

## BMW Z4 (E89) Radar Detector Installation – Wired to Fuse Box

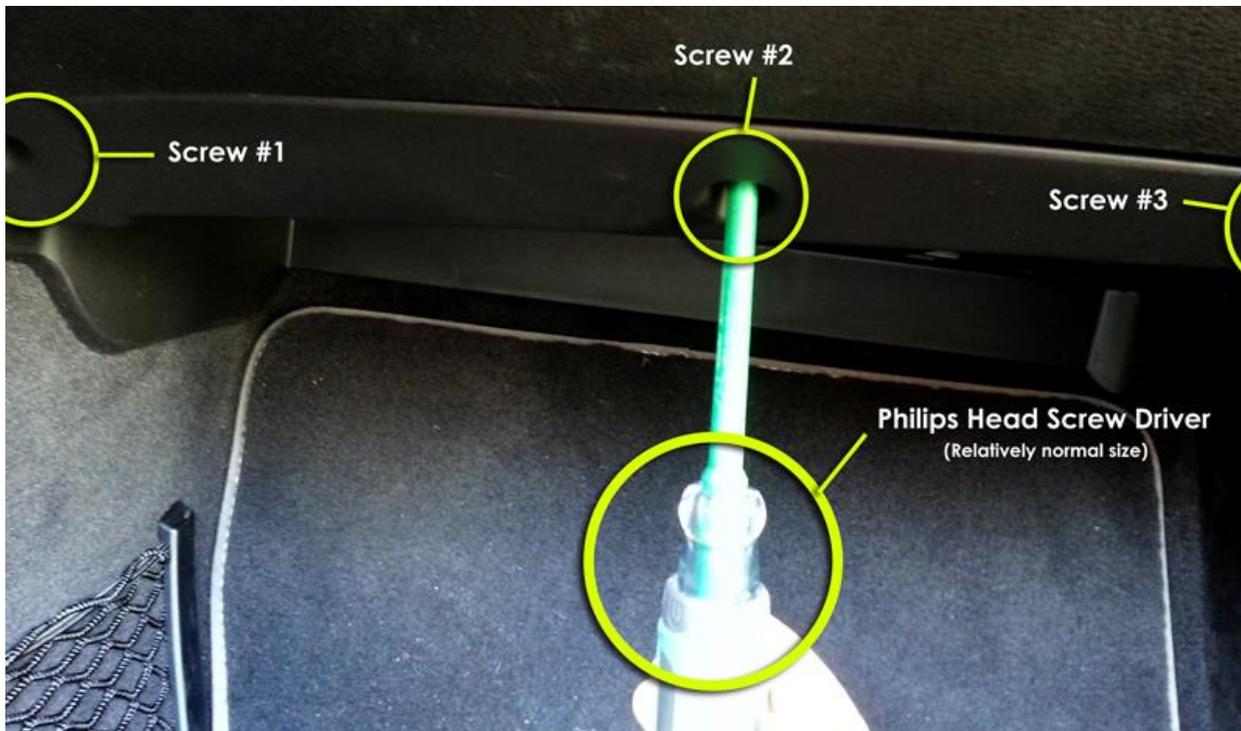
4/9/2013

Here's my walk-through for installing a windshield-mounted radar detector, wired directly into the fuse box. I know that there are a few other methods out there, but it bugged me that folks weren't having a lot of success with the fuse box approach. Everything here is 100% reversible and no parts of the car are affected (no splicing of factory lines, no soldering, no risk of sending "save me" messages out to BMW Assist ☺). For reference purposes, im using the Beltronics STi radar detector.

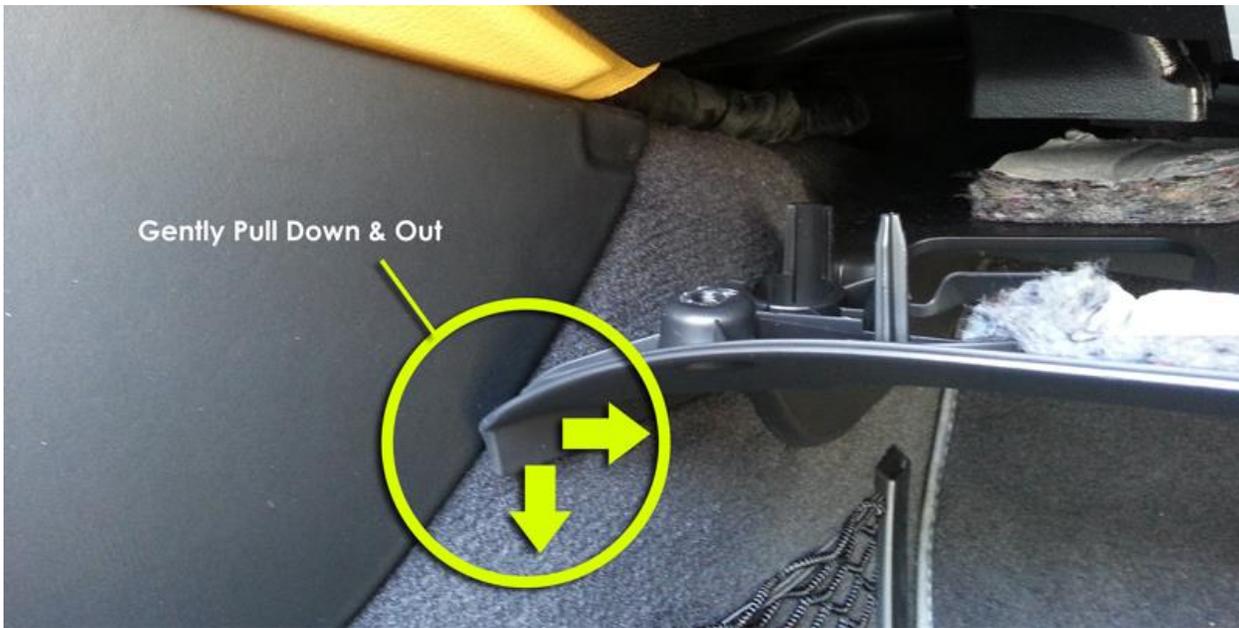
### Tools / Parts Needed:

- (1) Philips Head Screw Driver
- (1) T-15 Torx Bit
- (1) Package 16-14 Gauge (5/32") Bullet Connectors
- (1) Pair of Electrical Wire Strippers
- (2) ATM-sized 10A Blade Fuses
- (1) ATM-sized Add-a-Circuit
- (1) Direct-Wire Power Cord from Radar Detector Manufacturer
- (1) Radar Detector

1. Using a regular Philips head screw driver, remove the (3) screws found horizontally directly beneath the lower edge of the glove box compartment.



2. Carefully remove the panel (that was secured by the 3 screws that were just removed). Be sure to apply pressure towards the right on the left-most corner of the panel as you pull it down to ensure that the corner of the panel does not scratch the leather where it meets the center console. There should be enough flex in the panel to bend it as you pull it down to avoid scratching/scuffing.



3. As you lower the panel, rest it on the floor of the car.



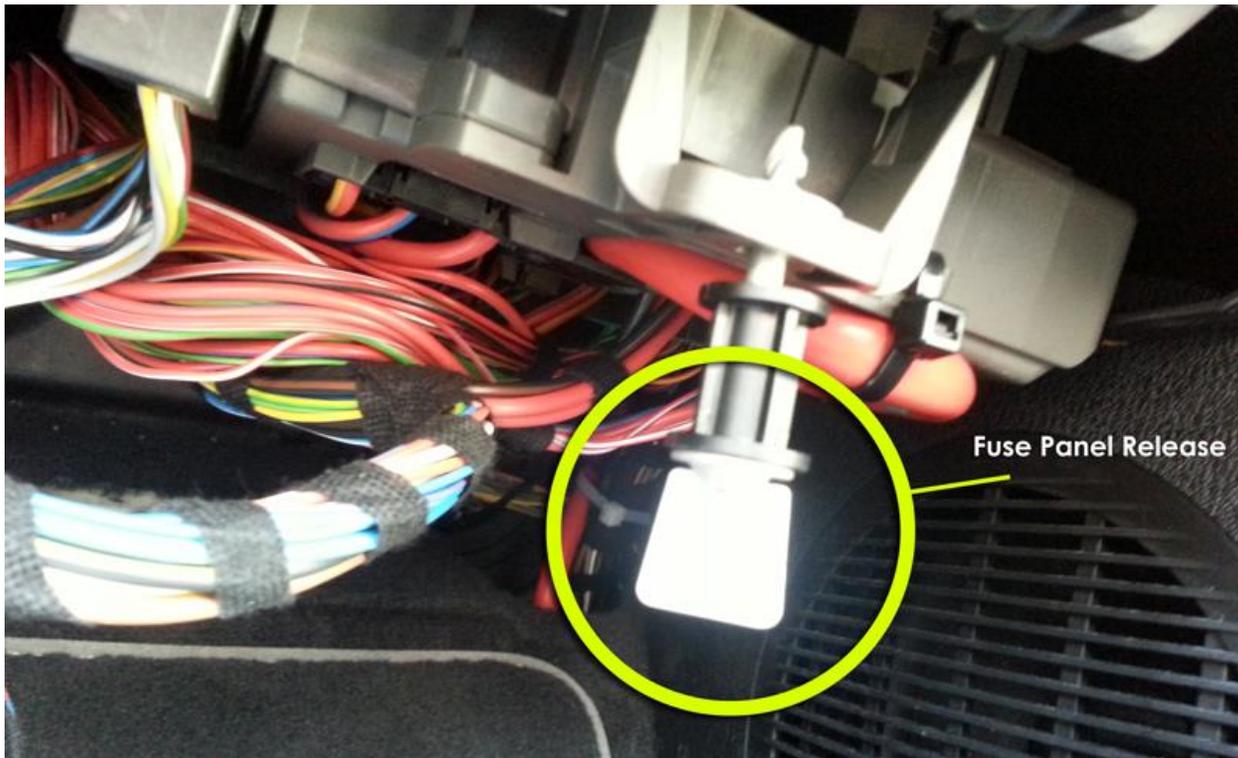
4. Once the panel is resting on the floor of the car, disconnect the cable / plug that powers the "mood lights" in the footwell. With this cable disconnected, you can now remove the panel in an effort to get it out of the way.



5. Towards the upper right side of the (now) exposed portion of the car, find the metal tab. This is the tab that is defined as "Shiny Fastener 3". It looks like it's made of a dull aluminum. I managed to leave it out of the next picture, but the arrow points to where it lives, just to the right of the picture.



6. Twist the Fuse Panel Release tab (Shiny Fastener) counter-clockwise. Using your hand / fingers continue to unscrew this tab until the fuse box panel drops down / is released.



7. Slowly pull the fuse box panel down, sliding it towards you as you go. The fuse box panel is connected to a green rail, allowing it to slide.



8. Open the packages to the ATM Add-a-Circuit, 16-14 Gauge (5/32") Bullet Connectors and the direct wire kit for the radar detector.



9. On the direct wire kit for my radar detector, one side plugs into the radar unit using a phone jack connection (we'll leave that alone for now), the other is broken up into 2 ends (ground / power). The ground will also be left intact, so make sure not to inadvertently cut the round ring connector off.

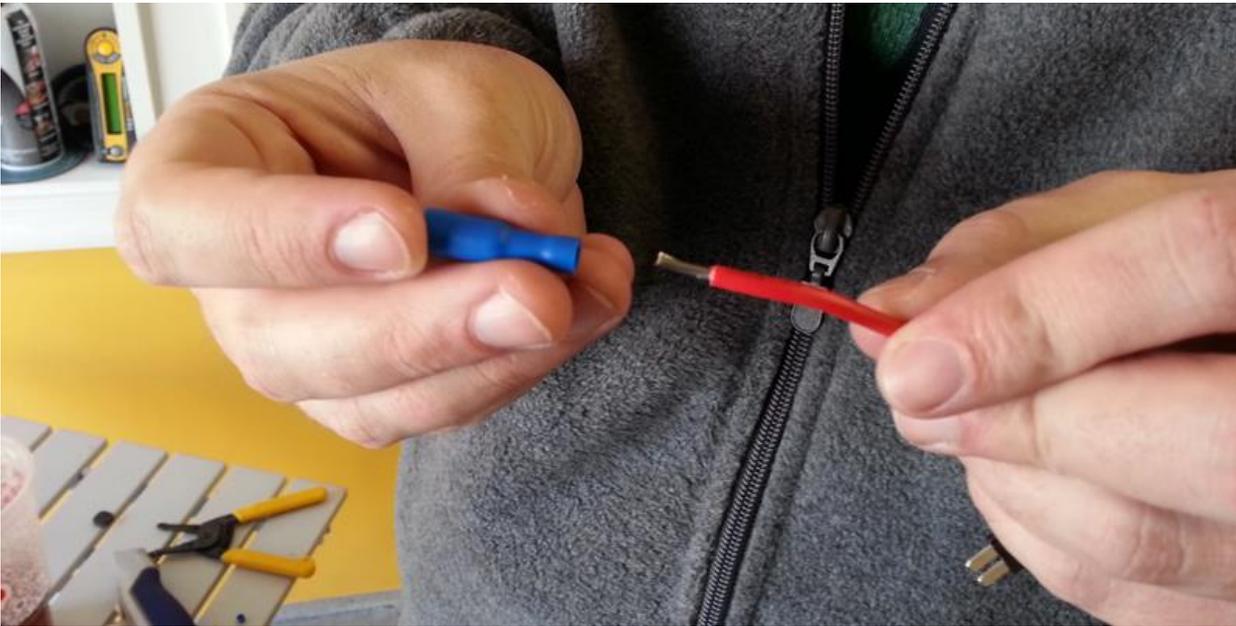


10. Using the wire strippers, cut the end of the power line, just before the plastic sheathing. Again, this is the wire that has a flat plug connector.



11. Strip approximately  $\frac{1}{2}$ " to  $\frac{3}{4}$ " of the casing off at the end that was just cut.

12. Slide the exposed wire into the back of a male version of the 16-14 Gauge (5/32") Bullet Connector. Ensure that the exposed wire extends to the end of the inside of the connector and that exposed wire exists where you will be crimping it. Use the wire strippers (or pliers if appropriate) to crimp the bullet connector.
13. Now cut the existing connector off of the Add-a-Circuit. Strip a similar amount of casing off of the wire that was done in the previous step. Slide the exposed wire into the back of the female version of the 16-14 Gauge (5/32") Bullet Connector.
14. Ensure that the exposed wire extends past the portion that will be crimped and that exposed wire exists where you will be crimping it. Use the wire strippers (or pliers if appropriate) to crimp the bullet connector.



15. Connect the male and female ends of the 16-14 Gauge (5/32") Bullet Connectors.
16. Insert (2) 10A ATM-style/size fuses into the slots on the add-a-circuit (there are only 2 slots on the add-a-circuit)



17. The Direct-Wire cable should now be ready for installation.

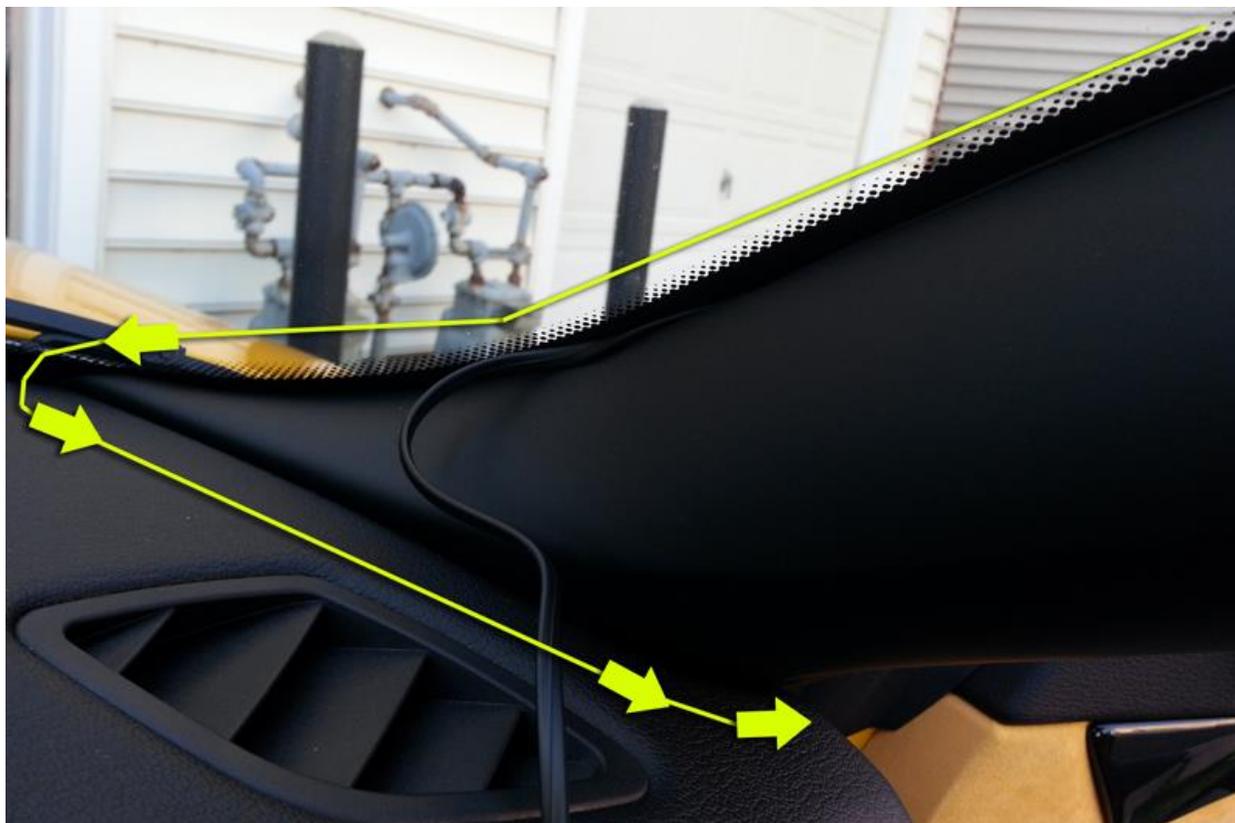
18. The radar detector that I have installed is mounted via suction cups above and to the right of the rear-view mirror. Plug the phone-line type connector into the radar unit.



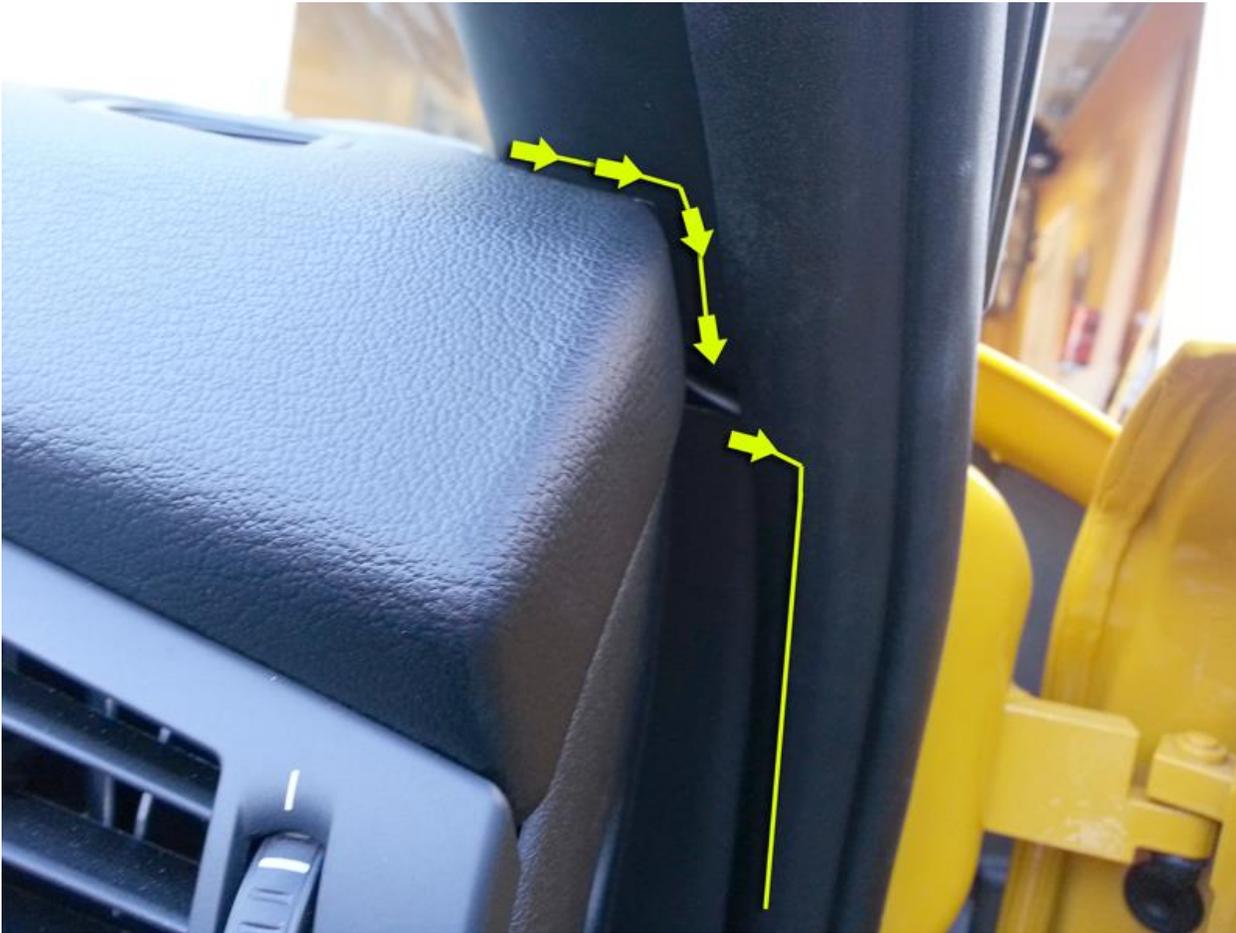
19. You can tuck the wire coming out of the radar detector into the forward-edge of the trim where it meets the windshield. Follow this seam down the forward edge of the a-pillar. Make sure that as you tuck the wire into the seam that you keep the cable flat (I had to continuously fight the cable to keep it from being twisted).



20. When you come to the base of the a-pillar, there is a somewhat sharp turn that you'll have to make. It helped me to run the cable an inch or so to the left along the base of the windshield prior to coming back towards the pillar.



21. Tuck the cable into the seam along the base of the a-pillar. This seam can be a bit tight. Having a credit card or something similar to push the cable into the seam may be helpful. Keep tucking the wire in along this piece of trim downward until you reach the small horizontal gap shown in the picture below. Bring the cable from the seam through this gap to the weather seal running down the car's frame. Be sure to tuck the cable (without twisting) as far under the weather seal that it can go.



22. Run the wire down the inside of the weather stripping until you reach the 2<sup>nd</sup> horizontal gap in the trim at beginning of the footwell. Bring the cable back through this gap and along the upper right corner of the footwell.



23. Next we will mount the ground wire from the radar Direct-wire cable. Using a T-15 Torx bit, remove the screw (shown below) found near the place that the “Shiny Fastener” was connected to the trim on the underside of the glove box area.



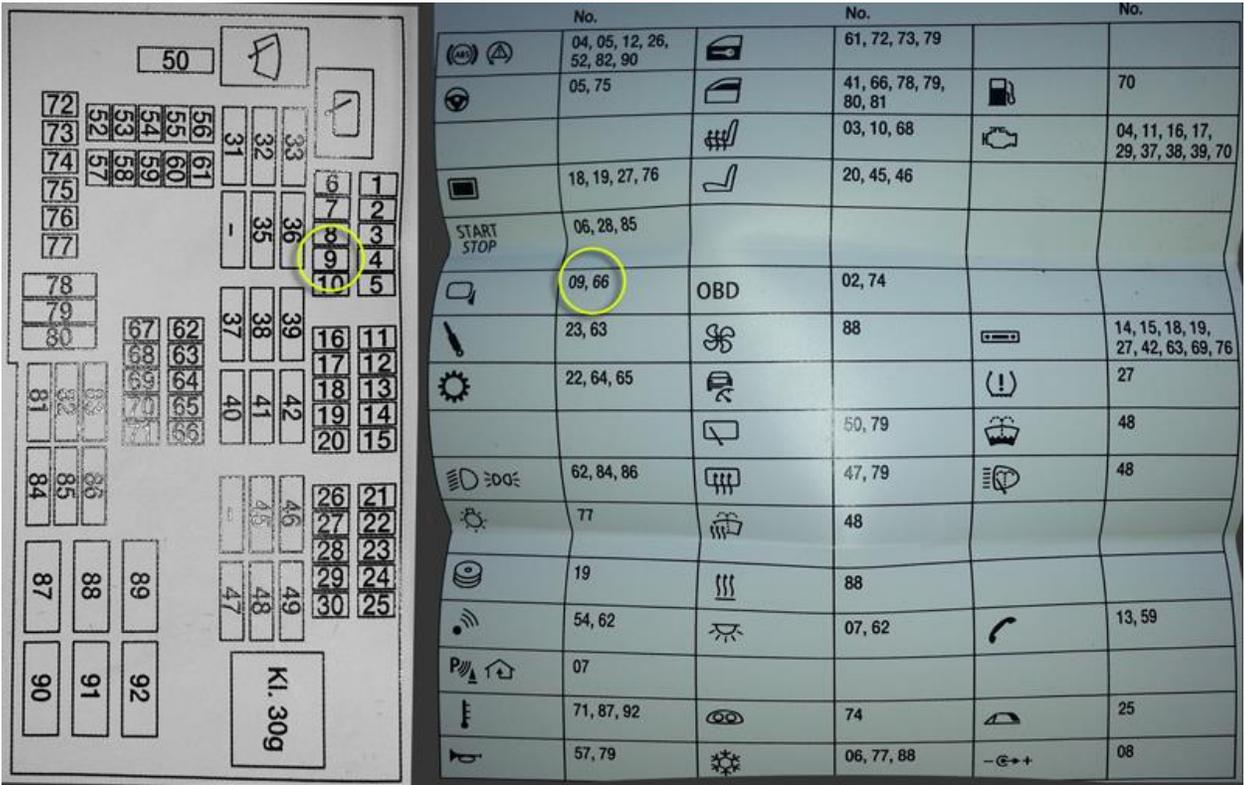
It took quite a bit of poking and hoping with a multimeter to find something in this area that was actually grounded.

Loop the ring connector over the screw and screw it back into it's hole.

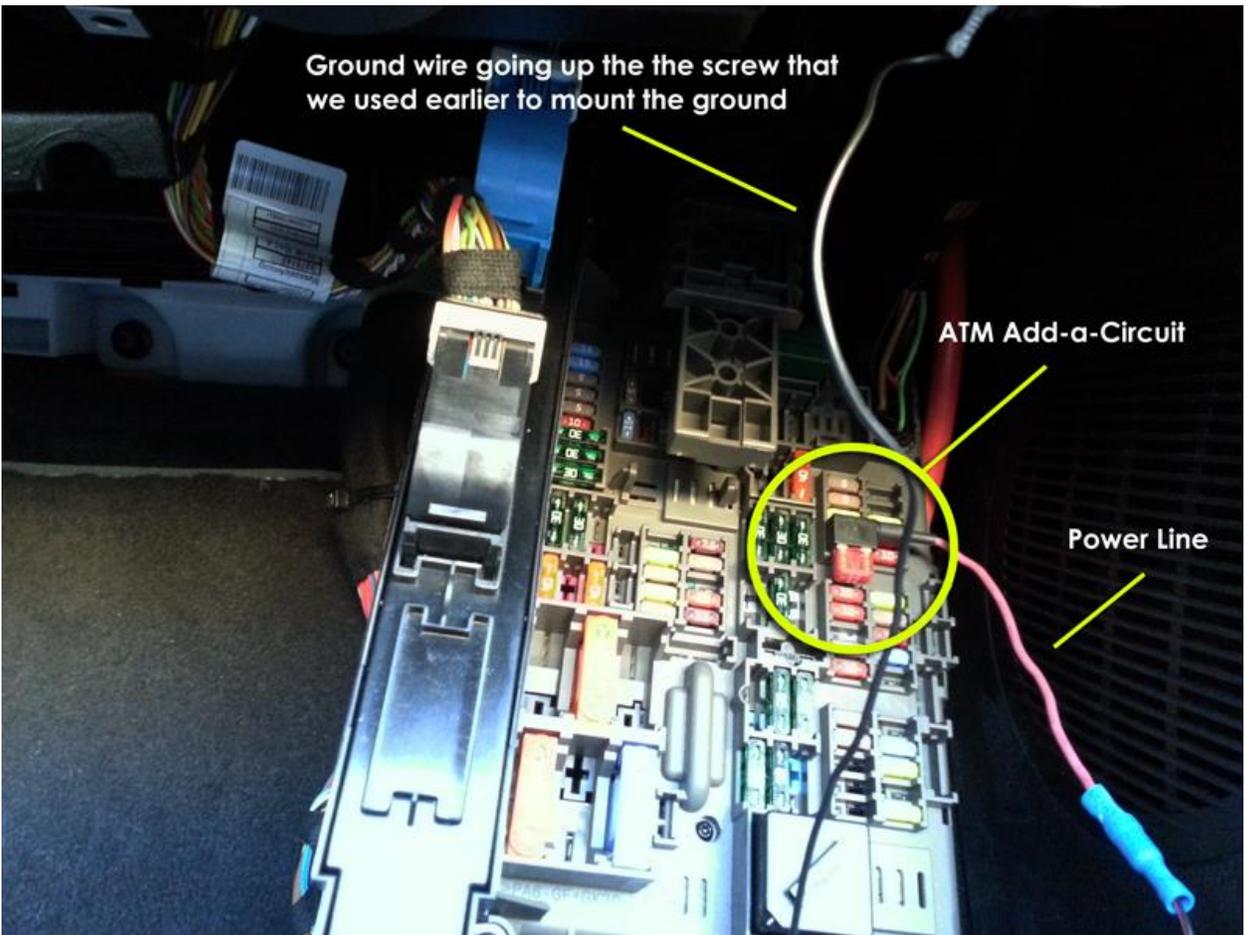


Using a T-15 Torx bit, remove this screw.

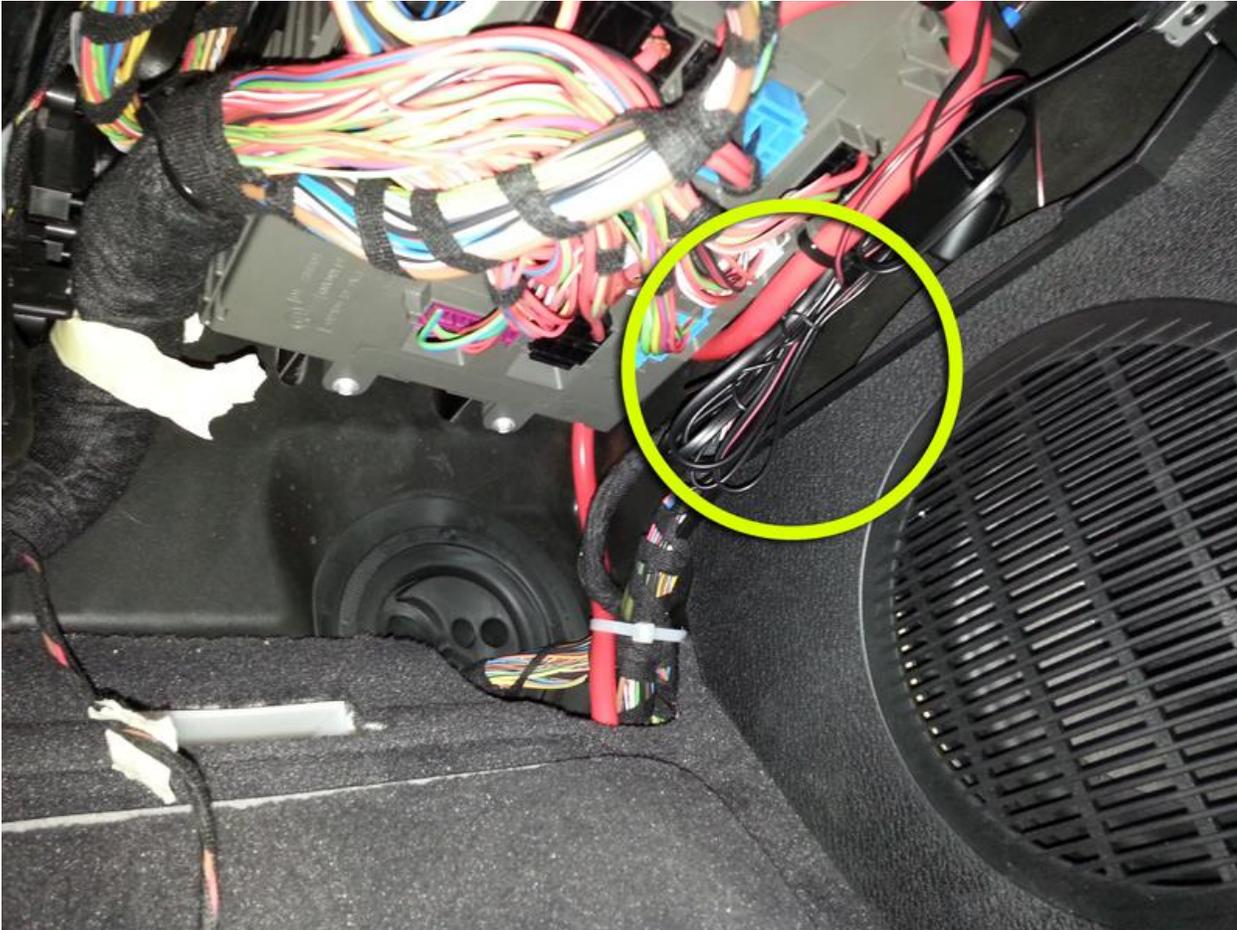
24. I plugged the Add-a-Circuit into fuse slot #9 from the fuse diagram. It's listed as being related to the mirrors, but mine was empty. I have all options (I believe) except for park distance control, so I'm not that I understand the connection to mirrors. In any event, the behavior was what I was shooting for (off when the cars off, on when the cars on).



25. I plugged the Add-a-Circuit with the fuses pointing down.



26. Once you have the power and ground connected, run through a test of the radar detector's functionality. The car has some strange power states, so for "being certain's sake" I would go from all the way off / nav screen retracted / no lights of any kind on to all the way on / engine started.
27. Gather the remaining length of wire and bundle it together using a twist tie or something similar. I tucked the bundled cable into the space up and to the right of where the fuse panel lives.



28. I took the picture (above) after I had already raised the fuse box panel back up into its secured position. Make sure that when you are raising the fuse box panel to slide it back up it's rail and be mindful of the bundle of cable that you've place to the right of it. Make sure not to pinch any of the cables. Use the "Shiny Fastener" to secure the fuse box, twisting it clock-wise until its tight.
29. For good measure, run through another test of the radar detector to make sure that the bundling of the wires and raising of the fuse box haven't affected any of your connections.
30. Now, get the body panel that covers up the fuse box area from wherever you placed it earlier and place it on the floor of the car. Reattach the power cable that we disconnected at the beginning, ensuring that it is properly run through its little guides on the body panel.





31. Once the power cable is reconnected, re-install the body panel into its original position. Make sure to keep a hand / eye on the left upper-most corner of it to ensure that you do not scuff the leather on the center console. It took a few tries before I successfully got the panel seated towards the front of the car and the screw holes were correctly lined up.

32. Screw in the (3) screws that we removed at the very beginning to re-secure the body panel using a philips head screw driver.



33. That's it. I would run through another test of the radar until, just in case something has changed, but you should be good to go.