



Installation Procedures

VW MKV - Rear View Camera

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.

Although this material has been prepared with the intent to provide reliable information, no warranty (express or implied) is made as to its accuracy or completeness. Neither is any liability assumed for loss or damage resulting from reliance on this material. SPECIFICALLY, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY IS MADE OR TO BE IMPLIED WITH RESPECT TO THIS MATERIAL. In no event will ECS Tuning, Incorporated or its affiliates be liable for any damages, direct or indirect, consequential or compensatory, arising out of the use of this material.

Safety First

Conventional wisdom says: Disconnect the battery before doing this repair. Our attorney agrees.

However...

Disconnecting the battery has a dark side you ought to know about. Doing so erases all volatile memory in your vehicle computer, including driver preferences, antitheft radio code, radio presets and clock, and OBD II emissions data. In some vehicles stored data about electronic throttle control learned positions will also be lost. Affected vehicles will not idle following a power down until throttle position data are restored with a scan tool and the correct vehicle software.

Loss of OBD II data is important if your vehicle is subject to a scan tool emissions test; erasing computer memory resets all OBD II monitors to incomplete, and your vehicle will not pass its emissions test until a drive cycle completes the required number of non-continuous monitors.

Other Cautions

Work carefully to avoid damaging wires and connectors. Avoid any test procedure that damages wire insulation or creates a short circuit—to voltage, ground, or to another circuit. Failure to follow these and all other safety precautions and approved shop practices can result in costly vehicle damage and serious personal injury.

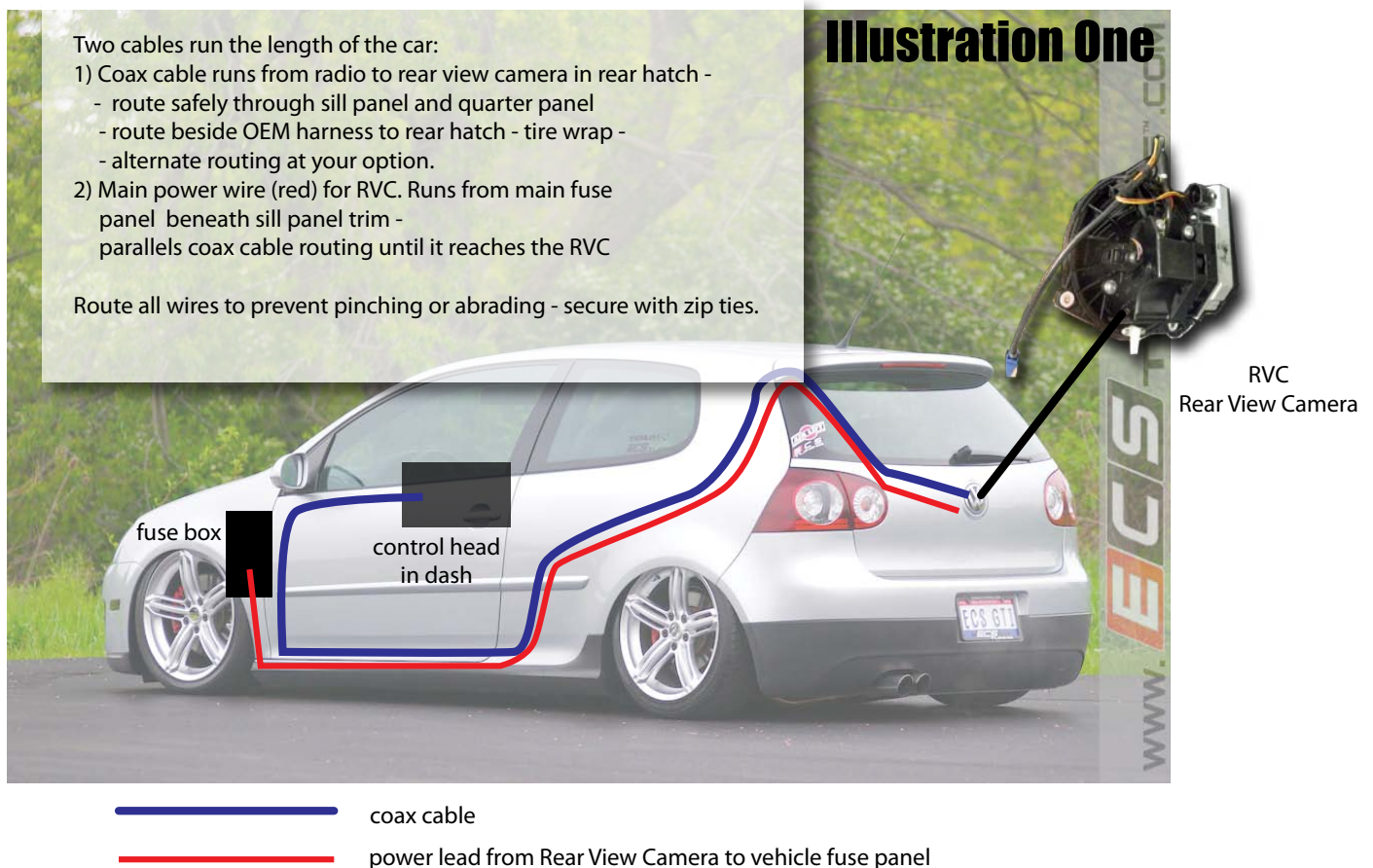
Installation

VW MKV - Rear View Camera (RVC)



The illustrations on the next two pages provide an overview of component general locations and show how the power and coax cables are routed and connected.

Please refer back to these illustrations as we highlight individual steps in this installation.



ECS Tuning - 1000 Seville Road - Wadsworth, OH 44281 - Toll Free 800.924.5172

Installation

VW MKV - Rear View Camera (RVC)

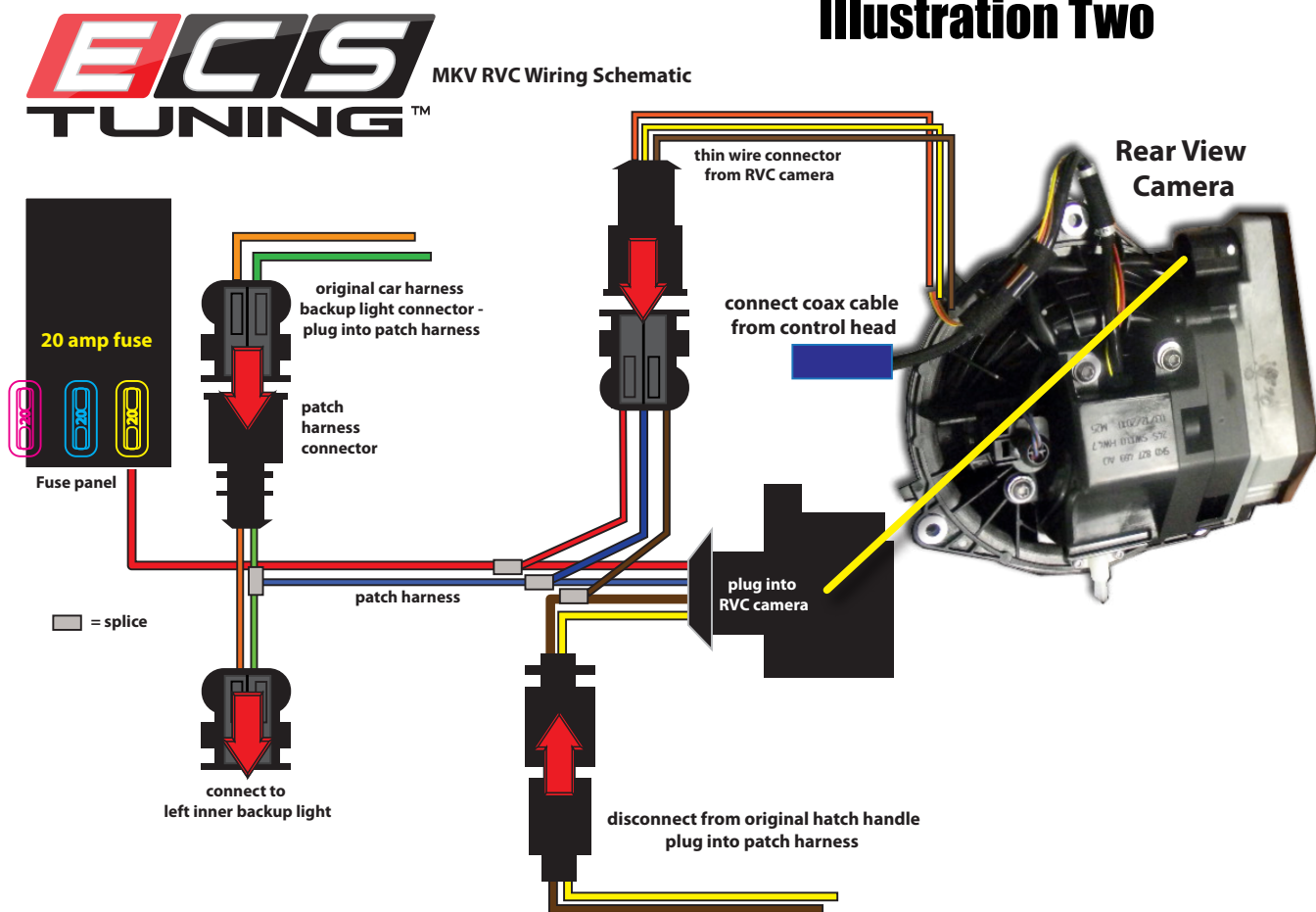


Your RVC installation kit comes with a “patch harness.” This specially made harness provides all electrical connections needed to power your RVC and provide a switch trigger from the backup lights that turns the camera on when backing.

Note: The red wire to the fuse panel is much longer than the one shown in our schematic, since it must reach from the fuse panel to the rear hatch. We do not recommend connecting the power wire to the battery terminal for reasons we’ll describe later.

Ready? Let’s dive in and install the RVC.

Illustration Two



ECS Tuning - 1000 Seville Road - Wadsworth, OH 44281 - Toll Free 800.924.5172

Installation

VW MKV - Rear View Camera (RVC)



Preparations

Estimated Installation Time: 1.5 Hour

Tools Required:

3/8 ratchet
3/8 Torx T25 socket
Philips Screwdriver
HEX-CAN Cable & Driver
VAGCOM
Non Marring Pry Tool
Cutting Wheel
Zip ties

Parts Required:

5K0827469AM New Rear Badge with integrated rear view camera and controller RNS 510.

5M1 970 161 AC coax cable connecting camera to RNS 510 video I/O connector.

Supplied ECS patch harness.

Installation

VW MKV - Rear View Camera (RVC)



Section 1 – Camera Installation

Step 1-1.

Open the rear hatch.

Remove the two Philips head screws inside the trunk lid handles.



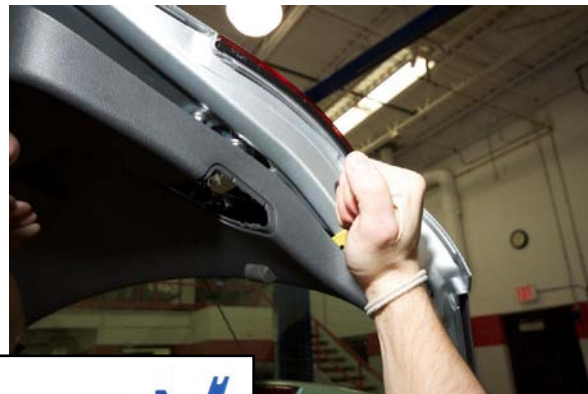
Step 1-2.

Remove both tail light bulb covers.



Step 1-3.

Use a plastic trim tool to remove the trunk lid inner panel. Pry the trim panel away from the hatch using a plastic, no-mar trim removal tool. Pop the plastic trim panel retaining clips loose, one at a time. With all clips loosened, remove the inner trim panel and lay it aside.



Unlike screw drivers and metal putty knives, these plastic trim removal tools will not mar and scratch body panels.
ES#517779



Installation

VW MKV - Rear View Camera (RVC)



Section 1 – Camera Installation

Step 1-4.

Remove the wiper arm pivot cover

Loosen and remove the 13 mm retaining nut.

Remove the wiper arm and lay it aside.



Step 1-5.

Remove the three T25 Torx fasteners holding the wiper motor in place.

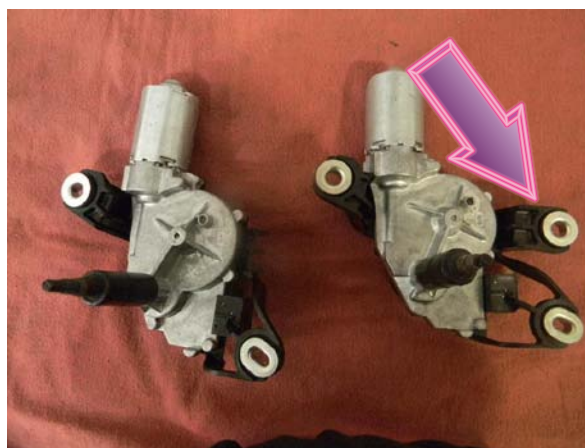
Remove the wiper motor and lay it aside.



Step 1-6.

With the motor removed, use an appropriate cutting tool to remove the third mount (arrow). Your revised motor should look like the one on the left when you're done.

Cutting away the mount makes room to install the new Rear View Camera (RVC) motor.



Installation

VW MKV - Rear View Camera (RVC)



Section 1 – Camera Installation

Step 1-7.

Remove three T25 Torx handle retainer screws in the stock handle.

Turn the handle assembly clockwise to release it from the hatch.



Step 1-8.

With a felt tip pen, mark off a section of hatch sheet metal, as we have done here. This area must be removed with a cutting tool to make room for the RVC (Rear View Camera). Sand or file to remove burrs from the metal edge after making your cut.

Seal bare metal with paint stick touch up paint to prevent rust.



Step 1- 9.

To make a clean installation, slit a length of rubber vacuum hose, and glue it in place over the cut edge of the new opening.



Installation

VW MKV - Rear View Camera (RVC)



Section 1 – Camera Installation

Step 1-10.

Insert the new latch and turn it counterclockwise to lock it into place.

Reinstall the three T25 latch retainer screws.

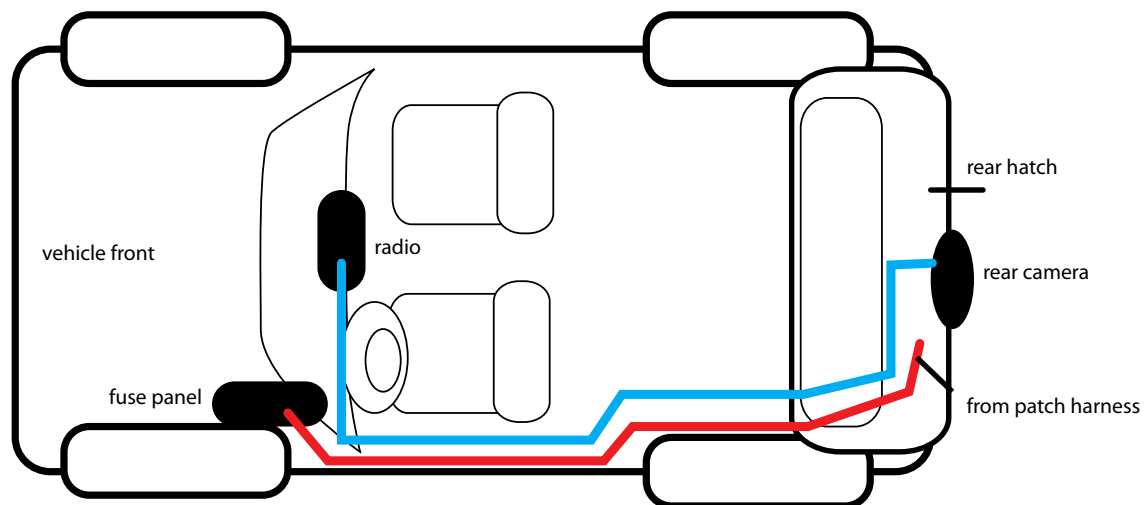


This is a good time to route the coaxial cable and patch harness. Connect the coax cable to the camera we just mounted. Route the coax cable and red patch harness power lead from the rear hatch forward, as shown in our illustration below. For a side view, see Page 2.

Route your wires parallel to the hatch vehicle harness where possible, and secure all wires.

The two wires run parallel through the left quarter panel and door sill, until they split at the front door jamb. At that point, the power lead goes to fuse panel; the coax cable make a right turn toward the radio in the center of the dash.

Route the wire and cable at your discretion; there is no absolute right or wrong way to do it as long as both are secured and safe from harm.



Installation

VW MKV - Rear View Camera (RVC)



Section 2 – Remove The Radio

Step 2-1.

Remove the rubber lining from the center storage area on top of the dash.



Step 2-2.

Removing the tray liner.

Remove the two T25 Torx screws beneath the liner.



Step 2-3.

Use a pry tool to pop up the plastic tray. Pry evenly around the entire perimeter until the piece pops out.



Installation

VW MKV - Rear View Camera (RVC)



Section 2 – Remove The Radio

Step 2-4.

Remove the upper part of the console to expose two T25 Torx screws.



Step 2-5.

Remove the screws and the lower face plate.



Step 2-6.

Remove the four T25 Torx screws around the radio to remove it.



Installation

VW MKV - Rear View Camera (RVC)



Section 2 – Remove the Radio

Step 2-7.

Remove the radio from the dash.



Step 2-8.

Route and connect the coaxial cable to the back of the radio (blue connector).

Reinstall the radio and all trim pieces removed previously.



Next. In Section 3, we connect the patch harness wiring to the RVC.

Installation

VW MKV - Rear View Camera (RVC)



Section 3 – Connect the Rear View Camera

Step 3-1.

Make sure the blue coax cable is connected to the RVC (Rear View Camera).



Step 3-2.

Disconnect the backup light harness and plug it into the patch harness. (See diagram next page.)



Step 3-3.

Plug the female end of the patch harness connector into the OEM tail light wiring harness. (See diagram next page.)



Installation

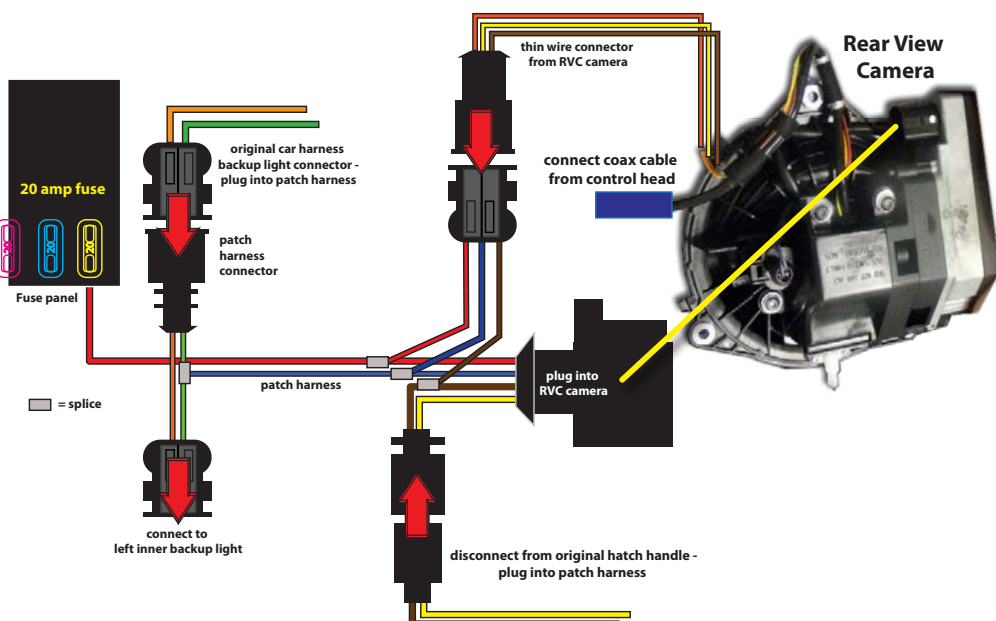
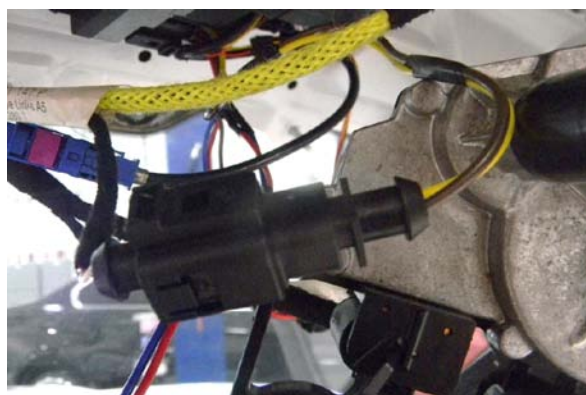
VW MKV - Rear View Camera (RVC)



Section 3 – Connect the Rear View Camera

Step 3-4.

Plug the 2-pin wire latch wiring harness into the connector in the patch harness (brown and yellow).



Step 3-5.

Connect the 3-pin connector (red, brown and blue) from the RVC to the 3-pin connector in the patch harness (yellow, red, and brown wires).



Installation

VW MKV - Rear View Camera (RVC)



Section 3 – Connect the Rear View Camera

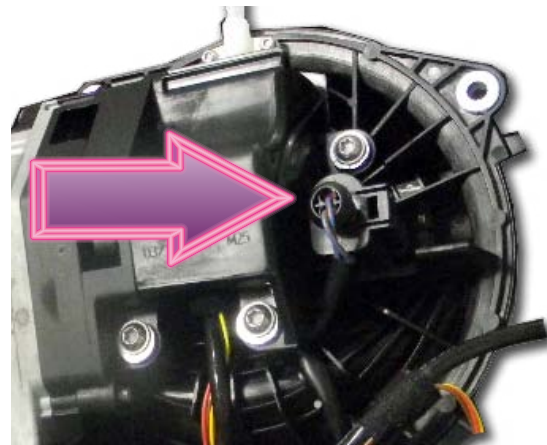
Step 3-6.

Connect the 4-pin connector to the RVC (see diagram previous page).



Step 3-7.

Make sure the 2-pin connector (brown and brown with blue tracer) is plugged into the back of the RVC.



Installation

VW MKV - Rear View Camera (RVC)



Section 4 – Power the RVC

Step 4-1.

Almost done.

All we need now is power!

We do **not** recommend connecting the RVC power lead to the vehicle battery post for several reasons:

- 1) **Battery vapors are acidic** and corrode small wire connections and inline fuse connector quickly.
- 2) **The underhood environment is sometimes wet and exposed to heat, vibration, and road salts.** These conditions also degrade an electrical connection quickly.
- 3) **It does not look professional.** Look at our photo. How many OEMs do you know who get accessory power from an eyelet bolted directly to the battery post?



While it takes slightly longer to do it, we recommend picking up ignition power at the vehicle fuse box. The connection will be dry and protected.

Step 4-2.

Remove the light switch from the dash:

- Turn the switch to the off position.
- Push the headlight switch in and twist the switch clockwise a quarter of an inch or so and pull the switch out.

Let it hang.



Installation

VW MKV - Rear View Camera (RVC)



Section 4 – Power the RVC

Step 4-3.

Remove the Torx screw exposed with the light switch removed.



Step 4-4.

Remove the three additional Torx screws at the bottom of the dash trim panel.



Step 4-5.

Slide the trim panel out and remove it from the dash.



Installation

VW MKV - Rear View Camera (RVC)



Section 4 – Power the RVC

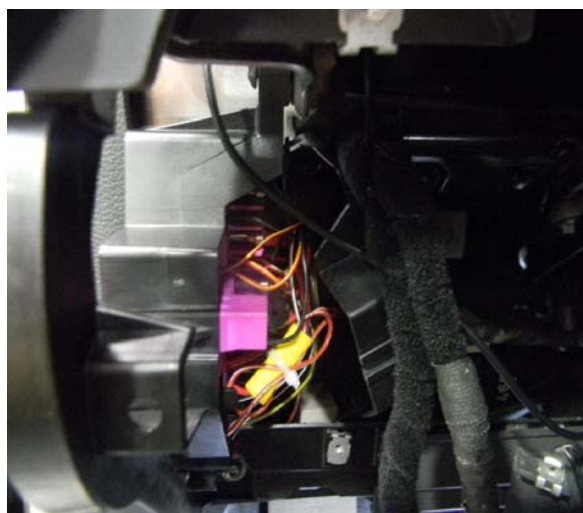
Step 4-5

With the dash panel removed, we can see the backside of the fuse panel.

Remove the fuse panel rear cover to expose the fuse panel wires.

Find the 12 gauge red wire with a black tracer connected to the fuse #28 (20 amp fuse). This is a keyed hot wire.

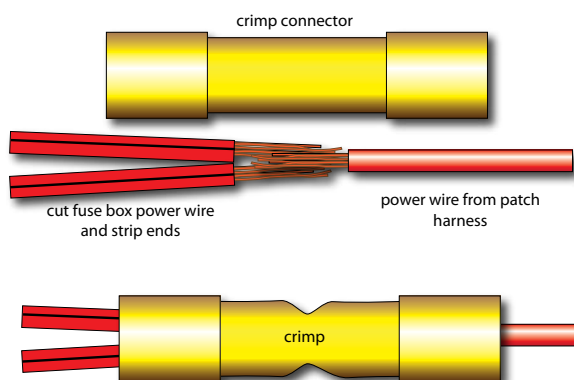
Cut the power wire at the fuse box; strip back the insulation on both leads 1/4-3/8 inch.



Step 4-6

Use a crimp-style butt splicer to connect the power wire from the camera to the power wires at the fuse block. Crimp the wires securely. Give them a tug to make sure they are well connected.

Reinstall the dash trim panel and light switch.



Installation

VW MKV - Rear View Camera (RVC)



Section 5 – Program the RVC

Step 5-1.

All that remains is to program the RVC.

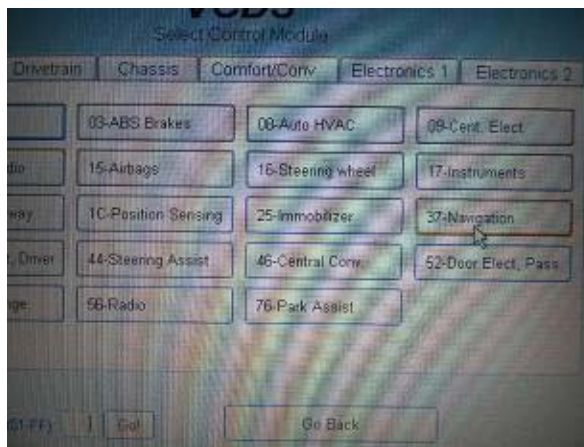
Connect your Hex-Can cable to the OBD II DLC (data link connector), located beneath the dash, to the left of the steering wheel column.

Open Vag-Com.



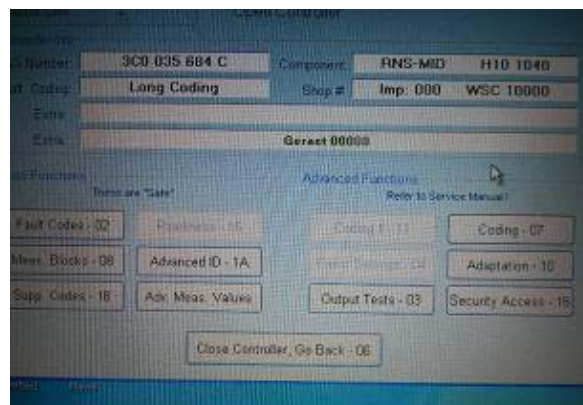
Step 5-2.

Select “37 – Navigation.”



Step 5-3.

Select “Coding – 07.”



Installation

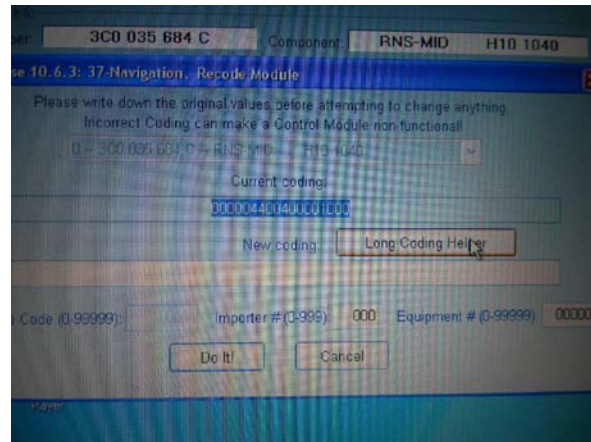
VW MKV - Rear View Camera (RVC)



Section 5 – Program the RVC

Step 5-4.

Select **“Long Coding Helper.”**



Step 5-5.

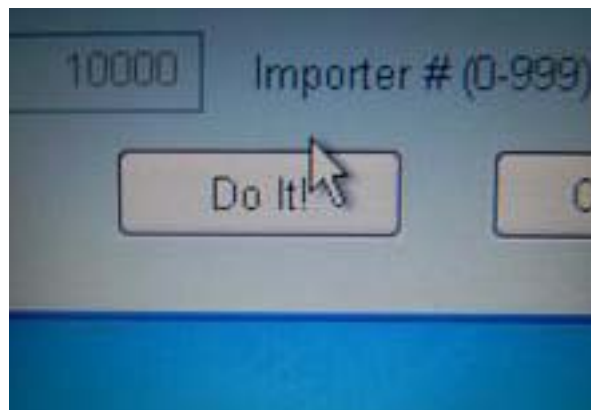
Select **“Byte 3”** and check the **“Back-up Camera Installed”** box.



Step 5-6.

Exit that window.

Then select **“Do It!”**



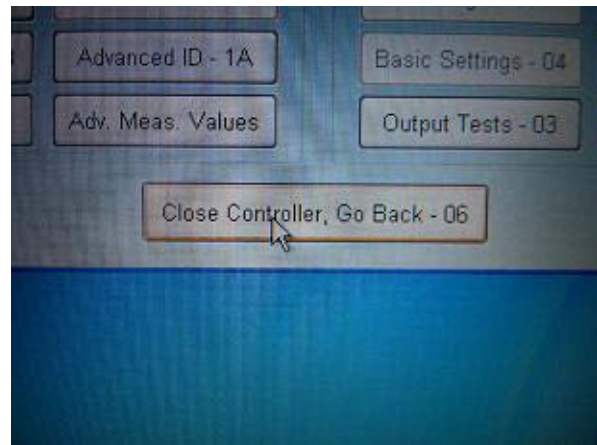
Installation VW MKV - Rear View Camera (RVC)



Section 5 – Program the RVC

Step 5-7.

Close the controller and exit Vag-Com.



Step 5-8.

Reboot your RNS-510 radio head unit.

To reboot: Press and hold both arrows and the Day/Night Adjustment Button for 2 Seconds.



Step 5-9.

Congratulations! Your rear view camera is now installed and configured. This is what you should see when you put your car in reverse with the ignition on!

Your installation is complete.

