Volkswagen Cabriolet DIY Guide
Installing LEDs

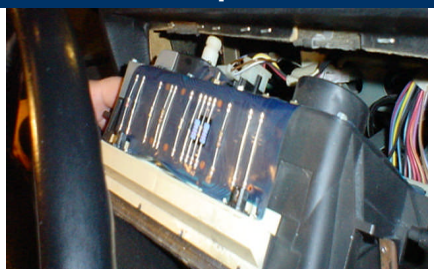
Installing LEDs into the Instrument Cluster

Tools needed: (does not include tools for removing cluster)
- Test leads (not required, but makes things easier)
- 9V battery (not required, but makes things easier)
- Phillips screwdriver
- Flathead screwdriver (including small, thin one)

Parts needed:
- Three B8.3D LEDs

Source: www.superbrightleds.com

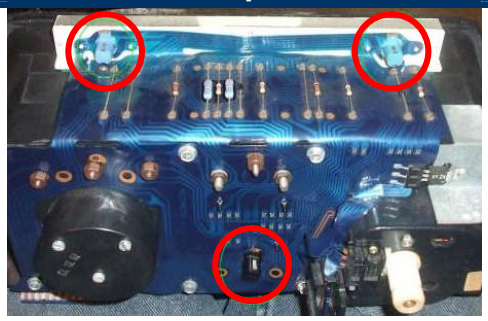
Step 1



Remove the instrument cluster.

Please refer to the following DIY guide: http://cabby-info.com/Files/DashRemoval.pdf .

Step 2



Lay the cluster on a table and remove (twist) the three original bulbs (locations circled).

Step 3

Install (twist) the new LED replacement bulbs in the original bulb locations.

Step 4

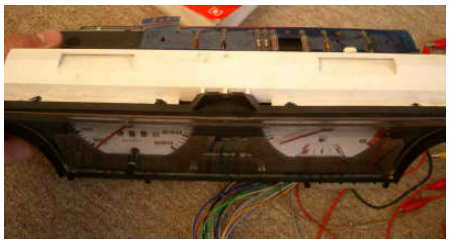
These bulbs require correct polarity; therefore, we need to test them.

Option 1: Attach your test leads to a 9V battery & apply power to each LED. If they light up, continue to step 5. If they do not light up, remove & reinstall the bulbs, reversing the polarity from Step 3. Apply power again & they should light up.

Option 2: Reinstall headlight switch, plug the cluster back into the dash, and flip the light switch on. If any LEDs do not light up, turn the switch off, unplug the cluster, remove and reinstall the bulbs, reversing the polarity from Step 3.

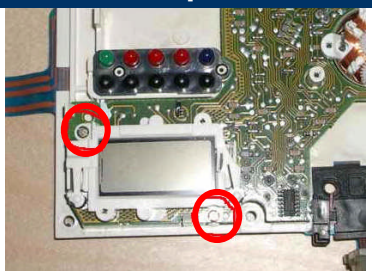
Step 5

If you are keeping the original, OEM green glow, skip to Step 8.

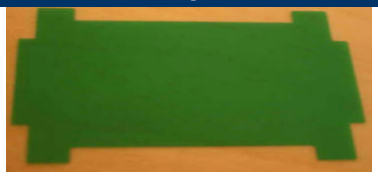


If you are changing the color of your cluster's lighting: Carefully remove the white cover from the top of the cluster, pull out the green film & reinstall the white cover.

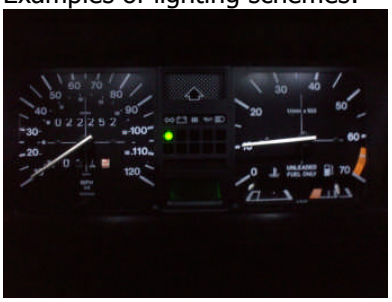
Step 6



Now, you'll need to remove the screws holding the front and back cluster pieces together so that you can get to the inside. Once you get to the clock & idiot light circuit board, undo the two screws circled. There are another 2 screws under it. To undo them, lift the circuit just enough to get a small screwdriver in at an angle to get them out. You cannot get the board out unless you remove the flexible board completely. They are attached together.

Step 7	Step 8	Optional
 Once all 4 screws are out, you can lift the white cover and have access to the LCD screen. The LCD screen is held in place by two rubber pieces. Under the LCD screen you will find the green film that gives that nice green light; remove that film. Put the cluster back together.	 When the bulbs are all working and you are satisfied with their color, etc., reinstall the cluster and remaining dash components.	**While the headlight switch is readily accessible, now is a good time to replace it as well with a #24 LED.**

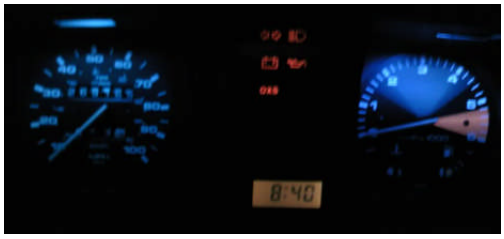
Examples of lighting schemes:

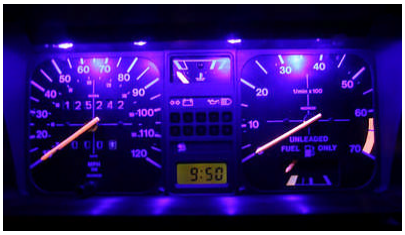

white LEDs


blue LEDs
(not installed in original bulb locations)


red LEDs


green LEDs
(green film removed)


blue LEDs, red LED, white LED
(Vanagon cluster)


UV/blacklight LEDs
(not installed in original bulb locations; needles painted fluorescent orange)

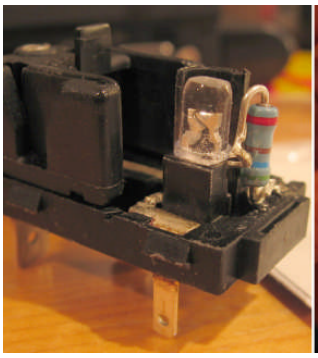
Installing LEDs into the dash switches

Working on it!

Tools needed:

Parts needed:

Step 1	Step 2	Step 3



Installing LEDs into the Center Console Gauges

Read through this guide before beginning.

Tools needed: (does not include tools for removing center console & gauges; all tools may not be listed for this project)

- Test leads (not required, but makes things easier)
- 9V battery (not required, but makes things easier)
- Small adjustable wrench
- 20, 18 or 16 gauge wire, cut into six pieces 6"-8" long
- Wire cutter, stripper & crimper
- Electrical tape
- Solder & solder iron
- Heat gun or hair dryer or candle (optional, depending on how you wish to splice wires)

Parts needed:

- Wire butt splices (or heat-shrink tubes)
- Three B8.3D LEDs

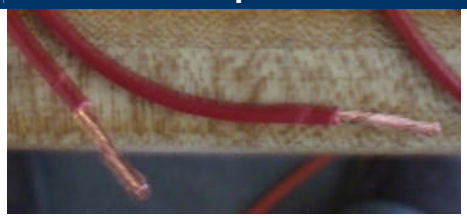
Source: www.superbrightleds.com

Step 1

Remove the center console, the three VDO gauges, and the VDO bulbs.

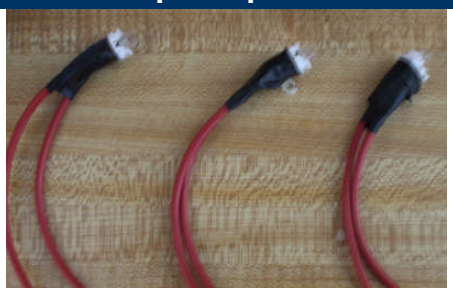
Make note of which wires go to which gauge; brown = ground.

Step 2



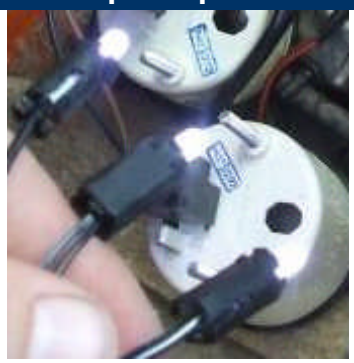
Strip ¼" insulation off both ends of all six wires.

Step 3 – option 1



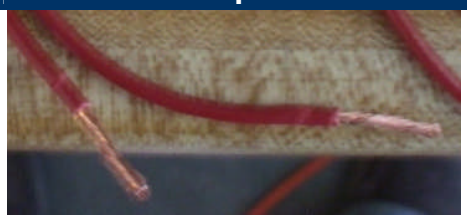
Solder the wires onto the LED contacts, one wire per contact. Afterward, wrap each LED base with electrical tape.

Step 3 – option 2



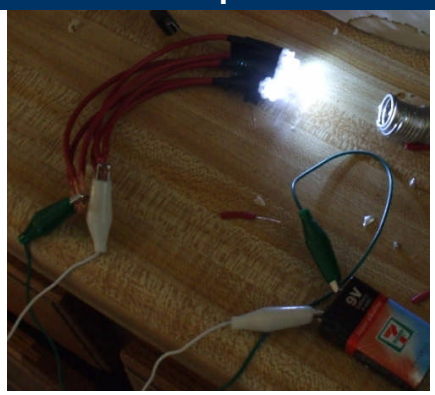
Carefully remove the original bulbs from each of their sockets and likewise with the LED bulbs. Insert the LED bulbs into the original bulb bases. (Some altering may have to be done to the bases.) Skip to Step 5.

Step 4



If you chose option 1 in Step 3: Cut the original gauge wires and strip ¼" insulation off of all of those wires. Connect the new LED wires to the appropriate gauge wires by twisting them together. Do NOT permanently connect the wires yet!

Step 5

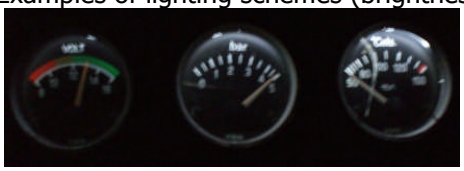


These bulbs require correct polarity; therefore, we need to test them.

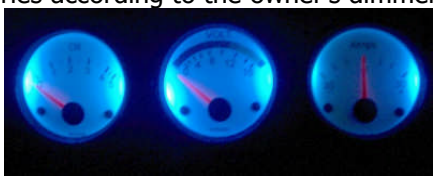
Flip on the headlight switch. If any of the LEDs do not light up: Turn off the switch and… Option 1 from Step 3, reverse the wire connections and retest; option 2 from Step 3, remove the bulbs and reinstall, reversing the polarity and retest.

Step 7	Step 8	
Once you've verified that the LEDs are working correctly and are satisfied with how the gauges look, make your permanent splice connections (butt splices, or solder/heat-shrink).	Install the LED bulbs into the gauges and reinstall the gauges and center console.	

Examples of lighting schemes (brightness varies according to the owner's dimmer switch setting):



white LEDs



blue LEDs
(not installed in original bulb locations)

green LEDs
(center is stock bulb)

Installing all other interior LEDs

Tools needed:

- Phillips screwdriver
- Straight screwdriver

Parts needed:

- License plate: Two BA9S LEDs (your choice in number of LEDs in the bulb)
- Courtesy light: One 4410 LED (your choice in number of LEDs in the bulb)*
- Trunk light: One 4410 LED (your choice in number of LEDs in the bulb)*

Source: www.superbrightleds.com

*Tip: buy one with a minimum of 3 LEDs.

All remaining interior lights are plug-n-play: Remove bulb covers, replace bulbs and reinstall covers.

Examples:

License Plate

stock bulb on the left, LED on the right

Trunk

Courtesy Light

Photo credits: Black_cabbie, djoutsider711, invintive, JPX, _IVAN_, and DaveLinger of VWvortex.com. Thanks guys!

* * Remember, **you** are responsible for working on **your** car; Cabby-Info.com, VWvortex.com, VAG, VWoA, or anyone else are not responsible if **anything** goes wrong while **you** are working on, in and under **your** car! Use this information at your own risk!* *