

advanced FLOW engineering

Instruction Manual P/N: 77-83023

Make: Ford	Model: F-150 Raptor	Year: 2017-2020	Engine: V6-3.5L (tt) EcoBoost
Make: Ford	Model: F-150 Limited	Year: 2019-2020	Engine: V6-3.5L (tt) EcoBoost
Make: Ford	Model: Expedition Platinum	Year: 2018-2020	Engine: V6-3.5L (tt) EcoBoost
Make: Lincoln	Model: Navigator	Year: 2018-2020	Engine: V6-3.5L (tt) EcoBoost



- 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.
- Disconnect the negative battery terminal before proceeding.
- Retain factory parts for future use.

Label	Qty.	Description	Part Number
A	1	Module	R77-83023
B	1	LED Switch	05-70013
C	1	Bypass Plug	05-70017
D	1	Harness	AFE-10-220
E	2	Velcro (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 the 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



Do NOT open the doors or start the vehicle when one of the sensor is disconnected. This could create a check engine light.

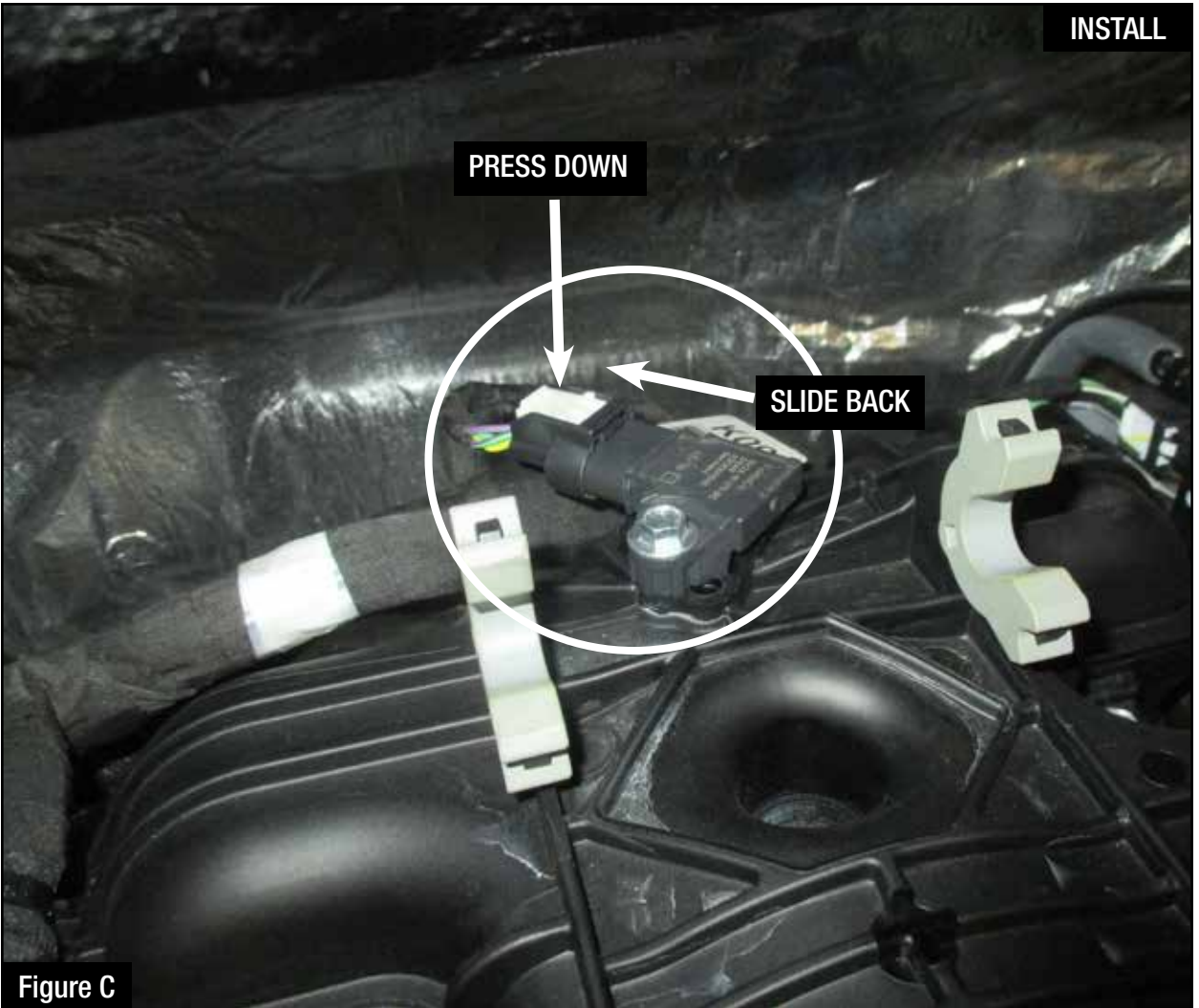


Figure B

Refer to Figure B for Steps 2-3.

Step 2: Remove engine cover to gain access to the MAP sensor.

Step 3: Locate the MAP and TMAP sensor. The MAP sensor is located on the back of the intake manifold towards the firewall. The TMAP sensor is located on the charge intake tube just before the throttle body.



Refer to Figures C for Steps 4-5.

- Step 4: Locate and disconnect the MAP sensor connector by sliding the white part of the connector toward the firewall then pressing on it to release it from the sensor.
- Step 5: Locate the MAP sensor jumper harness on the aFe Power harness. This is the shorter jumper harness. Plug the female connector of the aFe Power harness into the MAP sensor, then take the male connector of the aFe Power harness and connect to the female connector of the engine harness.



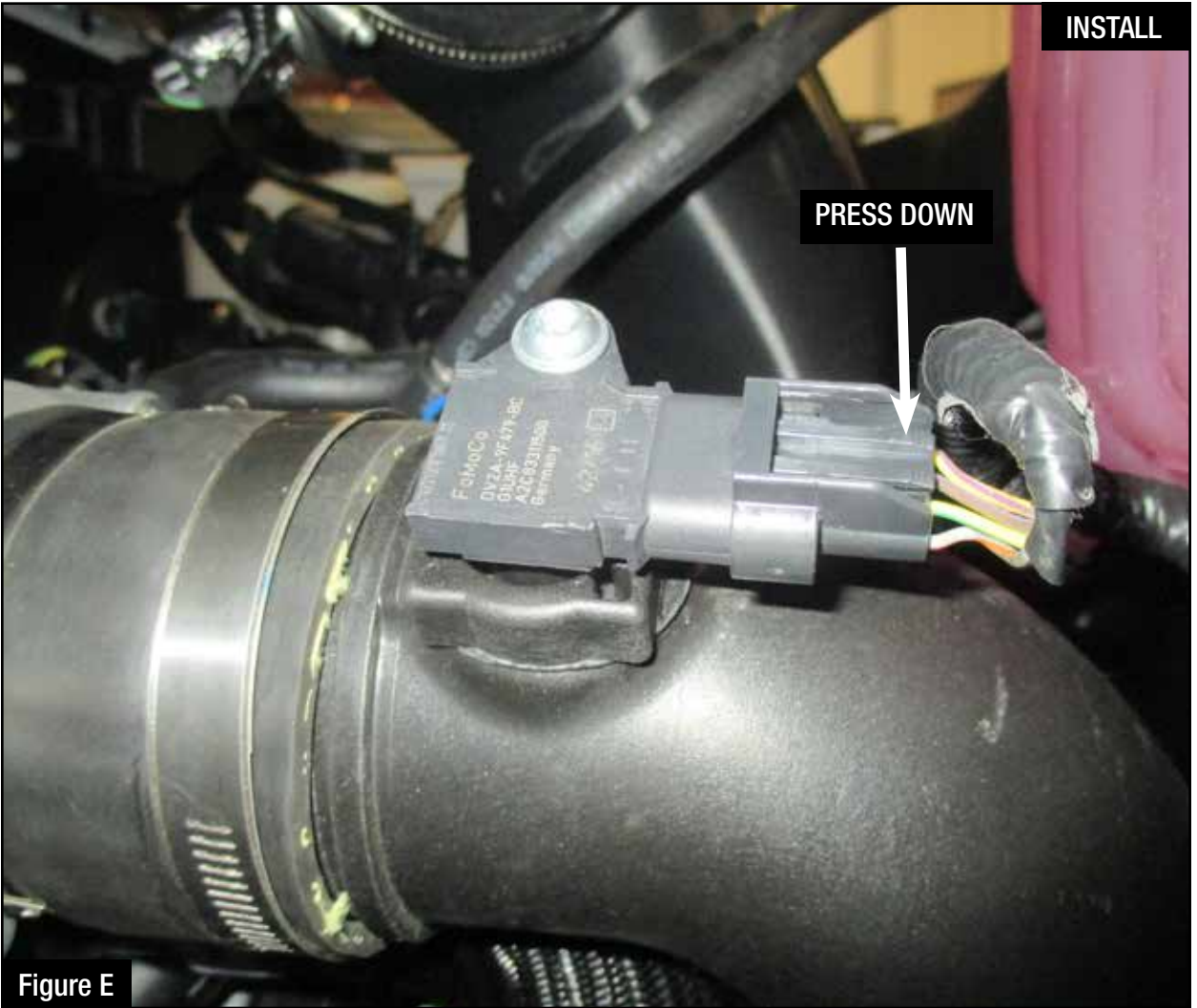
Figure D

Refer to Figure D for Step 6.

Step 6: Check with the pictures to make sure the connectors are correctly connected.



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

**Figure E****Refer to Figure E for Steps 7-8.**

- Step 7: Disconnect the TMAP sensor connector by pressing on the connector to unlock it from the sensor.
- Step 8: Locate the TMAP sensor jumper harness on the aFe POWER harness. This is the longer harness. Plug the female connector of the aFe Power harness into the TMAP sensor, then the male connector of the aFe Power harness to the female connector of the engine harness.



Figure F

Refer to Figure F for Step 9.

Step 9: Check with the pictures to make sure the connectors are correctly connected.



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

**Figure G****Refer to Figure G for Steps 10-11.**

- Step 10: Connect the black ground terminal cable on the aFe module to the negative battery post by removing the 13mm nut and placing the terminal and reconnect the nut.
- Step 11: Connect the red power terminal cable on the aFe module to the positive battery post by removing the 10mm nut and placing the terminal and reconnect the nut.

**Figure H****Refer to Figure H for Steps 12-13.**

Step 12: Secure the SCORCHER BLUE module to the recess on the driver side fender or any other desired location using the Velcro provided. The module must be located within reach of the LED switch harness if being used.

Step 13: Connect the SCORCHER 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 I****Refer to Figure I for Steps 14-15.****NOTE: The installation of the LED switch in the cabin is optional.**

Step 14: Select the desire location of the LED switch. Route the cable on the back of the switch to exit toward the top or bottom.

Step 15: Use the provided double sided tape to secure the LED switch in the desired location.



Figure J

Refer to Figure J for Steps 16-17.

Step 16: Carefully route the switch cable behind steering wheel cover or cabin trim cover

Step 17: Route the switch cable through firewall and into the engine bay. Follow the main harness through the grommet into the firewall.

**Figure K****Refer to Figure K for Steps 18-20.**

- Step 18: Plug the end of the switch cable to the harness inside the engine compartment.
- Step 19: 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 20: Reinstall the engine cover.

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



Figure L

Refer to Figure L.

The blue LED light will start flashing once the module is connected to the truck and the ECU on. The blue LED will become solid if the module gets connected through Bluetooth to a device.



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 show up 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.

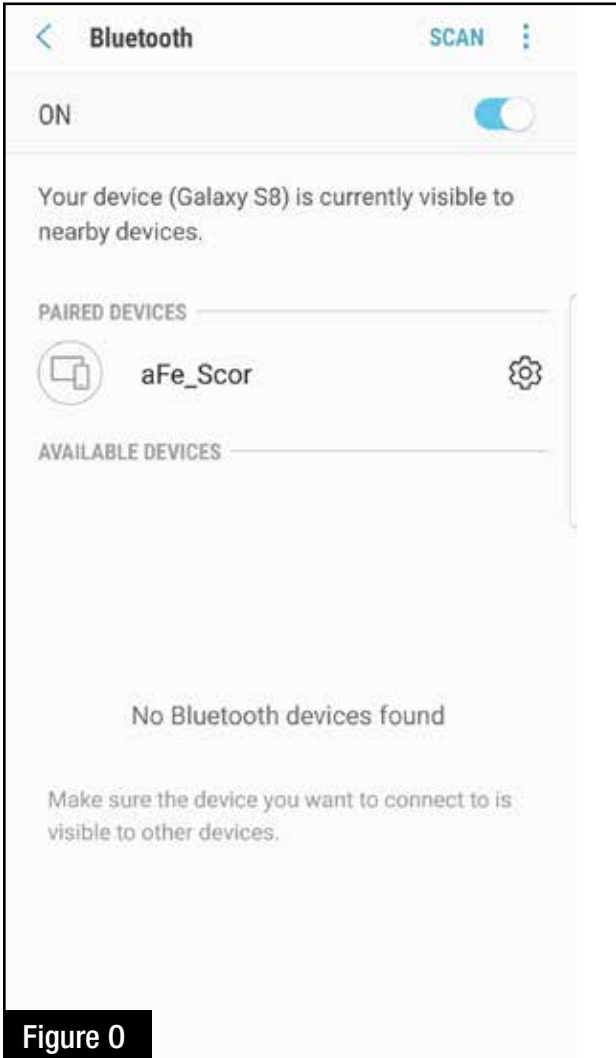


Figure 0

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.

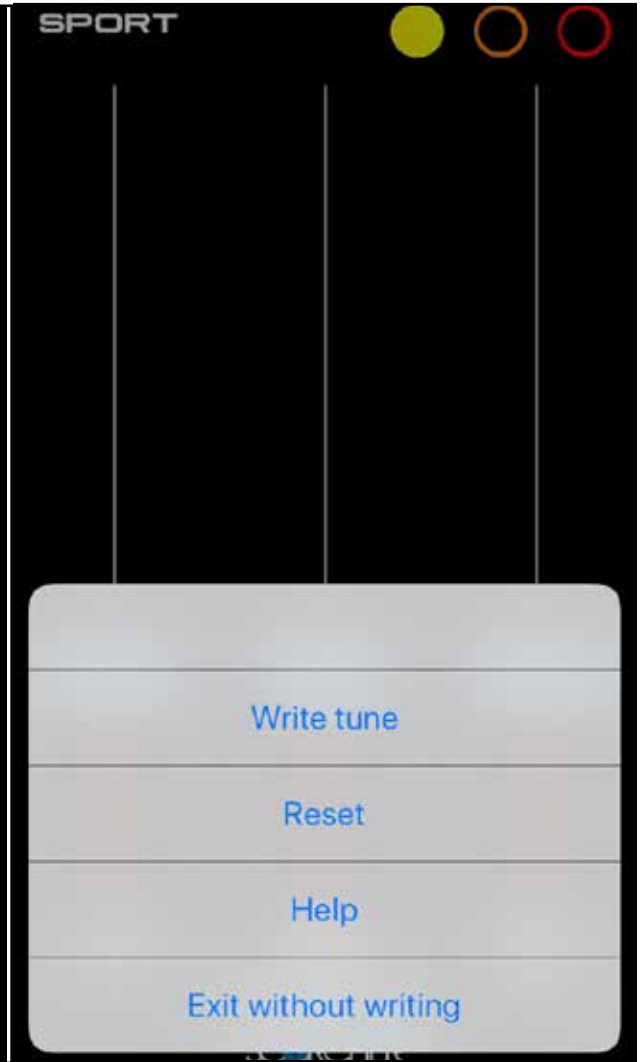
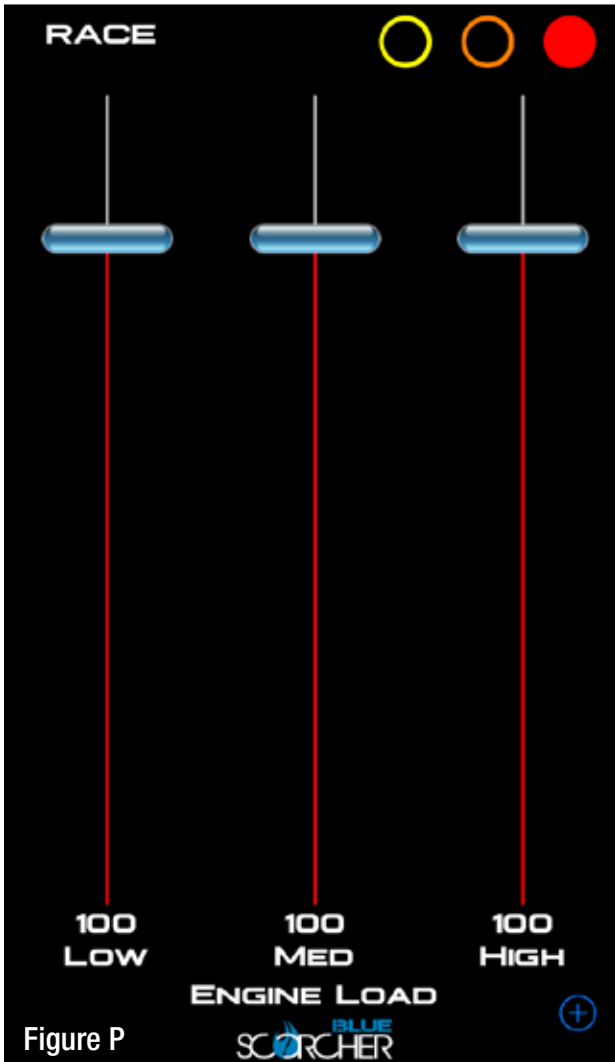


Figure P

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 truck is in sleep mode.

OE Replacement Air Filter



P/N: 30-10162 (P5R)
31-10162 (PDS)

Air Intake System



P/N: 51-73115 (PDS)
54-73115 (P5R)

Cat-Back Exhaust System



P/N: 49-43045-B (Blk Tip)
49-43045-P (Pol Tip)

Rear Differential Cover



P/N: 46-70152-WL (w/ Oil)
46-70152 (Blk)
46-70150 (RAW)

Cat-Back Side-Exit Exhaust System



P/N: 49-43091-B (Blk Tip)
49-43091-P (Pol Tip)

Turbo Downpipes



P/N: 48-43020-HC (Street)
48-43020-HN (Race)

Intercooler w/ Tubes



P/N: 46-20292-B

Sprint Booster V3



P/N: 77-13001

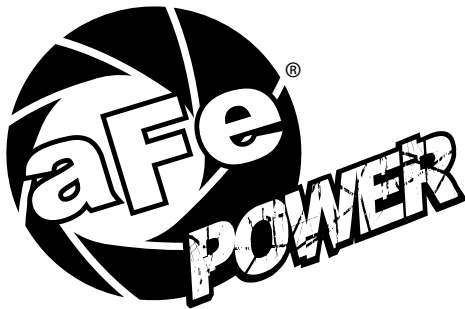
Warranty

General Terms:

- aFe warrants their products to be free from manufacturer's defects due to workmanship and material.
- This warranty applies only to the original purchaser of the product and is non-transferrable.
- Proof of purchase of the aFe product is required for all warranty claims.
- Warranty is valid provided aFe instructions for installation and/or cleaning were properly followed.
- Proper maintenance with regular inspections of product is required to insure warranty coverage.
- Damage due to improper installation, abuse, unauthorized repair or alteration is not warranted.
- Incidental or consequential damages or cost, including installation and removal of part, incurred due to failure of aFe product is not covered under this warranty.
- All warranty is limited to the repair and/or replacement of the aFe part. To request Return Goods Authorization ("RGA"), email RGA@afepower.com or call (951)493-7100. Upon receipt of the RGA, you must return the product to the address provided in the RGA, freight prepaid and accompanied with a dated proof of purchase and the RGA. Upon receipt of the defective product and upon verification of proof of purchase, aFe will either repair or replace the defective product within a reasonable time, not to exceed thirty days.

Product Category	P/N Prefix	Warranty duration
Direct OE Replacement Filters	10, 11, 30, 31, 71, 73	Life of the vehicle
Racing Filters	18	1 year
Universal	21, 24, 72, TF	2 years
Air Intake Systems	50, 51, 54, 55, 75, TR, TA, TL	2 years
Exhaust Systems	49	2 years
Intercoolers & Intercooler Tubes	46-2	2 years
Intake Manifolds	46-1	2 years
Differential Cover	46-7	Life of the vehicle
Exhaust Manifolds	46	2 years
Throttle Body Spacers	46-3	2 years
Fluid Filters	44	90 days
Pre-Filters	28	2 years
Heavy Duty OE Replacement	70	2 years
PowerSports OE Replacement	81, 87	2 years
PowerSports Intake Systems	85	2 years
Tuners	77	1 year

No other warranty expressed or implied applies nor is any person or advanced FLOW engineering authorized to assume any other warranty. Some States do not allow the exclusion or limitation of incidental or consequential damages or do not allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.



advanced FLOW engineering, inc.
252 Granite Street Corona, CA 92879
TEL: 951.493.7100 TECH: 951.493.7185
E-Mail: Tech@aFepower.com