



## BMS F Series N55 JB4 Install Guide

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Optional JB4 App Shown

**When working with live wires ALWAYS disconnect the negative battery terminal in the trunk first. Do not attempt to install the tuner, connect the tuner box to the harness, or otherwise work on the vehicles electrical system with the battery connected. Doing this may result in a damaging voltage spike being sent to the DME.**

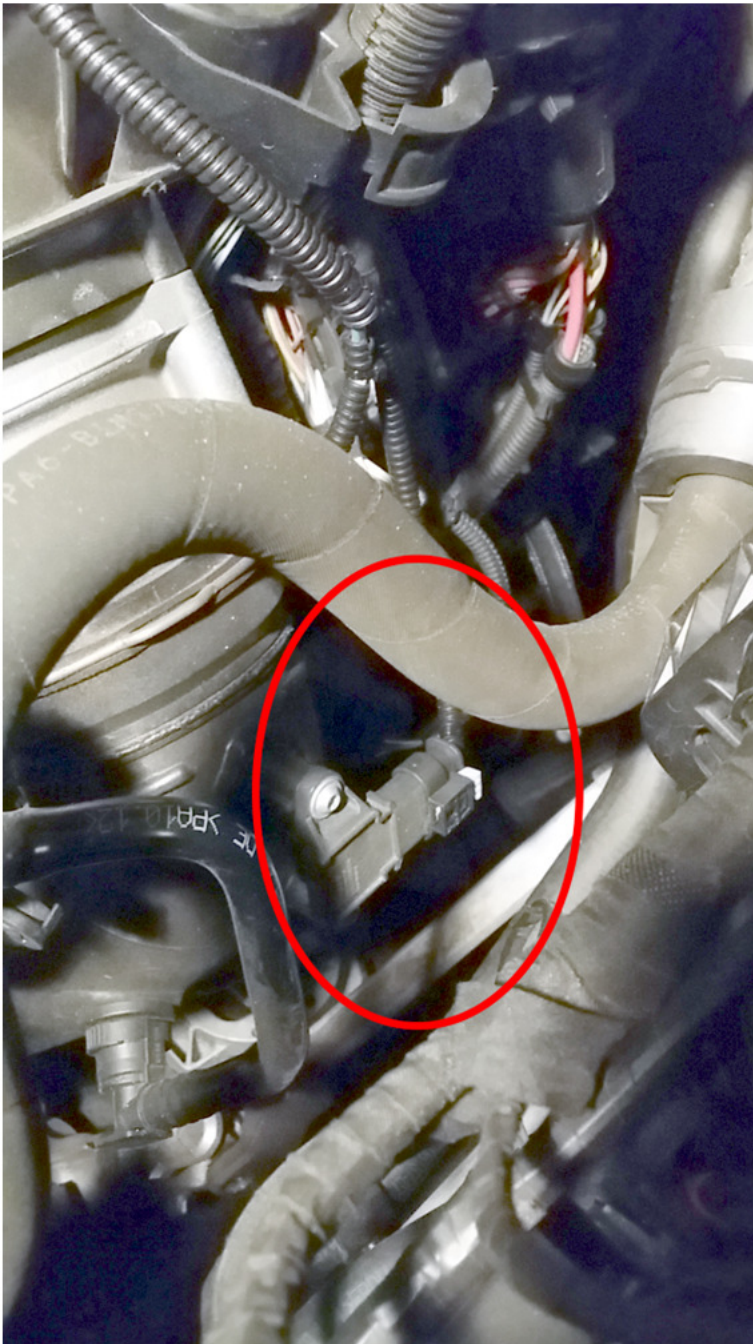
**Also be very careful when working with the BMS USB cable as it sits close to the battery rail which is a live +12v connection. Allowing the USB cable to touch the +12v connection MAY damage the JB4 and MAY damage the TMAP sensor wiring requiring the ground bypass at the bottom of the guide to be performed. Wrapping a piece of cloth tape over the battery rail connection and/or USB connection will help prevent accidental damage.**

1) Remove the plastic engine cover. The cover simply lifts off. Also remove the drive & passenger side cowl covers which are secured by 3 10mm plastic release bolts. Turning the bolts 90 degrees each will release the tab and allow you to pull the cover off.

2) The harness is divided in to wire loops each with its own wire color which will be routed to a specific sensor on the vehicle. In addition there is a pair of green and brown CAN wires that will connect to the CANbus using the included OBDII adapter. Pneumatic wastegates models also include blue solenoid patch, power wire, and ground wire. EWG models do not have these three connections.

3) TMAP sensor, rainbow patch:

The TMAP sensor is located on the driver side of the engine bay, on the charge pipe leading in to the throttle body. Disconnect the TMAP sensor plug and plug it in to the JB4 female rainbow connection. Plug the male rainbow connection in to the TMAP sensor completing the loop. If you have difficulty removing this sensor plug the JB4 harness male and female in to each other and practice on how to remove them. Using a small screwdriver from the back side of the clip sometimes makes removal much easier.

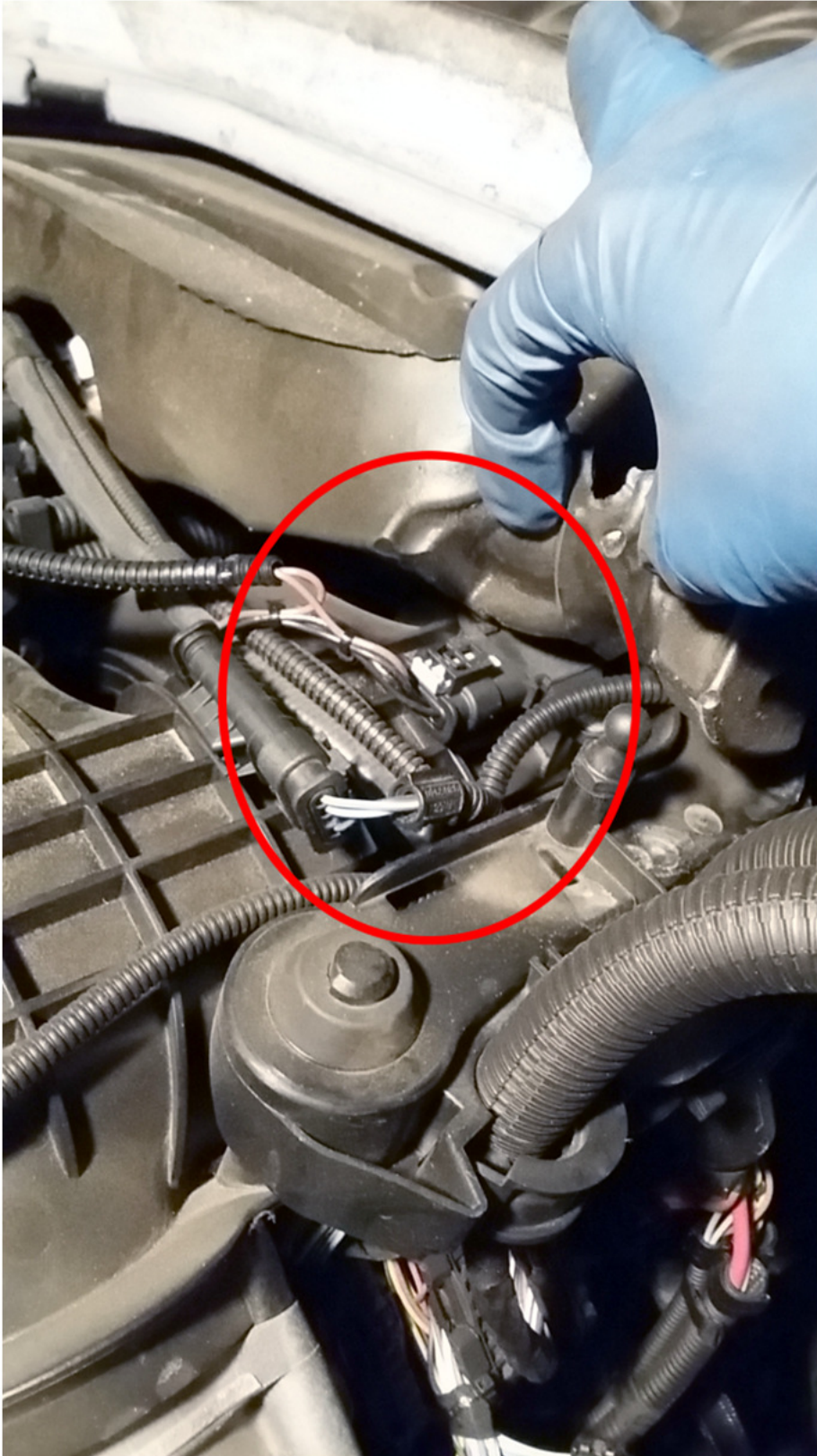




#### 4) MAP sensor, brown patch:

The MAP sensor is located on the top of the engine towards the back under the engine foam. It is visually identical to the TMAP sensor. Disconnect the MAP sensor plug and plug it in to the JB4 female brown connection. Plug the male brown connection in to the MAP sensor completing the loop.

535/F10 models will need to remove the airbox top to access this sensor. The MAF connector at the top of the engine looks the same as the MAP but is the **WRONG SENSOR**. If you have not removed the airbox top to access the sensor it's installed wrong and will throw a CEL upon startup.



5) 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.





6) Boost solenoid, blue patch: Pneumatic Wastegate Vehicles Only.

Like the first two connections you unplug the OEM connector and connect it to the JB4 blue harness male, and then plug the JB4 blue female on to the solenoid. If your vehicle does not have a solenoid here you are an "electronic wastegate" (EWG) vehicle and if you happened to have a PWG harness just tuck this connector out of the way.



7) Optional OBDII – Allows the JB4 to provide in dash map switching via BC button, CANflap control, data logging, and a variety of other in dash features. Also required for maps higher than map1 to provide full power.

The OBDII cable can be routed two ways. The easy way, and the clean way.

The easy way is to plug the OBDII in under the dash and route it along the door jamb and in to the engine bay. Note the OBDII cable is thin enough that the door can close without damaging the cable.





To route the clean way 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.



8) PWG Models only: Black ground wire:

Connect the black ground wire to the shock tower or any other suitable chassis ground.

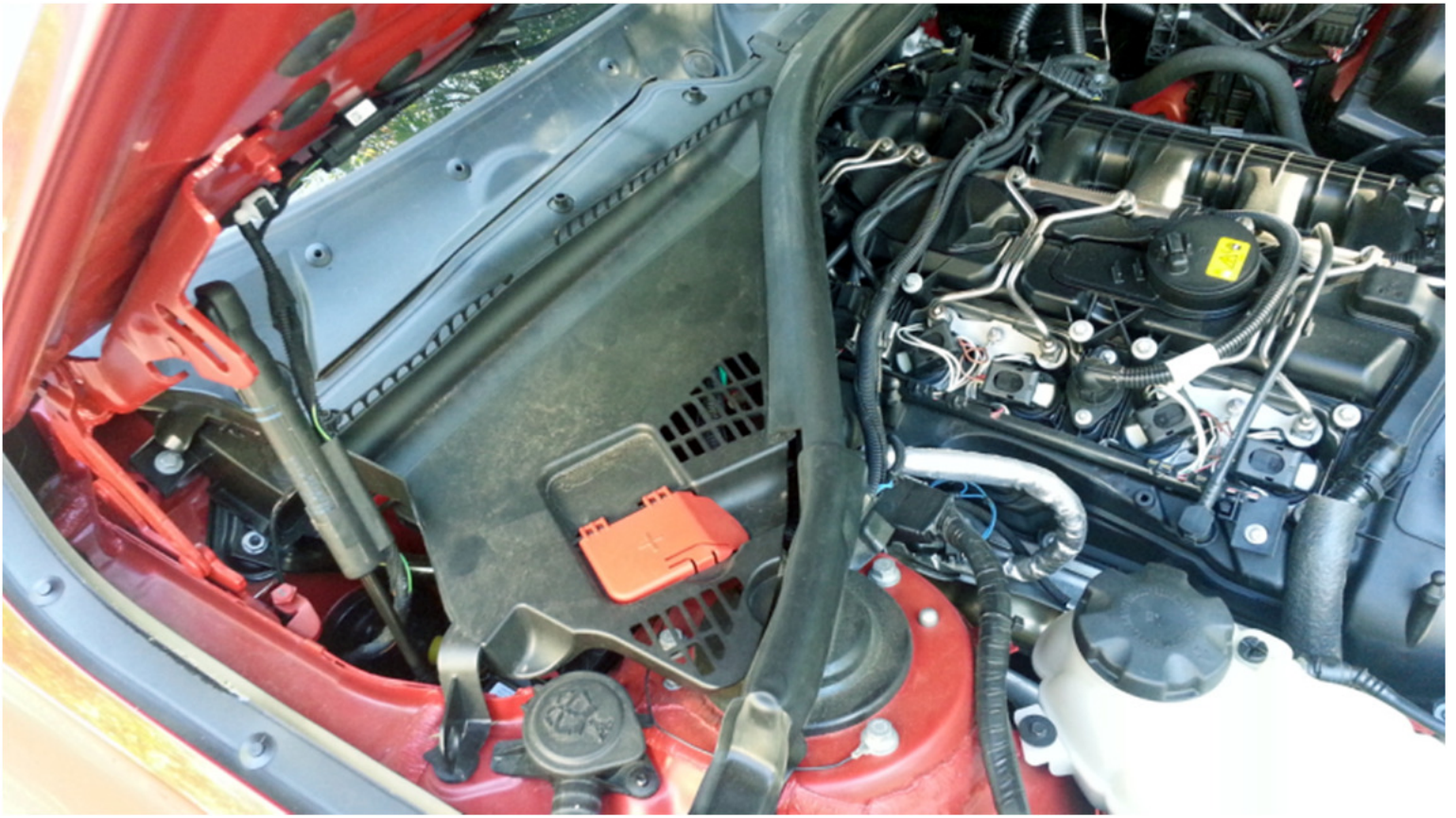
9) Note there is no longer a dedicated red power wire as that is integrated in to the JB4 V2 harness now. For older systems equipped with a red wire attach it to the battery jumper using a Torx T50 bit.

10) Place the JB4 control box under the plastic engine cover as shown below. We suggest positioning it so that it is parallel with the strut brace. F10/535 box mounting locations are shown at the bottom of this guide.





When reinstalling the cowl cover be sure it's fully seated and that you've lifted the rubber seal around it.



11) Reconnect negative battery terminal and reinstall the engine cover.

Installation is complete! Refer to N54tech for any additional install notes and info including how to change maps and enable in dash features like CANflap and in dash boot gauge control Also note the JB4 has cold oil temperature protection built in and it will remain off until oil temps are greater than 160 degrees and the oil is thin enough to properly lubricate the turbo at higher boost levels.

## Supplemental Information:

### Installing BMS DATA Cable or JB4 MOBILE BlueTooth Adapter:

To enable data logging, firmware updates, and other more advanced features you'll want to add one of these two options. Disconnect the negative battery cable in the trunk, open the JB4 enclosure by removing the screws, remove the plastic shell covering on your BMS DATA Cable or JB4 Mobile kit, and using short screws either already in the JB4 board or included with the cable option attach the cable to the small connector on the JB4 board as shown below. Note short screws must be used to properly seat the connector.

Care should be taken when reassembling the JB4 enclosure as it is possible to damage the JB4 circuit board if you force it. The board will be positioned in the "bottom" printed case as shown below. Then place the top case over the top centering it with the rubber harness grommet. The case should sit relatively flush on its own once seated properly. Reinstall the screws to finish the job.





### **F10/535 Box Mounting Location:**

The box goes under the plastic cover in this general area. The red power wire connects to the 10mm nut with the thick red wire in the same location. Also note that by default the F10/535 BC button will not work to change maps until connecting via laptop or phone interface and changing FutureUseD=2. The tune comes preset to map1.



TMAP ground bypass required if USB cable touches battery rail, install wires with battery connected, etc. If you get a check engine light with the tuner completely removed you likely damaged the TMAP ground and need to perform this step to repair it. POSI-TAPS are on our website. While this is the quickest & easiest fix more detailed directions are posted to n54tech to repair the TMAP ground trace directly.

