



advanced FLOW engineering

Instruction Manual

P/N: 77-43046

SCORCHER GT POWER MODULE

Make: Ford
Make: Ford

Model: Bronco
Model: Ranger

Year: 2021-2022
Year: 2019-2022

Engine: L4-2.3L (t) Ecoboost
Engine: L4-2.3L (t) Ecoboost



THIS IS A HIGH-PERFORMANCE PRODUCT: Do not use this product until you have carefully read the following agreement and installation instruction. This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions.

DISCLAIMER OF WARRANTY AND LIMITATION OF LIABILITY: Advanced FLOW Engineering, Inc. (also known as aFe or aFe POWER) and its successors, distributors, jobbers, and dealers (hereafter “SELLER”) shall in no way be responsible for the product’s improper use and service. It is the installer’s responsibility to check for proper installation and if in doubt, contact the manufacturer. The SELLER assumes no liability regarding the improper installation or misapplication of its products. BUYER acknowledges it has had the opportunity to fully inspect the product. Accordingly, BUYER acknowledges that the product is being sold in “AS IS/WHERE IS” condition. SELLER shall not be held liable for special, indirect, incidental or consequential damages of any nature with respect to the products (including, without limitation, lost profits, lost sales, loss of production, property damage, personal injury or loss or damage resulting from interruption or failure in operation of the products) and BUYER hereby expressly waives and disclaims all such liability claims. The BUYER acknowledges and agrees that the disclaimer of liability contained herein is a material term of the sale of the product and, to the fullest extent permitted by law, BUYER shall defend, indemnify and hold SELLER harmless from any and all claims, demands, causes of action, controversies, liabilities, fines, losses, costs and expenses (including, but not limited to attorneys’ fees, expert witness expenses and litigation expenses) arising from or related to SELLER’s products.

Before proceeding with the installation:

- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- If you are missing any of the components, call customer support at 951-493-7185.
- Ensure you have all necessary tools before proceeding. Do not attempt to work on your vehicle when the engine is hot.

Warranty Information available at <https://afepower.com/contact#warranty>

Emission Disclaimer: This product is not currently CARB exempt and is not available for purchase in California or for use on any vehicle registered with the California Department of Motor Vehicles.



Label	Qty.	Description	Part Number
A	1	Module	R77-43046
B	1	LED Switch	05-70029
C	2	Velcro (2" Inches)	05-01244
D	4	Cable Ties	05-60167





SLEEP MODE

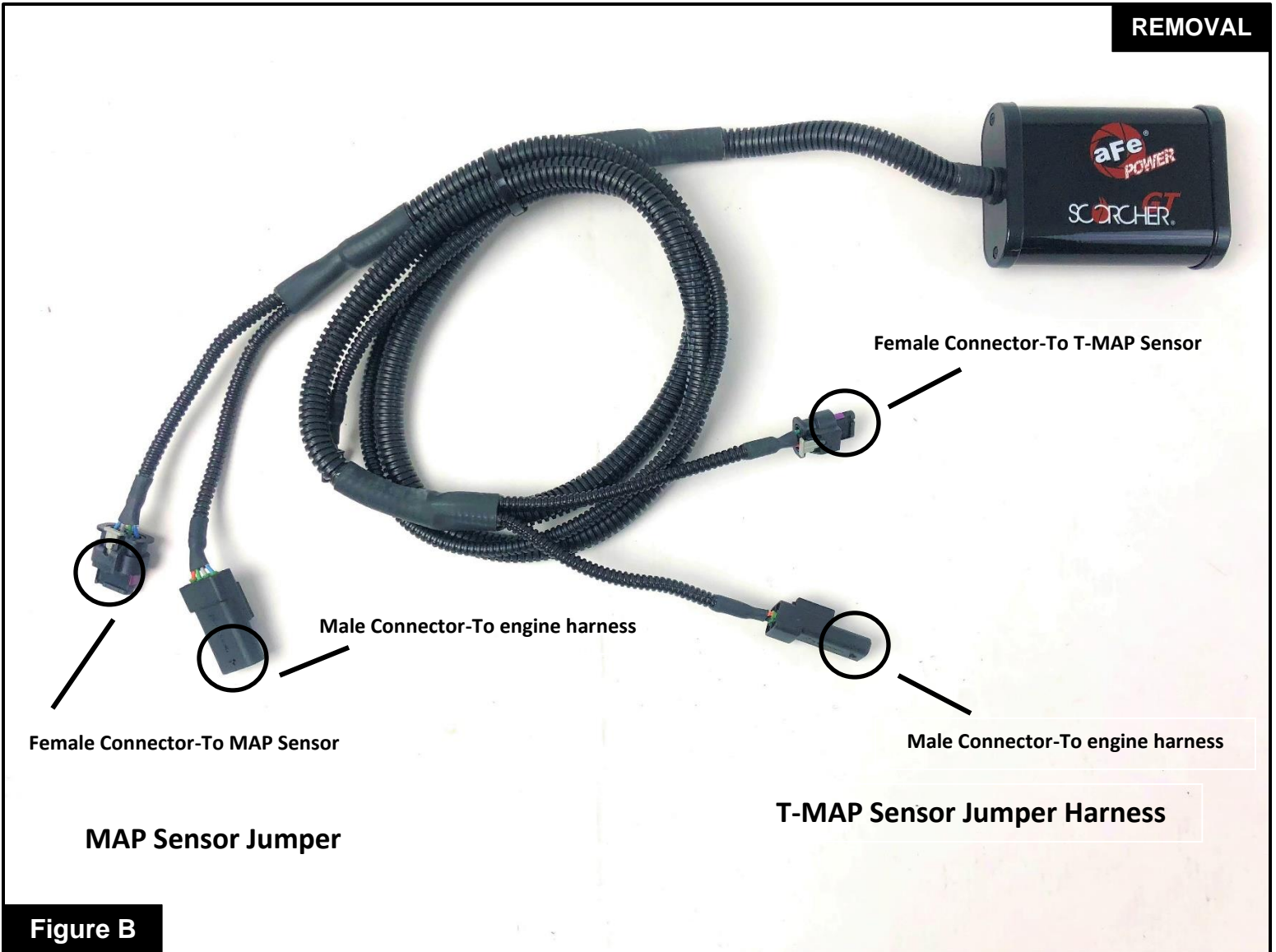
Figure A

Refer to Figure A for Step 1 (For both Bronco and Ranger)

Step 1: Before installing your aFe POWER module, you will have to place your vehicle's ECU in sleep mode. In order to do this, you will need to do the following:

- If the engine is cold: open the hood, close the doors, lock the car and wait 30 seconds.
- If the engine is warm: open the hood, close the doors, lock the car and wait 20 minutes.
- If the engine is warm and you can't wait 20 minutes: disconnect the battery.

 **Note: Do NOT open doors or start vehicle while one of the sensors is disconnected. This could create a check engine light**



Refer to Figure B for Step 2 (For Both Bronco and Ranger)

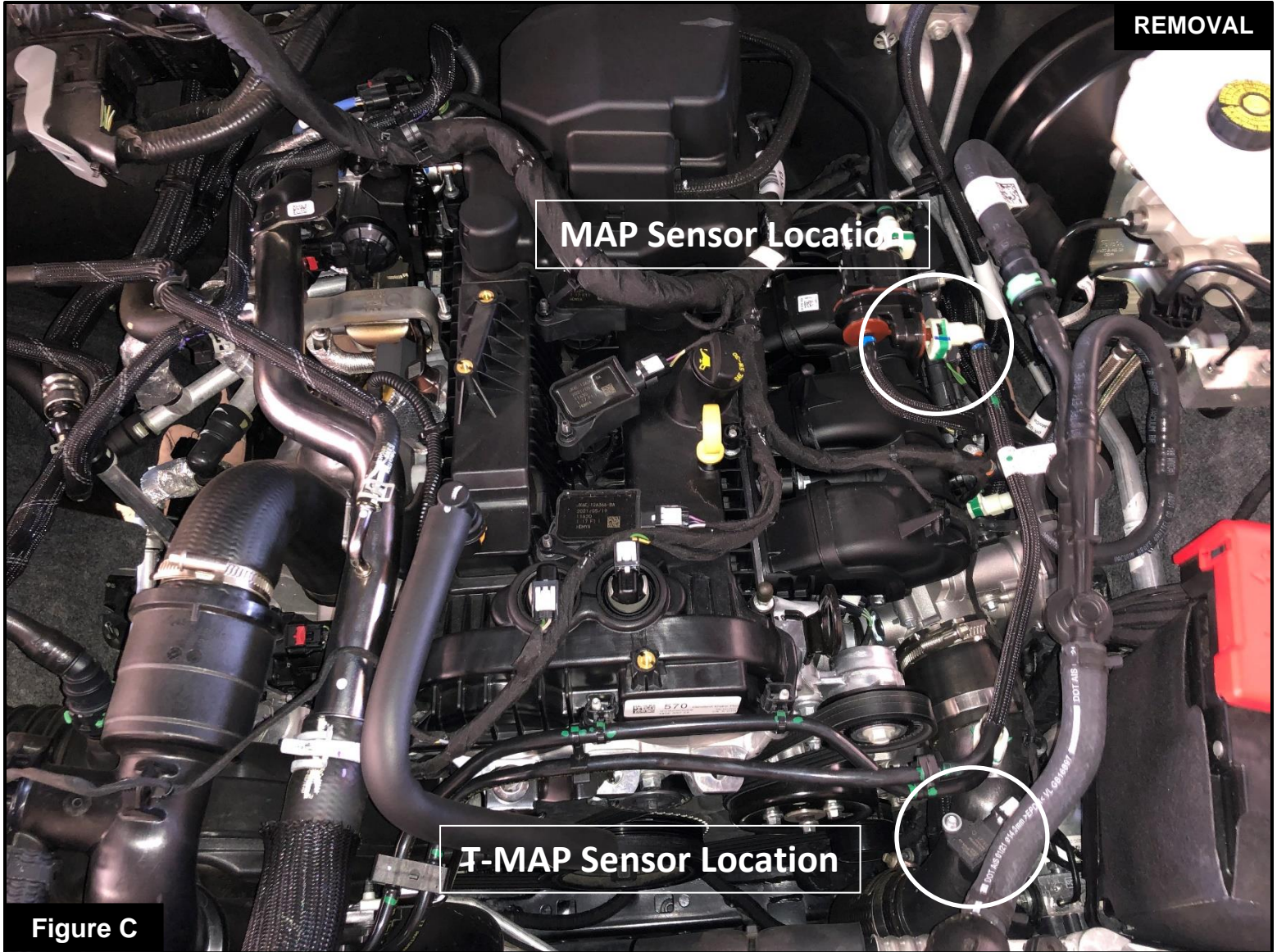
Step 2: Refer to the diagram to identify the connectors and their corresponding sensors that they plug into.

- The MAP sensor jumper harness will be the shorter set of wires. It has a 4 wires connector.
- The T-MAP sensor jumper harness will be the longer set of wires. It has a 3 wires connector.



Note: Installation will be slightly different between the Bronco and Ranger models.

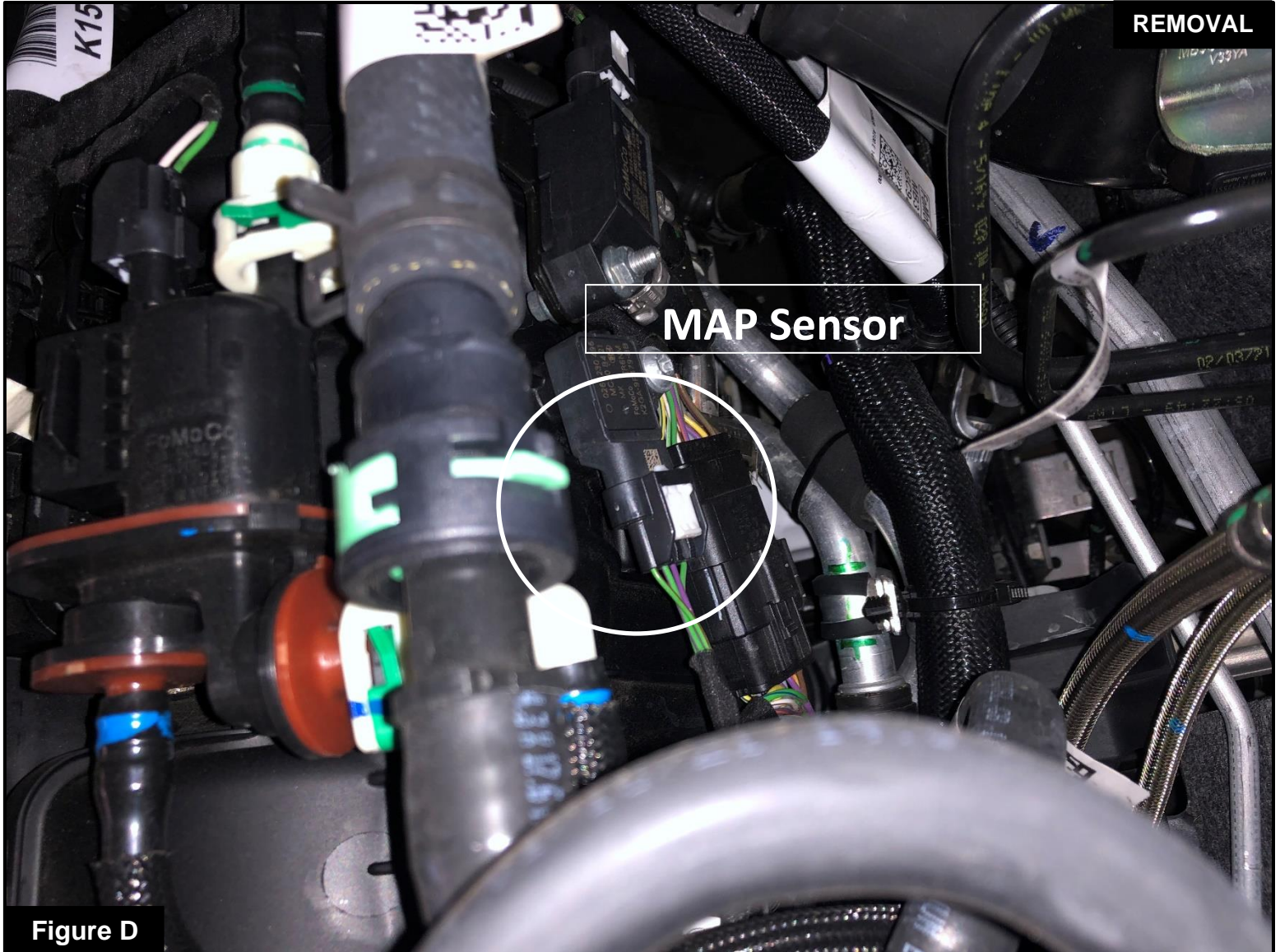
- For Bronco installation, please proceed to page 6.
- For Ranger installation, please proceed to page 11.



Refer to Figure C for Steps 3-4 (Installation for Bronco Only)

Step 3: Locate the MAP sensor. The MAP sensor is located on top of the intake manifold. It has a 4-wires connector and a white locking tab.

Step 4: The T-MAP sensor is located on the charge pipe, before the throttle body. It has a 3-wires connector and a white locking tab.



Refer to Figure D for Step 5 (Installation for Bronco Only)

Step 5: Disconnect the MAP sensor by pulling back on the locking tab, pressing down on the connector and sliding it out of the sensor.

**Figure E****Refer to Figure E for Steps 6-8 (Installation for Bronco Only)**

Step 6: Locate the MAP sensor jumper harness on the aFe POWER harness. It is the first, shorter set of connectors coming out of the aFe POWER module. It is labeled "MAP".

Step 7: Plug the female connector of the aFe POWER harness to the MAP sensor, then take the male connector of the aFe POWER harness and connect it to the female connector of the engine harness.

Step 8: Check with the picture to make sure the connectors are fully seated and that the locking tab is slid back into place.



Make sure that the connections are fully engaged and not reversed. Usually, connectors make a snapping sound when fully engaged.



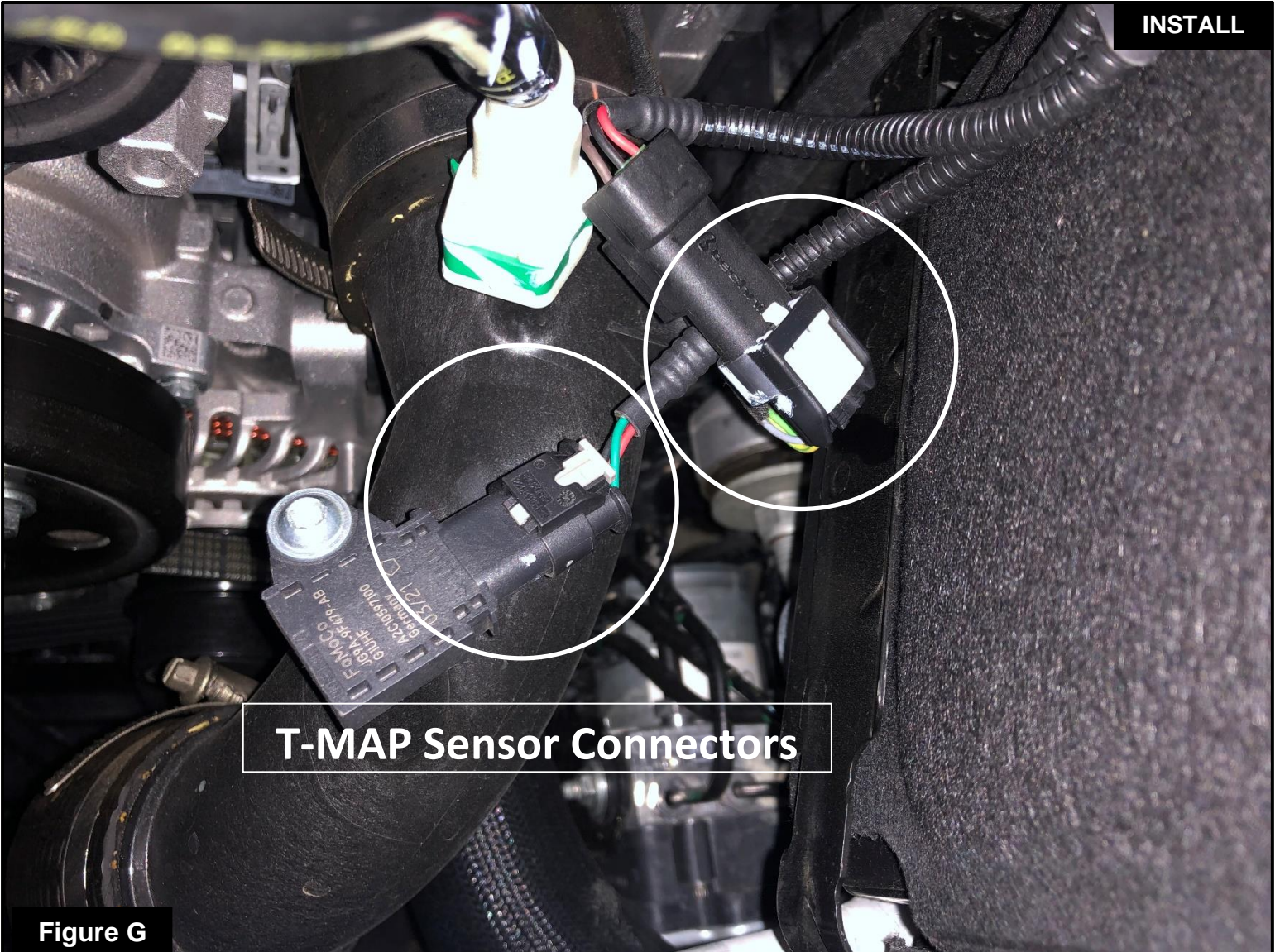
T-MAP Sensor

Figure F

Refer to Figure F for Steps 9-10 (Installation for Bronco Only)

Step 9: Locate the T-MAP sensor on the charge pipe, before the throttle body.

Step 10: Disconnect the T-MAP sensor by pulling back the white locking tab, then pressing down on the connector and sliding it out of the sensor.

**Figure G****T-MAP Sensor Connectors****Refer to Figure G for Steps 11-13 (Installation for Bronco Only)**

Step 11: Locate the T-MAP sensor jumper harness on the aFe POWER harness. It is the longer, second set of connectors coming out of the aFe POWER module. It is labeled “T-MAP”.

Step 12: Plug the female connector of the aFe POWER harness to the T-MAP sensor, then take the male connector of the aFe POWER harness and connect it to the female connector of the engine harness.

Step 13: Check with the picture to make sure the connectors are fully seated and that the locking tab is slid back into place.

 **Make sure that the connections are fully engaged and not reversed. Usually, connectors make a snapping sound when fully engaged.**

Go to Page 17 for the next step on the Bronco installation

REMOVAL



Figure H

Refer to Figure H for Step 14 (Installation for Ranger Only)

Step 14: Remove the push clips and remove the radiator dust cover in order to gain access to the driver side of the intercooler. This is where the T-MAP sensor is located.

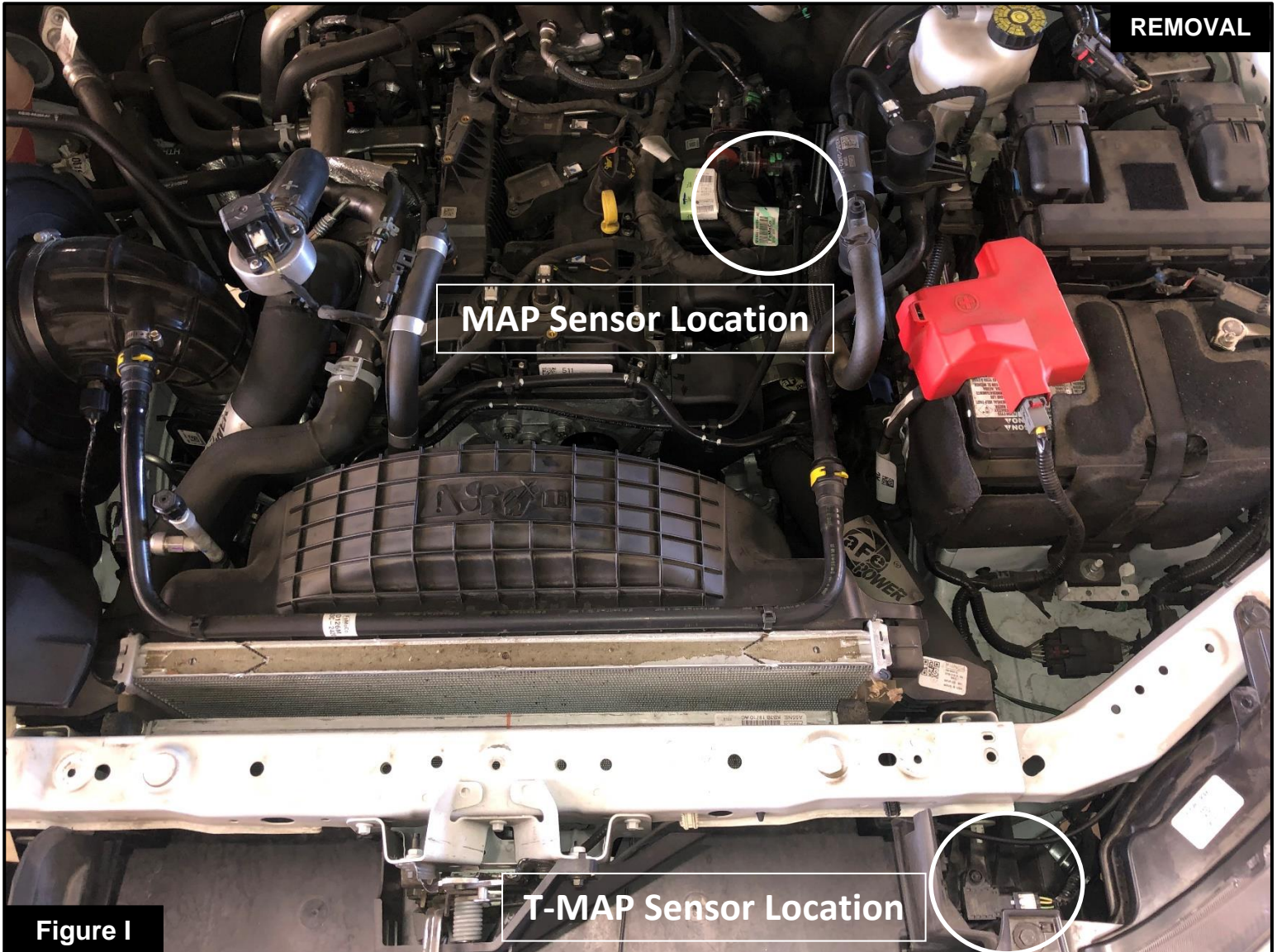
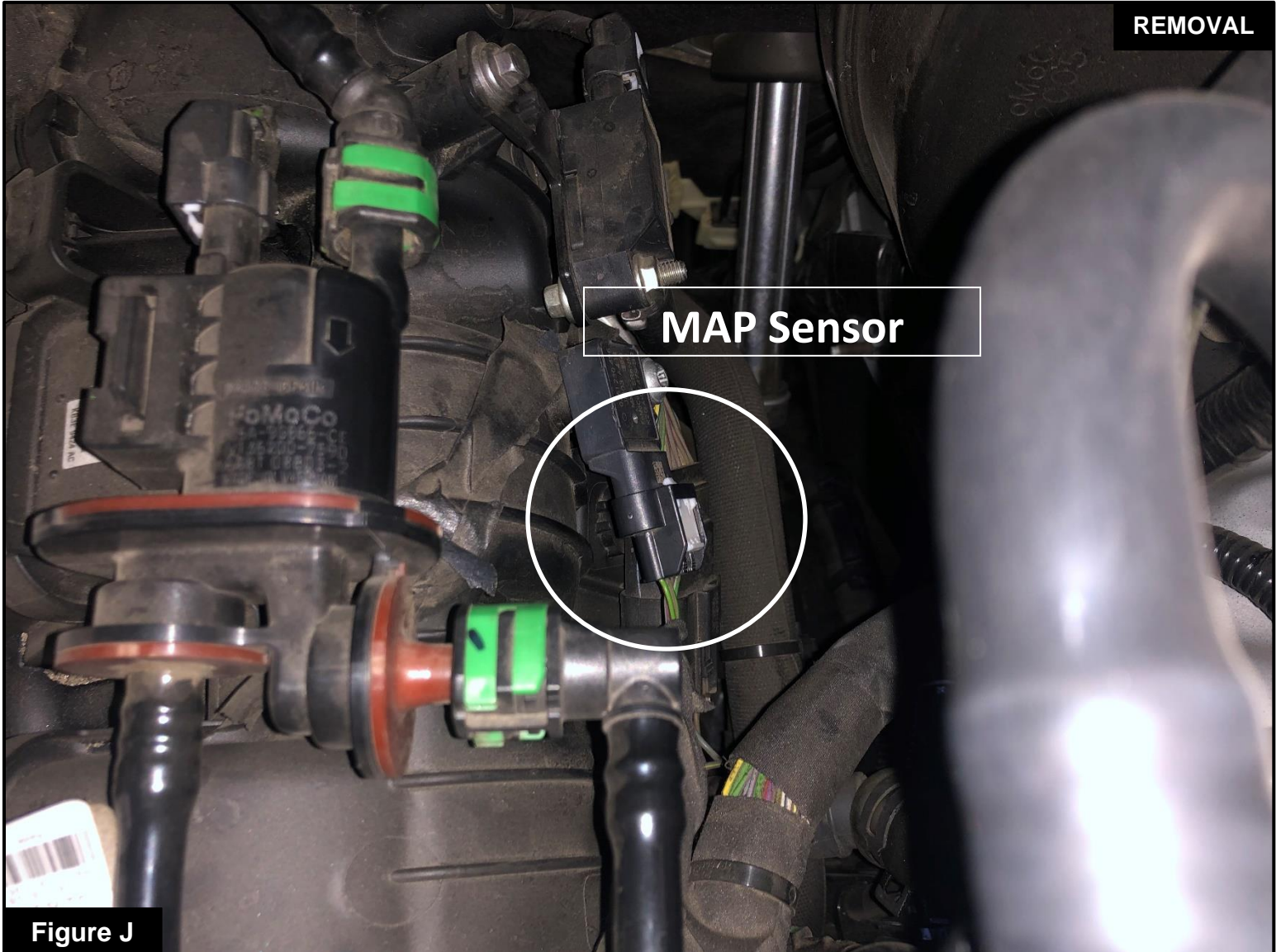


Figure I

Refer to Figure I for Steps 15-16 (Installation for Ranger Only)

Step 15: Locate the MAP sensor. The MAP sensor is located on top of the intake manifold. It has a 4-wires connector and a white locking tab.

Step 16: The T-MAP sensor is located on the driver side of the intercooler. It has a 3-wires connector and a white locking tab.

**Figure J****Refer to Figure J for Step 17 (Installation for Ranger Only)**

Step 17: Disconnect the MAP sensor by pulling back on the locking tab, pressing down on the connector and sliding it out of the sensor.

MAP Sensor Connectors



Figure K

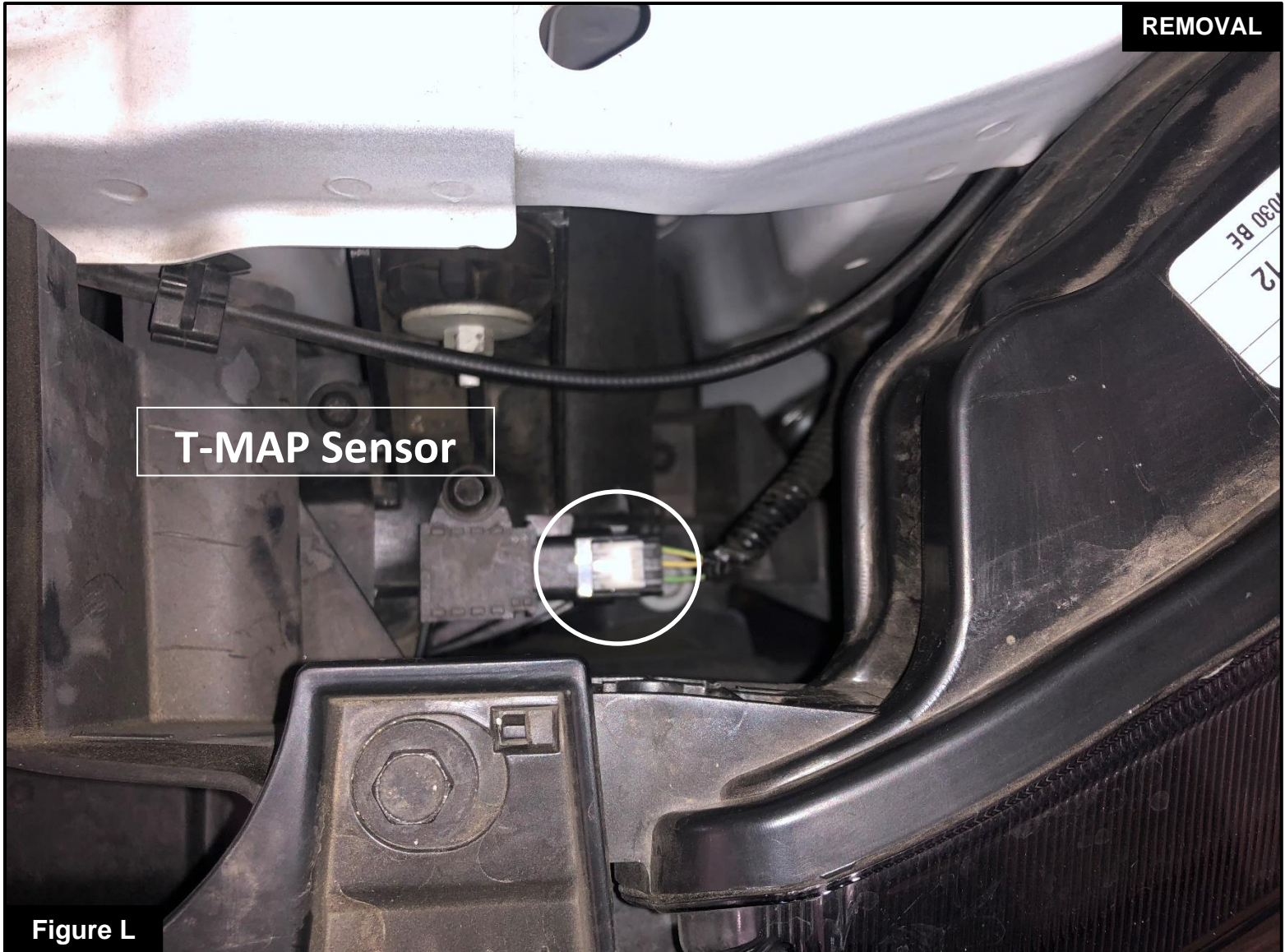
Refer to Figure K for Steps 18-20 (Installation for Ranger Only)

Step 18: Locate the MAP sensor jumper harness on the aFe POWER harness. It is the first, shorter set of connectors coming out of the aFe POWER module. It is labeled "MAP".

Step 19: Plug the female connector of the aFe POWER harness to the MAP sensor, then take the male connector of the aFe POWER harness and connect it to the female connector of the engine harness.

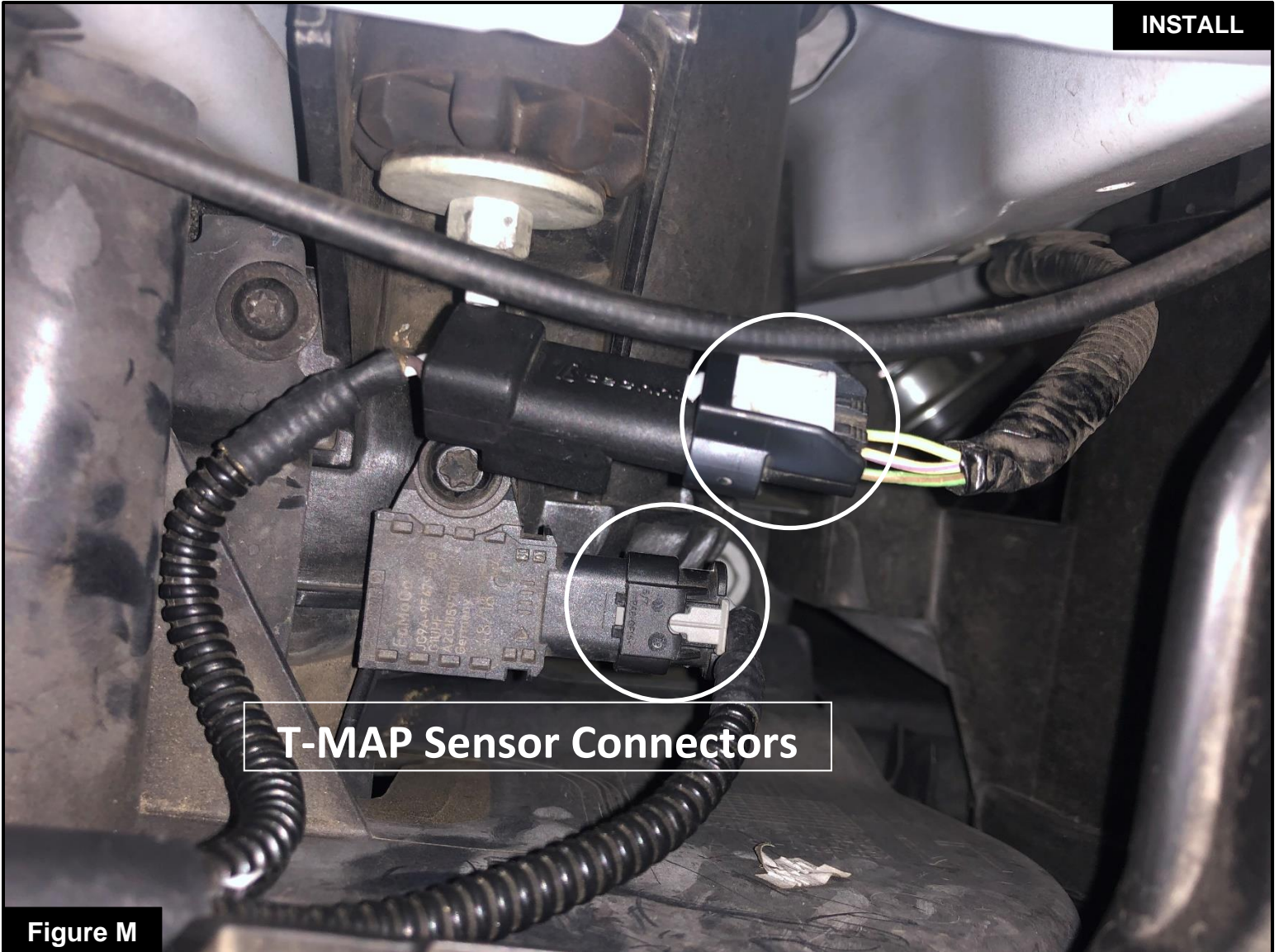
Step 20: Check with the picture to make sure the connectors are fully seated and that the locking tab is slid back into place.

 **Make sure that the connections are fully engaged and not reversed. Usually, connectors make a snapping sound when fully engaged.**

**Figure L****Refer to Figure L for Steps 21-22 (Installation for Ranger Only)**

Step 21: Locate the T-MAP sensor on the driver side of the intercooler. It has a 3-wires connector.

Step 22: Disconnect the T-MAP sensor by pulling back the white locking tab, then pressing down on the connector and sliding it out of the sensor.

**Figure M****Refer to Figure M for Steps 23-26 (Installation for Ranger Only)**

Step 23: Locate the T-MAP sensor jumper harness on the aFe POWER harness. It is the longer, second set of connectors coming out of the aFe POWER module. It is labeled “T-MAP”.

Step 24: Plug the female connector of the aFe POWER harness to the T-MAP sensor, then take the male connector of the aFe POWER harness and connect it to the female connector of the engine harness.

Step 25: Check with the picture to make sure the connectors are fully seated and that the locking tab is slid back into place.

Step 26: Reinstall the radiator dust cover and push clips.

 **Make sure that the connections are fully engaged and not reversed. Usually, connectors make a snapping sound when fully engaged.**

**Figure N****Refer to Figure N for Steps 27-29 (For Both Bronco and Ranger)**

- Step 27: Select a location to mount the Scorch GT. We recommend that the module be mounted in a place that is dry, away from extreme heat and moving parts.
- Step 28: For our installation, we found the best location to be on top of the fuse box on the driver side of the engine bay.
- Step 29: Route the harness wires and secure them using the included zip ties for a neat installation.

The doors can now be opened to install the LED Switch.

**Figure O****Refer to Figure O for Steps 30-31 (For Both Bronco and Ranger)**

Step 30: Select the desired location for the LED switch. Route the cable on the back of the switch to exit towards the top or the bottom of the switch.

Step 31: Use the provided double sided tape to secure the LED switch in the desired location.

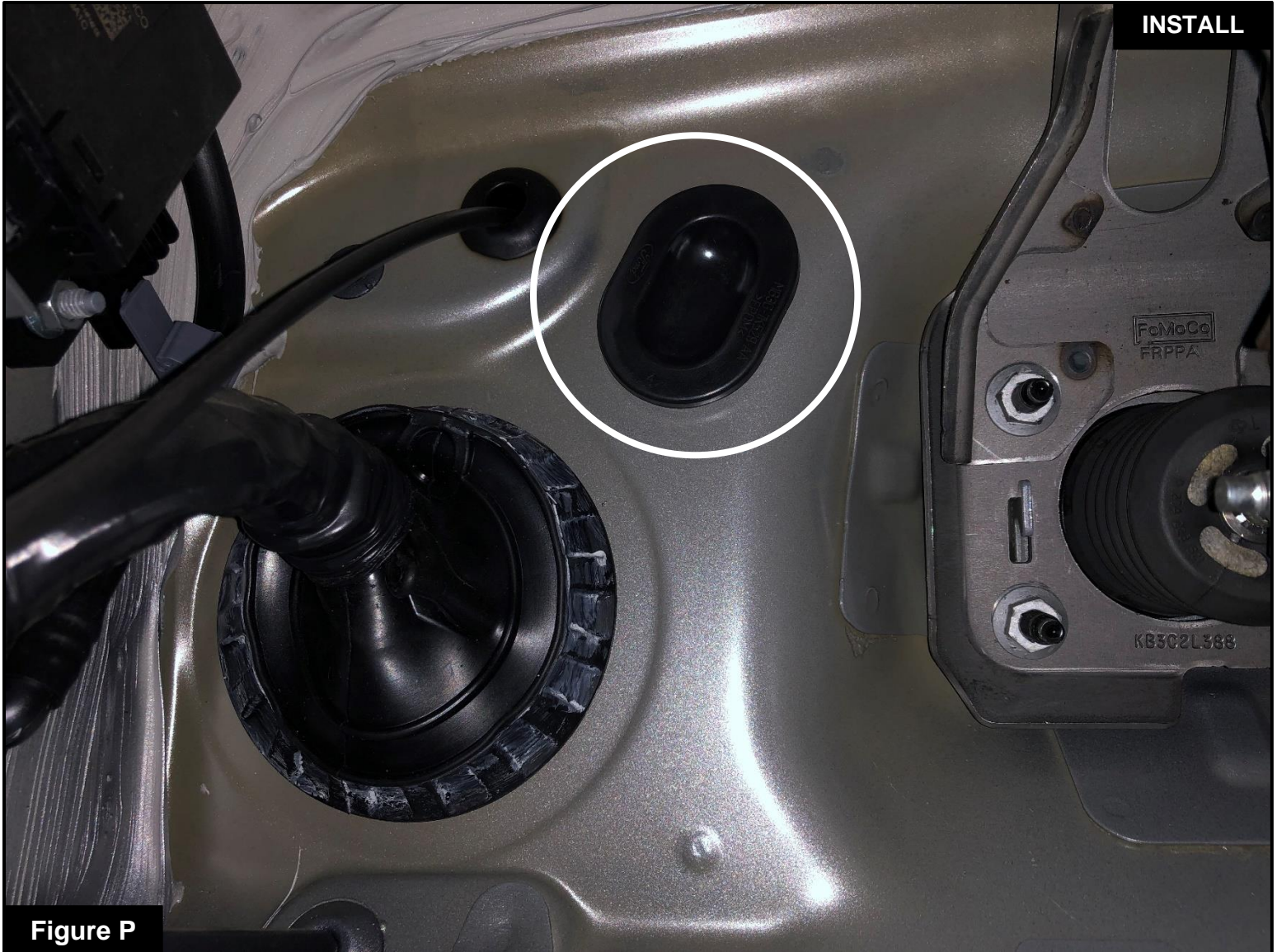


Figure P

Refer to Figure P for Steps 32-34 (For Both Bronco and Ranger)

Step 32: Carefully route the switch cable behind the steering wheel cover or cabin trim cover. For the cleanest install, partially remove the cabin trim cover and run the LED switch wire between the trim panels.

Step 33: Locate the engine bay wiring access slot below the driver side kick panel.

Step 34: Route the switch cable through the firewall and into the engine bay using this slot.

**Figure Q****Refer to Figure Q for Steps 35-36 (For Both Bronco and Ranger)**

Step 35: Plug the end of the LED switch cable to the aFe POWER harness inside the engine compartment.

Step 36: Secure all wires away from any extreme heat and moving parts with the provided zip ties. Make sure all connections are secured and fully engaged.

The installation of the module itself is now complete. Keep reading the installation instructions to learn how to use all of its features.



Figure R

Refer to Figure R (LED Switch)

When turning on the vehicle, each LED will flash, and it will stop at its last setting. The LED on the switch represents the different levels of power.

- Green LED: Stock
- Yellow LED: Sport
- Orange LED: Sport+
- Red LED: Race

Use the grey button to select the desired setting. Power adjustments can be done at any time while the unit is on.



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