

advanced FLOW engineering

Instruction Manual P/N: 77-86310

Make: **BMW** Model: **M2 Competition (F87)**

Year: **2019**

Engine: **L6-3.0L Twin Turbo (S55)**

Make: **BMW** Model: **M3/M3 CS (F80)**

Year: **2015-2018**

Engine: **L6-3.0L Twin Turbo (S55)**

Make: **BMW** Model: **M4/M4 CS/M4 GTS (F82/F83)**

Year: **2015-2019**

Engine: **L6-3.0L Twin Turbo (S55)**



- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- Ensure you have all necessary tools before proceeding.
- Do not attempt to work on your vehicle when the engine is hot.
- Disconnect the negative battery terminal before proceeding.
- Retain factory parts for future use.

Label	Qty.	Description	Part Number
A	1	Module	R77-86310
B	1	LED Switch	05-70029
C	1	Bypass Plug	05-70017
D	1	Harness	AFE-10-203
E	2	Hook and loop fastener (2" Inches)	05-01244
F	5	Cable Ties	05-60167
G	2	Double Sided Tape	07-90001

Note: Legal in California for use on race vehicles only. The use of this device on vehicles used on public streets or highways is strictly prohibited in California and others states that have adopted California emission regulations.





SLEEP MODE

Figure A

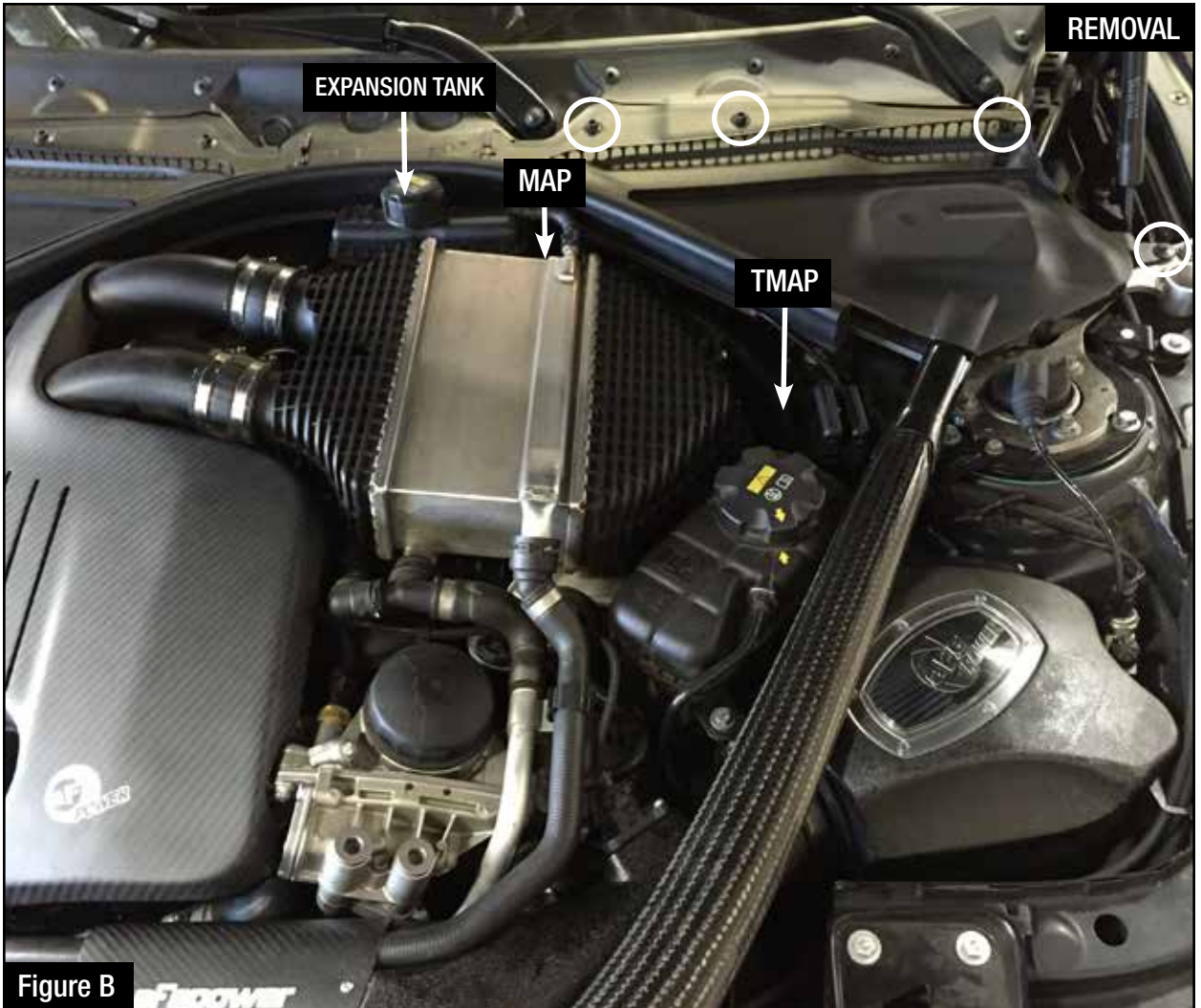
Refer to Figure A for Step 1.

Step 1: Before installing your aFe POWER module, you must place your vehicle's ECU in sleep mode. In order to place your vehicles ECU in sleep mode 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 the doors or start the vehicle while any of the sensors are disconnected. This could cause a check engine light.



Refer to Figure B for Steps 2-5.

- Step 2: Locate the TMAP and MAP sensors. The TMAP sensor is located driver side on charge pipe, the MAP sensor is located on top of the intake manifold, behind the charge-air cooler and under the expansion tank.
- Step 3: Remove the push clips on each side cowl covers.
- Step 4: Unlock the three 10mm nuts retaining the cowl covers on each side and remove them.
- Step 5: Remove the two T27 screws off the top expansion tank and pop off grommet.



Refer to Figures C for Steps 6-7.

Step 6: Pass the aFe POWER module harness through frame brace.

Step 7: Pop off the trim seal of the frame brace to allow more space

**Figure D****Refer to Figure D for Steps 8-9.**

Step 8: Disconnect the MAP sensor, by pressing down on the locking tab and sliding the connector out of the sensor.

Step 9: Locate the MAP sensor jumper harness on the aFe module. This is the longer harness with 4 wires in the connectors. Plug the female connector of the module into the MAP sensor, then the male connector of the module into the female connector of the engine harness.

**Figure E****Refer to Figure E for Step 10.**

Step 10: Check with the pictures to make sure the connectors are correctly connected.



Note: Make sure connections are fully engaged. Usually, connectors make a snapping sound when fully engaged.



Figure F

Refer to Figure F for Steps 11-12.

- Step 11: Locate and disconnect the TMAP sensor, by pressing down on the locking tab and sliding the connector out of the sensor.
- Step 12: Locate the TMAP sensor jumper harness on the aFe module. This is the shorter harness with 3 wires in the connectors. Plug the female connector of the module into the TMAP sensor, and then plug the male connector of the module into to the female connector of the engine harness.



Figure G

Refer to Figure G for Step 13.

Step 13: Check with the pictures to make sure the connectors are correctly connected.



Note: Make sure connections are fully engaged. Usually, connectors make a snapping sound when fully engaged.

**Figure H****Refer to Figure H for Steps 14-15.**

- Step 14: Battery terminals are located under passenger side cowl cover. Remove the frame brace bolt using a T50 bit and then use the bolt to secure the black ground wire of the aFe POWER harness.
- Step 15: Remove the T50 nut securing the positive cable, and use the nut to secure the red 12v wire on the aFe POWER harness.

**Figure I****Refer to Figure I for Steps 16-17.**

Step 16: Secure the Scorch Blue module to the underside of the panel near the master cylinder, or any other desired location using the Hook and loop fastener provided. The module must be located within reach of the LED switch harness if being used.

Step 17: Connect the Scorch Blue module to the harness. Make sure the connector is fully engaged.



Note: The doors of the vehicle can now be opened to proceed with the installation of the switch.



Figure J

Refer to Figure J for Steps 18-19.

Note: The installation of the LED switch in the cabin is optional.

Step 18: Select the desired location of the LED switch. Route the cable on the back of the switch to exit toward the top or bottom.

Step 19: Use the provided double sided tape to secure the LED switch in the desired location.



Figure K

Refer to Figure K for Steps 20-22.

Step 20: Remove the two 10mm nuts holding the foot trim panel.

Step 21: Route the switch cable through firewall and into the engine bay. Follow the main harness through the grommet into the firewall.

Step 22: Re-install foot trim panel.



Figure L

Refer to Figure L for Steps 23-25.

Step 23: Plug the end of the switch cable to the harness inside the engine compartment.

Step 24: Secure the wires away from any extreme heat and moving parts with the provided ties. Make sure all connections are secured and fully engaged.

Step 25: Reinstall the expansion tank, cowl covers and trim seal.



Note: The installation of the module itself is now completed. Keep reading the install instruction to learn how to use all its features.



Refer to Figure M (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 level 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 moment while the unit is on. The LED switch can be used at the same time as the Bluetooth app.



Figure N



Refer to Figure N* (app connection - iOS).

For iOS device, download the app from the apps store. Make sure the Bluetooth is activated on your device. Open the app and it will automatically connect through Bluetooth to the SCORCHER BLUE module when the vehicle and module are on. When connected, the vehicle description will appear on top of the screen and the gauges will show current data.

The blue LED light on the module will become solid once connected to a Bluetooth device. Simply tap on the green, yellow, orange and red button to switch between the modes.

**Screen shots shown here are for example only. Actual screen display will vary depending on your vehicle.*

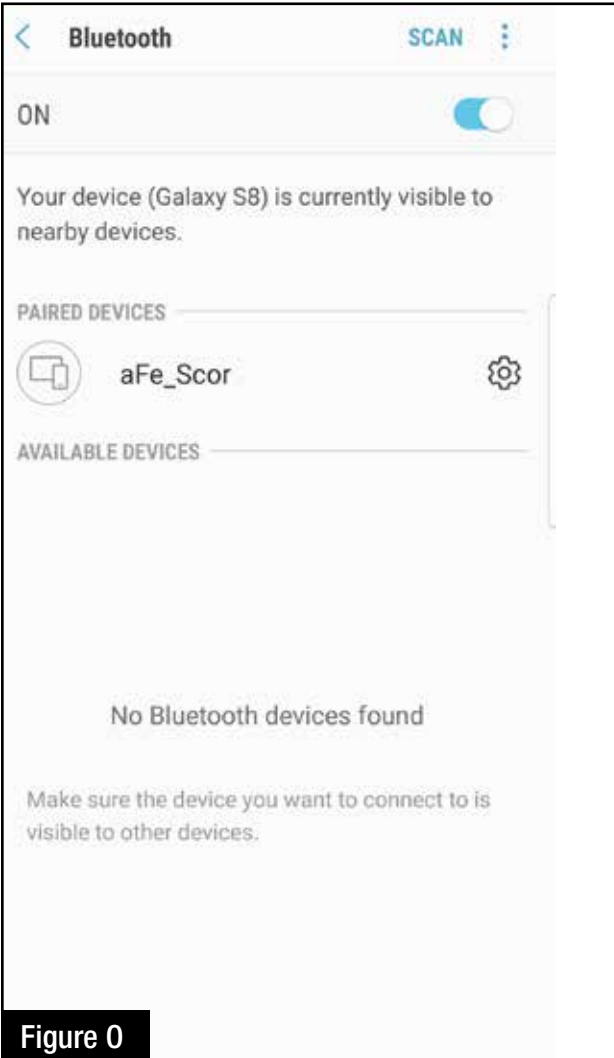


Figure 0



Refer to Figure 0* (app connection- Android).

For Android device, download the app from the play store. For the first connection, go to the Bluetooth settings of your device, turn on Bluetooth and scan for available devices. Select "aFe SCOR" and pair with device. The vehicle needs to be on and the module connected. Once shown as paired device, open the app on your device and it will automatically connect to the vehicle. The vehicle description will appear on top of the screen and the gauges will show current data.

The blue LED light on the module will become solid once connected to a Bluetooth device. Simply tap on the green, yellow, orange and red button to switch between the modes.

**Screen shots shown here are for example only. Actual screen display will vary depending on your vehicle.*

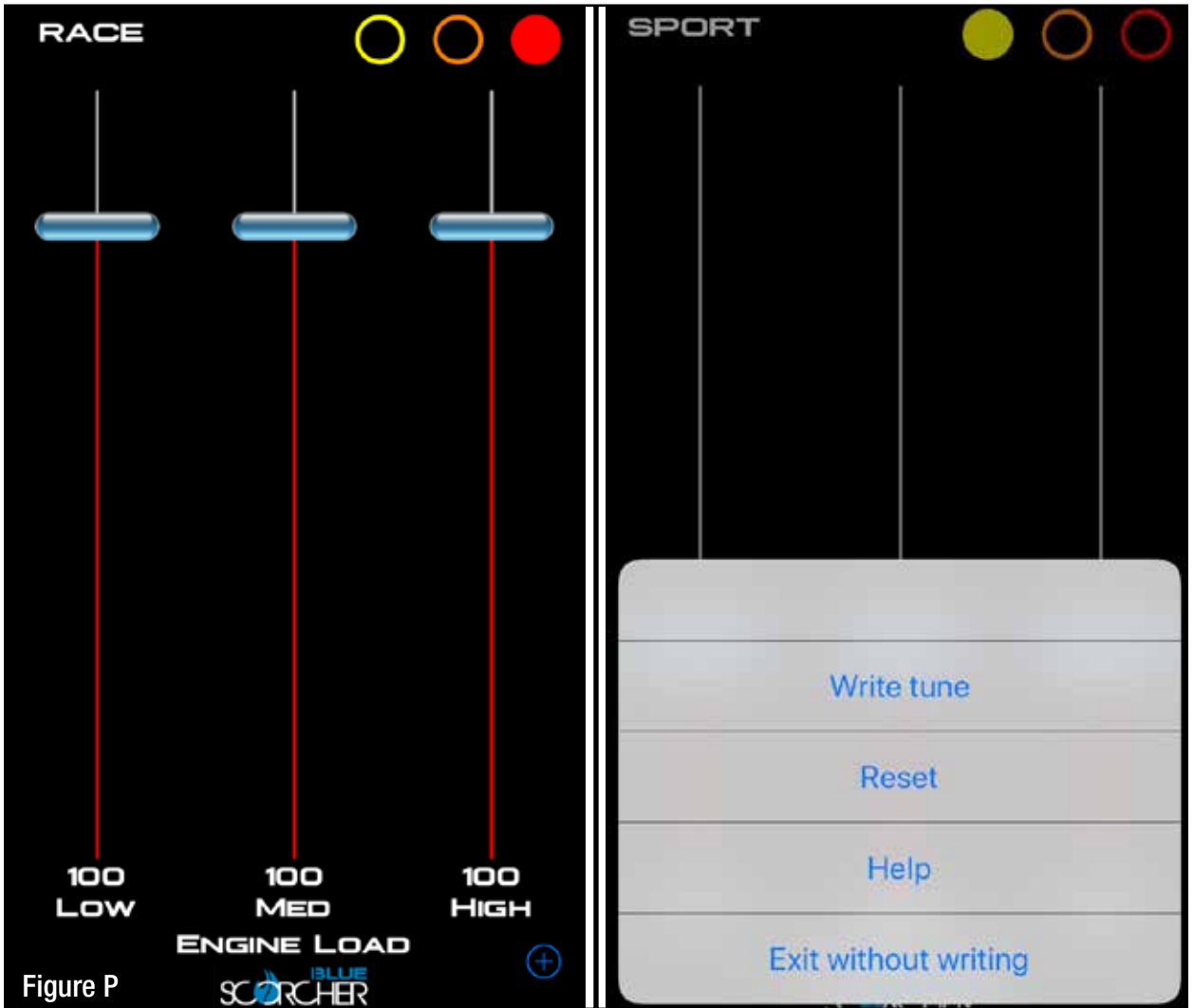


Figure P

Refer to Figure P (Custom Tuning).

The aFe POWER SCORCHER BLUE app offers the capability to custom tune the different modes. Go to the menu on the top right corner and select “Tune”. Select the mode you would like to custom tune and adjust the sliders at low, medium and high load. You can either write the tune or exit without writing.



Disclaimer: Custom tuning should only be performed with the ignition in the “run” position and engine off. Configuring the tunes outside the default values may cause drivability issues and /or check engine lights to occur.



Figure Q



Refer to Figure Q (Vehicle Performance Screen).

On the gauges screen, swipe to the left to get to the vehicle performance screen. When the vehicle is not moving, select the test you are wanting to attempt (0-60mph, ¼ mile or mile). The app will automatically detect the movement of the vehicle and the timer will start. Once you reach the speed or distance, the timer will stop. If you select a new mode it will reset and you can start again. If you need to stop the test at any point, hit the cancel button and leave the screen.



Use the aFe POWER SCORCHER BLUE app responsibly. Always drive safely and obey traffic laws. aFe POWER is not responsible for any accidents, injuries, or property damage that may occur during its use.



Figure R

Refer to Figure R (Bypass Plug).

A bypass plug is included in the kit. The plug can be connected to the harness instead of the module. Once the bypass plug is connected the vehicle will run in factory settings. Make sure the plug is fully engaged when connected to the harness. Thank you for choosing aFe POWER!



The vehicle needs to be in sleep mode when the module gets disconnected and the bypass plug connected. Wait for the blue LED on the module to stop flashing to make sure the vehicle is in sleep mode.