



advanced FLOW engineering

Instruction Manual P/N: 46-20408-B/L

BladeRunner – 2-1/2” to 3” Hot Side Charge Pipe

Make: **BMW** Model: **Z4 - M40i** Year: **2020** Engine: **L6 – 3.0L(t)**



- 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.

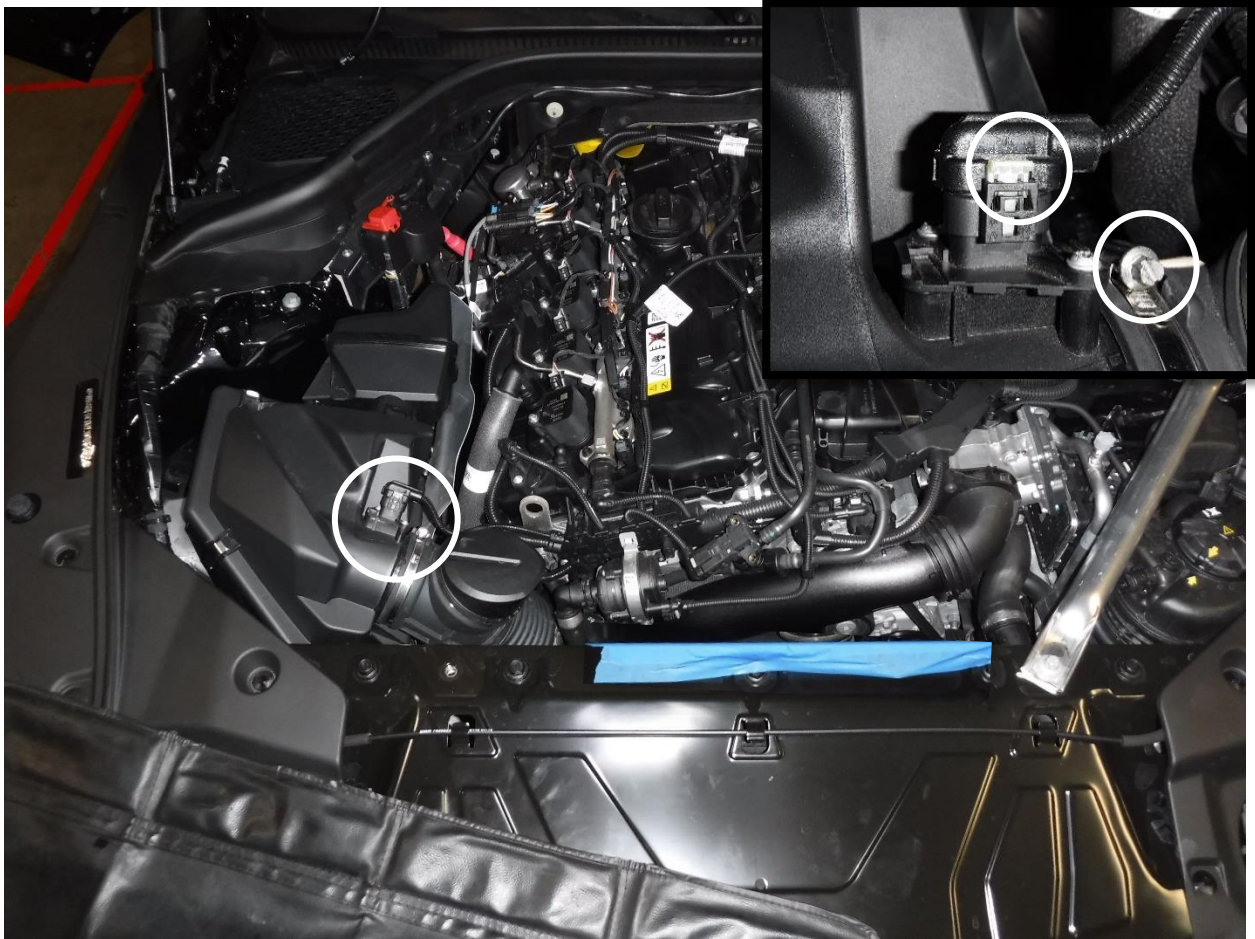
Label	Qty.	Description
A	1	Hot Side Charge Pipe
B	1	Coupling, Silicone Elbow: 3"ID x 90° w/bead
C	1	Coupling, Silicone Elbow: 2-1/2"ID x 90°
D	2	Clamp, Spring Loaded T-Bolt: 2-3/4"
E	2	Clamp, Spring Loaded T-Bolt: 3-1/4"
F	1	Adaptor, Throttle Body
G	1	Flange, Throttle Body
H	1	Adaptor, Turbo
I	3	Screw, M6 x 1 x 20mm
J	3	Washer, M6
K	1	Plug, 1/8" NPT
L	1	O-Ring, 55mm
M	1	O-Ring, 73mm

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

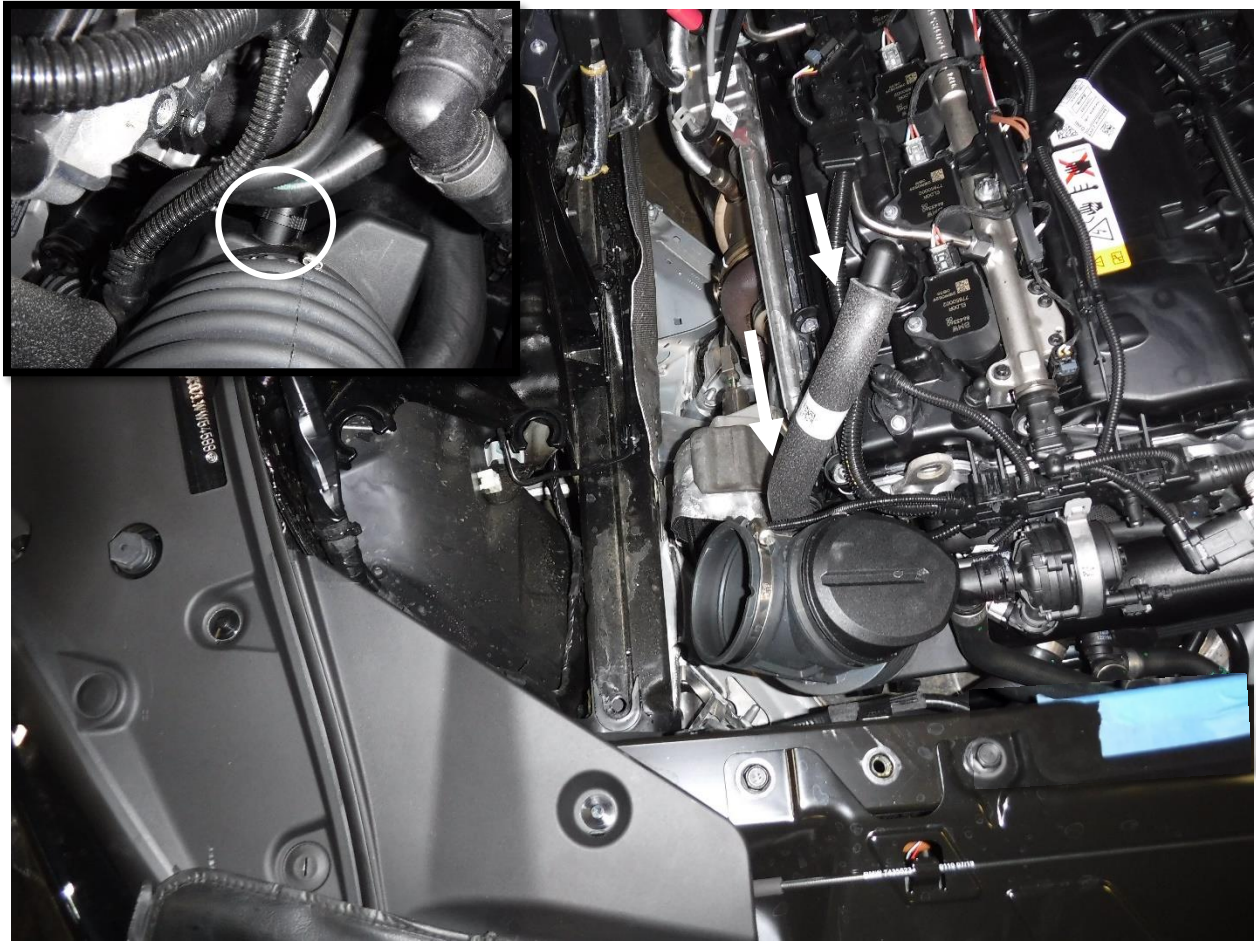




1. Park vehicle on level ground and engage the parking brake.
2. Disconnect the negative battery cable.
3. Remove engine cover from the vehicle.
4. Remove passenger side support brace.



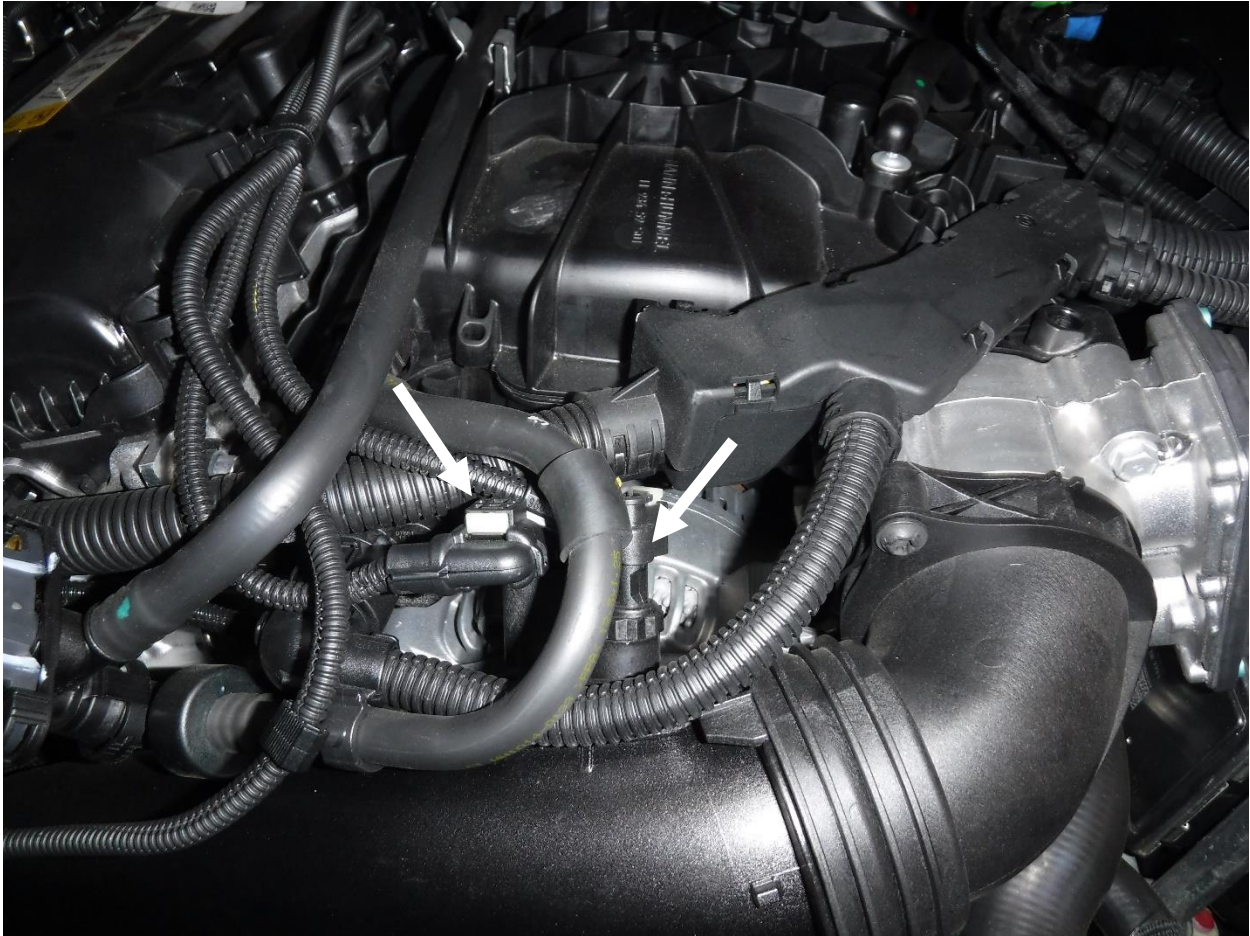
5. Place a piece of tape along the top of the core support to protect the vehicle from getting damaged.
6. Disconnect the electrical connection from the sensor on the air box cover by sliding the locking tab back then pressing the locking tab to disconnect the connector from the sensor.
7. Loosen the clamp securing the air intake tube onto the air box then disconnect the tube from the air box.
8. Remove the air box from the vehicle by pulling it upwards.



9. Unclip the wiring harness from the air intake tube.
10. Disconnect the plastic vacuum tube on the air intake tube by depressing the sides and pulling off.



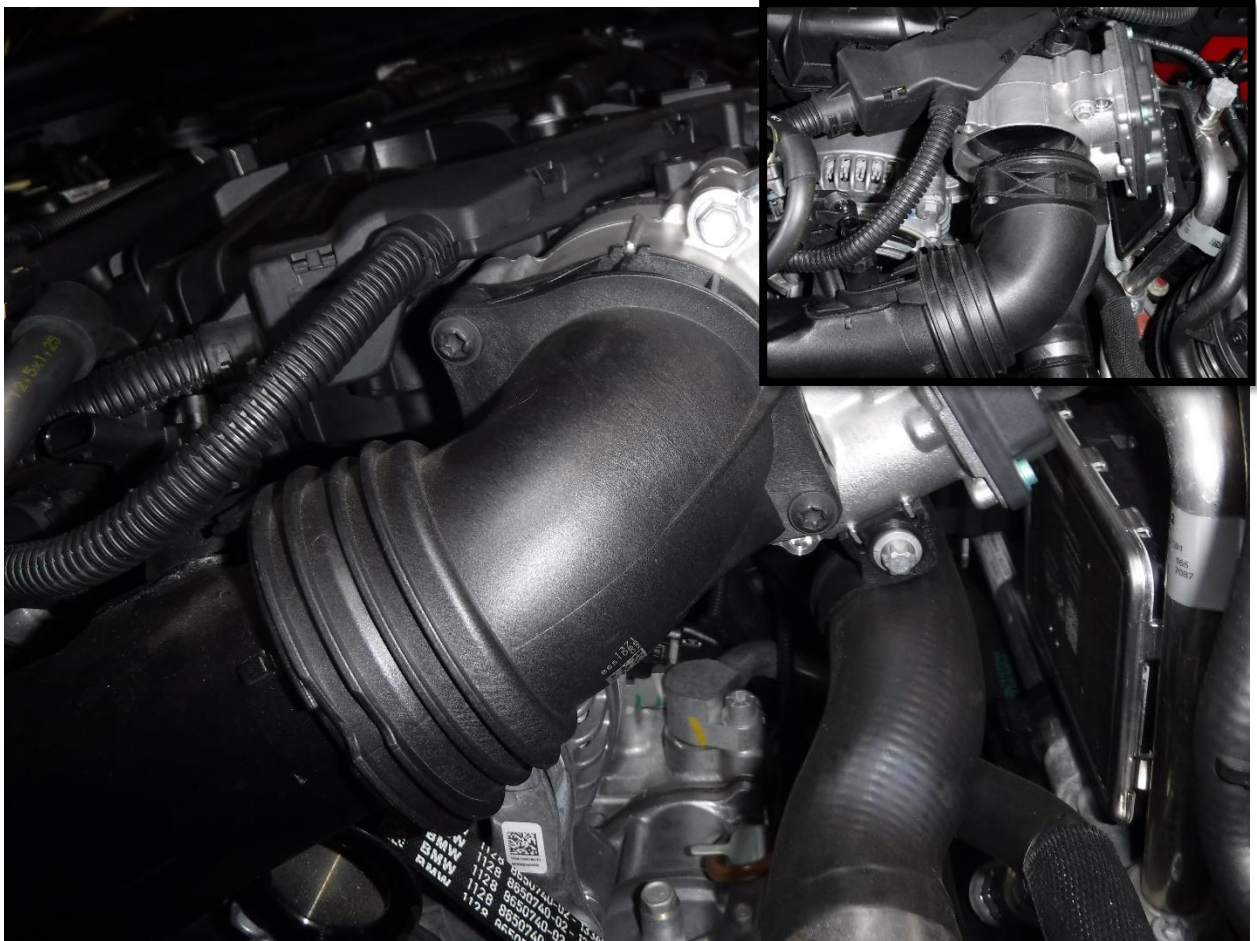
11. Remove the retaining clip securing the air intake tube to the turbo inlet, set aside for reuse.
12. Pull the air intake tube off the turbo inlet and remove the air inlet tube from the vehicle.



13. Release the locking tabs and disconnect the two (2) sensors on the factory charge pipe tube.

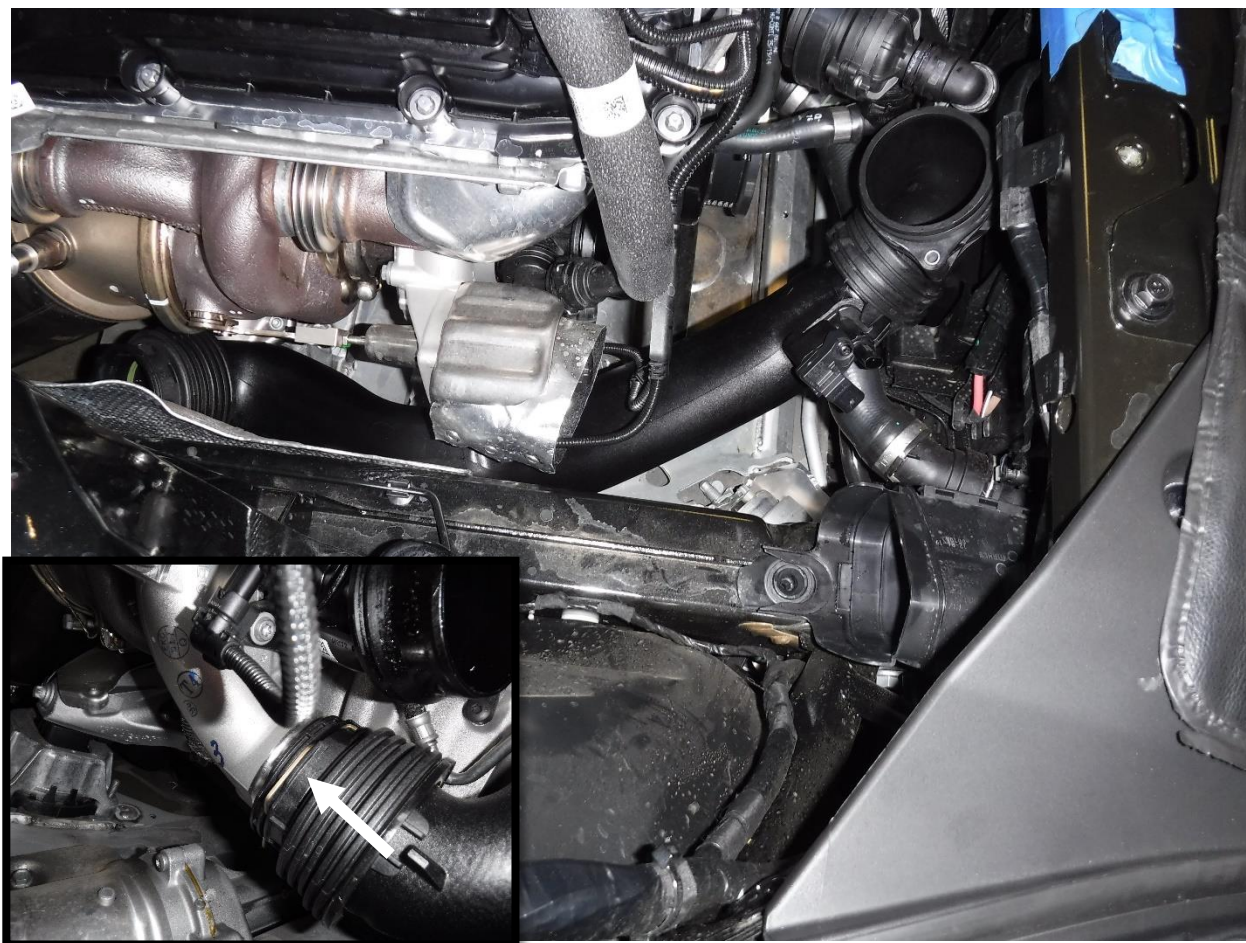


14. Release the locking tab and disconnect the connector for the water pump.
15. Remove the nut securing the water pump cradle.
16. Remove the cradle securing the water pump then remove the water pump from its saddle and push it off to the side.



17. Remove the two (2) screw securing factory charge pipe onto the throttle body.

18. Disconnect the charge pipe from the throttle body.



19. Remove the retaining clip securing the factory charge pipe onto the turbo outlet, set aside for reuse.
20. Pull the factory charge pipe off the turbo outlet.
21. Remove the factory charge pipe by gently sliding the tube downward between the turbo and the shock tower until there is enough room to pull it past the water pump and then out of the vehicle.



22. Remove the screw securing the pressure sensor to the factory charge pipe and remove the sensor from the charge pipe.
23. Unscrew the remaining sensor from the factory charge pipe and set both sensors aside for use with the supplied aFe hot side charge pipe.



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

24. Install the pressure sensor into the aFe hot side charge pipe, as shown above, and secure it using one supplied M6 x 1 x 20mm screw and one supplied M6 washer.
25. Thread the remaining sensor into the fitting on the aFe hot side charge pipe, as shown above.

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

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



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

27. Install the supplied 55mm ID O-ring into the groove on the inside of the supplied turbo adaptor.
28. Install the supplied 2-1/2" x 90° coupling onto the turbo adaptor, as shown above.
29. Install the factory charge pipe retaining clip from Step 19 onto the turbo adaptor, as shown above.
30. Install the turbo adaptor and coupling onto the turbo outlet along with one supplied 2-3/4" spring loaded T-bolt clamp. Be sure the retaining clip snaps into the groove all the way around on the turbo outlet.



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

31. Install the supplied 73mm ID O-ring into the groove that is closer to the positive stop on the outside of the supplied throttle body adaptor.
32. Install the throttle body adaptor into the throttle body with the O-ring inward.
33. Install the supplied throttle body flange over the throttle body adaptor with the larger inside diameter closer to the throttle body.
34. Secure the throttle body flange to the throttle body using two (2) M6 x 1 x 20mm screws and two (2) M6 washers.



35. Install the supplied 3" x 90° w/bead silicone coupling along with one supplied 3-1/4" spring loaded T-bolt clamp onto the aFe hot side charge pipe, with the longer side of the coupling on the tube, do not tighten the clamp yet.
36. Place the remaining 3-1/4" spring loaded T-bolt clamp onto the throttle body adaptor.
37. Install the aFe hot side charge pipe into the vehicle from the top by first connecting the charge pipe to the lower coupling with the remaining 2-3/4" spring loaded T-bolt clamp. Then you will rotate the 3" x 90° w/bead coupling into place and push it onto the throttle body adaptor. Be sure the bead on the inside of the coupling sets into the groove on the throttle body adaptor. Do not tighten any clamps yet.



38. Rotate the tube in position to get all the connectors onto the sensors.

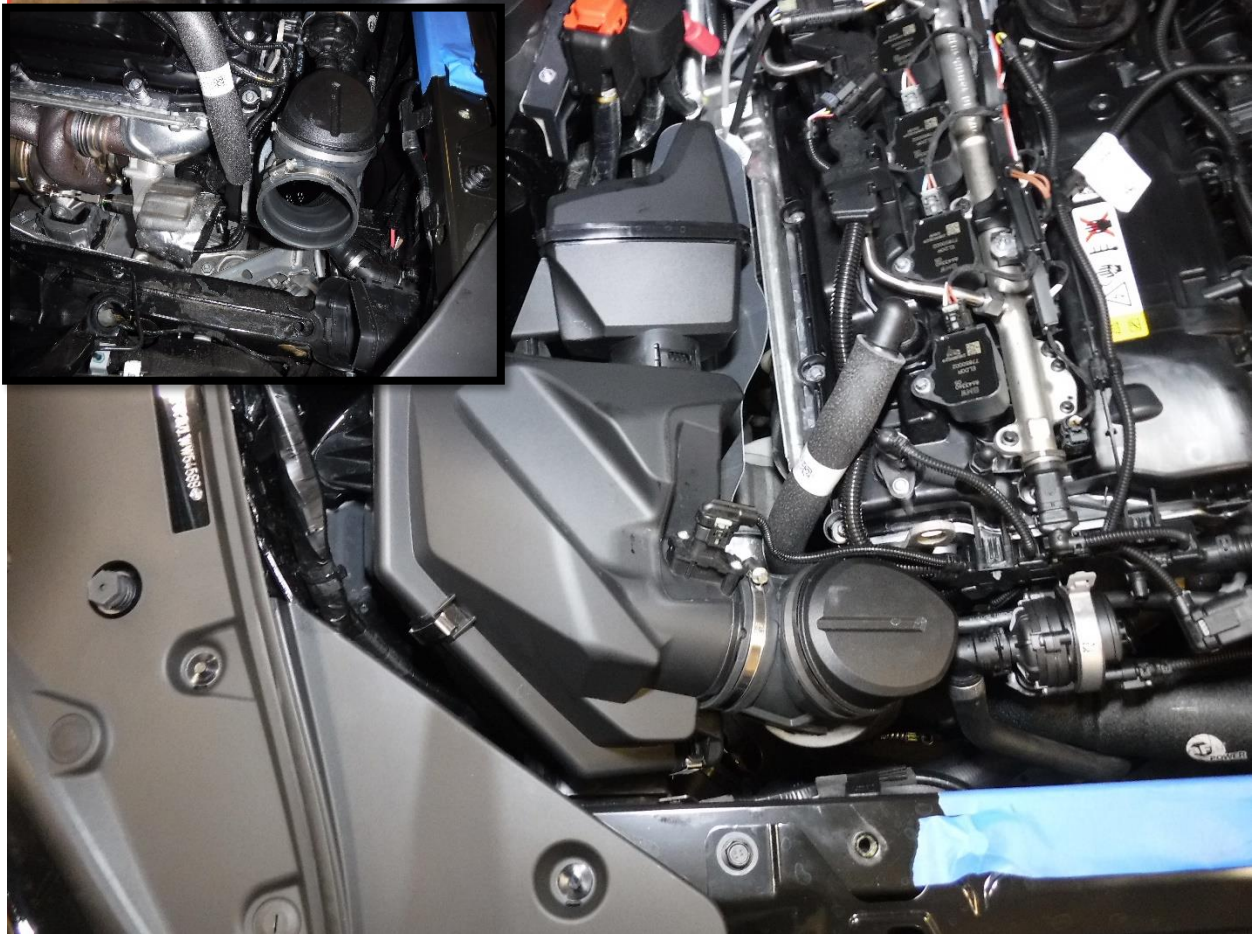
It may be necessary to slide the clip securing the wire harness to the valve cover down in order to connect the wire harness to the sensors in the charge pipe.

39. Reconnect the two (2) electrical connections on the aFe hot side charge pipe and lock the locking tabs.

40. Reinstall the water pump into place and secure it with the factory cradle and nut.

41. Reconnect the electrical connection to the water pump and lock the locking tab.

42. Ensure the aFe hot side charge pipe is not touching anything and tighten all four (4) clamps.



43. Reinstall the air intake tube into the vehicle and make sure the retaining clip snaps into its groove all the way around on the turbo inlet.
44. Reconnect the plastic vacuum tube onto the air intake tube.
45. Reclip the wiring harness onto the air intake tube.
46. Reinstall the intake air box into the vehicle.
47. Reconnect the air intake tube to the air box and tighten the clamp.
48. Reconnect the electrical connection to the sensor in the air box and lock the locking tab.



49. Reinstall the engine cover onto the engine, ensuring the throttle body clamps do not interfere with the engine cover.
50. Reinstall the passenger side support brace.
51. Remove tape from the core support.
52. Reconnect the negative battery cable.
53. Install is now complete.

Note: Be sure to check all connections 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 non-transferrable.
- 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.

<u>Product Category</u>	<u>P/N Prefix</u>	<u>Warranty duration</u>
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 & Charge pipes	46-2	2 years
Intake Manifolds	46-1	2 years
Differential Cover	46-7	Life of the vehicle
Transmission Pans / Oil Pans	46-7	Life of the vehicle
Turbochargers	46-6	2 years
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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