

## 2015+ F150 Heated Steering Wheel Installation

In this tutorial I show how I added a heated steering wheel to a 2015 F150 XLT which did not come from the factory with a heated steering wheel.

### Disclaimer:

Please read this in it's entirety before starting this installation. Knowledge of wiring and taking apart wiring connectors are required. Also required is knowledge of airbag removal. Do this at your own risk, double check all connections, I take no responsibility for inaccuracies herein.

### Parts

- HL3Z-3600-KA - Platinum non-adaptive cruise control Heated Steering Wheel (HSW)
  - DG9Z-14B561-A - Heated Steering Wheel Module (HSWM)
  - CU5Z-14A163-A - Retainer for HSWM - need 3, sold as one \*
  - FL3Z-14A664-A - Clock Spring
  - EU2Z-14474-AA - Terminal BCM 2280A Pin 15 - need 1, sold as multi pack with 5
  - WT-1001 - Terminal Clock Spring C218A Pin 2 and 3 - need 2 - sold as multi pack with 5
  - WPT-965 - Pigtail HSW heating element - goes to clock spring from HSWM
  - WPT-955 - Pigtail HSWM
  - WPT-977 - Pigtail OBD2 Test Connection goes to MS CAN from HSWM \*\*
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- 1 - ¼ in blue (14-16 ga) ring terminal
  - 2 - blue (14-16 ga) to red (18-22 ga) butt connector \*\*\*
  - 1 - yellow (10-12 ga) to blue (14-16 ga) butt connector \*\*\*
  - Tesa fabric tape for factory look or electrical tape

\* Use nuts and bolts if you don't want to pay about \$2 for each one

\*\* Tap the MS CAN if you don't want to spend money on this

\*\*\* Optional, solder instead

### Tools

- Forscan, OBDII adapter, and Laptop that runs Windows.
- 2 - Small flat screwdrivers
- 3 mm or 4 mm Allen Wrench about 4 inches long
- 15/16 socket
- 5.5 mm and 8 mm socket
- T10 torx
- Wire cutter
- Wire stripper
- Wire crimper
- Heat gun or lighter
- Tie wraps
- Trim removal tools

## **Programming - After install**

- Front Control Interface Module (FCIM) - see Livnitup spreadsheet
- Accessory Protocol Interface Module (APIM) - see Livnitup spreadsheet
- HSWM - When forscan sees the new HSWM it will give a DTC U2100:00-0A since it is not initialized. I believe forscan can handle this with clicking on wrench and doing a module reset on the HSWM. The dealer IDS system will do this initial programming also.
- For the additional programming information check out <https://www.f150forum.com/f118/forscan-software-enable-disable-features-your-truck-348987/>

## Airbag Removal

Position the steering wheel in a the center straight position.

Make sure the key is out and let the system power down for at least one minute.

TODO add more info

There is one hole on left and right of the steering wheel. Place the Allen Wrench in one of the holes and press kind of hard while pulling on that side of the air bag. Then do the same on the opposite side. Might have to wiggy the airbag a little bit to get it to release.

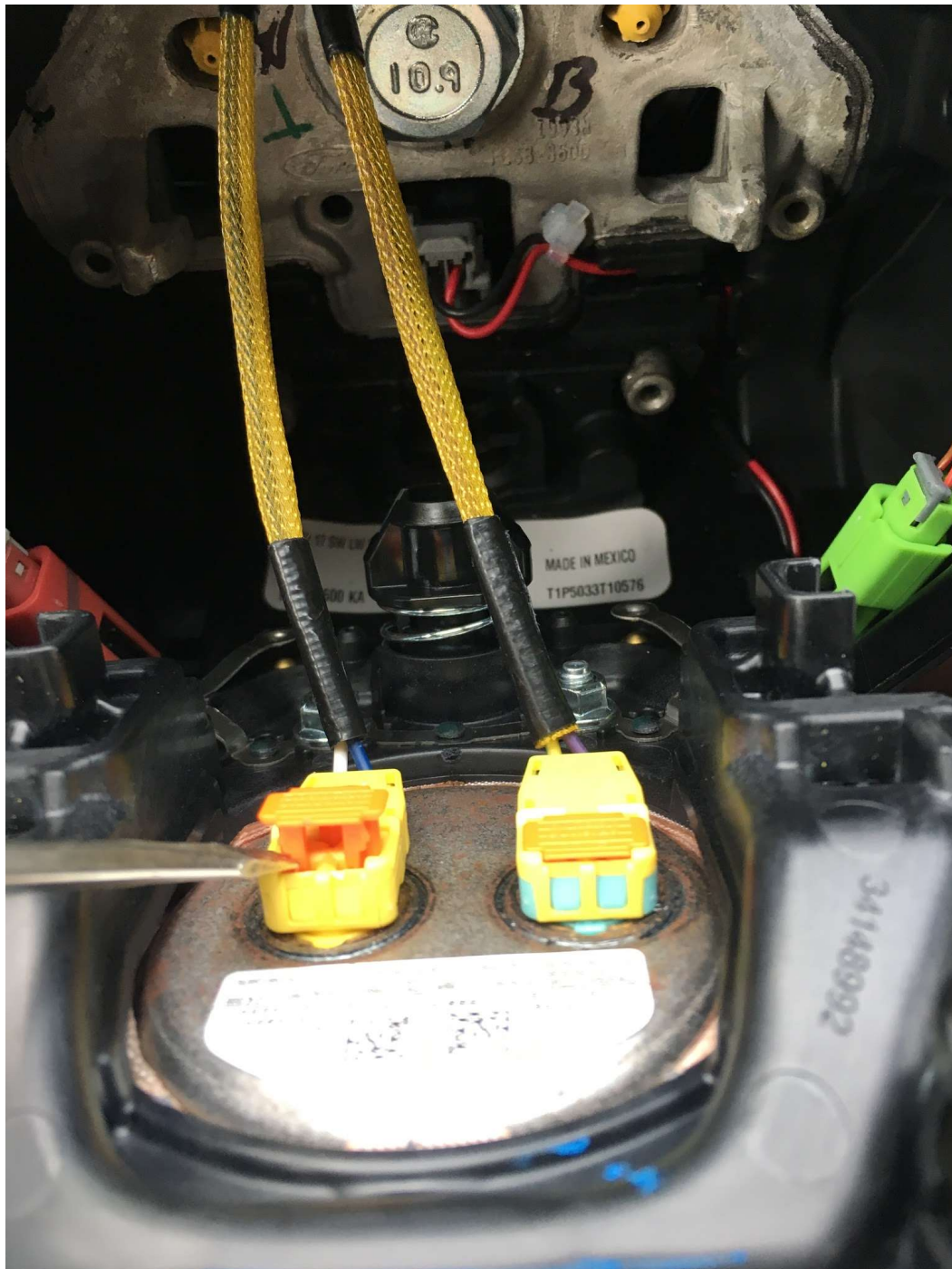


## Airbag Connectors and Horn Disconnect





Use a small flat screwdriver to release the clips on each then pull them out. Also there is a red connector for the horn. Disconnect that too.

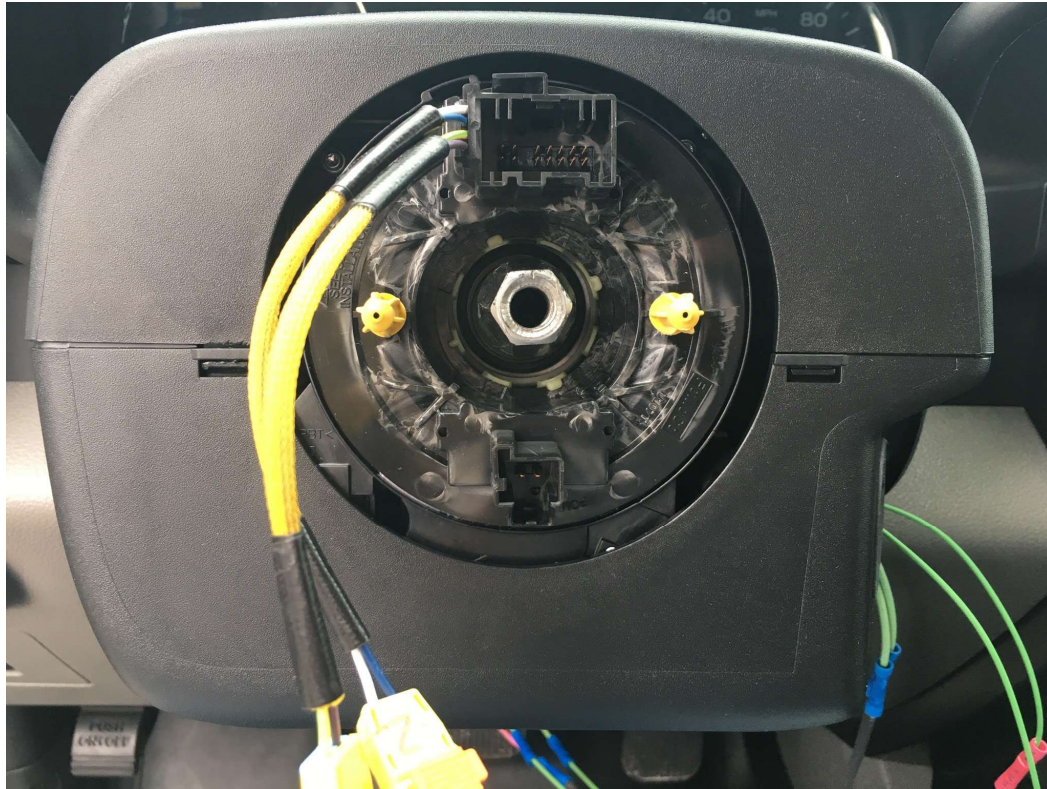


## Steering Wheel Removal

Disconnect the wire connectors from the clock spring (should only have the top one if you currently do not have a heated steering wheel.) Use a 15/16 socket with wrench to remove the bolt holding on the steering wheel. Slowly pull the wheel off. You will need to feed the two wires for the airbag through the hole in the top.



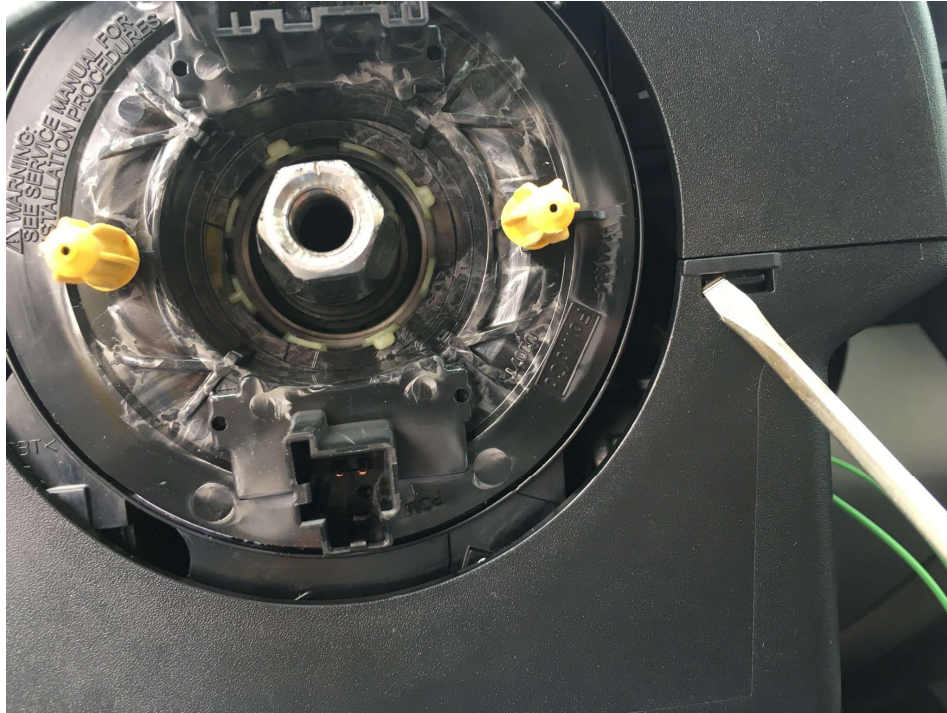
Try not to move the clock spring and put some tape on it so that it will not move. You're clock spring will not have the bottom connector. I took these pictures after already installing it.





## Steering Column Shroud Removal

Use a screwdriver or some other tool to push in the two clips on either side of the clock spring





Pop up the trim that connects between the top of the shroud and instrument panel. Then the top will now be able to be removed.



For the bottom part there are three 5.5 mm bolts that need to be removed.



Lower the plastic where your knees would be. This is simple just have to grab onto the top on each side of the steering column to get it to lower.



Since I have manual tilt. There is this lever you have to deal with. Not sure on the best way to remove it I just fought with it and got it out.

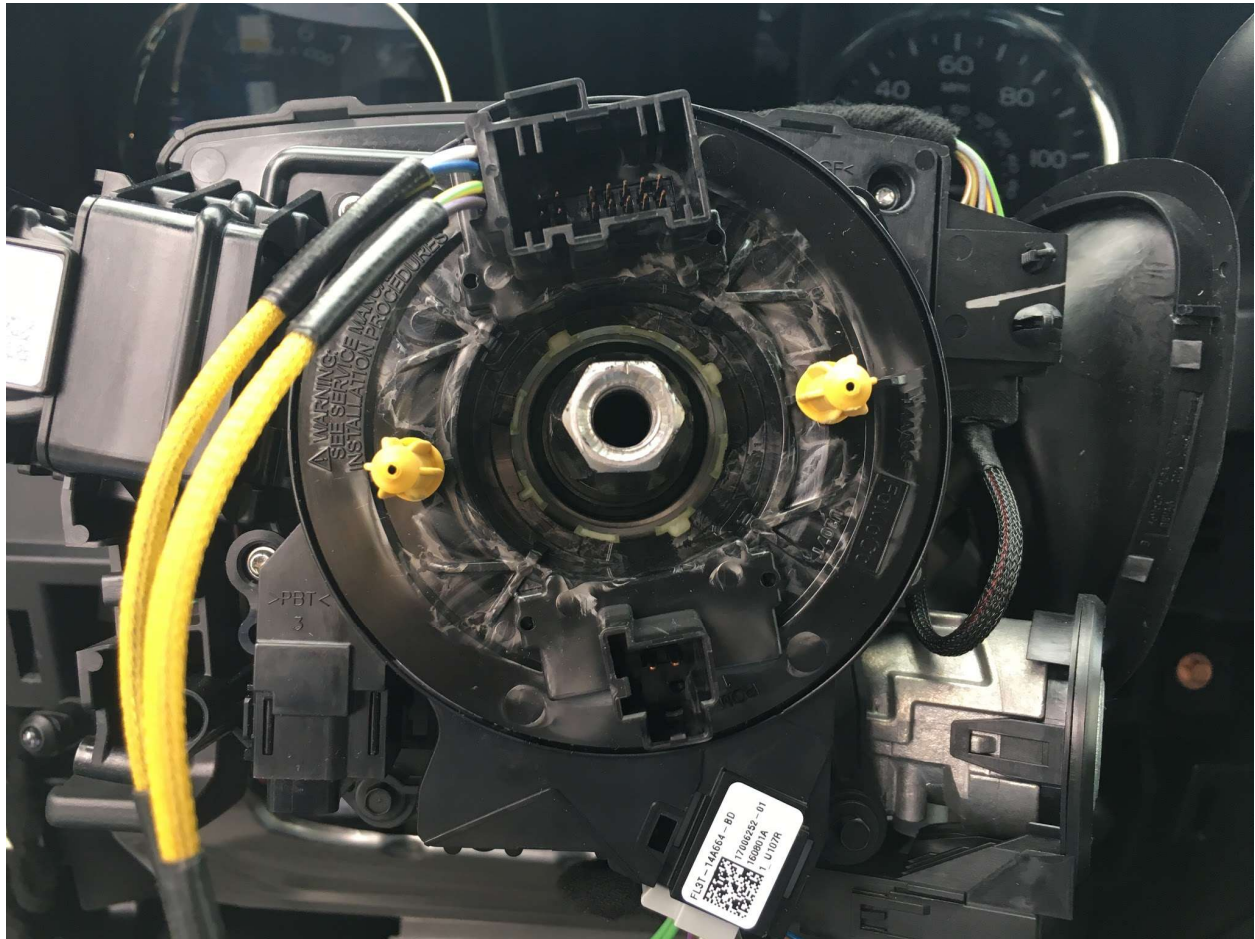




## Clock Spring Removal

Disconnect the wire harness C218A. Then there are four T10 torx that need to be removed. Then you can remove the clock spring. Be careful when removing there are small pins on the clock spring back so pull straight out.

(I know I should have taped the clock spring lol)



## New Clock Spring Installation

As with removing the clock spring be careful of the pins on the back. Make sure you are straight when pushing in the new clock spring. Reinstall the 4 T10 torx. The new clock spring should have a white pull tab on it. Just leave it on until you get the steering wheel back on. Leave the wire harness disconnected (C218A).



## HSWM location

The factory location for the HSWM is above the accelerator pedal. The picture was taken from the left side where the metal knee guard is. Image below does not have the retainers on



If using the factory retainers make sure that the side with the triangles on it goes into the metal.

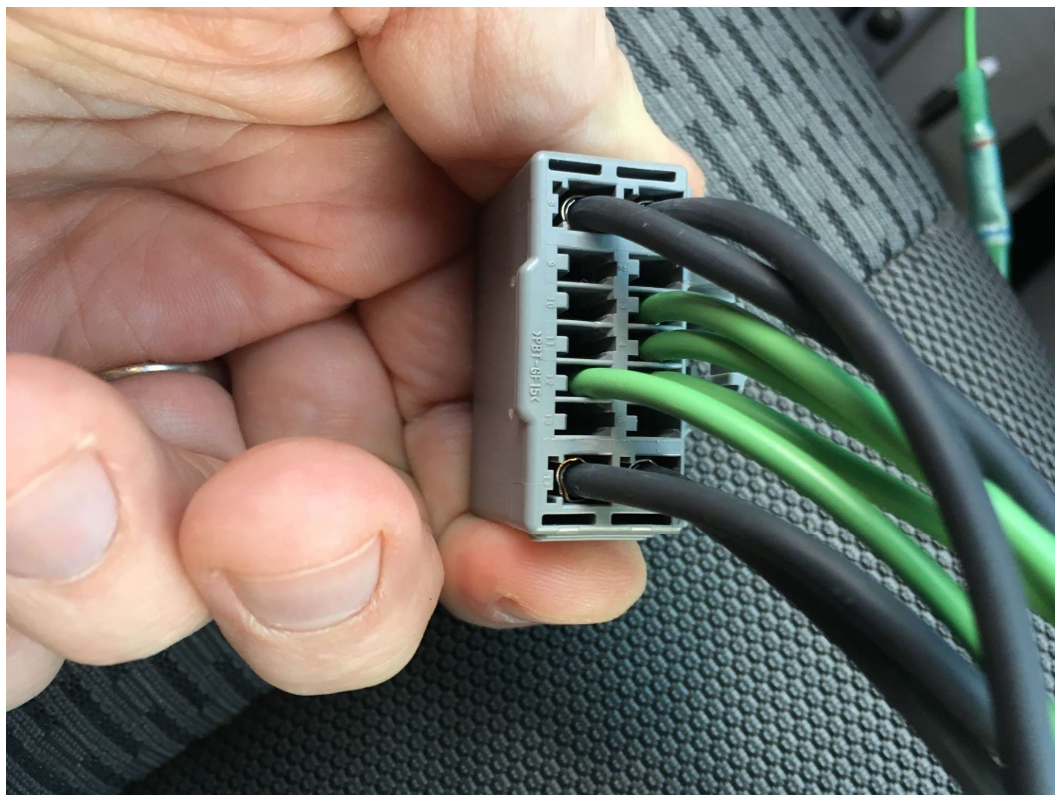


## HSWM WPT-955 Connector

The WPT-955 is the connector that goes on the back of the HSWM. It is a 14 pin connector but only 8 pins are used. You can optional remove the extra terminals which I did. Terminals 2, 6, 9, 10, 11, and 13 are Not used. Circled is how to release the red terminal retainer. Basically you push the tab with a small screwdriver towards the outside of the connector then take another small screwdriver to pry it out. Then once the red retainer is removed you can look in the connector and see a small tab that holds the terminal in. Carefully release the tab from the terminal and pull the terminal out from the backside.









## HSWM WPT-955 Wiring

For splicing I mainly used the ones provided with the terminals/pigtails with two exceptions. The Thermistor terminal is I believe 18 ga but the wire on the WTP-955 is something like 16 ga. So I used a special blue to red butt connectors. Also, for BCM terminal I believe it is 12 ga but the wire I added was 14 ga. So I used a special yellow to blue butt connector. The wiring diagram can be found [here](#) on the last page.

Pin 1 Power to EU2Z-14474-AA to BCM C2280A Pin 15

I added 38" inches of 14 ga wire between the two.

I will cover more on this below.

Pin 3 MS CAN Low to the WPT-977 Pin 4.

I removed about 10" off wires between the two pigtails then spliced together.

Example say the total length was 30" it would now be 20" when connected.

Pin 4 MS CAN High to the WPT-977 Pin 3.

I removed about 10" off wires between the two pigtails then spliced together.

Example say the total length was 30" it would now be 20" when connected.

Pin 5 Thermistor + to WT-1001 to C218A Pin 3

I did not remove/add any wire. Just spliced to WT-1001.

I will cover more on this below.

Pin 7 Heater Element - to WPT-965 Pin 2

I did not remove/add any wire. I just spliced together.

Pin 8 Heater Element + to WPT-965 Pin 1

I did not remove/add any wire. I just spliced together.

Pin 12 Thermistor - to WT-1001 to C218A Pin 3

I did not remove/add any wire. Just spliced to WT-1001.

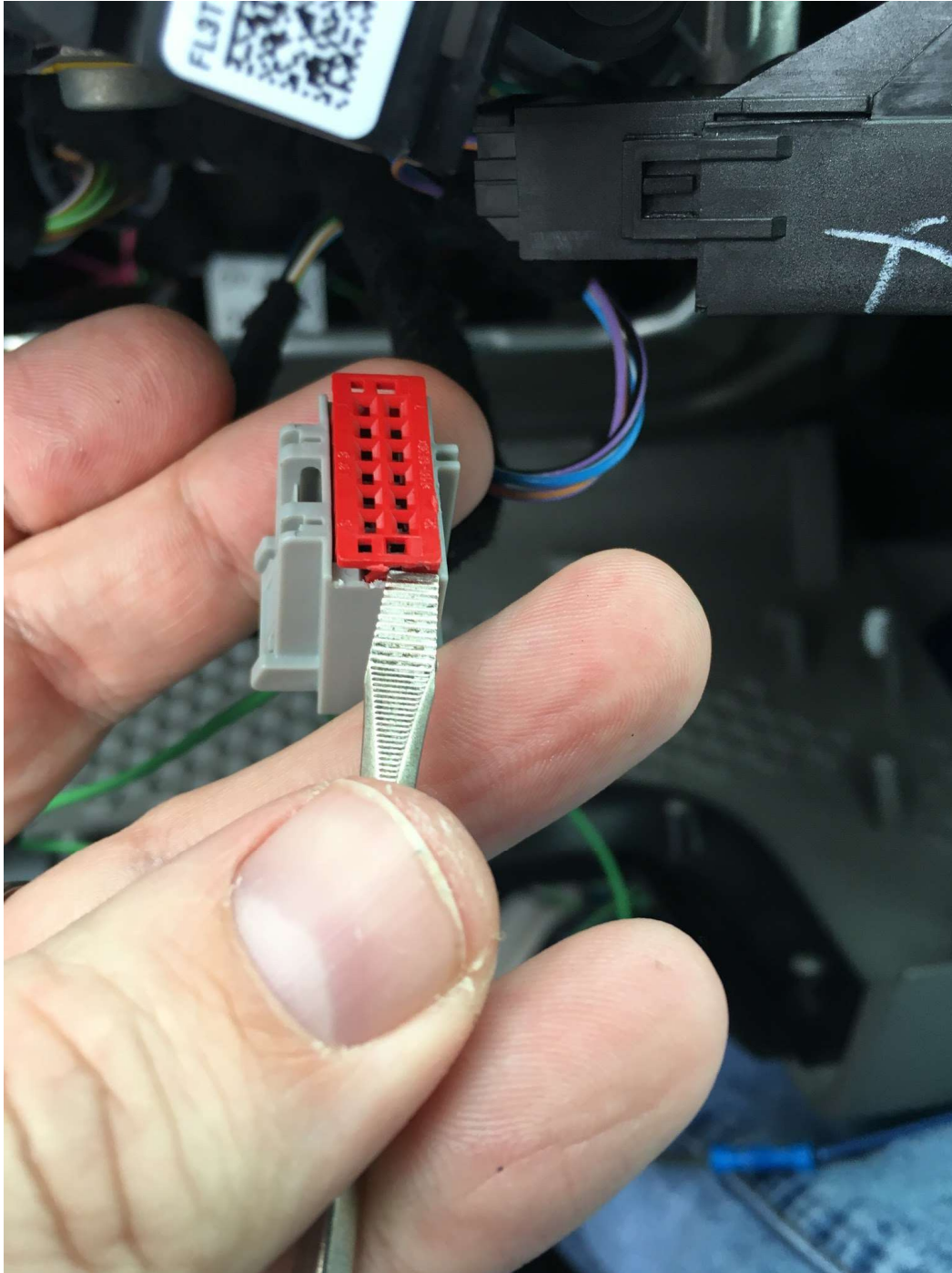
I will cover more on this below.

Pin 14 Ground to ¼ ring terminal

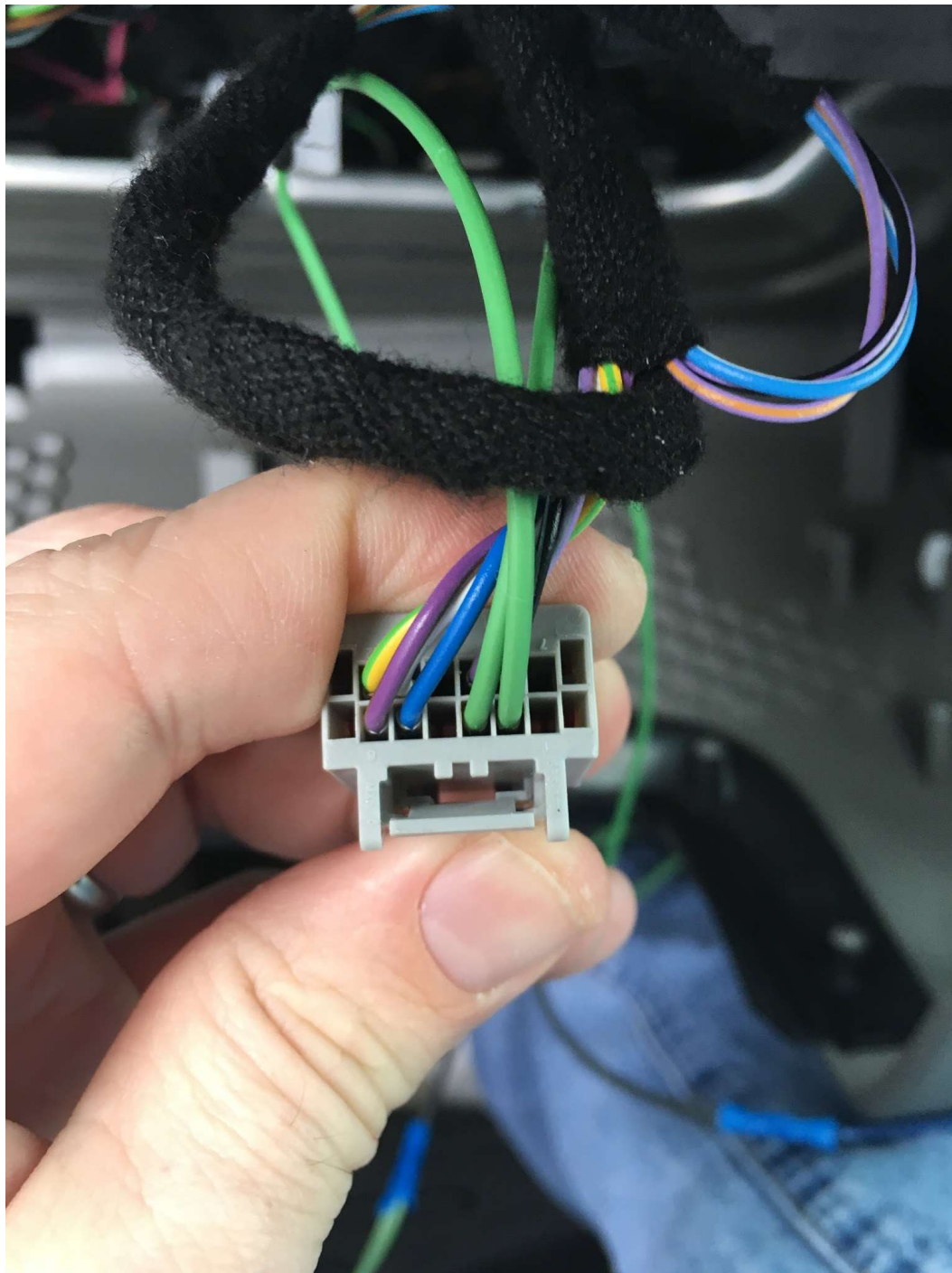
I removed about three inches of wire then put the terminal on the end.

### Clock Spring C218A Pin Installation.

To remove the red retainer, I used a small screw driver and worked on both sides to get it to remove.



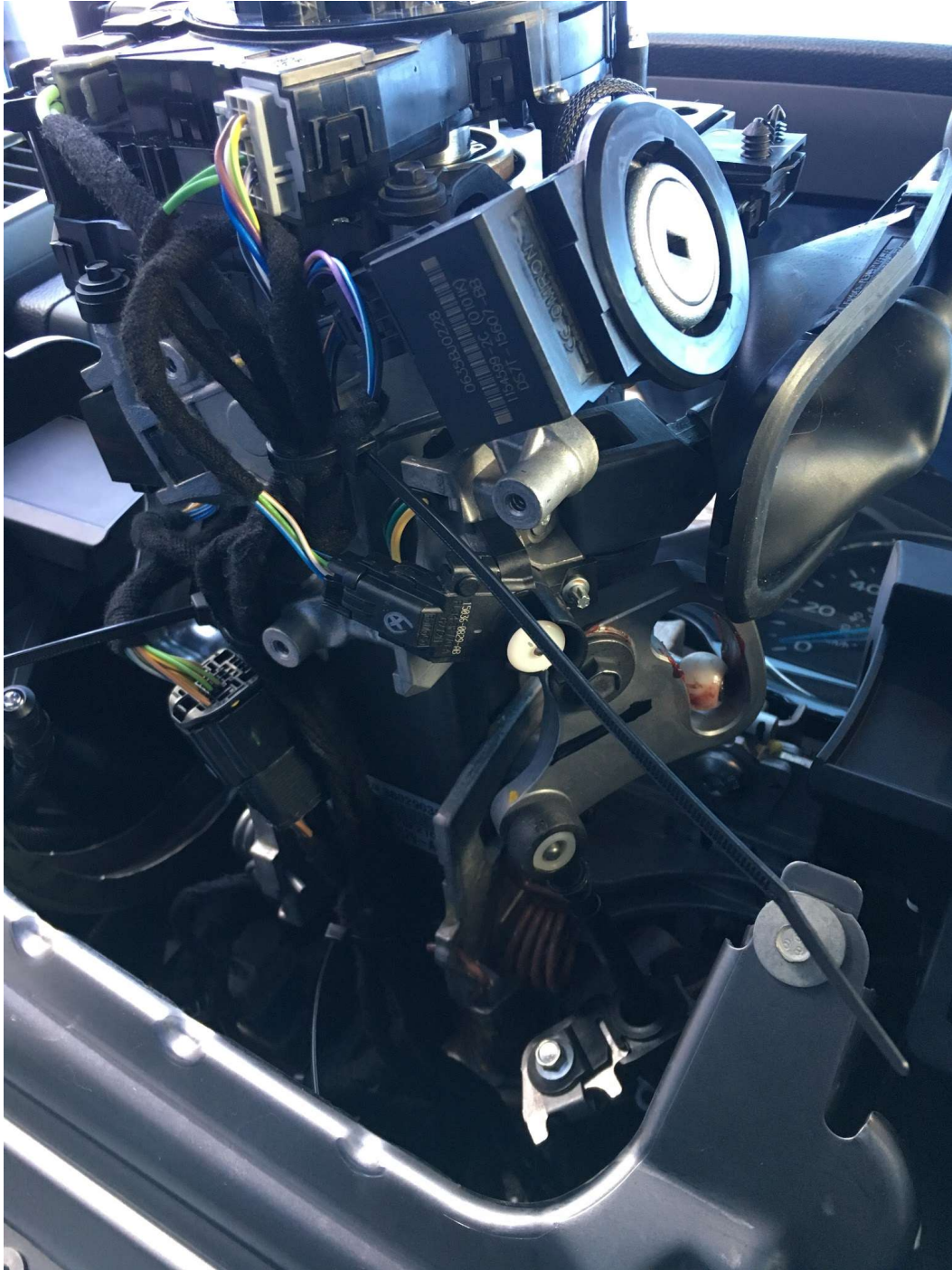
Then simple push the new terminals into the position described above. And reinstall the red retainer.  
Then I wrapped this two wires with Tesa tape back to the HSWM.





### WPT-965 Heater Element

I wrapped this two wires with Tesa tape back to the HSWM. Plugged it into the clock spring. Then I tie wrapped the heater element wire as well as the thermistor wire to an existing wire down the steering column. I left the tie wraps uncut to show where I placed them.

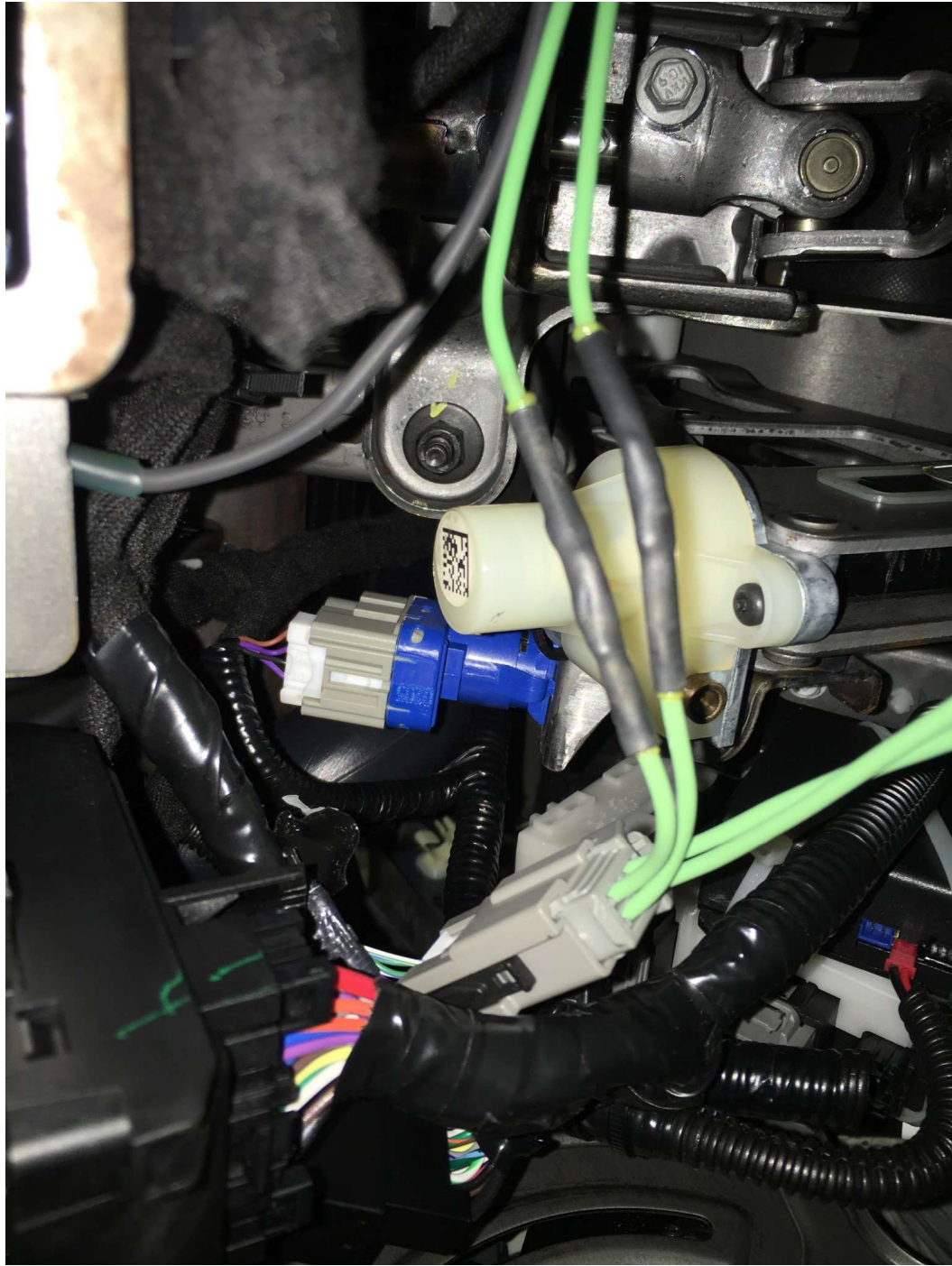




## WPT-977 and Ground

I plugged in the WPT-977 to the test connection by the OBD2 port and used an existing ground point that is above the brake pedal area next to the obd2 for the ground with the ring terminal. The bolt has a 8 mm head. Then wrapped with Tesa. I kept the extra wires in this that are used for the HS CAN for future things.







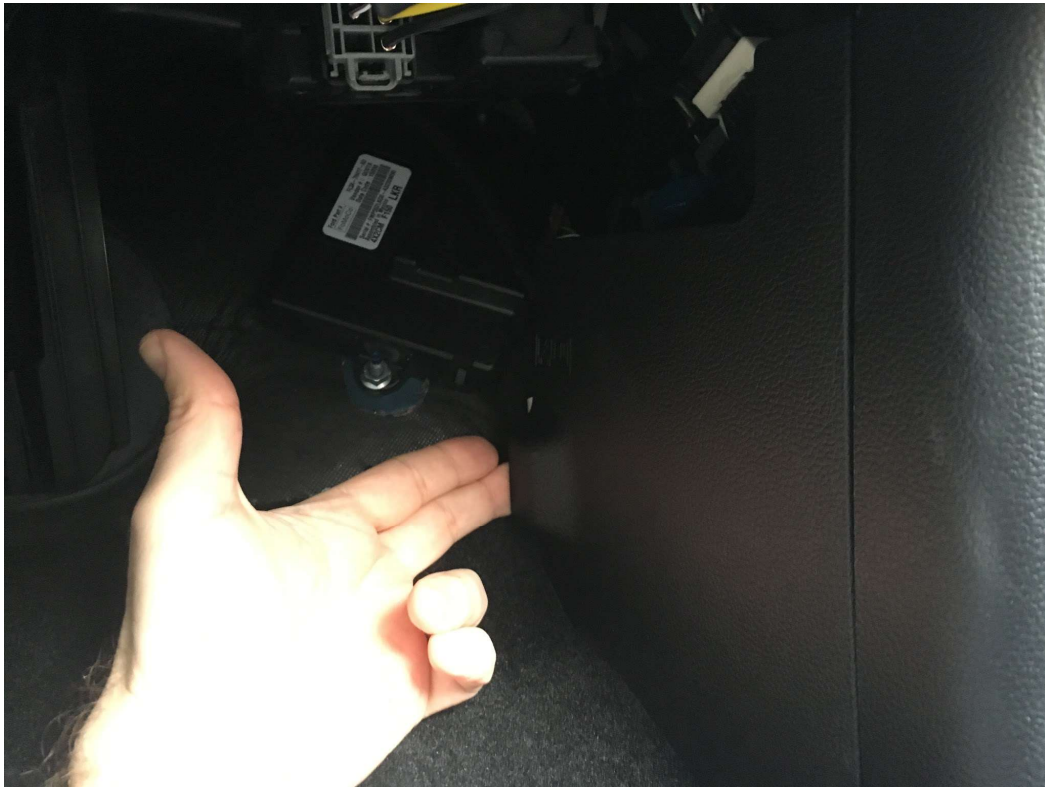


### **BCM C2280A Pin 15**

Now on the passenger side of the truck, remove the tray under the glove box. To do so there are two retainers that hold it up, either pull down on the tray or get a trim removal tool to help pry it down. Then pull towards the seat.



To get to the BCM there is a cover that swings open. At the back there is a place to put your fingers in and pull. Once at 90 degrees you can remove the cover by pulling towards the drivers side.



At this point I ran the wire that goes from the HSWM to the BCM behind the console and above this HVAC piece (the two wires I show in the pic one is the HSWM to BCM and the other is for the ambient lights I added.)

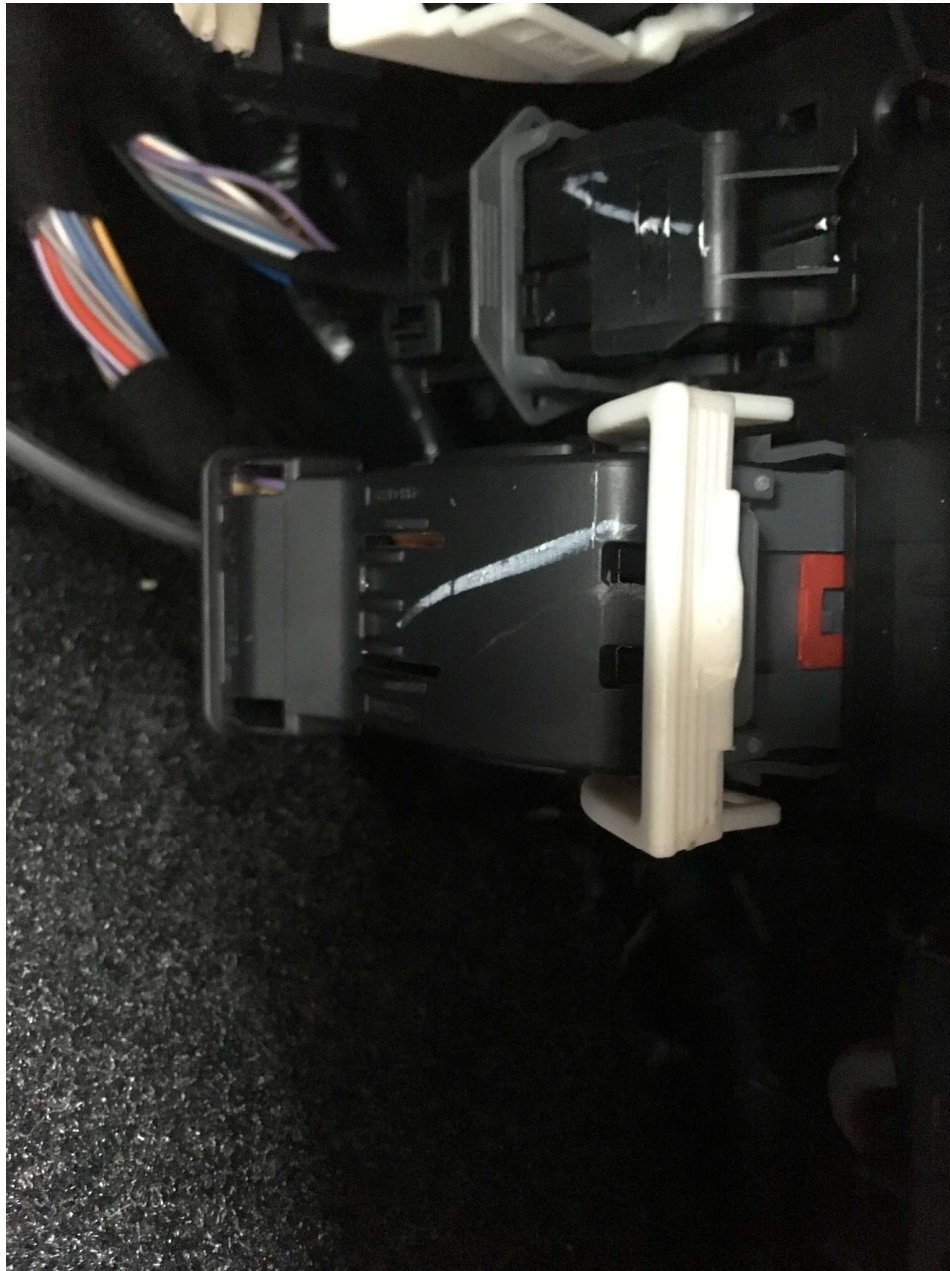




Here is the butt connector I used for the BCM terminal.



The bottom connector needs to be removed from the BCM. To do so there is a tab that you press then move the locking arm. As you move the arm it will slowly raise the connector away from the BCM.

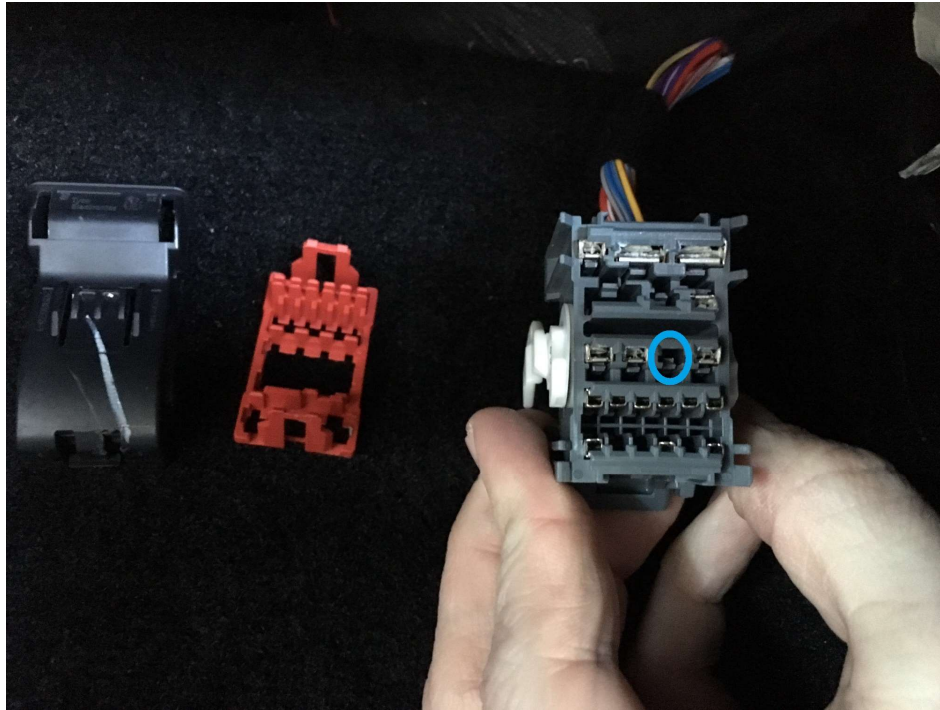


Cut tie wrap off and make sure you don't cut the wires (picture was taken with it already off). Then there is a tab where I am pointing to that you press in and push up and the top cover should come off. Then remove the red terminal retainer. I used a small screw driver on each side. You will see there is a tab that the red retainer needs to clear on both sides.

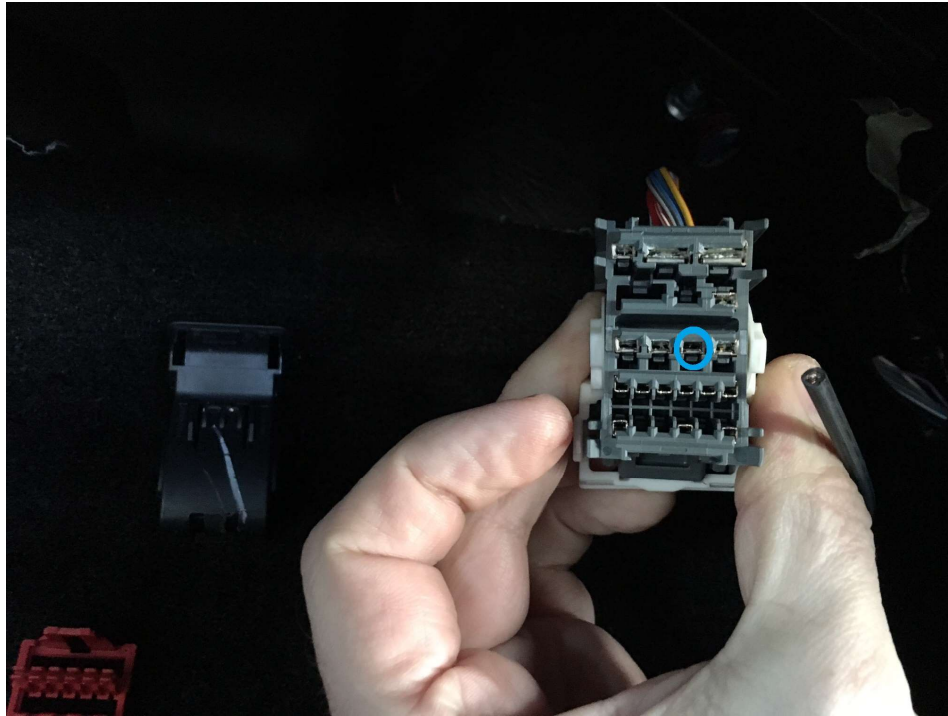




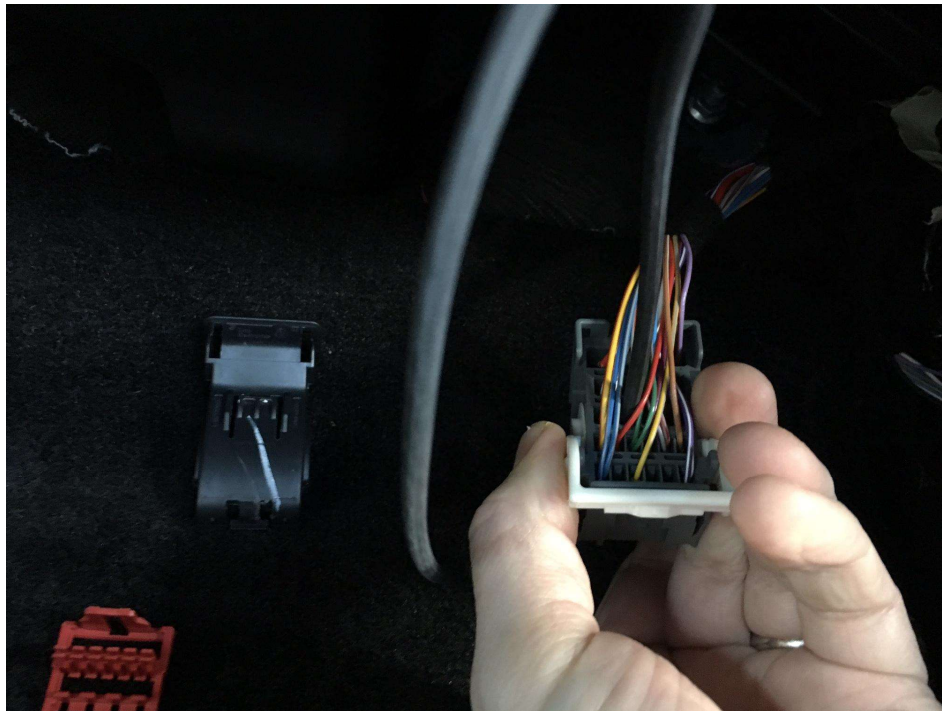
Before adding terminal EU2Z-14474-AA to pin 15.



After adding terminal EU2Z-14474-AA to pin 15.



Top side of the BCM connector (pretty sure this wire is 12 ga looks huge compared to the 20 or 22 ga already in the connector)

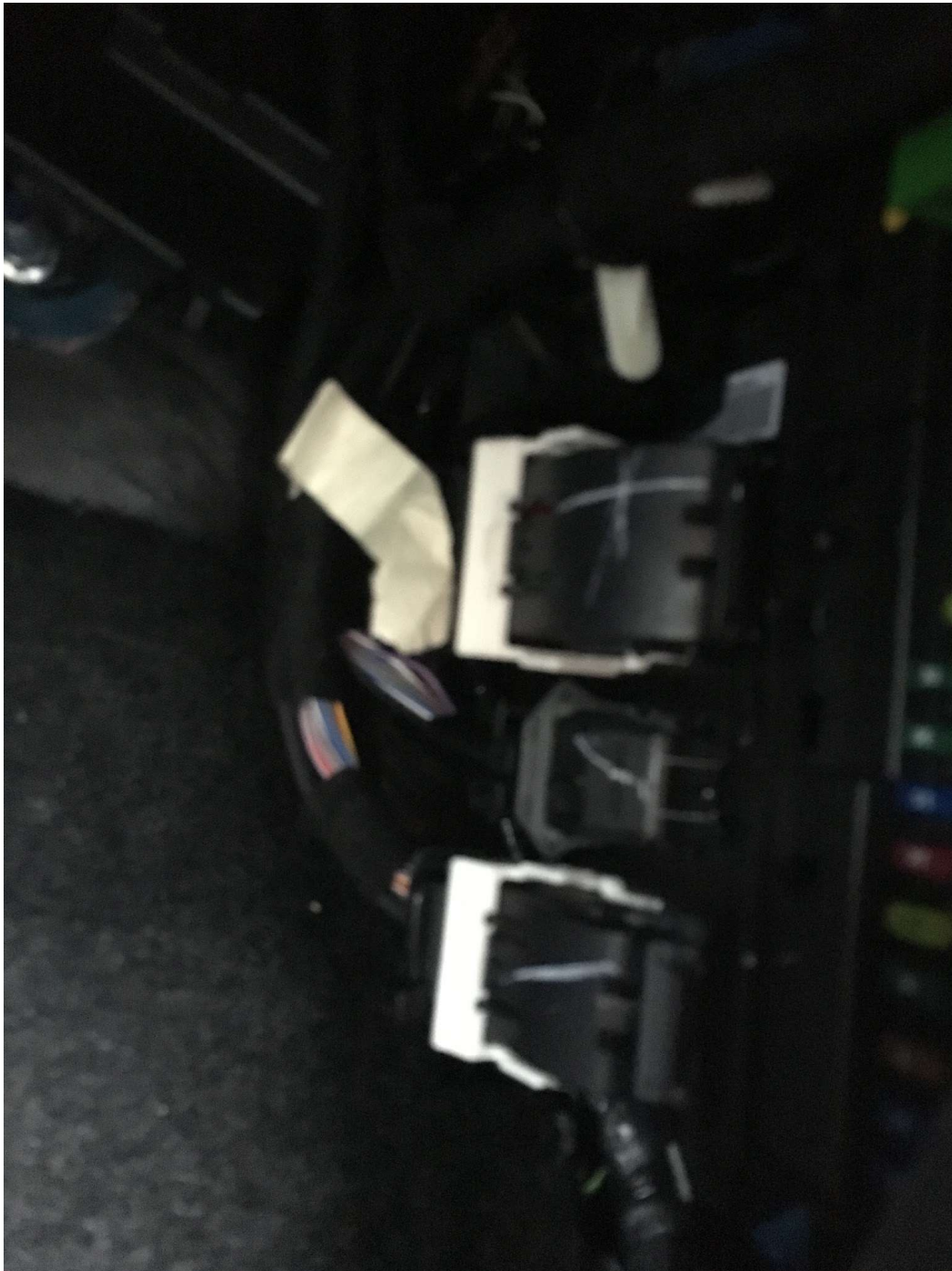


Put the red terminal retainer back in place. Put the black cover back on top and put a new tie wrap on it.





Reinstall plug to BCM by putting the connector in place and moving the locking lever towards the front of the truck. You should see the connector go closer to the BCM while doing so.



Now that the wiring is out of the way we can start putting things back together.

Replace cover door on the kick panel. And install the tray. There is a square pin at the back of the cover that needs to line up ( you can see the square hole in the picture above with the wire routing) Then push up into place.

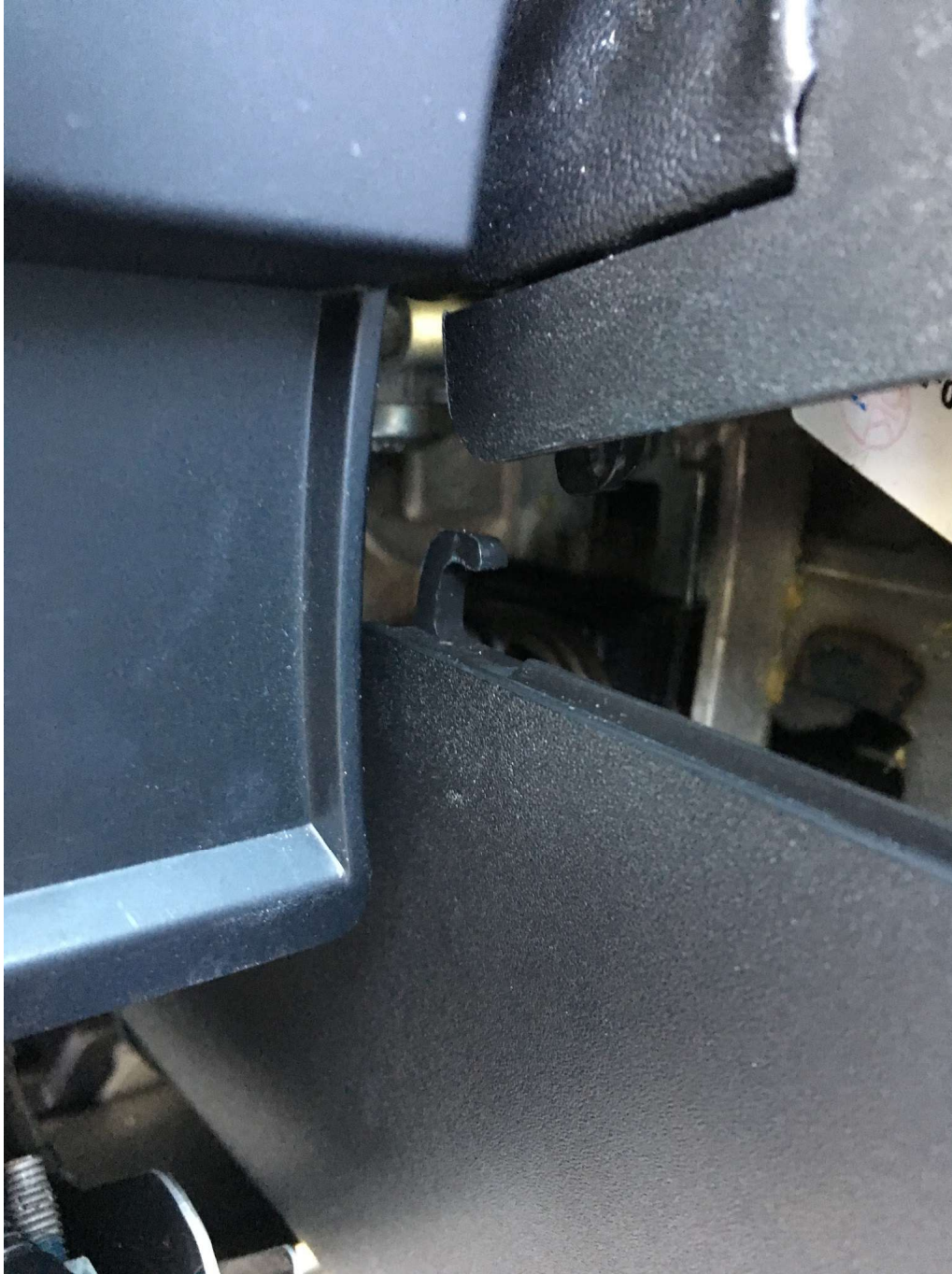




### **Steering Column Shroud Reassembly**

Install the bottom part of the steering column shroud in reverse order to how it was removed.

The top part is a little more tricky. On the top of the bottom shroud there are hooks that need to align with pins on the top part. They are on both sides.





Also there are other pins that need to be aligned too.



For the boot around the shifter I had trouble getting it to go on when putting the two halves together so I just kept it off them snapped it back in place.







Flip up the plastic knee guard, line up clips and push into place.



## New Steering Wheel Installation

- Slide the airbag wires through the connector hole at the top of the steering wheel.
- Then you should be able to put the steering wheel back on over the clock spring.
- Tighten the 15/16 bolt down to 41 ft/lbs.
- Now you should be able to remove the white plastic clock spring retainer. (I put this on my old one and removed the tape for storage).
- Connect the steering wheel pigtails to the clock spring.
- Connect the horn wire from the airbag to the steering wheel
- Connect the two airbag wires from the clock spring to the airbag.
- Align the airbag and put even pressure on it. I have taken out/installed the airbag a few times and this can be tricky it will look like it seated right but it may not be. The horn should work wherever you press it.

**Enjoy your heated steering wheel!**

