



advanced FLOW engineering

Instruction Manual P/N: 46-20519-B

BladeRunner – Charge Pipe Kit

Make: **Ford**
Make: **Ford**

Model: **F-150**
Model: **F-150 Raptor**

Year: **2021+**
Year: **2021+**

Engine: **V6 – 3.5L(tt)**
Engine: **V6 – 3.5L(tt)**



- 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.
- Retain factory parts for future use.

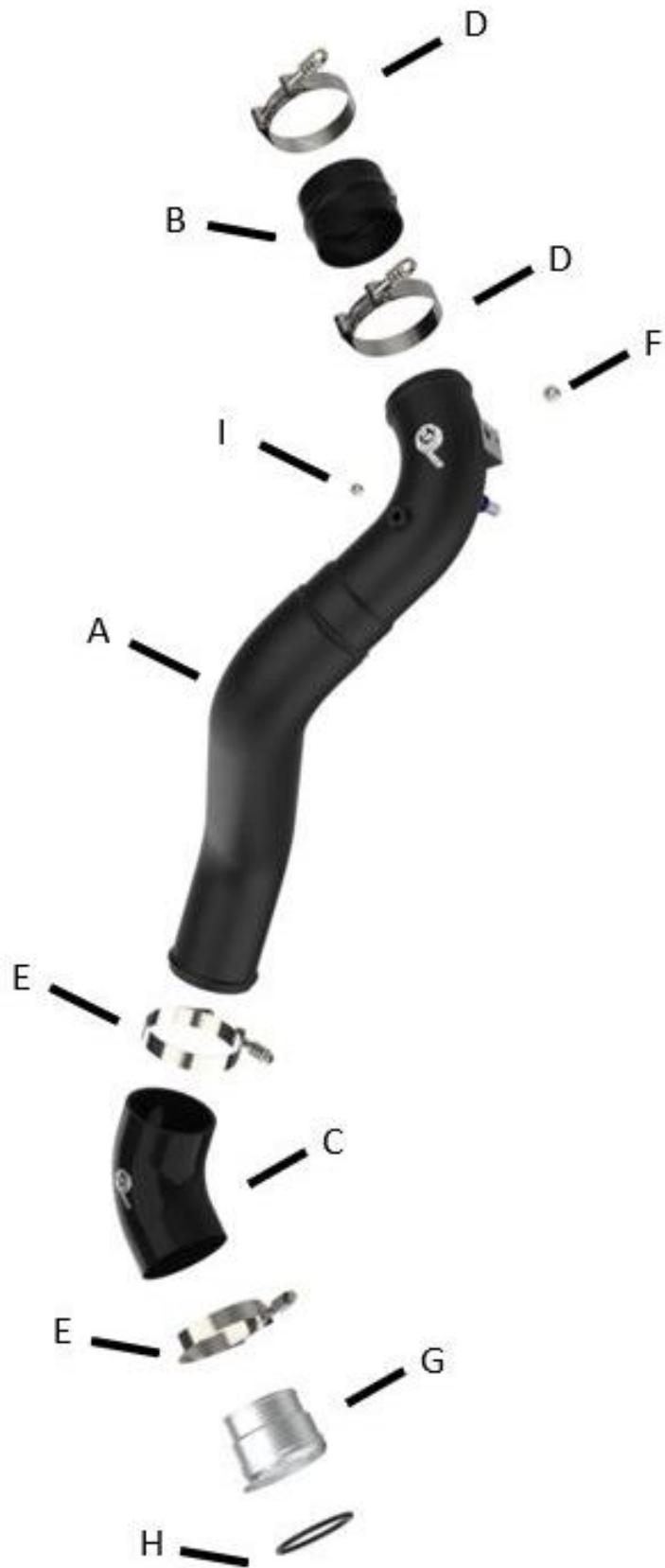
Label	Qty.	Description	Part Number
A	1	Tube, Cold Side: 46-20519	05-61235B
B	1	Coupling, Silicone Hump: 3"ID x 3"L	05-60827
C	1	Coupling, Silicone Elbow: 3.5" ID x 60 Deg	05-61229
D	2	Clamp, Spring Loaded T-Bolt: 3.5" Dia	05-60530
E	2	Clamp, Spring Loaded T-Bolt: 3.75" Dia	05-60024
F	1	Screw, Btn Hd Socket: M6x1x12	03-50102
G	1	Adaptor, Ford I/C: 46-20219	05-60373
H	1	O-Ring, #339: 46-20209/19	05-60626
I	1	Plug, Hex Hd Socket: 1/8" NPT (Zn Plt)	03-50029

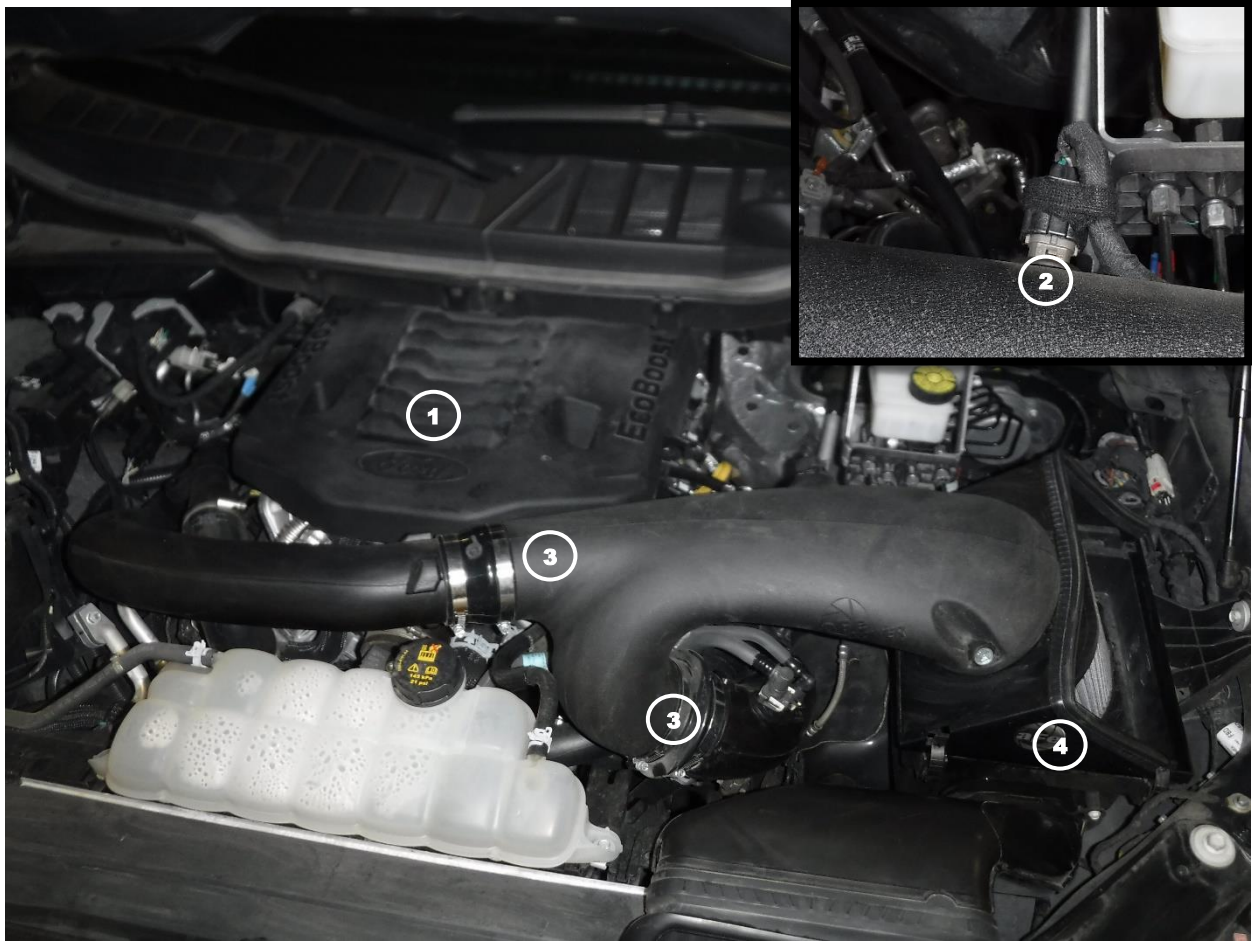
Installation will require the following tools:

7mm socket, 10mm socket, 7/16" deep socket, 5mm allen wrench, 3/16" allen wrench, T30 Torx, 6" extension, ratchet, pick, thread sealant, & grease.

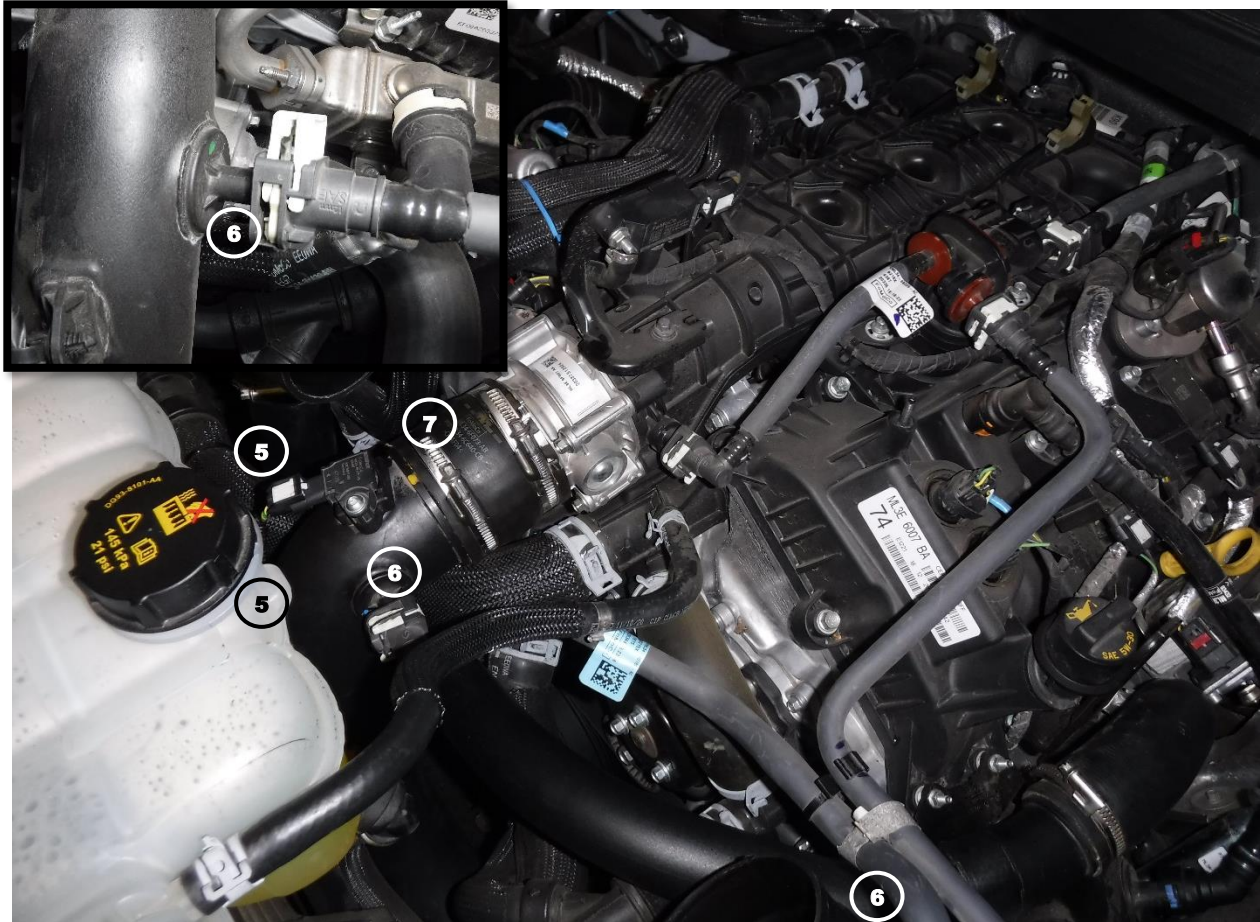
Warranty Information available at <https://afepower.com/contact#warranty>

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.





1. Park vehicle on level ground and engage the parking brake.
2. Disconnect the negative battery cable.
3. Remove the two nuts securing the engine cover to the vehicle, then remove the cover from the vehicle ①
4. Disconnect the air intake temperature sensor from the air intake tube and unclip harness from the air box ②
5. Loosen the clamps securing the air intake tube(s) onto the air box and the turbo inlet tubes ③
6. Unclip the top of the air box from the bottom of the air box ④ then remove the air intake tube(s) and top from the vehicle.



7. Disconnect the MAP sensor connector and unclip the harness from the cold side charge pipe ⑤
8. Disconnect the vent hose from the turbo inlet tube and the cold side charge pipe, then remove it from the vehicle ⑥

It may be necessary to use a pick to break the connection between the charge pipe coupling and the vehicle in order to disconnect the coupling.

9. Loosen the clamp securing the throttle body coupling to the cold side charge pipe ⑦ then disconnect the charge pipe from the throttle body coupling.



10. Underneath the vehicle, disconnect the bypass valve tube from the bypass valve and rotate out of the way (8)
11. Remove the retaining clip from the cold side charge pipe connector, then firmly pull the connector off the intercooler (9)
12. Remove the cold side charge pipe from the vehicle from the bottom or top of the vehicle.
13. Loosen the clamp securing the throttle body coupling to the throttle body, then remove the coupling from the vehicle (not shown).



Note: Be sure to use thread sealant on the plugs or sensors to prevent any leaking.

14. If you are not using any aftermarket sensors, install the supplied 1/8" NPT plugs (10) into the threaded fittings on the supplied aFe cold side charge pipe.
15. Remove the MAP sensor from the factory pipe.

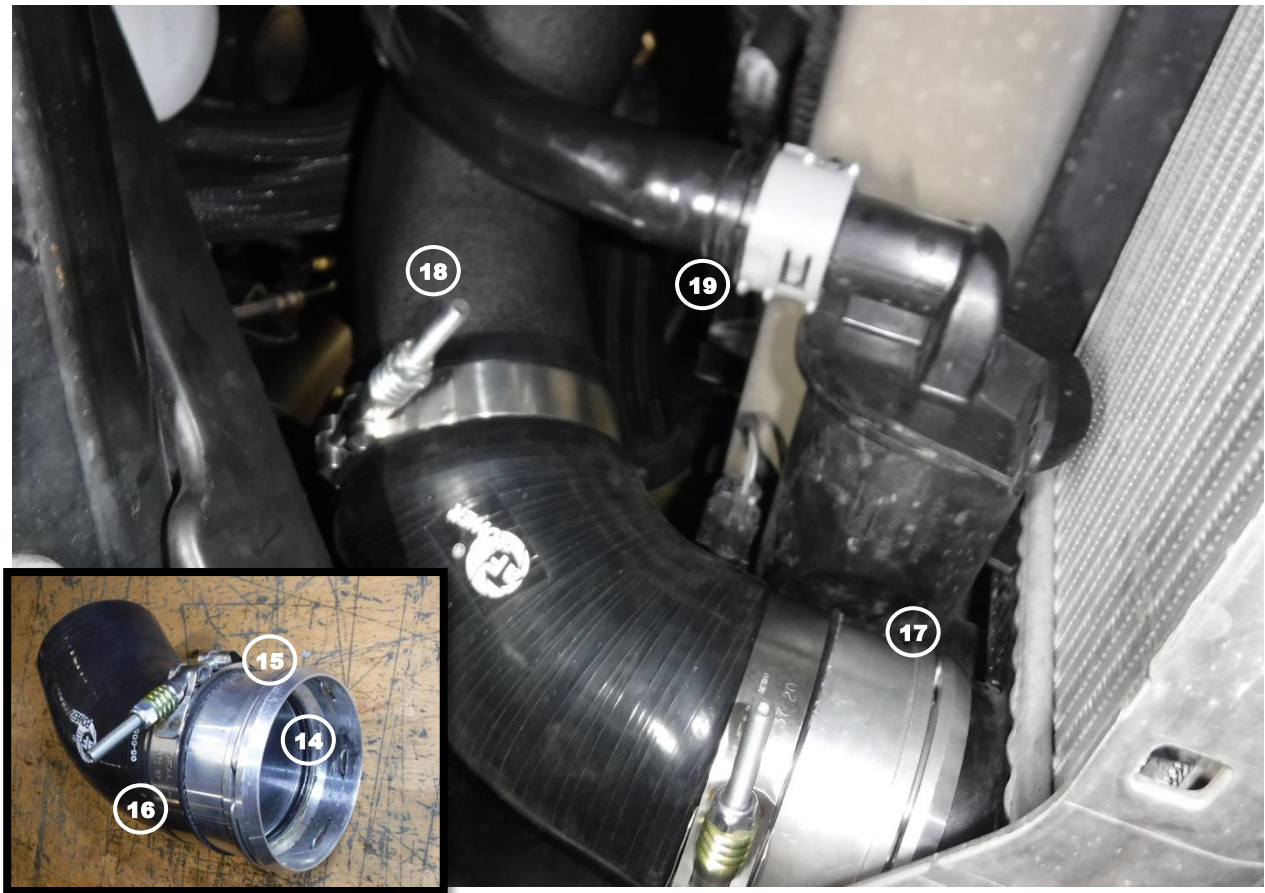
Note: Be sure to lubricate the O-ring to prevent it from tearing during installation.

16. Install the MAP sensor into the port on the aFe cold side charge pipe and secure it using the supplied M6x1x12mm screw (11)



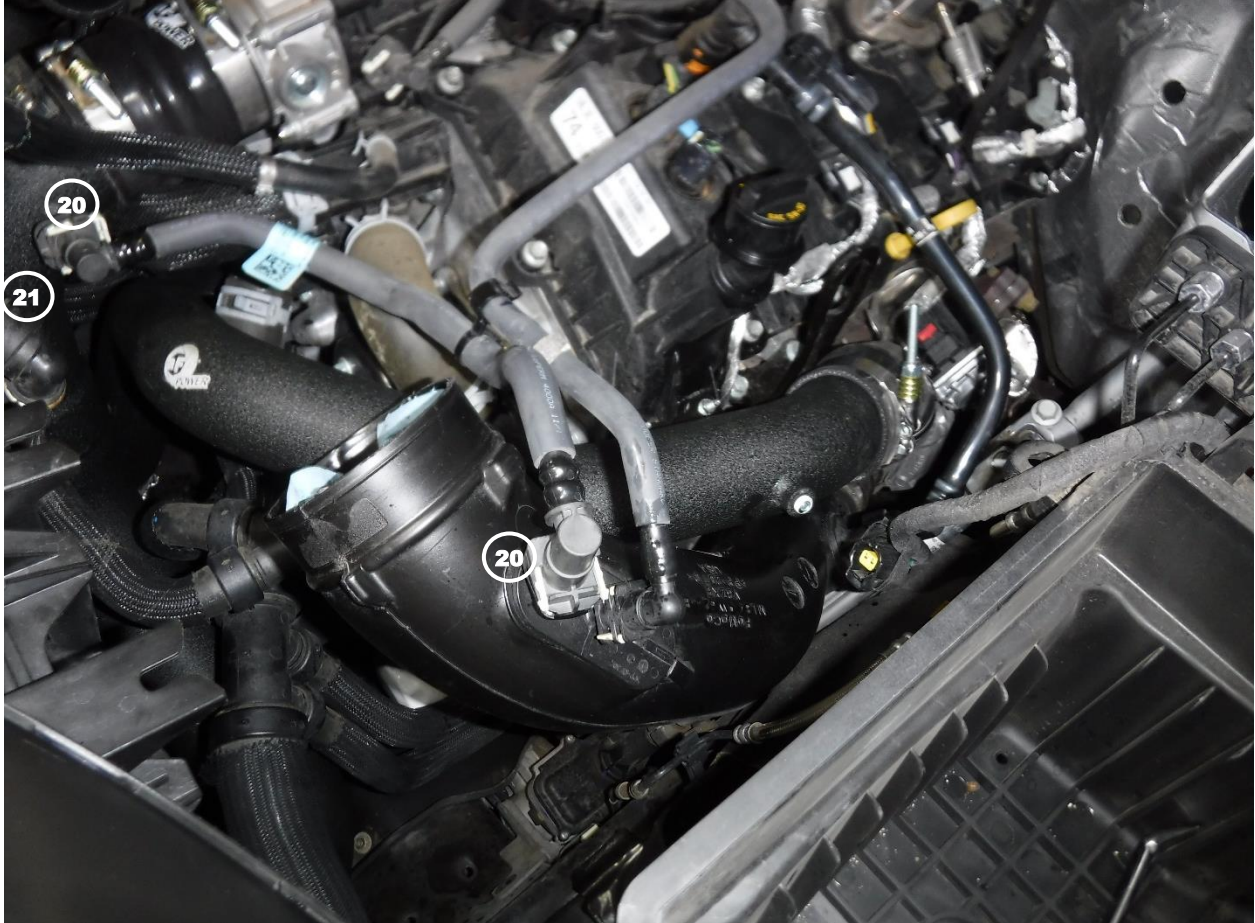
Note: Be sure to thoroughly clean all oil residue off of the connections before installing any of the aFe couplings onto the vehicle.

17. Install the aFe silicone straight coupling 3"ID x 3"L and one 3.5" spring-loaded T-Bolt clamp onto the throttle body (12) do not tighten the clamp yet.
18. Install the aFe cold side charge pipe into the vehicle with one 3.5" spring-loaded T-Bolt clamp (13) and connect to coupler at throttle body, do not tighten the clamps yet.



Note: Be sure to lubricate the O-ring with grease to prevent it from tearing during installation.

19. Install the supplied -339 O-ring into the groove on the inside of the supplied aFe intercooler adaptor (14)
20. Install the factory retaining clip onto the aFe intercooler adaptor (15)
21. Install the supplied aFe silicone elbow coupling 3.5"ID x 60Deg and one 3.75" spring-loaded T-Bolt clamp onto the aFe intercooler adaptor (16) then tighten the clamp.
22. Install the aFe intercooler adaptor onto the intercooler and ensure the retaining clip snaps all the way into the groove on the intercooler (17)
23. Install the remaining 3.75" spring-loaded T-Bolt clamp onto the aFe silicone elbow coupling 3.5"ID x 60Deg, then connect the coupling to the aFe cold side charge pipe (18)
24. Reconnect the bypass valve tube to the bypass valve (19)



25. Reconnect the vent hose to the aFe charge pipe and the turbo inlet tube, ensure the retaining clips lock into place (20)

26. Reconnect the MAP sensor connector to the aFe charge pipe (21)

27. Ensure the aFe cold side charge pipe is not touching anything and tighten all of the clamps.



28. Reinstall the air intake tube(s) and top of the air box into the vehicle and tighten the clamps
②②
29. Reconnect the air intake temperature sensor to the air intake tube and clip harness onto the air box ②③
30. Reinstall the engine cover ②④
31. Reconnect the negative battery cable.
32. Install is now complete.

Note: Be sure to check all connections after 50-100 miles.



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