

Step 1: Locate and remove your OnStar control module

In the Phaeton, the control module is located on the equipment shelf in the boot, accessed by removing 7 Torx fasteners around the trailing (towards rear of car) and sides. The leading edge is hinged.

In the Touareg, the control module is located under the passenger seat and is accessible if you slide the seat all the way forward.

The bit required to remove the fasteners in both the Phaeton and the Touareg is a T20.



2004 Phaeton OnStar controller mounted on equipment shelf



2004 Touareg OnStar controller mounted in frame under front passenger seat (shown already removed)

Step 2: Detach the 42-pin connector and the two antenna leads. Set the OnStar module aside.

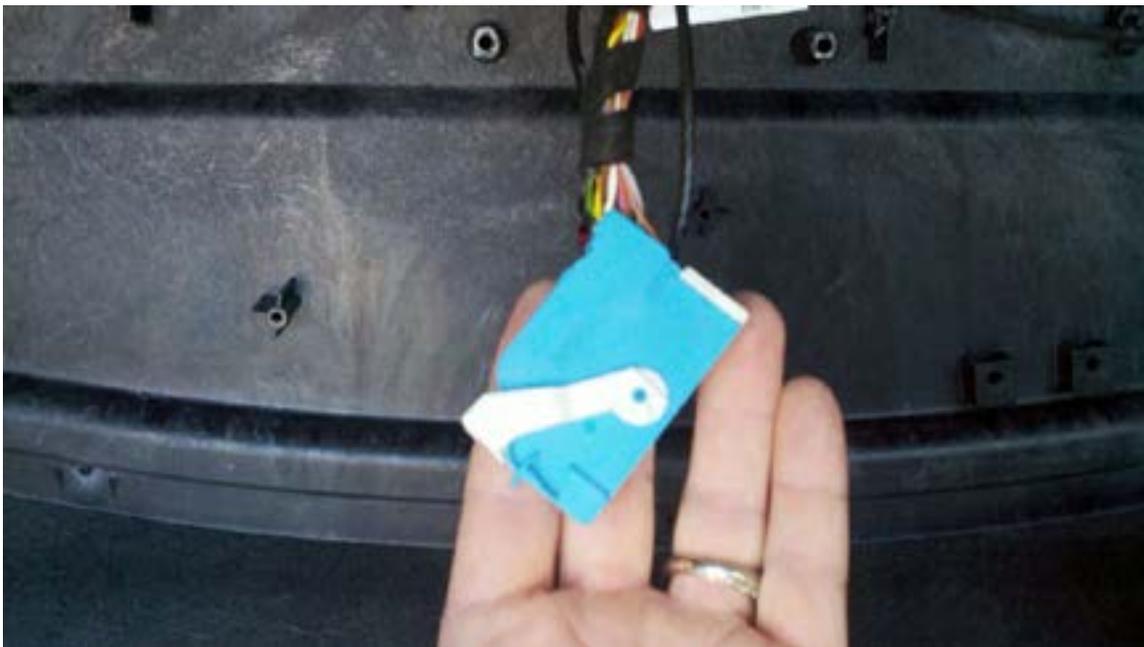
The 42-pin connector is secured in place by a lever lock, depressing a tab on the out edge will allow the lever lock to rotate in an arc away from the cable harness and release the connector from the control module.

The OnStar module itself is secured in a plastic frame that is reusable as a mount for the Bluestar once it is removed.



2004 Phaeton OnStar module removed from equipment shelf

TIP: *Once the 42-pin connector is free, thread it back towards the center of the boot to give yourself some extra room to work.*



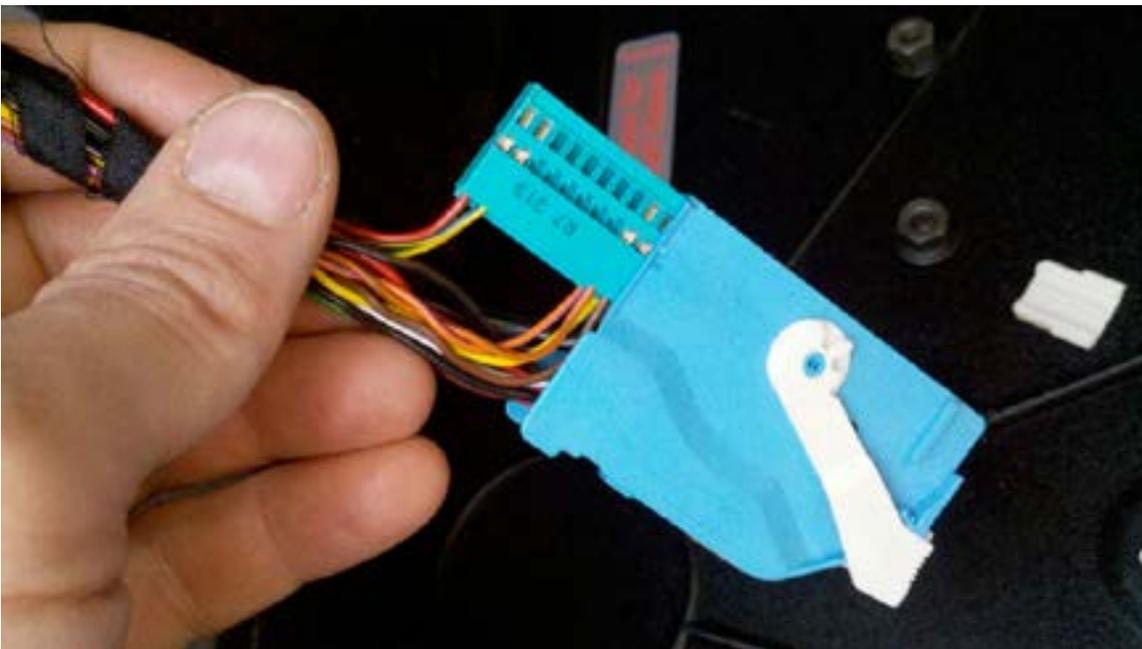
VW OnStar 42-pin connector

Step 3: Gently pry the outer guard cap off the 42-pin connector and slide the inner chassis from the outer guard.



VW OnStar 42-pin connector outer chassis guard

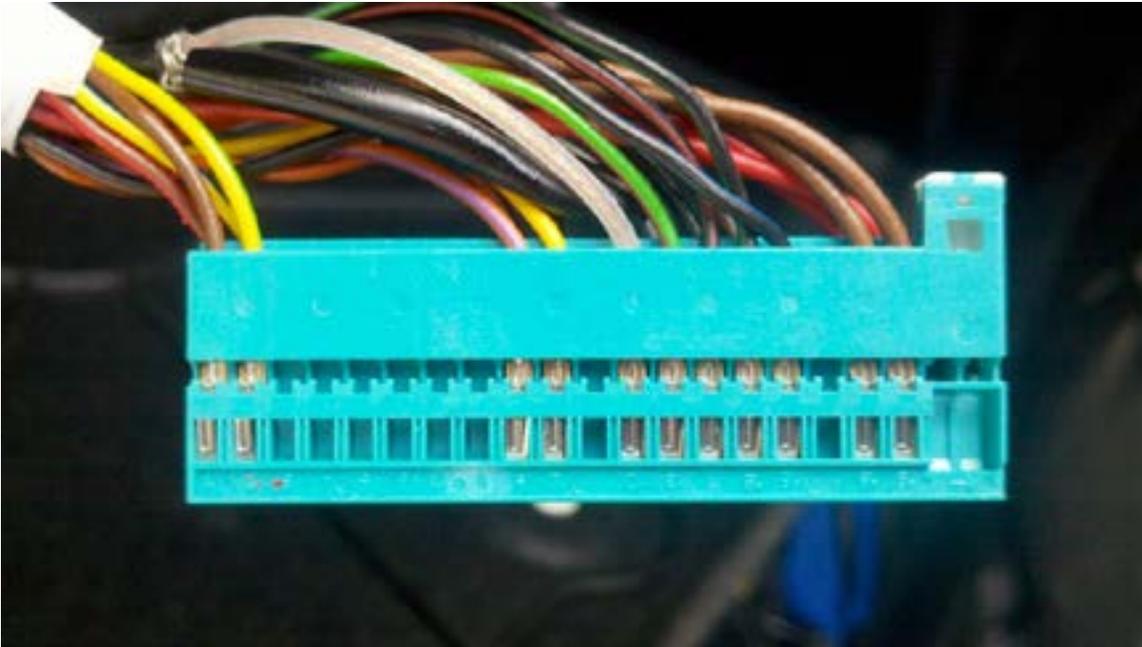
Use a small screwdriver to pry the guard off the end of the connector or use a pair of needle nose pliers to grasp it by one of the wings and “peel” it off the end.



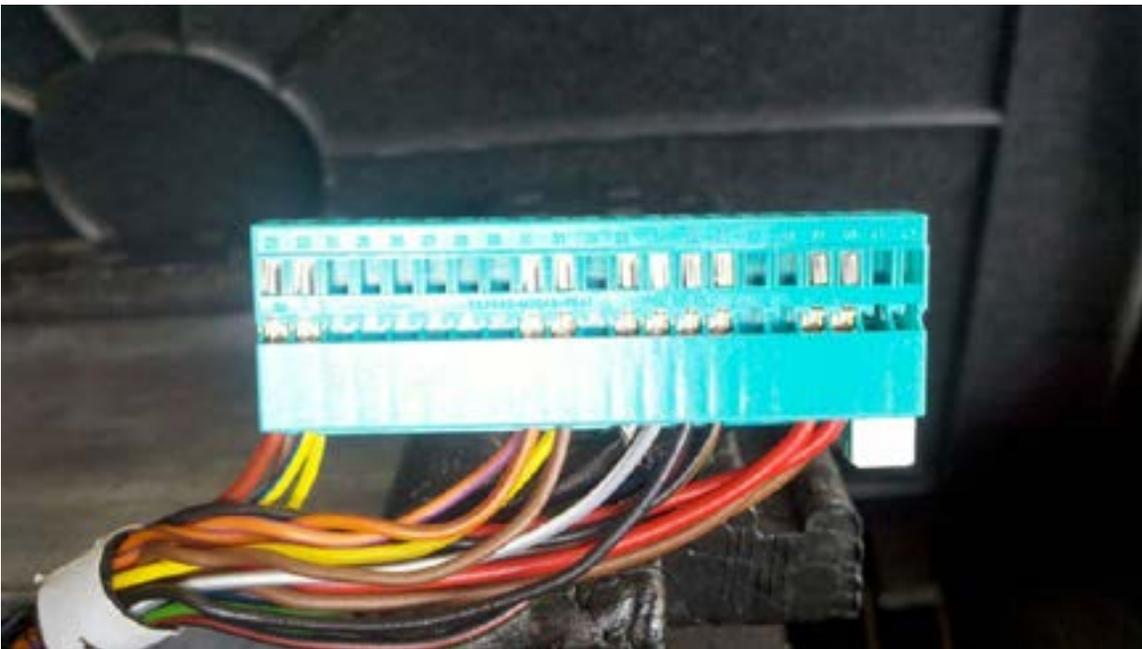
VW OnStar 42-pin connector inner chassis removal

The inner chassis that holds the wire terminals will slide easily from the open end of the connector chassis.

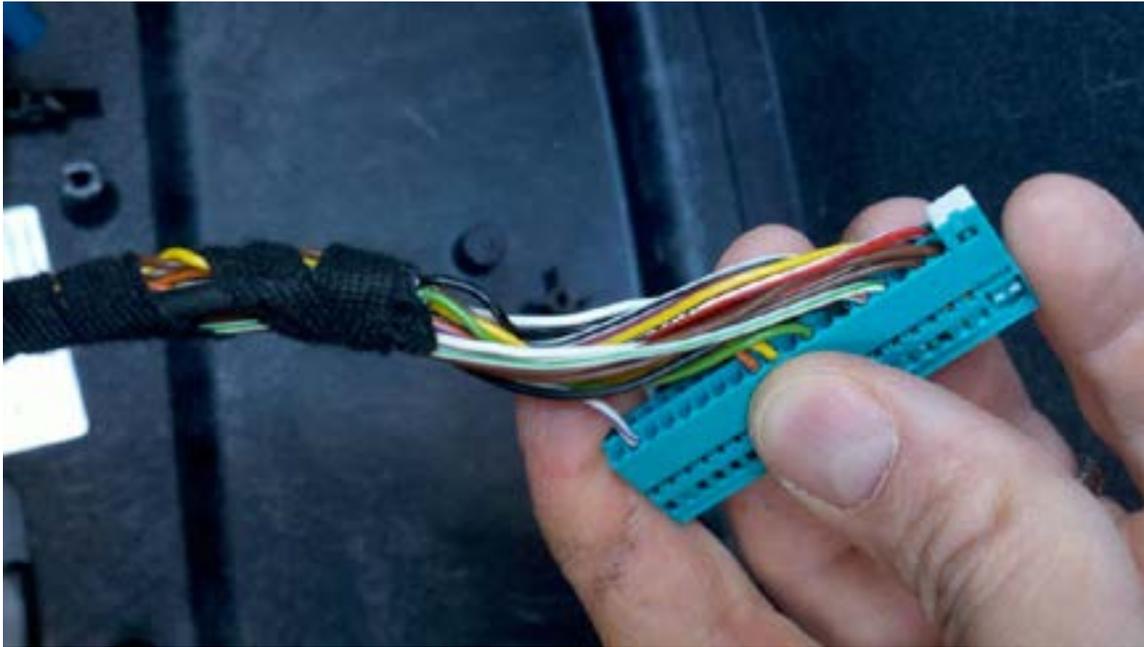
Step 4: Note the individual wire terminals are numbered 1-21 on one side and 22-42 on the other.



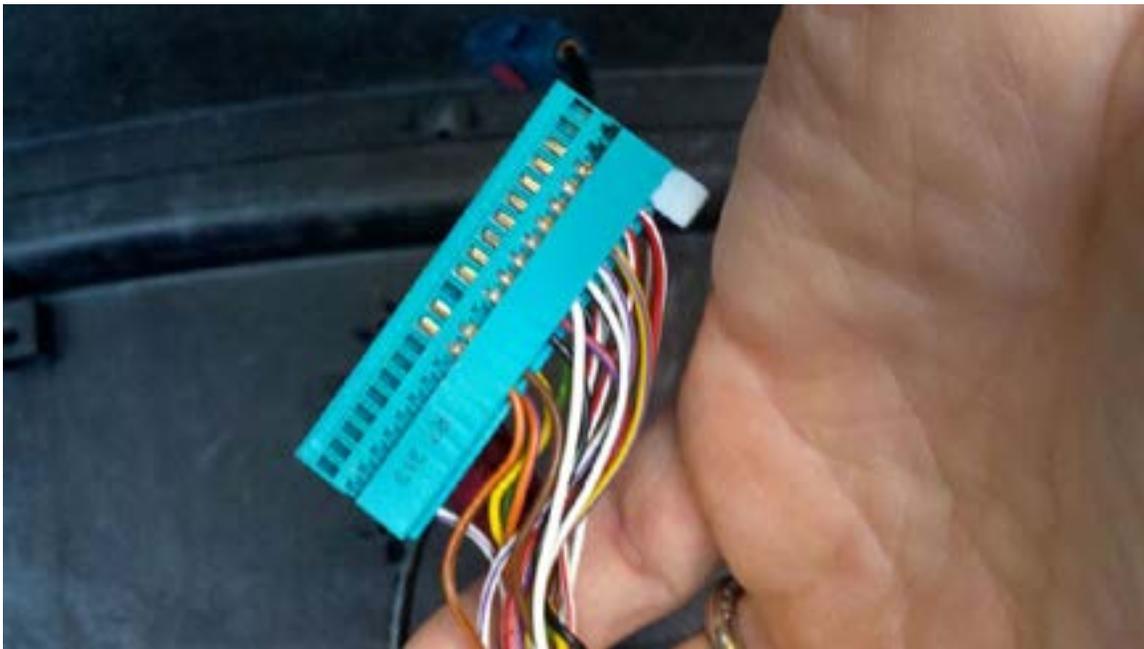
VW Passat OnStar 42-pin connector inner chassis pins 1-21, left to right



VW Passat OnStar 42-pin connector inner chassis pins 22-42, left to right



VW Phaeton OnStar 42-pin connector with cloth tape winding, pins 1-21 shown top left to bottom right



VW Phaeton OnStar 42-pin connector, pins 22-42 shown top right to bottom left

TIP: *The next step is much easier to complete if you unwind the cloth tape a few turns to expose about 4-5cm more of the individual wires.*

Step 5: Release the terminal locks on the new connectors.

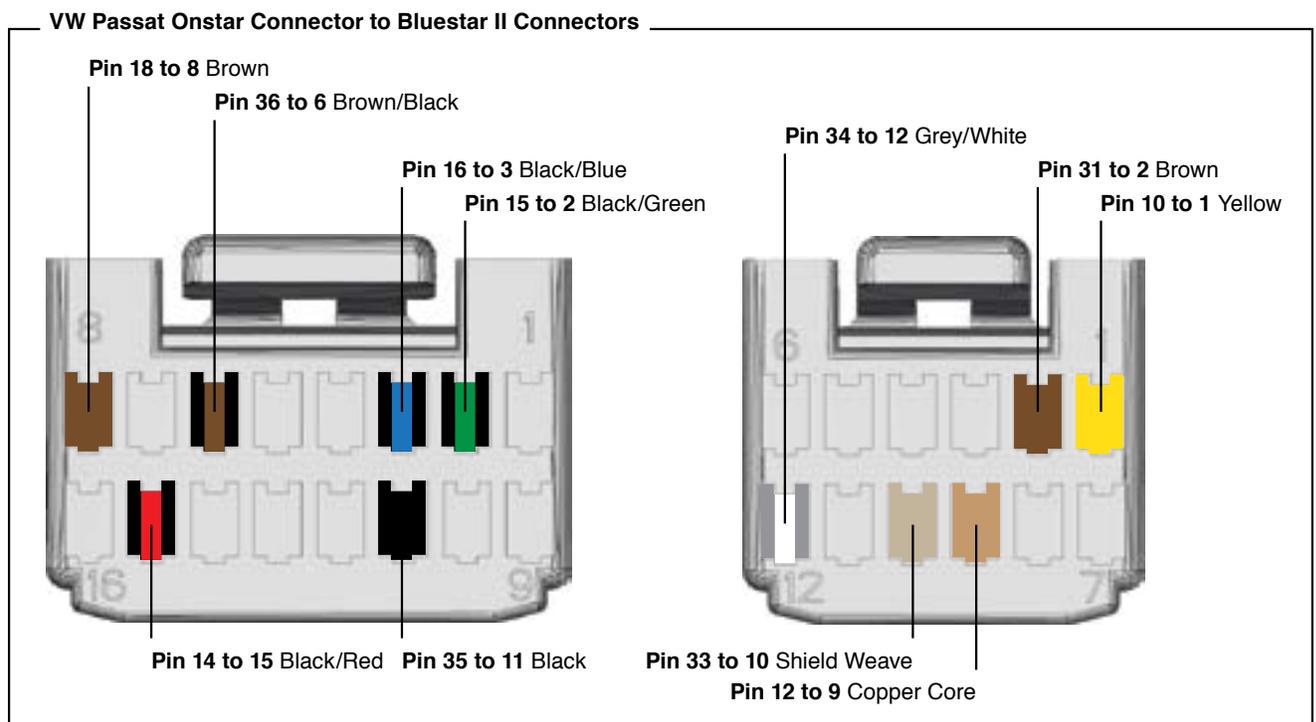


Releasing the lock on the new 16-pin Bluestar connector (disregard purple wires, they were an early test bundle on my installation only.)

The connectors were shipped to you with the terminal locks already open. If you can slide the tip of a precision screwdriver into the lock from the side as shown above, the lock is still open.

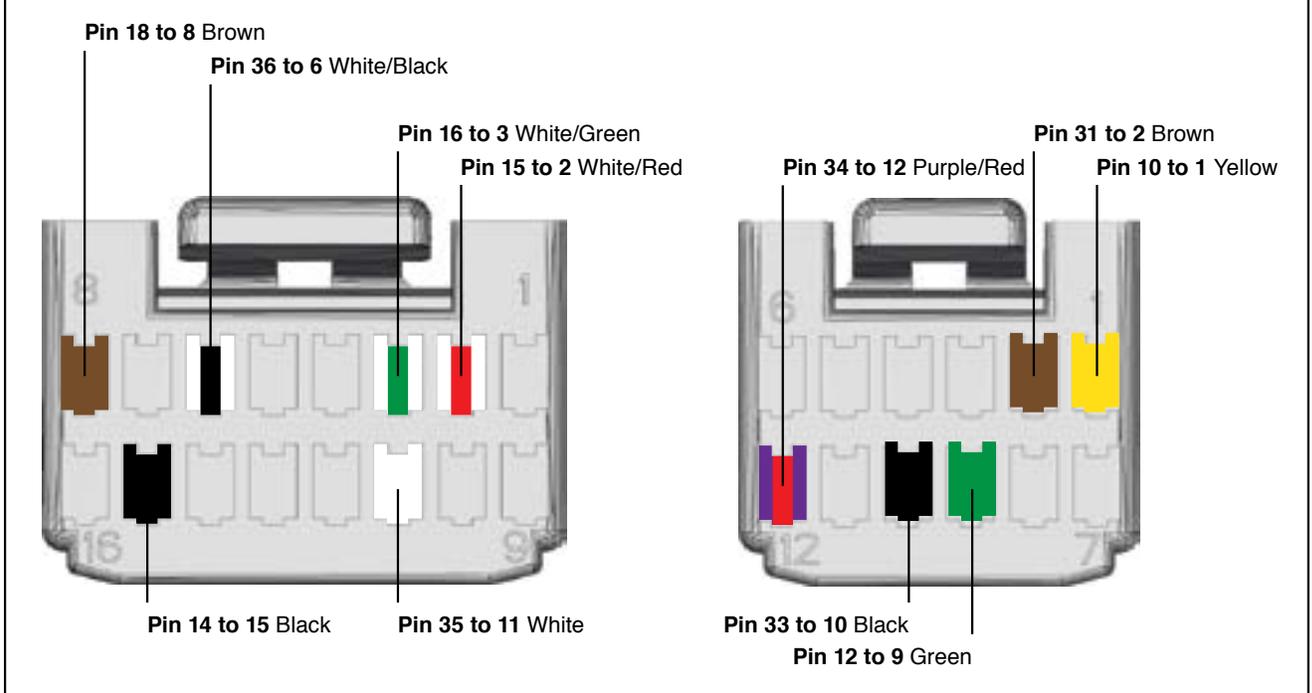
Step 6: Individual Wire Terminal Migrations

The following steps should be repeated for each of the 11 wire terminals that need to be migrated from the VW connector to the new Bluestar connector. Refer to the following wire terminal migration diagrams to find the one that applies to your model for terminal identification and target locations.

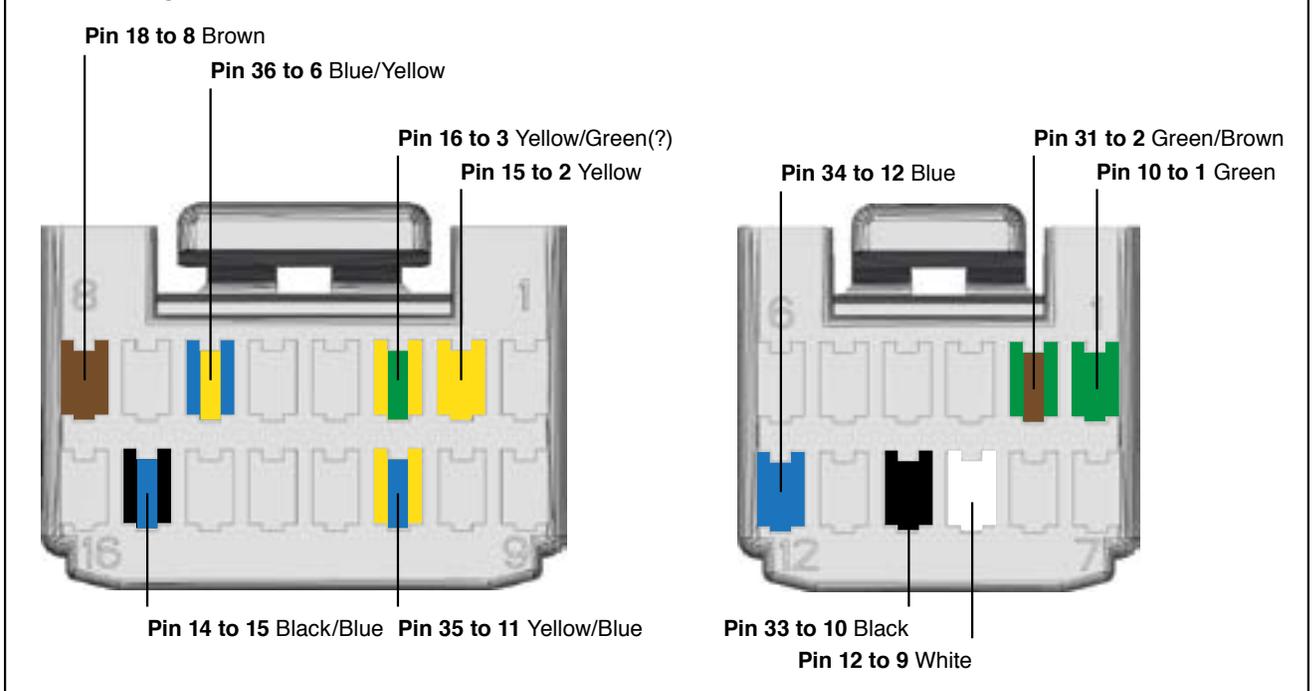


Step 6: Individual Wire Terminal Migrations (continued)

VW Phaeton Onstar Connector to Bluestar II Connectors

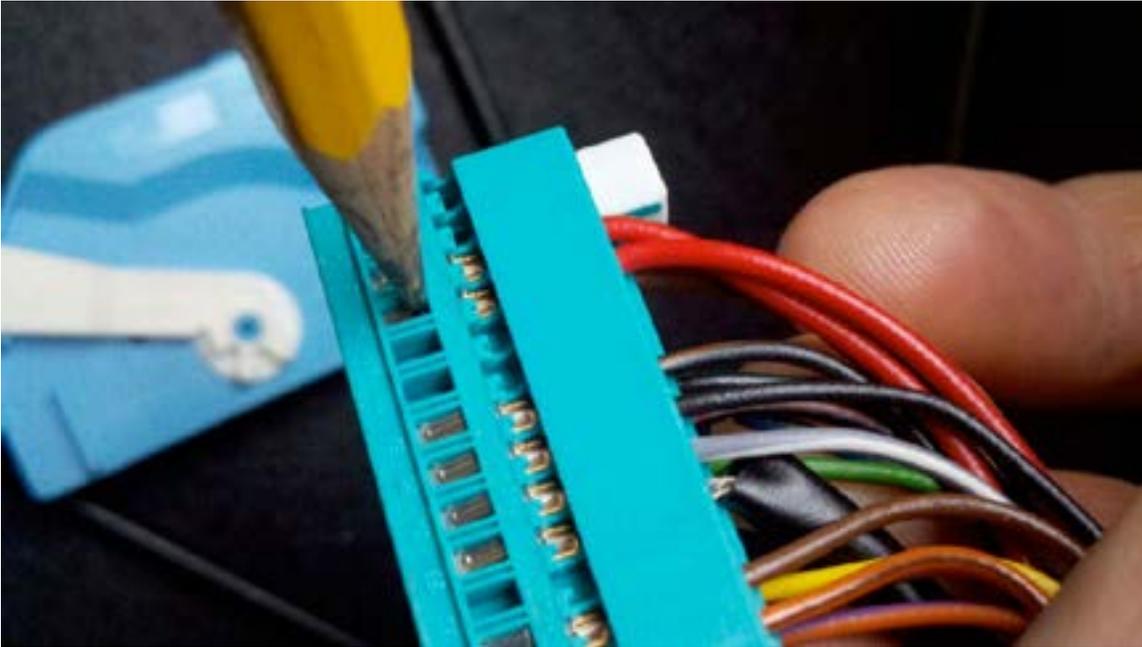


VW Touareg Onstar Connector to Bluestar II Connectors



Step 6: Individual Wire Terminal Migrations (continued)

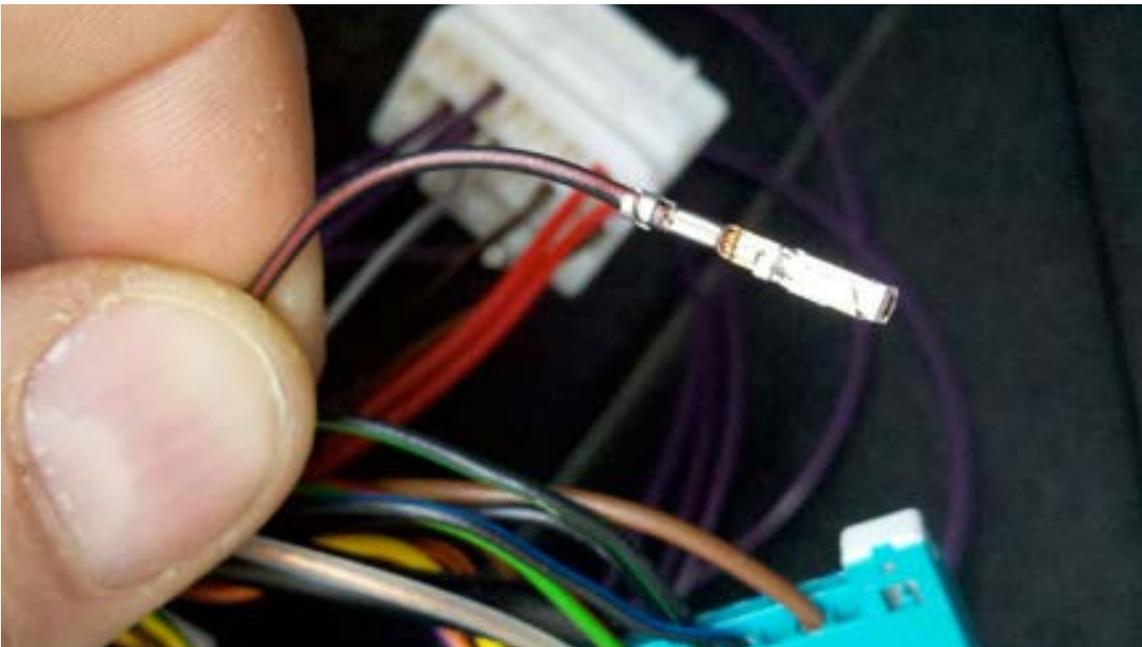
Wire Migration Step 6a: Release the single wire terminal from the inner connector by gently pulling the wire while depressing the locking tab with a precision screwdriver or a pencil tip.



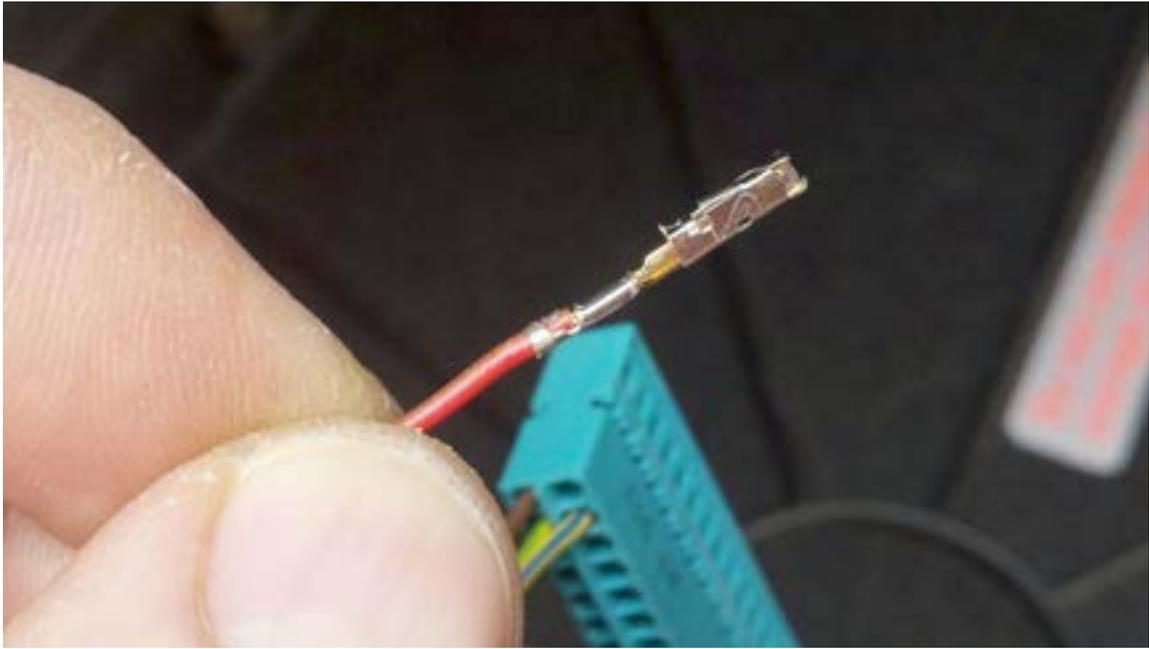
Releasing a single wire terminal using a sharpened pencil to depress the locking tab

Wire Migration Step 6b: Examine the removed wire terminal closely.

The locking tab is subtle, and is difficult to see even in profile. These wire terminals are specific to the VW connector pins, and the Bluestar connector actually mates better with a slightly larger wire terminal. However to make migration simpler, we can modify these terminals to make them lock securely in the new connectors and speed installation.



Closeup of the top of a single wire terminal from VW OnStar connector



Side view of a single wire terminal from VW OnStar connector

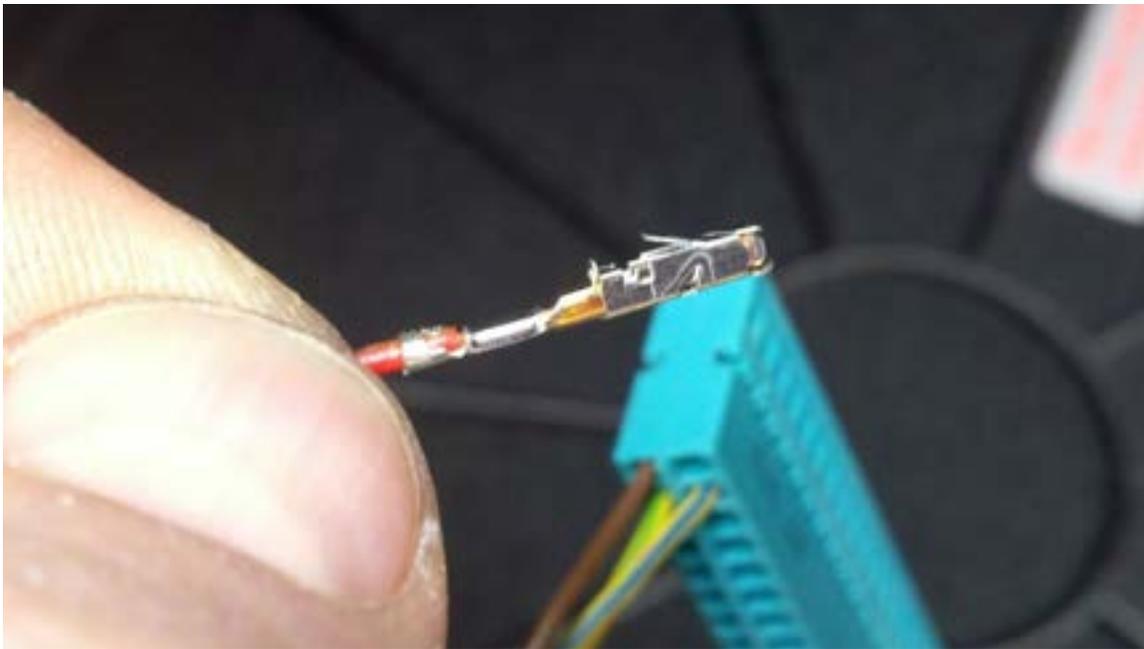
Step 6: Individual Wire Terminal Migrations (continued)

Wire Migration Step 6c: Use a precision screwdriver or thin knife blade to flare the locking tab out about 20°.



Using a precision screwdriver to flare the locking tab on a wire terminal from VW OnStar connector

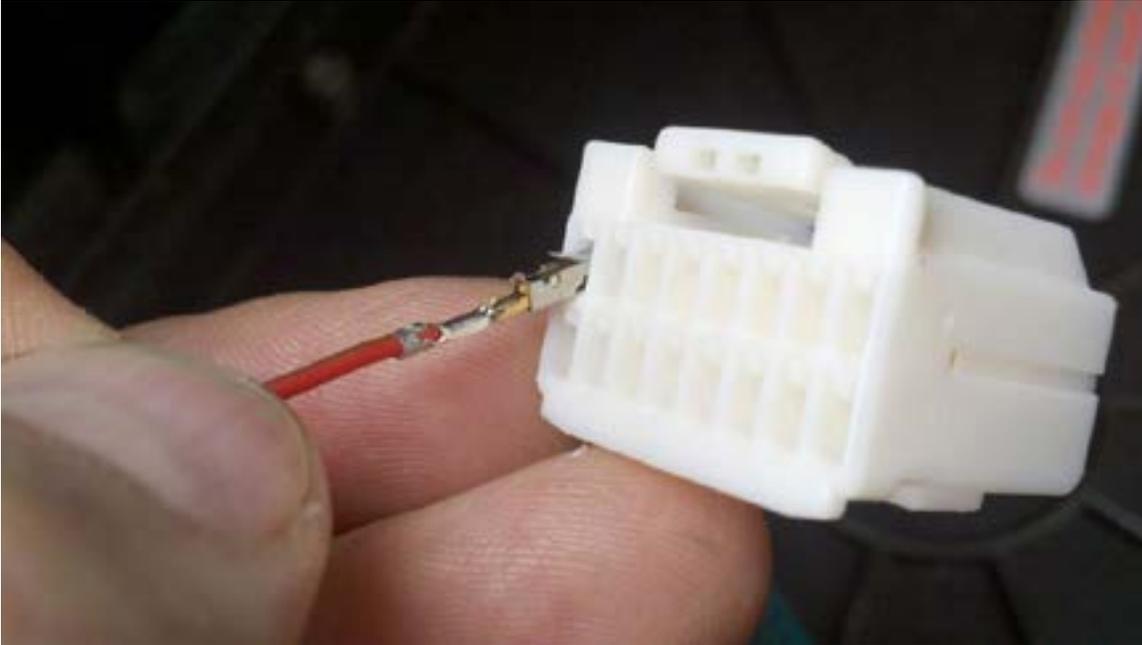
Insert the tip of your tool under the locking tab and gently pry the tab clear of the terminal body until it looks more like the side view below:



Side view of a modified wire terminal with the flared locking tab

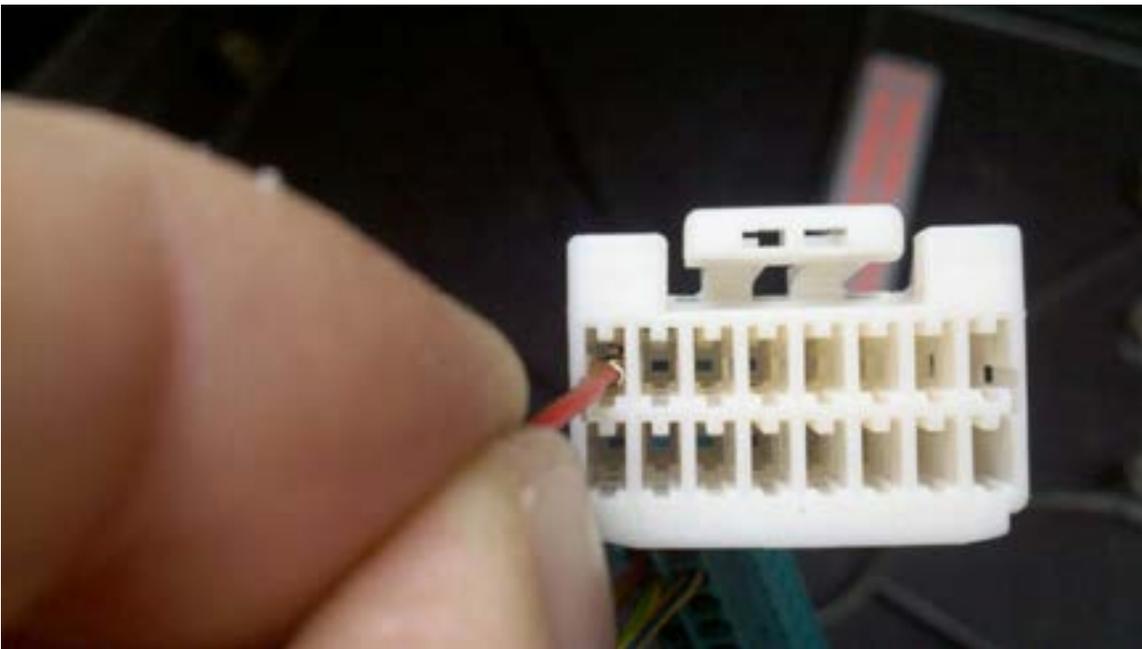
Step 6: Individual Wire Terminal Migrations (continued)

Wire Migration Step 6d: Insert the modified terminal into the new connector in the target position, with the locking tab on the same side as the locking tab on the connector itself (the locking tab that keeps the connector in place when inserted into the Bluestar.)

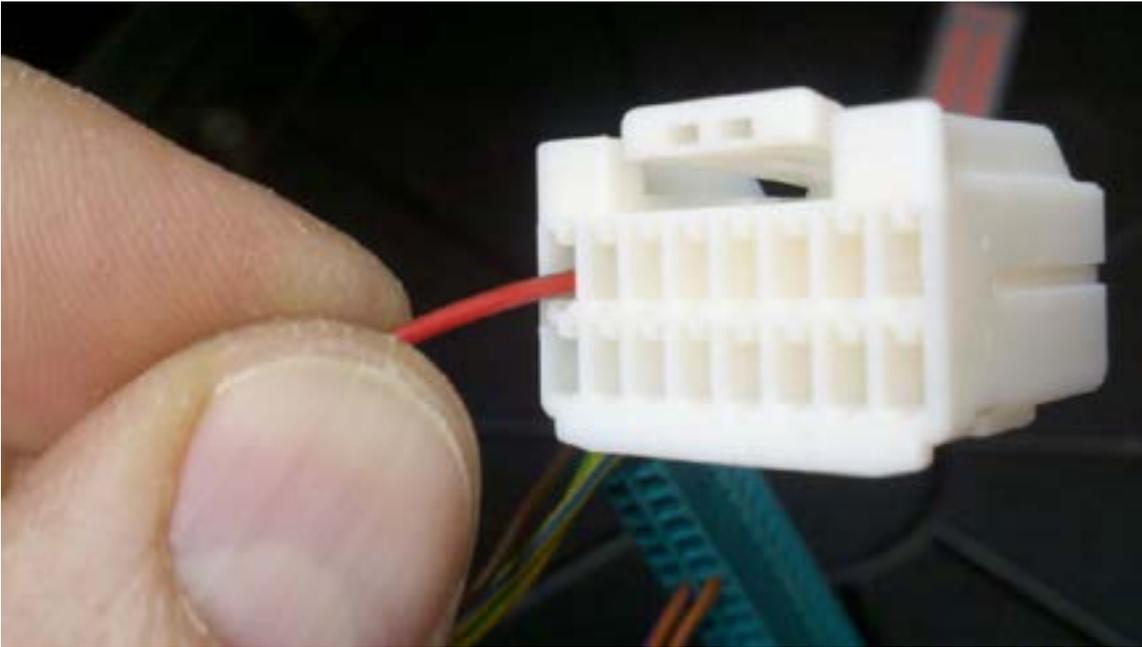


Inserting the wire terminal into the new connector with the locking tab facing up

Push the wire terminal into the new connector until the metal body is completely within the connector chassis by 2-3mm.



Looking straight into new connector with wire terminal seated properly

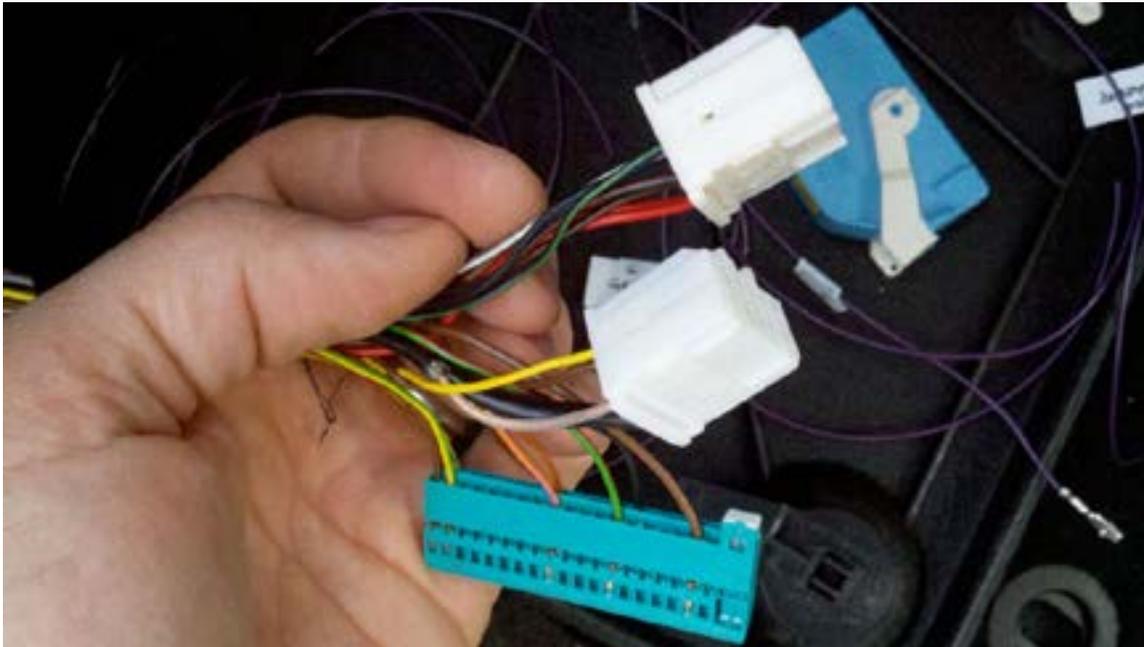


Side view of the new connector with the wire terminal seated properly

Repeat Wire Migration Steps 6a-6d for each of the 11 wire terminals that are required by Bluestar.

Step 7: Lock the migrated wire terminals in the new connectors

Check all your migrations against the diagrams and make sure all terminals are seated fully within the new connector housings, then depress the terminal lock into a flush or near-flush position on each new connector. Check the security of each of the wire terminals with a gentle tug—if any come loose, open the connector lock, reinsert the loose terminal, and then depress the connector lock again.



New connectors with all necessary wire terminals migrated from VW connectors

Step 8: Plug the new connectors into your Bluestar.

The wire terminals used by the VW connector were designed for slightly smaller pin, so the first time you connect the Bluestar, it will be tight. The Bluestar female connector's pins are a little thicker than the VW OnStar module female connector's. Once you get it on, it may also require a firm grip or a pair of pliers to remove, but after a couple of ins and outs, it becomes much easier. ;-)

Your Bluestar is now connected to a switch power source, your head unit and to your OnStar peripherals (mic and button controls). When you turn your car on, the Bluestar will signal it is ready to pair. You can follow the quick start instructions that came with your Bluestar unit to program/pair your phone.

The Bluestar is actually modified in such a way that it will now function with this modified VW harness setup, but it will also function as an unmodified Bluestar in a non-VW (GM) car. The firmware updates and the Costar Programming Utility (PC based, available for download on the Costar website) will also perform on your VW-modified Bluestar just as it will on any GM generic model.

Chris Costa at Costar has graciously started a VW Bluestar thread on his forum that I will likely be digging into and populating with my discoveries using and further modifying my Bluestar with his coming upgrades.

Stay tuned.

Appendix: Change record

- 12/11/2011: Update to Touareg wire migration diagram, corrected pin color indicated for positions 9 and 10 in 12-pin connector (pin color caption was already correct).
- 06/07/2012: Updated Passat, Phaeton and Touareg wire migration diagrams for BlueSTAR II mute pin terminal relocation to 12-12.
- 07/11/2012: Corrected link to image on page 5 showing original connector terminal pins 22-42