



advanced FLOW engineering

Instruction Manual P/N: 46-20142-B / 46-20312-B

BladeRunner - GT Series Intercooler with Tubes

Make: **Ford** Model: **F-250/350** Year: **11-16** Engine: **V8 – 6.7L (td)**

Make: **Ford** Model: **F-250/350** Year: **17-19** Engine: **V8 – 6.7L (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	Intercooler
B	1	Hot Side Tube
C	1	Cold Side Tube
D	1	Coupling, Silicone Hump: 3"ID x 5-1/2"L w/ Bead
E	2	Coupling, Silicone Hump: 3-1/2"ID x 4"L
F	1	Coolant Hose, Upper
G	1	Coolant Hose, Lower
H	2	Clamp, Spring Loaded T-Bolt: 3-1/4"
I	4	Clamp, No. 012 (11/16" - 1-1/4")
J	4	Clamp, Spring Loaded T-Bolt: 3-3/4"
K	1	O-Ring, 60mm ID
L	1	O-Ring, 82mm ID
M	1	Screw, Btn Hd Socket: M6x1x10
N	1	Washer, Flat: M6
O	1	Bracket, P/S Reservoir Relocation
P	1	Adaptor
Q	6	Plug, Hex Hd Socket: 1/8" NPT
R	1	Nut, Clip: M8 x 1.25

Tools Needed: 7mm, 8mm, 10mm, 13mm, 7/16" sockets, 3/16" allen wrench, 4mm allen wrench, 3/8" drive ratchet, 6" extension, pick, flat blade screwdriver, thread sealant, grease, 3 gallon drain pan.

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. Let vehicle cool down for at least 3 hours.
3. Disconnect both negative battery cables.
4. Remove the cap from the primary coolant tank.
5. Drain the coolant from the primary cooling system into a large drain pan. The petcock is located on the driver side right behind the front bumper, on the outside of the frame rail.
6. Remove the cap from the secondary coolant tank.
7. Drain the coolant from the secondary cooling system into a large drain pan. The petcock is located on the passenger side right behind the front bumper, on the outside of the frame rail.



8. Loosen the clamp securing the cold side intercooler tube coupling to the plastic adapter connected to the engine.
9. Loosen the clamp securing the cold side intercooler tube to the intercooler.

Note: On the 2017+ vehicles it may be necessary to use a pick to break the connection between the intercooler tube coupling and the intercooler outlet in order to slide the coupling off.

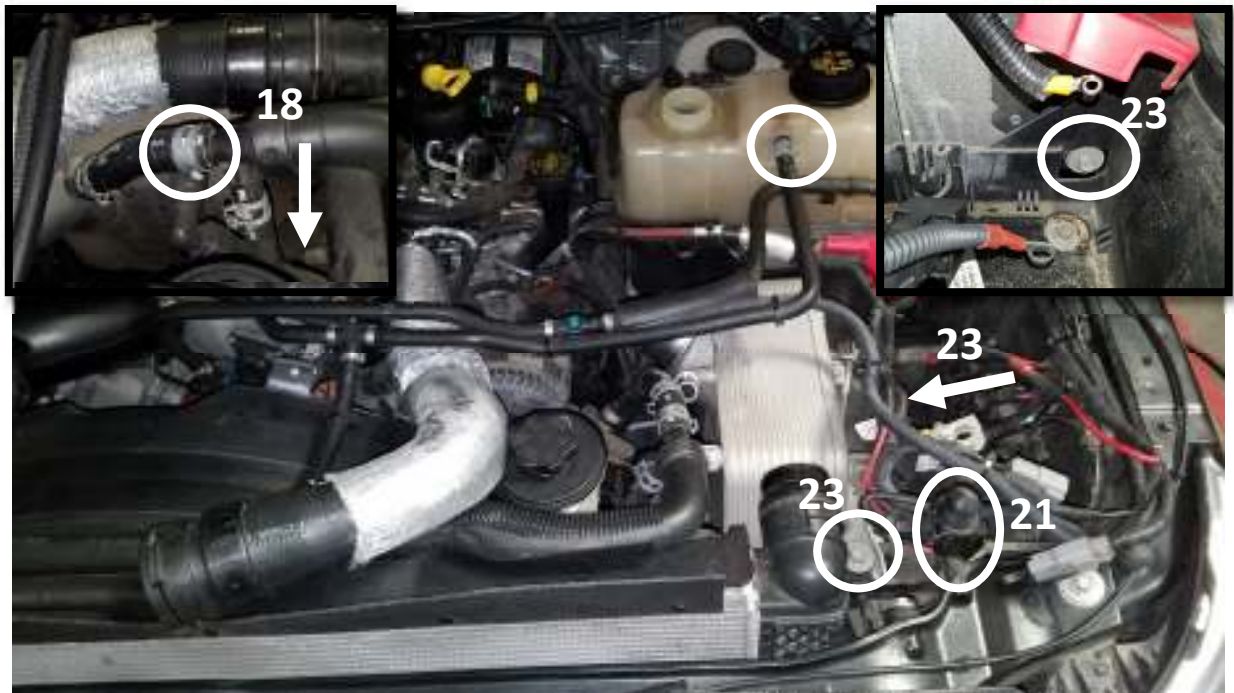
10. Disconnect the cold side intercooler tube from the intercooler.
11. Disconnect the electrical connection from the temperature sensor on the cold side intercooler tube.
12. Disconnect the wire harness from the intercooler tube then remove the cold side intercooler tube from the vehicle.
13. Remove retaining clip from the plastic adapter then remove the plastic adapter from the engine inlet.



14. Loosen the clamp securing the hot side intercooler tube coupling to the intercooler.

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

15. Disconnect the hot side intercooler tube coupling from the intercooler.
16. Lift both sides of the retaining clip that secures the intercooler tube to the turbo using two flat head screwdrivers and disconnect it from the turbo.
17. Remove the hot side intercooler tube from the vehicle.



18. Disconnect the two (2) coolant lines for the intercooler from the vehicle.
19. Disconnect the coolant overflow hose from the coolant tank.
20. Disconnect the upper radiator hose from the radiator by removing the retaining clip and pulling the hose connection apart.
21. Disconnect the hood switch connection and remove the switch from the vehicle.
22. Remove the driver side battery from the vehicle.
23. Remove the two (2) screws securing the intercooler to the vehicle and set aside for reuse with the aFe intercooler.
24. Remove the intercooler from the vehicle.



25. Remove the screw securing the power steering reservoir to the vehicle.
26. Lift the reservoir out of its slot and set to the side.
27. Install the supplied reservoir relocation bracket into the slot from the previous step.
28. Secure the bracket using the factory screw from Step 25.
29. Install the power steering reservoir into the bracket installed in Step 27.
30. Secure the power steering reservoir using the supplied M6 x 1.0 x 10mm screw and M6 washer

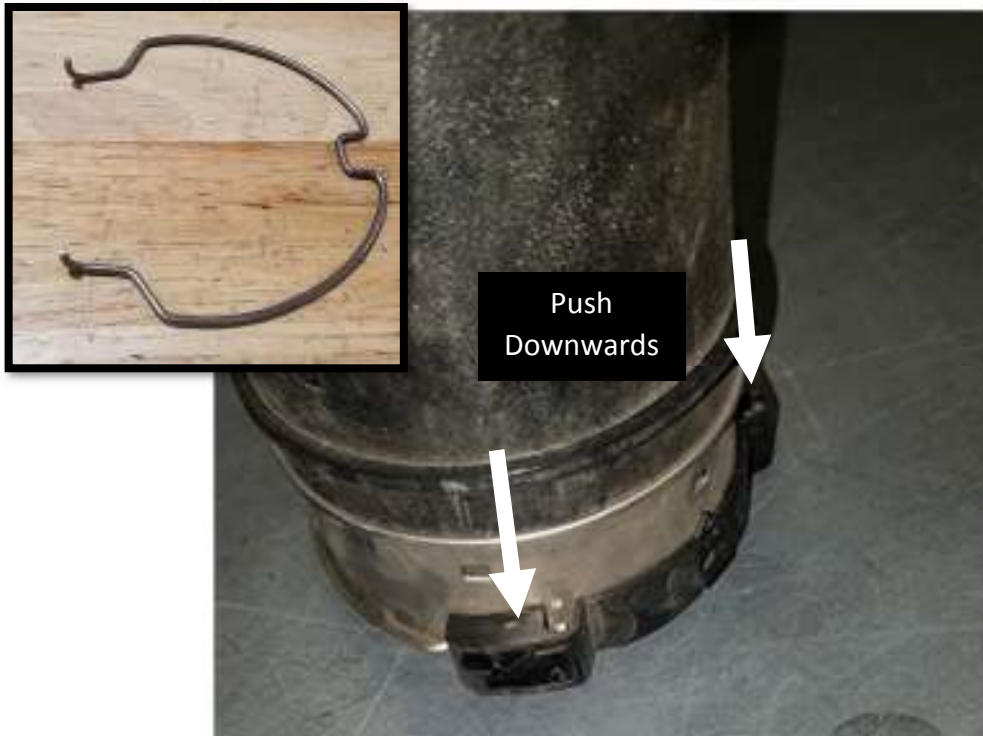


Note: Be sure to use thread sealant on the plugs or sensors to prevent any leaking

31. If you are not using any aftermarket sensors, install four (4) supplied 1/8" NPT plugs into the fittings on the back and side of the supplied aFe intercooler then tighten.
32. Transfer the two (2) rubber grommets from the factory intercooler to the aFe intercooler.
33. Install the supplied M8x1.25 clip nut onto the aFe intercooler.



34. Install the aFe intercooler into the vehicle.
35. Secure the aFe intercooler to the vehicle using the factory mounting screws from Step 23.
36. Install the supplied aFe coolant hoses into the vehicle, along with the supplied No. 012 clamps on each end of the hoses and tighten the clamps.
37. Reinstall the driver side battery and connect the positive battery cable.
38. Reconnect the upper radiator hose and secure it with the factory retaining clip.
39. Reconnect the overflow hose to the coolant tank.
40. Reinstall the hood switch and reconnect the connector.



Note: The retaining clip will need to be removed from the factory hot side intercooler tube for reuse with the aFe intercooler tube

41. Stand the factory hot side intercooler tube up on the end with the metal adapter.
42. The plastic retainer will need to be removed from the intercooler tube by pushing downwards on each side.
43. Once the plastic retainer is removed, you can now remove the metal retaining clip for reuse with the aFe intercooler tube.



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

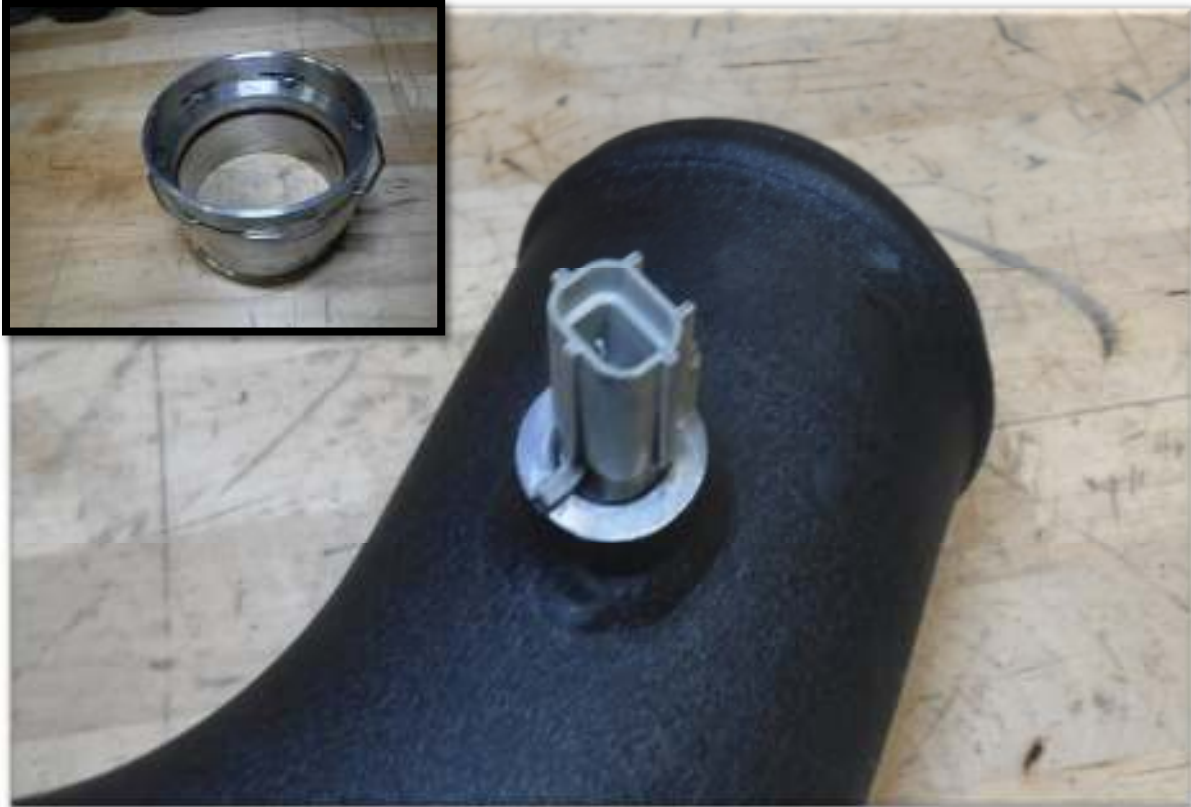
44. If you are not using any aftermarket sensors, install one (1) 1/8" NPT plug into the threaded fitting on the supplied aFe hot side intercooler tube.

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

45. Install the supplied 60mm ID O-ring into the groove on the inside of the adapter on the aFe hot side intercooler tube.
46. Install the factory retaining clip into the slotted adapter on the aFe hot side intercooler tube with the opening facing downwards.



47. Install one (1) of the supplied 3-1/4" clamps and the supplied 3" x 5-1/2" L hump coupling onto the intercooler tube then slide the coupling back to the bend.
48. Install the remaining 3-1/4" clamp onto the intercooler inlet.
49. Install the aFe hot side intercooler tube with coupling onto the turbo outlet, be sure the clip goes into the groove on the turbo outlet all the way around.
50. Once connected, give it a little pull to be sure it is connected all the way.
51. Slide the coupling from Step 47 onto the intercooler and make sure the bead on the inside of the coupling sits into the groove on the intercooler tube.
52. Ensure the tube is not touching anything then tighten the clamps from Steps 47 and 48.



53. 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

54. Install the temperature sensor into the supplied aFe cold side intercooler tube, be sure it is locked into place.
55. Install the supplied 82mm ID O-ring into the groove on the inside of the adapter.
56. Install the factory retaining clip into the slotted adapter.

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

57. If you are not using any aftermarket sensors, install one (1) 1/8" NPT plug into the threaded fitting on the aFe cold side intercooler tube.



58. Install the adapter onto the engine inlet, be sure the clip goes into the groove on the engine inlet all the way around.
59. Once connected, give it a little pull to be sure it is connected all the way.
60. Install one (1) of the supplied 3-1/2"ID x 4" L couplings along with a supplied 3-3/4" clamp onto the aFe cold side intercooler tube closer to the sensor fittings (do not tighten the clamp yet).
61. Install the remaining 3-1/2"ID x 4" L coupling along with a 3-3/4" clamp onto the outlet tube of the aFe intercooler and tighten the clamp.
62. Install the aFe cold side intercooler tube into the vehicle along with a 3-3/4" clamp on each end of the tube, connecting the tube to the coupling from the previous step and then to the adapter (do not tighten the clamp yet).
63. Reconnect the connector to the temperature sensor in the aFe cold side intercooler tube.
64. Ensure the tube is not touching anything then tighten the clamps from Steps 60, 61, and 62.



- 65. Reconnect the negative battery cables.
- 66. Use the proper coolant refill procedure to be sure that all of the air gets out of the system when refilling both cooling systems.
- 67. Install the radiator caps.
- 68. Test drive vehicle.
- 69. Let vehicle cool down then check coolant levels, top off if needed.

Install is now complete!

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

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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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