



BMW N55 Performance Module Installation Instructions

Introducing the Turner Performance Module! This tuning module plugs in ahead of the engine computer on the wiring harness. It's not the run-of-the-mill 'piggy-back' style upgrades you find for less. Inside our module is a sophisticated control unit that is designed to complement and work with the factory ECU. The maps and algorithms within the control unit have been optimized for the N55 engine, sending revised fuel and ignition parameters to the stock ECU to control boost depending on load, engine speed, and other factors. Our control unit integrates seamlessly to extract more power and torque without faults and errors - just smooth power and torque. The harness has factory-style weather-proof plugs to connect in-line with each boost pressure sensor and the camshaft position sensor on the engine. All of the factory safeguards remain in place, including overload protection and warm-up protocols to preserve longevity and factory drive-ability, and this type of system is unaffected by factory BMW updates and service.

If you're looking for a substantial bump in power output, with minimal downtime for installation, full serviceability, and can be easily reverted back to stock, then the Turner Performance Module is unbeatable!

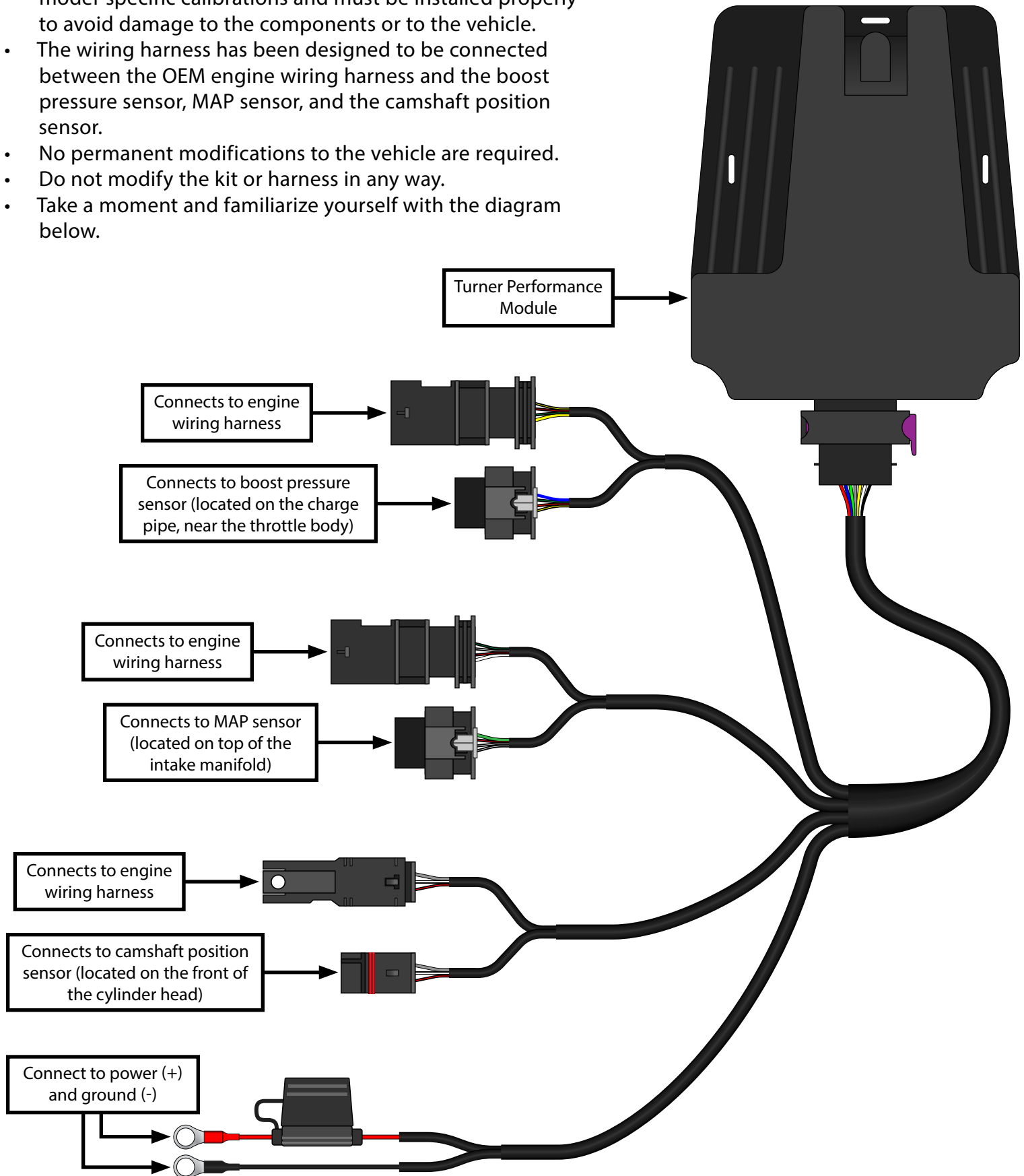
Installation time: ½ hour



Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

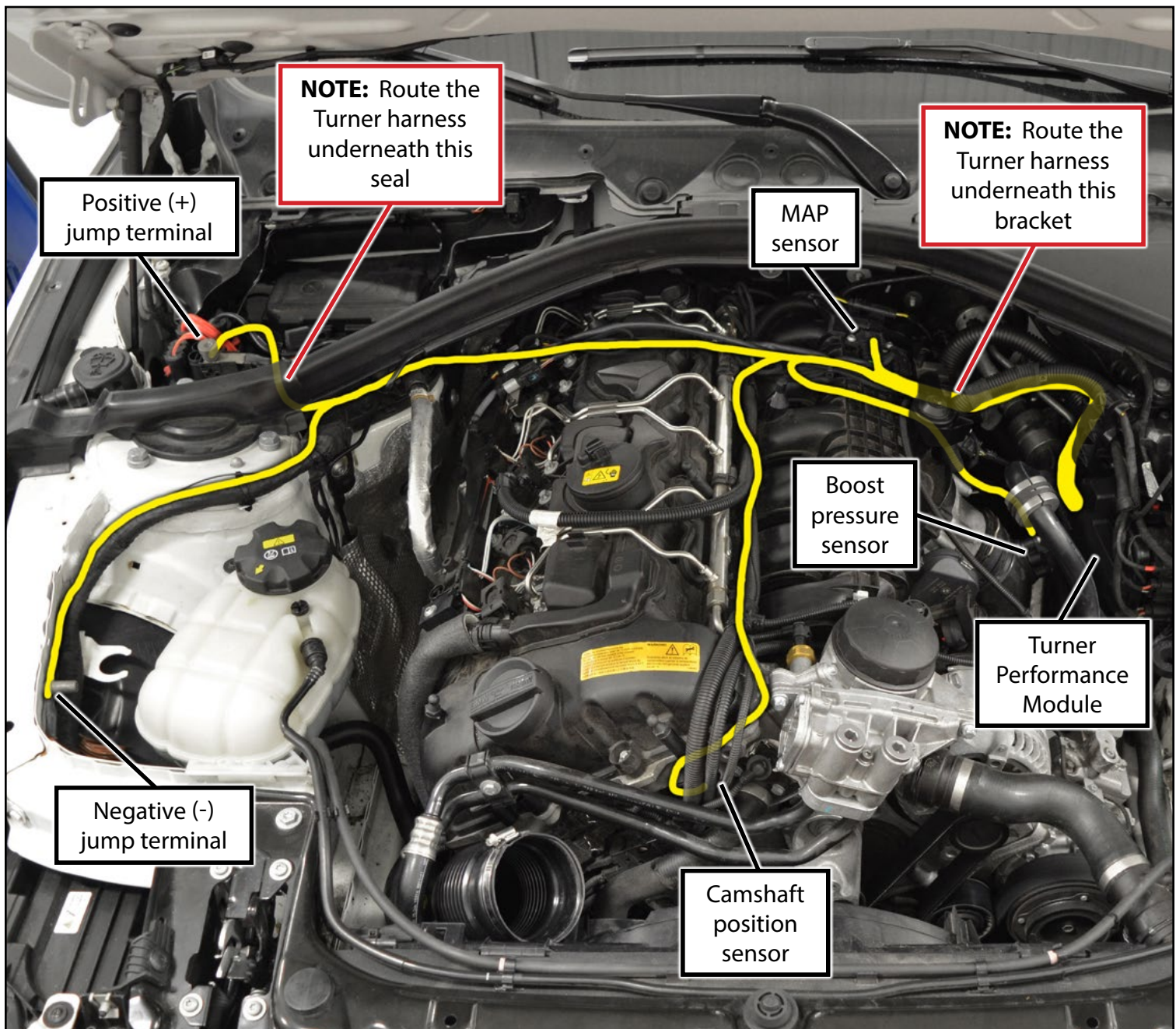
Section 1: Introduction

- The Turner Performance Module has been loaded with model-specific calibrations and must be installed properly to avoid damage to the components or to the vehicle.
- The wiring harness has been designed to be connected between the OEM engine wiring harness and the boost pressure sensor, MAP sensor, and the camshaft position sensor.
- No permanent modifications to the vehicle are required.
- Do not modify the kit or harness in any way.
- Take a moment and familiarize yourself with the diagram below.



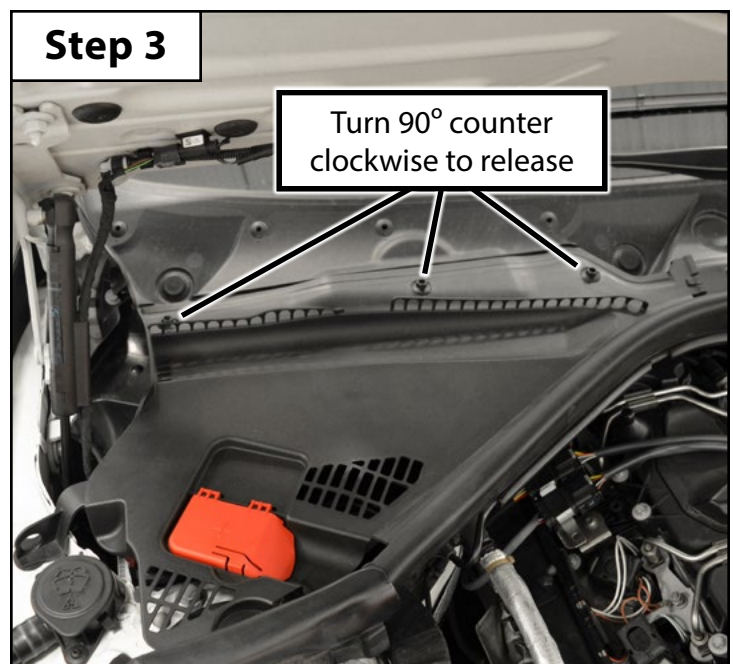
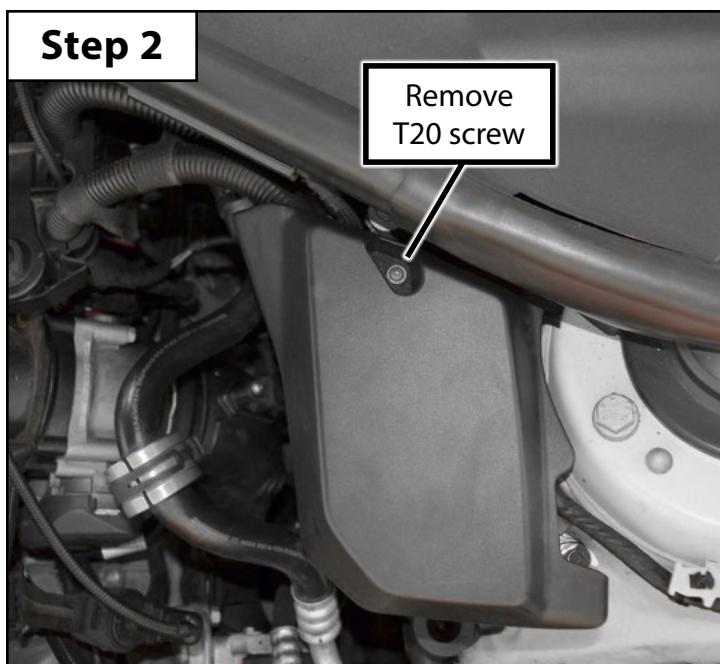
Section 1: Introduction

- We will be showing you one specific mounting location for the Turner Performance Module in these instructions, but you can choose another suitable location if so desired (one such alternative location would be in the empty space underneath the RH rain tray cover).
- If you select an alternative location, be sure to answer that the answer to the following questions is **YES**:
 - Will the module be easily accessible if you want to install the valet plug and bypass the module? (more information on the valet plug can be found on Page 8)
 - Will the module be adequately protected from water, surrounding components, or anything else which could damage it?
 - Can the wiring harness be safely routed to this location without stretching it, or modifying it in any way?
- Reference the photo below for component locations, as well as wire routing tips and tricks.



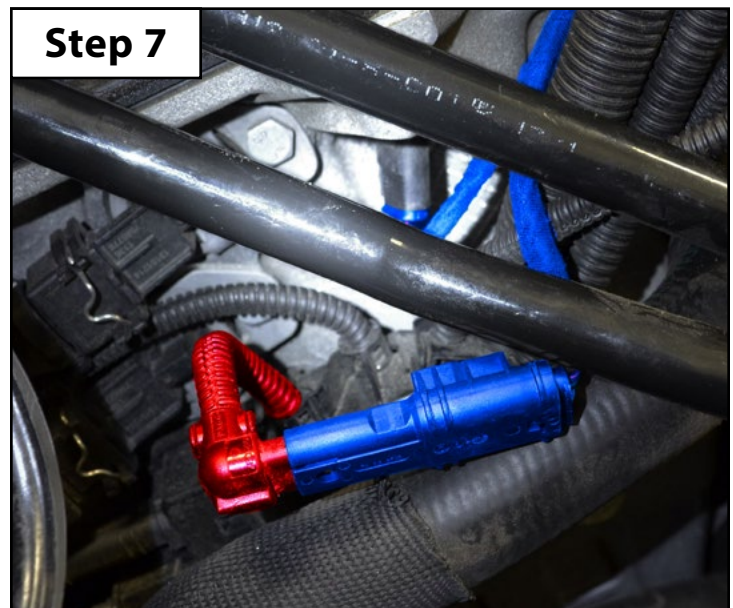
Section 2: Installation Instructions

- Step 1**
- Turn the ignition off and remove the key from the dash.
 - Disconnect the negative (-) battery terminal.
 - Wait for the engine to cool down.
 - Remove the engine cover and the intake duct.
- Step 2**
- Remove the T20 screw from the plastic cover located on the LH shock tower and remove the cover.
- Step 3**
- Working on the RH rain tray cover, turn the 10mm plastic nuts 90° counter clockwise to release them.
 - Lift the RH rain tray cover out and set it aside.
 - **NOTE:** Discharge any static electricity by grounding yourself on a large metal object (tool chest, engine lift, etc.) **BEFORE** handling the Turner Performance Module.



Section 2: Installation Instructions

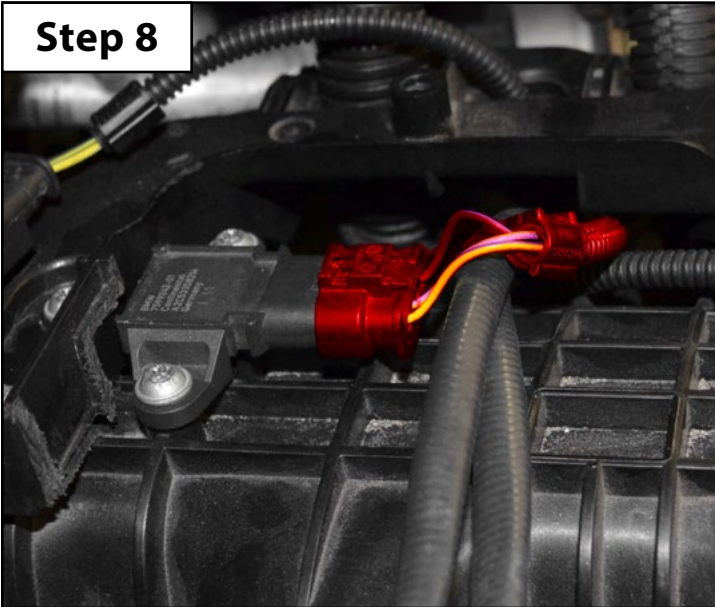
- Step 4**
- Select a mounting location for the Turner Performance Module (highlighted in **BLUE**).
 - The **Step 4** photo below shows the module mounted underneath the plastic cover on the LH shock tower. This location offers protection from the elements, and provides a very clean overall install.
 - This is the location we will be utilizing for these instructions.
- Step 5**
- Route a zip tie through the slots in the Turner Performance Module and secure it into place in your selected location.
- Step 6**
- Locate the camshaft position sensor on the front of the cylinder head, then release and disconnect the OEM wiring harness plug (highlighted in **RED**) from the sensor.
 - There isn't a lot of room to work with the coolant pipes routed directly in front of the sensor.
- Step 7**
- Connect the OEM wiring harness plug (**RED**) to the Turner harness (**BLUE**).
 - Connect the Turner harness (**BLUE**) to the cam position sensor.



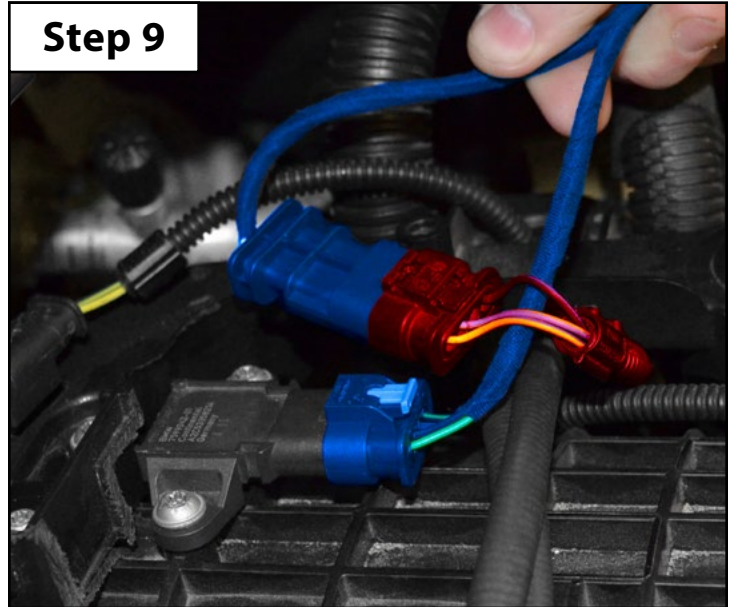
Section 2: Installation Instructions

- Step 8**
- Locate the MAP sensor on the top of the intake manifold, then release and disconnect the OEM wiring harness plug (highlighted in **RED**) from the sensor.
- Step 9**
- Connect the OEM wiring harness plug (**RED**) to the Turner harness (**BLUE**).
 - Connect the Turner harness (**BLUE**) to the cam position sensor and slide the gray locking tab forward to secure it into place.
- Step 10**
- Locate the boost pressure sensor on the intake charge pipe just before the throttle body, then release and disconnect the OEM wiring harness plug (highlighted in **RED**) from the sensor.
- Step 11**
- Connect the OEM wiring harness plug (**RED**) to the Turner harness (**BLUE**).
 - Connect the Turner harness (**BLUE**) to the boost pressure sensor and slide the gray locking tab forward to secure it into place.

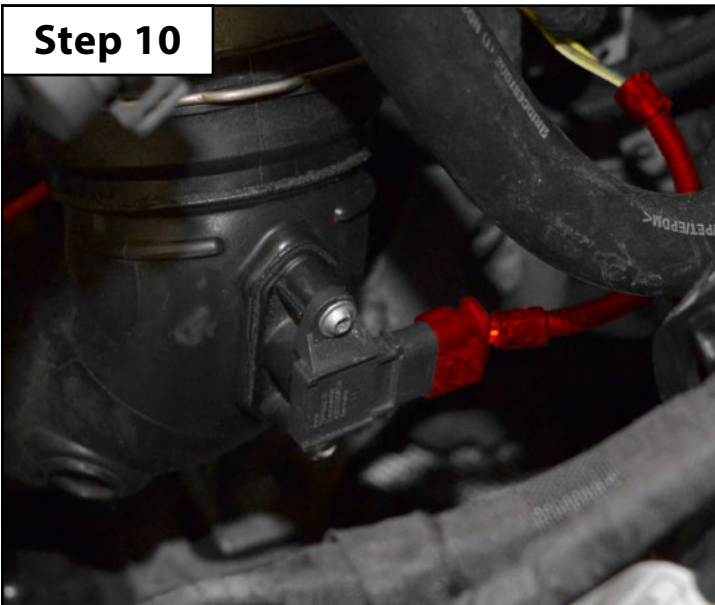
Step 8



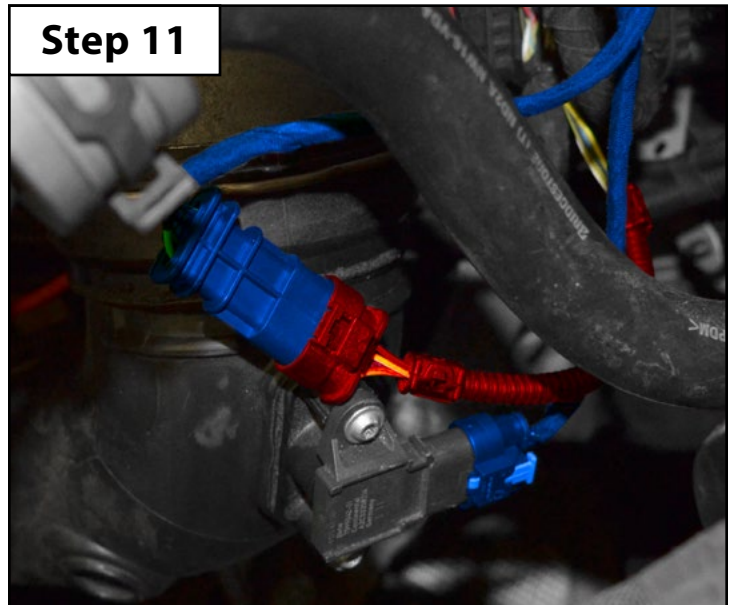
Step 9



Step 10

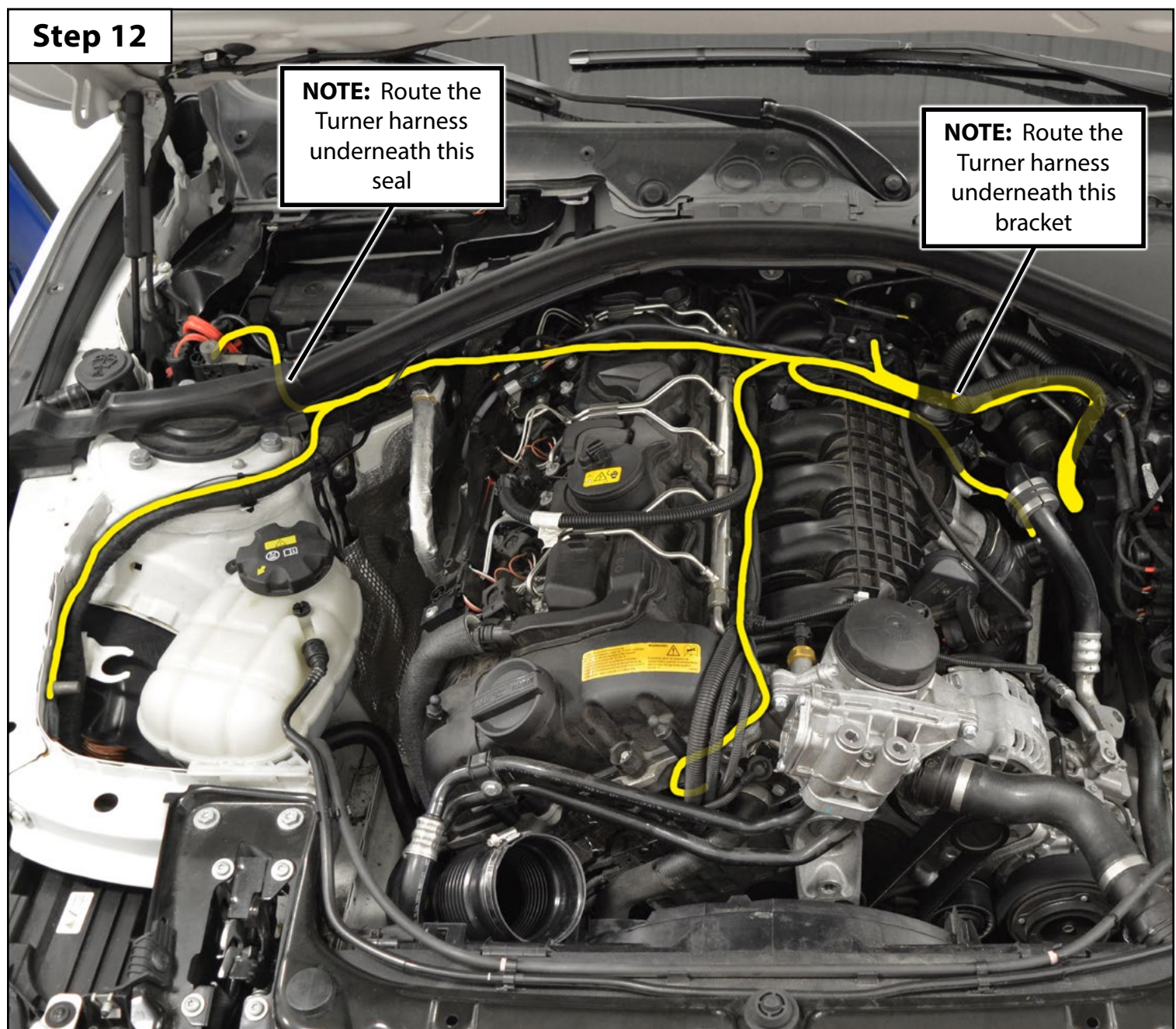


Step 11



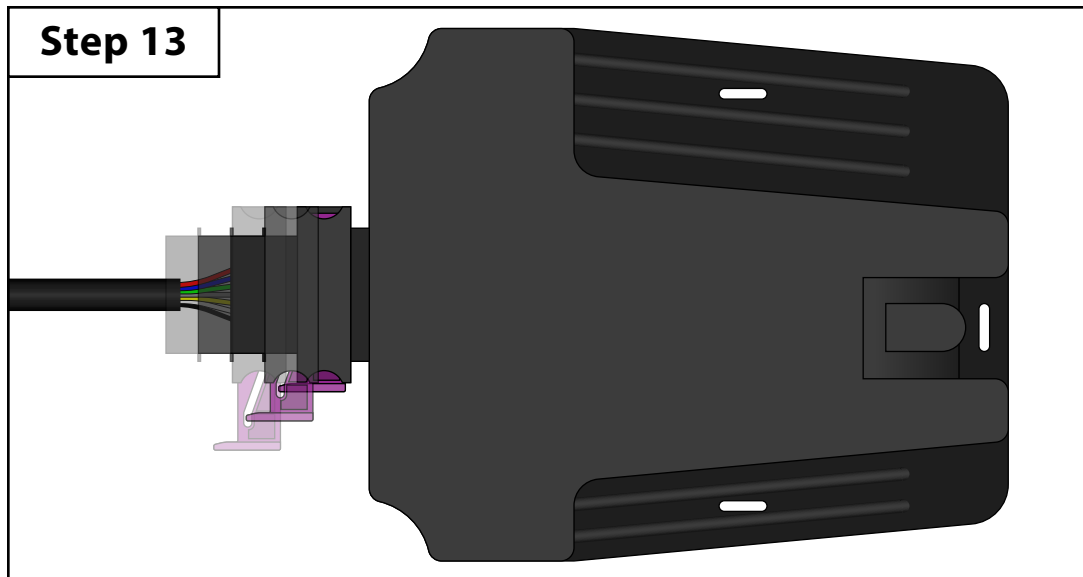
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- Step 12**
- Route the Turner harness in a manner similar to what is shown in the **Step 12** photo below.
 - The goal here is to route the harness away from any moving or hot components.
 - Use zip ties to secure the harness out of the way wherever necessary.
 - Be sure to route the harness underneath the bracket and seal as noted in the photo below.
 - Route the power (+) wire up to the jump post located just behind the RH shock tower.
 - Install the power (+) wire underneath the jump post nut.
 - Route the negative (-) wire up to the jump post located next to the coolant reservoir.
 - Install the negative (-) wire underneath the jump post nut.



Section 2: Installation Instructions

- Step 13**
- Extend the purple sliding lock on the large plug of the Turner harness. Plug the big connector into the Module. It will only go in one way. Then push on the purple lock to secure the plug to the Module, once it is fully seated the plug should not come disconnected (test this by gently tugging on the black connector).
- Step 14**
- Double check all of your connections.
 - Reinstall the rain tray cover, plastic cover on the LH shock tower, intake duct, and any other components that you removed or loosened in the reverse order of removal.
 - Check that the harness is secured out of the way of any moving or hot components.
 - Enjoy your new power responsibly.



Section 3: Valet Connector Operation

- Step 1**
- The Valet connector is used to bypass the tuning module and revert the tuning back to stock. With the Valet plug installed the ECU will use the stock maps instead of getting modified data from the Turner module.
 - To use the Valet connector, unplug the Turner module from the wiring harness by releasing the purple sliding lock, then plug in the Valet connector to the harness and secure with the sliding lock.

