



Kia / Hyundai Turbo JB4

Last Updated: 6-14-2020

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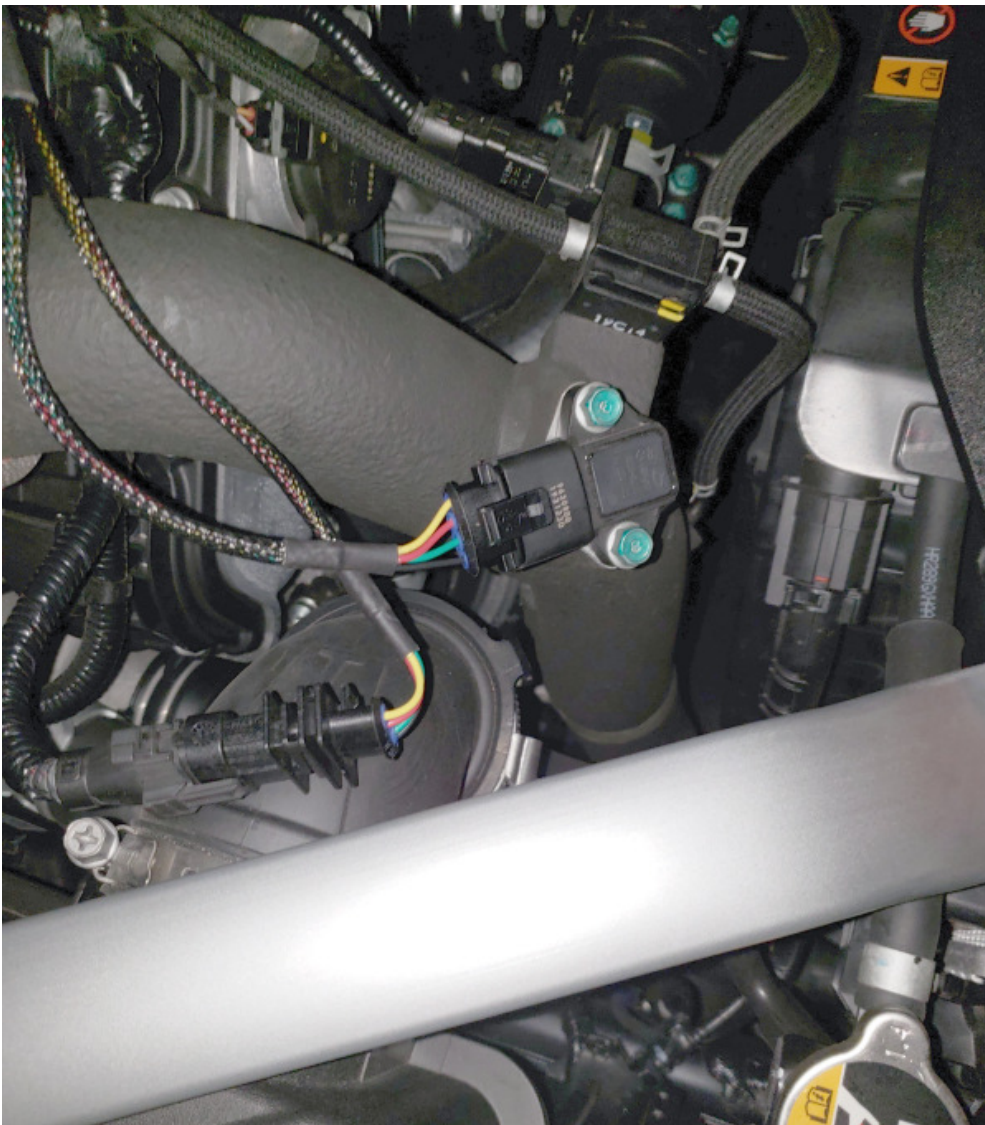


OPTIONAL JB4 APP SHOWN

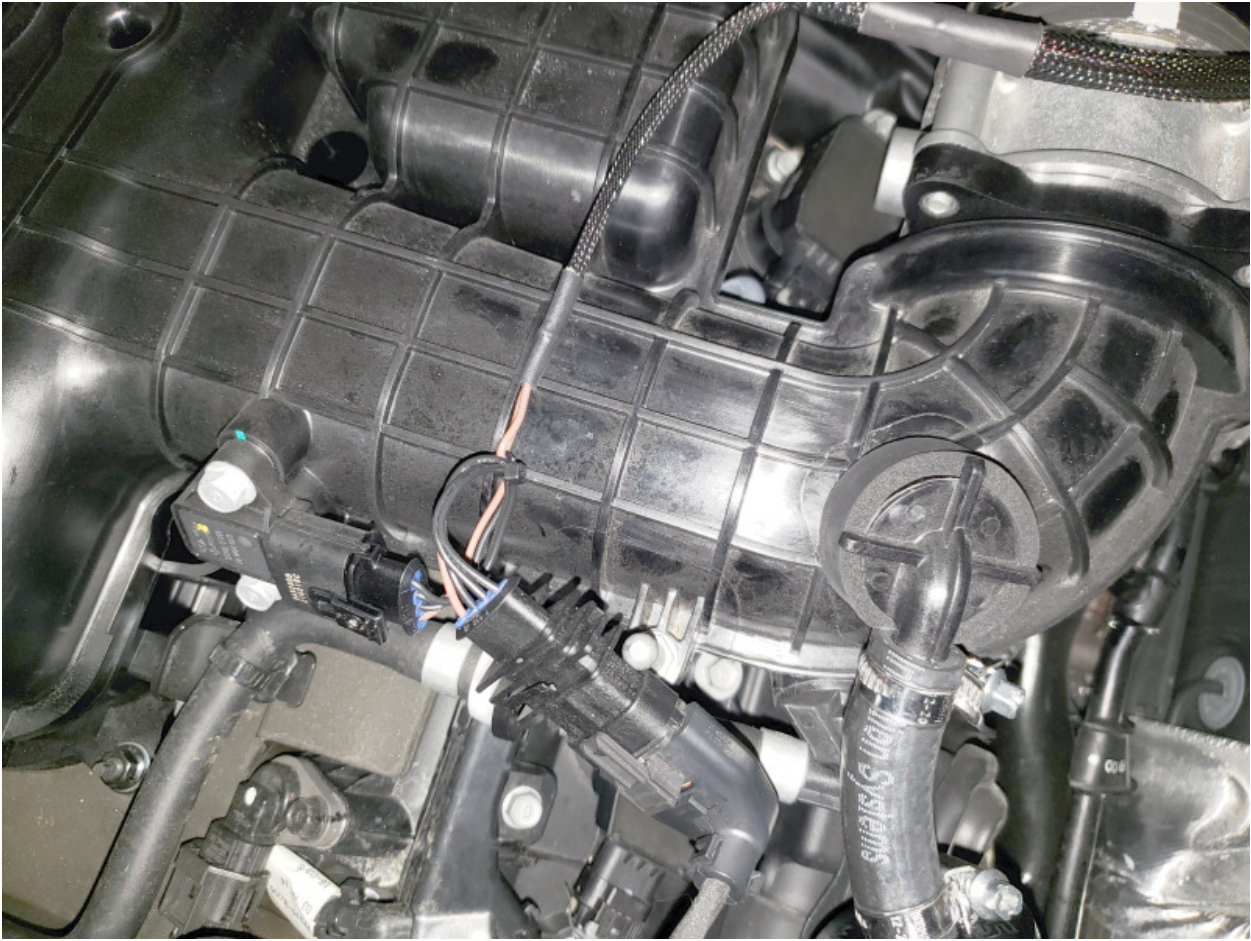
Open the hood, lock the doors, place your key far enough from the car not to wake it up, and wait 5 min for the vehicles computer to go to sleep.

The JB4 harness has two similar looking connectors on it for. The one with the rainbow colored wires will attach to the TMAP sensor in the front of the engine, while the one with the brown wires will attach to the MAP sensor on the back of the intake manifold. You'll unplug the factory sensor, plug the JB4 harness plug in, and plug the factory plug back in to the matching JB4 harness plug completing the loop. This guide features photos for the 3.3L model but the 2L and 1.6L models are essentially the same with the two MAP sensors being located in slightly different locations under the hood. At the bottom of this guide are 1.6L specific photos from the Kia Forte for additional reference.

Attach the rainbow connection to the TMAP sensor on the charge piping:



Attach the brown connection to the MAP sensor on the intake manifold:

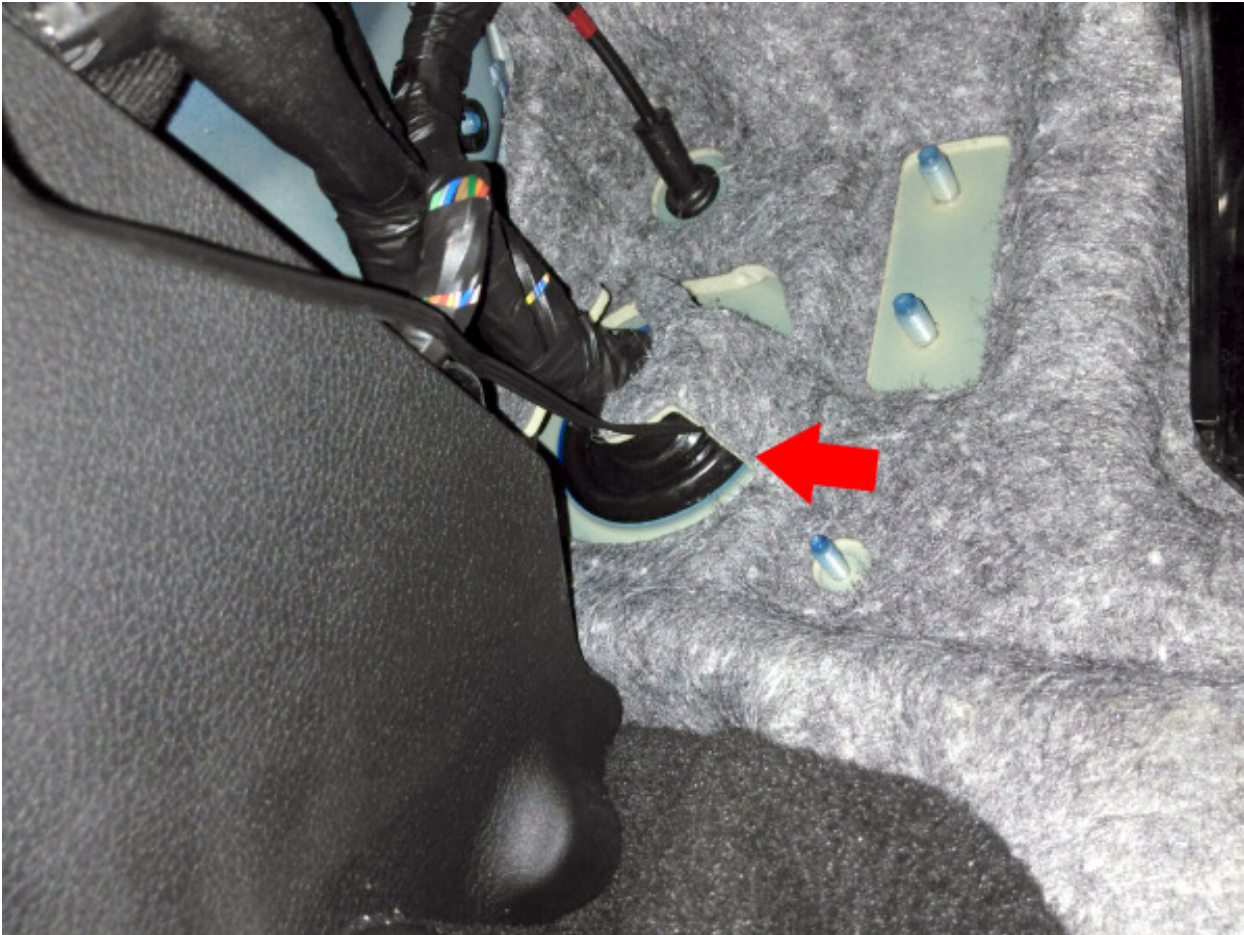


Finally, route the cables and place the control box as shown. Shown with optional JB4 Mobile adapter attached. Note attaching JB4 mobile to the metal enclosure may reduce it's range so best to leave it not attached.



The optional OBDII cable unlocks full CANbus control for the most advanced tuning and logging features and is strongly suggested. The cable can be routed the “quick” way through the door jamb or the “clean” way through the firewall detailed below.

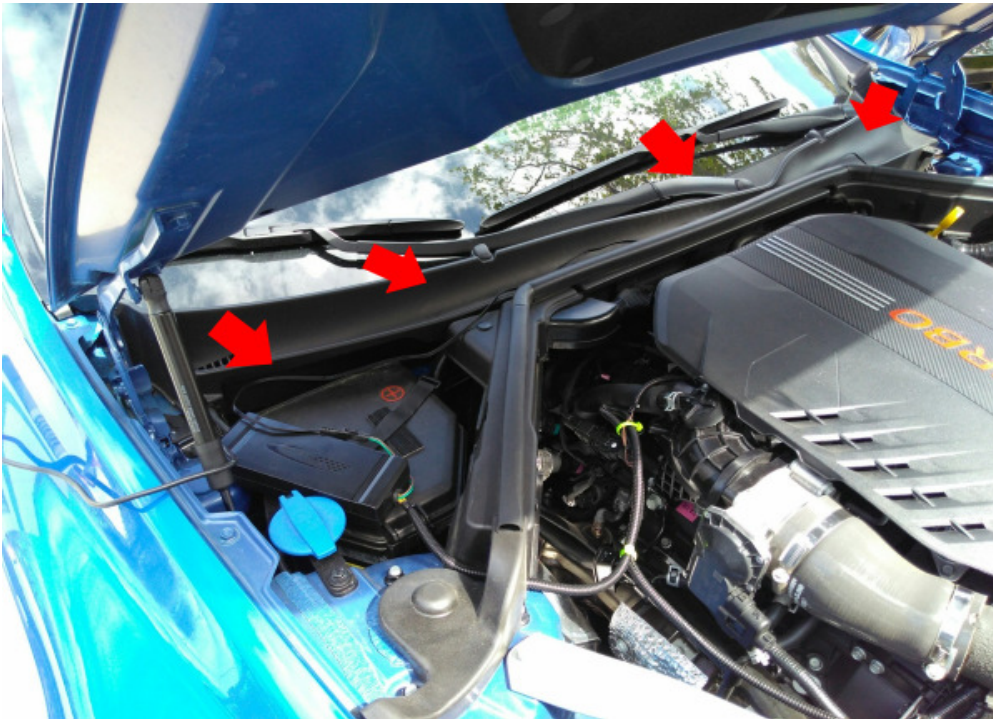
Plug the cable in to the OBDII port and using a screwdriver slightly push out the grommet as shown. Pass the wire in to the engine bay, and then push the grommet back in from the engine side.



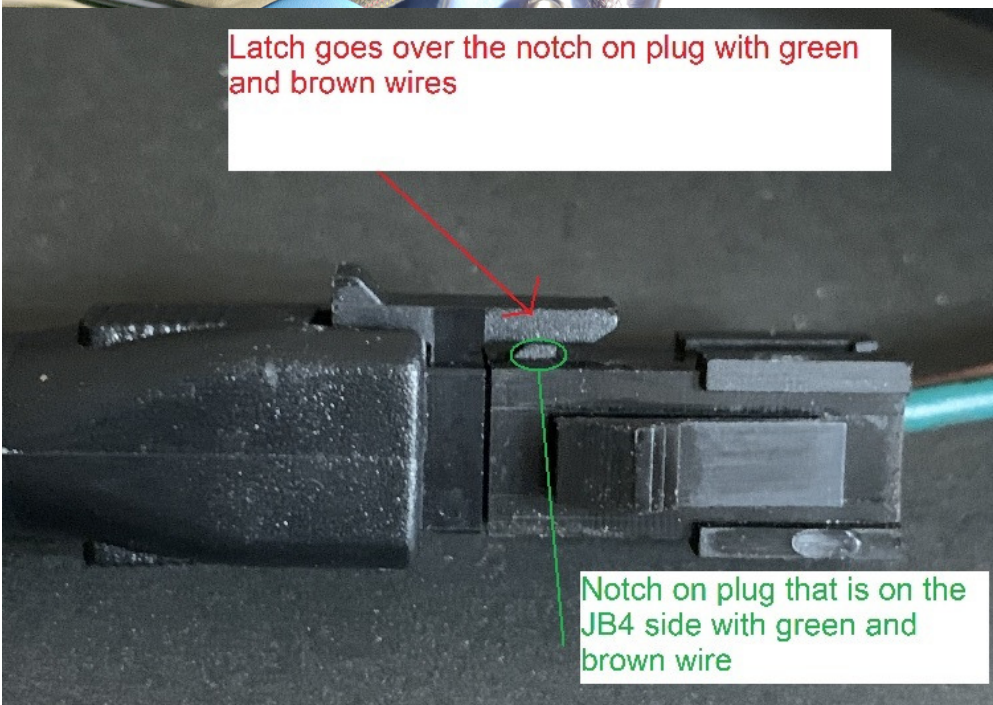
Remove the brake booster cover by popping up the 3 plastic locks that hold it down, reach down and pull the OBDII wire up.



Route the cable across the cowl tucking it under the rubber grommet and plug it in to the 2 position matching connector near the JB4 control box. The latch on the connector must line up with the clip for CANbus to operate.



Latch goes over the notch on plug with green and brown wires

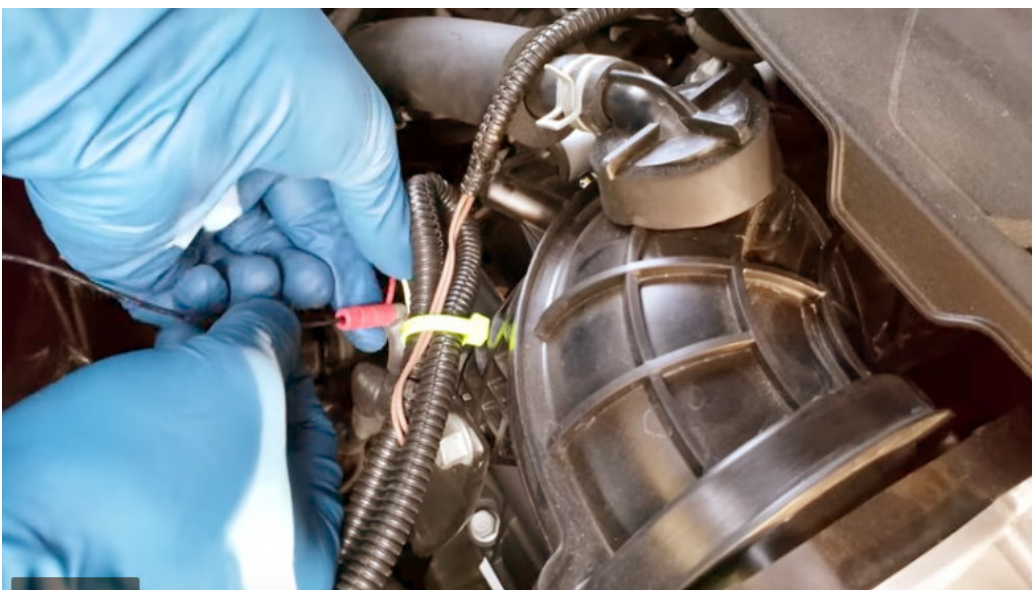
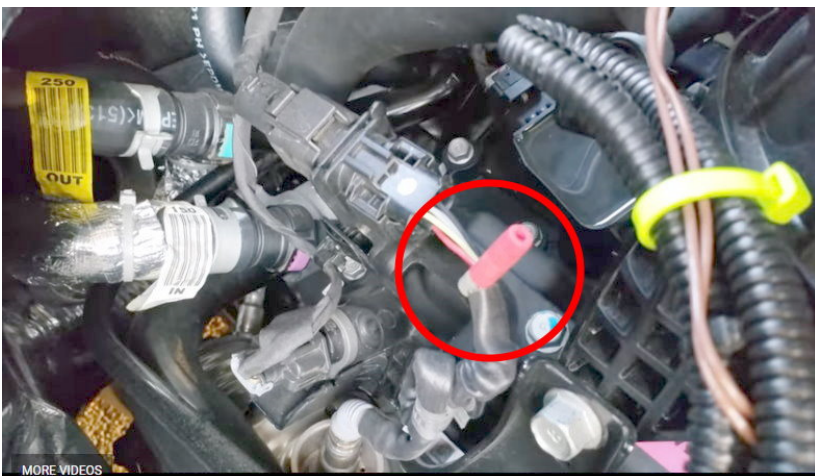


Notch on plug that is on the JB4 side with green and brown wire

The JB4 includes optional black fuel control wires giving the JB4 the ability to directly change the air/fuel ratio. The factory tuning runs in the 10:1 range and leaning that out to 11.5:1 has proven to be worth significant power at higher engine speed. Note these are preinstalled on the JB4 harness now so only need to be attached to the o2 sensor signal wire to enable using the included posi-taps or our optional fuel harness adapters.

No setting changes are needed to enable the fuel control wires.

For 3.3L they attach to the primary o2 sensor signal RED wire. For 2L applications only the longer wire is used and it goes to the primary o2 sensor signal WHITE wire. For 1.6L applications it attaches to the BLUE wire. For those using the optional harness adapters the 3.3L signal wire is also RED for your convenience. There is a video posted in the main support thread linked below showing you how to attach the posi-taps. For 2L & 1.6L models this wire connection is mainly intended for those who plan to also use E85 mixtures and can be skipped initially.



If you've purchased the optional JB4 mobile adapter open the enclosure and plug the adapter into the JB4 board directly as shown. When closing the enclosure ensure the control board is properly lined up and only tighten down screws once the case closes smoothly to avoid damaging the JB4 board. Note some older JB4 mobile adapters have a separate blue wire which will need to be attached to the JB4 harness via a posi-tap, refer to the video on the JB4 Mobile adapter page for additional directions.

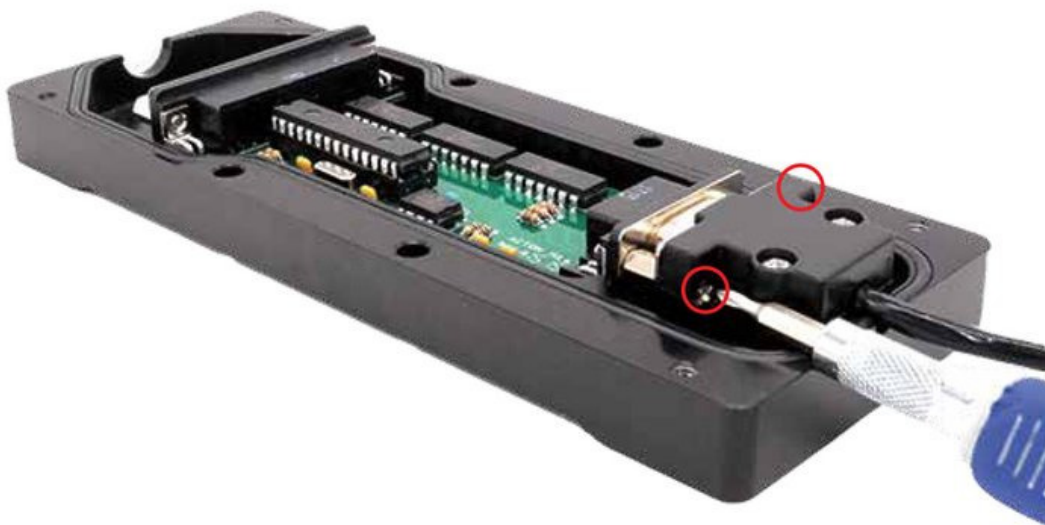
JB4 Connect Kit (Pinned Power) Install Guide

04-13-2020

1) Open the JB4 enclosure.



2) Install the DB9 connector and ensure both screws are secure.



Reinstall the engine cover and installation is complete!

The JB4 comes preset to Map 1 which runs approximately 4psi over stock peak tapering to 2psi over stock at redline.

Maps can be changed using the JB4 Wireless Mobile Connect Kit or BMS Data Cable to adjust boost levels, record data logs, read/delete fault codes, and load free firmware updates.

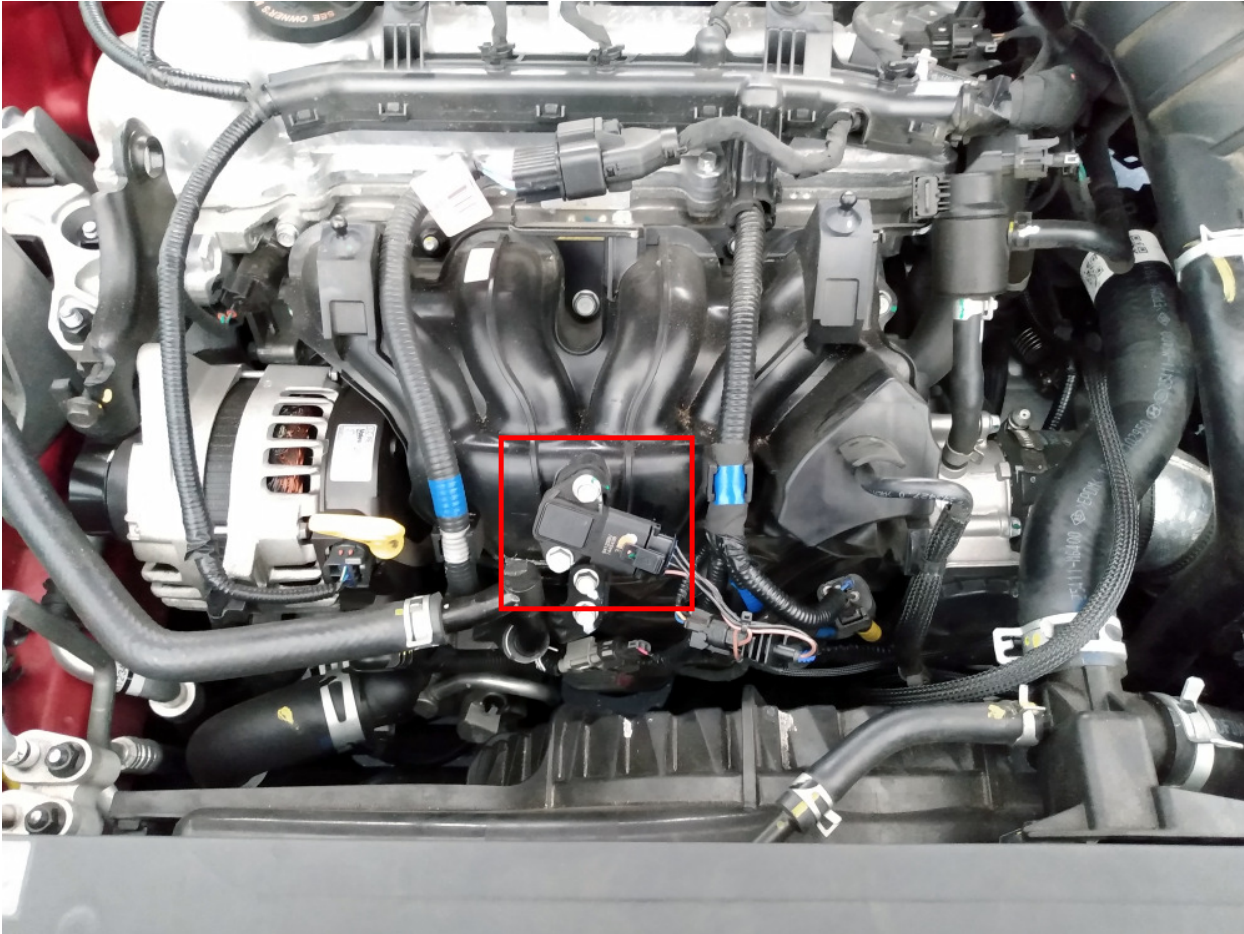
Refer to the link below for the full map guide, software, firmware updates, how to videos, and tuning details.

<http://www.n54tech.com/forums/showthread.php?t=52020>

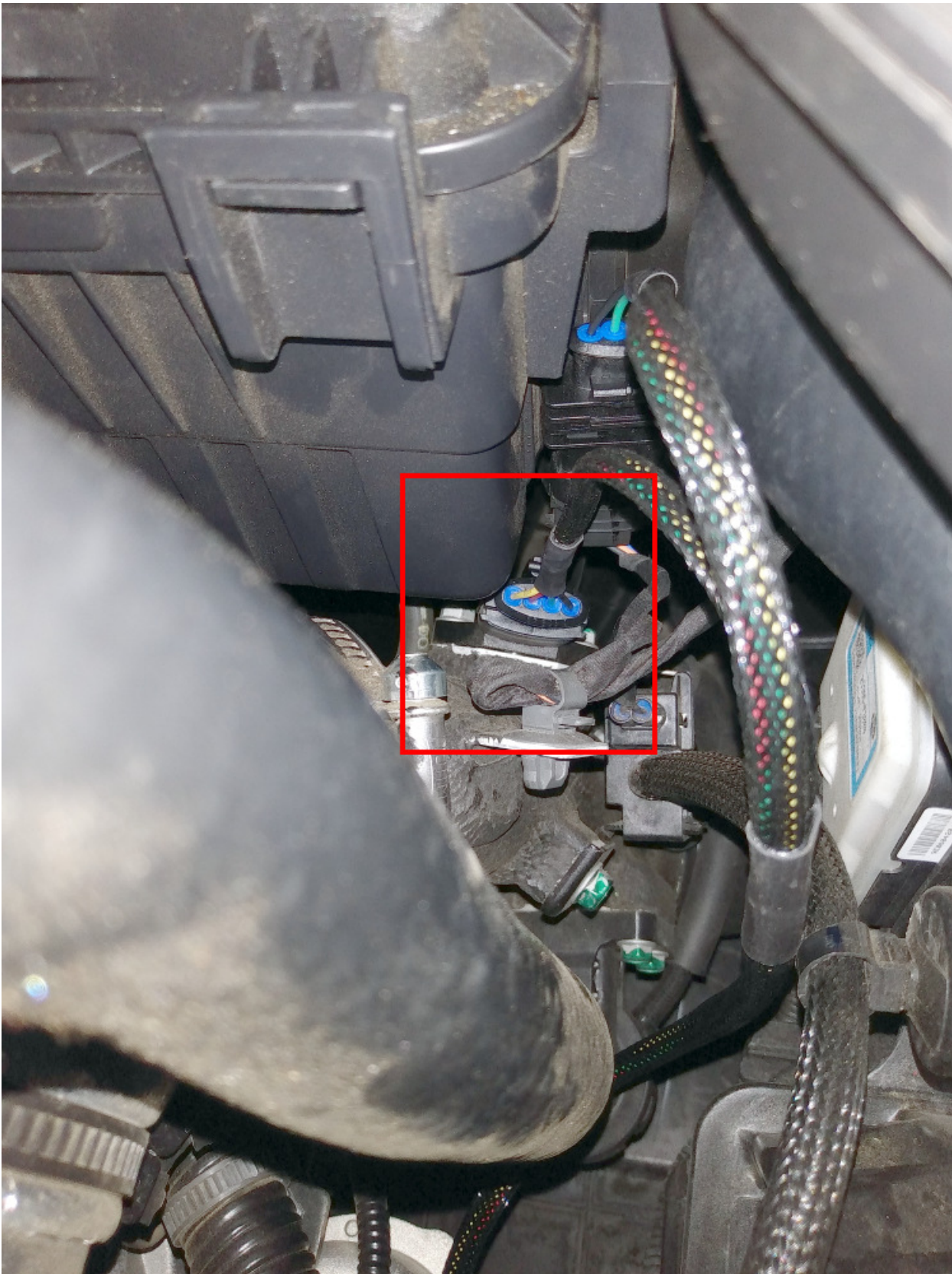
Kia Forte Supplemental Photos

These reference photos are specifically from a Kia Forte and mirror the general installation directions above.

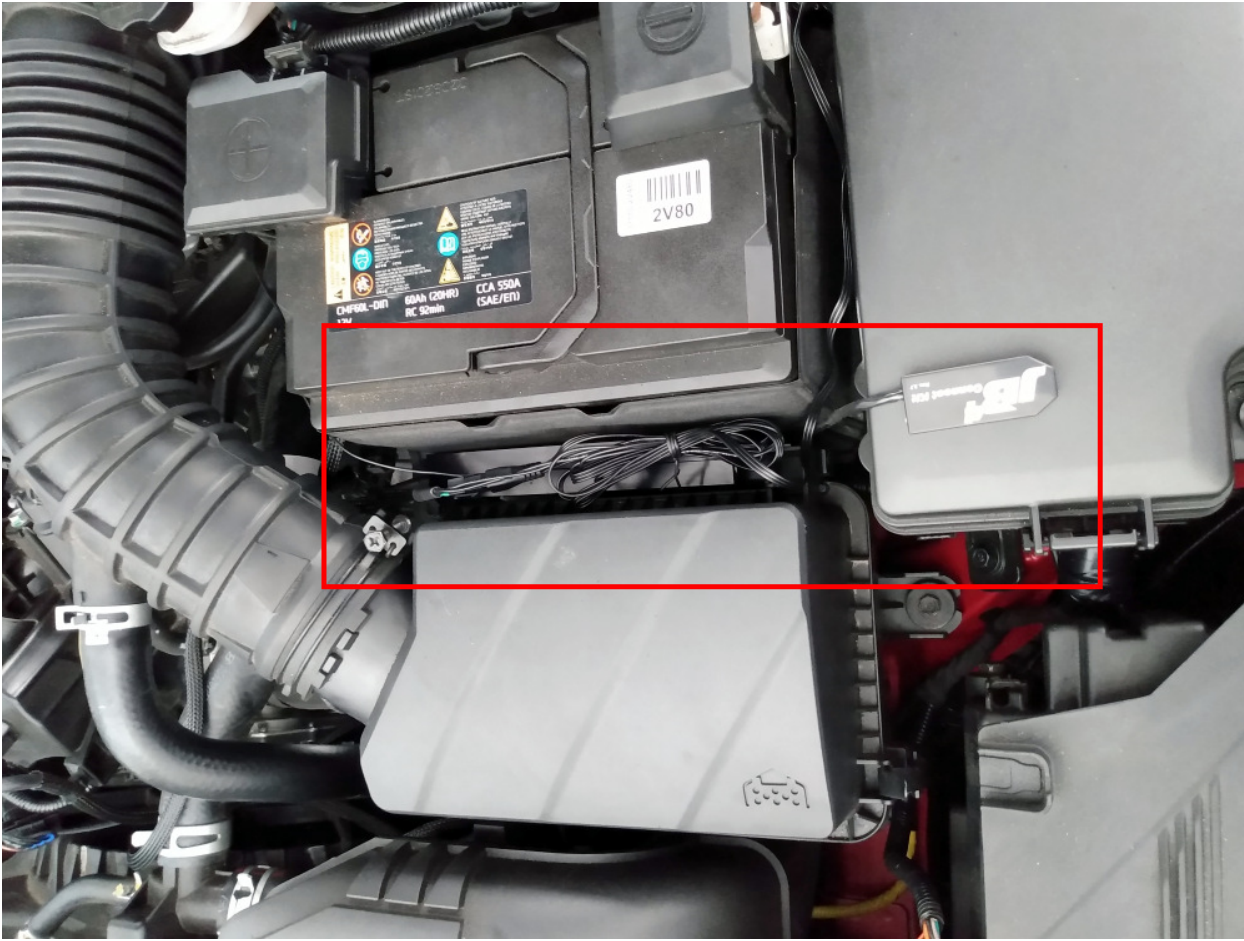
MAP sensor placement, brown JB4 patch:



MAP sensor placement, yellow/red/black/green JB4 harness. Note you may need to lift up airbox to reach this connection.



Suggested JB4 system placement between battery and airbox



General location of the o2 sensor harness for the optional fuel control wire. Generally only installed on the 1.6L if you're planning on using E85 fuel, for pump fuels no need to connect it. Note the longer of the two fuel wires is used, the primary o2 sensor is the black lower o2 sensor harness, and the tap attaches to the BLUE o2 sensor signal wire. If using the BMS fuel adapter the normal RED jumper wire in the BMS adapter is used. To access this area you may need to remove the inlet tube which is easily done.

