



advanced FLOW engineering

Instruction Manual P/N: 46-20364-B

BladeRunner – Intercooler Hot and Cold Side Tubes

Make: **Ford** Model: **F-150** Year: **2018-2020** Engine: **V6 – 3.0L (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
A	1	Hot Side Tube
B	1	Cold Side Tube
C	1	O-Ring: 60mm 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

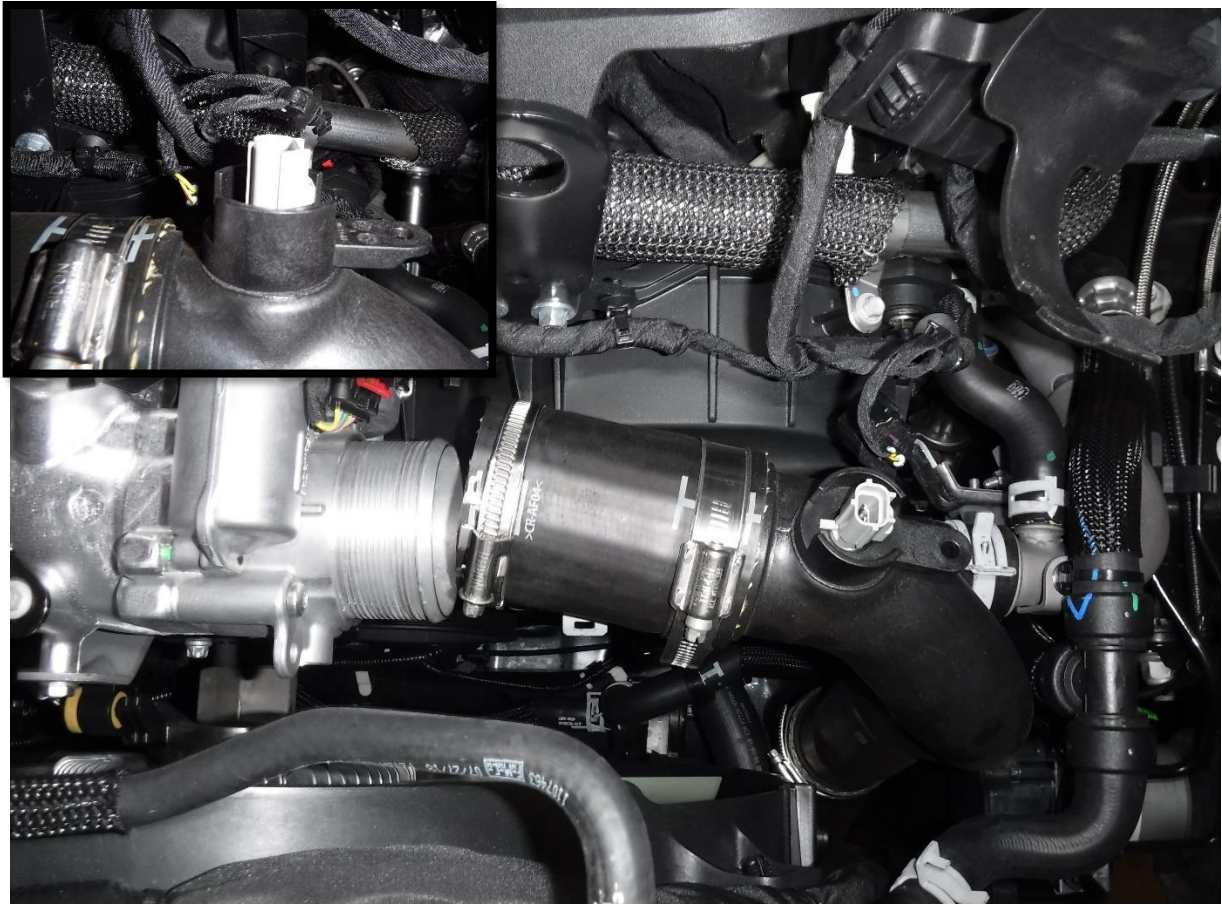
Tools Needed: 7mm, 10mm, 22mm, 7/16" sockets, 3/16" allen wrench, 3/8" drive ratchet, 1/2" drive ratchet, 6" extension, flat blade screwdriver, thread sealant, floor jack, jack stands.

Note: This product is not currently CARB exempt and is not available for purchase in California or for use on any vehicle registered with the California Department of Motor Vehicles.





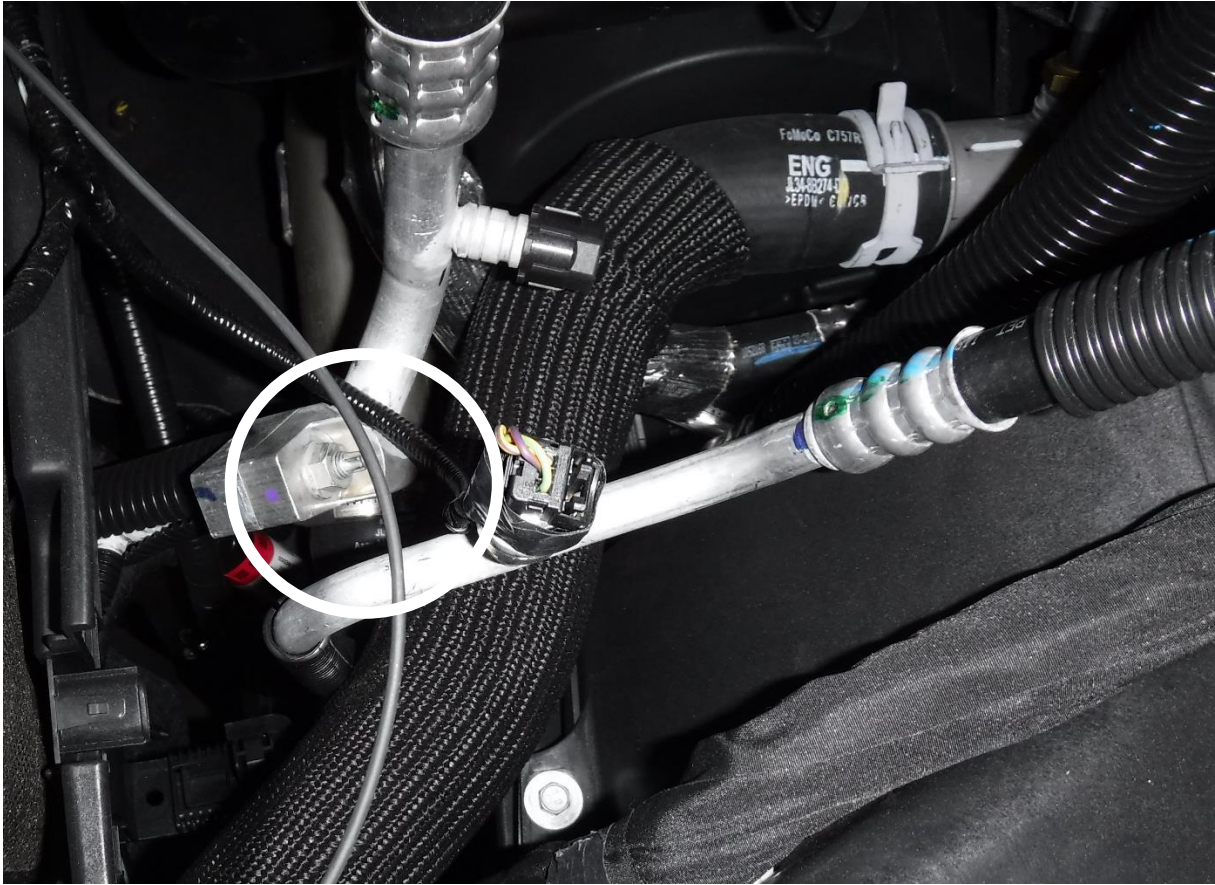
1. Park the vehicle on level ground and engage the parking brake.
2. Disconnect the negative battery cable.
3. Unclip the sensor connection from the intake tube.
4. Loosen the two (2) clamps connecting the center portion of the intake tube from the air box to the turbo inlet tube.
5. Remove the intake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

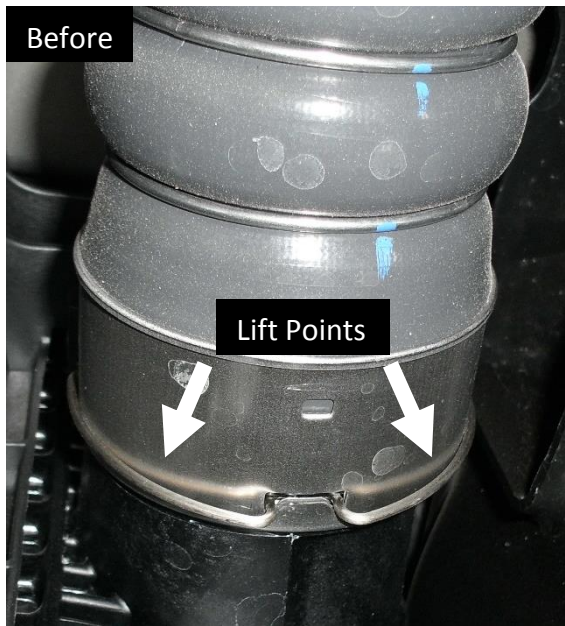
8. Disconnect the cold side intercooler tube from the engine inlet.



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

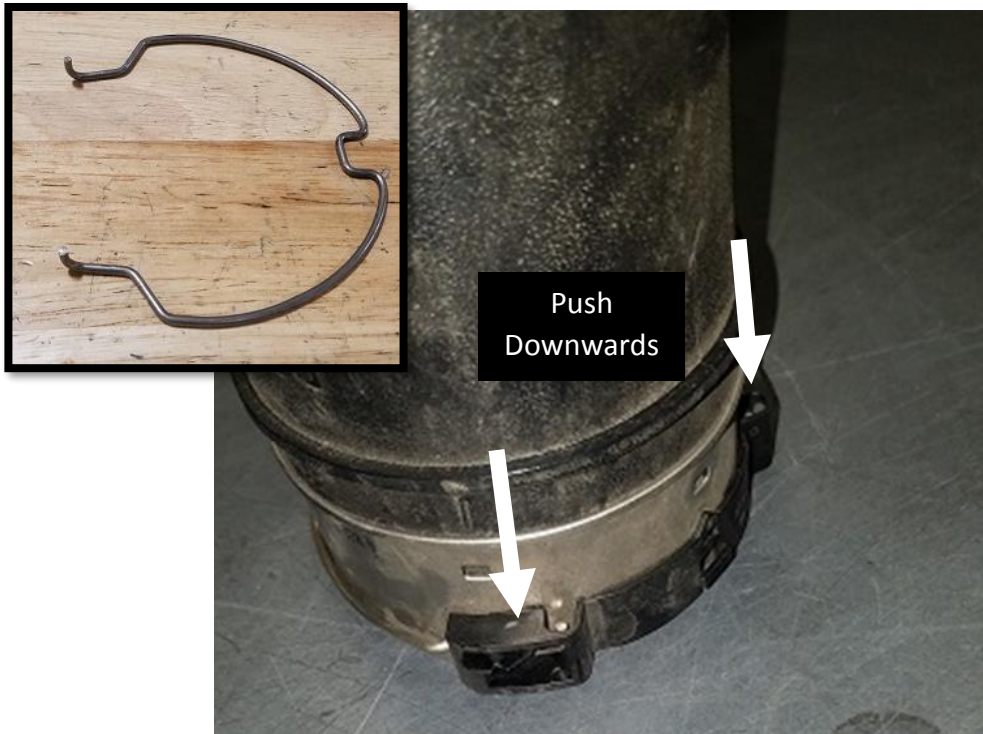
10. Disconnect the hot side intercooler tube coupling from the turbo outlet tube.



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.

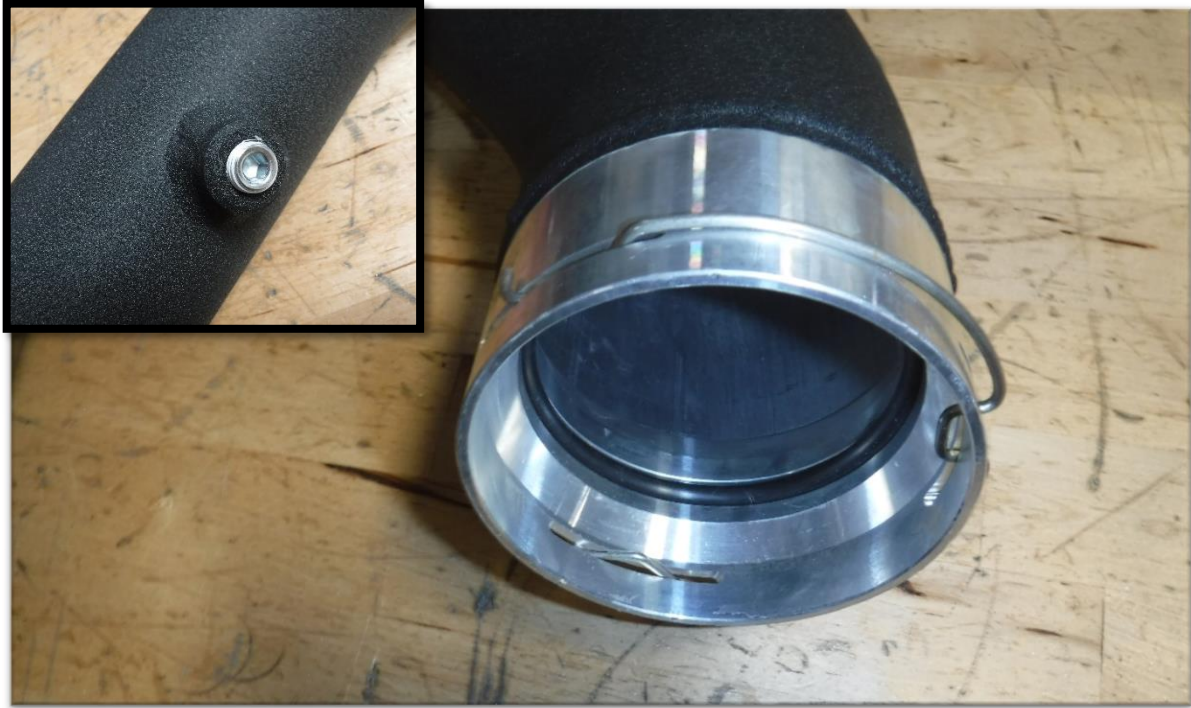


15. Underneath the vehicle on the driver side, disconnect the quick connect adapter connecting the cold side intercooler tube to the intercooler.
16. Remove the cold side intercooler tube from the top of the vehicle.



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

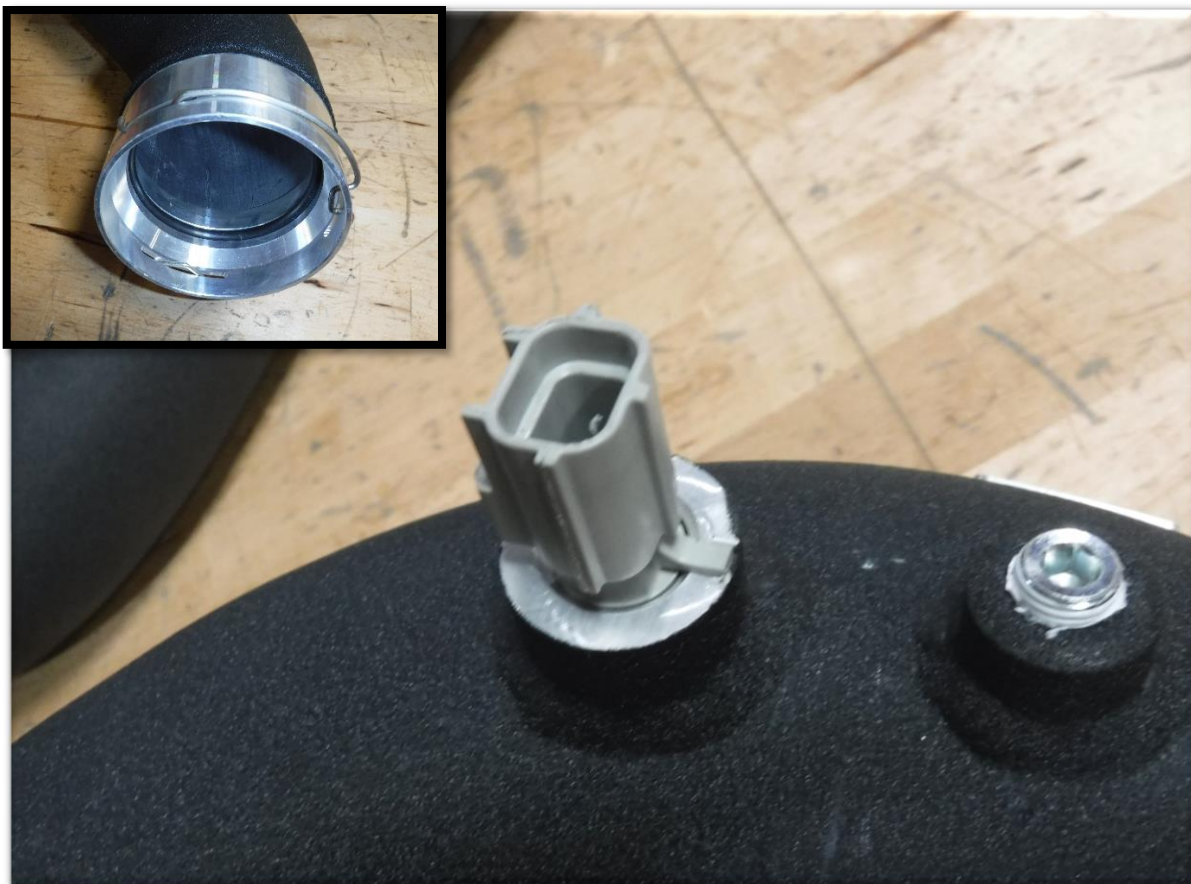
20. If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug into the threaded fitting on the supplied aFe hot side intercooler tube.

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

21. Install the supplied 60mm 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, from the bottom, 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 through the wheel well.
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

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 nontransferable.
- 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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