

iWire Fuel Pump Hardwire Kit Installation Guide



iWire Fuel Pump Hardwire Kit Installation Instructions

2008-2019 Subaru STI
2008-2014 WRX
2009-2013 Forester
2005-2019 Subaru Legacy

Thank you for purchasing the iWire Plug and Play Fuel Pump Hardwire Kit! These instructions are designed to make the installation process as easy as possible. Please read and follow them carefully. **We suggest reading the entire guide all the way through before beginning installation of this product.** This manual was created using a 2010 STi so there may be variations between models and years. If you have any questions during installation, please call your local professional or iWire.

This kit is designed to modify the electrical and fuel systems in your Subaru. Working around electricity and fuel vapors can be dangerous and even deadly if proper care is not taken. While iWire takes pride in making our products as simple as possible to use, we still recommend that a professional, qualified technician perform the installation. Any modification to a vehicle that exceeds the original manufacturer specifications (which includes OEM fuel tank connections) carries an inherent risk of mechanical failure that could result in damage to life or property. iWire is not responsible for any damages that may occur. By purchasing this product, you agree to these terms of sale.

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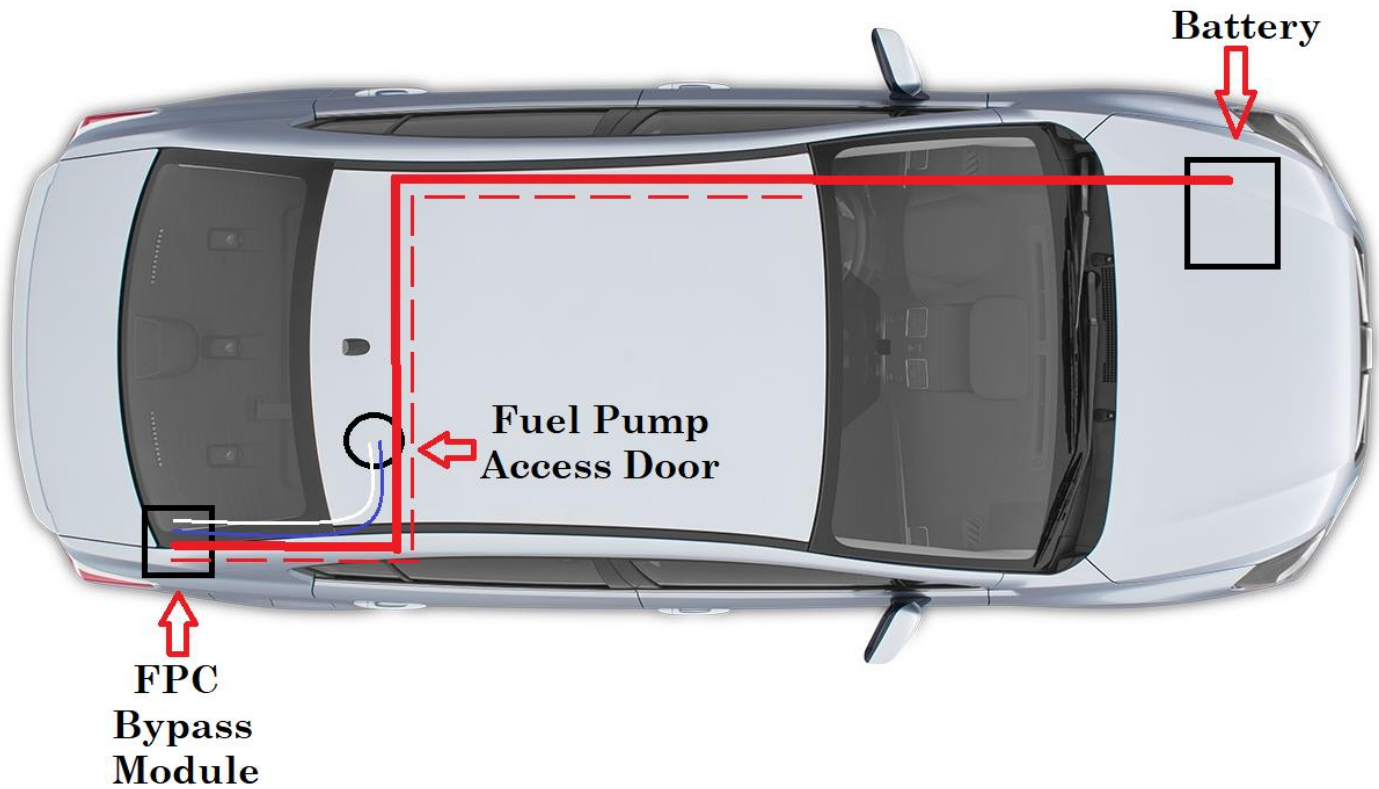
What's included:

1. Battery to Circuit Breaker Sub Harness
2. Circuit breaker
3. Battery Cable to Hardwire Module
4. Hardwire Module
5. Hardware Kit
6. Ground Terminal
7. Fuel Pump Controller Jumper Harness
- a. White connector with Orange wire for Secondary Pump Expansion (stays open for single pump kits)
8. Ground and Power Wires for Fuel Pump
9. Red Trigger Wire (add-a-fuse in hardware kit)
10. Ground and Power Wires for Fuel Pump (length and terminals may change based on car model and year)
 - a. If Bypass Connector purchased, use supplemental instructions for install



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Section 1: Installation Overview



Large Red: Power wire from battery positive terminal

Dotted Red: 12V Key on power source (connect to fusebox with add-a-fuse)

White: Output wire from iWire fuel pump bypass module to fuel pump plug

Blue: Ground wire from FPC to fuel pump plug

What it does: The iWire Fuel Pump Hardwire Kit modifies the original fuel pump control system to allow the pump to run at maximum flow for high-output applications that require additional fuel. The kit works by increasing the voltage to the power side of the pump while still leaving the ground side in place thus keeping the OEM low (33%), medium (66%), and high (99%) settings. iWire upgrades the grounding side of the controller to maximize the grounding capabilities of the FPC to ensure the best possible performance.

Tools needed: 10mm socket or box wrench, 12mm socket or box wrench, 13mm socket or box wrench, flathead screwdriver, box cutter or knife, pick tool for electrical connector pins, wire stripper, heat gun, jack stand

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Section 2: Battery/Engine Bay

Before installing the iWire Fuel Pump Controller Kit, disconnect the negative terminal from your vehicle's battery. This is a very important step to ensure your safety while installing the kit.



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Section 3: Main Power Cable Routing Overview

Feed the power wire through from the cabin into the engine bay. There is a grommet underneath the fuse box, to the left of the clutch pedal. It is not located on the firewall, but rather on the driver's side wall of the footwell. Cut a small slit if necessary, then feed the wire through here.

Remove interior trim piece on driver's side door for access to the fender grommet. Remove the plastic kickplate at the front of the driver's door. There is a screw-on plastic cap that comes off, and then pull straight out from the side of the car to release the clips.



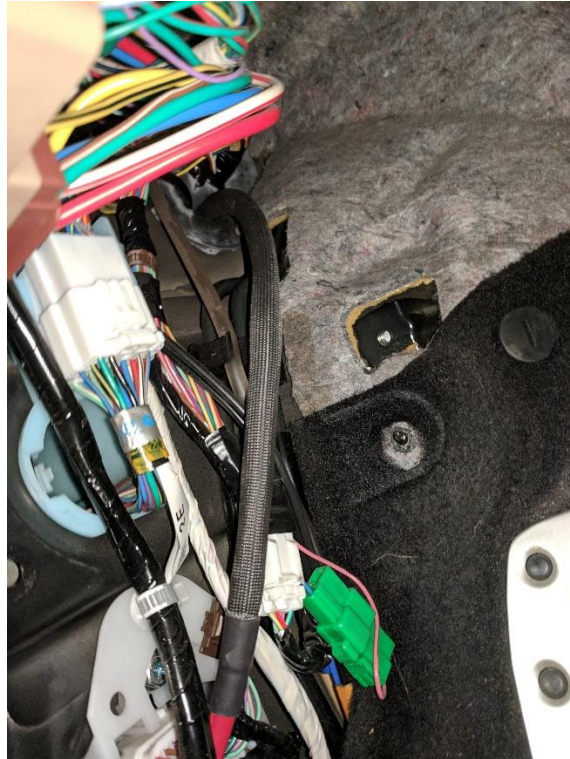
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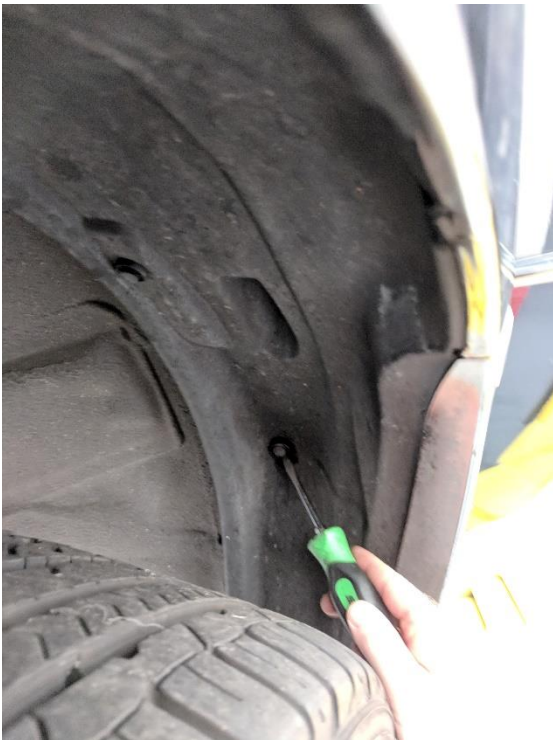
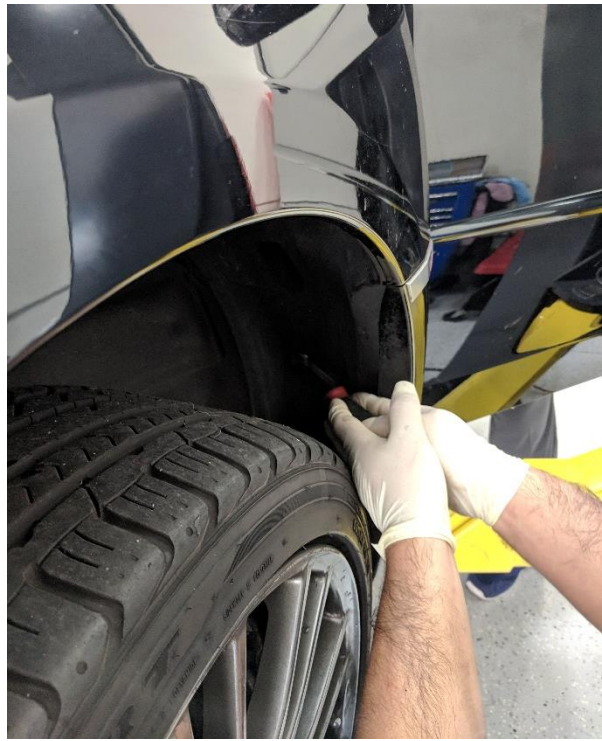
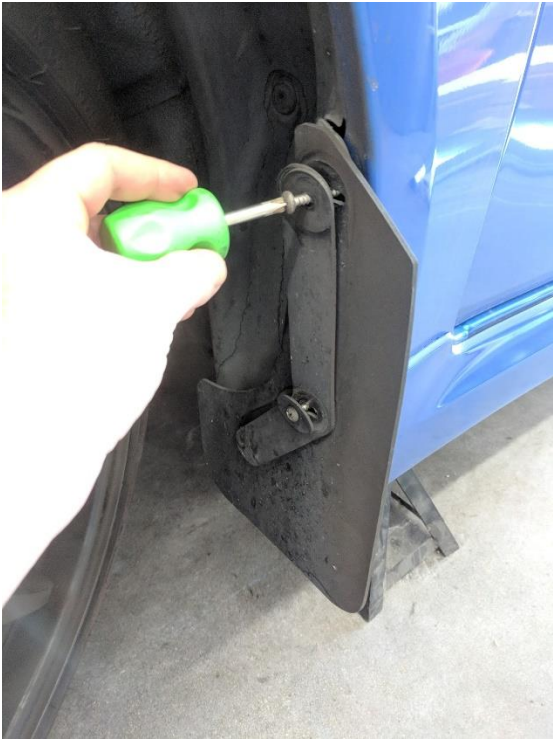
Make a small hole with a blade like a box cutter to slide the wire through the grommet.

NOTE: If you have a 2 pump kit now would be a good time to run the small Black pressure switch wire through the grommet with the Red main power wire. See Secondary Pump Install Guide for more info on the pressure switch.



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It will be necessary to remove the driver side front fender liner temporarily so the Red power wire can be routed through the fender. Turn the steering wheel all the way to the left. Lift car with jack and support with jack stand. Remove mud flap if installed, and then remove body clips inside the fender.



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Find the spot where the wire is poking out of the grommet. Slowly and carefully pull the wire through the grommet until there is enough length to reach the battery inside the engine bay. Feed the wire from the inside of the fender into the engine bay.



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Once the Red Power wire is routed properly secure it to the harness with zip ties.



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Newer model alternate routing

For some models there is an alternate route for this wire as shown below by removing the liner first and routing from the top to the fender grommet instead of removing the fender liner.



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Section 3: Secure the Circuit Breaker (CB) to the Battery Post – If you have an Odyssey Battery, [Mele Designs](#) makes a mount which includes holes for direct bolt on.

Thread nylon lock nut onto the battery tie down bolt until it matches the height of the battery tie down. Then slide circuit breaker on top. Screw on the lock nut until tight with circuit breaker. **Do not over tighten this.**



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Attach long Red battery wire going to the module in the back to the Silver colored side of the post.

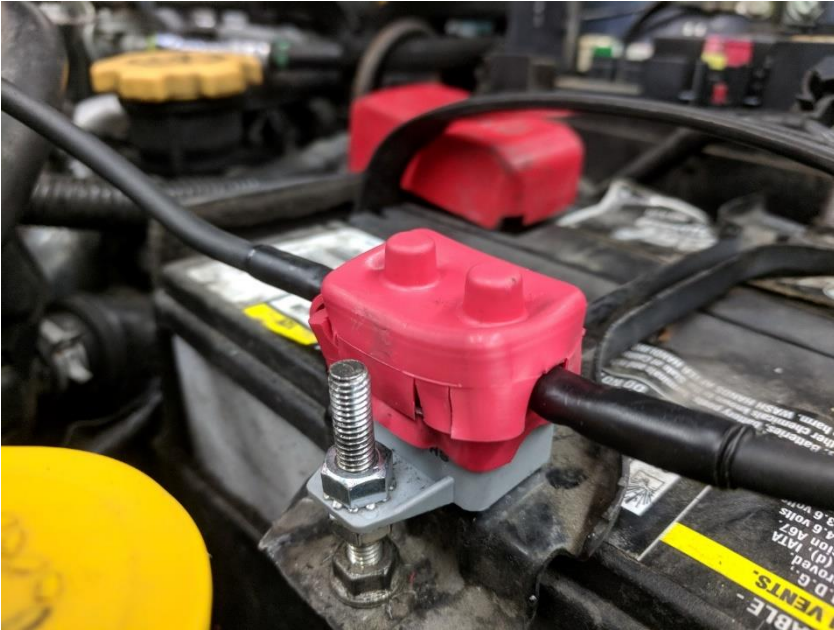


Attach short wire that will go to the positive side of the terminal to the Copper colored post. **DO NOT HOOK TO BATTERY YET**



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Push Red boot down to cover exposed terminals



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Section 4: Running the Large Red Power Wire to the Rear of the Car

Return to the inside of the car. Remove rear lower seat cushion by pulling straight up on the front of the seat bottom to unclip it.

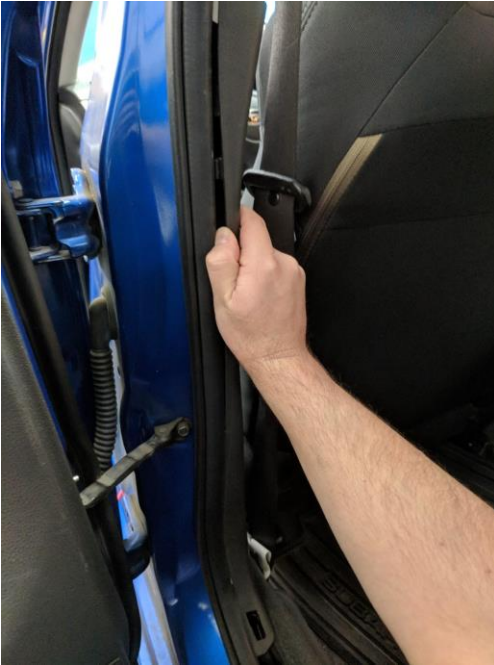


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Once the rear seat bottom is removed, remove rear door sill trim. The trim needs to slide out from underneath a green clip at the rear, and then should be pulled straight up to remove the other clips.



Remove the black B-pillar trim. The B-pillar trim is held in by push-in clips. They require some force to remove, but be as gentle as possible to prevent cracking the B-pillar plastic.



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The top of the B-pillar trim connects to the upper trim piece with a plastic hook on each side. These must be carefully pried off to prevent the plastic from cracking.



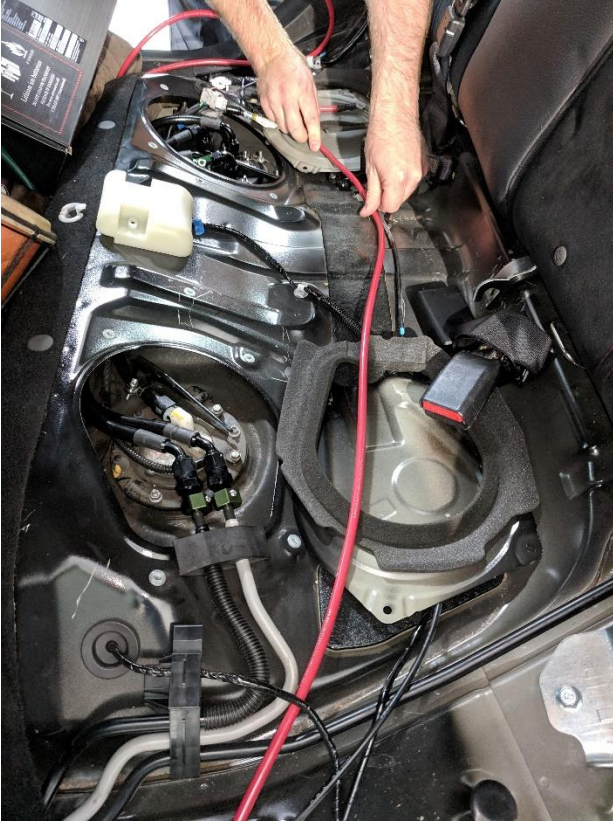
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Once all trim has been removed, run the red power wire along the driver's side door sill to reach the rear of the car.



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Locate the cables for the trunk and gas cap release levers. Run the Red power wire parallel to the cables under the rear seat.



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SEDAN MODEL REAR SECTION REMOVAL (Hatch models can skip this section.)

Remove the carpet from trunk of car.



The trunk liner on the passenger side needs to be removed to gain access to the FPC. Locate and remove the body clips that hold the trunk liner in place.



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Once the trim piece is out run the Red power wire through to the rear part of the trunk through this corner.



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HATCH MODEL REAR SECTION REMOVAL

First remove the rear trunk cover



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Remove the interior tray on the passenger's side.



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Undo the clips for the rear gate.



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Remove passenger's side wall screws and clips.



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This bolt is by the passenger's side rear door and there is another like it near the lift gate



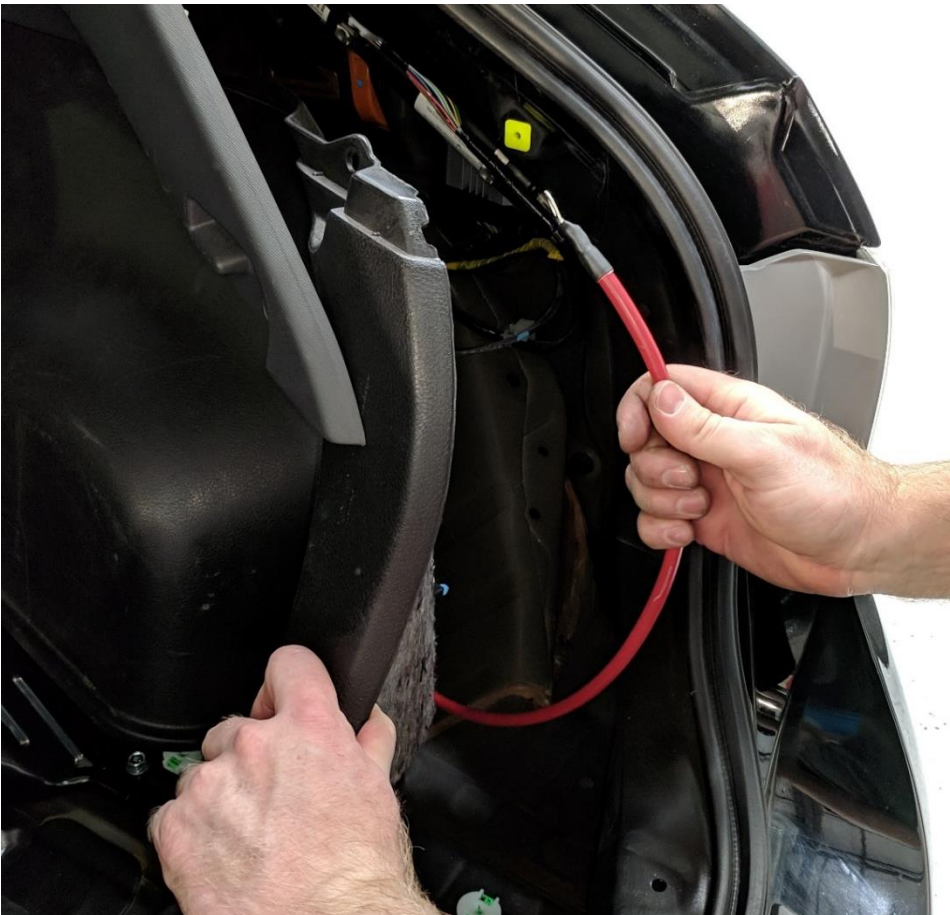
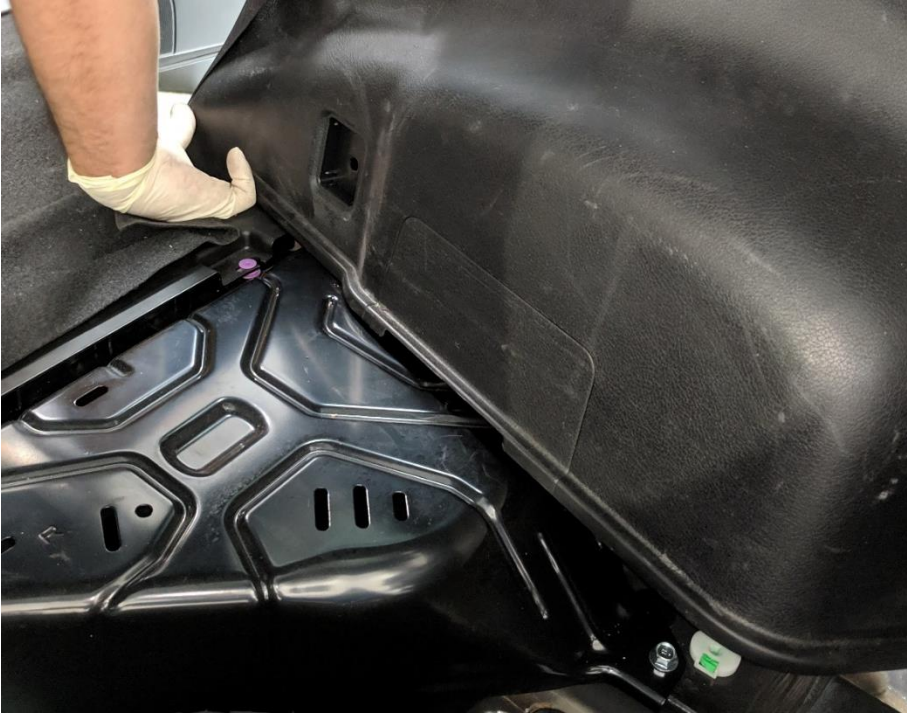
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Push this trim panel back to expose the fuel pump controller.



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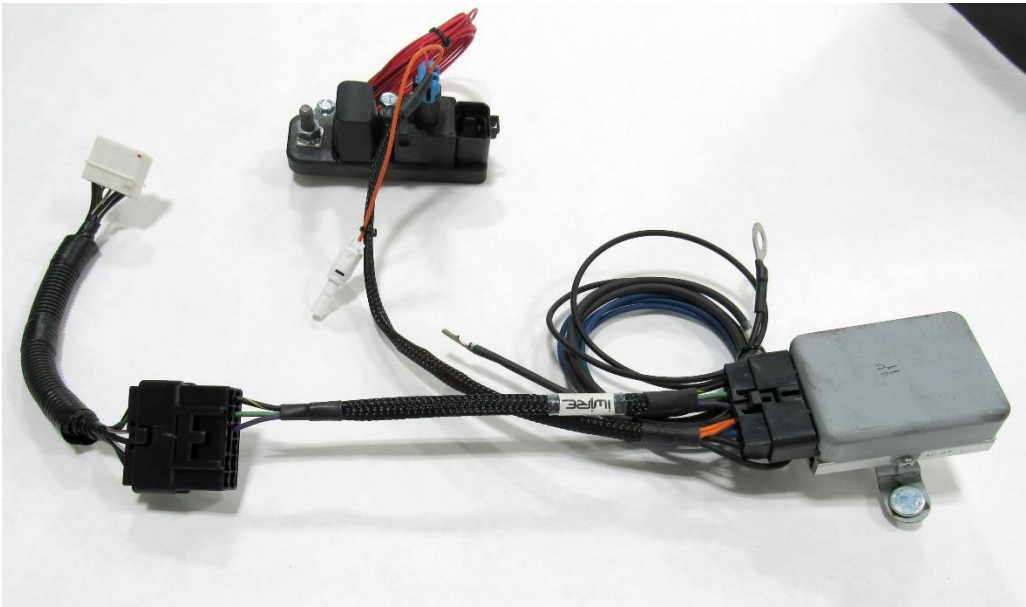
Run Red power cable through the gap in the seat toward the rear.



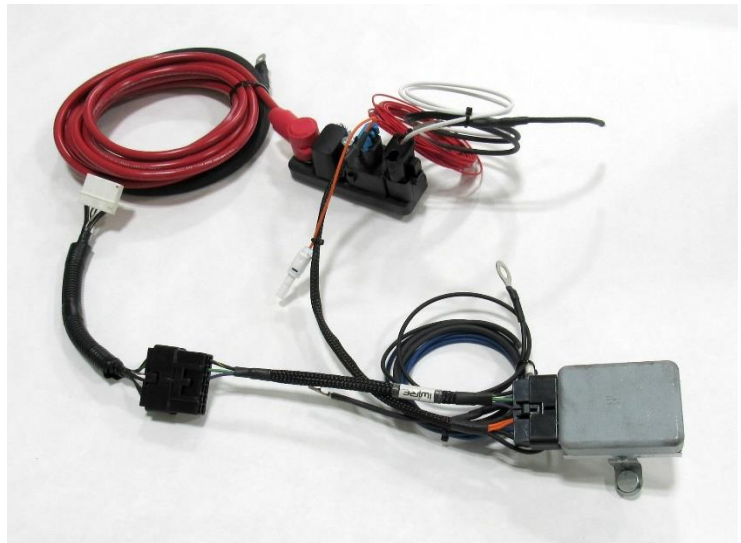
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Section 5: Installing Fuel Pump Bypass Module

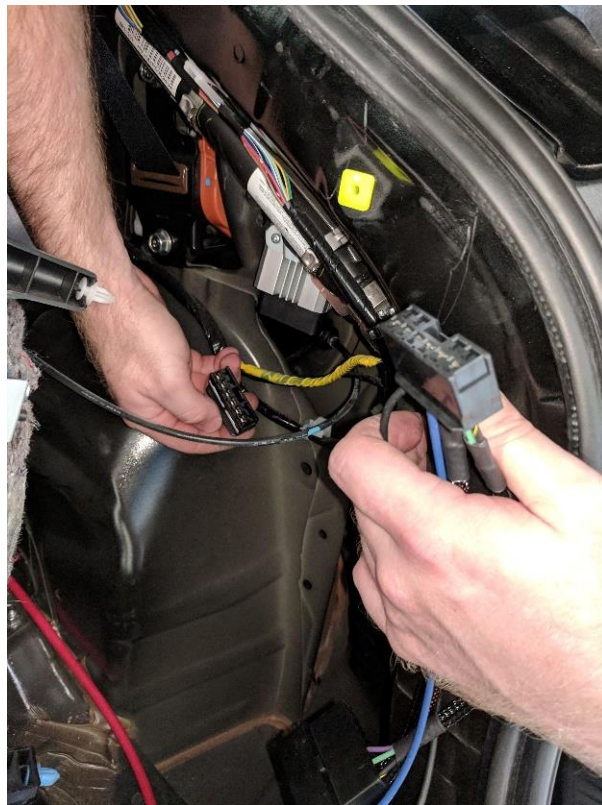
Plug FPC jumper harness in between FPC and original FPC connector. The original FPC is inside the passenger rear quarter panel. **Please note that the white plug with orange wire will stay loose if you are doing a single pump install. Just leave this plug zip tied as is. It is designed for future upgrades to a double pump kit.**



Below shows the final layout of plugs as they attach to the module. While this is shown outside the car to make it easier to understand, it will be done inside the car.



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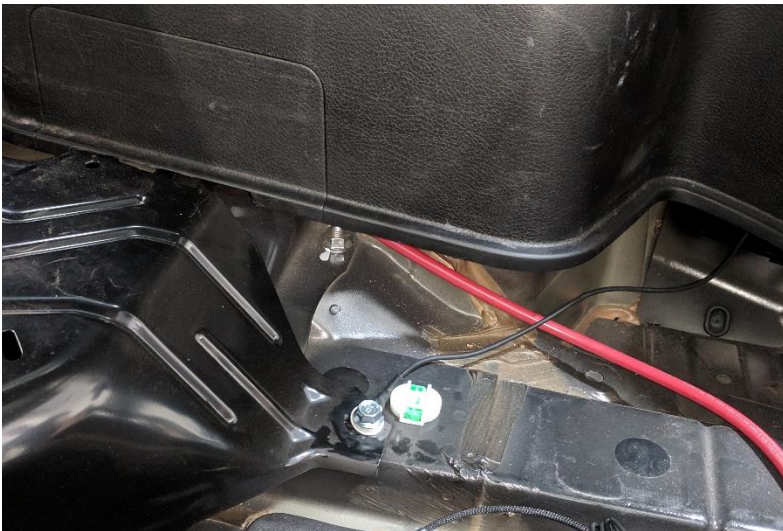
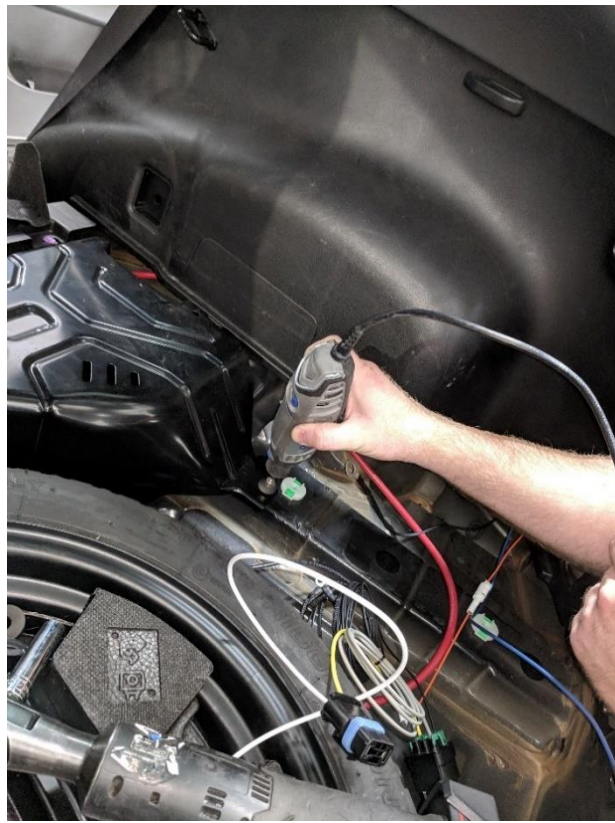


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Take the Black wire with the ring terminal and run it to the nearest ground. Before bolting in, make sure to sand the paint away so it's bare metal to ensure the strongest connection to ground.

For Sedan models you can mount the ground to the same bracket that holds the iWire module to the chassis. Just make sure to sand the paint before attaching the ground terminal.

This is a good spot for hatch models.



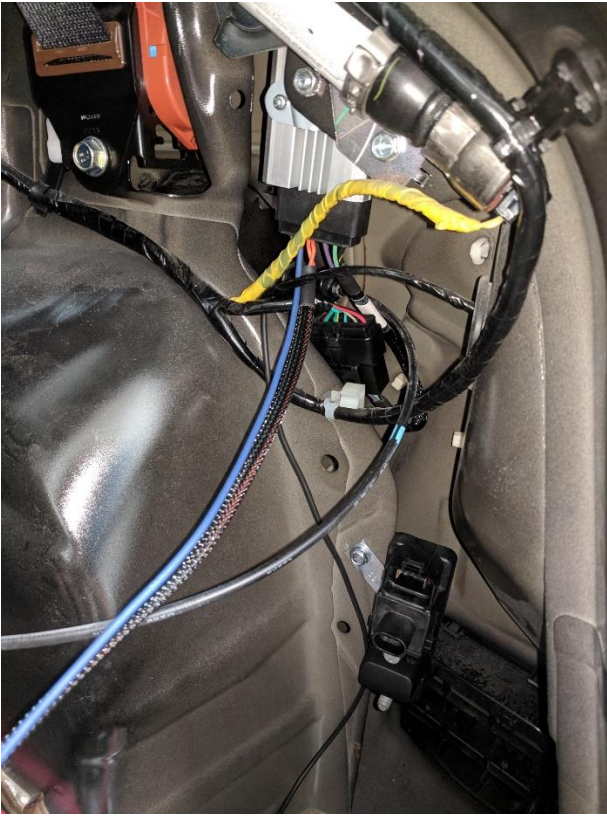
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Install FPC bypass module on passenger side of trunk using supplied hardware. Use the short bolt, the large washer, a lock washer, and a nut to secure the bracket to the sheet metal inside the trunk. There should already be a hole available to put the bolt through, but one can be drilled if needed. The bracket will space the module away from the body of the car, allowing for easier installation and connection of wires. **Below we did it facing toward the center to more easily see the connection points and how things go together.** Secure the module to the bracket with the long bolt, a lock washer, and a nut. The bolt heads and nuts are 10mm.

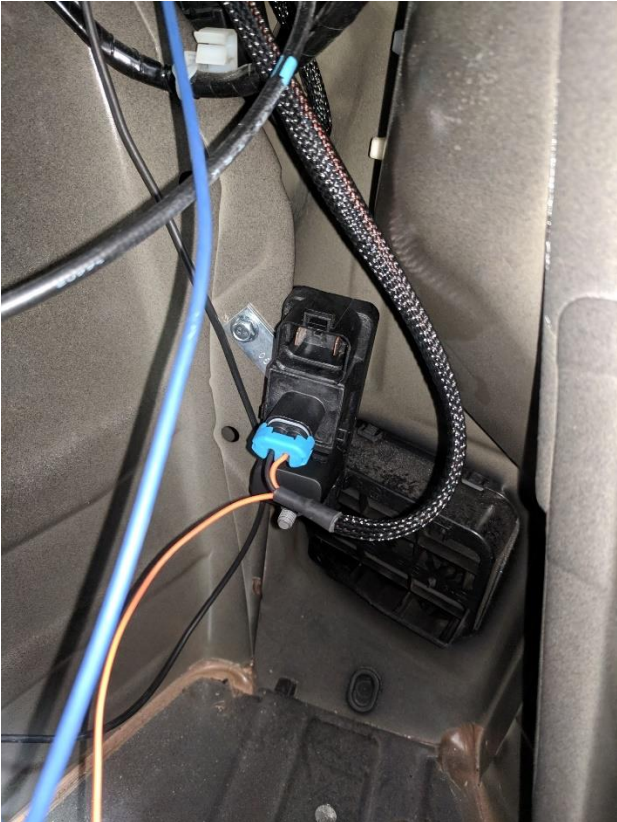
This is how it should sit. The following pictures will show the module facing inside for demonstration purposes.



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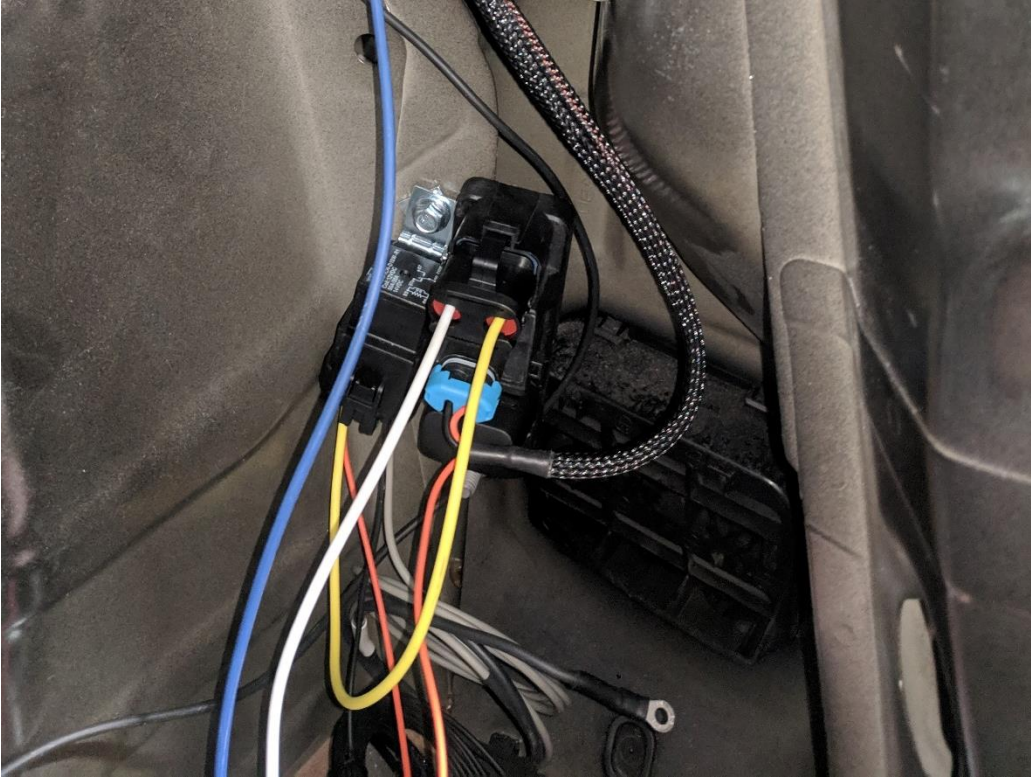


Plug the Blue connector on FPC jumper harness into the mounted bypass module.



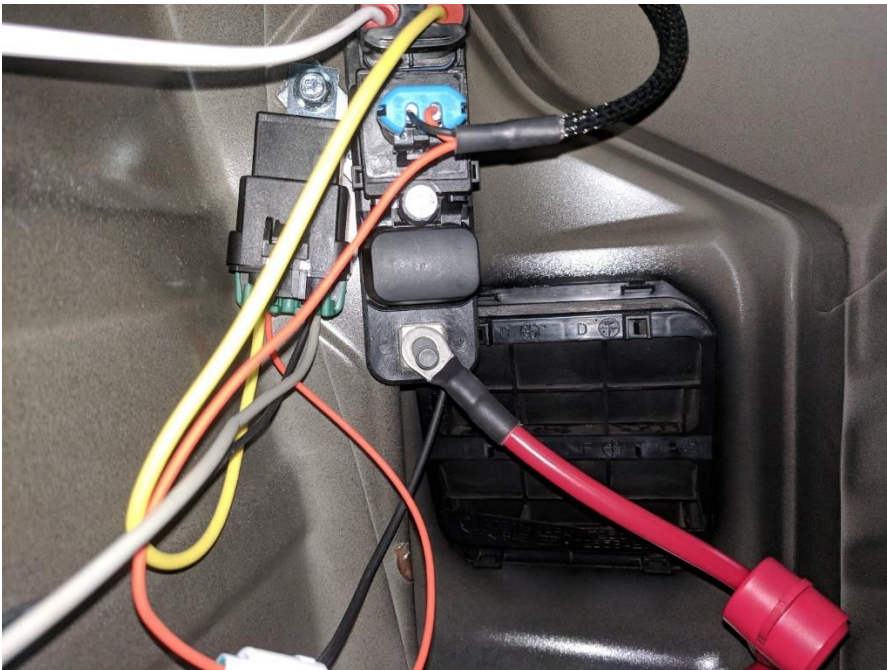
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Attach Black jumper with White wire to the module. NOTE: For two pump kits there is a Yellow wire in addition to the White wire.



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Run the Red power wire through provided Red rubber boot and attach ring terminal to the stud on the module. Secure ring terminal with the included 13mm nut.



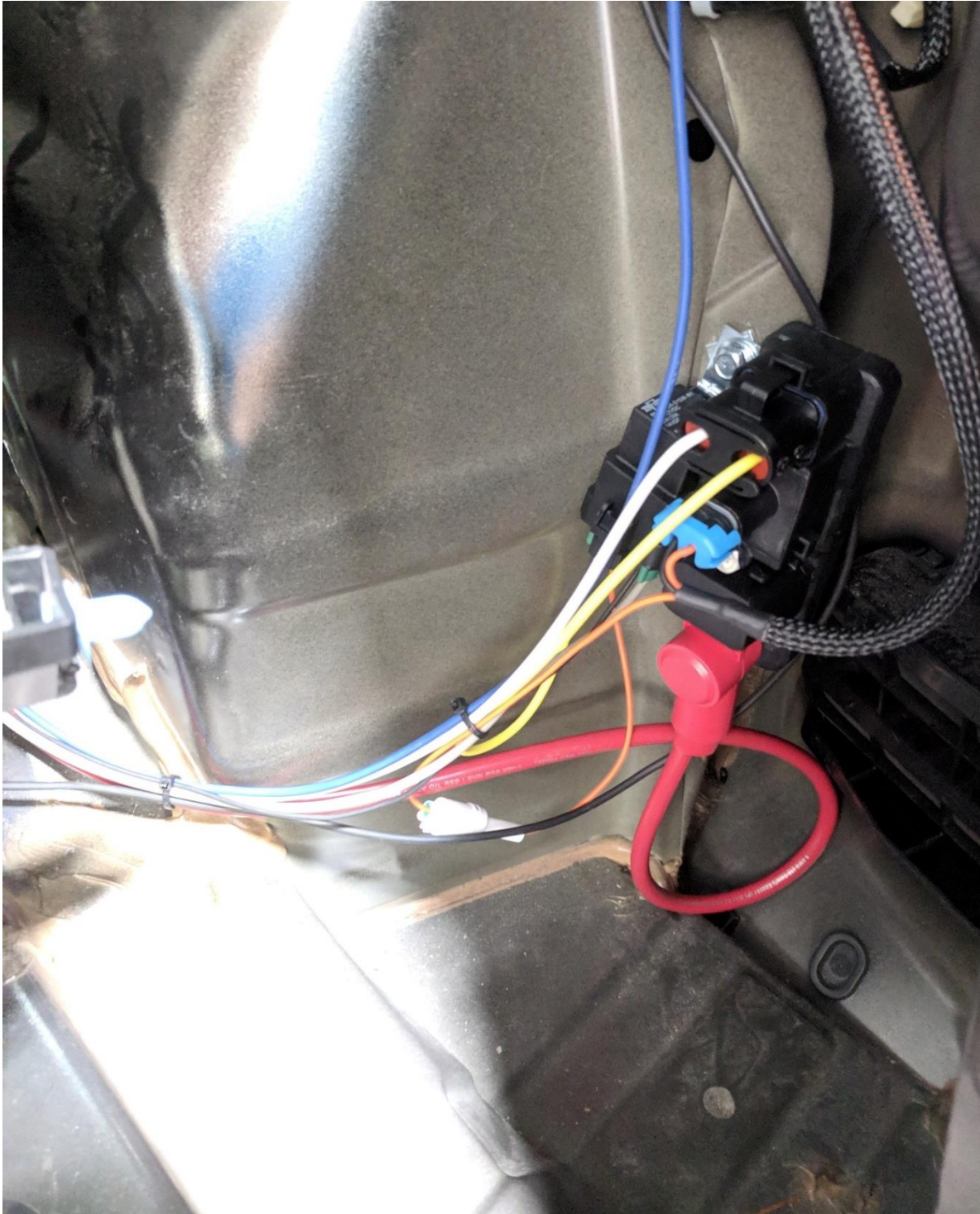
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Finished module will look similar to this.



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Start routing the White and Blue wires toward the rear seat then bring the wires together and with included zip ties secure them together. Leave the zip ties a little loose. You will go back and fully tighten zip ties once everything is working.



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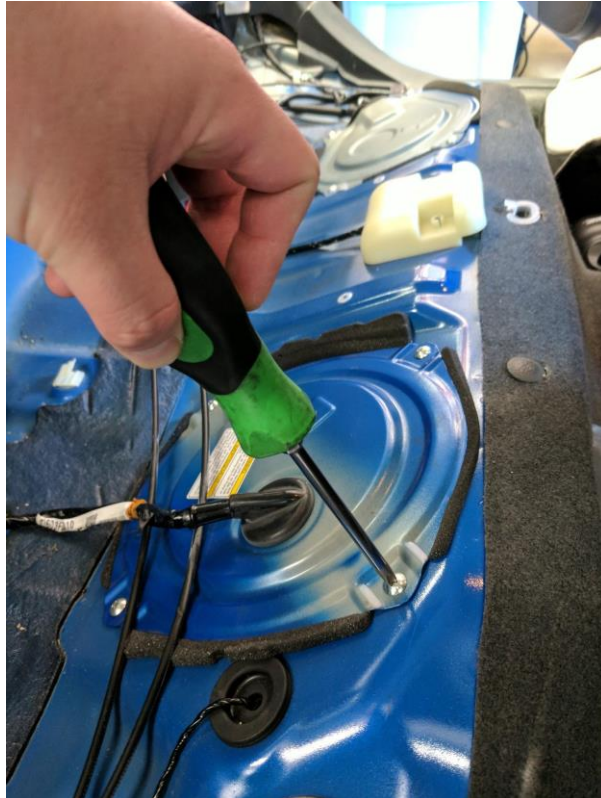
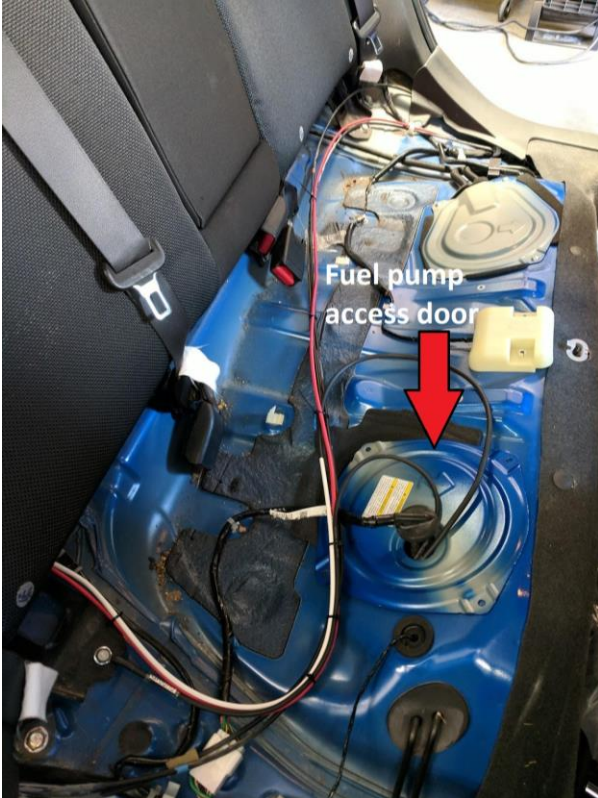


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Section 6 - Fuel Tank Modification

Locate the grommet on the fuel pump access door. Carefully remove the grommet from its hole. Using a blade, cut a small slit in the rubber so that two wires can fit through. A slit no more than a 1/2 inch long is sufficient.

Unscrew the fuel pump access door and locate the gray connector inside.



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If you have the Bypass Connector kit to run the pump wires directly through the fuel assembly, switch to that guide for the next section.

Unplug the Gray fuel pump connector inside the fuel pump access door. Use a small flathead screwdriver or a pick tool to unclip the plastic guard covering the rear of the fuel pump plug. The plastic guard will come free, but stay connected to the plug by a hinge.

The White locking mechanism on the front of the plug can be pried off with the same flathead screwdriver or pick tool.



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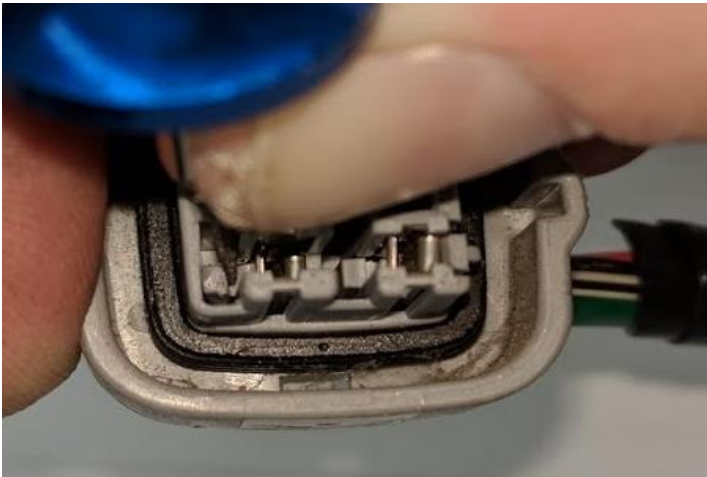
Once the White lock is free, be sure not to lose it! It will be reinstalled once the new pins are in the plug.

Look at the plug head-on from the side that connects to the fuel pump assembly, with the locking tab on top. Pin locations are numbered as follows:

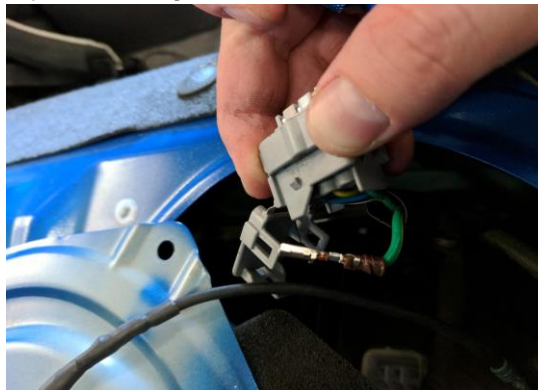
1	2
3	4
5	6



To de-pin wires from the plug, use the pick tool to push up on the plastic retaining tab inside the plug. By pushing up on the retaining tab and applying a small amount of pulling force on the wire, the old pin can safely be removed from the plug. You'll need to remove pins 5 and 6 from the connector.



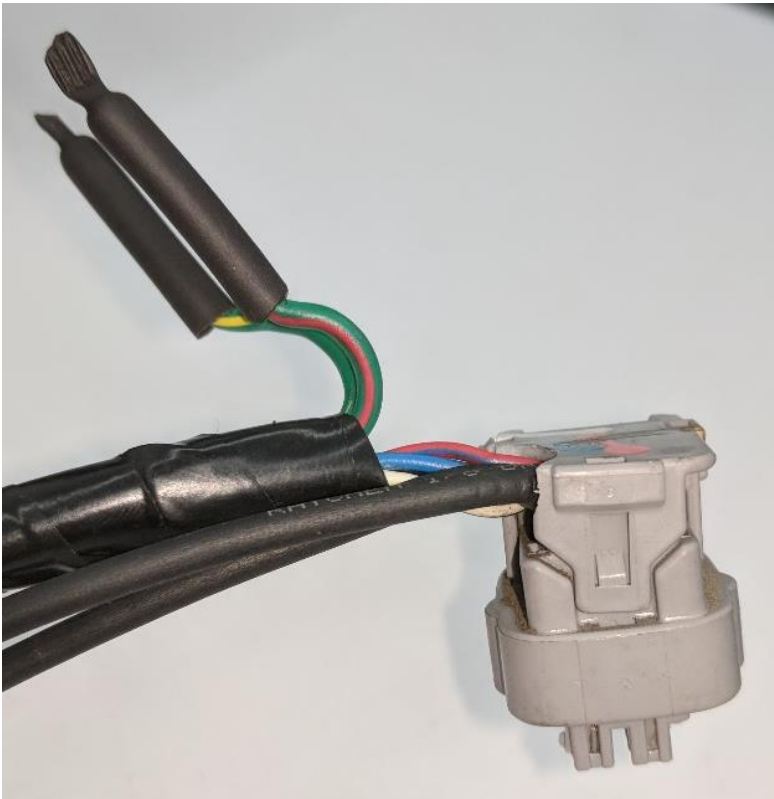
Pin 5 Green with Yellow Stripe needs to be replaced by the White fuel pump power output wire. **Pin 6 Green with Red Stripe** needs to be replaced by the Blue ground wire.



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To protect the 2 terminals that are no longer used from damage, fold the wires back, slide the plastic tube over the pins, wrap in the rubber tape, and zip tie the bundle together.

Do not use any heat during this process. It may be tempting to treat the rubber tube like heat-shrink tubing, but it is extremely dangerous to use heat guns, lighters, or other heat sources near fuel vapors.



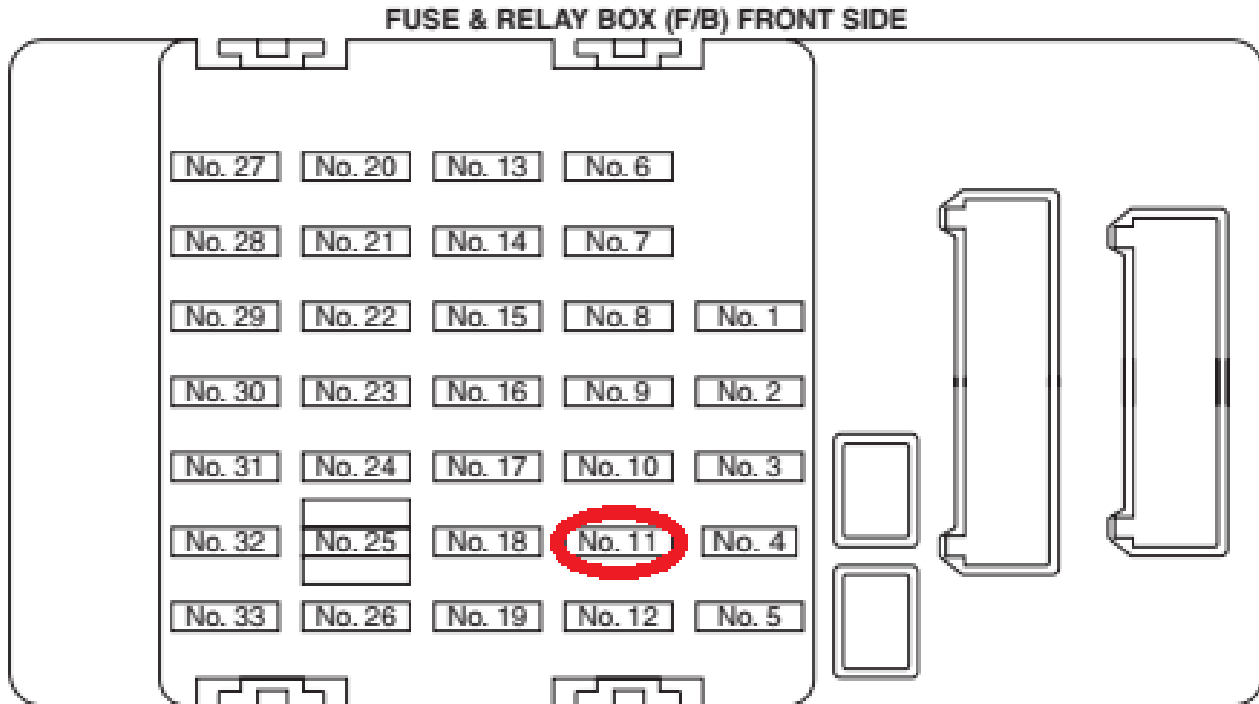
Reattach the white lock mechanism and the rear plastic guard. Now reconnect the plug to the fuel pump housing, and screw the fuel pump access door back in place.



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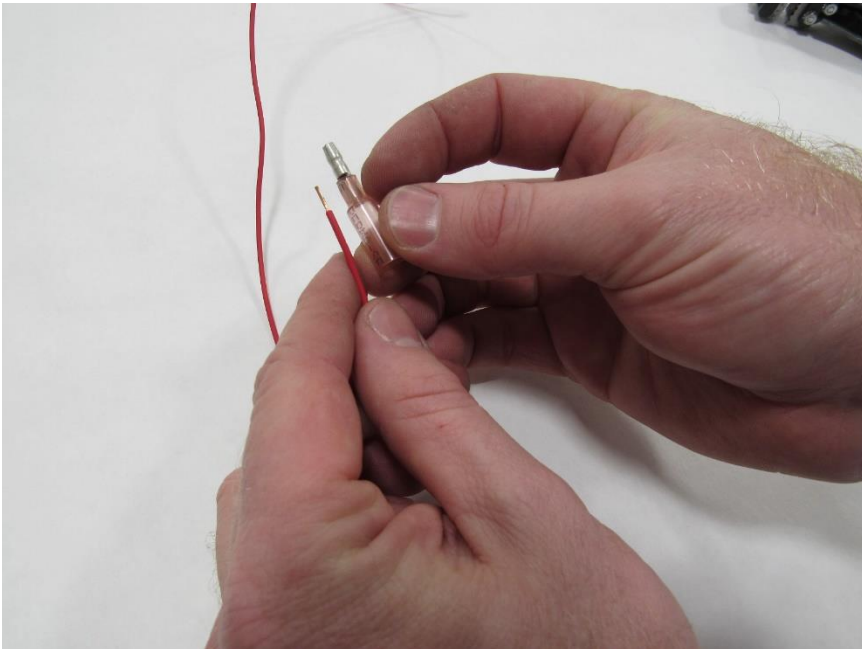
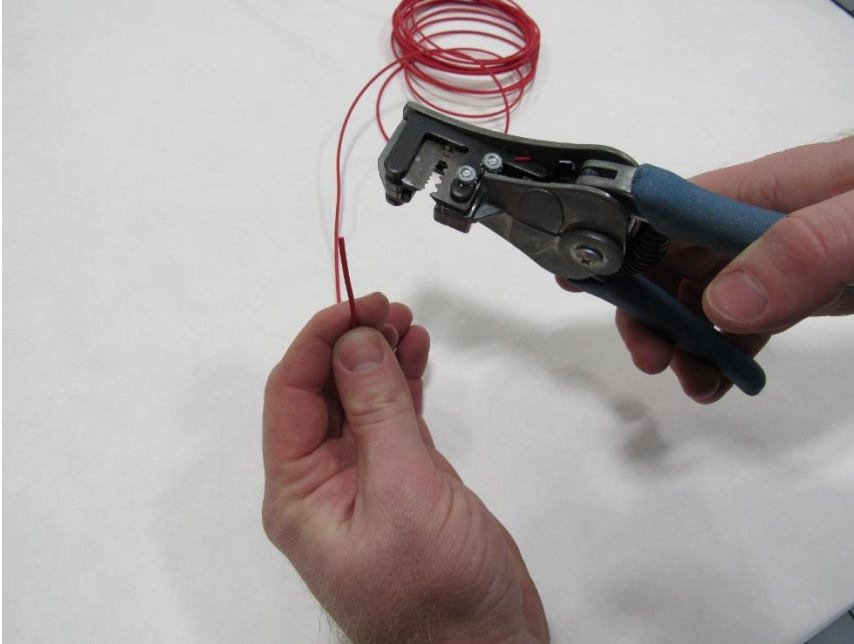
Section 7: Getting key on power to the Red relay trigger wire. Fuse choice will depend on vehicle. If you are not sure which to tie into, please ask! You will tie into the in cabin fuse box which is located on the driver side of the car under the dash.

We suggest tying into fuse #11 (picture below). Please note: any key on power fuse will work for this. Accessory power or battery power tie ins will not work and could damage your vehicle so please pick a KEY ON POWER SOURCE to tie into.



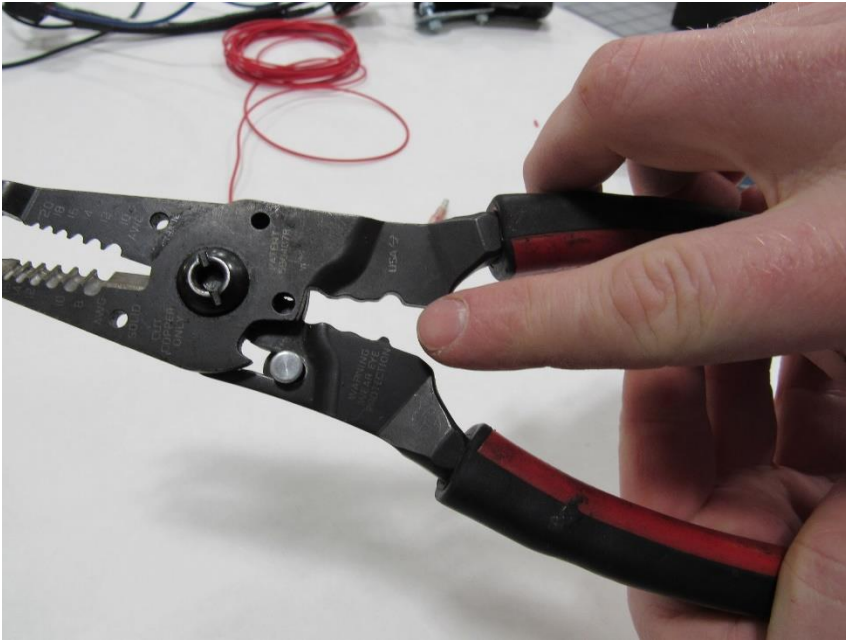
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Run the thin Red wire to the front fuse box on the driver's side inside the cabin. Route similar to Red Battery Cable. Once routed you can cut the Red wire to length. Leave a little spare length so the wire is not overly tight once installed. From there strip enough wire so that just a touch can be seen coming out of the metal part of the terminal.



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Insert the wire into the terminal and crimp with the back end of any basic stripper tool.

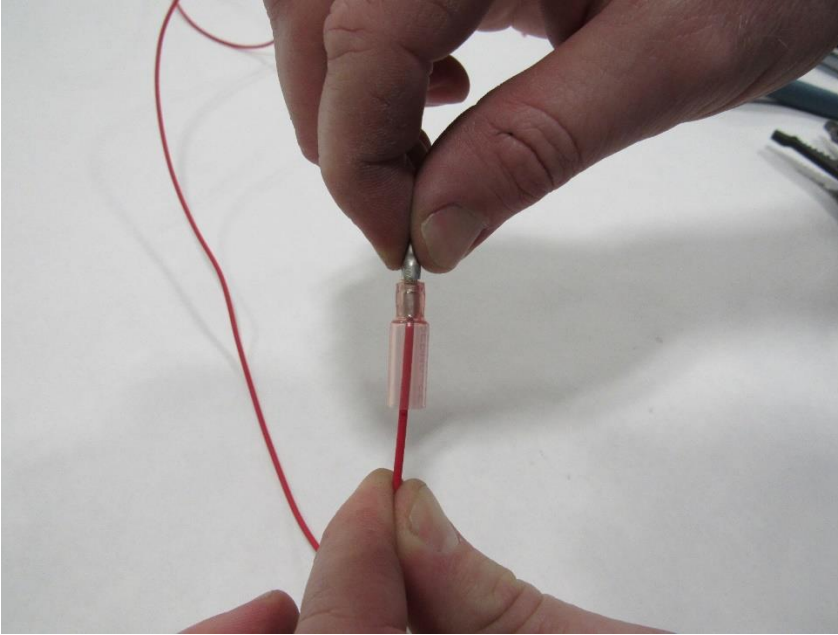


Push down hard.

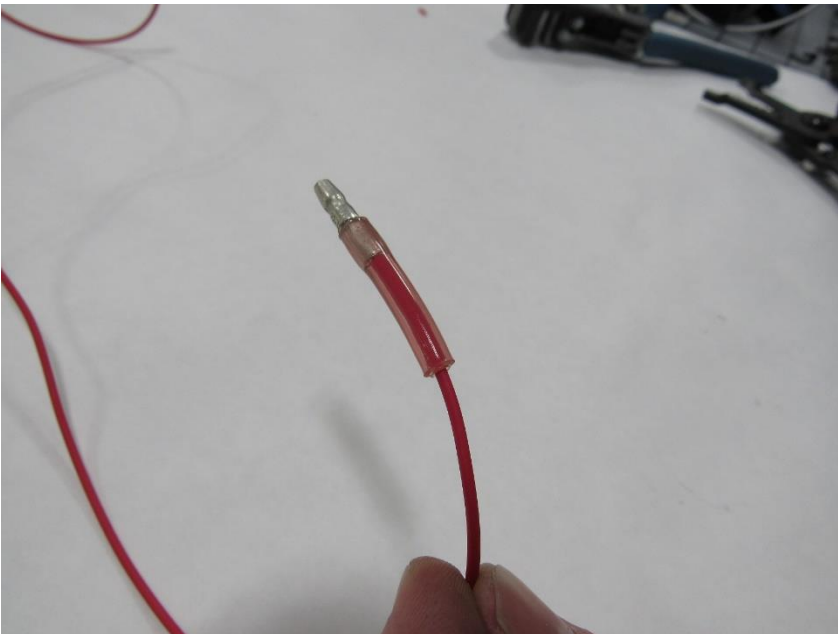


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Tug gently to confirm the wire does not pull out.

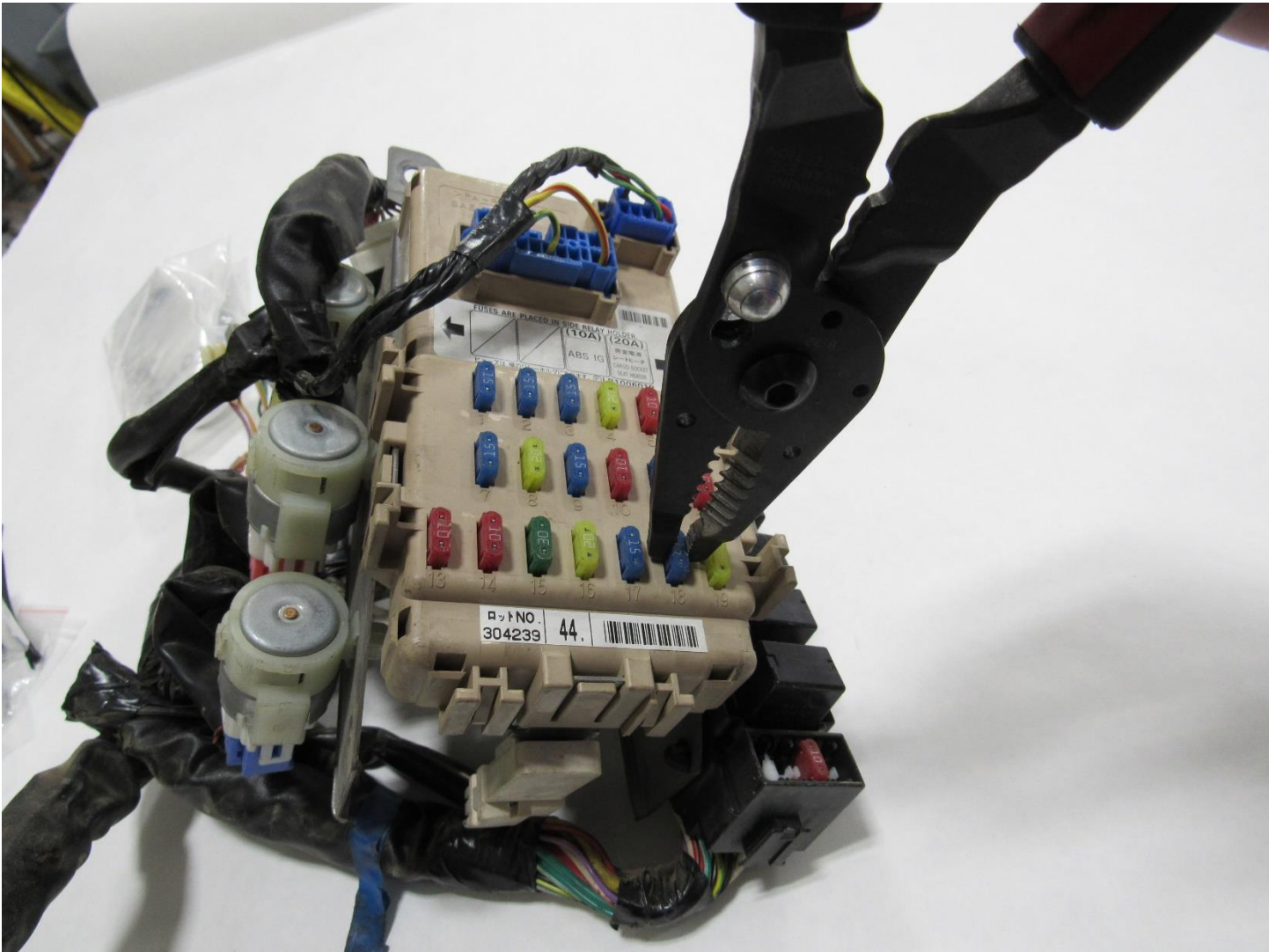


Heat up the shrink tube until it is clear without any bubbles.



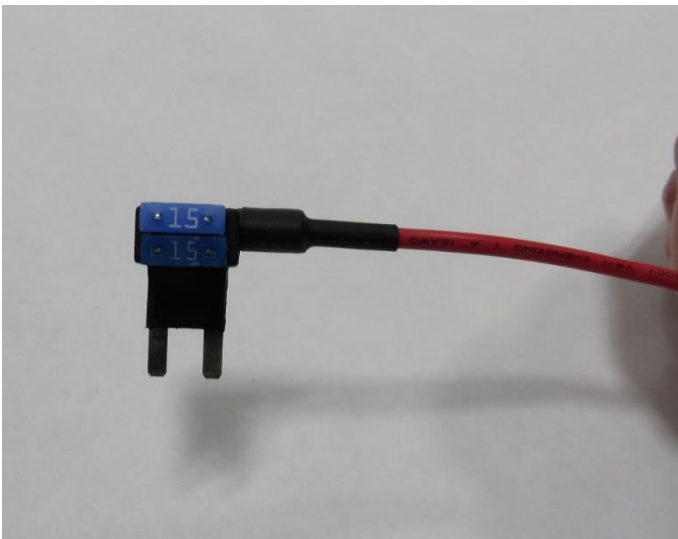
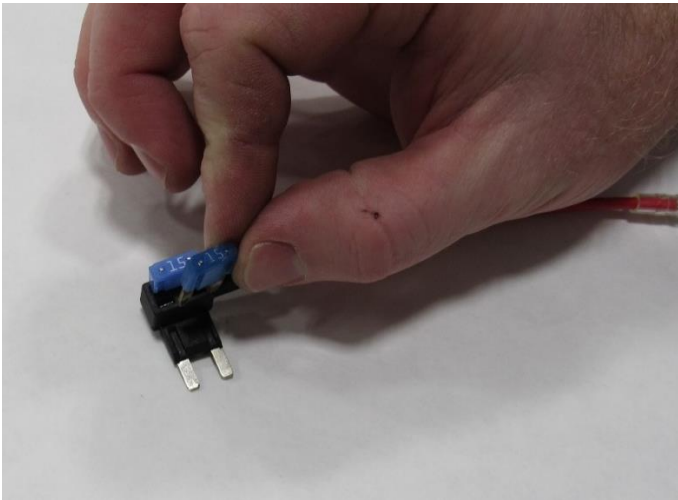
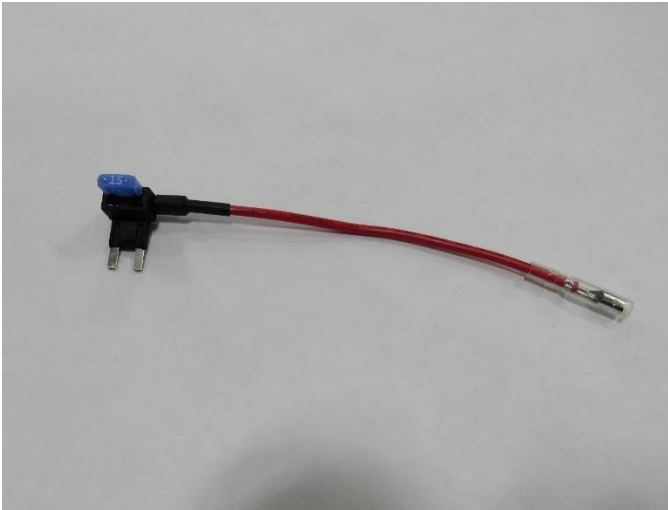
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Remove the appropriate fuse from the in cabin fusebox (shown below in 07 and older).



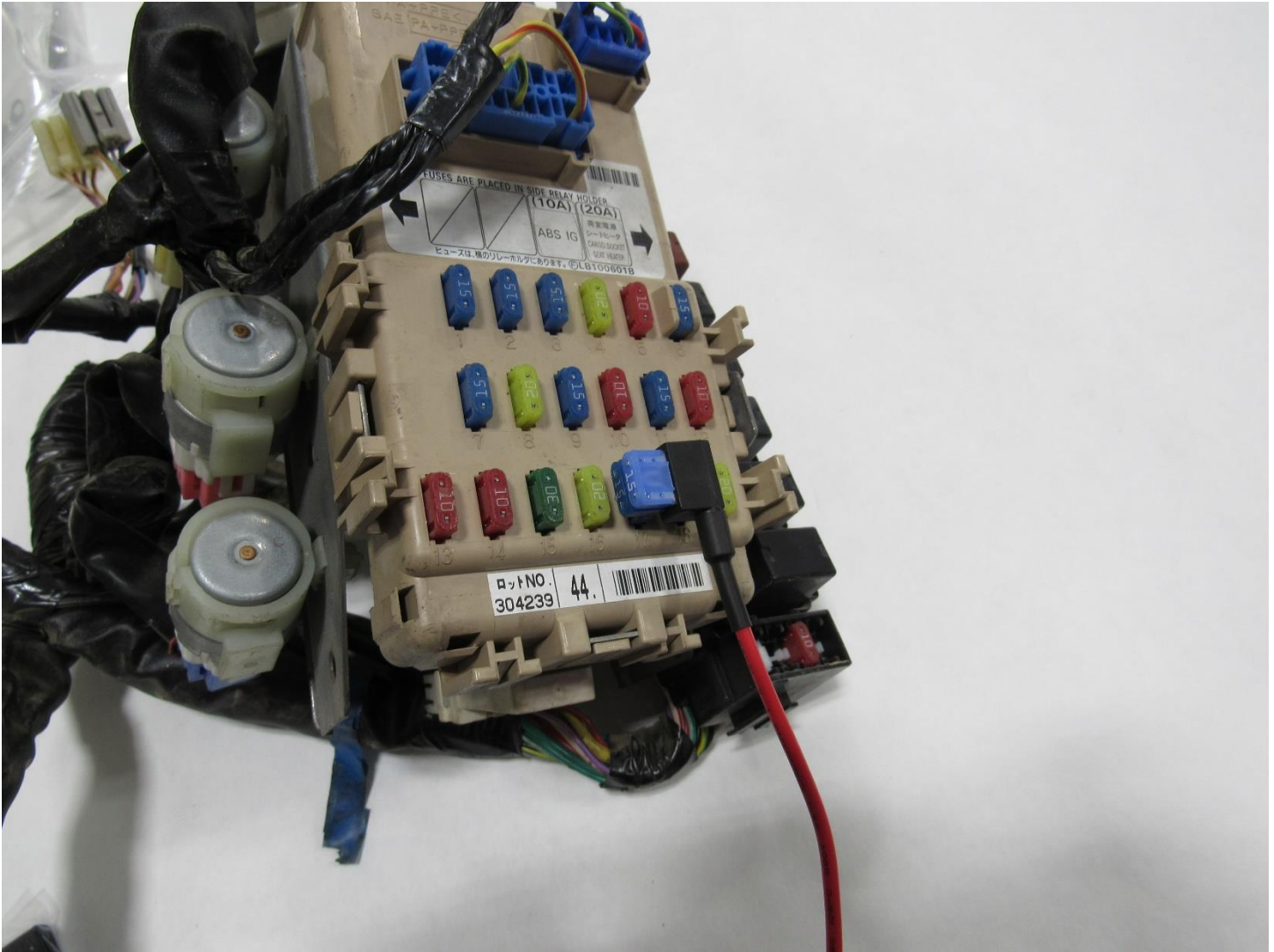
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Insert fuse removed from the fuse box into the add a fuse provided in your FPC Hardwire Kit.



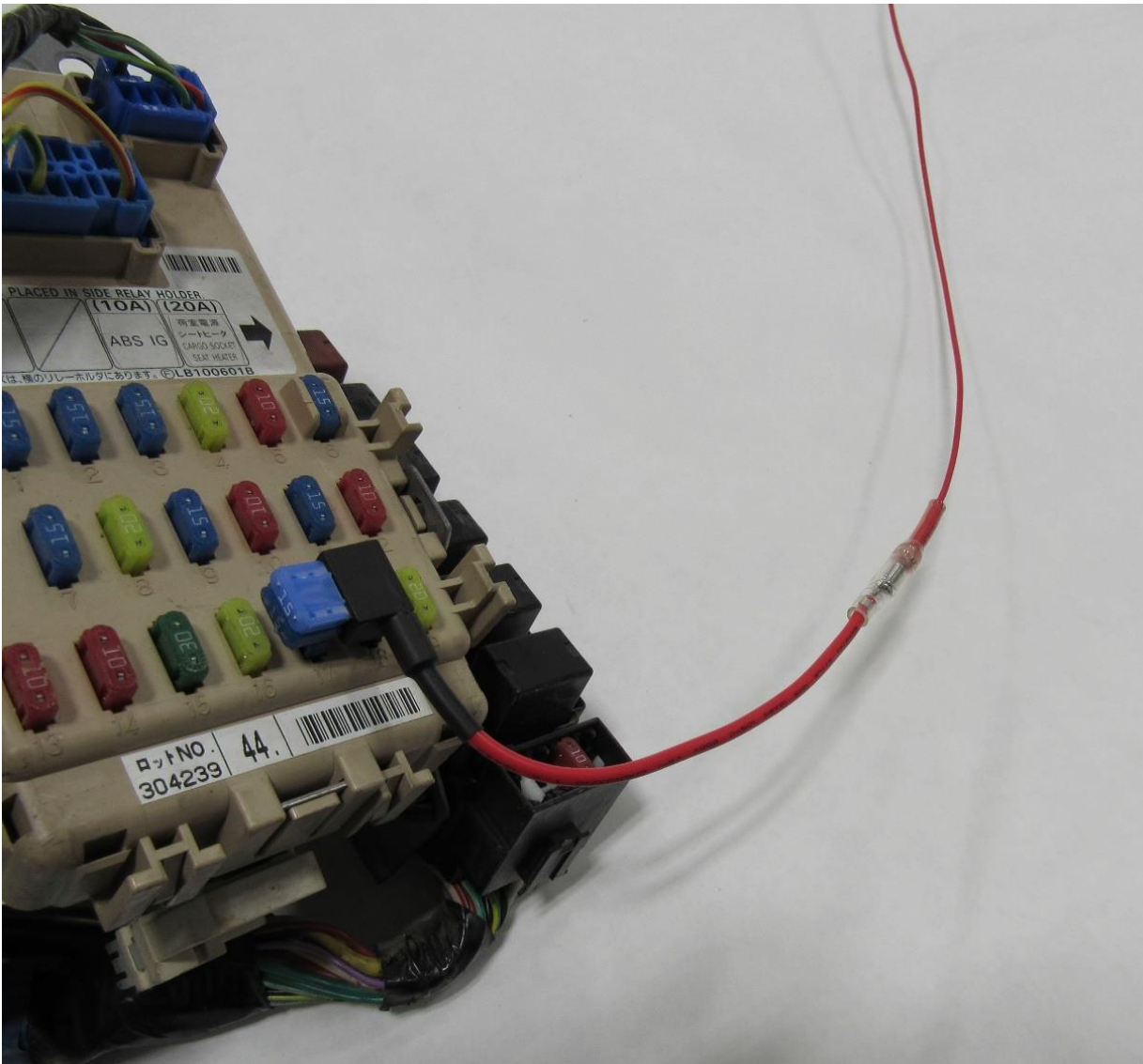
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Insert add a fuse into fusebox.



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Connect add a fuse to Red terminal you inserted earlier.



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Section 8: Reconnecting Battery/Power

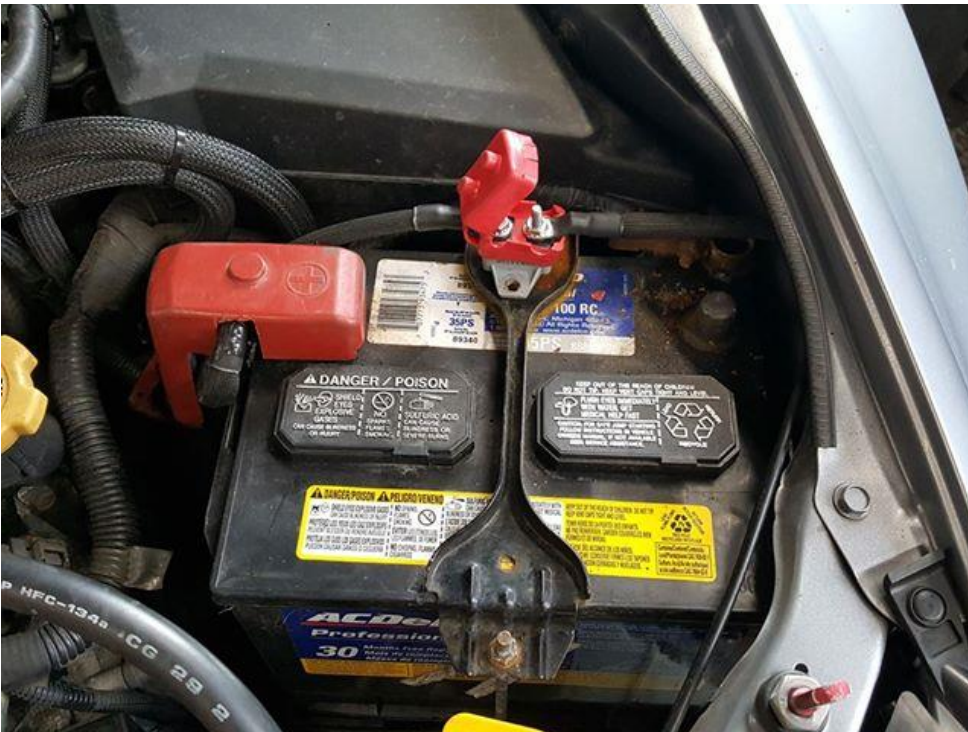
Before completing the next step, **be sure you have disconnected the negative terminal from your car's battery, and that it remains disconnected. Also be careful not to short the battery terminals with a metal tool or with your body.**

Attach the short wire that runs from the circuit breaker to the positive terminal on the battery. There is a stud underneath the red boot on the battery's positive terminal where the power wire ring terminal can be bolted on. There will already be one or more wires connected to this stud. Simply remove the nut holding them on, and slip the power wire ring terminal over the stud. Now thread the nut back on over the ring terminal and tighten it down. Finally, slide the red boot back in place over any exposed metal.



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Reconnect the negative terminal on the battery. Now it is time to test the system.



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To test system, insert the key into the ignition, and turn it to the “ON” position. Do not fully start the car. The fuel pump should turn on and then shut back off. If this is the case, now start the car. Congratulations! The installation is almost complete.

Troubleshooting:

If the fuel pump did not prime or the car did not start (or the car started, but the engine stopped soon thereafter) there are a few things that should be checked. Make sure that all plugs are securely plugged into the module, the fuel pump connector is plugged into the fuel pump, and that the power wire is securely fastened with bolts on the studs at the battery and the FPC bypass module. If you are still having trouble, feel free to contact us for installation questions. We're here to help.

Once you are able to turn the car to the “ON” position and hear the fuel pump turn on, turn the car off and reinstall everything removed during the install process.

Go back to the trunk area and secure all wiring so that it is running out of the way and won't move or get caught on anything in the car. Tighten down the zip ties that were left loose. Use additional cable ties to keep the wires neatly tucked together on the side of the trunk.

As always, installation is the reverse of removal, but here's the order just in case you need a hand getting everything right.

Reinstall, in order:

Rear seat back support bracket and attached trunk-cabin separator trim

Trunk liner

Rear seat back (being careful to attach loops at the top of the rear seatback to the hooks on the chassis)

Rear driver's side door sill trim

B-pillar trim

Front driver's side door sill trim

Rear seat bottom

Washer tank in engine bay

Thank you for purchasing the iWire Fuel Pump Hardwire Kit! We hope you enjoy our product. If you have any questions or feedback please email us at sales@iwireservices.com