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Proper service and repair procedures are vital to the safe, reliable operation of all engine 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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Overview







The illustrations on this and the next page 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. Two cables run the length of the car:

1) Coax cable runs from radio to rear view camera in rear hatch -

- route safely through sill panel and quarter panel
- route beside OEM harness to rear hatch tire wrap -
- alternate routing at your option.

fuse box

2) Main power wire (red) for RVC. Runs from main fuse panel beneath sill panel trim parallels coax cable routing until it reaches the RVC

Route all wires to prevent pinching or abrading - secure with zip ties.

control head in dash

coax cable

RVC Rear View Camera



power lead from Rear View Camera to vehicle fuse panel

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.



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Step 1-1

Open the rear hatch.

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

Step 1-2 Remove both taillight bulb covers.



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Step 1-3

Pry the rear hatch trim panel away from the hatch using a plastic, non-marring 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.

Step 1-4

- Remove the wiper arm pivot cover
- Loosen and remove the 13mm retaining nut.
- Remove the wiper arm and lay it aside.





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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 wiper motor mount arm (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.





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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.

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.



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.



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Step 2-3

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

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.





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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.





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Wire Harness Connections





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.





Wire Harness Connections





Step 3-3

Plug the female end of the patch harness connector into the OEM taillight wiring harness.



Step 3-4

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



Wire Harness Connections





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).

Step 3-6 Connect the 4-pin connector to the RVC.





Connect to Voltage

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 will corrode small wire connections and the inline fuse connector.

2) The underhood environment is wet and hot, and wiring is exposed to road salts.

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 to the first stop and pull the switch out.

Let it hang.



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Connect to Voltage

Step 4-3

Remove the Torx screw behind the light switch.

Step 4-4

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



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Connect to Voltage

Step 4-5

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

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Step 4-6

- 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.





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.

Step 1

With the camera installed and connected, it's time to code the radio to recognize the camera.

Connect your scan tool to the vehicle data link connector.

We're using the Ross-Tech VCDS (VAG-COM Diagnostic System).

Step 2

Click on the "Select" button to open the control module list.



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Step 3

From the **Control Module** screen, select **37-Navigation**.

Step 4

On the Navigation screen, select Coding - 07.

	Select Control Module							
VCDS Select Control Module								
Installed Drivetrai	in Chassis C	omfort/Conv.	Electronics 1	Electronics 2				
01-Engine 03-ABS Brakes		08-Auto HVA	.C 09-0	09-Cent. Elect.				
15-Airbags	16-Steering wheel	17-Instrumen	its 19-0	19-CAN Gateway				
1C-Position Sensing	20 High B Assis	t. 25-Immobiliz	er 2E-	Media Player 3				
37-Navigation	Driver	44-Steering A	Assist 46-0	Central Conv.				
52-Door Elect, Pass.	56-Radio	77-Telephone						
VCDS Release 11.11.6: 37-Navigation, Open Controller (1T0-035-680.CLB) Comm Status IC=1 TE=0 RE=0 Protectic ONL								
Controller Info								
Controller Info	Open	Controller						
Controller Info VAG Number: 30	Open	Controller Component:	RNS-MID	H10 1040				
Protocol: CAN I Controller Info VAG Number: 30 Soft. Coding: L	Open CO 035 684 C ong Coding	Controller Component: Shop #:	RNS-MID Imp: 000	H10 1040 WSC 10000				
Protocol: CAN I Controller Info VAG Number: 30 Soft. Coding: L Extra:	Open CO 035 684 C ong Coding	Controller Component: Shop #:	RNS-MID Imp: 000	H10 1040 WSC 10000				
Protocol: CAN I Controller Info VAG Number: 3C Soft. Coding: L Extra: Extra:	Open CO 035 684 C ong Coding	Controller Component: Shop #: Geraet 00000	RNS-MID Imp: 000	H10 1040 WSC 10000				
Protocol: CAN I Controller Info VAG Number: 3C Soft. Coding: L Extra: Extra: Basic Functions These are	Open CO 035 684 C ong Coding	Controller Component: Shop #: Geraet 00000 Advanced Fi	RNS-MID Imp: 000	H10 1040 WSC 10000 Manual!				
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Step 5

Select Long Coding Helper.

Step 6

- Place your cursor in the **fourth** coding box from the left (top arrow).
- With Byte 3 selected, select the Bit 6 check box **Back-Up Camera Low (without Control Module) installed** (lower arrow).

Service Note: Each of the black blocks in row 3 represents a Byte number. We want Byte 3, but since the Byte numbering starts with Byte 0, we need the **fourth** box from the left.



VCDS Release 11.11.6: 37-Navigation, Open Controller (1T0-035-680.CLB VCDS Comm Status IC=1 TE=0 RE=0 **Open Controller** Protocol: CAN Controller Info 3C0 035 684 C **RNS-MID** H10 1040 VAG Number: Component: X VCDS Release 11.11.6: 37-Navigation, Recode Module -Please write down the original values before attempting to change anything. Incorrect Coding can make a Control Module non-functional! 0 -- 3C0 035 684 C -- RNS-MID H10 1040 Current coding: Long Coding Helper WorkShop Code (0-99999): 10000 000 Equipt # (0-262143): 00000 Importer # (0-999): Do It! Cancel

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Step 8

Step 7 Select **Do It** to save your choice.

• The program will confirm your changes.

• Select Close Controller, Go Back - 06.

• Back out of this page and close out the scan interface.

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VCDS Release 11.11.6: 37-Navigation, Open Controller (1T0-035-680.CLB VCDS Comm Status IC=1 TE=0 RE=0 **Open Controller** Protocol: CAN Controller Info 3C0 035 684 C **RNS-MID** H10 1040 VAG Number: Component: 23 VCDS Release 11.11.6: 37-Navigation, Recode Module _ Please write down the original values before attempting to change anything. Incorrect Coding can make a Control Module non-functional! 0 -- 3C0 035 684 C -- RNS-MID H10 1040 Current coding: 000004400400001000 Long Coding Helper New coding: 000 10000 Importer # (0-999): Equipt # (0-262143): 00000 WorkShop C Do It! Cancel

VCDS Release 11.11.6: 09-Cent. Elect., Open Controller (1K0-937-08X-09.CLB)							
Comm Status IC=1 TE=0 RE Protocol: CAN	=0 I	Open	CDS Controller				
- Controller Info- VAG Number:	1K0 937 ()87 G	Component:	BCM PQ3	5 H+ 103 0576		
Soft. Coding:	Long Co	din vcDs	×	Imp: 444	WSC 03103		
Extra:				r 23090			
Extra:		Coding	accepted	1			
Basic Function	IS These are "Safe"		ОК	Functions Refer to Se	rvice Manual !		
Fault Code	s - 02 Readi	nes		ng II - 11	Coding - 07		
Meas. Block	ks - 08 Advanc	ced ID - 1A	Basic	Settings - 04	Adaptation - 10		
Supp. Code	es - 18 Adv. Me	eas. Values	Outpu	ut Tests - 03	Security Access - 16		
Close Controller, Go Back - 06							

Step 9

The camera is now coded and ready to test.

- Turn the ignition to the ON position.
- Select reverse gear to activate the rear view display.







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Thanks for purchasing your Rear View Camera from ECS Tuning.

We appreciate your business, and hope this tutorial has been helpful and informative.