



JB N55 E Series Stage 1 and JB4 Install Guide

Last Updated: 6/8/2017

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All Models: Before starting any electrical work always disconnect the negative battery terminal in the trunk. Failure to do so may result in ECU damage. Never disconnect the piggyback box, harness, or any wires while the battery is connected. Before starting scroll through the install guide and review the appropriate directions for your.

Once you reconnect the battery Xdrive (all wheel drive) models will have an AWD/DSC warning that will clear itself as soon as you drive around the block. All models will need to reset their clock. With BMWs it often takes several attempts of saving the new time in the clock setup before it holds.

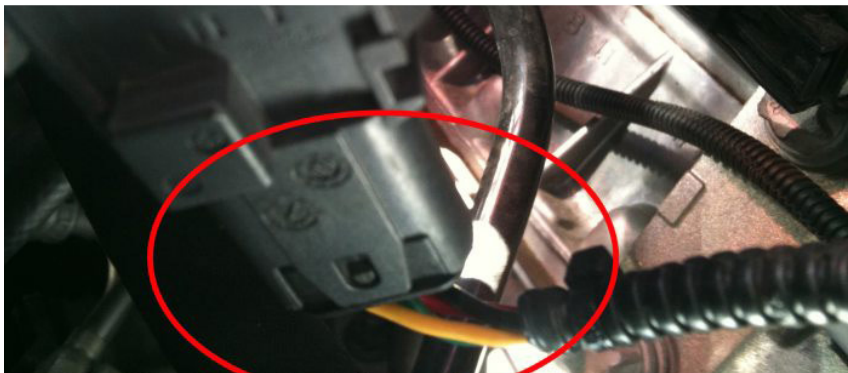
This guide DOES NOT cover newer F series models. A separate install guide is posted for F series JB4 installations.

Before you start:

Verify you have the correct harness for your vehicle. Most 2011 models are harness TypeA while most 2012 models are TypeB. But early 2012 models can be either type so check your TMAP sensor to see if it has a smooth clip (TypeA) or protruding clip (TypeB).

You must check and verify your TMAP sensor before ordering

If your TMAP looks like this you need to select (HARNESS A)



If your TMAP looks like this you need to select (HARNESS B)



TMAP SENSOR LOCATED ON THE RIGHT SIDE OF THE ENGINE BETWEEN THE AIR BOX AND STRUT TOWER

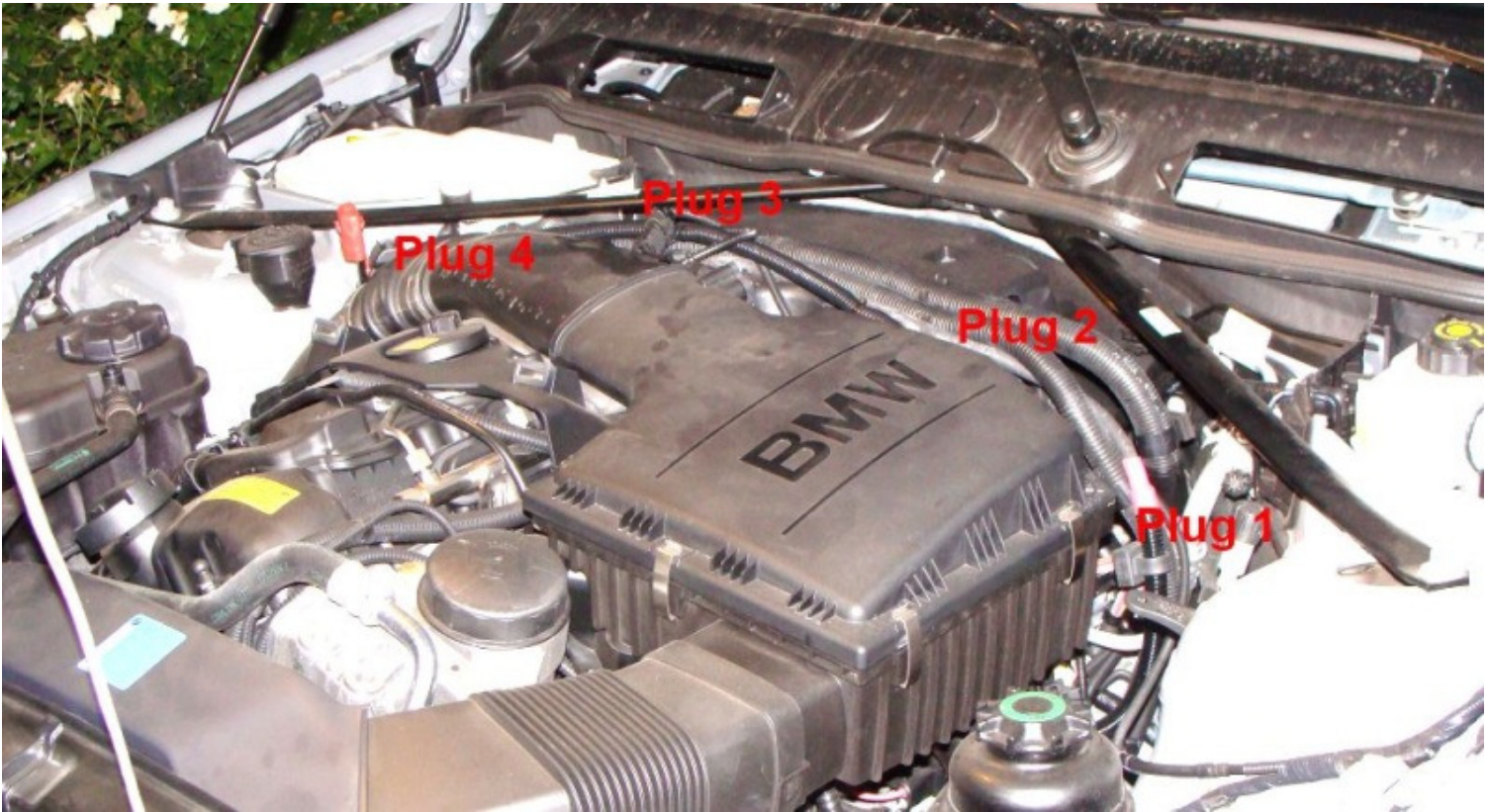
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Note: Type B has a protruding clip while Type A has a smooth clip. Please double check BEFORE ordering and if you can not positively identify your sensor email us a photo so we can identify it for you.

Directions:

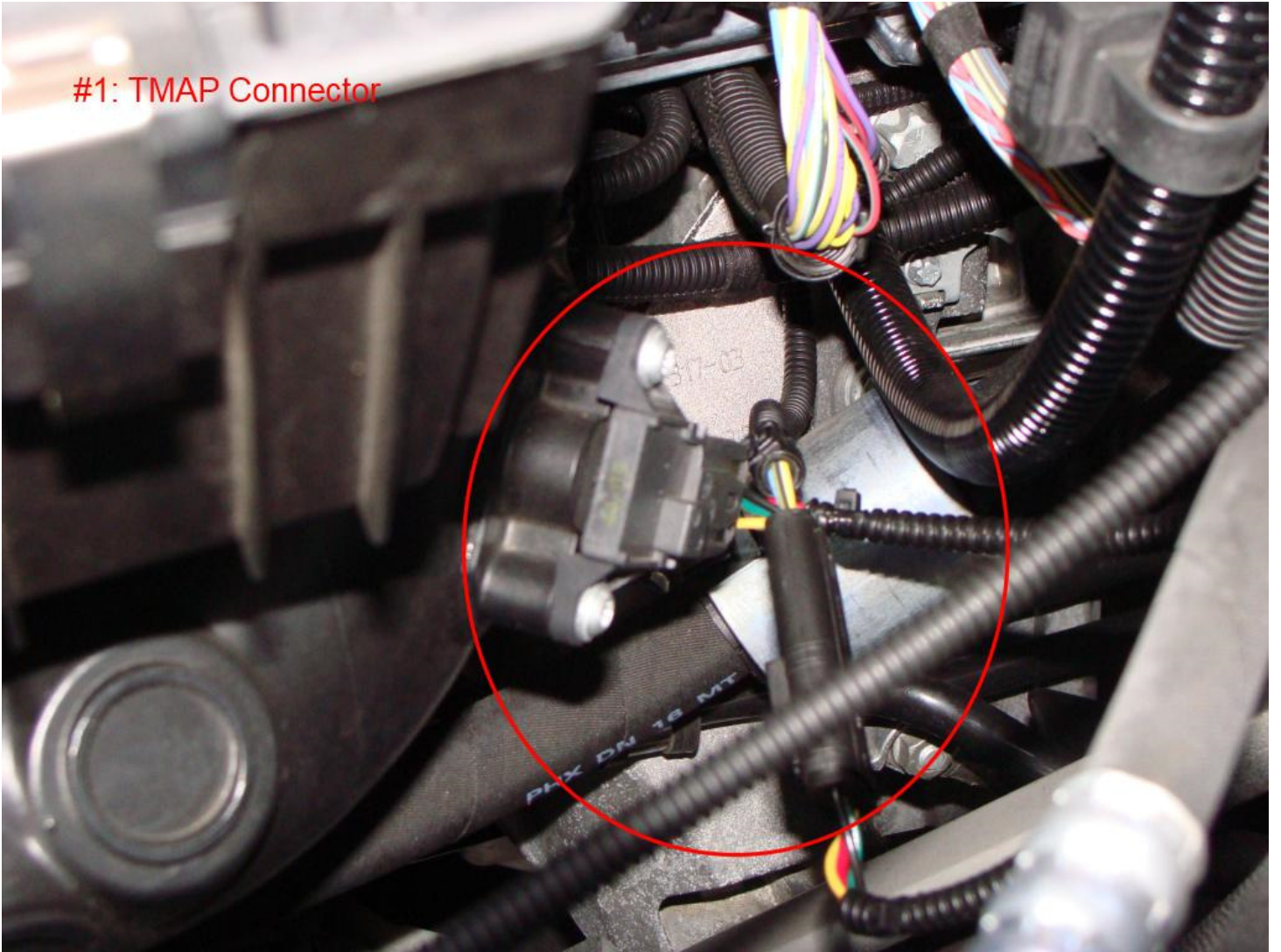
- 1) Remove the HVAC air filter and cowl. Refer to the N54 Stage 3 guide/video for detailed directions and photos.
- 2) Remove the yellow ECU cover. This is where the control unit will be placed at the conclusion of the harness install.
- 3) Lay the harness along the top of the motor next to the existing harness with the JB connector located in the ECU box. Tuck it under the strut tower brace when routing.
- 4) The harness consists of 3 plugs each of which intercept a particular sensor. The spacing is such that it is not easy to connect them in the wrong positions, but it may be possible to plug a connector in backwards, so take care of the orientation and ensure the tab on each connector is locking properly.
- 5) General reference photo below, see detailed info for each connection. As an overview you will be installing plug 1 (TMAP, rainbow patch) & plug 2 (MAP, brown patch) for Stage1

systems. For JB4 systems you will also install plug 4 (boost solenoid, blue patch). Plug 3 (MAF sensor, purple) is no longer used for any application. If you have an older harness with a purple patch on it you can cut it off the harness or tuck it out of the way unused.



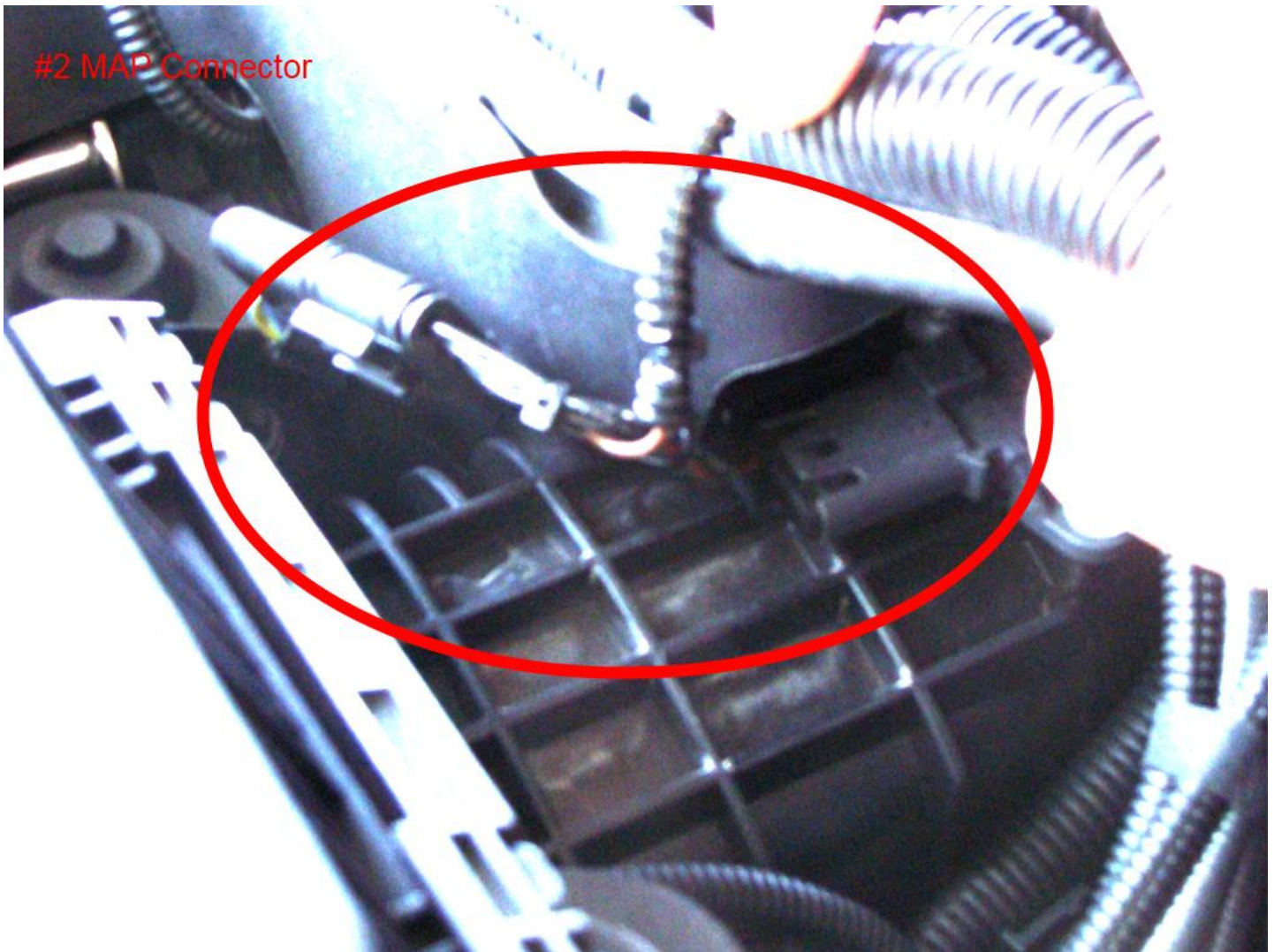
The first is the TMAP sensor. It can be useful to use the flat side of a USB cable to unlock the TMAP and MAP sensors. Just slide the USB in to unlock the tab and tug the plug out. Alternatively a penny or small screwdriver will also do the trick. Once unplugged insert the Stage1 TMAP plug and plug the original in to the Stage1 female plug as shown.

#1: TMAP Connector



The MAP sensor is positioned partly under a plastic cover which can be lifted up with your hand as shown. Install is the same as the TMAP sensor.

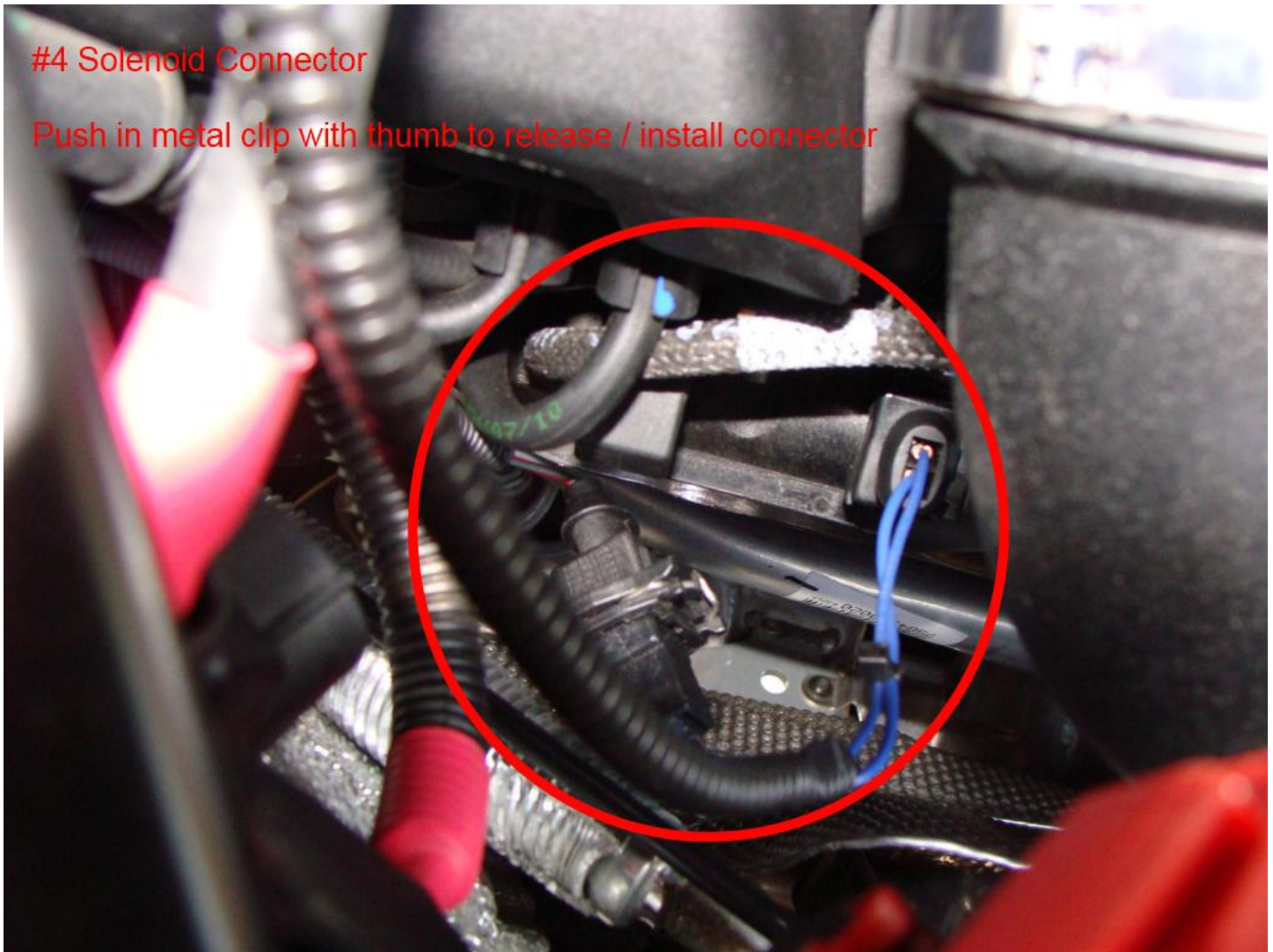
NOTE FOR TYPE B THIS BROWN PLUG ALSO FITS IN THE MAF CONNECTOR ON THE INTAKE. DO NOT PLUG IT IN THE MAF AS THIS WILL RESULT IN A CEL, POOR IDLE, AND MAF ERROR FAULTS! THE CORRECT POSITION IS ON THE INTAKE MANIFOLD AS SHOWN BELOW.





**DO NOT INSTALL ANYTHING
TO THIS SENSOR!!**

The boost solenoid is located on the passenger side of the engine and can be tricky to reach. It also gets very hot so either wear a glove or wait for your motor to cool down. You release the OEM connector by pushing in on the metal release clip and lifting the plug up. Similarly you push the metal release clip in when inserting JB connector. Plug the original in to the corresponding JB connector. NOTE the boost solenoid connector is for JB4 only!



Fuel Pressure Connector, black patch. Optional to install.

The Fuel Pressure Connector gives the JB4 a higher range of fuel trim adjustment which is useful for higher power levels and/or E85 fuel mixtures. Installation is optional and generally not used for customers running map1 or map2 on pump fuels. To access this connector you need to pull back the foam covering it.



Finally connect the JB control box as shown and tighten the two screws hand tight with a small screwdriver. If you have opted for the optional USB cable for future software updates you can connect that to the small DB9 connector on the back of the JB. Alternatively you can leave that connector unplugged if you do not have the optional USB cable.

Slide the control box in to the yellow ECU area and reinstall the yellow ECU cover. Route the harness bundle between the rubber grommet and the yellow ECU cover under one of the two indented areas.

For Stage1 tuners with older harnesses that have extra wires note these wires are **NOT USED** and should be left bundled or cut off the Stage1 harness all together. Stage1 uses only the TMAP and MAP connections.

For JB4 refer to the additional directions at the bottom of this file for connecting the power, ground, and CAN communication wires.

If you installed the optional USB cable you can route that between the smaller rubber grommet and the yellow ECU cover on the opposite side. If installing the REV3 BlueTooth connect kit ensure its power wire is installed to the JB harness RED wire going to the TMAP sensor and not the red wire going to the 50amp fuse.

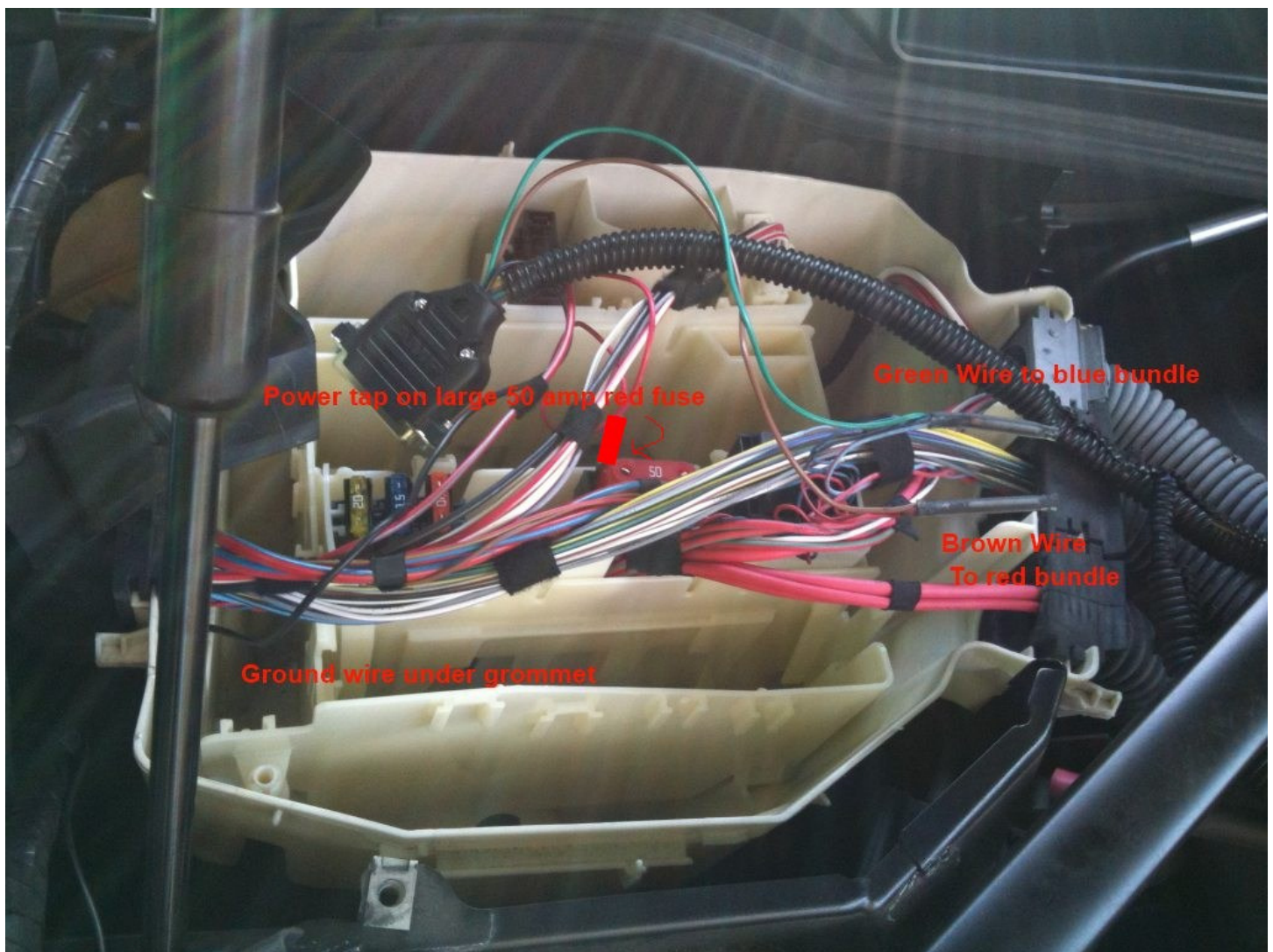
Before reinstalling the cowl start the car. If you receive a CEL (check engine light, picture of a yellow engine inside the dash) double check each connection. If you're unable to see any problems take photos of the install and email to jon@burgertuning.com for troubleshooting support.

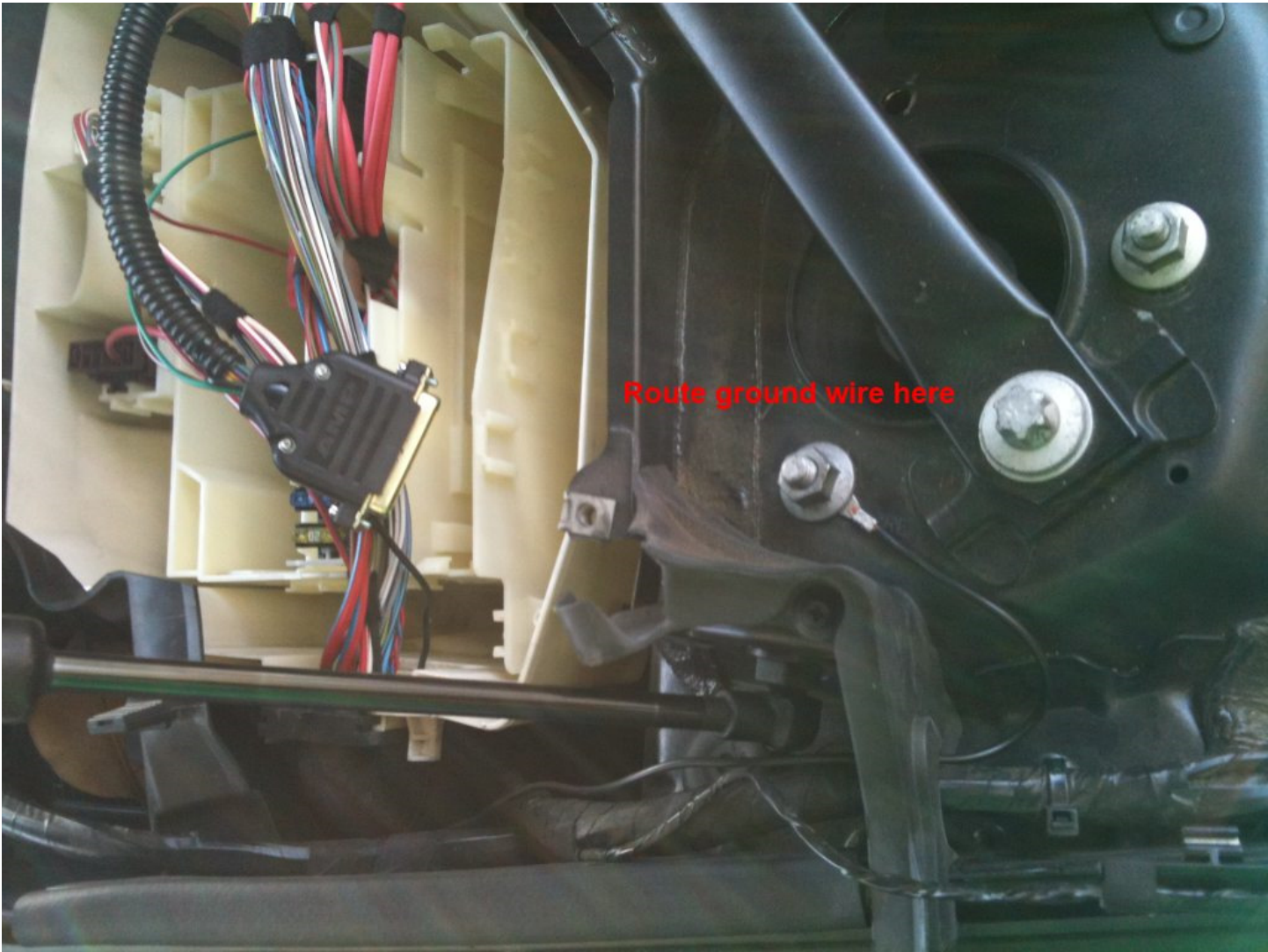
Assuming the car starts and idles without a CEL reinstall the cowl/HVAC cover and installation is complete. Both Stage1 and JB4 come preset so no additional software changes are required.

JB4 Additional Wires:

The JB4 has four additional wires which must be connected. Ground runs under the DME box grommet to the shock tower ground location as shown. Power gets pushed in along with the big red fuse in the DME box. And the two CAN communication wires attach to the CAN network as shown.

Locate and remove the felt-tape holding the wire bundle together and pull out the blue and red CAN wire bundles as shown below. It will be the only bundle wrapped in black felt tape. If you can't find it remove the black tape. It's easy to miss but is right in front of you. Each one will have a black or white cap on top of it. Pull the cap off and ensure the wire leads are clean. If needed you can clean them using a paper towel and rubbing alcohol. A clean connection here is critical to the CAN system functioning properly. Wrap the JB4 wire around the exposed leads and push the cap back over ensuring a solid connection. If your CAN wires have the white cap glued on you will need a heat gun or a hair dryer to remove it. Refer to those photos below for additional directions.



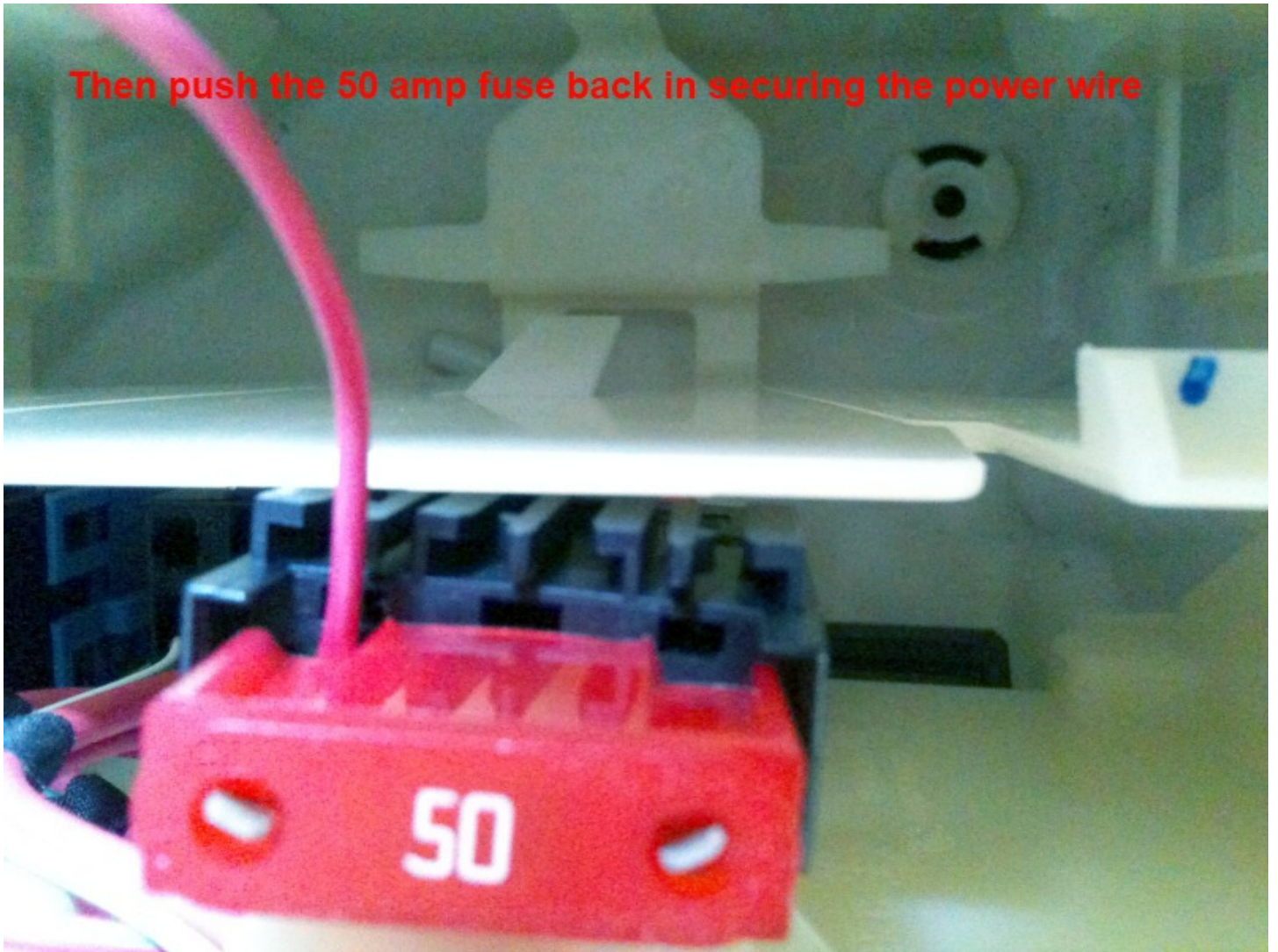


Route ground wire here

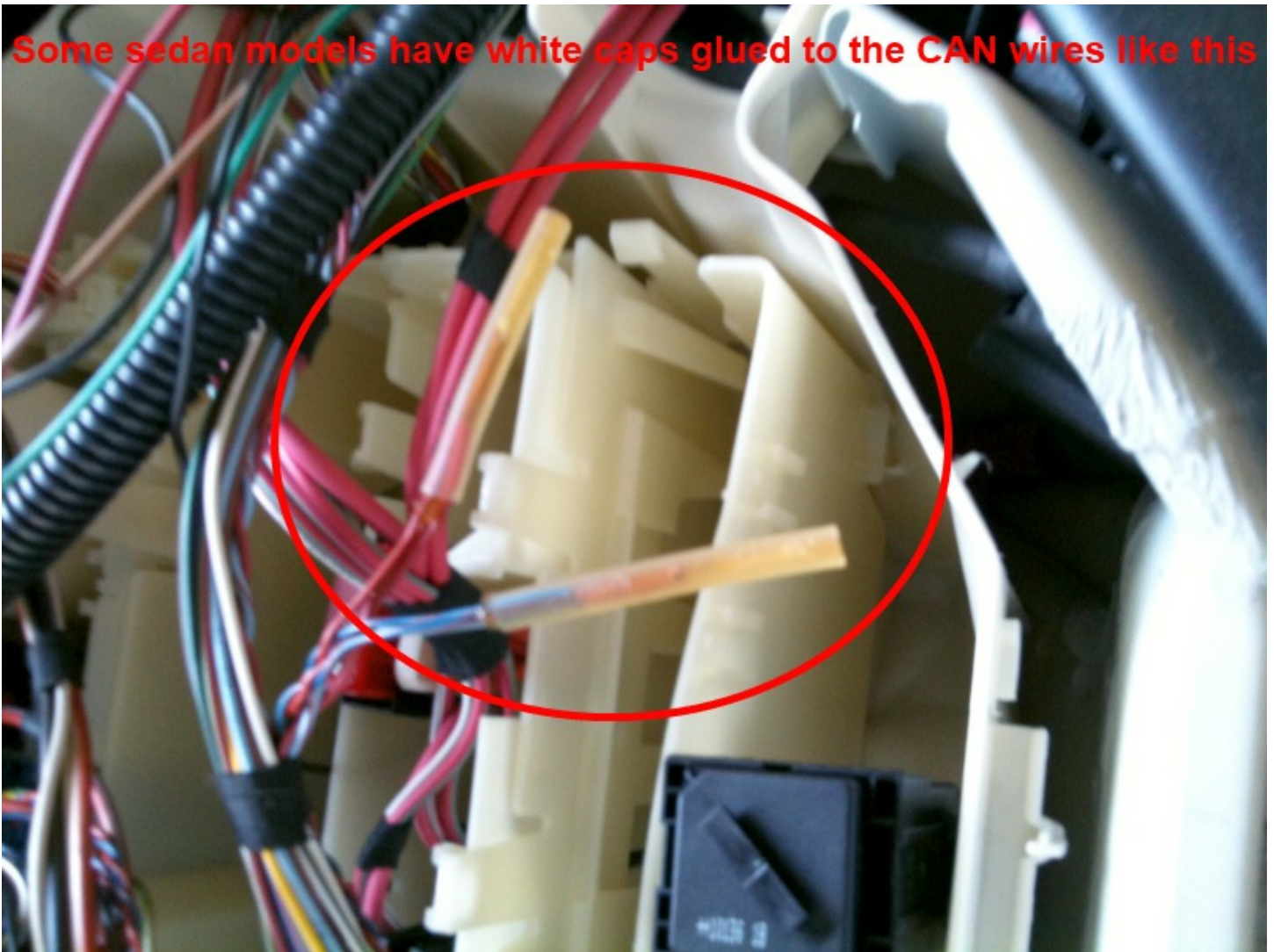
The JB4 red power wire is routed to the 50amp fuse below. Note that some newer JB4 systems have the power wire incorporated in to the blue solenoid harness. If your system does not have a loose red power wire then disregard this step.



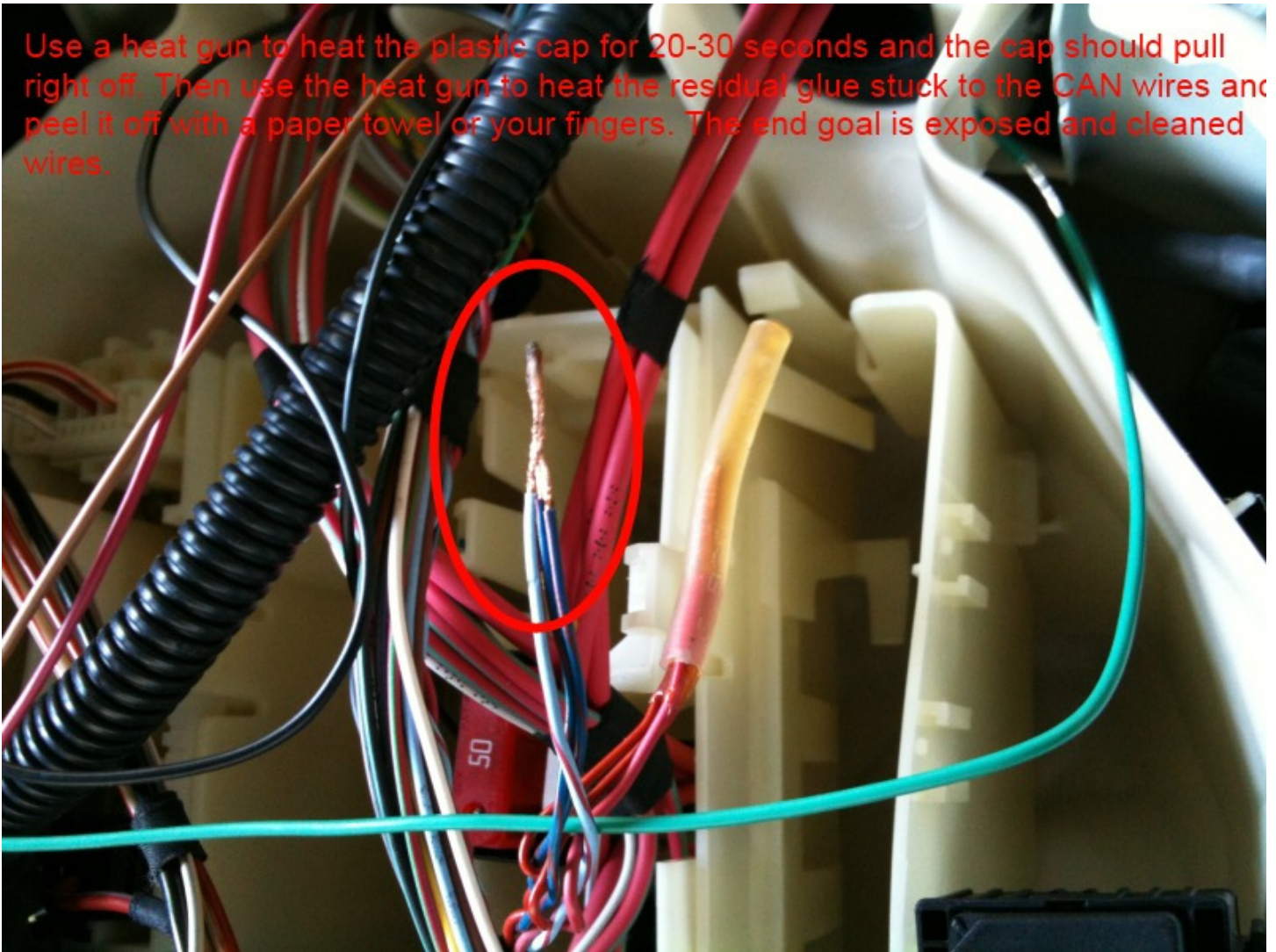
Then push the 50 amp fuse back in securing the power wire



The green/brown wire pair attaches to the factory CANbus. When removing the factory caps it's important to use rubbing alcohol to remove any black sticky "junk" left behind so the JB4 wires make a clean connection. A poor connection here will result in the JB4 "resetting" during driving and may lead to a check engine light. It is OK to solder these wires if you're having a difficult time getting a clean connection.



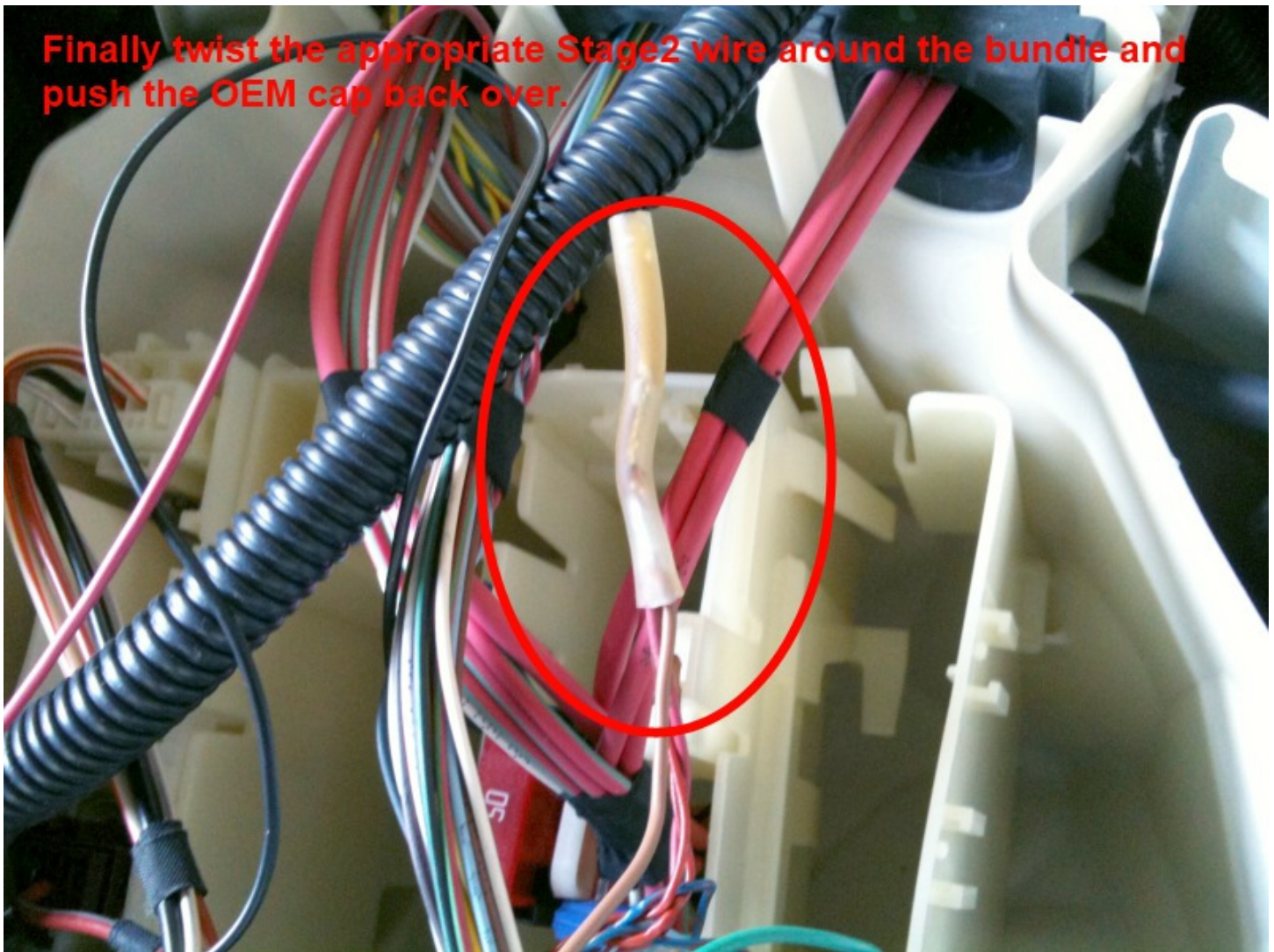
Use a heat gun to heat the plastic cap for 20-30 seconds and the cap should pull right off. Then use the heat gun to heat the residual glue stuck to the CAN wires and peel it off with a paper towel or your fingers. The end goal is exposed and cleaned wires.





OEM CAN Wires

Stage2 CAN Wire Wrapped Around It



Settings: The JB4 has user adjustable settings in dash. See link below for directions on how to access wheel controls. If settings are incorrect for the vehicle you may experience a reduced power mode or check engine light so if this happens refer to the link below.

RHD Models:

Directions are generally the same as the above. With the RHD JB4 harness modification blue boost solenoid patch is extended to reach the solenoid on the driver side.

For additional JB4 information on maps, wheel control directions, software, etc, please refer to this link:

<http://www.n54tech.com/forums/showthread.php?t=13189>