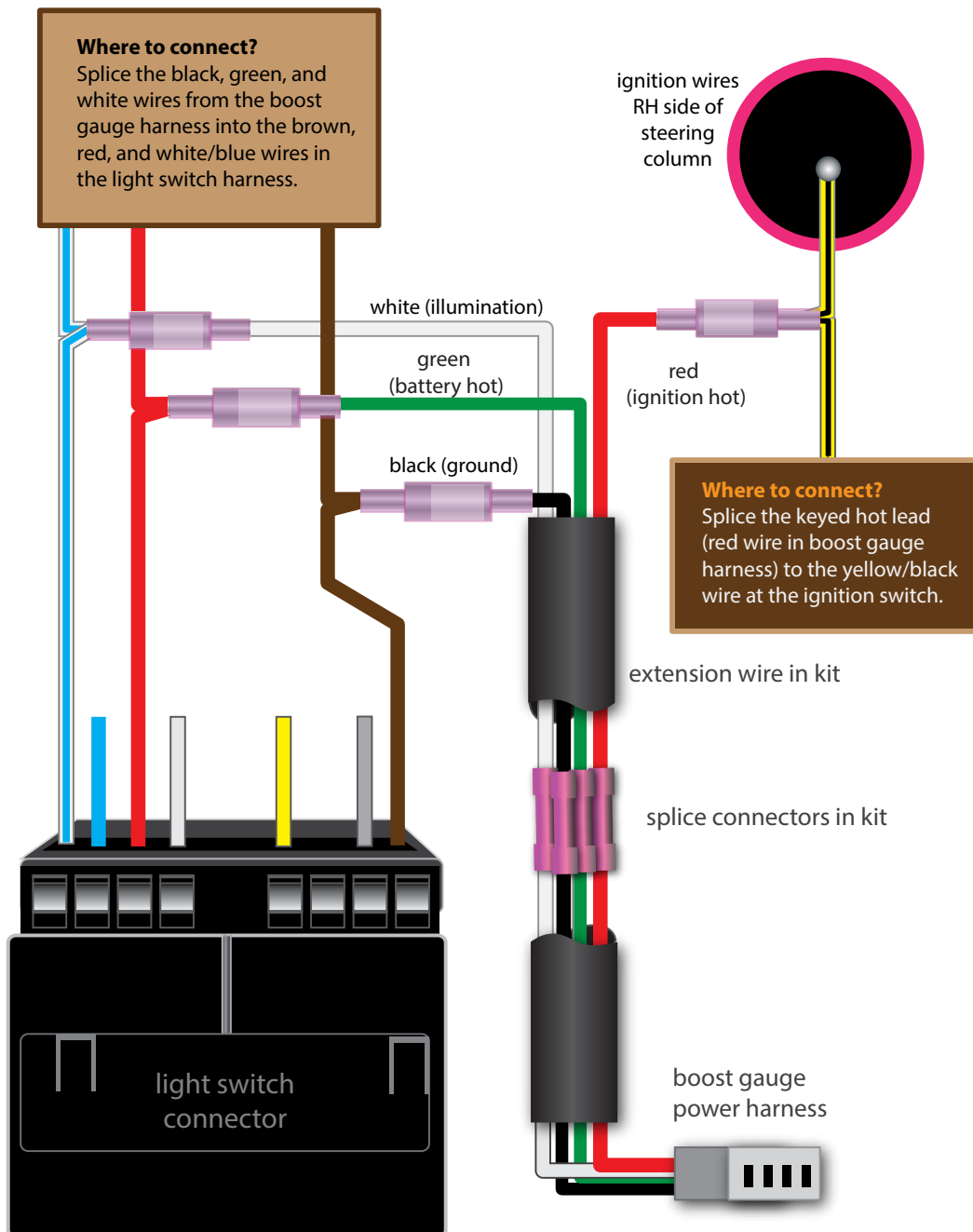
Use the length of wire in the kit with the crimp connectors to extend the length of the power harness.
Route it beneath the dash to the left side of the dashboard in the general area near the headlight switch.
The image on the next page shows splice locations in greater detail.

Section 3 - Connect the Gauge Wiring

Audi B7/A4

This schematic shows the wire connections at the headlight switch and ignition wire bundle.

Vacuum/Boost Gauge Power Harness Wiring



Section 3 - Connect the Gauge Wiring

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Step 1 - Removing the light switch

To access the electrical wiring at the rear of the headlight switch, first remove it from the dash.

To remove the switch: Push in on the center knob and rotate it to a position between OFF and AUTO.

Then pull the switch straight out of the dash and unplug it from its electrical connector.



Step 2 - Remove the DRL switch

Pull the daytime running light (DRL)/coming home/leaving home switch body from the dash and disconnect it.

Then pull the two light switch wiring harnesses back through the dash.



Step 3 - Splice wiring at light switch

With the headlight switch harness connector pulled away from the dash, there is ample room to make your splice connections using the schematic on the previous page.



Section 3 - Connect the Gauge Wiring

Audi B7/A4

Step 4 - Splice wiring at ignition switch

To complete the wiring connections, remove the plastic clam shell trim surrounding the steering column to expose the ignition switch wiring.

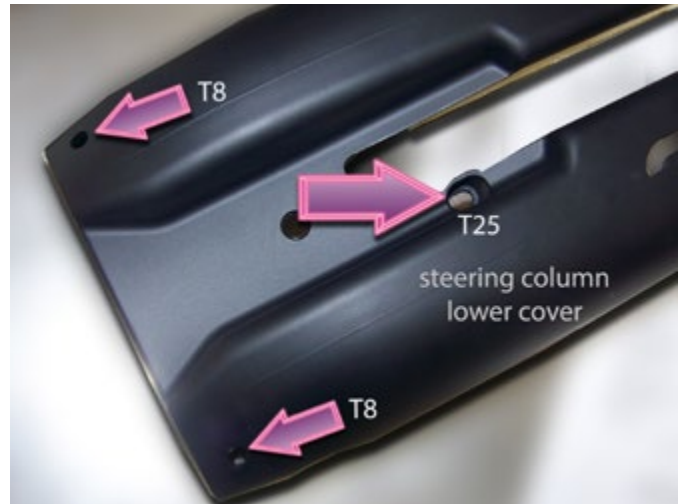
Using Torx drivers, remove the two T8 and single T25 screws from the lower cover (see next photo). Then pry carefully at the horizontal seam between the upper and lower covers to separate them.

Remove the lower cover



Step 5 - Dash cover screw locations

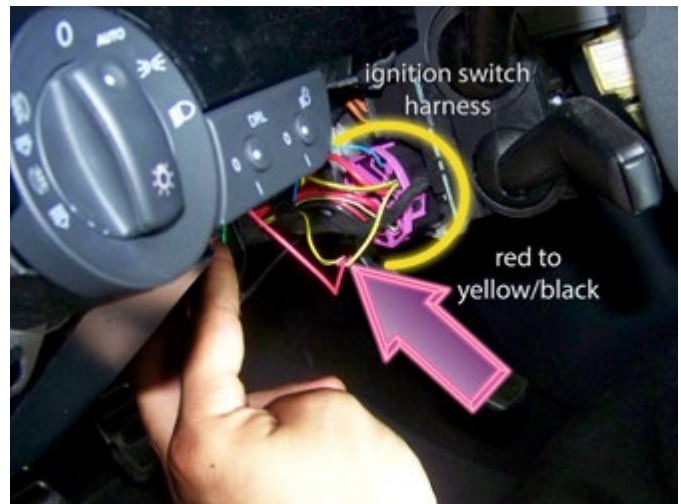
This photo shows the lower cover removed to give you a better view of the three screw locations.



Step 6 - Splice into ignition wire

Locate the yellow wire with black tracer at the ignition wire bundle (arrow). Splice the last wire from the vacuum/boost harness (red) into this wire.

With all wires connected and properly insulated, test gauge operation and illumination.



Section 3 - Connect the Gauge Wiring

Audi B7/A4

Step 7 - Gauge initialization

Each time you turn the ignition to the on position, the vacuum/boost gauge should initialize. This is normal.

Key-on, the gauge needle will initialize. It will sweep back and forth between maximum vacuum and boost before settling at zero. This is normal.

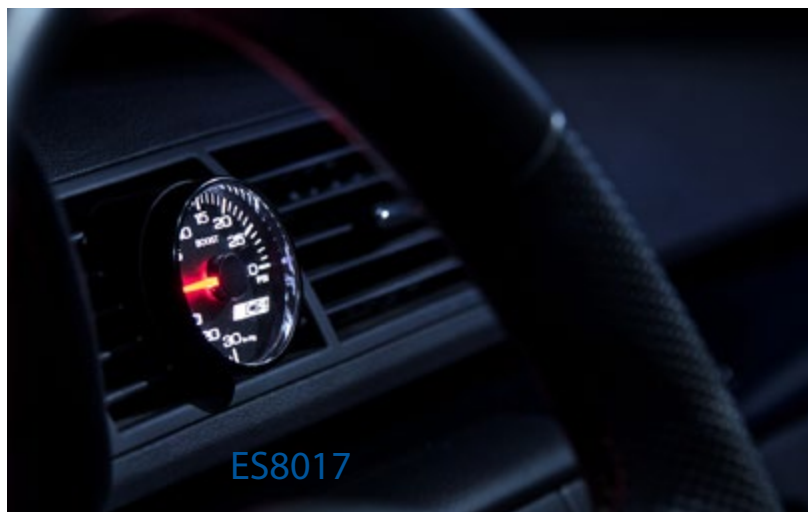
Once the engine starts, the needle indicates either engine vacuum or boost, depending on engine conditions.



Step 8 - Complete the job

Reinstall the light switches in the dash. Before reinstalling the underdash and underhood panels, take time to inspect all lines, hoses, and wiring to be sure they are properly secured with zip ties, and that none of them interferes with any moving object.

Be extra careful to route them away from the steering column and pedals.



ES8017

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.