



JB N20/N26 Stage 1 & JB4 Install Guide

Last Updated: 10/31/2017

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JB4_N20 electronic wastegate model shown above

Tools required:

10mm socket

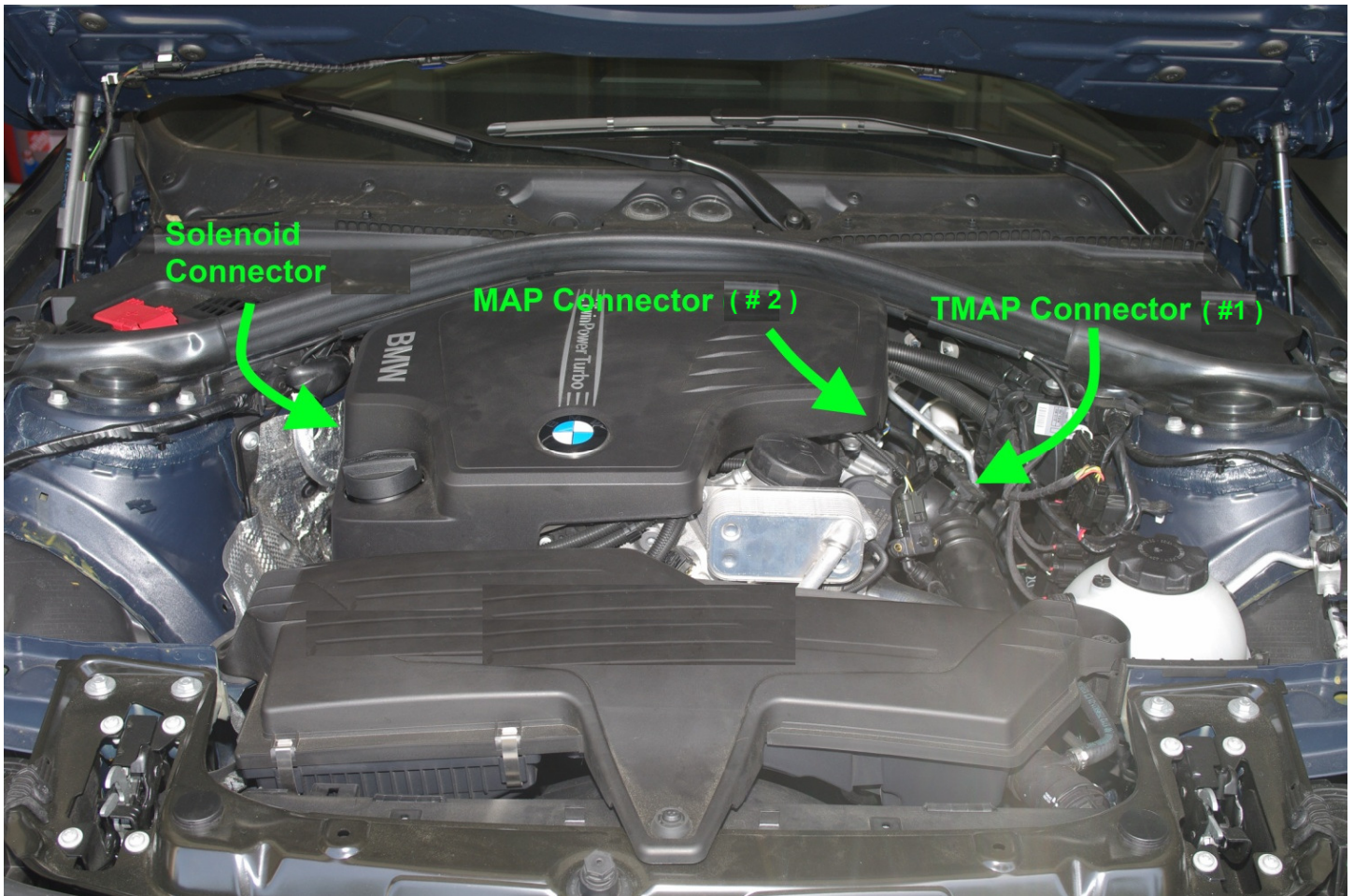
1/2" socket for pneumatic JB4 models

T50 (torx) bit for pneumatic JB4 models

Small flat head screwdriver

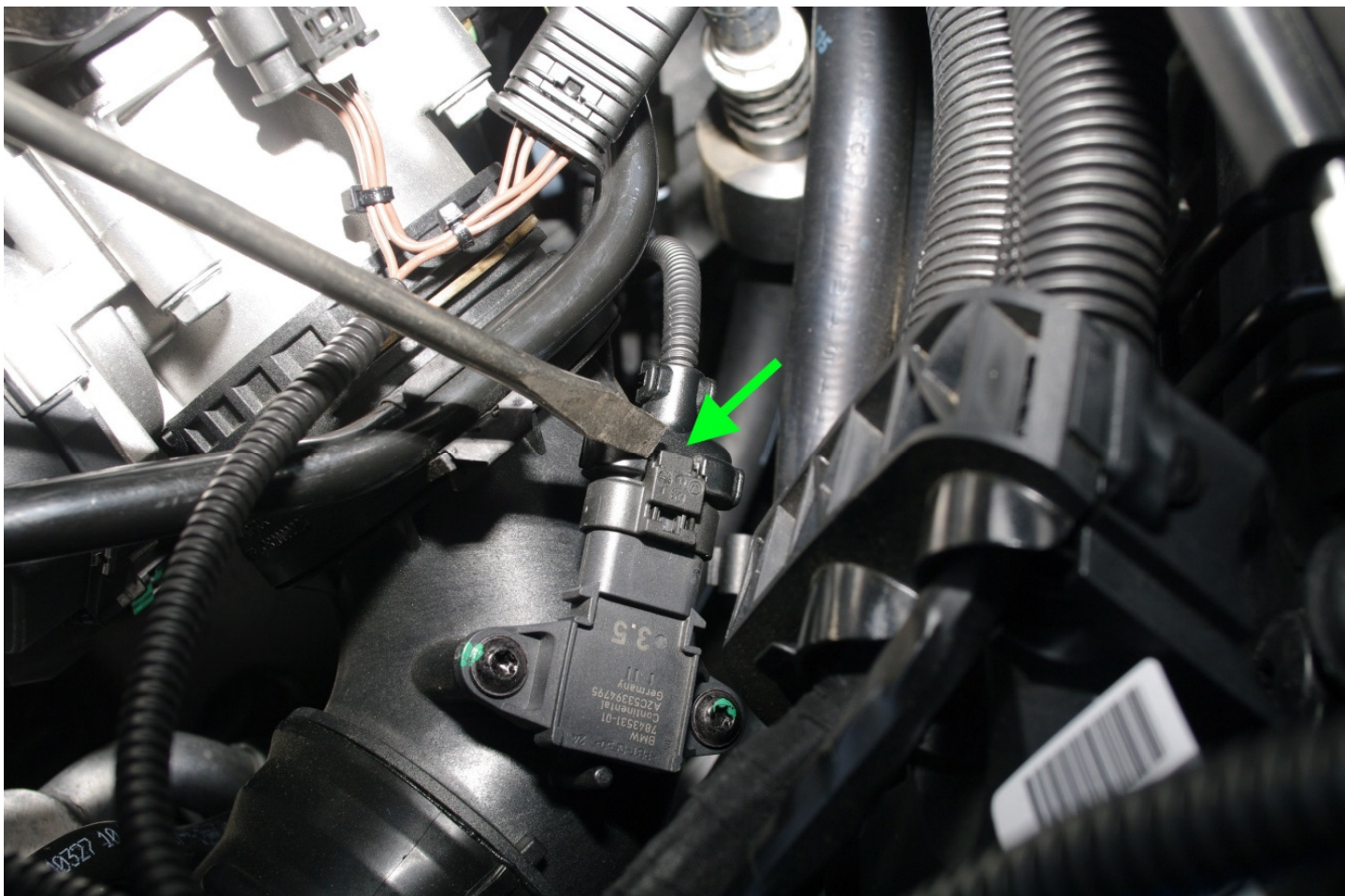
Before starting any electrical work always disconnect the negative battery terminal in the trunk. Failure to do so may result in ECU damage. Never disconnect the piggyback box, harness, or any wires while the battery is connected.

Open your hood and familiarize yourself with the location of the sensors you will be intercepting during the installation.



1) TMAP sensor, rainbow patch.

Locate the TMAP connector (#1) on the charge pipe.

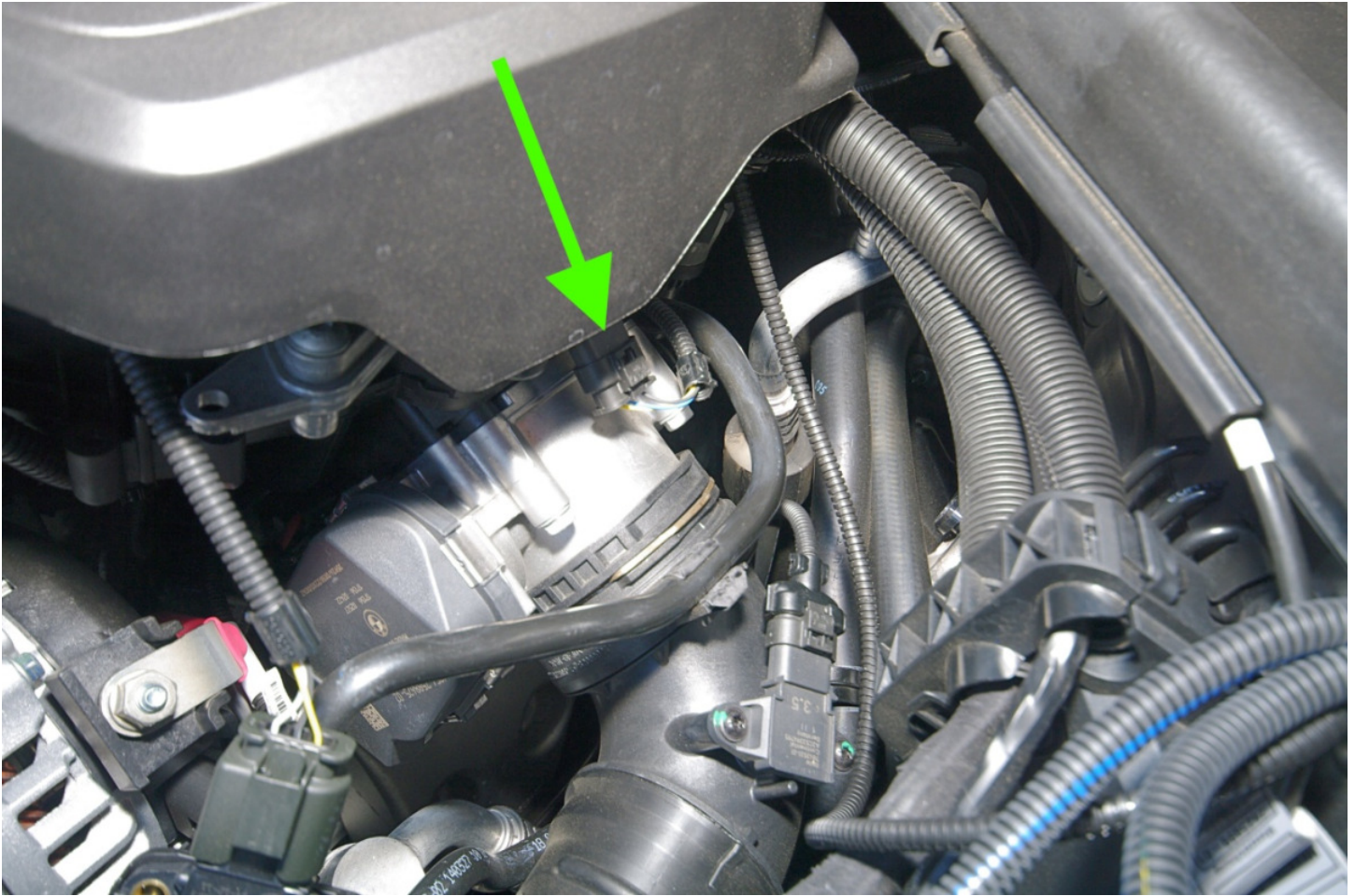


Push lightly on the release clip to release the connector from the sensor. Do not pull directly on the wires. If the connector is stuck using a small screwdriver to gently lift the tab up from the back side (closer to 3.5 numbering) can help.

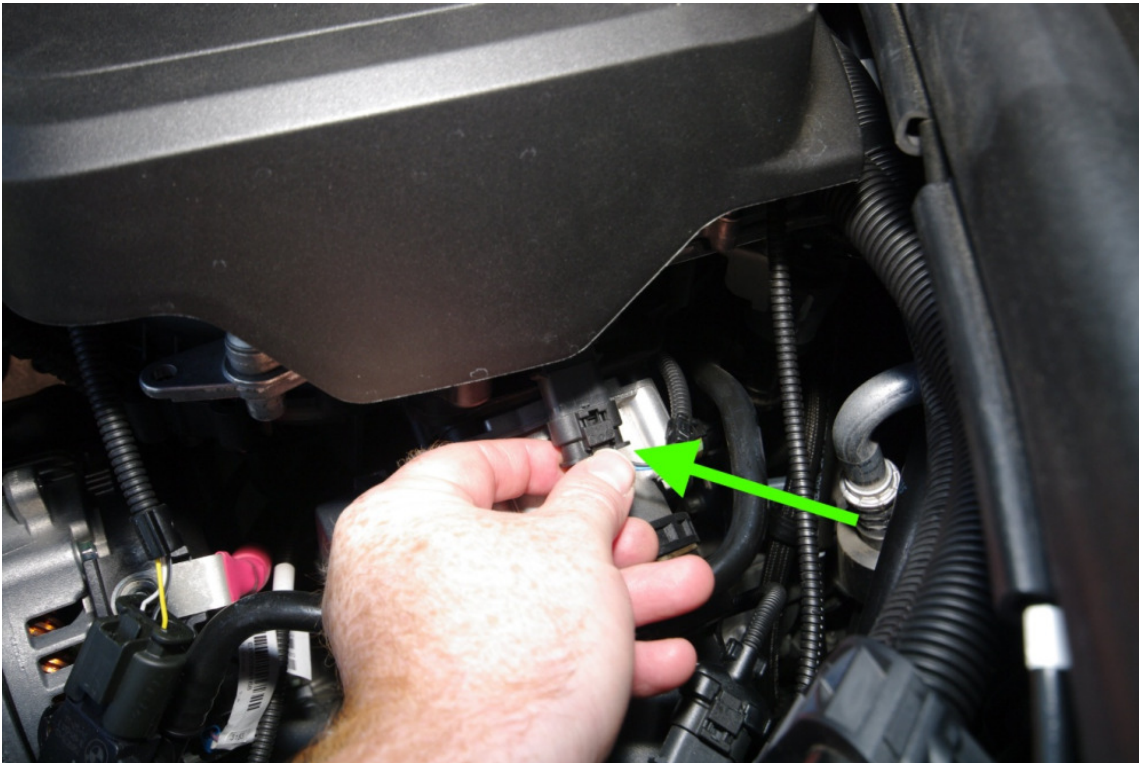
Plug the JB patch with rainbow wires in to the sensor and plug the OEM plug you just removed into the JB rainbow patch making a complete circuit.

2) MAP sensor, brown patch.

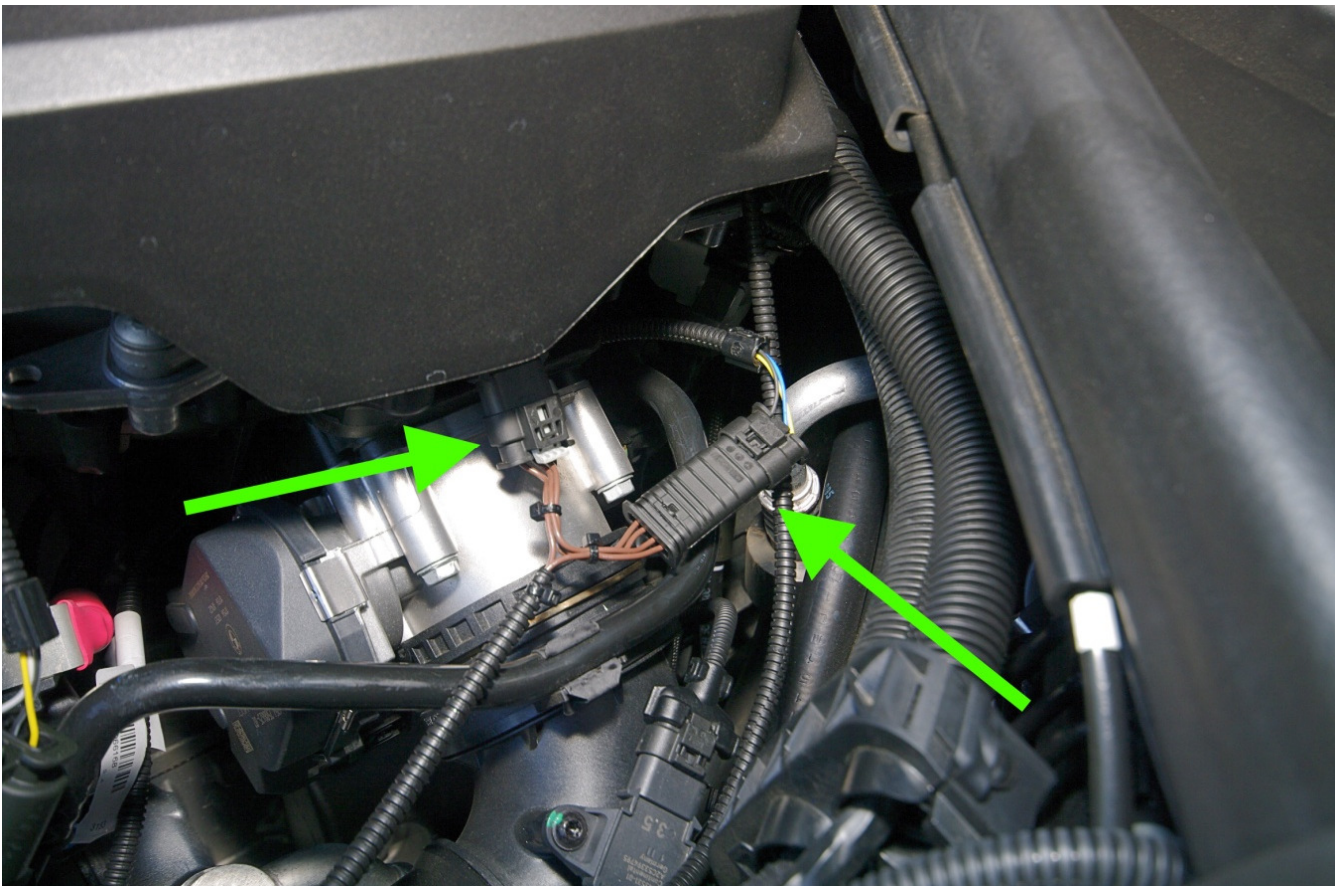
Locate the MAP Connector (#3) near the throttle body (green arrow).

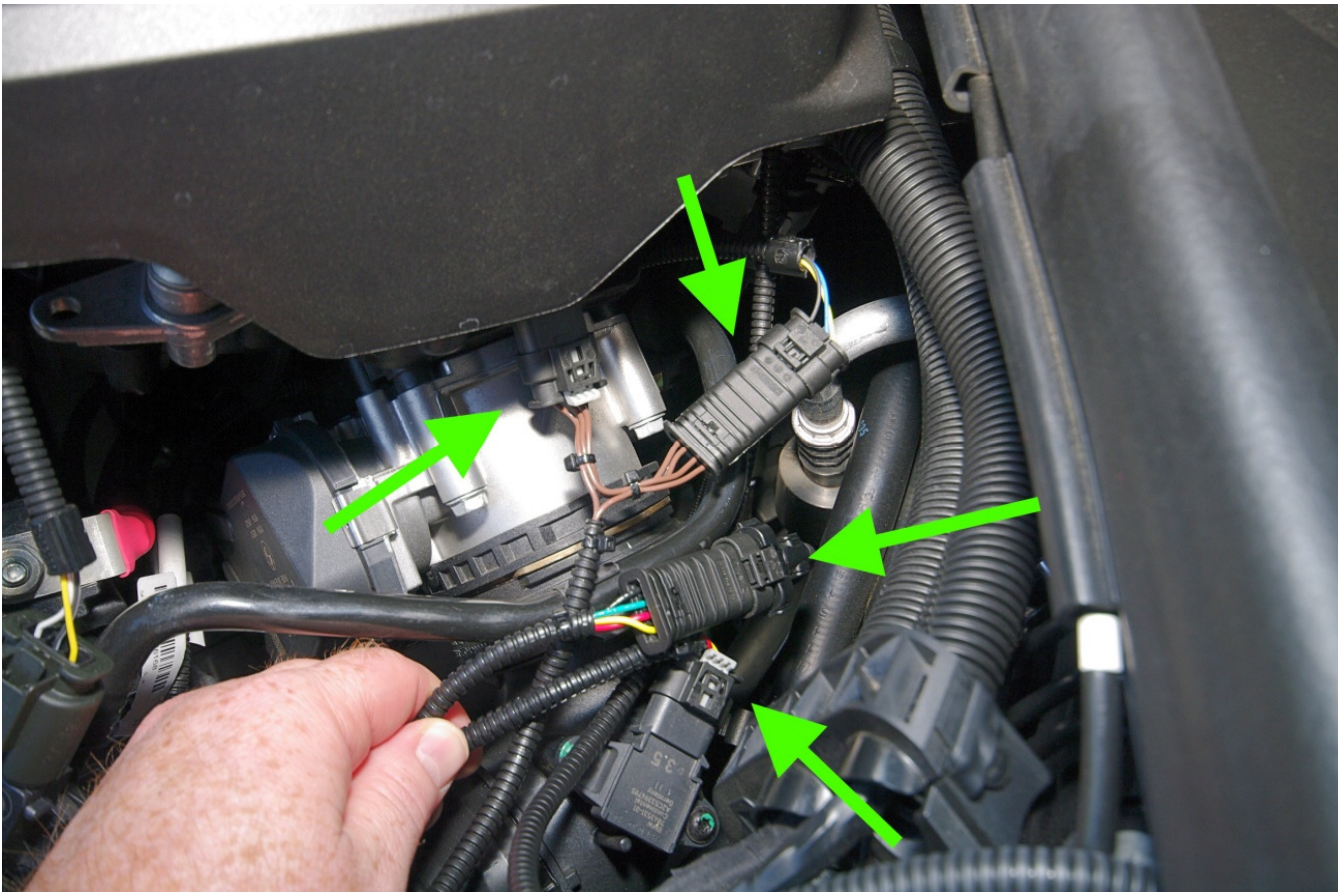


Press and release the clip as you did in the first step.



Once removed, locate the connector pair with brown wires on the JB harness and plug the small connector into the MAP sensor as shown. Connect the large connector from the harness to the factory harness connector as shown below. Please note the orientation of each plug.





3) MAF, Purple patch. Note, this patch is no longer used or included in harnesses. If you have an older harness with the purple patch you can cut it off the harness or tuck it out of the way.

4) Boost solenoid, blue patch, JB4 pneumatic solenoid systems only. This harness will be installed on any models that are equipped with a pneumatic solenoid. Models not equipped with a solenoid as shown in the photo will leave the blue patch tucked out of the way and skip to step 5. Generally models 2014 and newer will not use this connection.

If your vehicle looks like this,

Please continue.



If you are missing the solenoid you have an electronic wastegate (EWG) and will skip this step. The blue patch is not used for your model.

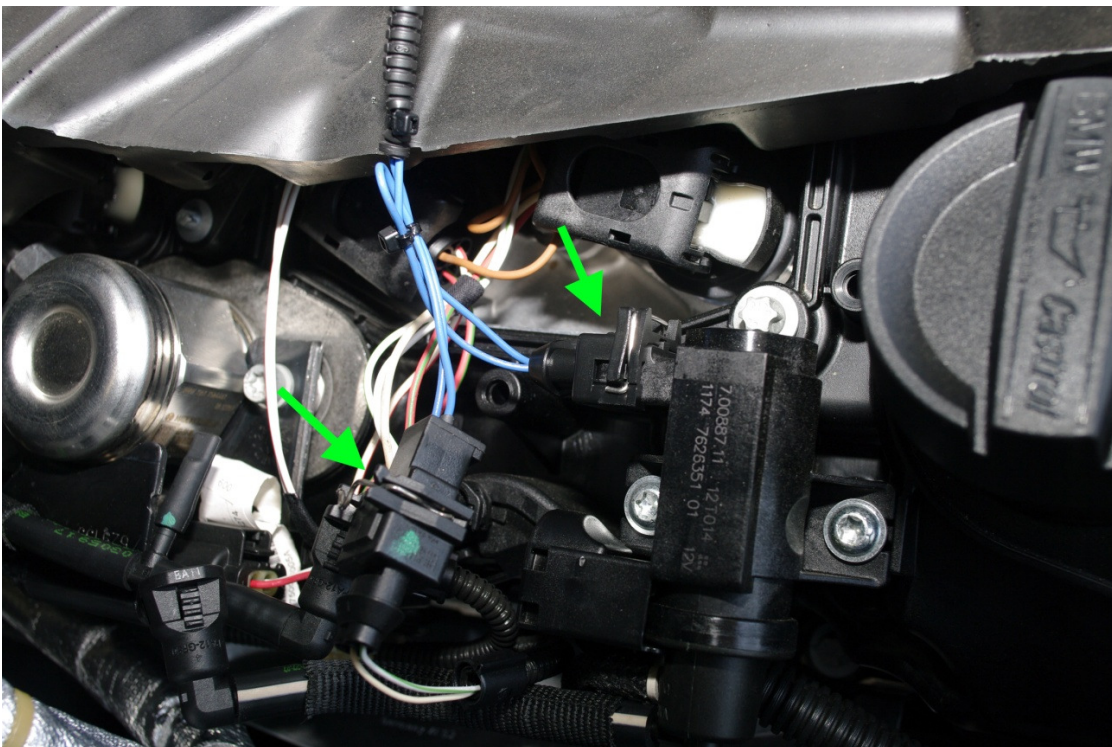
The solenoid is located under the engine cover. You'll lift it up to access the connection.



Push down on the metal retaining clip as shown and slide the connector back. Do not pull directly on the wires, make sure to pull on the connector.



Lay the JB harness over the engine and locate the connector pair with blue wires. Plug the female connector on the JB N20 Stage 1 harness over the factory connection as shown, making sure that the retaining clip clicks into place. Then, plug the factory harness connection you removed in the last step onto the male connector on the JB harness, making sure that the retaining clip clicks into place.



Now route the wire harness over the back of the engine cover area as shown below.



Newer JB4 harnesses also include a 3-position FLEX FUEL wire which generally only needs to be installed on 320i & 520i installations, or those who plan to use E85 mixtures down the road.



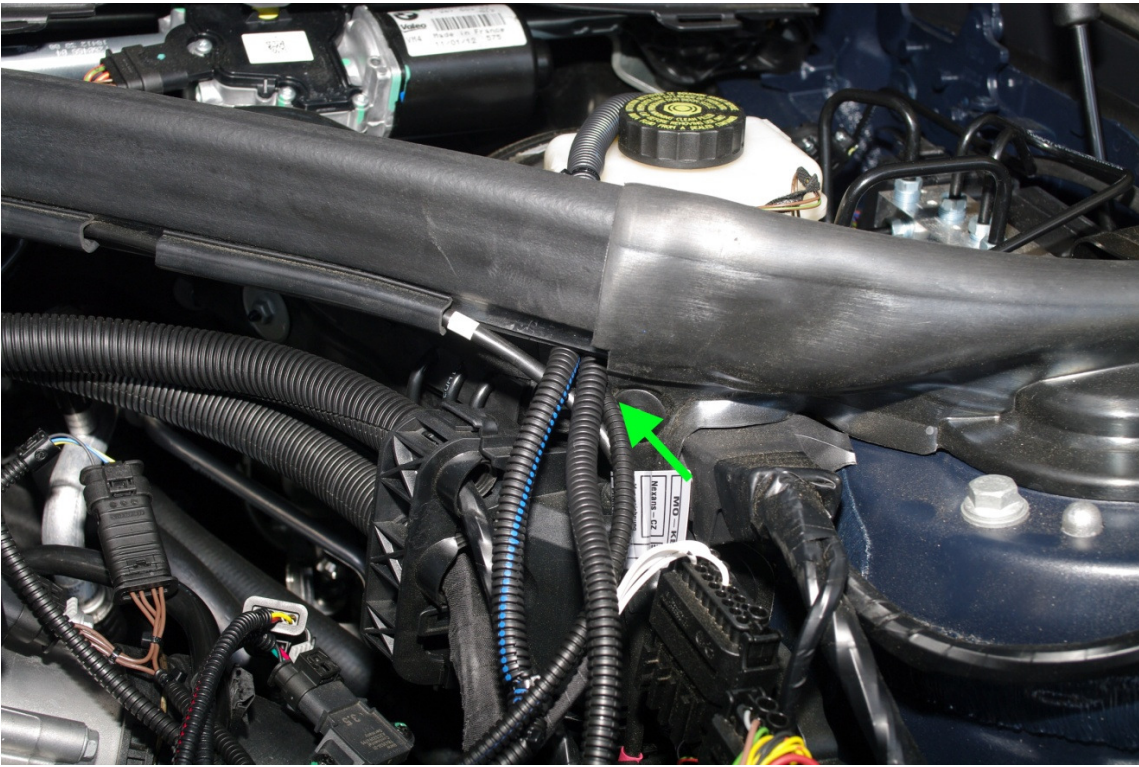
Step 5: Mounting the box. Now that we've connected the basic connections we need to place the box under the driver side plastic cover as shown. Locate the plastic cover over the brake booster as shown. Note the small ring near the side of the vehicle.



Pull up on the ring and pull the plastic cover forward to remove.

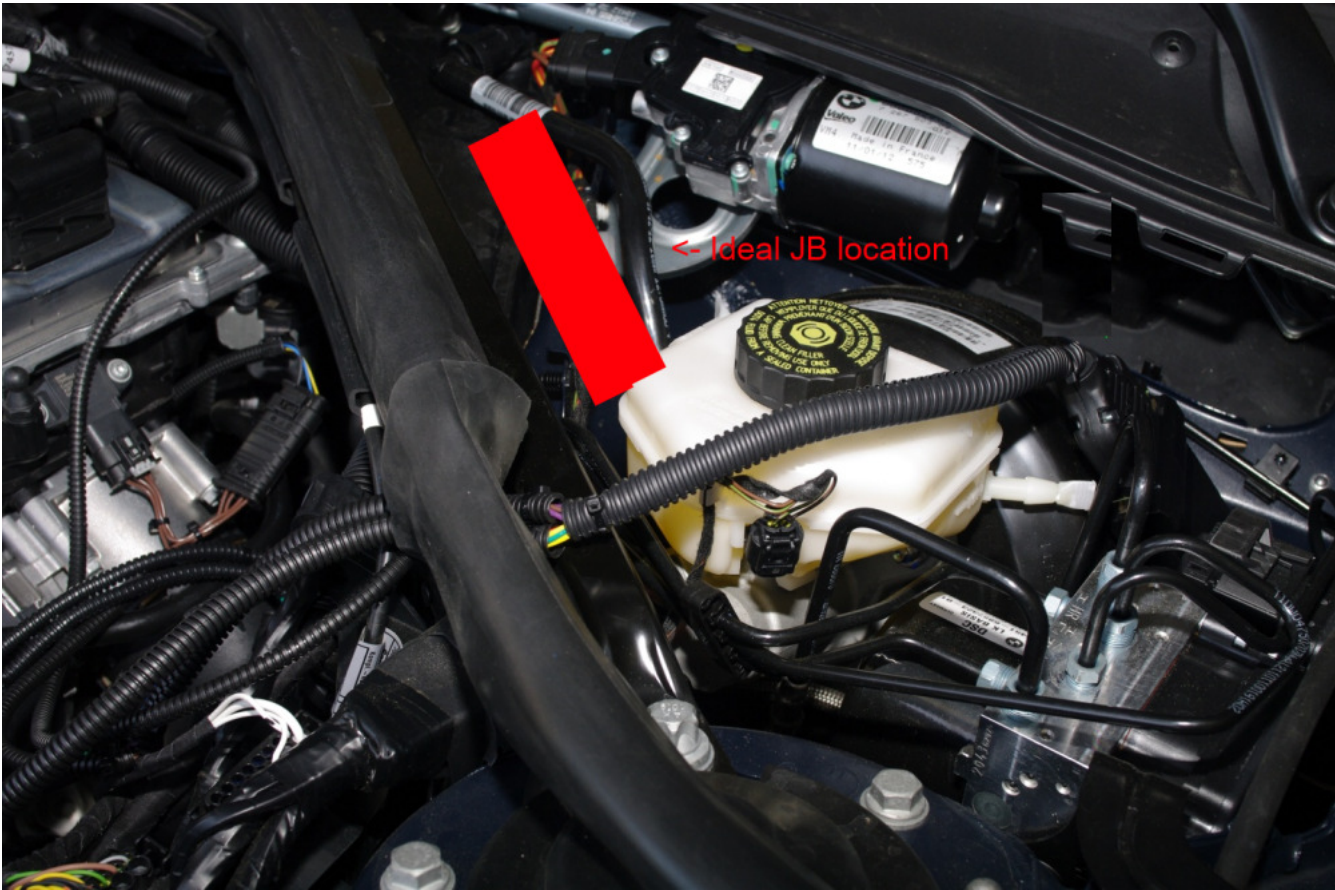


Now run the JB wire harness between the split in the weather seal and replace the weather seal as shown. The portion of the wire harness with the AMP cover on the connector should now be near the brake booster.



Find the JB control box and connect to the JB wire harness as shown, using a small screwdriver to secure the small screws as shown. If you have opted for the optional USB cable for future software updates you can connect that to the small connector at the opposite side of the control box at this time.

Route the JB harness and control box to a location that allows you to replace the cover. Note that the box is not water proof and should be positioned in such a way under the plastic cowl cover to keep it as dry as possible. Also take care to ensure it's not placed in the path of the windshield wiper assembly.

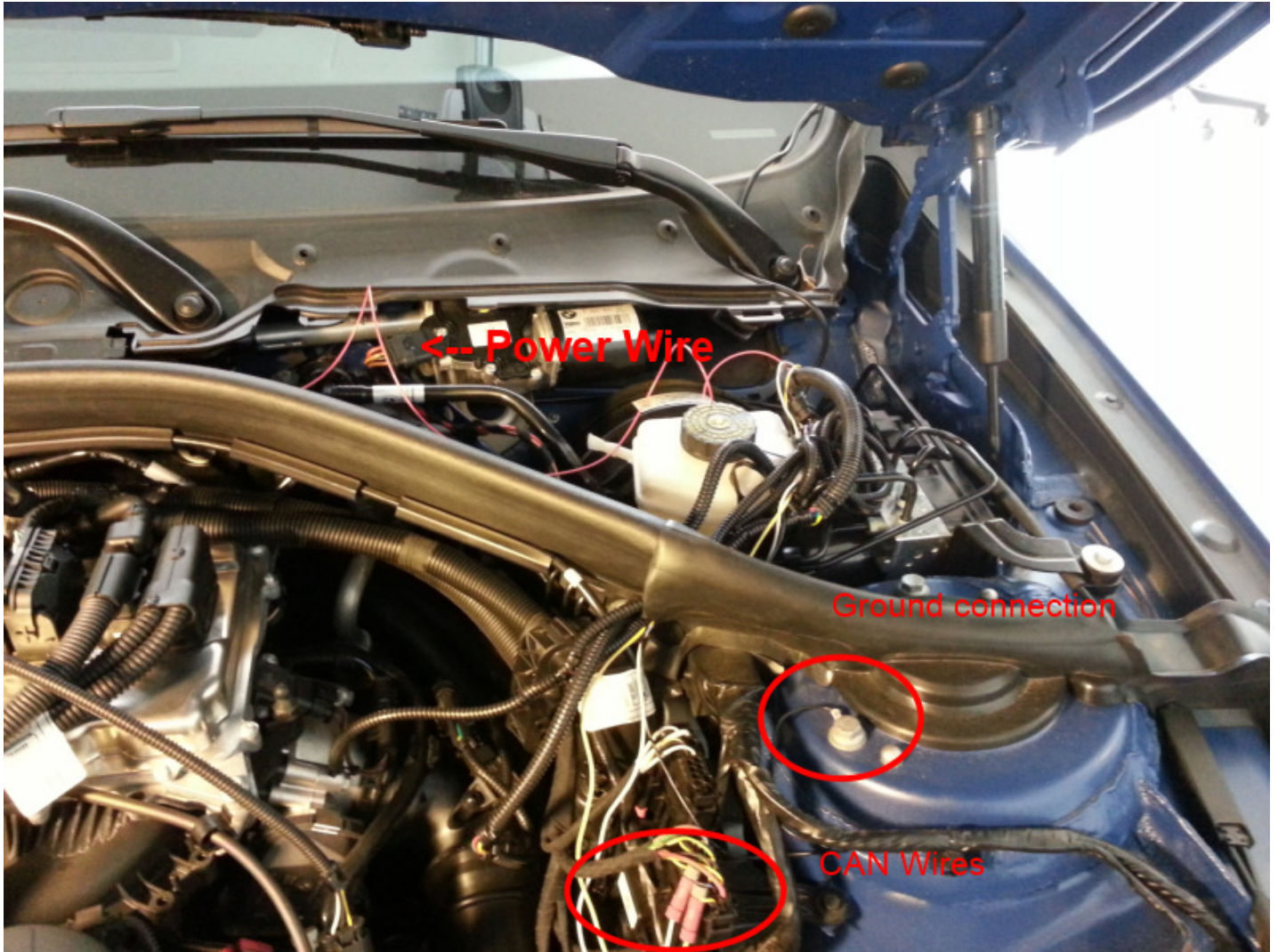


If you are installing Stage1 then skip to step 7. If this is a JB4 system then you must also install the power, ground, and CAN.

If you have an older Stage1 system that happens to have these extra wires, do not install them. Tape off each wire and tuck them out of the way.

Step 6: JB4 only wires. Red, black, green, and brown.

Note JB4 electronic wastegate (EWG) models do not have a separate power and ground wire. If your harness does not have these then skip the steps for the red and black wires below. JB4 Models also include an OBDII wire for CANbus which will be routed in to the cabin as shown.



The black wire is a chassis ground. Connect it to the shock tower using a 1/2" socket or other suitable chassis ground.

The red wire extends over to the passenger side and attaches to the power terminal under the red flip-top. You'll need a Torx-50 bit to loosen the terminal. The red wire should be routed under the plastic cowl covers so its out of sight.



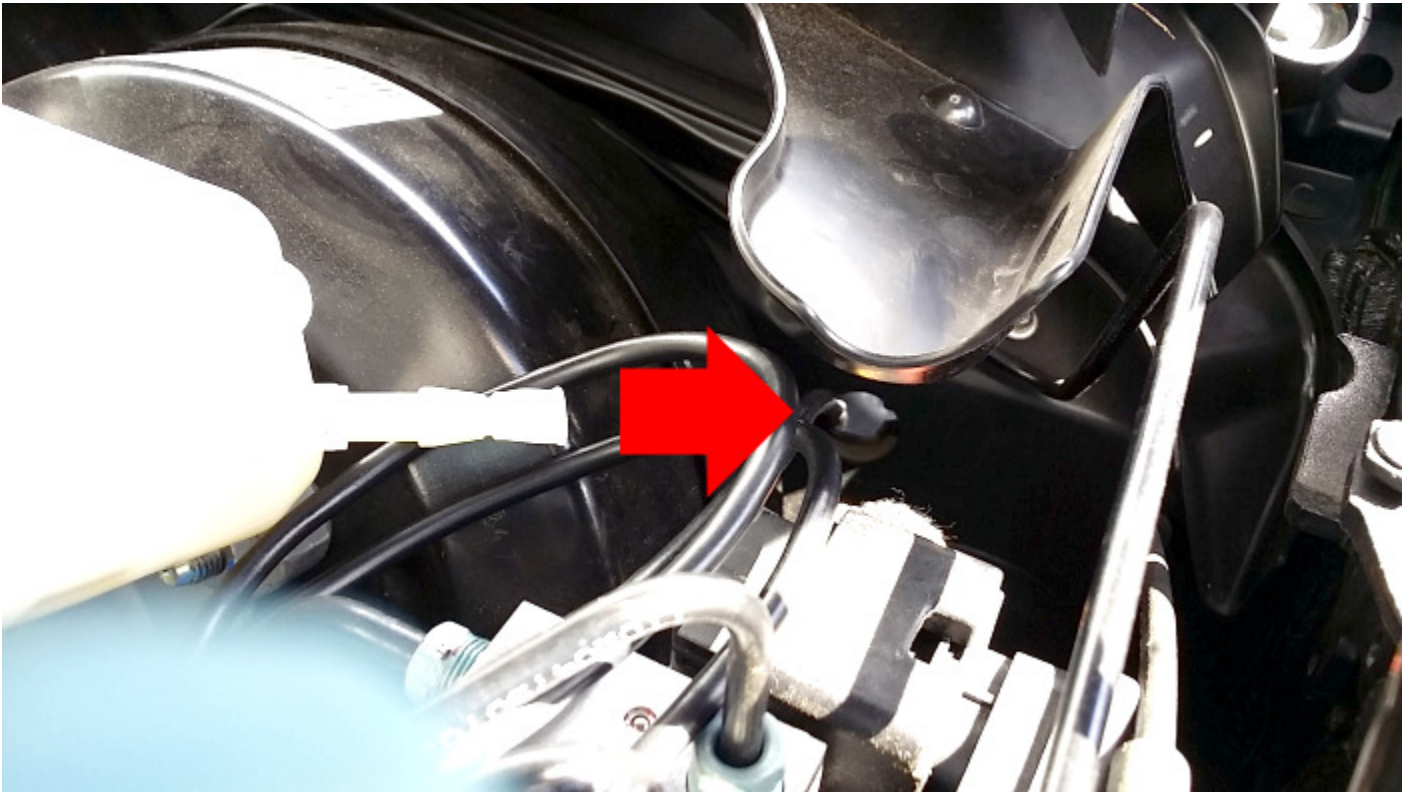
OBDII CANbus connection:



Remove the panel under the steering wheel by removing the 2x 10mm bolts, and if you need the room unplug the courtesy light and speaker connection so the panel can be moved out of the way all together.



Using a long screwdriver push in on the rubber firewall cap pushing it in to the interior compartment. You'll see it fall down by the pedals and can put it away for safe keeping. Feed the OBDII wire from the interior through the hole to the engine compartment. Note 535 models have a foam cover that is pulled off to access the rubber plug.



Note those with a manual transmission have the clutch line run through this same hole. You'll need use a coat hanger to pull CANbus wire around the grommet. Alternatively you can use cut a small slide in the grommet to facilitate feeding the CANbus wire through.



Connect the OBDII cable to the JB4 harness by plugging in the connector.

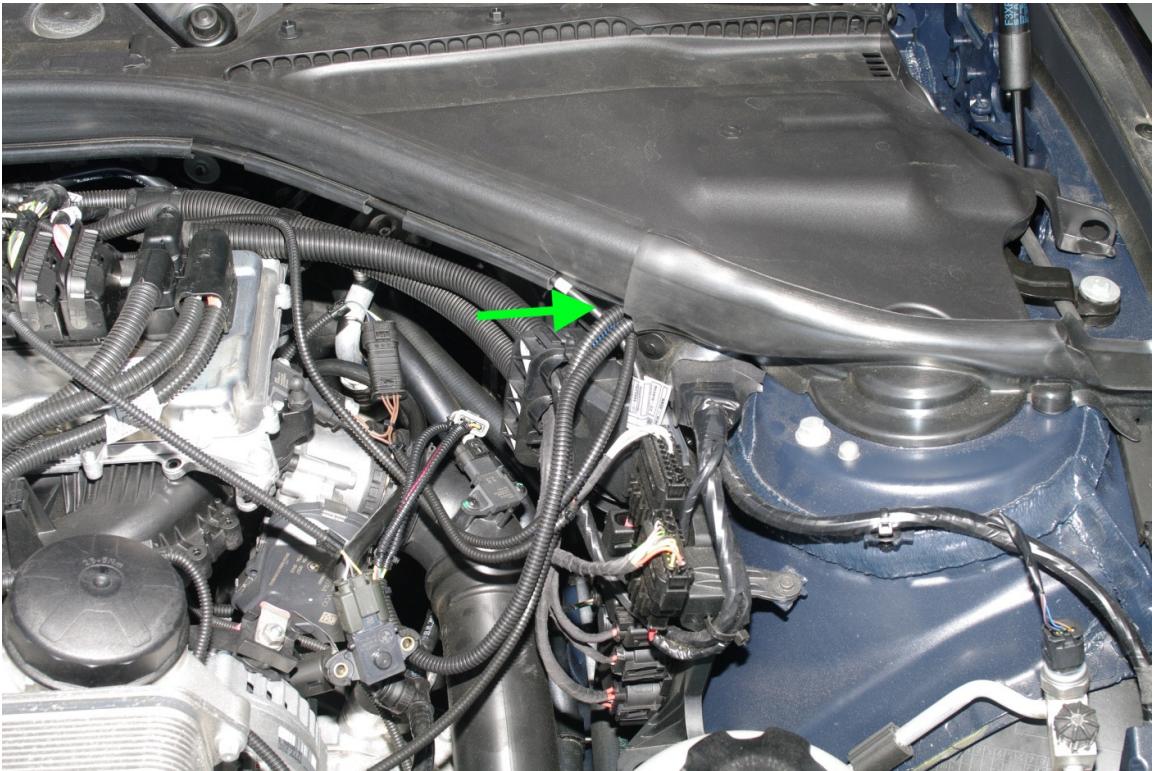


Reinstall bottom cover and route CANbus wire behind it for a clean look.



7. Wrapping up.

Finally replace the plastic cover over the brake booster area as shown. Note the position of the harness near the weather seal.



Before closing the hood, reconnect your negative battery cable and start the car. If you receive a CEL (check engine light, picture of a yellow engine on the instrument display), double check each connection and the orientation of the connectors. If you're unable to see any problems, please take photos of the install, including each connector and email to jon@burgertuning.com for troubleshooting support.

Assuming the car starts and idles without a CEL, you can close the hood and trunk and your installation is complete.

Settings:

Stage1: This system is a single map and no software changes are required for any models.

JB4: This system is a multiple map system and the user can select between map (disabled) and performance maps using the volume control. Refer to the appropriate video on N54tech for specific map switch directions.

Software the JB4 system as well as any additional mapping information is posted here. For any additional questions on setup and settings please post in this thread:

<http://www.n54tech.com/forums/showthread.php?t=15536>