DIY retrofit of rain light sensor for auto wipers and headlights on VW

difficulty: 2/5
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Introduction

This article shows how to add the rain sensor and auto dimming mirror for auto headlights and wipers on a 2006 VW Jetta TDI. It will also work on mk5 and mk6 Golf, JSW, or Passat.

The 2005.5 Jetta was the only mk5 TDI that came with the rain-light sensor. This feature was discontinued for 2006 and is currently only available on the 2012+ VW Passat and Touareg. Some non-TDI models which also had sensors equipped were the Touareg, R32, GTI, and Phaeton. It was available on Audi A3 TDI premium plus trim so you may be able to retrofit it to a premium (base) trim Audi A3 TDI as well.

The article first shows installation on a mk5. Additional notes for 2010 and later cars are at the bottom.

All US 2012 VW Passat TDI come with a rain-light sensor standard. Base Canadian cars, 2.5L Passat, and 2013+ SE trim don't come with the auto dimming rear view mirror. You can use this article to retrofit it. The Passat system is the same except they use a newer style sensor than shown here.

Any car with a highline central electric control module (CECM) should be compatible with a rain sensor but I don't know which rain sensor is compatible with what control module. Generally speaking, the newer ones are backwards compatible. If your control module long coding has a checkbox for adding the rain sensor, it should work. See the bottom for coding details.

Here is what the rain sensor looks like on a factory install. I needed a new windshield (which insurance paid for) and some styles of mk5 rain sensors are being discontinued from VW so they were on sale for $9. I bought an auto dimming mirror from a junkyard so the final price was about $160. Click to enlarge the pictures (most images on this page are thumbnails).

The rain-light sensor controls the auto headlights and auto wipers. It shines infrared light out and looks for a reflection. Therefore, the sensor must have a clear view outside and be mounted within the swept area of the wiper arms so that the glass over the sensor will be cleaned. The mount for the sensor is also the mount for the OEM auto dimming rear view mirror. The base of the auto-dimming and non-dimming mirror are completely different as seen above.

The auto dimming mirror is a completely separate system from the rain-light sensor, it's just that the OEM mirror's base happens to be the sensor mount. The mirror will auto dim if you shift into reverse and also has a button to disable auto-dimming. The auto dimming has its own sensors which only dim the mirror - they do not control the auto headlights. This is done with the rain-light sensor. The mirror glass is about 3mm shorter and narrower than the non-dimming mirror. The external dimensions are the same but the plastic edge is noticeably thicker in the dimming mirror and it does look smaller when using it.

If you wish to add the OEM auto dimming mirror you must have the mount. If you only want to add an an aftermarket auto dimming mirror, see this writeup: 1000q: auto dimming mirror retrofit. The OEM mirror is made by Gentex which also makes their own aftermarket mirrors to fit VW non-dimming mounts. If you have a 2012+ Passat with the rain sensor, the OEM mirror should be an easy plug-play after you install the wiring.

If you only wish to add the rain-light sensor, you can stick it to the side of the original mirror and just cover it with a piece of trim. Here is an example of only the rain sensor mounted to the side without the OEM auto dimming mirror. jkmboler used a spring to hold the sensor tight against the glass (normally the OEM mirror does this) and a plastic trim cover from a Cadillac to make it look nice. The function is the same but you can see the mount and glue from the outside of the car. This area is normally covered with black paint.

Your central electric control module (CECM) must have the ability to recognize the rain light sensor. This includes any highline controller. These were found on any package 2 VW. You can verify that your CECM has this ability by entering the long coding and seeing if the checkbox to recognize the rain sensor is there. If it's not, you need a new (used is fine) CECM.

The rain sensor also lets you enable the auto-close feature. This closes the sunroof and windows if the sensor detects rain or after 24 hours. See this writeup for a demo and how to enable this: 1000q: rain convenience feature.

There's a black painted circle where the regular mirror mounts to the windshield. Here are the locations of the original and rain sensor mount bases. You can either buy a new rain sensor specific windshield from VW or get aftermarket glass (they all come with a new mount already bonded) or remove your original mount and glue on the rain sensor mount. If you have a mk6 Jetta, none came with a rain sensor from the factory so you cannot order one. 2010+ Golf-Sportwagen didn't come with a rain sensor from the factory but you can order one. The part number is listed below. If you find out if the 2010+ Golf-Sportwagen windshields come with the mount already glued on, please post a follow up in this support thread in the myturbodiesel forums.

This writeup also describes how to add the sensor to the non-rain sensor style windshields. Since the black painted circle (ceramic plate) will still be on your original windshield, you can either mount it lower than the circle, to the side, or use a wire and heat gun to cut out the original base, then use a razor and polish to remove the black ceramic paint.

Many thanks to bigbot45 for first documenting his experience. This writeup updates the original and adds more notes, detail, and mk6 info with help by Pelican18TQA4, maloosheck, jkmboler, jamob1, b16a2, and digitalextremes.

Parts and tools to add the auto dimming headlights and auto wipers

mk5 Jetta-Golf windshield with sensor mount: 1k5 845 011 p (1k5845011p is the old part number) replaced with 1k5 845 011 bm (1k5845011bm is the newer part number)

Only if you need to attach a mount - the mount and glue:
-1k0 845 543 PLATE (Rain/Light Sensor Mounting Plate) (only needed if you don't have a new windshield, may be needed on mk6 Golf)
-urethane glass glue
-----3M glue (single unit shown, can only buy direct from 3M in bulk)
-----OEM VW glue VW# d 180 kd2 a1 (smaller size shown below, about $30)
-----OEM VW glue VW# da 004 600 a2 2k (400 ml size shown below right, about $50)

Tools
T20, T25 torx screwdriver
phillips screwdriver
Ross tech VCDS cable (requires the HEX CAN cable for CAN BUS)

Parts
premade retrofit wire harness from maloosheck OR individual parts below:
-4b0 971 833 FEMALE HOUSING (mirror plug)
-1c0 973 119 FEMALE HOUSING (sensor plug)

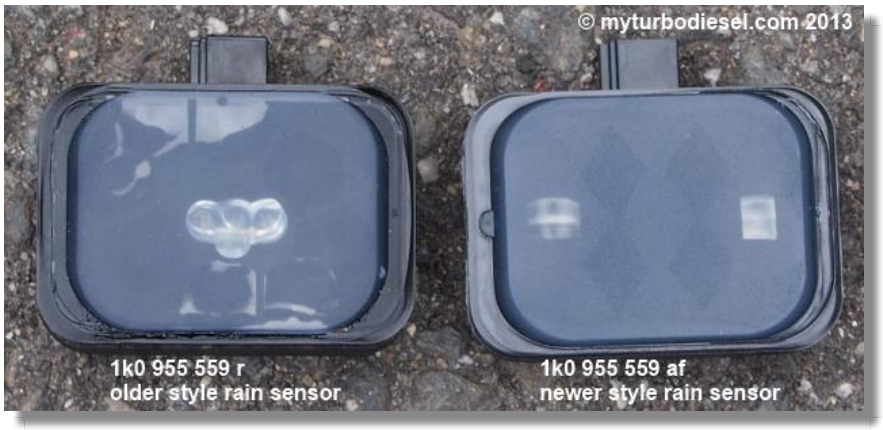
-000 979 009 WIRE (repair wire for rain sensor) (quantity 2)
-000 979 018 WIRE (repair wire for mirror) (quantity 3)
-000 979 225 WIRE (2.5mm fusebox terminal wires, see note in proecdure section, not sure if this is correct #)
-your own 18 or 19 gauge wire (used with the repair wires)
-solder, wire stripper, electrical tape, and heatshrink (and heatgun) or crimps, and multimeter (optional but helpful)

two 5 amp mini fuses
1k0 858 547 9b9 CAP (mirror cover)
1k0 858 548 9b9 CAP (mirror cover)
1k0 857 593 9b9 CONDUIT (lower wiring cover)
1k0 857 594 9b9 CONDUIT (upper wiring cover)
1k5 857 304 7g8 TRIM (headliner trim) (biege)
1k0 955 559 r rain sensor (verify the part number for your chassis)
1k0 857 511-b 9b9 MIRROR (Auto-Dimming Mirror)

The colors available for the rear view mirror and trim are anthracite (light black) and satin black (black black). Anthracite is slightly lighter, especially in bright light. The mirror, mirror base covers, and wiring covers are available with suffix 71n for anthracite. I ordered them with suffix 9b9 for satin black. See 1000q: VW part numbers explained on how to read the part numbers. Basically, you change the suffix if you want to change the color, if applicable. I ordered a beige headliner trim piece (7g8) and found that it was much darker than my headliner. It's barely visible from inside the car and it's under the dot matrix blackout area so it's not visible from outside either. My correct color should have been pearl grey: y20. It's also available with 9b9 or 71n.

Parts for the VW Passat are the same except for the trim covers and sensor:
The mirror is a different part number because it's two tone color. The Jetta mirror will fit the mount (same) but I don't know if the trim covers will fit the mirror correctly. If you have a Jetta mirror you can use the Jetta trim but I don't know if the wire covers are long enough.

3c0 857 304 TRIM (Headliner Connector) add y20 for pearl grey, 7g8 for beige
3c0 857 511 d MIRROR (auto dimming) add sma for pearl grey, tlx for beige, tly for latte
3c0 857 593 a 9b9 WIRING COVER black
3c0 858 547 9b9 LEFT MIRROR COVER black
3c0 858 548 9b9 RIGHT MIRROR COVER black
The sensor part number is 1k0 955 559 with suffix af, ah, r, or m. Give your VIN number when ordering to check for compatibility. af and ah are newer part versions - the intermittent wiper speed dial adjusts the sensor sensitivity effectively.



Procedure to install a retrofit rain light sensor

Both sensor and mirror installation are shown. If you only wish to add the sensor, just follow those steps. You only need to add the wiring for the sensor.

Remove the original rear view mirror by rotating the base a quarter turn counter-clockwise. It's held by this clip. It will then easily come straight out.

If you didn't get a replacement windshield

If you don't get a replacement windshield for rain sensor, remove the original mirror mount by heating the mount with a lighter and twisting it off. Do not push or pull it, just twist it with medium force using a wrench. Any more and it will crack the glass. Use a razor and scrape and then polish all the ceramic backing paint off. Then use 1000 grit wet sandpaper to gently remove the ceramic paint. If you don't remove that dot you'll have to mount the mirror too low and there will be exposed wires. digitalextremes said it took him at least an hour to remove the paint. (click to enlarge the thumbnails) Then try to polish it as smooth as possible so that the glass has no noticeable scratches.




Here are some more tips by user whackit: Getting the dot off sucks. I used a 2" air grinder and it was still pretty difficult. This is actually a baked on ceramic that is applied when the glass is still red hot. I started with 320 grit and gradually worked my way down to 1500. It still took 30 minutes with an air tool. The stuff you want to use to polish the glass is called Cerium Oxide. It is what professionals use to polish glass. You can get it as a powder or an impregnated disk at places like Mcmaster or Caswell. I like to use the powder which you mix to a paste and then use a hard cotton bonnet in a drill. Torque is more important than speed with this stuff so just use a power drill and go at it. Be careful of heat. I built a masking tape 'Dam' about a foot around the dot so any paste that was flung off would not go all over the car. You should still cover everything up though as inevitably it will go everywhere. This stuff will eliminate ALL sanding scratches and leave you with a smooth finish. You will notice there is a distortion from the application of the ceramic dot. This is from the manufacturing process and didn't affect function.

Don't waste your money on the vw glues. they are just repackaged urethane glues made by other manufacturers. Do use 3m fast cure urethane and primer. The urethane glass glue is 8690 and the primer is 08682. You an get this stuff at most auto body suppliers for about 20 bucks for both.The key to making this look OEM is the 3m 08682 primer. This stuff is designed to black out in front of urethanes to protect them from the sun. I created a mask and daubed it on to get a near perfect OEM look. Attached is an image of the template I used. Just mark a center line on the outside of the windshield with a sharpie (remove with solvent) and use the shorter of the two cable covers attached to the mount to determine the spacing to the headliner. Mark, mask, and paint. The glue is very viscous and you can pretty much just press the mount on and it will hold it until dry. I like to use some tape for insurance though. Here is his template for painting the black rectangle: http://www.myturbodiesel.com/forum/90101-post73.html

Clean the windshield with cleaner VW# d 009 401 04 (thumbnail below left) and let dry for at least 10 minutes. Apply primer VW# d 009 200 01 (shown below right) and let dry for at least 10 minutes and not more than 1 hour. Use 800-1200 grit sandpaper to roughen the mount until water won't bead up or run off it. Use the cleaner on the mount.


Apply the new mount (VW# 1k0-845-543) to the windshield. The slide tracks for the new mirror must face down (be on the lower half, visible in the pictures throughout this page). The new auto dimming mirror just slides up to install, down to remove. Apply a 2.5mm bead of VW's 2 part polyurethane glue (shown earlier in parts) to the mount and tape it in place. After an hour, you can remove the tape and scrape/wipe any excess off. The service manual says that you can mount the new mirror after 2.5 hours but I would wait at 8-12 hours to let the urethane glue cure.

Here are some notes by digitalextremes: When the 2 part glue is put on the mirror mount, I would highly recommend to leave it on the mount for a minute and then attached it to the windshield, I had created a mess by putting the mirror right on to the windshield after putting the glue on.

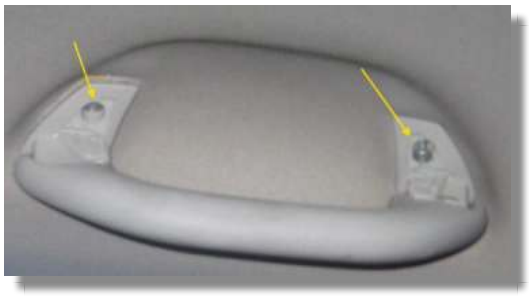
*Note - the service manual's instructions are for attaching the mirror to OEM glass with the black painted area. You might be OK using the cheap auto store rear mirror glue but I would use either the 3m glass urethane or VW's 2 part polyurethane. A professional windshield installer should also have an acceptable substitute. VW's windshield cleaner is just listed as an all purpose cleaner so you should be fine using water and paper towels as long as any grease or glue is removed. I don't know what's in VW's primer is but most people don't use it. Also, the OEM glass has a painted area to hide the bead of glue and match the edge of the mirror base cover. If you use VW's glue, I would tape off a neat square around the mount and use a thicker bead. This way, the edges will be sharp. Once the glue is tacky you can remove the tape and clean the edges. This should make the edges are clean as possible and make it appear acceptable from outside the car. Use an exacto knife for any final detail. If it still looks bad I suggest sticking a "No Fear" windshield banner over it and cutting a hole in the middle so the sensor can still see out. At this point it's already glued on.

Procedure continued

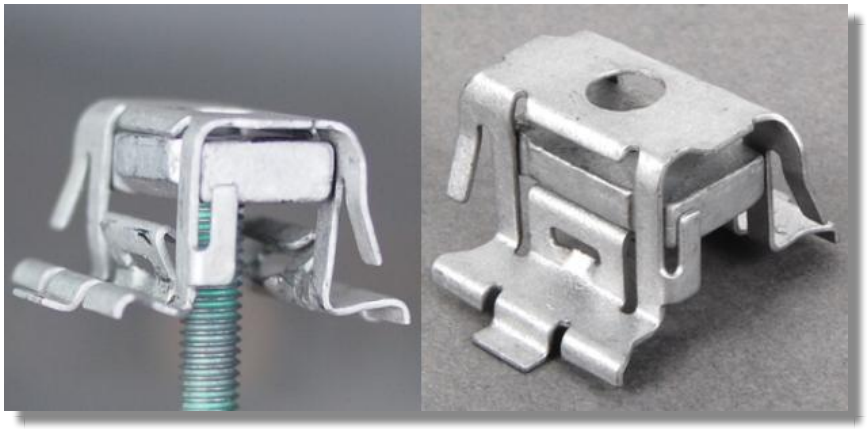
Remove the overhead console. First gently pry the sunglasses holder out. There are some clips at the top holding it. The middle panel will just pop out. Remove the 2x T20 screws under it.

Then unclip the blue plug (overhead lighting) and the sunroof dial plug (pulls straight out). Then remove the 2x T20 screws in the front and 2x phillips screws in the rear, shown below right.

Loosen the headliner by removing the sunvisors and front grab handles. This makes it much easier to route the wiring. Use a pick to pop their covers off and remove the T20 screws holding them. If you choose to not loosen the headliner, use a wire snake (a bent coathanger) to push the wiring through.



NOTE: The sunvisor and grab handle brackets they're screwed into can move around. During installation, gently push up to get into the threads. You're supposed to replace them each time they're tightened because they deform and lock down. The anchor might slide out the side if it's allowed to go diagonal and it's gone and rattling until you remove the headliner. If that happens you won't be able to tighten the bolt since there's no anchor for it to screw into. Here's a picture of a used one and new one. When the bolt is tightened the anchor is pulled down and smushes the sides out to lock the bracket in place. Below right is another picture of the grab handle with the headliner removed showing how the anchors sit.



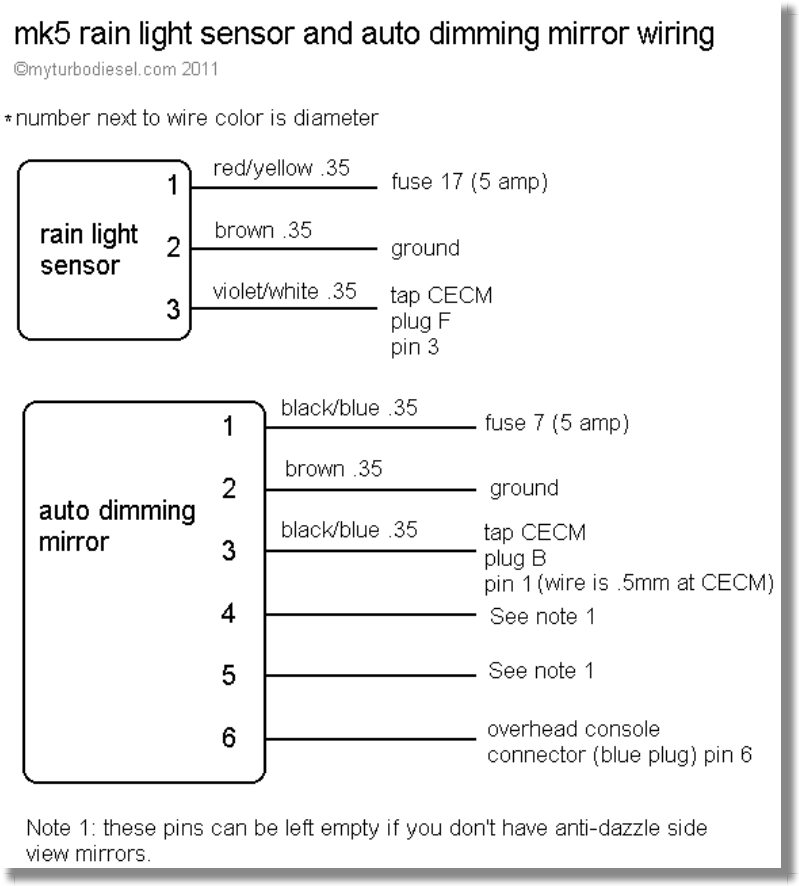
Insert a screwdriver or your key in the slot on the fusebox cover and pop it off. Remove the trim strip shown below. Press the door seal back a little and gently pull to release the clip at the top. Lift it up and out.

Use a sharp pick to dig under and pop out the driver's side airbag logo on the a-pillar (windshield pillar). Remove the T25 torx bolt underneath it and peel the door seal back slightly. Then gently wiggle-pull the trim up and out. There are some white plugs that hold the trim to the pillar. If you're careful they shouldn't break but will probably still be in the pillar after you remove the trim. You could use a wire snake to pull the wiring through the pillar but I was more comfortable taping the wiring away from the head curtain airbag with the rest of the wiring. See the TOS Agreement for the full legal disclaimer. Be careful when working around the airbag. Here is an empty slot, one with trim snap plug in place, and one with a plug next to it. You only need to remove the driver's side. I removed both sides so that they wouldn't get dirty during windshield replacement.

If you're installing the OEM mirror, cut a hole in the center of the headliner to pass the wires through. It will be covered by the headliner trim piece 1k5857304r. Make sure it's centered behind the mount. If you're just installing the sensor, the wires can fit through the headliner gap. Here is a new headliner showing the other side and what shape to cut it. (One of my beige side clips was broken). Just cut a hole for the trim clips and the black wiring cover, no need to snip the very top (more pics below).

Wiring instructions for auto dimming mirror and rain light sensor

The easy way to do the wiring is to buy a premade harness from kufatec. For some reason, they only list it under Golf and not Jetta but it will work on both models. One person complained that the plug ends were at equal lengths and because the sensor and mirror are staggered, he had to unwrap and re-wrap it for fitment. A better harness with all the terminal ends can also be purchsed from maloosheck. Since it's only a few wires, I chose to buy some plugs, VW repair wires (part numbers are noted above) and then splice 18 or 19 gauge extension wires onto the repair wire ends to make my own harness.



Note 1: the auto dimming mirror controls the "anti-dazzle" auto dimming side view mirrors. This wasn't equipped on North American cars and if you choose to add them the instructions are below in this post in the forum from dsg tdi. You will need 2 wires, new side view mirrors, and a few plugs. As of this writing, each auto dimming side view mirror glass is around $400 new and can only be found used from Europe. If you want to add them, pin 4 and 5 on the mirror go to pin 2 and 3 on the 28 pin passenger door connector.

Adding the auto dimming side view mirrors. (optional but expensive)

If youâ€™re thinking about installing exterior auto-dimming mirrors you need to have or install an interior auto-dimming mirror. Supposedly 5.5 TDIs are pre-wired from the factory installed auto-dimming mirror to the door controllers, yours should have it pre-wired from the driverâ€™s A pillar to the door controller. The easy way to check is to take of the door connector and see if there are wires in pins 2 and 3, these should go to the door controller pins 1 and 10. Thatâ€™s it from the factory the rest you have to install yourself.

OK, youâ€™ve decided that you want to do this â€“ last chance to back out. Letâ€™s assume that you either have or are installing an interior auto-dimming mirror, from pins 4 and 5 you need to check to see if your interior mirror is sending a signal out (some supposedly donâ€™t have this function) check it with a multi-meter for change in resistance while you shine a light at your interior mirror. If it changes you are good to go, if not you need another interior mirror that will output this signal. Next you should have or need to install wires from pins 4 and 5 on the mirror connector to pins 2 and 3 of both front door interior connectors, now do the same for pins 2 and 3 on the passenger side exterior door connector on the A pillar, driverâ€™s side should already have wires on pins 2 and 3.

On the passengerâ€™s side you will need to remove both the door card and exterior door skin. Run the wires you installed in pins 2 and 3 through the rubber sleeve between the door and A pillar and follow the factory wiring harness to the door skin side and back through the rubber connector to the door card side and to pins 1 and 10 of the door controller plug. If your driverâ€™s side wasnâ€™t pre-wired, repeat for that side.

Now for the mirrors, you will need to add the auto-dimming plugs to each mirror pins 1 and 2 and from there to the mirror plug on the door controller pins 8 and 16

Wiring is as follows from the mirror plug 1 to mirror plug at door controller 16, from mirror plug 2 to mirror plug at door controller 8
From door controller plug 10 to door connector on A pillar pin 3, from door controller plug 1 to door connector on A pillar pin 2
From door connector on A pillar pin 2 to mirror connector pin 4, from door connector on A pillar pin 3 to mirror connector pin 5 â€“ for both doors

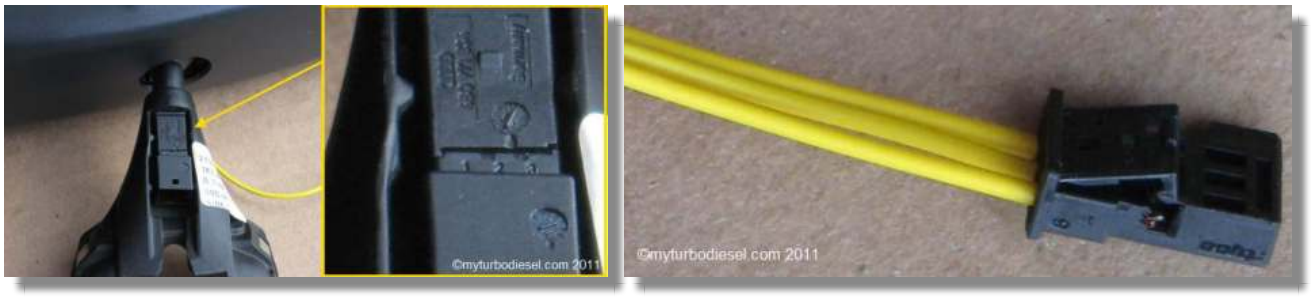
If you prefer you can bypass the door controller completely and wire directly to the mirror wires, as the door controller is only a junction point and has no effect on the operation of the mirror

Driverâ€™s side mirror 3C0 857 521F
Passengerâ€™s side mirror 3C0 857 522N
Plug for anti-dazzle mirror 443 906 231

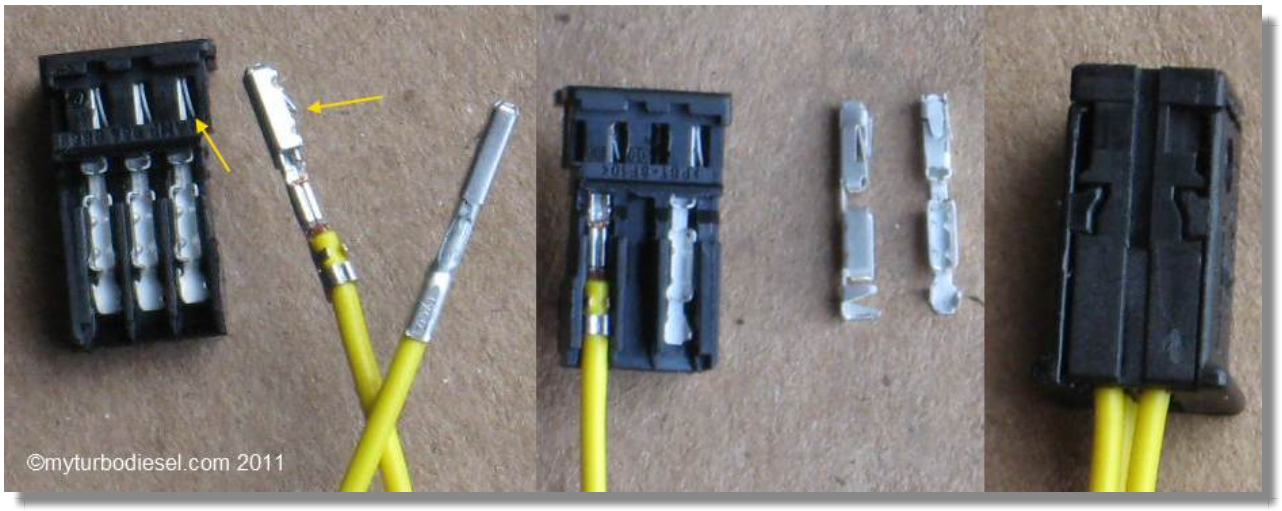
Service wire for plug 009 979 106
Service wire interior door connector 009 979 025
Service wire for exterior door connector 009 979 020
Service wire for door controller plugs 009 979 009

Procedure continued

The base of the auto dimming mirror, its plug, and rain light sensor plug have numbers identifying the pins. To wire the rain light sensor plug, just insert the repair wires (the ones that you had 2 of) until the hooks click. Give them a gentle tug to make sure they're hooked. Then push down the flap to lock the pins in place. Although you only ordered 2 repair wires in this size, cut the wire in half and you now have 4 ends.



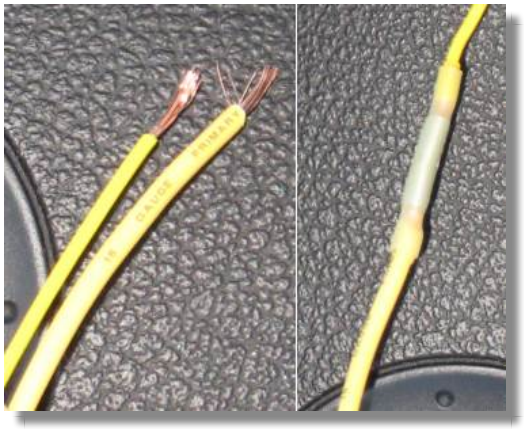
The auto dimming mirror plug comes with pins already installed so remove them and insert your repair wires (they already have pins on the ends). Press the hooks on the original pins to pull them out. Push the repair wire pins in until they click and give them a tug to make sure they're hooked. The second part of the plug slides over it and locks the pins in place. You may want to leave the plugs unlocked for now so that you can test wire continuity later. If you need to unlock the plugs, use a pick to pry them open.



Run the wiring from the rain sensor and mirror behind the headliner, down the a-pillar, tape it to the existing wiring, and down to the CECM (central electric control module) for the fusebox and ground.

Remove the 2x T20 screws holding the kick panel under the relay box. Then unplug the footwell light and separate the OBD2 port from the panel. Push the red lever on the CECM to the side to unlock the plugs. The plugs are labeled. Press the release clip on plug B and F and pull them out. You can remove a few others for access. The wiring is pretty short and the plugs are different so I don't think you could mix them up. Plug B is outlined below. You can see the red lever to the right of the relay box.

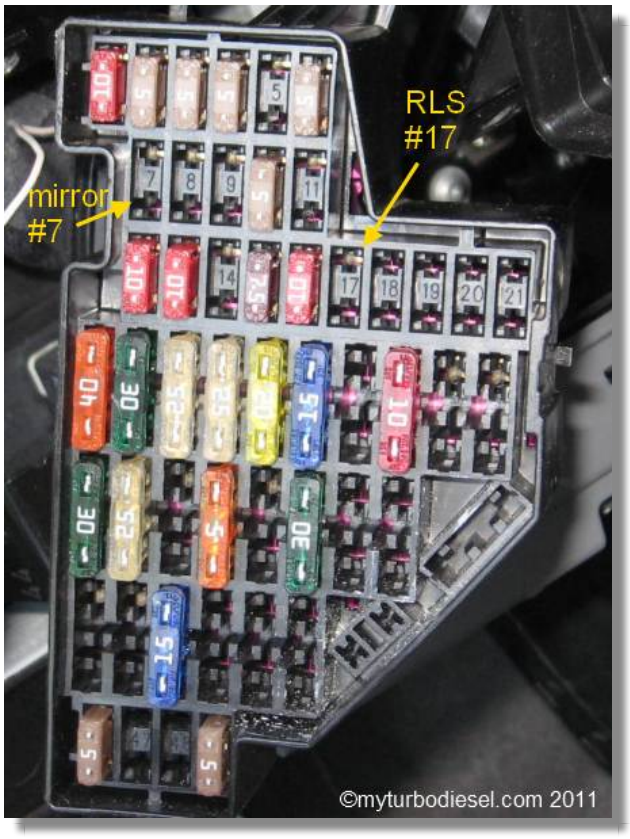
The plugs also have numbered pins. Solder in a splice on Plug F, Pin 3 (violet/blue wire as noted above, this wire also goes to the windshield wiper module) and run that wire up the A-pillar and headliner to the repair wire on pin 3 of the rain-light sensor. Cut the wiring to fit and solder them together. Splicing means that you tap into the connection and add your own wire. I chose to strip a little bit of insulation off that wire and soldered in the tap wire at that spot. Cover with electrical tape. To connect the repair wire ends to my own extension wire, I used heat shrink crimps.



Repeat for Plug B, Pin 1 (black/blue wire). This is for the backup light. It goes to pin 3 on the mirror. Sorry for the lack of pics here but all you would see is a jumble of wires.

Install 2 new circuits for the rain sensor and mirror at the fusebox. See the wiring diagram above and 1000q: how to add circuits to the fusebox. Repair wire VW# 000 979 225 should work but I'm not sure of the correct part number for wiring these two circuits. Please post in the forum if you order this part so you can confirm it or show it's the wrong part number.

Cut the repair wire in half. Insert the terminal ends in the indicated slots. I think the mirror fuse (#7) could go on any slot on that bus. #11 should be acceptable and easier to install since it's on the near side of the fusebox, just make a note on the fusebox cover if you do that. It gets 12V when the engine is running only. I believe the bus for the RLS fuse always has 12V.

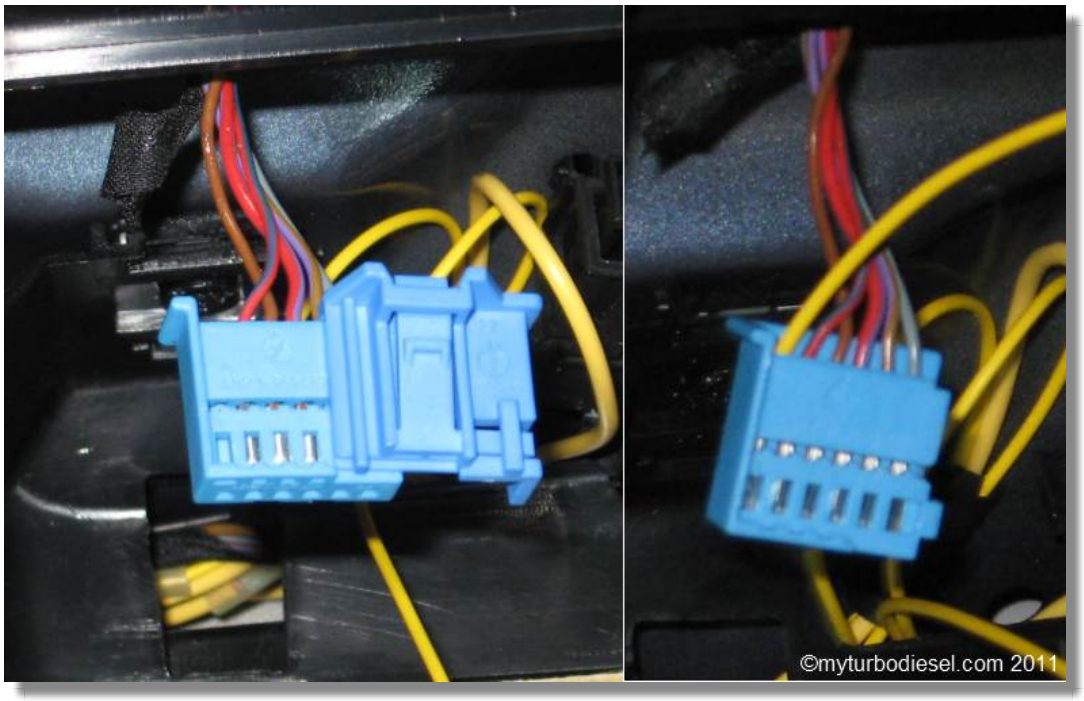


Run the wiring from the CECM along the existing wiring harness in the pillar and then under the headliner to the overhead console. Make sure that the wiring won't get pinched when you reinstall the trim. I ran it behind the black plastic piece (white arrow), up the a-pillar, and under the headliner. Tape it away from any airbags so it won't interfere with their proper operation!

For ground, I soldered together the ground wires for the rain sensor and mirror and ran a single thicker wire back to the fusebox area. I stuck the ground wire under the 13mm nut for the dashboard support (yellow arrow). Yes it's not pretty but I'll never see it again and it's bare metal. If you dig a little more there are some grounds under the overhead lights (next few pics) but make sure it's not on paint or else it won't be a good ground.

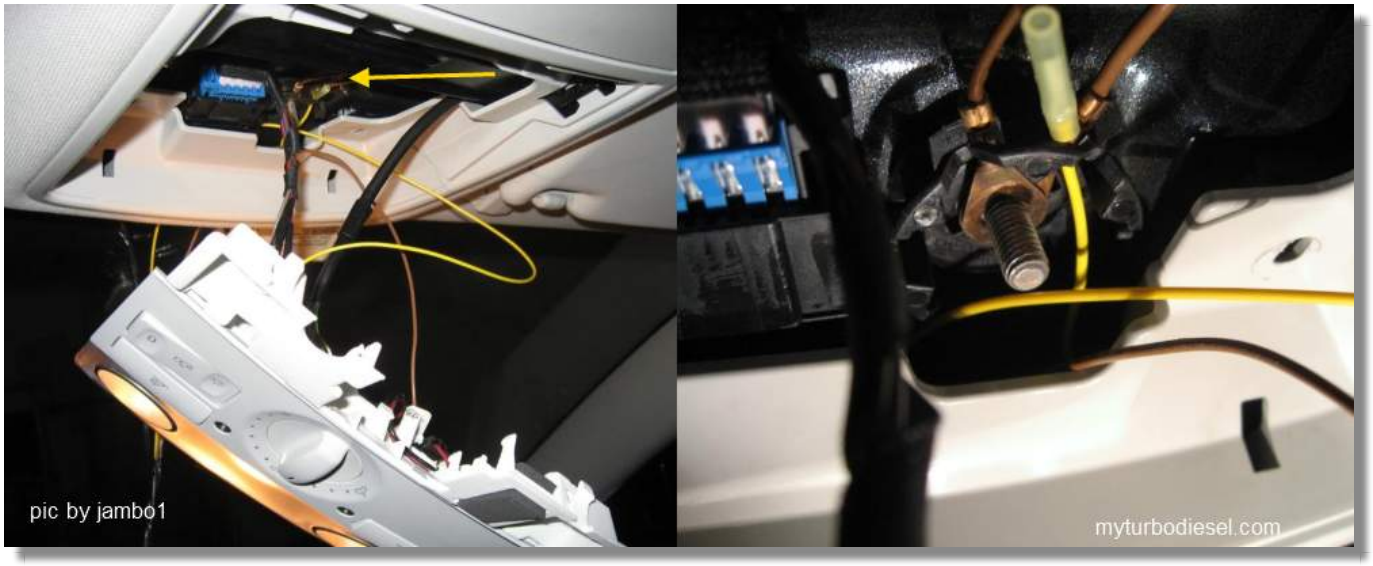
Pin 6 on the mirror goes to pin 6 on the overhead lighting's blue plug. This prevents dimming when the light is on. There's a small tab on the side. Lift it and the cover slides off to the side. Use the remaining small repair wire end (the one that you ordered 2 of) and plug it into pin 6 as shown below right. Solder it to the repair wire end for pin 6 on the mirror.

At first, I used splice-crimps for the sensor and mirror to the brown wire (ground for the overhead lighting). It didn't have a good connection so I ended up running ground down to the fusebox area as shown earlier. If the sensor or mirror aren't working, double check the grounds and connections.



Here is a wider shot

Here is the ground from a Passat, the Jetta should be the same.



Pass the wiring through the headliner trim. The mirror wire should longer. In this example, the wiring was pretty tight so you may want to leave them about 0.7-1.0 cm longer than shown and stuff any excess under the headliner. You can also see the difference in color between the beige trim and pearl grey headliner. After installation I never looked at it again so the color difference isn't really noticeable.

When installing the sensor on the mirror, make sure the jelly pad is clean. There should be no air pockets between the sensor and windshield. For some reason, all of the sensors I've seen with this part number (version r) have two gaps at the bottom. Once you install it, the gaps disappear. There are a few versions which will work on different platforms so check part compatibility before using any random VW-Audi light sensor.

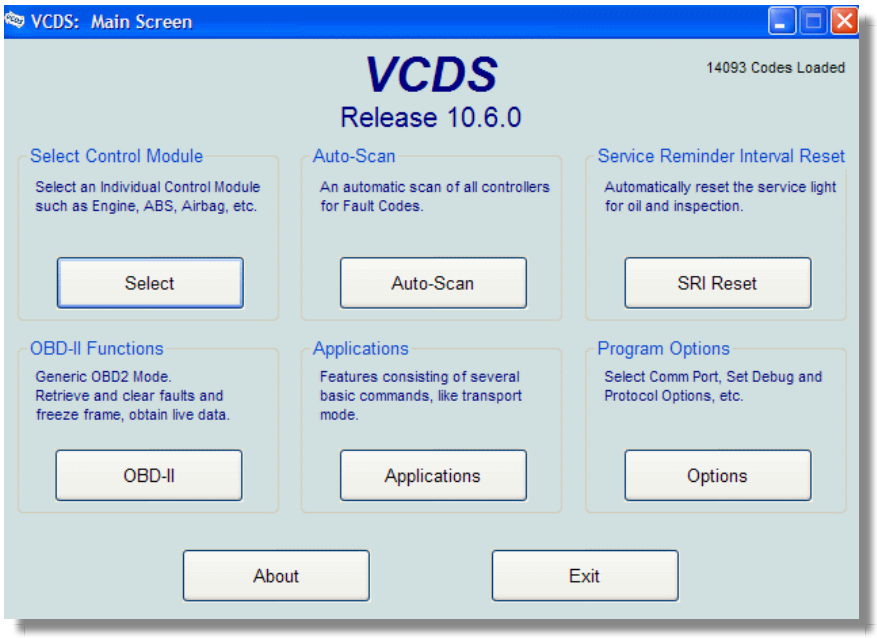
The plug goes at the top and the rear view mirror has some springs which hold the sensor against the glass. The two wire covers snap together and also help hold the sensor and headliner trim cover in place. The headliner trim was loose against the hole I cut earlier, so don't worry if it's not a perfect fit until now. I found that sitting in the driver's seat backwards with my back against the steering wheel was the most comfortable way to sit while cutting the hole.

Slide the new mirror up on the mount rails until the stop. Plug in the wires and snap the trim covers on. Reconnect the battery and headlight switch. You can leave the covers off if you wish to test the sensors first. Note that the black painted area matches the edge of the mirror base trim.

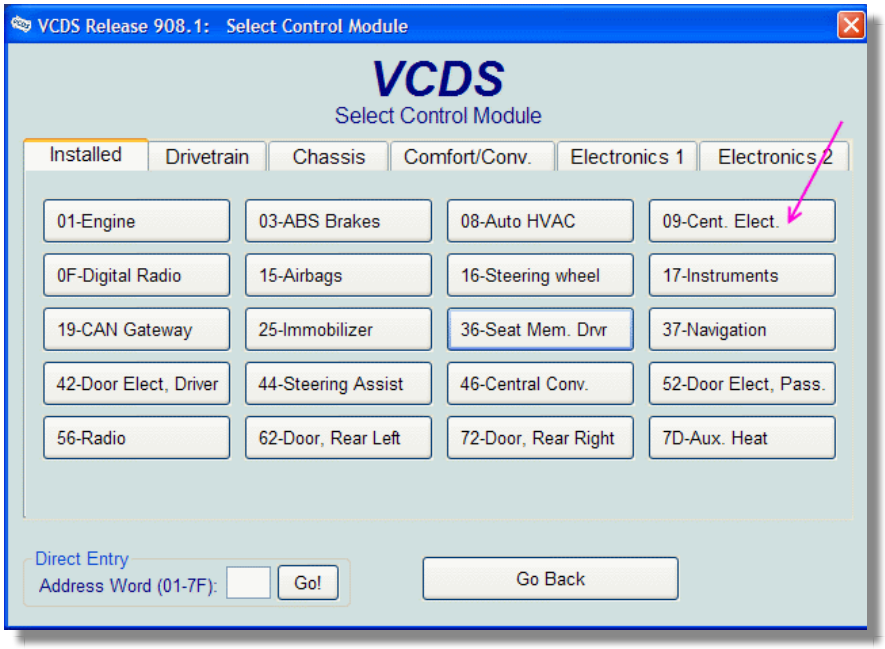
Here is how the mk5 Passat mirror looks. The trim doesn't match up because in this case, the mount was glued below the original spot. Also shown is the headliner trim on the Passat. The hole on the trim covers should match up against this and help hold it in place.

Here is another picture from user amd is the best with the windshield removed and what it looked like after installation.

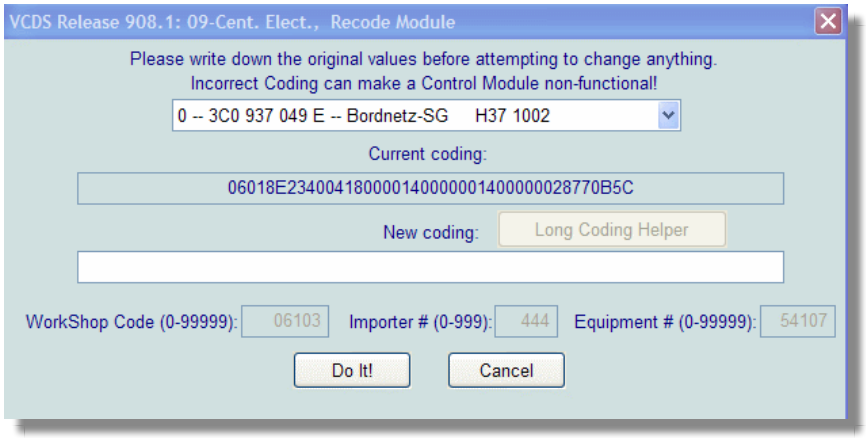
Plug in VCDS and look for the green LED. Start the software and select the control modules.



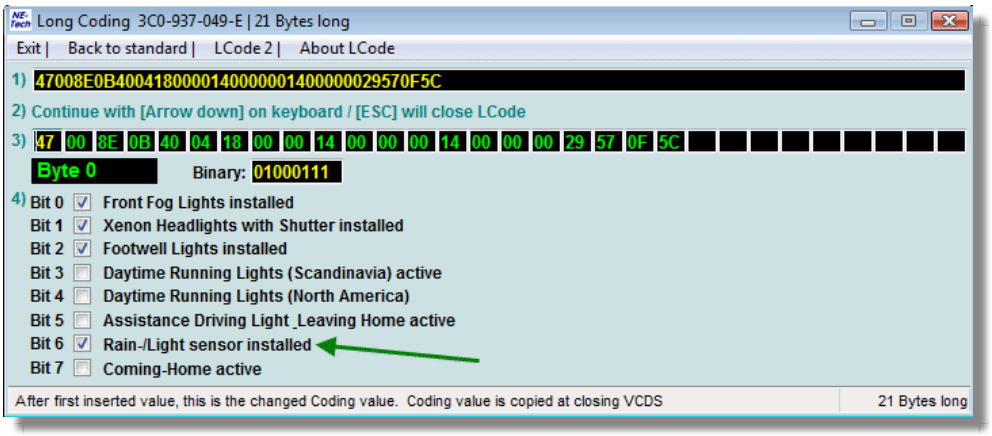
Select 09-Central Electric.



Click on coding and you will see this. Click on long coding helper.



Click on Bit 6, Rain/Light sensor installed. Close the window and you will see a New Coding in the blank spot in the above screenshot. Click Do it! to save.



The rain sensor should now work! The intermittent position on the wiper stalk is now auto-sense. The dial which used to be intermittent wiper speed is now sensor sensitivity. If you wish to enable rain closing, see 1000q: rain closing function. If you do, you'll see this option on the convenience menu.

Because you disconnected the battery, the steering assist and ESP are reset and will show the above lights. This should be resolved through regular driving. You also need to reset the one touch windows by raising and then pressing up again, then lowering, and pressing down again. If you have power seats, do the same thing with the range of motion to reset the memory. If there is a problem, see 1000q: steering wheel adaptation reset.

To enable auto lights, you must install a new headlight switch with an Auto position. Also enable Bit 7 in the screenshot above, Coming-Home active. This leaves the headlights on when you lock the car.

Test the mirror by covering the front sensor to dim it. The mirror should work if the engine is running and the button on the bottom is pressed in. When you shift into reverse, it should go out of dim.

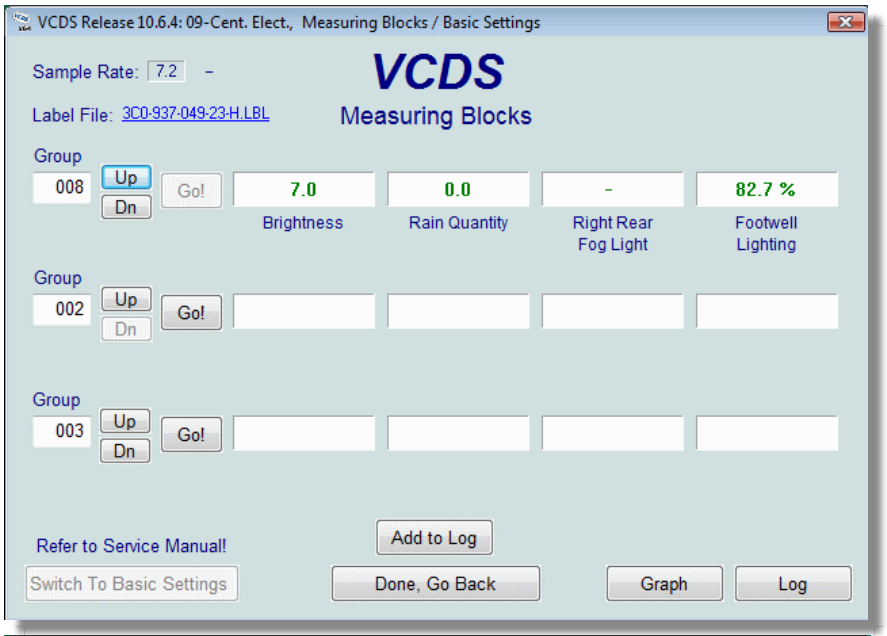
Reinstall the trim. When installing the a-pillar trim, look at the plastic snaps through the windshield to make sure they're aligned. It also has a metal clip at the bottom. I suggest installing the bottom with the clip first.

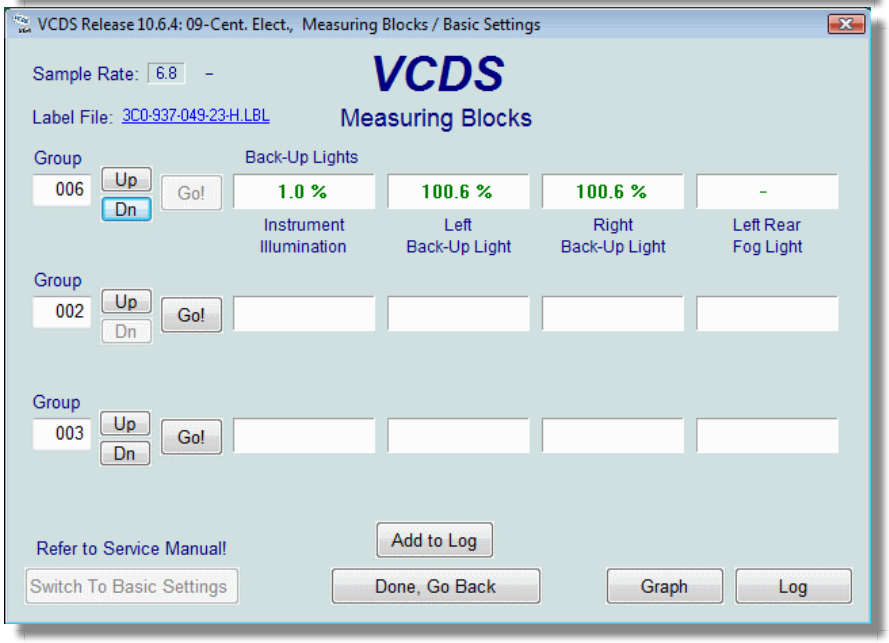
Troubleshooting

First double check the wires, pin, and grounds. You can use a multimeter to check wire continuity. The rain sensor needs power, ground, and a communication wire to the CECM to function (in addition to coding). The mirror doesn't have any communication, it only needs power and ground to function at a basic level. I think that if you have rain closing on, the rain sensor is always powered until 24 hours of being locked. After 24 hours, the sensor will close the windows+roof on a locked car. I believe this is to prevent drain. The mirror is powered only when the engine is running.

You can verify the rain and light sensor function. From the CECM screen, click on measuring blocks. Go to Group 8 (below left). Block 1 and 2 show

function of the sensor. If you're having a problem with the backup lights, you probably cut the Plug B, pin 1 wire on the CECM when installing the mirror. It can be checked through group 6 (below right).





mk6 VW Golf, Jetta (2010 and later), and Passat rain light sensor (RLS) installation notes

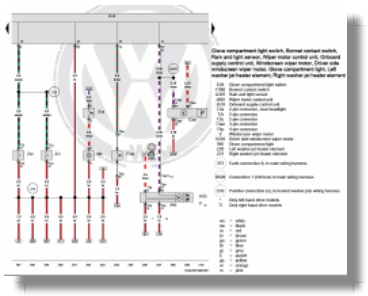
There were no North American mk6 Golf or Jetta that came with the rain sensor from the factory although it was optional in Europe. The Sportwagen has a part number for the rain sensor windshield listed below. The Golf also has a windshield part number but the parts catalog makes me suspect that it does not come with the mount already glued on. You may have to buy the mount and glue it on yourself. The differences is the black ceramic painted area and dot matrix. The Jetta has no part number that you can order in the US so you have to DIY. Forget about special ordering it because it's much cheaper to ship a small box of glass crumbs than a big box.

2010+ Sportwagen (Golf wagon) windshield with sensor mount: 1k5 845 011 bc (1k5845011bc)
2010+ Golf windshield with sensor mount: 5k9 845 911 k (5k9845911k), this may not include the mount (listed below) already attached

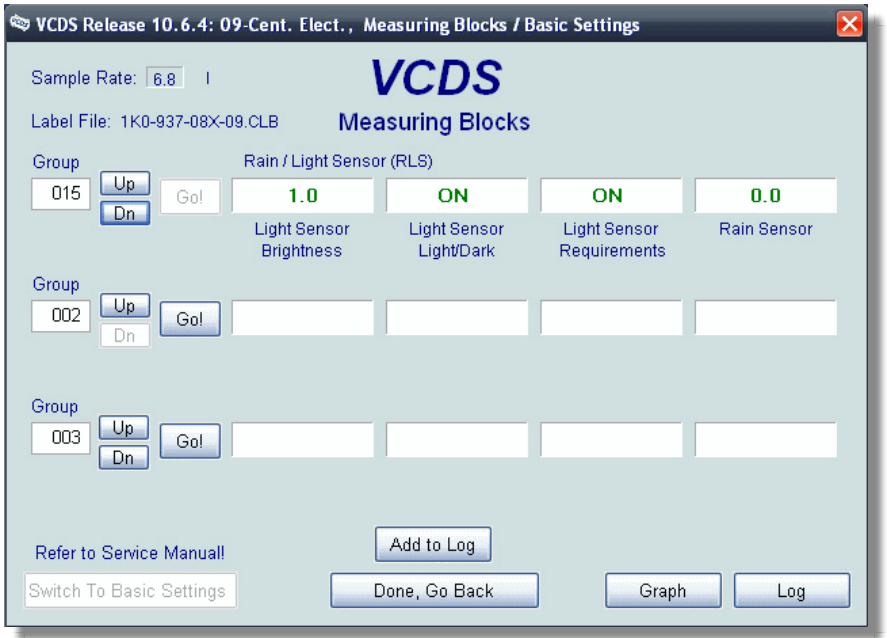
Compatible rain-light sensors: 1k0 955 559 r = works on 2010 GTI. 1k0 955 559 ah = should work on most mk6 and all mk5. Again, you must have a highline CECM for this to work.

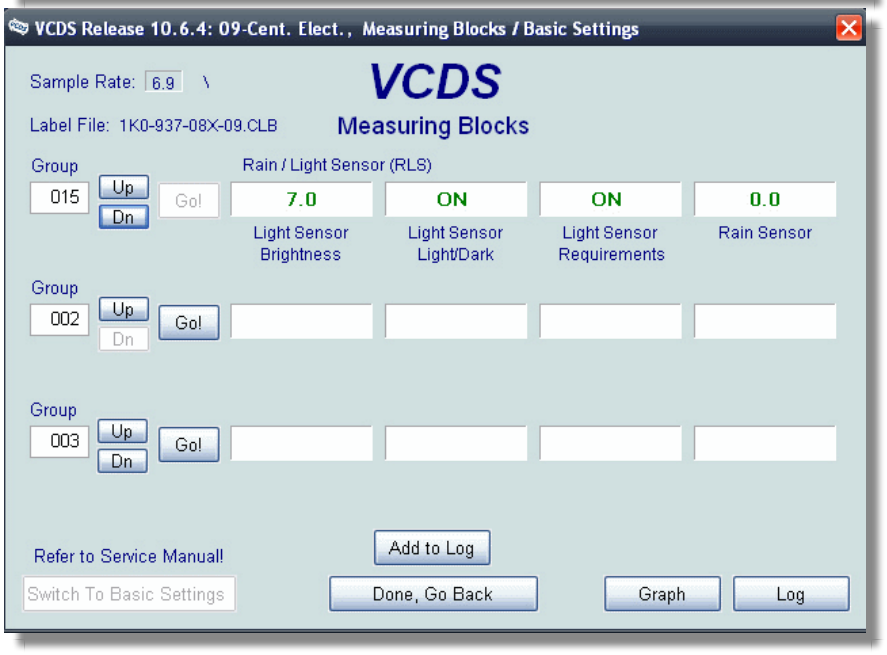
The electronics were overhauled for 2010 so the CECM looks completely different. Your CECM should have only 3 plugs: A (black plug), B (white plug), and C (tan plug). So instead of tapping plug F, pin 3 like the old modules for the rain light sensor communication wire, you tap the white plug, pin 33. This is a violet/white stripe wire.

In the wire diagram below, "Black plug A" is M. "White plug B" is N. "Tan plug C" is P.

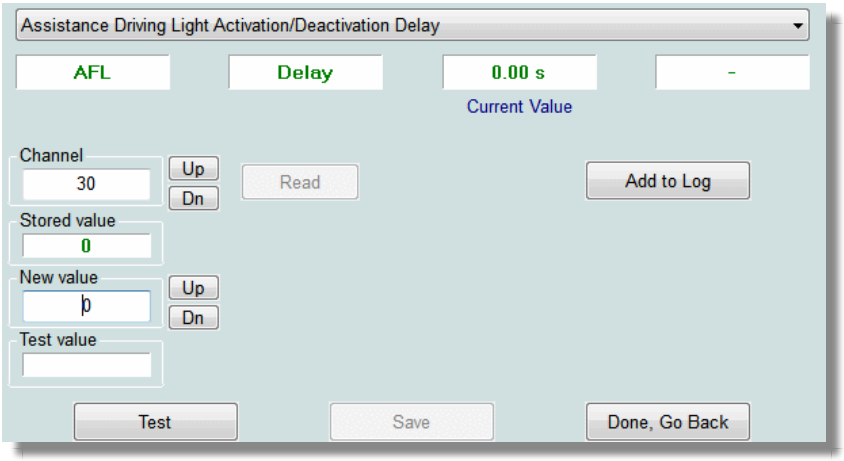


Verify function through VCDS, CECM measuring blocks. You can use a flashlight (or cover) and water to test the sensor.





smrtypants44 found that the Auto function would not work until he changed the assistance driving light acitvation delay from 6 to 0 seconds. This is through the central electric adaptation, channel 30 as seen below.



Here is the fusebox on a 2010 Jetta TDI (click to enlarge) with some notes by digitalextremes: fuse #7 had no power and #17 was taken by J393 - Comfort System Central Control Module, J641 - Alarm Horn Relay. I didn't bother connecting PIN 3 from the mirror to CECM, I did run the wire up to the CECM but connect it some other time, I believe the PIN location on the CECM for the backup lights are: M28 (left backup) and P28 (right backup) (A28 and C28), so you can tap either I am assuming. I couldn't find any grounds up in the headliner so I ran all 5 wires to the fusebox/cecm area: 2 Powers, 2 for CECM and 1 common ground for both sensor and mirror. I connected the ground with a ring connector I got for Canadian Tire and connected it on the top bolt that holds that fusebox. I used the vw cloth tape to cover all 5 wires from end-end to make it a harness. In his case, he had to turn the assistance driving light on instead of turning the delay from 6 to 0 as smrtypants44 did. This could be a difference in the Golf vs. Jetta.

If you have a mk6 Passat without the auto dimming rear view mirror, you just have to add the wiring for the mirror and plug it in as shown above. The mount should be the same.

If you have any questions about installing the rain sensor or auto dimming mirror, feel free ask in the support thread for this article or search below:

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