

advanced FLOW engineering

Instruction Manual P/N: 51-12882-H / 54-12882-H / 51-12882-B / 54-12882-B

Make: Ford Model: F-150 Raptor Year: 2017-2020	Engine: V6-3.5L (tt) EcoBoost
Make: Ford Model: F-150 Year: 2017-2020	Engine: V6-3.5L (tt) EcoBoost
Make: Ford Model: F-150 Year: 2018-2020	Engine: V6-2.7L (tt) EcoBoost
Make: Ford Model: Expedition 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 951-493-7100.
- 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.

NOTE: Retain factory parts for future use.

Label	Qty.	Description	Part Number
A1	2	Air Filter (Pro DRY S)	21-91117 (Gray Media) (51-12882-H/51-12882-B)
A2	2	Air Filter (Pro 5R)	24-91117 (Blue Media) (54-12882-H/54-12882-B)
B1	1	Tube #1 of 2	05-12882B1 (Black) for 51/54-12882-B
B2	1	Tube #2 of 2	05-12882B2 (Black) for 51/54-12882-B
B3	1	Tube #1 of 2	05-12882H1 (Brushed) for 51/54-12882-H
B4	1	Tube #2 of 2	05-12882H2 (Brushed) for 51/54-12882-H
C1	1	Housing	05-12882H3 for 51/54-12882-H
C2	1	Housing	05-12882B3 for 51/54-12882-B
D1	1	Cover	05-12882H4 for 51/54-12882-H
D2	1	Cover	05-12882B4 for 51/54-12882-B
E	1	Coupling, Silicone Straight	05-01453
F	1	Coupling, Elbow Reducer	05-01428
G	1	Coupling, Elbow Reducer	05-01447
H	1	Clamp, #064	03-50006
I	2	Clamp, #032	03-50016
J	1	Clamp, #048	03-50007
K	2	Clamp, #056	03-50009
L	5	Screw, Btn Hd Socket: M6	03-50102
M	1	Vent Insert	05-01405
N	2	Pre-Filter (Black)	28-10063
O	1	Harness, IAT Extension	05-70023

Installation will require the following tools:

8mm Nut Driver, Flat Head Screwdriver.

***Temp sensor harness is only required for V6-2.7L (tt) EcoBoost applications.**

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.





REMOVAL

Figure A

Refer to Figure A for Steps 1-4.

Step 1: Disconnect the Temperature sensor plug from stock tube. ①

Step 2: Loosen the OE intake clamps using an 8mm nut driver from the left and right side runners. ②

Step 3: Unclamp the top portion of the OE airbox. ③

Step 4: Remove the OE intake and the top portion of the OE airbox by pulling straight up and out of the vehicle.

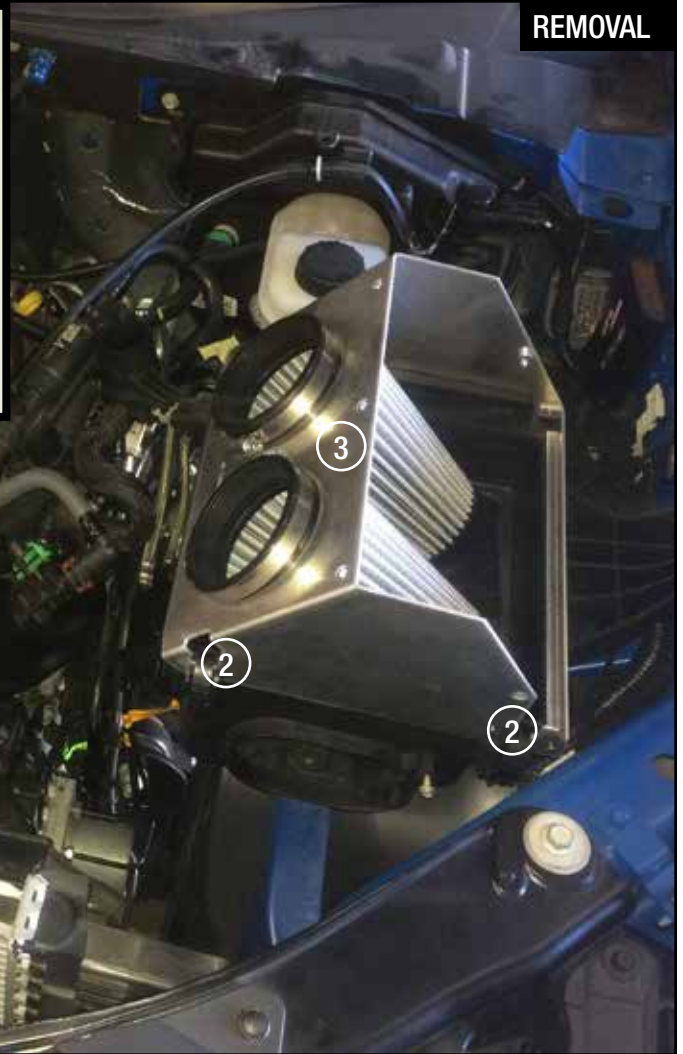


Figure B

Refer to Figure B for Steps 5-8.

Step 5: Remove the sensor from the OE intake 1/4 turn counter clockwise.

Step 6: Install the sensor on the rear aFe intake tube. ①

Step 7: Install housing and retain with factory clips. ②

Step 8: Install filters from inside the housing. Make sure they are inserted flush and filter retention bumps or groove hold them in place. ③

Note: If OE harness is too short, use the provided sensor harness extension.



Figure C

Refer to Figure C for Steps 9-11.

Step 9: Install the small straight coupling on the cross over tube, install clamps but do not tighten.

Step 10: Fit tubes into the remaining couplers. Adjust for best fit and tighten all clamps.

Step 11: Connect sensor harness to the Temp Sensor.

NOTE: V6-2.7L (tt) EcoBoost only use the provided sensor harness extension.

Vent insert installation:

INSTALL



Figure D

Refer to Figure D for Step 12.

NOTE: (These procedures should be done with the inlet tubes installed on the engine. It is shown off the vehicle for better illustration.)

Step 12: Locate the o.e. plastic tube feeding the driver's side turbo inlet.



Refer to Figure E for Step 13.

Step 13: Locate the valve cover vent tube that feeds into driver's side turbo inlet. It is not necessary to remove the engine cover.

**Figure F****Refer to Figure F for Step 14.**

Step 14: Note the release clip on the vent tube connectors. Apply pressure against the exposed tail and pull vent fitting off of the turbo inlet tube. It is not necessary to disconnect at the valve cover end. There is a sensor and wire harness on this vent tube. Do not damage or remove these components.



Figure G

Refer to Figure G for Step 15

Step 15: Insert vent fitting with slash cut facing turbo inlet. It should not be a loose fit. It is direction dependent and must not rotate once installed.



Refer to Figure H for Steps 16-17.

Step 16: Reconnect the vent fitting. It will snap over without having to release the plastic clip. Pull up slightly to confirm installation.

Step 17: Installation is complete. Any codes can be cleared with a code reader or by disconnecting the battery. You will lose any radio presets with battery disconnection.

NOTE: If removal of the vent insert is required, it can be pulled out with internal snap ring pliers.



Figure I

Refer to Figure I for Step 18.

Step 18: Make sure all clamps and screws are tight. Your installation is now complete.

NOTE: Check all bolts, clamps, and connectors after 200 miles.

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Pro DRY S Air Filter



P/N: 21-91117
21-91117M (Pair)

Pro 5R Air Filter



P/N: 24-91117
24-91117M (Pair)

Pro-GUARD 7 Air Filter



P/N: 72-90069
72-90069M (Pair)

Pre-Filter



P/N: 28-10063
28-10063M (Pair)

Twisted Steel Downpipes



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

Sprint Booster V3



P/N: 77-13001

Intercooler w/ Tube



P/N: 46-20292-B

Rear Differential Cover



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

Side Exit Exhaust System



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

Cat-Back Exhaust System



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

SCORCHER GT Module



P/N: 77-43023

Momentum GT Air Intake



P/N: 51-73115 (PDS)
54-73115 (P5R)
75-73115 (PG7)

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	2 years
Air Intake Systems	50, 51, 54, 55, 75	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

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.



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