PRELUDE

ENGINEERING LLC

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88-91 Prelude K-Series Swap Adapter Harness

Installation Instructions

(V1)

These written instructions are a companion to our instructional video here:

https://youtu.be/5gyyqYqExUI

Please use both to ensure a successful install.

Special tools needed:

- 1.25” Hole Saw
- 1mm flat head screw driver
- Heat gun with fine tip

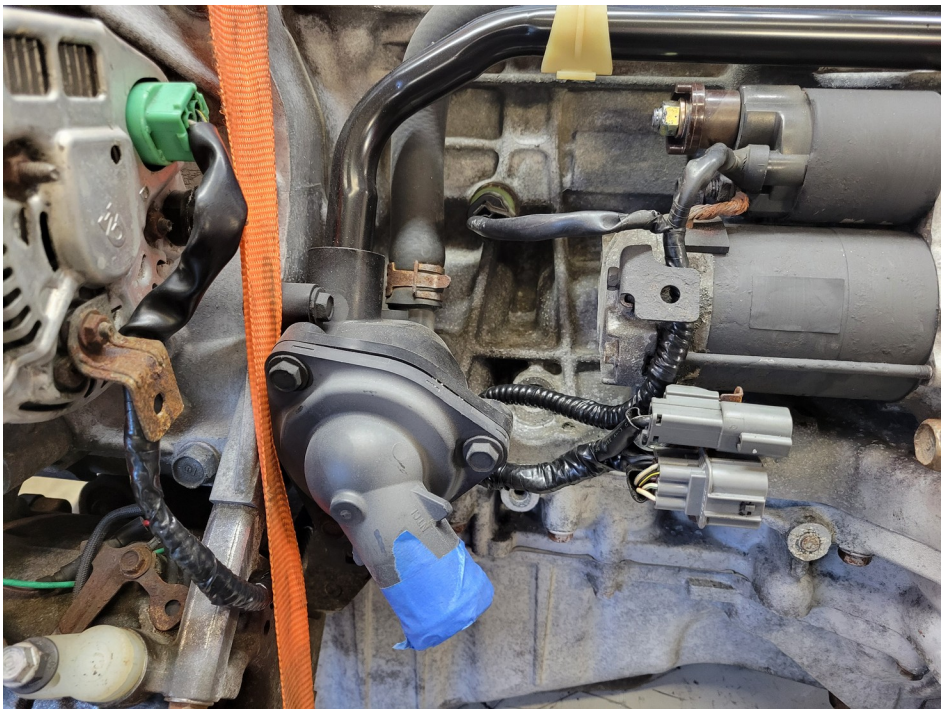
(or another method to shrink heat shrink tubing)

IMPORTANT: These instructions are for using a 02-04 RSX / 02-05 Civic SI engine harness + KPro equipped ECU only. The 3g Prelude needs a Fuel-Injected chassis/dash harness. The adapter harness only works with this setup. No other setups are officially supported at this time.

We will start with changes to the engine harness. There is a sub harness on the front of the engine that goes to the stater, alternator, battery, and knock sensor. The 2 large gauge wires from this sub harness need to be removed since they won't be reused on this swap.

Here on the right are the large wires separated from the sub harness:

Once completed wrap what is left of the sub harness and install it onto the engine again:



Remove the current firewall boot/grommet from the engine harness as well as any other “extras” that would interfere with routing:

The new firewall boot is smaller than the old one. To install it you will need to lightly coat the ECU connectors and wires with WD40, turn them sideways, then force through one at a time. Coating the inside of the boot with WD40 will also help.

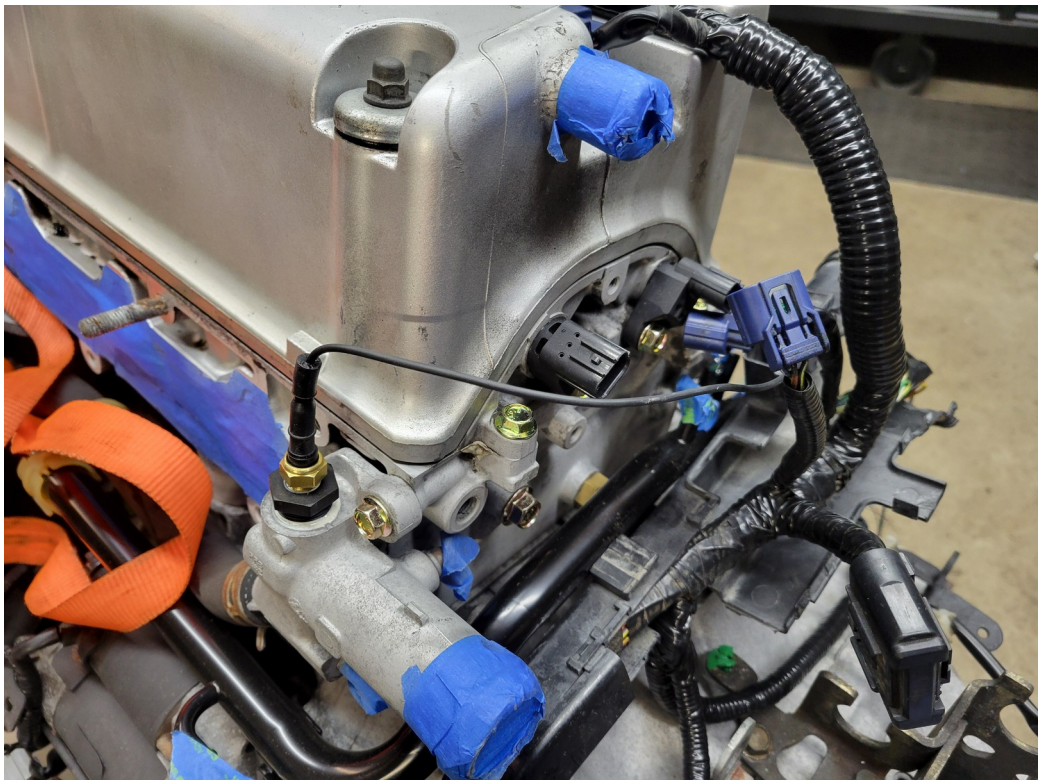
It is tight but they will all fit. Make sure you install the boot in the correct orientation:

Clean the connectors, wires, and inside of the boot thoroughly with isopropyl alcohol to remove all the WD40 you applied.

In order to have a working temperature gauge you will need to install a single wire temperature sender onto the K-series engine. Preferably near the upper water neck.

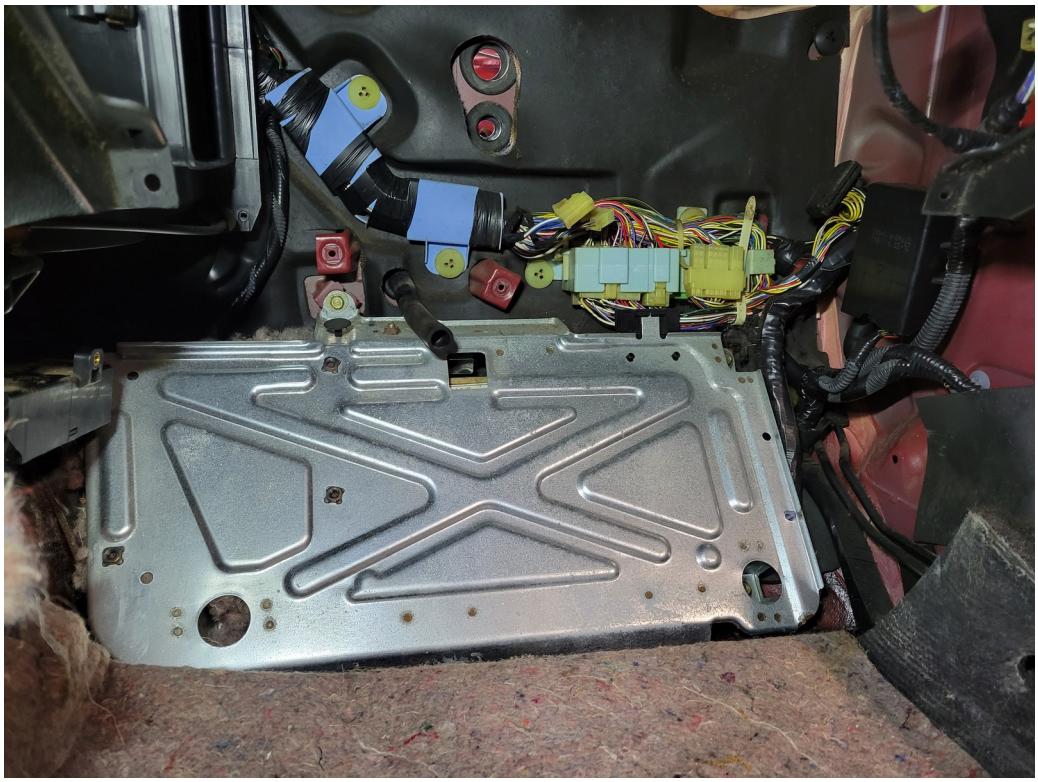
Several aftermarket companies offer a solution for this. Buy the setup that will work with your engine. Here is an example of the K-tuned adapter on a K20A2 water neck:

Plug in the new water temperature sender wire and run it through the engine harness to the large grey connector next to the ECU connectors. This wire has extra length if needed, secure the extra with zip ties or electrical tape. Just leave the wire like this for now you will pin it into the connector later:



Make room on the interior to cut the hole for the engine harness boot without hitting anything.

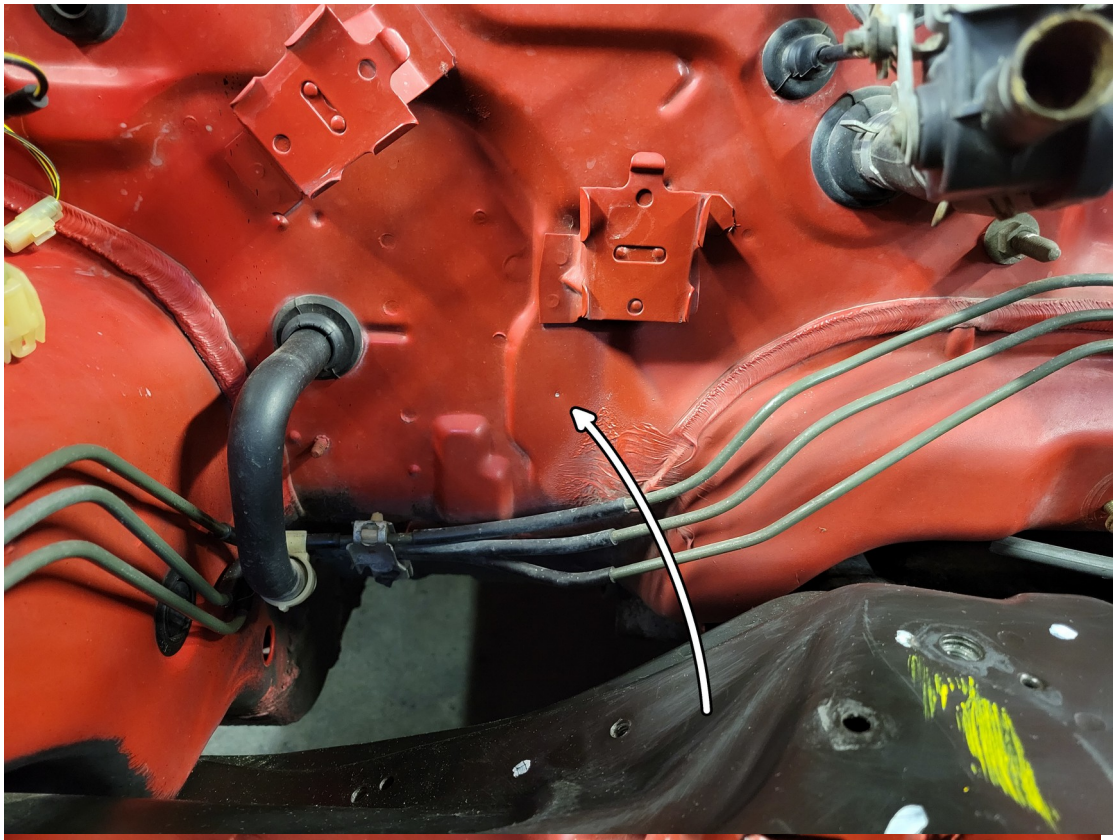
Remove the glove box, glove box support beam, the passenger kick panel, and pull the carpet away.

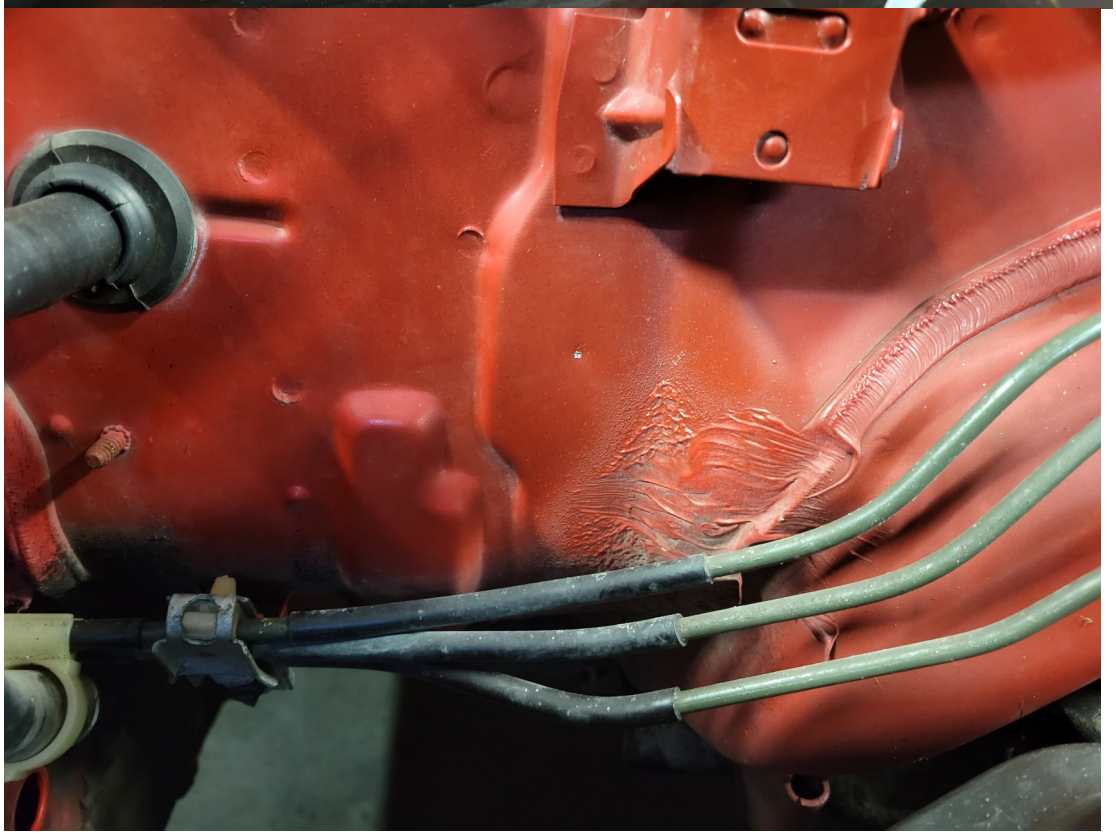


Remove the ECU plate, then remove the factory ECU from the plate. You will be left with the bare sound deadening on the firewall:

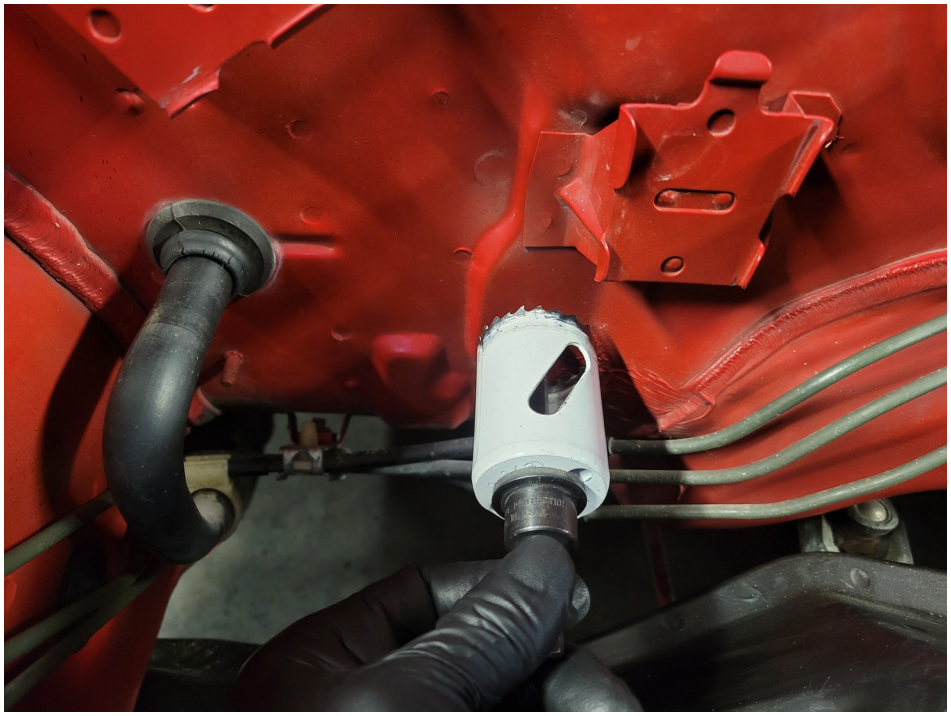
Cut out this portion of the sound deadening:

To pass the engine harness into the interior you will cut out that specific spot using a 1.25” hole saw. You can go from either direction but if the engine bay is empty it’s easier from that side:

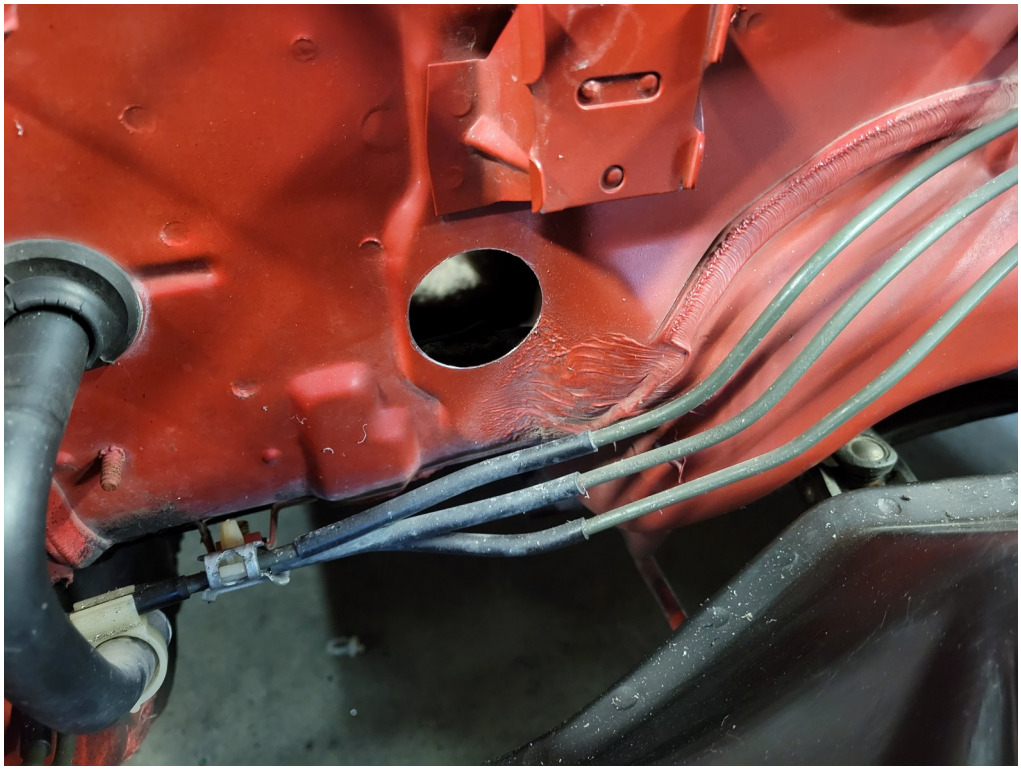




Get the 1.25” hole saw as centered as possible on the flat portion then make a mark/dimple using a punch. Drill the pilot hole then look on the inside and make sure you will not hit any wires when going all the way through with the hole saw:



Cut the hole. Clean up the jagged edge using a file and/or deburring tool. Paint over the exposed metal using a paint brush and primer. Allow the primer to dry for 24h (preferably).



Once the engine is installed route the harness though the bay as you wish. Determine the best spot to secure the firewall boot onto the harness. Secure it with a layer of electrical tap and a zip tie like this:

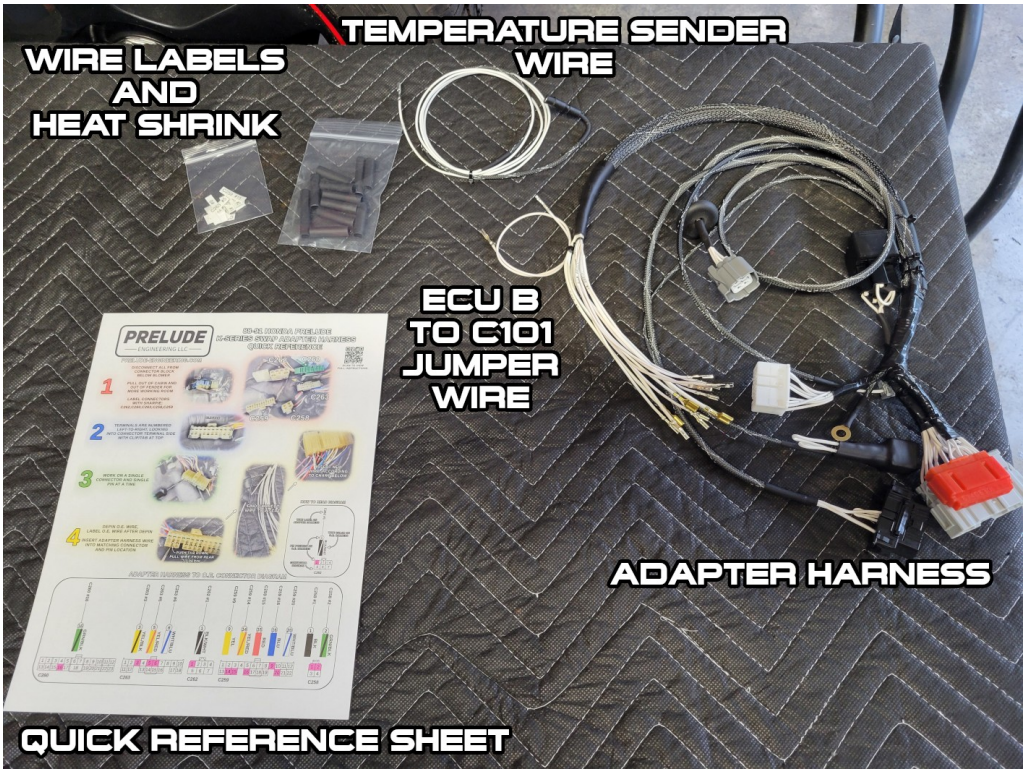
To get the connectors through the hole turn them sideways just like they went through the boot. It is tight once again but they will go in. Be careful not to damage any wires when pushing through.

While it is possible to install the adapter harness from inside the car, it can be very tight. We suggest doing it by pulling the harness out through the fender, which will give plenty of room to work.

Disconnect all the connectors at the connector block under the blower. There is a white“zip tie” built into the connector block, undo that as well:

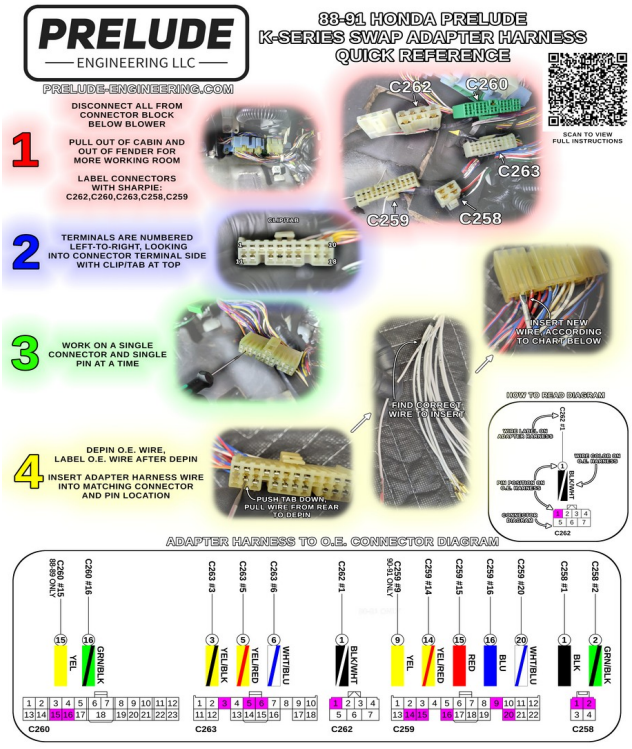
Drop the fender liner and pull the whole fender harness out of the interior to work on it.

Here is what you should have received with the adapter harness:



Not pictured is the C101 to B10 splice wire.

You will depin 12 O.E. wires and insert the new ones from the adapter harness. Keep the quick reference sheet nearby while you do this work:

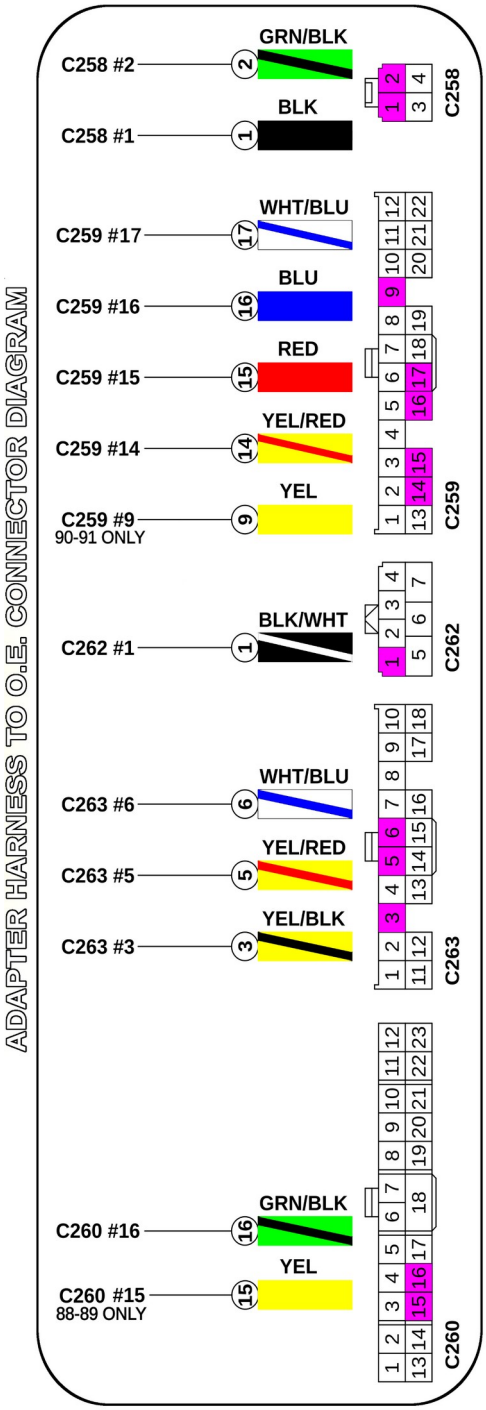


Here is the diagram showing where the wires on the adapter harness go.

On the left is the wire label on the adapter harness wire. It has the connector number and pin position.

The center shows the pin position again as well as the O.E. wire color.

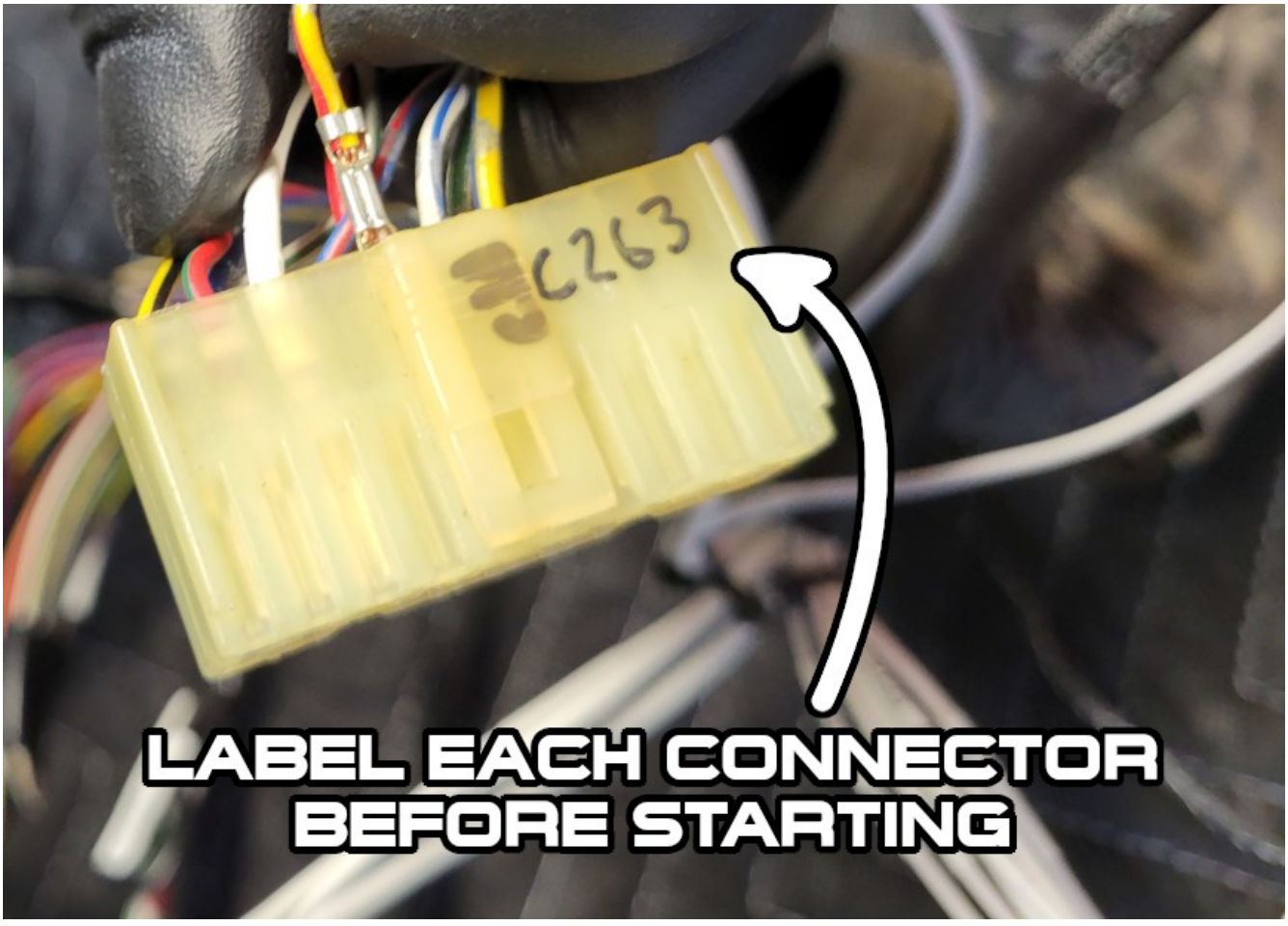
On the right is the connector diagram, with the pin numbers that will be changed highlighted:



Included with the harness is extra white heat shrink labels and black plain heat shrink.

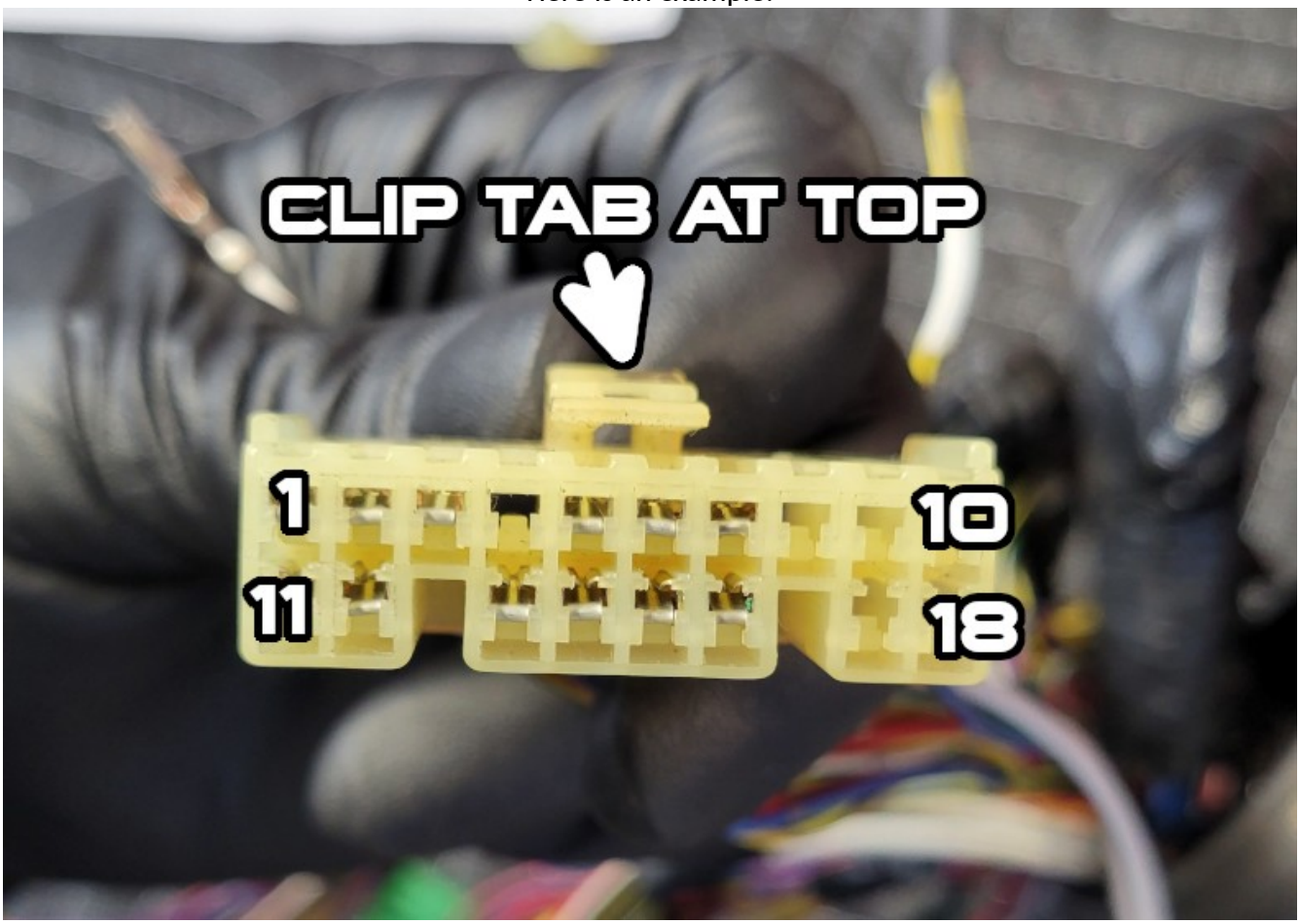
As you depin an O.E. wire you will add the matching label and some of the black heat shrink to the old wire. This will keep things tidy and allow the adapter harness to be uninstalled easily.

Start by using the quick reference to identify the connectors you are working with, then write the connector number on the connector with a sharpie.

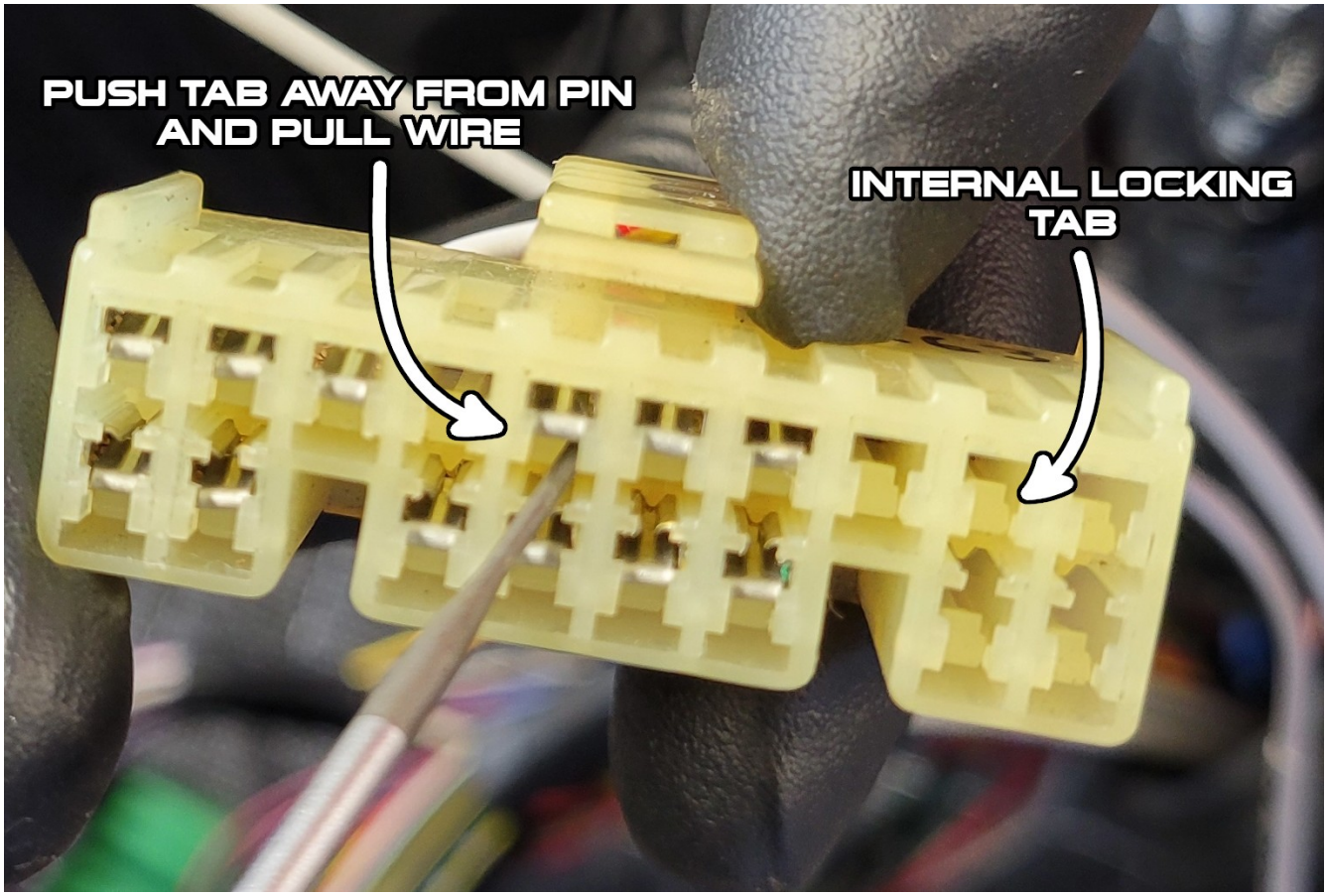


To find the desired pin location on these connectors hold the connector with the clip/tab at the top then count left-to-right top-to-bottom. Count from the terminal side, not the side that the wires enter.

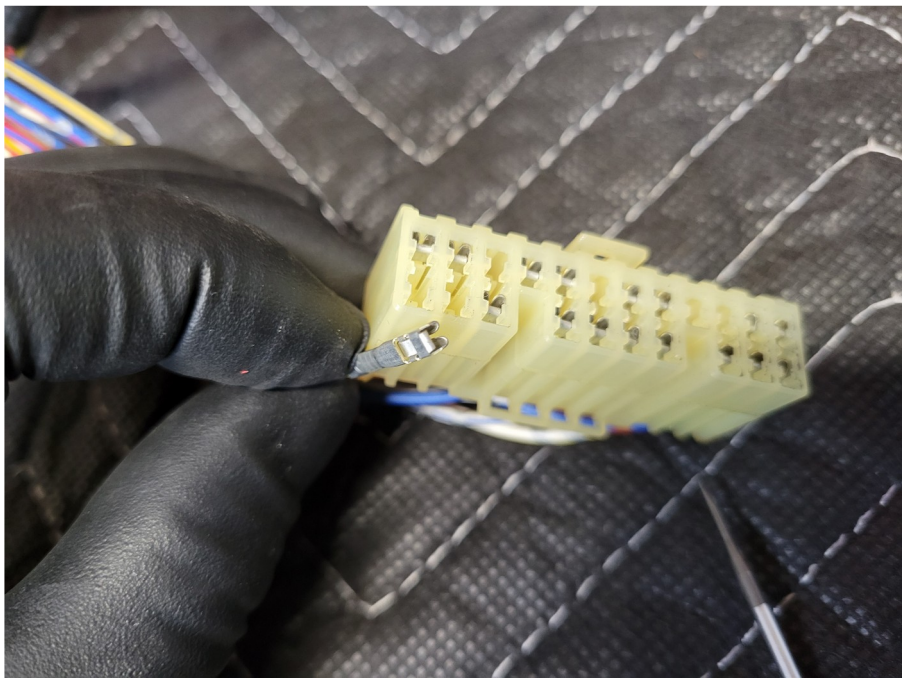
Here is an example:



There are two pin sizes on the adapter harness. To depin the smaller silver ones reach into the connector with the 1mm screw driver, push the plastic locking tab away from the pin, then pull the wire from the rear:

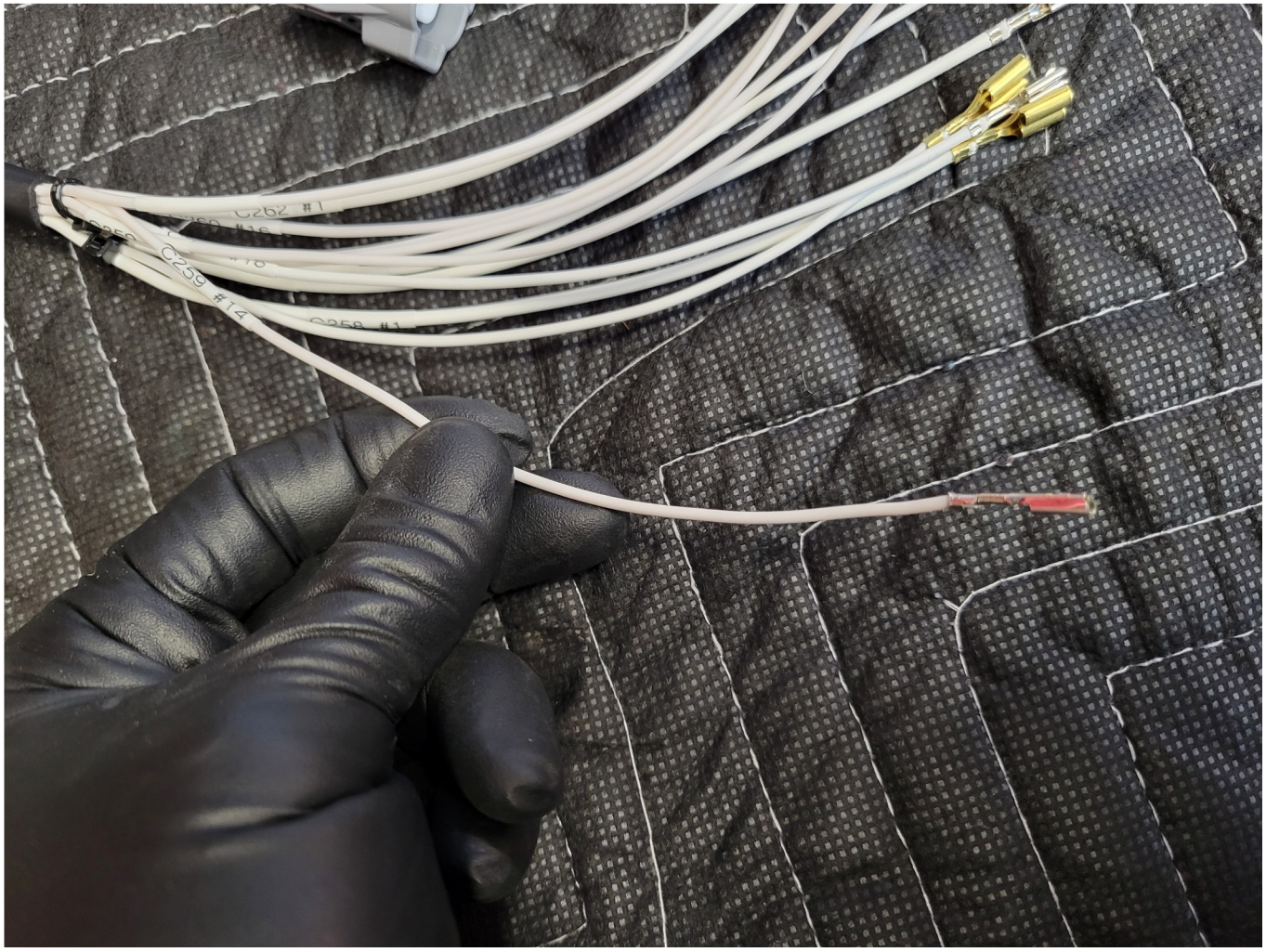


The pin should come out:



To depin the larger terminals reach in through the center just above the terminal. Lift the internal locking tab up as you pull on the wire at the same time:

Find the wire you want to start with. For this example I will use C259 #14.



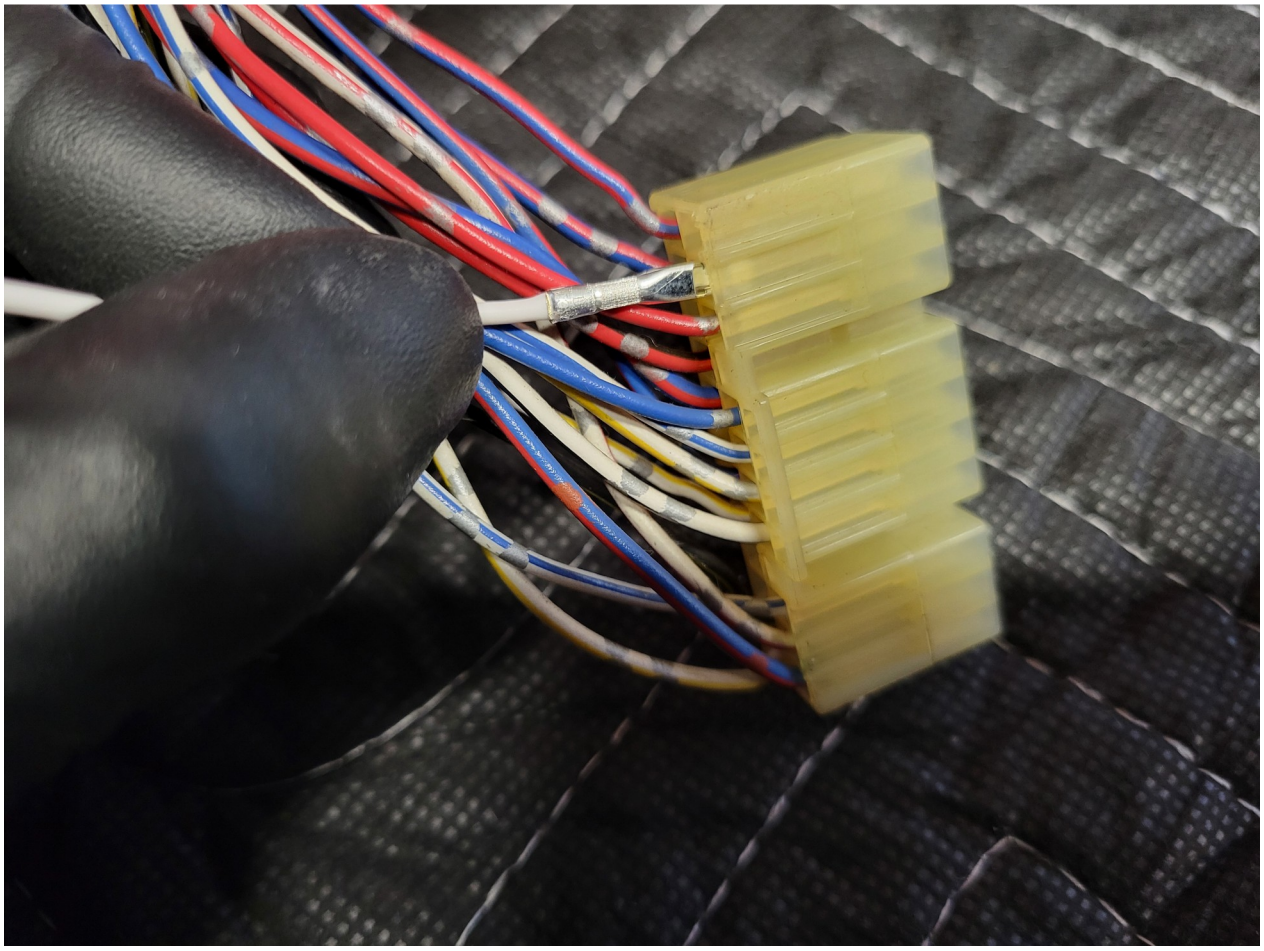
Find the matching labeled connector then count to pin #14.

Before depinning the O.E. wire double check that the wire color matches what it shows on the quick reference sheet.

Depin it, add the matching supplied label, then shrink it onto the wire using a heat gun:

Add some of the black heat shrink over the pin and shrink that as well. While it is still hot pinch the ends of the heat shrink to seal it:

Insert the new adapter harness wire into the same cavity you just depinned. Check the pin orientation by comparing it to the other pins in the connector. When inserting you should feel/hear a click and it should not come out if you tug on it a bit.



IMPORTANT NOTE:

All adapter harness wires are the same for 88-91 fuel-injected models *except* one.

One of the wires on the adapter harness will be labeled "**C259 #9 OR C260 #15**".

This is the +12v supply for the reverse switch. On 88-89 it is pinned at C260 #15 and 90-91 at C259 #9.

Just pin it into the location that matches the year of your car. You can't get this wrong because if you choose the wrong location then there won't be an O.E. wire there to depin.

Once you have done all pins on a connector double over the old wires and secure them to the harness with some electrical tape:

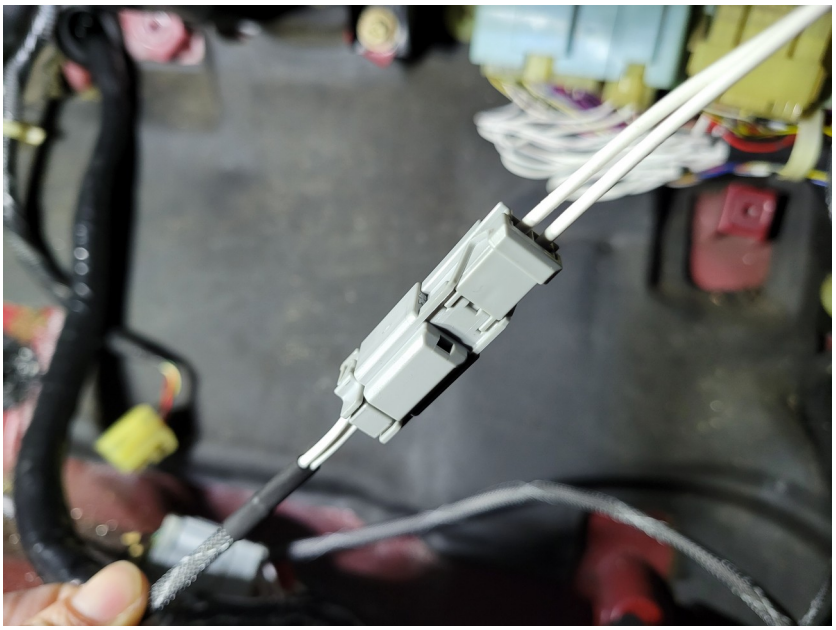
Once you have done every wire double check the wire labels and that the wires went into the correct connector and pin location.

NOTE: If you bought the K-swap A/C harness; now is a good time to install it!
Prelude_Engineering_LLC_K-Series_Swap_AC_Harness.pdf

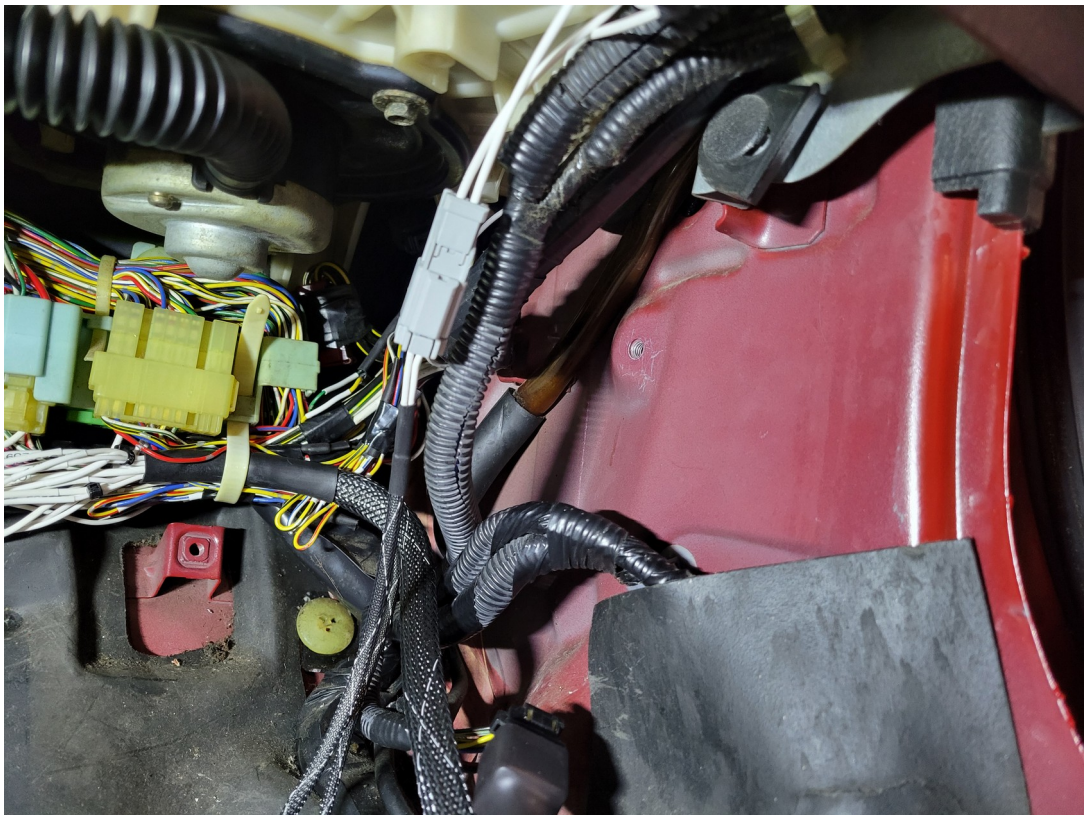
Install the fender harness back into the interior and hook up all the connectors again.

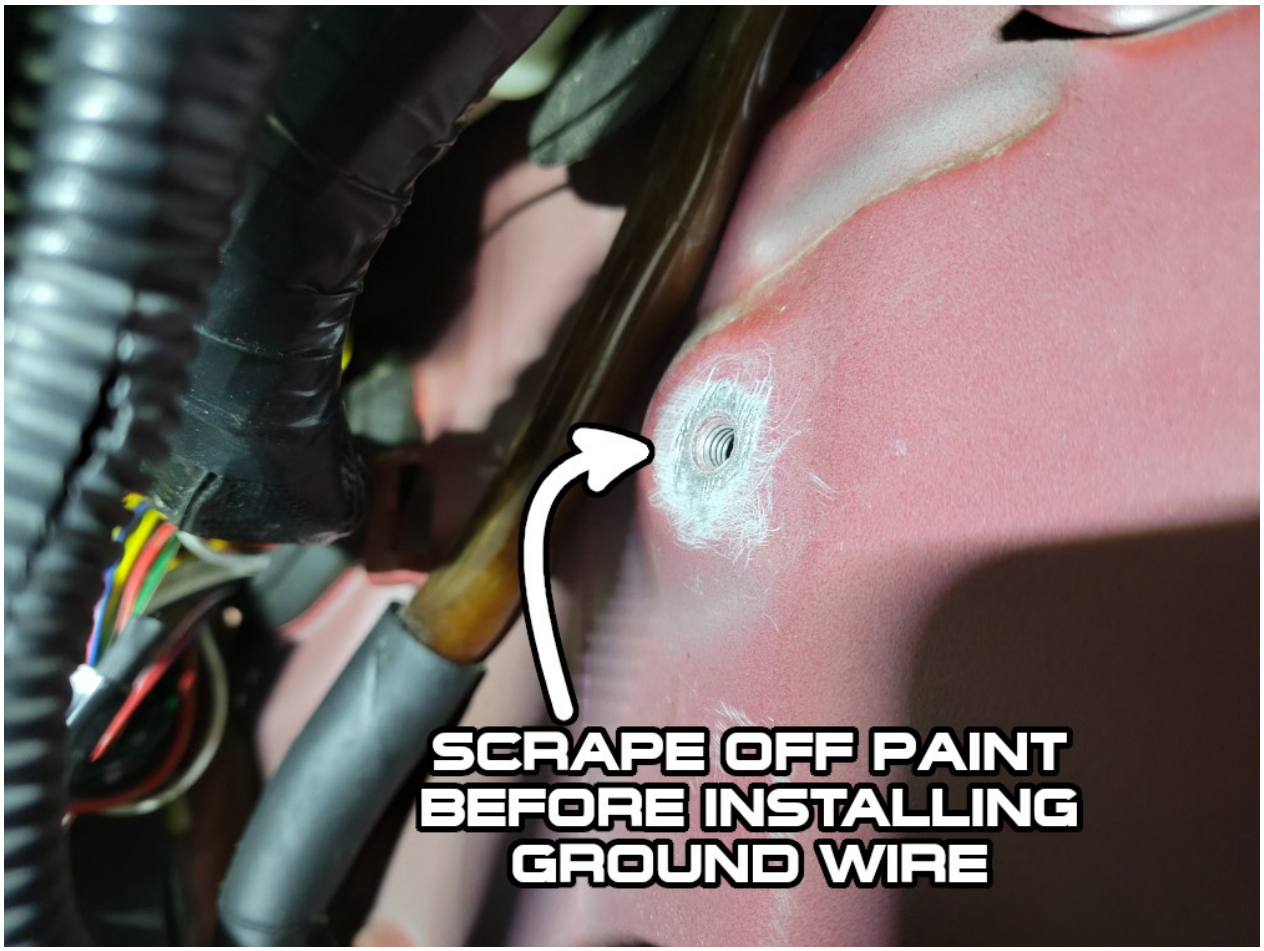
Remove the factory fan timer unit (black box behind kick panel). Plug the matching connector on the adapter harness into the fan timer unit connector:

If you also installed the A/C harness then plug the grey 2 pin connector on the adapter harness into the 2 pin connector on the A/C harness:



The adapter harness has a wire with a ring connector on it. This is the main relay ground wire. Ground this to the bolt hole previously used by the fan timer unit. Before doing that though scrape and sand the paint off from around the bolt hole. This will ensure it gets a good ground:

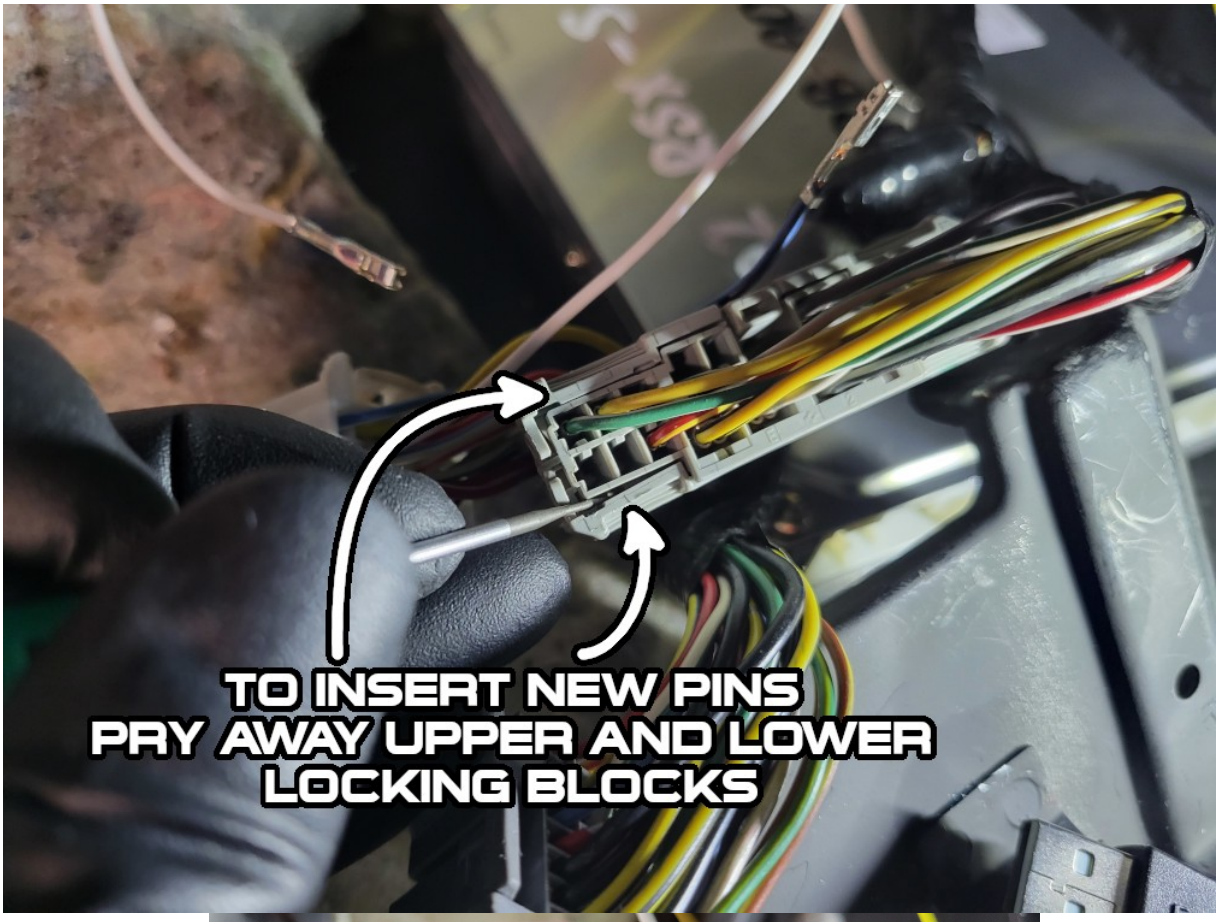


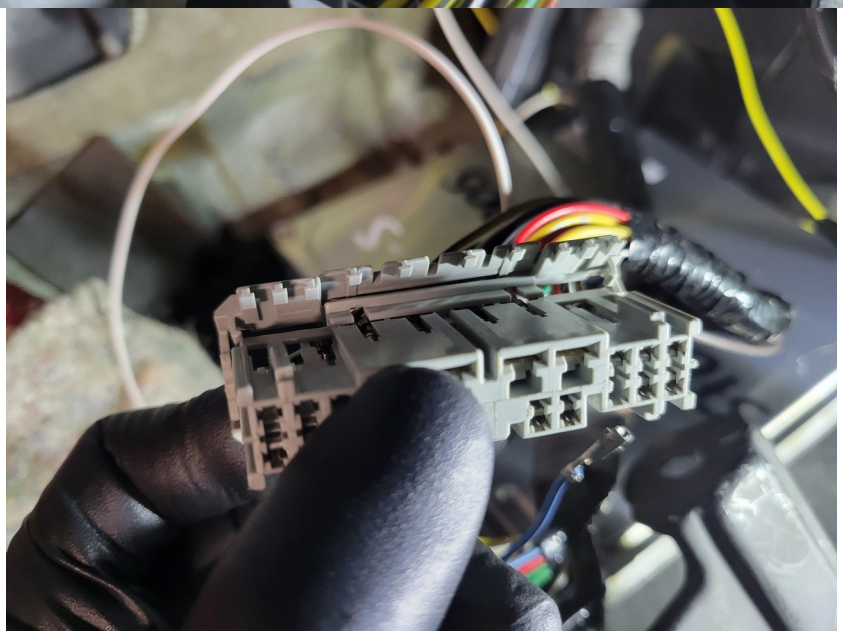


It’s a good idea to use some dielectric grease on the bare metal and ring connector to stop corrosion:

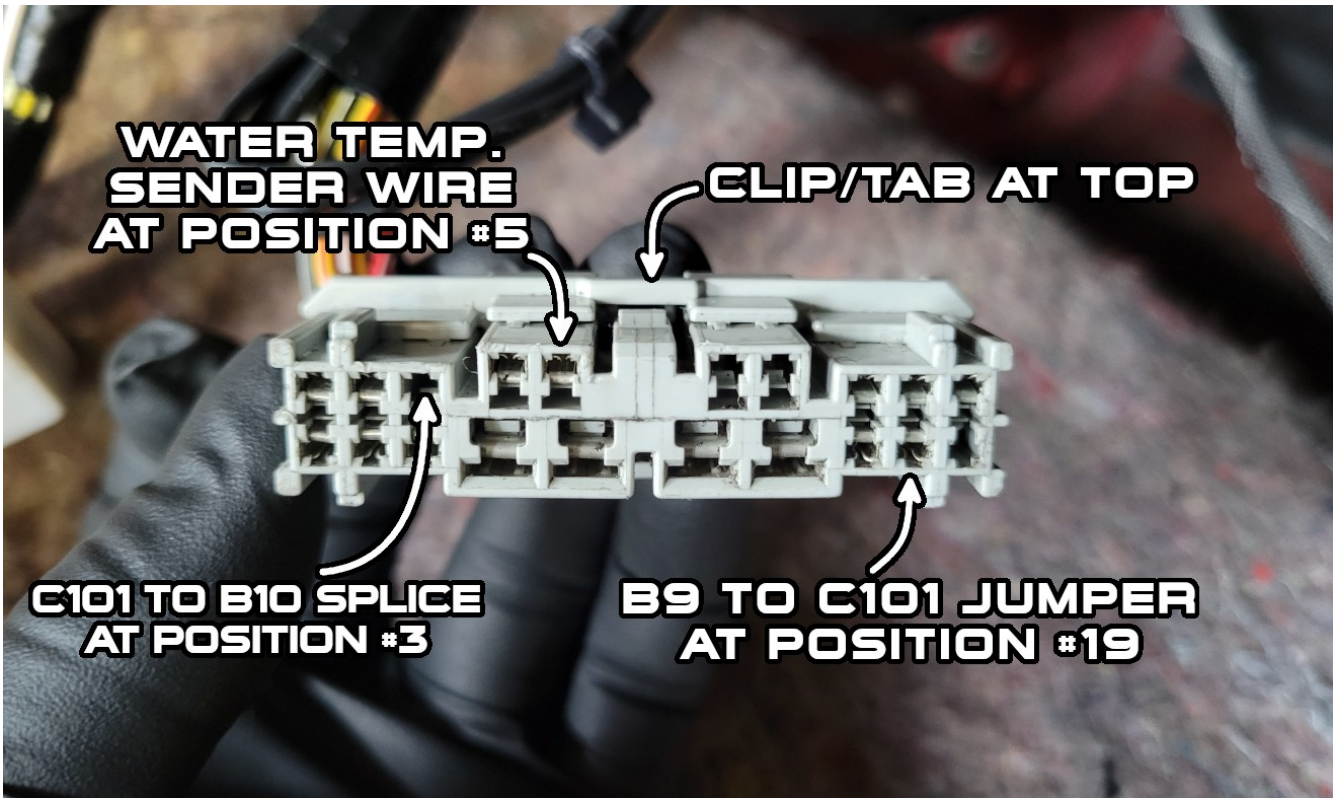
Pin the 3 new wires into the C101 connector now.

To get the pins in you need to pry off the locking blocks on the C101 connector:





- Insert the C101 to B10 splice wire (this wire has a pin on only one end) into position #3
- Insert the coolant temperature sender wire at position #5
- Insert the B9 to C101 jumper wire to position #19

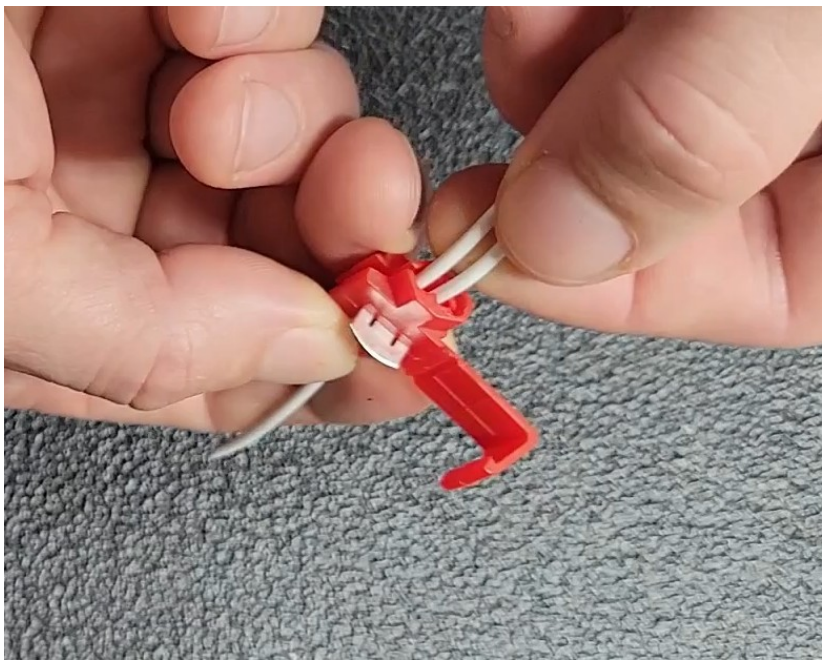


IMPORTANT: If position #3 already has a white wire with blue stripe installed then you do not need to install the C101 to B10 splice wire.

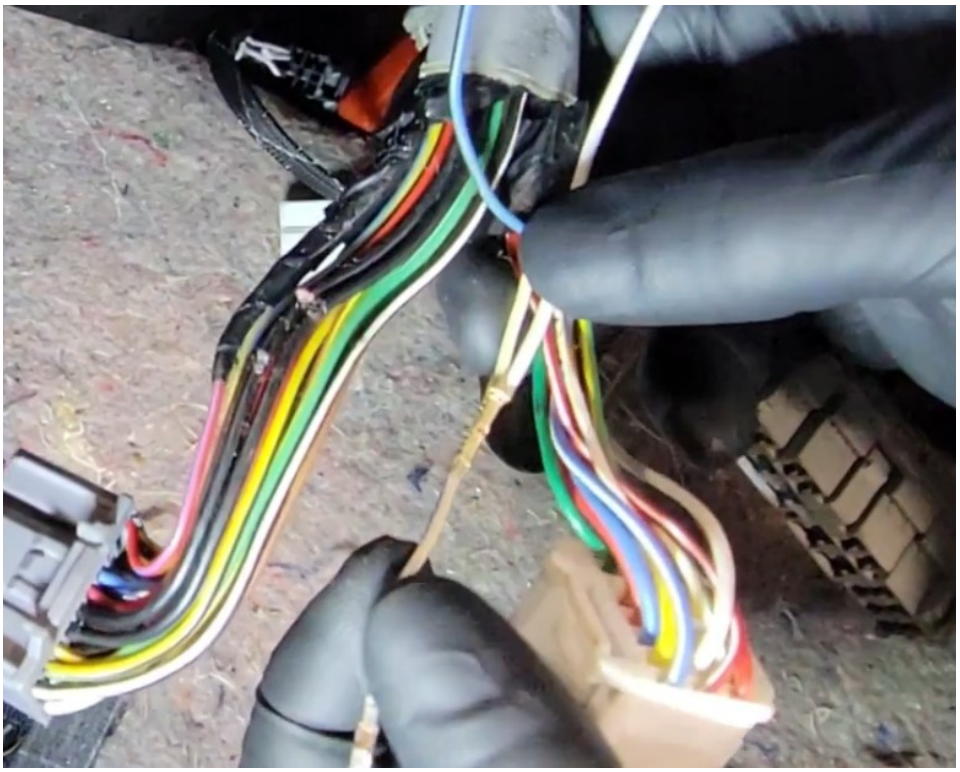
Unlike the other connectors the pins on ECU connector B are numbered from the rear, the side the wires enter.

You need to connect the C101 to B10 splice to the #10 wire at ECU connector B. It will be a white wire with blue stripe:

The adapter harness comes with a quick splice connector to do this:



If you have your own crimp tool we suggest making a more solid connection using an open barrel splice and heat shrink tubing, instead of the quick splice:

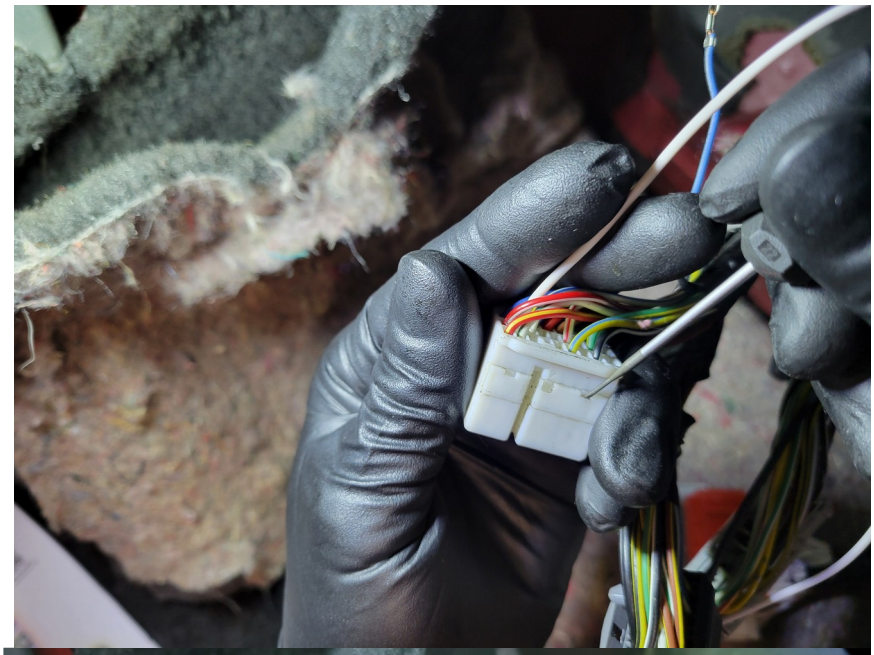


INFO: This splice is only for the charge warning light in the cluster. So if there is a connection problem it won’t cause any drivability problems with the car.

Install the B9 to C101 jumper wire. The wire position on ECU connector B is #9.

ECU B9 has a Blue wire with Black stripe in it already. :

To depin, lift the locking block on the bottom of the connector using the 1mm screwdriver:



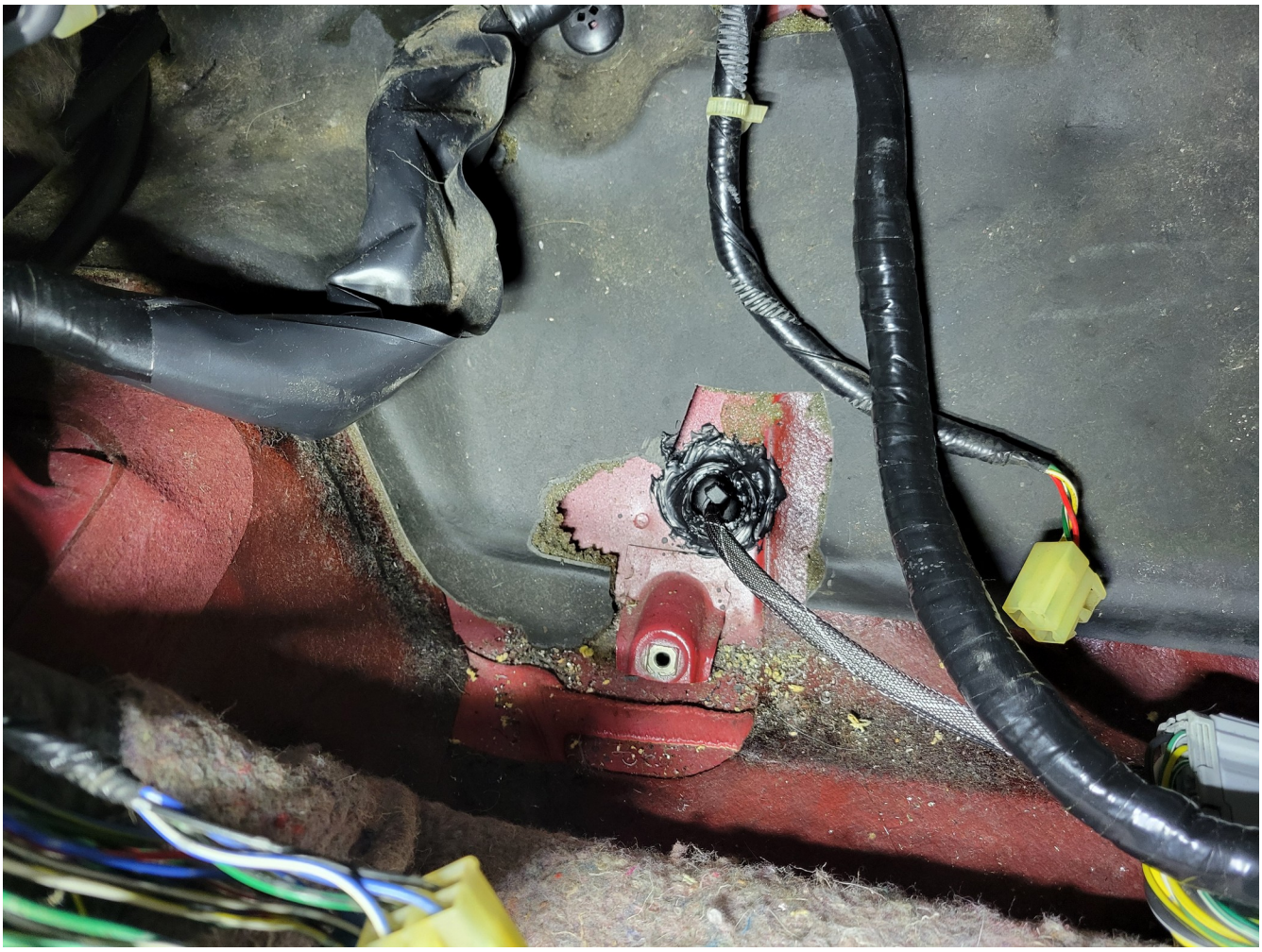
Reach into the B9 cavity from the terminal side, lift up the plastic locking tab, and pull the wire from the rear to remove it. It's like the other connectors, it just has a smaller opening.

Insert the new jumper wire into the same cavity until you feel/hear a click. It shouldn't come out if you give it a small tug. Once you are satisfied snap the locking block on the ECU B connector back into place.

Fold the old B9 wire back and secure it to the harness with some electrical tape.

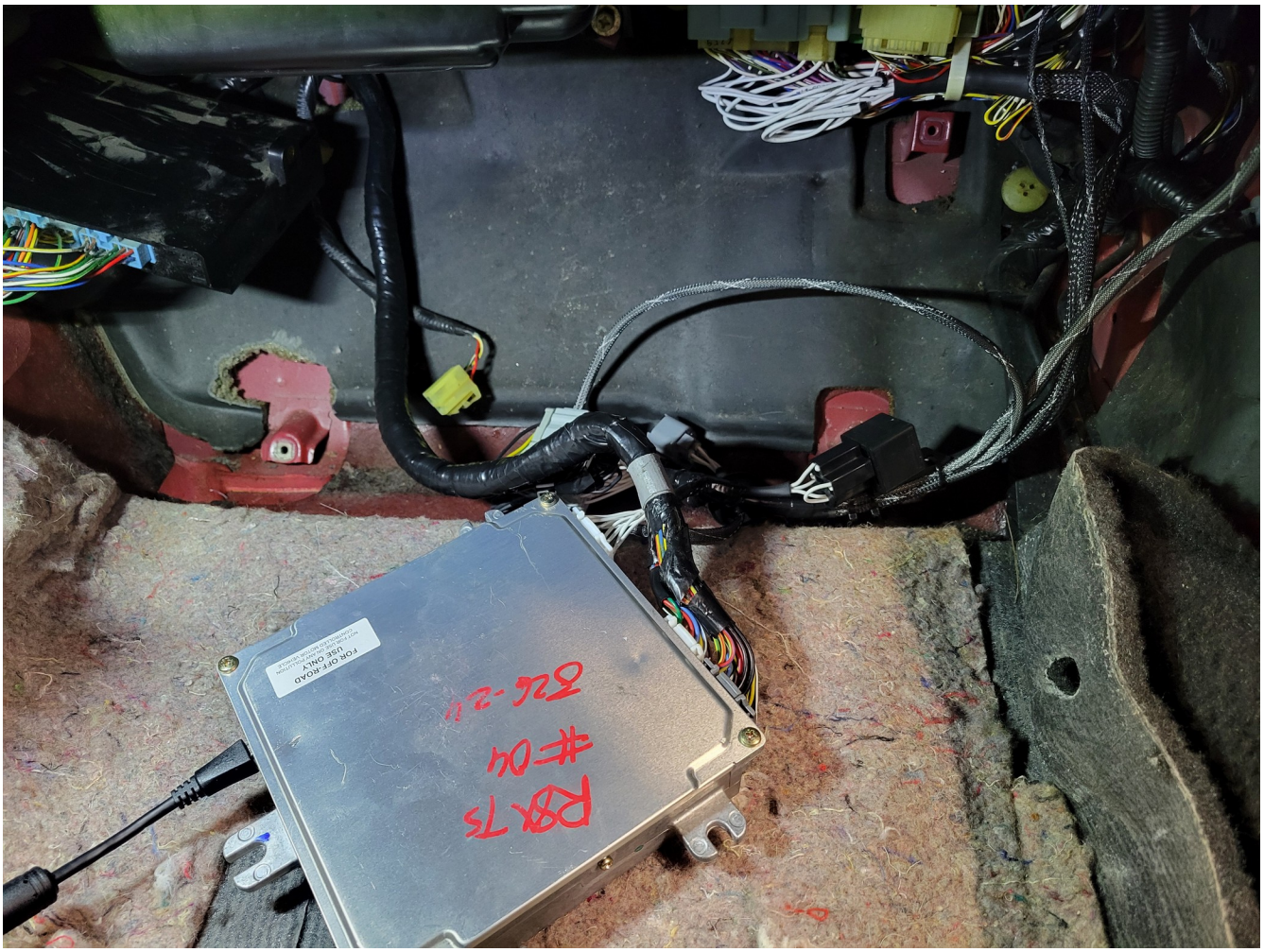
The last thing to do is cut the hole for the O2 sensor lead. Use the 1.25” hole saw again and cut in this approximate location:

Clean up the hole with a file and primer it, like before. The O2 lead has a pre-installed grommet. That will fit into the hole. After that we suggest using some silicone around the grommet to ensure no leaks:



Plug in the O2 sensor below and secure the connector using a P clip on the exhaust heat shield bolt. Make sure no sharp edges will rub the wire:

Leave a little wire slack down here to account for engine movement. Pull the excess length into the cabin and put a zip tie around the wires near the grommet. This will stop it from slipping out.



Finally you can plug in your ECU. After the first few times driving the car in the rain we suggest inspecting the ECU area for any water. Add more silicone to seal the grommet or boot if needed.

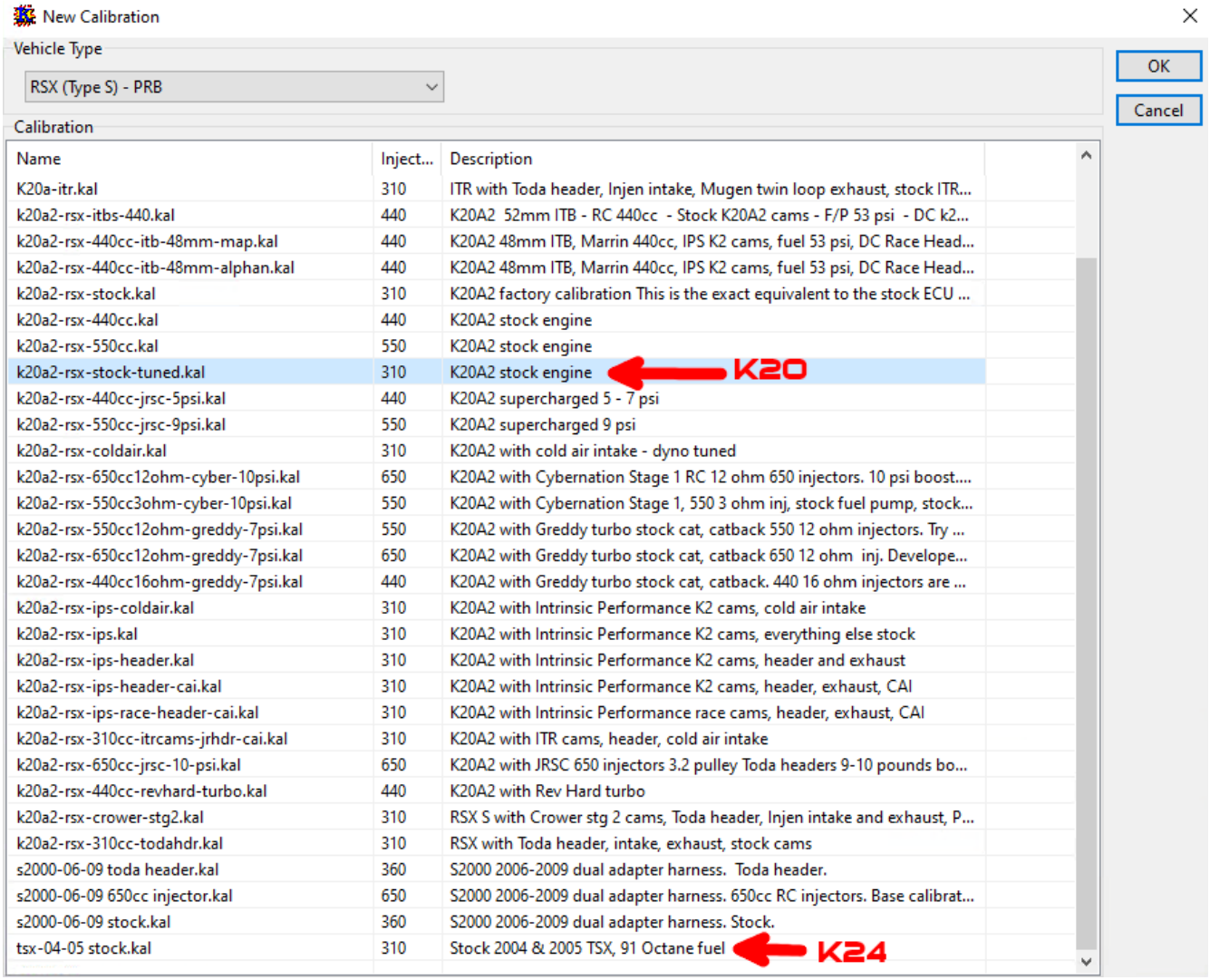
KPro Settings:

When setting up your KPro do the following. These are general instructions, we do not offer direct support for KPro. If you need more help please contact Hondata, your KPro dealer, or your tuner.

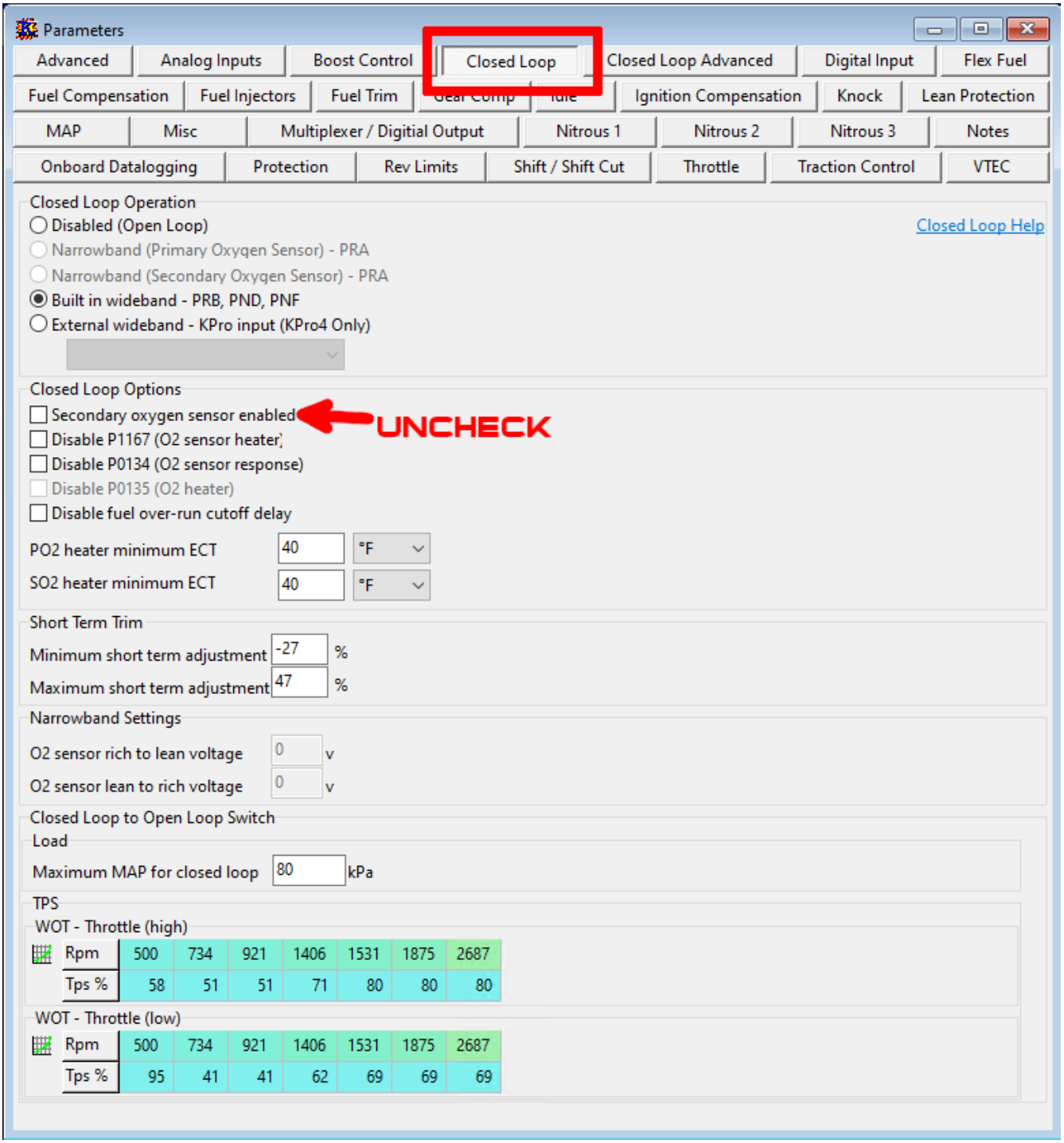
Click “New Calibration”. Depending on the engine select K20A2 with 310cc injectors or 04-05 TSX with 310cc injectors.

If your K-series has mods you can try selecting a calibration that is closer to your setup. Especially you need to match the injector size that you have. 310cc is the O.E. size.

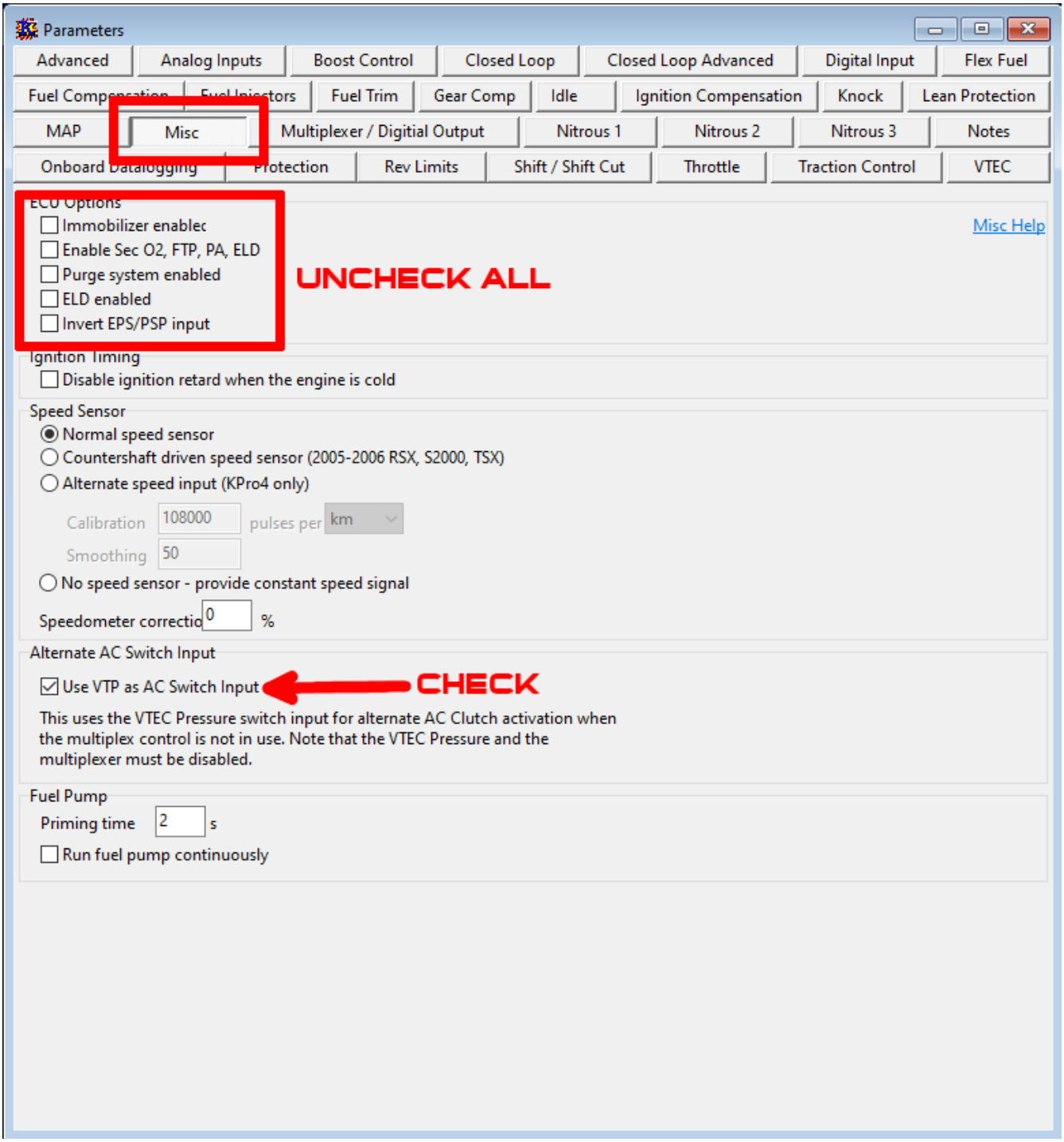
This is mainly for start up and to allow test driving. **No matter what you need to get a tune to match your exact setup.**



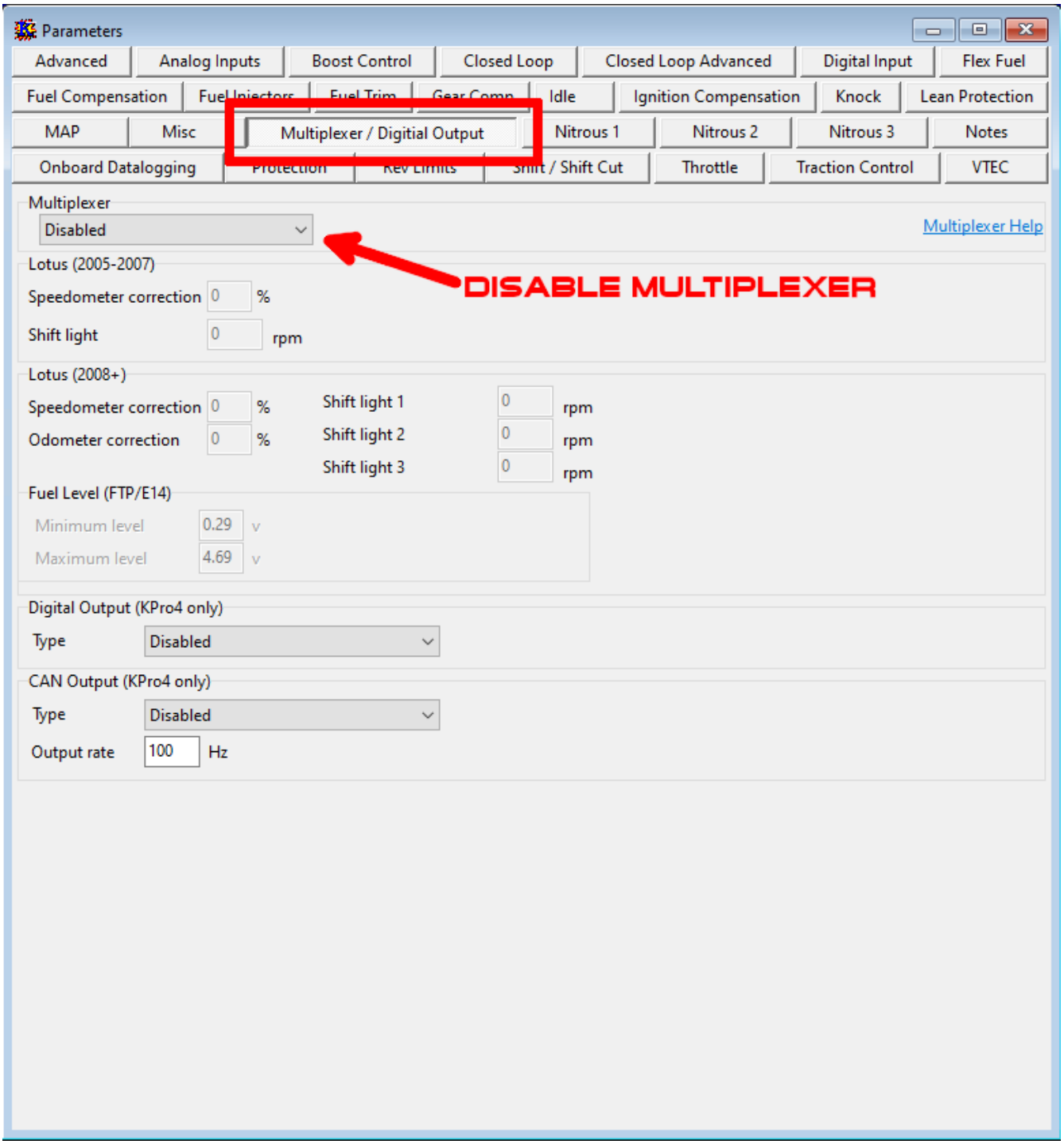
In the Closed Loop tab uncheck “Secondary oxygen sensor enabled”



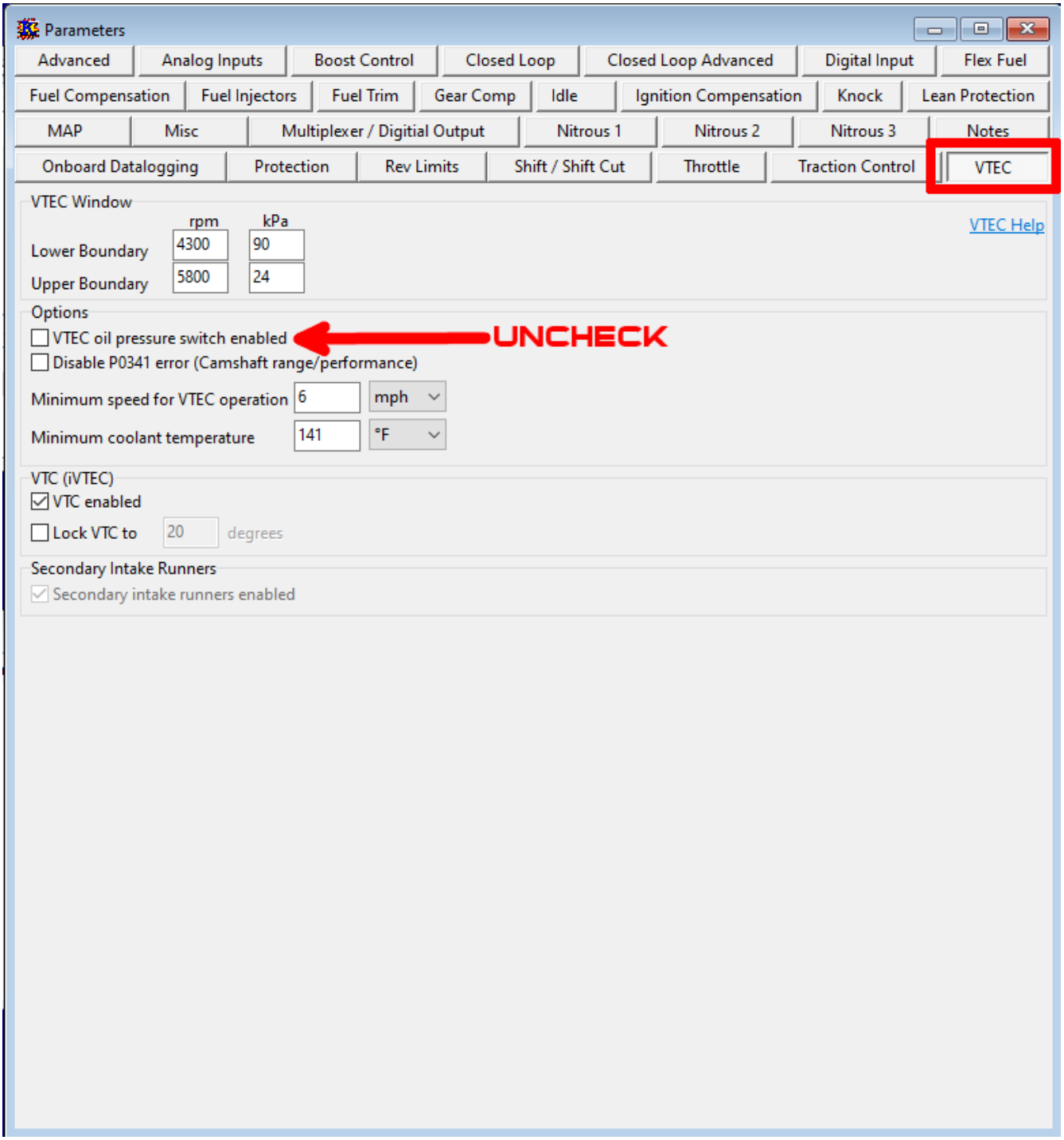
In the Misc tab uncheck everything under “ECU Options” and then check “Use VTP as AC Switch Input”:



In the Multiplexer / Digital Output tab select “Disabled” on the drop down.



In the VTEC tab uncheck “VTEC oil pressure switch enabled”:



After these changes upload the new calibration to the ECU. At this point the engine should be ready to start.