



***advanced FLOW engineering***

**Instruction Manual P/N: 46-20364-B**

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BladeRunner – Intercooler Hot and Cold Side Tubes

Make: Ford Model: F-150 Year: 2018-2019 Engine: V6 – 3.0L (td)



- 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
A	1	Hot Side Tube
B	1	Cold Side Tube
C	1	O-Ring: 68mm ID
D	1	O-Ring, 70mm ID
E	1	Coupling, Silicone Elbow Reducer: 3" x 2-5/8" x 21°
F	1	Coupling, Silicone Elbow Reducer: 2-1/4" x 2" x 45°
G	1	Clamp, Spring Loaded T-Bolt: 3-1/4"
H	1	Clamp, Spring Loaded T-Bolt: 2-7/8"
I	1	Clamp, Spring Loaded T-Bolt: 2-3/8"
J	1	Clamp, Spring Loaded T-Bolt: 2-1/4"
K	2	Plug, Hex Hd Socket: 1/8" NPT

**Tools Needed:** 7mm, 10mm, 22mm, 7/16" sockets, 3/16" allen wrench, 3/8" drive ratchet, 1/2" drive ratchet, 6" extension, flat blade screwdriver, thread sealant, floor jack, jack stands.

**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 the vehicle on level ground and engage the parking brake.
2. Disconnect the negative battery cable.
3. Unclip the sensor connection from the intake tube.
4. Loosen the two (2) clamps connecting the center portion of the intake tube from the air box to the turbo inlet tube.
5. Remove the intake tube from the vehicle.



6. Disconnect temperature sensor from the cold side intercooler tube.
7. Loosen the clamp securing the cold side intercooler tube to the engine inlet.

**Note: it may be necessary to use a pick to break the connection between the intercooler tube coupling and the engine inlet in order to slide the coupling off**

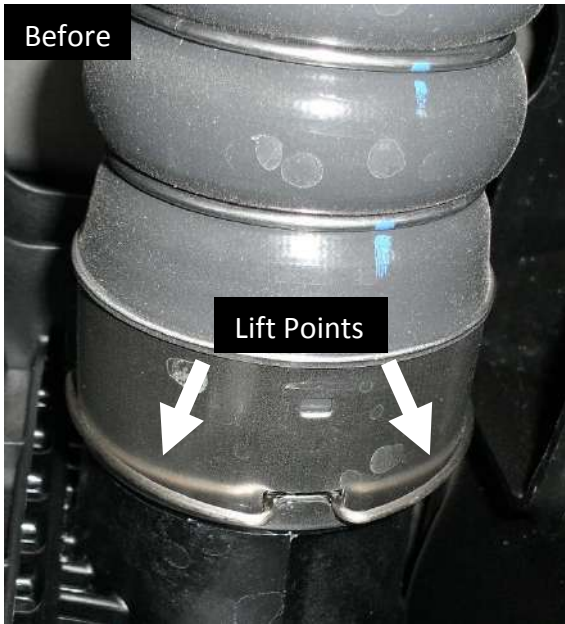
8. Disconnect the cold side intercooler tube from the engine inlet.



9. Locate the hot side intercooler tube on the passenger side of the vehicle, below the air conditioning line, then loosen the clamp securing the coupling to the turbo outlet tube.

**Note: it may be necessary to use a pick to break the connection between the intercooler tube coupling and the turbo outlet tube in order to slide the coupling off**

10. Disconnect the hot side intercooler tube coupling from the turbo outlet tube.

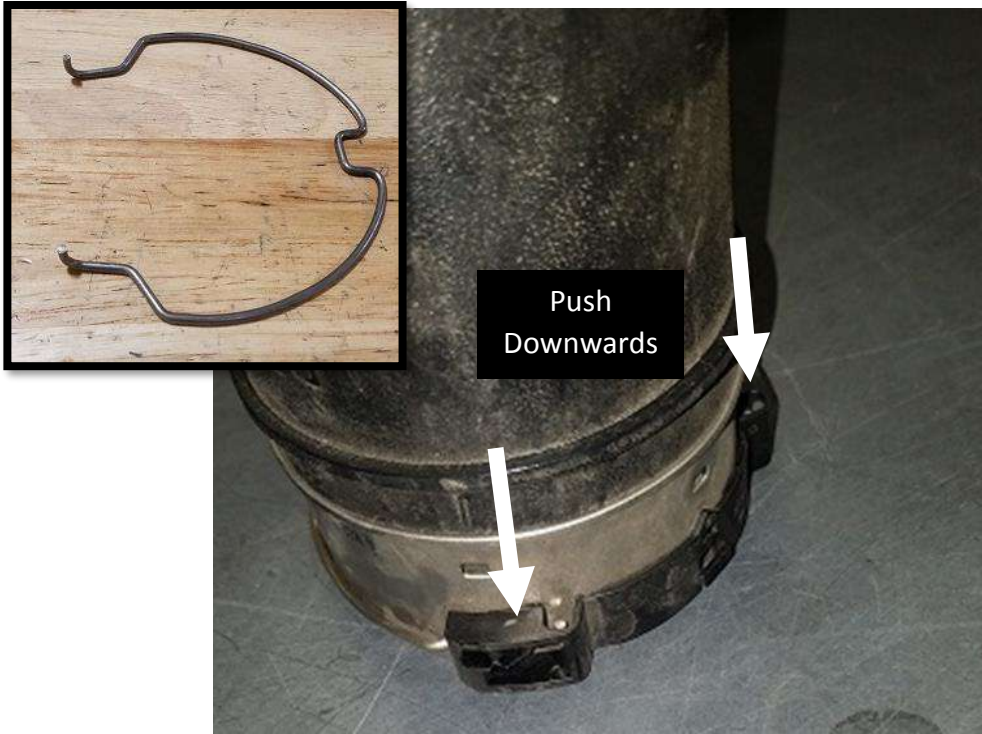


11. Lift the front of the vehicle and support it with jack stands in the proper areas.
12. Remove the front passenger side wheel from the vehicle.
13. Underneath the vehicle on the passenger side, disconnect the quick connect adapter connecting the hot side intercooler tube to the intercooler by lifting both sides of the retaining clip using two flat head screwdrivers and disconnect the intercooler tube from the intercooler.
14. Remove the hot side intercooler tube from the bottom of the vehicle.



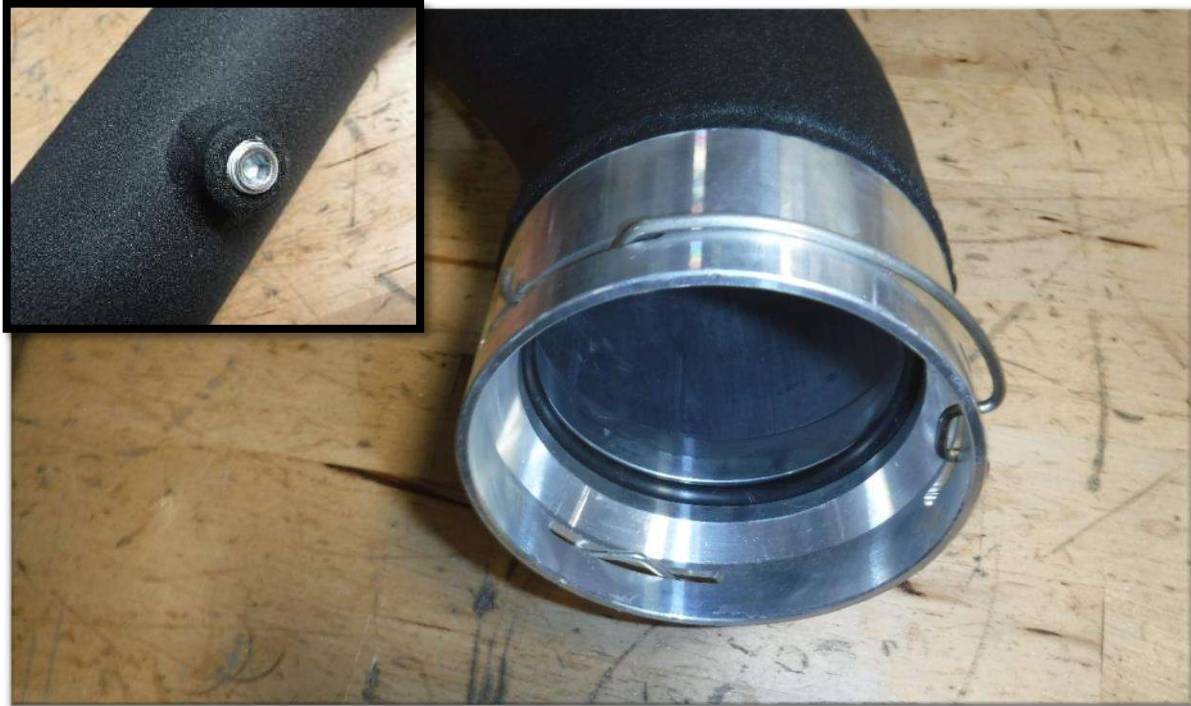
15. Underneath the vehicle on the driver side, disconnect the quick connect adapter connecting the cold side intercooler tube to the intercooler.
16. Remove the cold side intercooler tube from the top of the vehicle.





**Note: The retaining clips will need to be removed from both factory intercooler tubes for reuse with the aFe intercooler tubes**

17. Stand the factory intercooler tubes up on the end with the metal adapter.
18. The plastic retainer will need to be removed from both intercooler tubes by pushing it downwards on each side.
19. Once the plastic retainers are removed you can now remove the metal retaining clips for reuse with the aFe intercooler tubes.



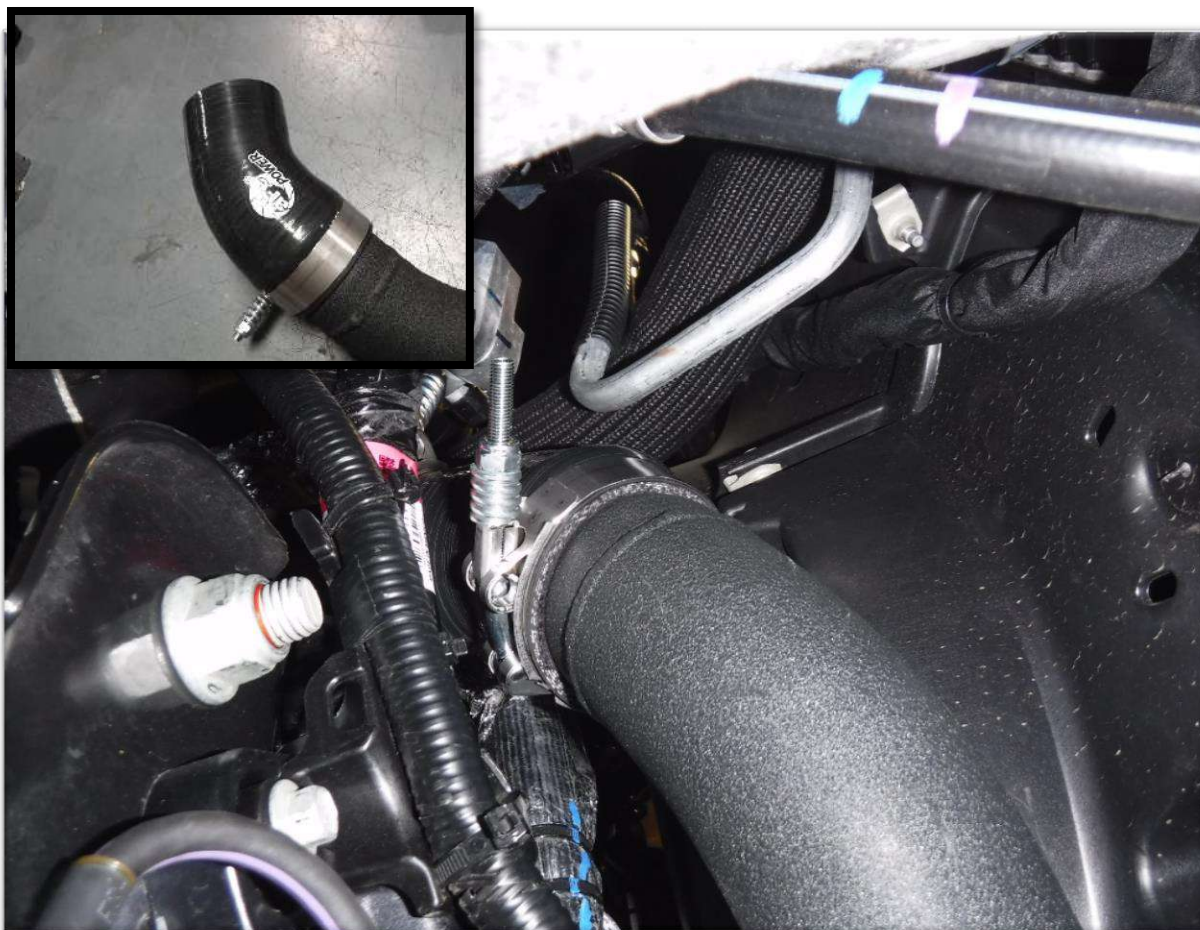
**Note: Be sure to use thread sealant on the plug or sensor to prevent any leaking**

20. If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug into the threaded fitting on the supplied aFe hot side intercooler tube.

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

21. Install the supplied 68mm ID O-ring into the groove on the inside of the adapter on the aFe hot side intercooler tube.

22. Install the factory retaining clip into the slotted adapter on the aFe hot side intercooler tube with the opening facing upwards.



23. Install the supplied 2-1/4" x 2" x 45° coupling along with the supplied 2-1/2" clamp onto the reduced end of the aFe hot side intercooler tube approximately in the same orientation as the factory intercooler tube coupling (do not tighten the clamp yet).
24. Install the aFe hot side intercooler tube with coupling onto the turbo outlet tube along with the supplied 2-1/4" clamp (do not tighten the clamp yet).
25. Connect the quick connect adapter onto the intercooler, be sure the clip goes into the groove on the intercooler all the way around.
26. Once connected, give it a little pull to be sure it is connected all the way.
27. Ensure the tube is not touching anything then tighten the clamps from Steps 23 and 24.
28. Install the front passenger wheel back onto the vehicle and torque to factory specifications.



29. Remove the temperature sensor from the factory cold side intercooler tube by gently lifting the tab and twisting it counter clockwise 1/4 turn, then pulling it out of the tube.

**Note: Be sure to lubricate the O-rings with grease to prevent them from tearing during installation**

30. Install the temperature sensor into the supplied aFe cold side intercooler tube, be sure it is locked into place.
31. Install the supplied 70mm ID O-ring into the groove on the inside of the adapter on the aFe cold side intercooler tube.

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

32. If you are not using any aftermarket sensors, install the 1/8" NPT plug into the threaded fitting on the aFe cold side intercooler tube.
33. Install the factory retaining clip into the slotted adapter on the aFe cold side intercooler tube with the opening facing upwards.



34. Install the supplied 3" x 2-5/8" coupling along with the supplied 2-7/8" clamp onto the engine inlet of the vehicle (do not tighten the clamp yet).
35. Install the supplied 3-1/4" clamp onto the end of the coupling from the previous step (do not tighten the clamp yet).
36. Install the aFe cold side intercooler tube into the vehicle from the top.
37. Connect the aFe cold side intercooler tube to the coupling from Step 34 (do not tighten the clamp yet).
38. Connect the quick connect adapter onto the intercooler, be sure the clip goes into the groove on the intercooler all the way around.
39. Once connected, give it a little pull to be sure it is connected all the way.
40. Ensure the tube is not touching anything then tighten the clamps from Steps 34 and 35.



41. Reconnect the connector to the temperature sensor in the aFe intercooler tube.
42. Reinstall the intake tube.
43. Reinstall the sensor connection back onto the intake tube.
44. Reconnect the negative battery cable.

Install is now complete!

**Note: Be sure to check all connection after 50-100 miles**

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