



advanced FLOW engineering

Instruction Manual P/N: 46-20444-B

BladeRunner – Charge Pipe Kit

Make: **GM**

Model: **2500/3500**

Year: **20 - 23**

Engine: **V8 – 6.6L(td)**



- 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.

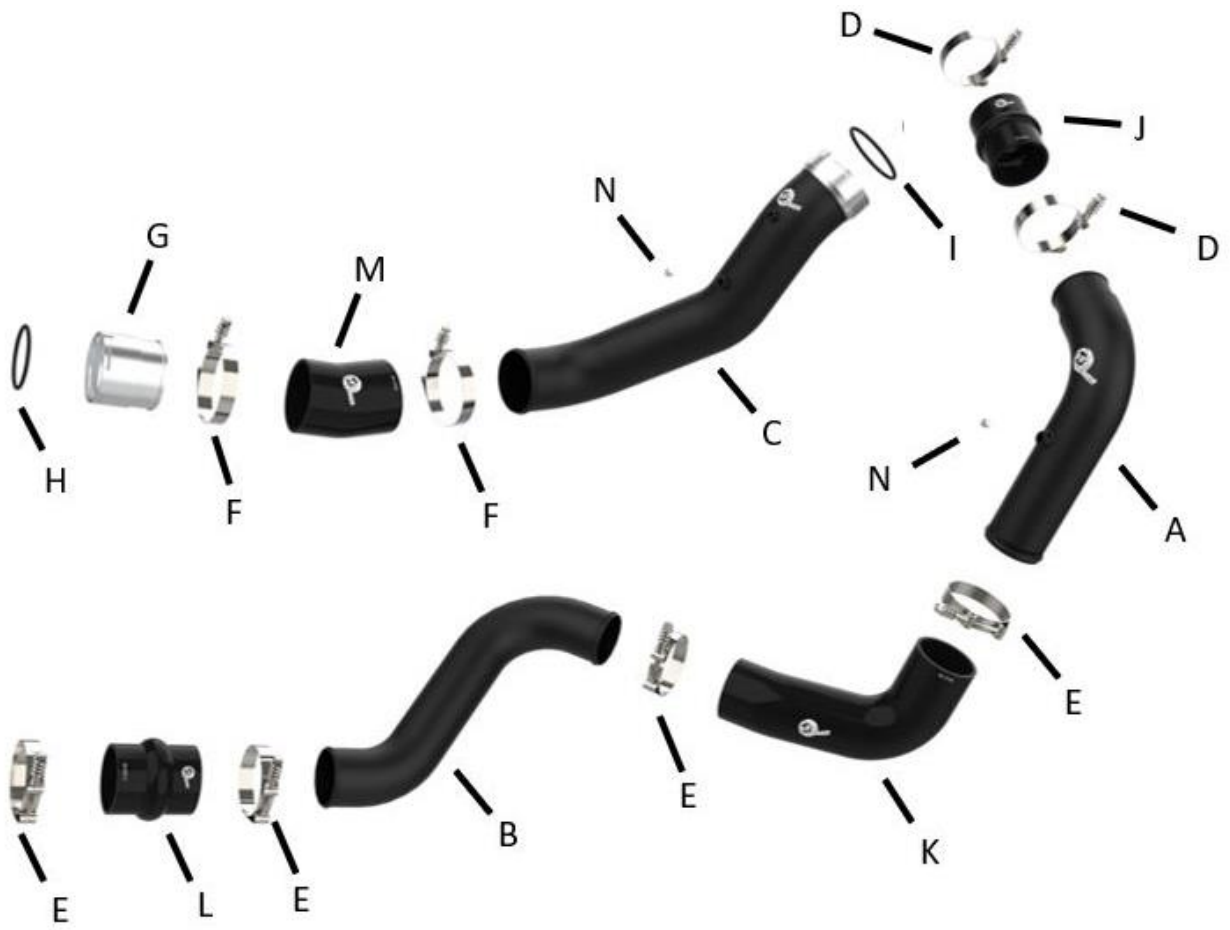
Label	Qty.	Description	Part Number
A	1	Tube, Hot Side Upper: 46-20444-B	05-61138B
B	1	Tube, Hot Side Lower: 46-20444-B	05-61139B
C	1	Tube, Cold Side: 46-20444-B	05-61140B
D	2	Clamp, Spring Loaded T-Bolt: 3" Dia	05-60435
E	4	Clamp, Spring Loaded T-Bolt: 3.25" Dia	03-50530
F	2	Clamp, Spring Loaded T-Bolt: 3.75" Dia	05-60024
G	1	Adaptor; Intercooler Outlet	05-61141
H	1	O-Ring, 70mm ID x 5mm W	05-61151
I	1	O-Ring, 80m ID x 5mm W	05-61136
J	1	Coupling, Silicone Hump: 2-3/4"ID x 4"L	05-60216
K	1	Coupling, Silicone Elbow: 3" x 80 Deg x 30 Deg	05-61122
L	1	Coupling, Silicone Hump: 3"ID x 4"L	05-60012
M	1	Coupling, Silicone Elbow: (3.5" x 3.45") 14 Deg	05-61142
N	2	Plug, Hex Hd Socket: 1/8" NPT (Zn Plt)	03-50029

Installation will require the following tools:

7/32" socket, 8mm socket, 10mm deep socket, 13mm socket, 7/16" deep socket, 3/16" allen wrench, 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 cables.
3. Disconnect the MAF sensor connector from the air box ① by sliding the red locking tab back and depressing the release tab, then unclip the wire harness from the air box.
4. Loosen the clamp securing the air intake tube to the turbo inlet tube ② and disconnect.
5. Remove the nut securing the air box to the vehicle ③
6. Firmly lift the complete air box from its rubber mounting grommets and remove it from the vehicle.



7. Disconnect the intake air temperature sensor connection from the cold side charge pipe ④ by sliding the white locking tab back and depressing the release tab.
8. Release the retaining clip securing the charge pipe to the vehicle ⑤ by opening the clip from the raised portions on the clip. The raised portions may be in the front of the tube or the back of the tube depending on the vehicle.
9. Disconnect the charge pipe from the engine inlet of the vehicle by just pulling the charge pipe downwards.
10. Disconnect the charge pipe from the intercooler, this will also have the retaining clip like in the previous step.
11. Remove the factory cold side charge pipe from the vehicle.



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

12. Loosen the clamp securing the turbo outlet coupling to the turbo (6) and disconnect the coupling from the turbo.
13. Remove the screws securing the front driver side inner fender liner and remove it from the vehicle
14. Loosen the clamp securing the factory hot side charge pipe hose to the intercooler inlet (7) and disconnect the hose from the intercooler.
15. Remove the hot side charge pipe from the top of the vehicle.



Note: The retaining clips will need to be removed from both ends of the factory cold side charge pipe for reuse with the aFe charge pipe.

16. Gently lift the metal retainer up enough to slide the retaining clips out of the factory charge pipe ⑧ and remove the clips.
17. Remove the intake air temperature sensor ⑨ from the factory charge pipe.

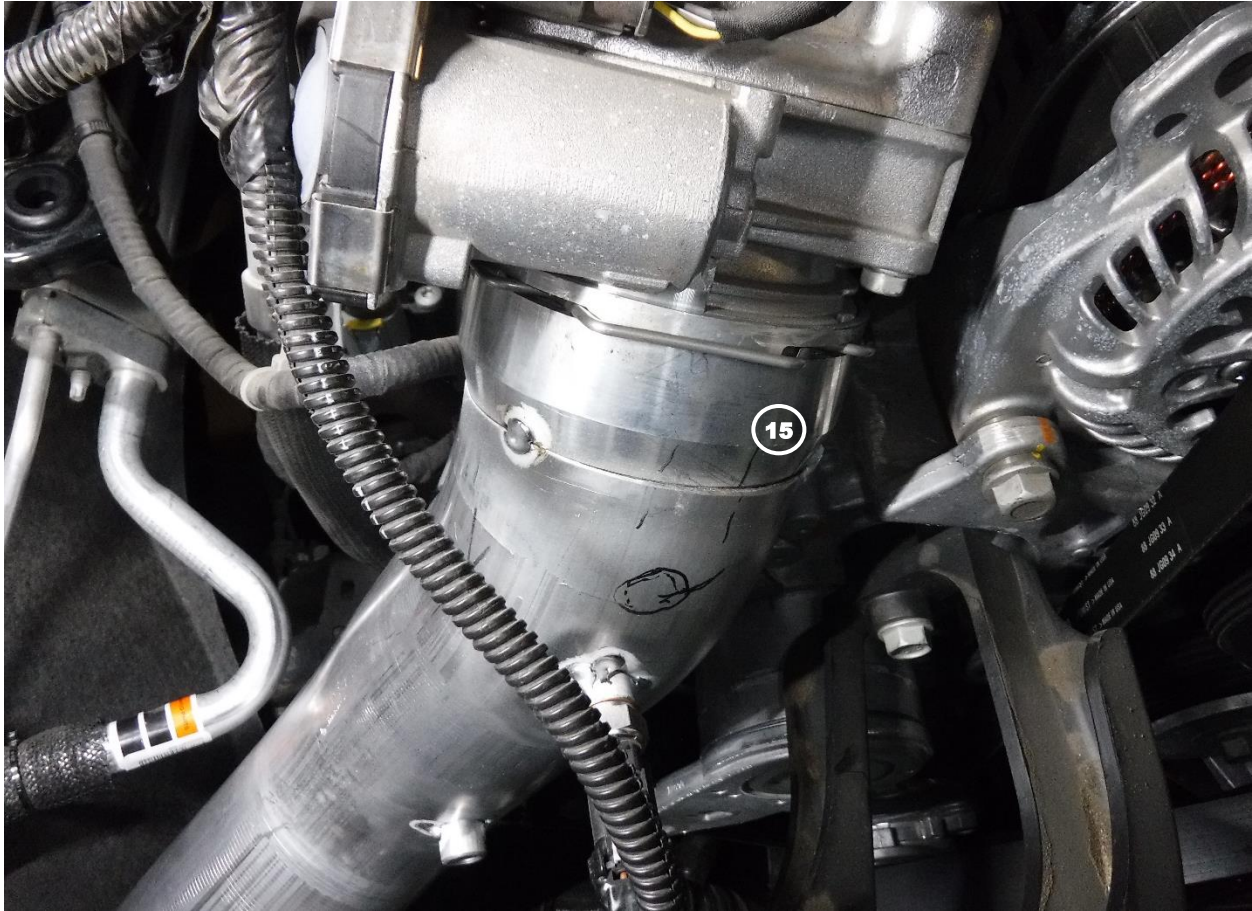


Note: Be sure to lubricate the O-ring with grease to prevent it from tearing during installation.

18. Install the supplied 80mm ID O-ring into the groove on the inside of the adaptor on the aFe cold side charge pipe (10)
19. Install the supplied 70mm ID O-ring into the groove on the inside of the intercooler outlet adaptor (11)
20. Install the factory retaining clips onto the intercooler outlet adaptor and on the aFe cold side charge pipe (12) with the opening facing the notch on the adaptor.
21. Install the factory intake air temperature sensor into the fitting (13) closer to the adaptor on the charge pipe.

Note: Be sure to use thread sealant on the plug or sensor to prevent any leaking

22. If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug (14) into the threaded fitting on the aFe cold side charge pipe.



23. Install the intercooler outlet adaptor onto the intercooler and ensure the retaining clip snaps all the way into the groove on the intercooler.

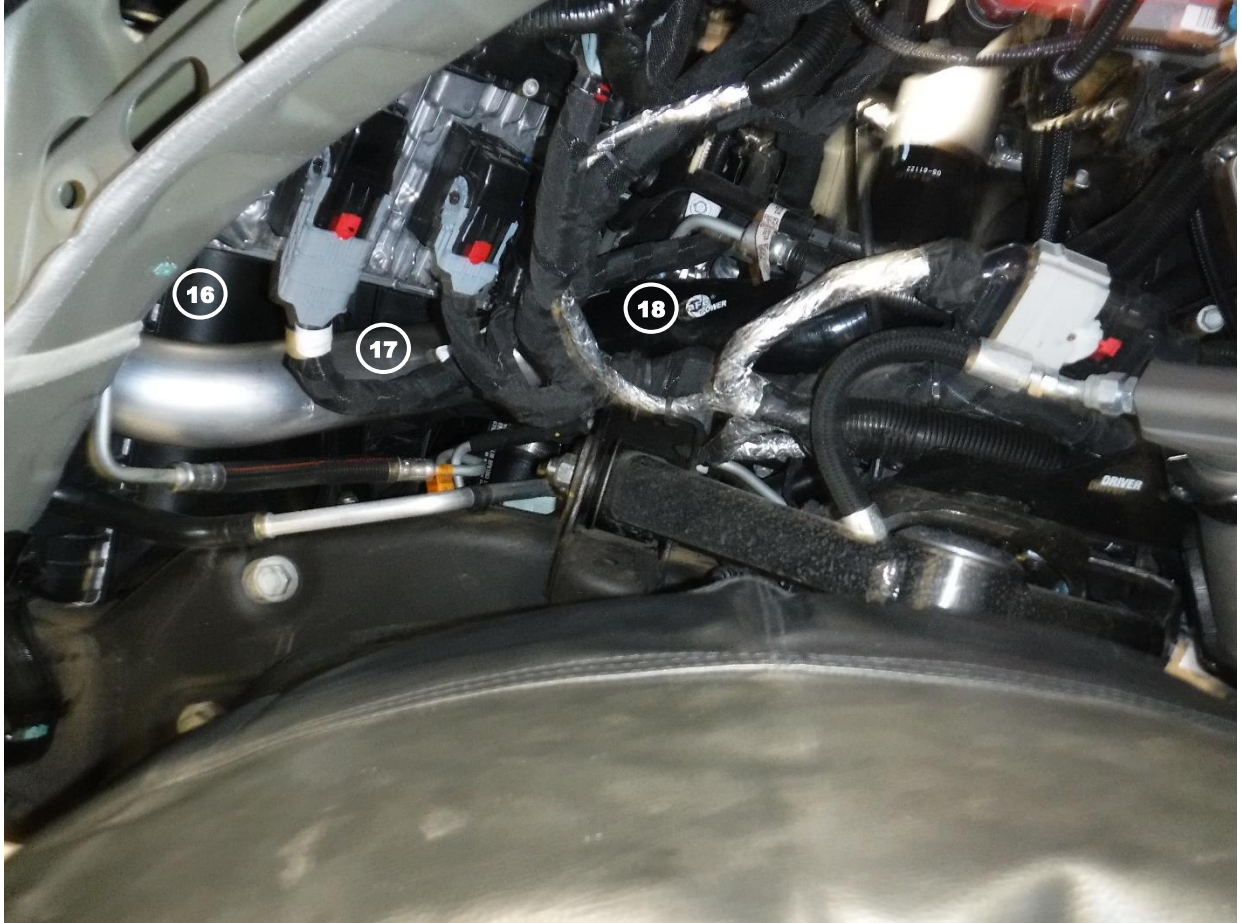
Note: Be sure to thoroughly clean all oil residue off of the connections before installing any of the aFe couplings onto the vehicle.

24. Install the supplied aFe silicone elbow coupling, 3-1/2"ID x (3.5" x 3.45") 14 Deg, and two of the supplied 3.75" spring-loaded T-Bolt clamps onto the end of the cold side charge pipe, do not tighten the clamps yet.

25. Install the aFe cold side charge pipe (15) into the vehicle, first connect the charge pipe to the engine inlet then slide the coupling onto the adaptor from the Step 23. The notch in the adaptor will line up with the notch on the engine inlet either on the front or the back depending on your vehicle.

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

27. Reconnect intake air temperature sensor connector on the charge pipe. Reinstall the air intake system and reconnect the MAF sensor into the vehicle.



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

28. Install the supplied aFe silicone hump coupling, 3"ID x 4"L, and two of the supplied 3.25" spring-loaded T-Bolt clamps onto the inlet of the intercooler on the driver side of the vehicle (16) through the wheel well, do not tighten the clamps yet.
29. Install the lower hot side charge pipe into the vehicle (17) through the wheel well and connect it to the coupling from the previous step, do not tighten the clamp yet.
30. Install the supplied aFe silicone elbow coupling, 3"ID x 80 Deg x 30 Deg, and two more of the supplied 3.25" spring-loaded T-Bolt clamps onto the opposing end of the lower charge pipe (18) from the previous step, do not tighten the clamps yet.



Note: Be sure to use thread sealant on the plug or sensor to prevent any leaking

31. If you are not using any aftermarket sensors, install the 1/8" NPT plug (19) into the threaded fitting on the upper aFe hot side charge pipe.
32. Install the aFe silicone hump coupling, 2-3/4" ID x 4" L, and two of the supplied 3" spring-loaded T-Bolt clamps onto the turbo outlet (20)
33. Install the aFe upper hot side charge pipe into the vehicle (21) connecting it to the coupling from Step 30 and the coupling from the previous step.
34. Ensure the aFe hot side charge pipes are not touching anything and tighten all clamps.
35. Reinstall driver side fender liner.
36. Reconnect the negative battery cables.
37. Install is now complete.

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



advanced FLOW engineering, inc.

Corona, CA 92879

aFepower.com