



advanced FLOW engineering

Instruction Manual P/N: 46-20398-B/R

BladeRunner – Hot Side Charge Pipe Kit

Make: TOYOTA Model: Supra Year: 20 - 23 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.

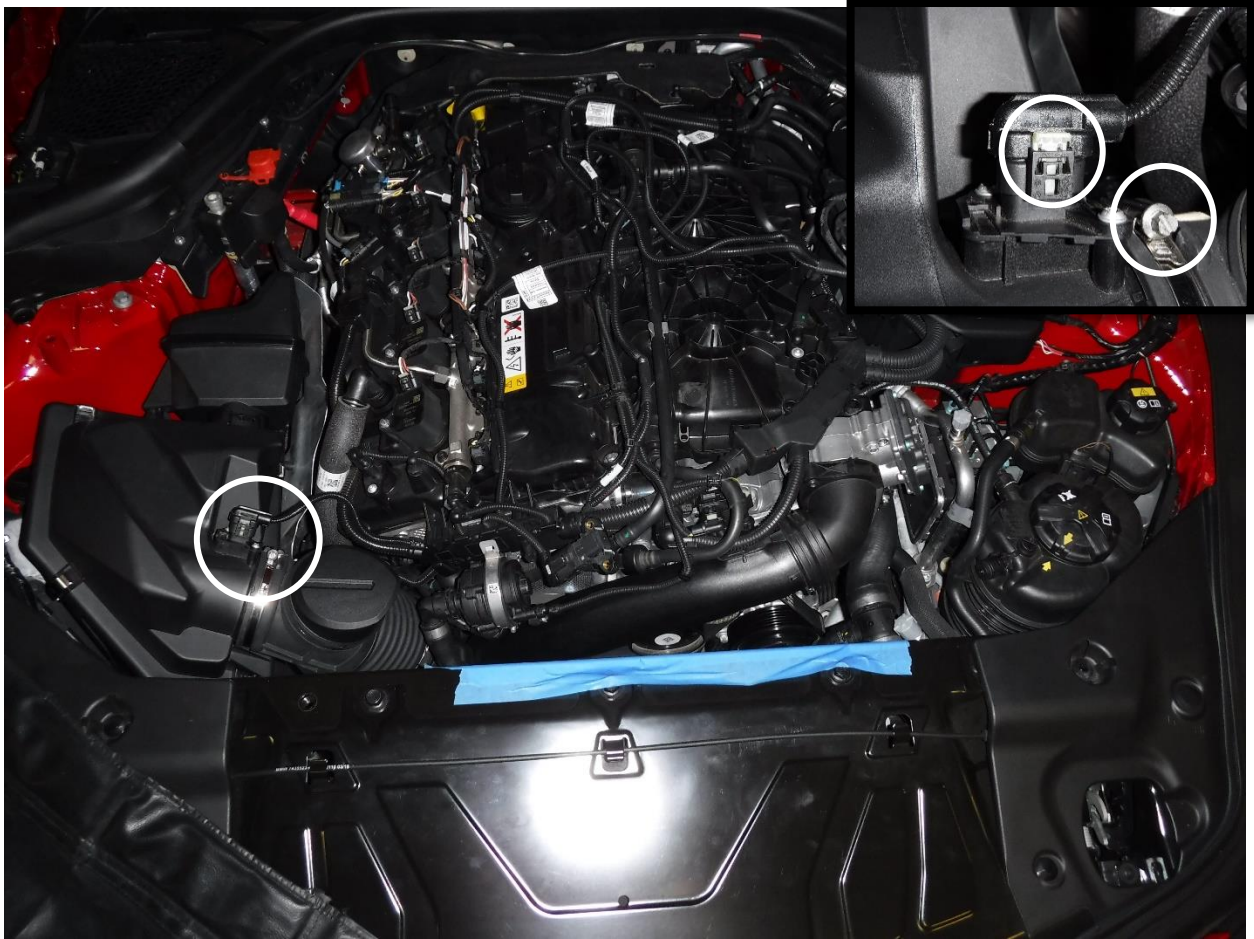
| Label | Qty. | Description |
|-------|------|---|
| A | 1 | Hot Side Intercooler Tube |
| B | 1 | Coupling, Silicone Elbow: 3"ID x 90° w/bead |
| C | 1 | Coupling, Silicone Elbow: 2-1/2"ID x 90° |
| D | 2 | Clamp, Spring Loaded T-Bolt: 2-3/4" |
| E | 2 | Clamp, Spring Loaded T-Bolt: 3-1/4" |
| F | 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 | 2 | 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. Place a piece of tape along the top of the core support to protect the vehicle from getting damaged.
5. 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 connection from the sensor.
6. Loosen the clamp securing the air intake tube onto the air box then disconnect the hose from the air box.
7. Remove the air box from the vehicle by pulling it upwards.

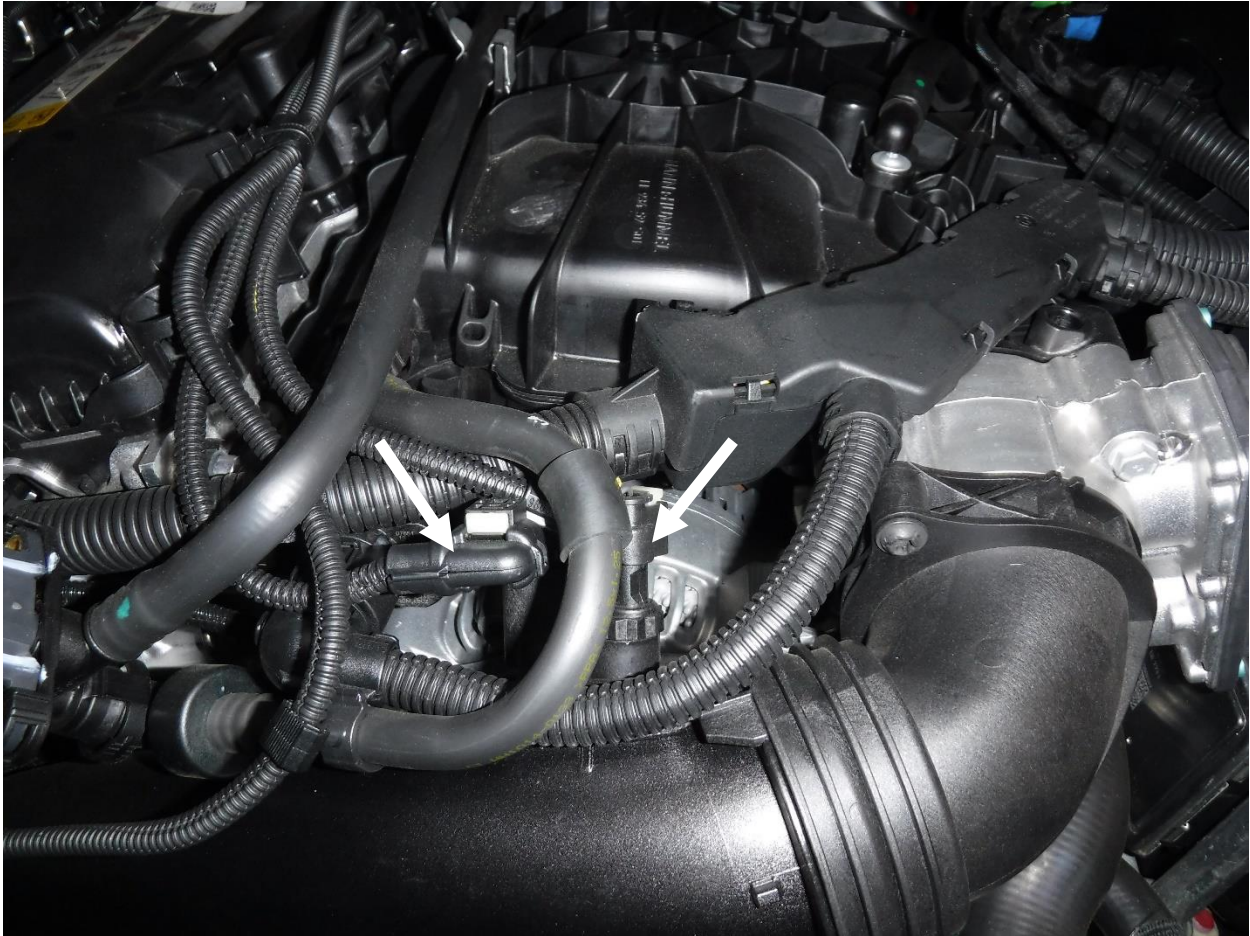


8. Unclip the wiring harness from the air intake tube.
9. Disconnect the plastic vacuum tube on the air intake tube by depressing the sides and pulling off.

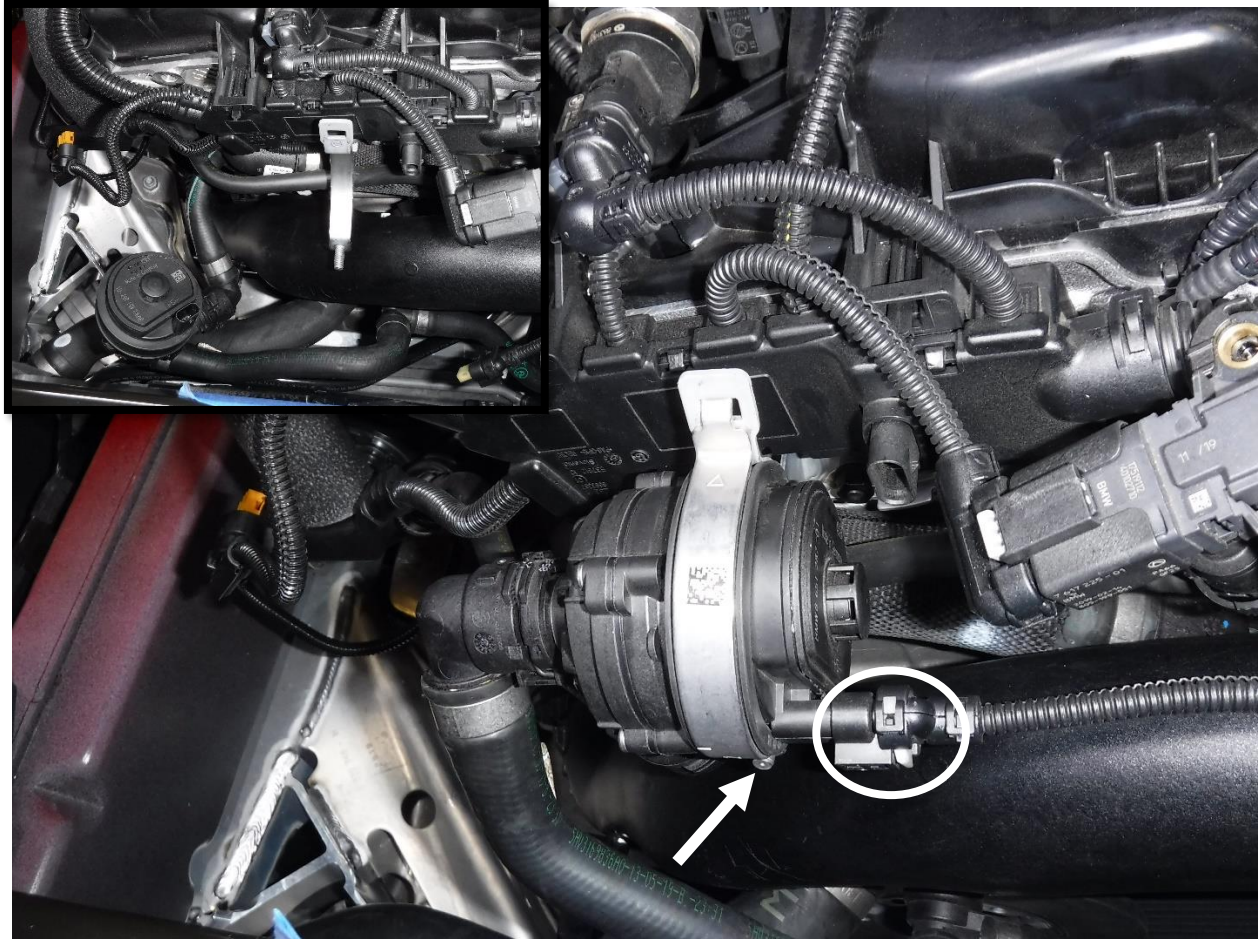


10. Remove the retaining clip securing the air intake tube to the turbo inlet.

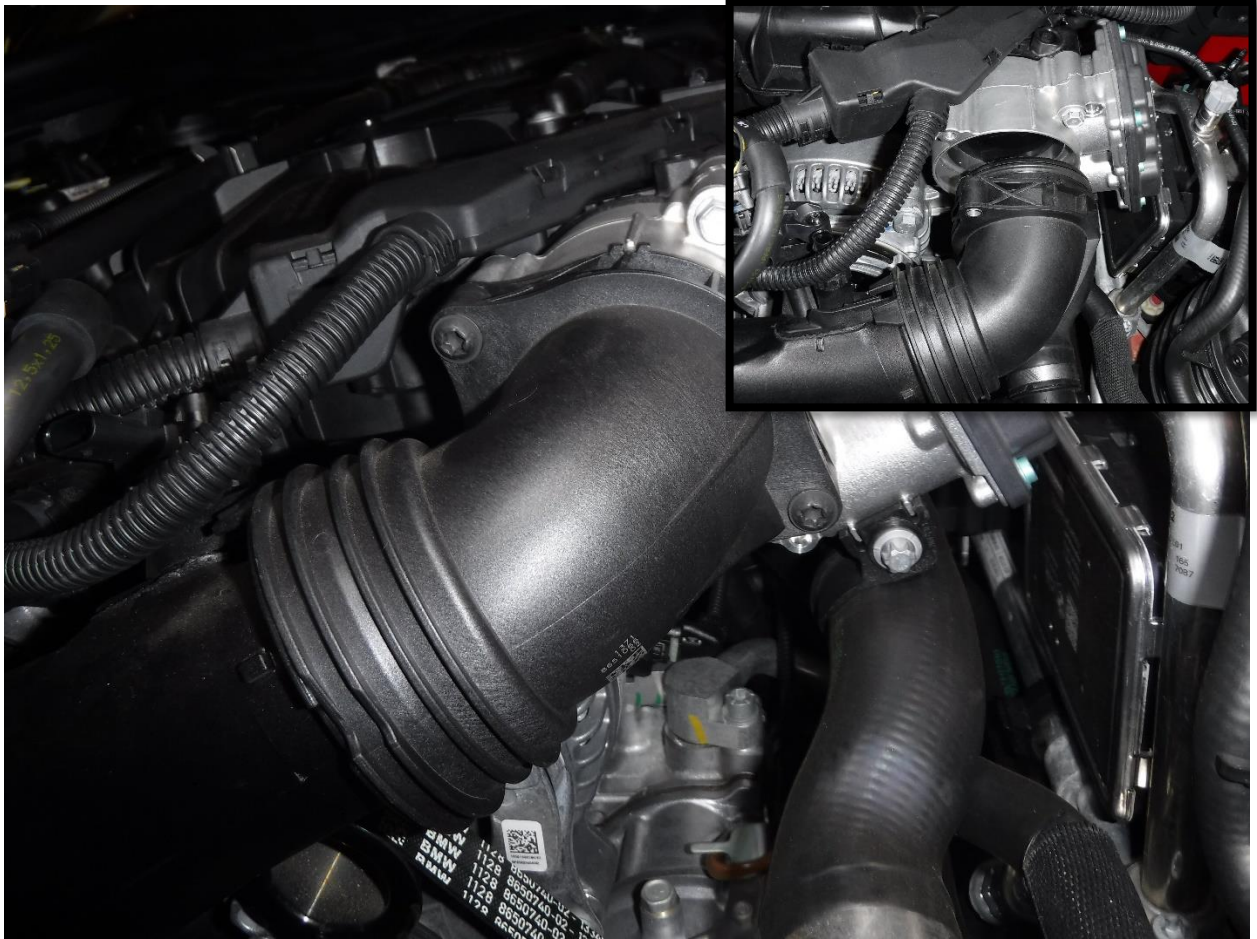
11. Pull the air intake tube off the turbo inlet and remove the air inlet tube from the vehicle.



12. Release the locking tabs and disconnect the two (2) sensors on the factory intercooler tube.

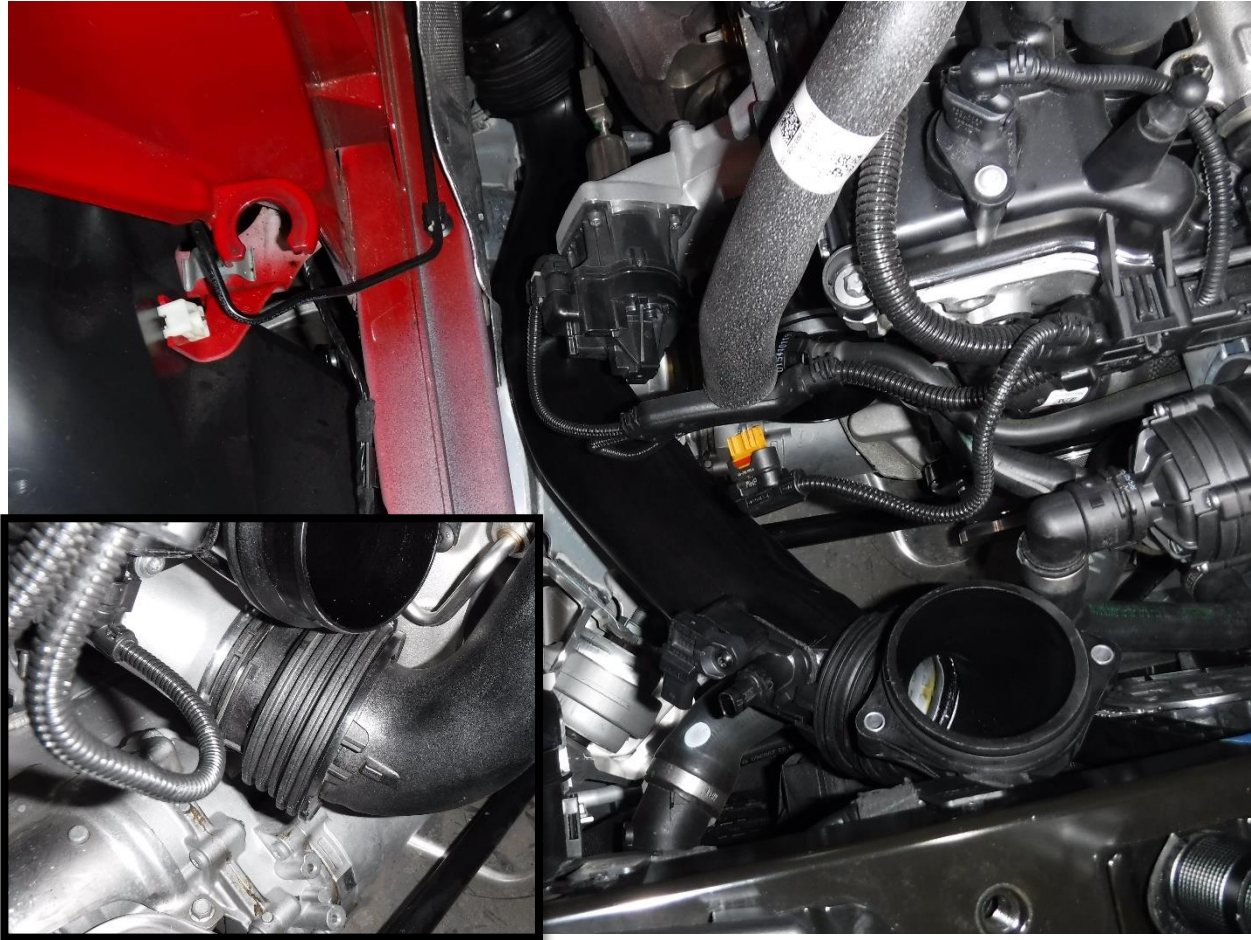


13. Release the locking tab and disconnect the connector for the water pump.
14. Remove the screw securing the water pump cradle.
15. Remove the cradle securing the water pump then remove the water pump from its saddle and push it off to the side.



16. Remove the two (2) screw securing factory intercooler tube onto the throttle body.

17. Disconnect the intercooler tube from the throttle body.



18. Remove the retaining clip securing the factory intercooler tube onto the turbo outlet.
19. Pull the factory intercooler tube off the turbo outlet.
20. Remove the factory intercooler tube 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.



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



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

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

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

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



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

26. Install the supplied 55mm ID O-ring into the groove on the inside of the turbo adaptor.
27. Install the supplied 2-1/2" x 90° coupling onto the turbo adaptor, as shown above.
28. Remove the factory intercooler tube retaining clip from the factory intercooler tube and install it on the supplied turbo adaptor, as shown above.
29. 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.



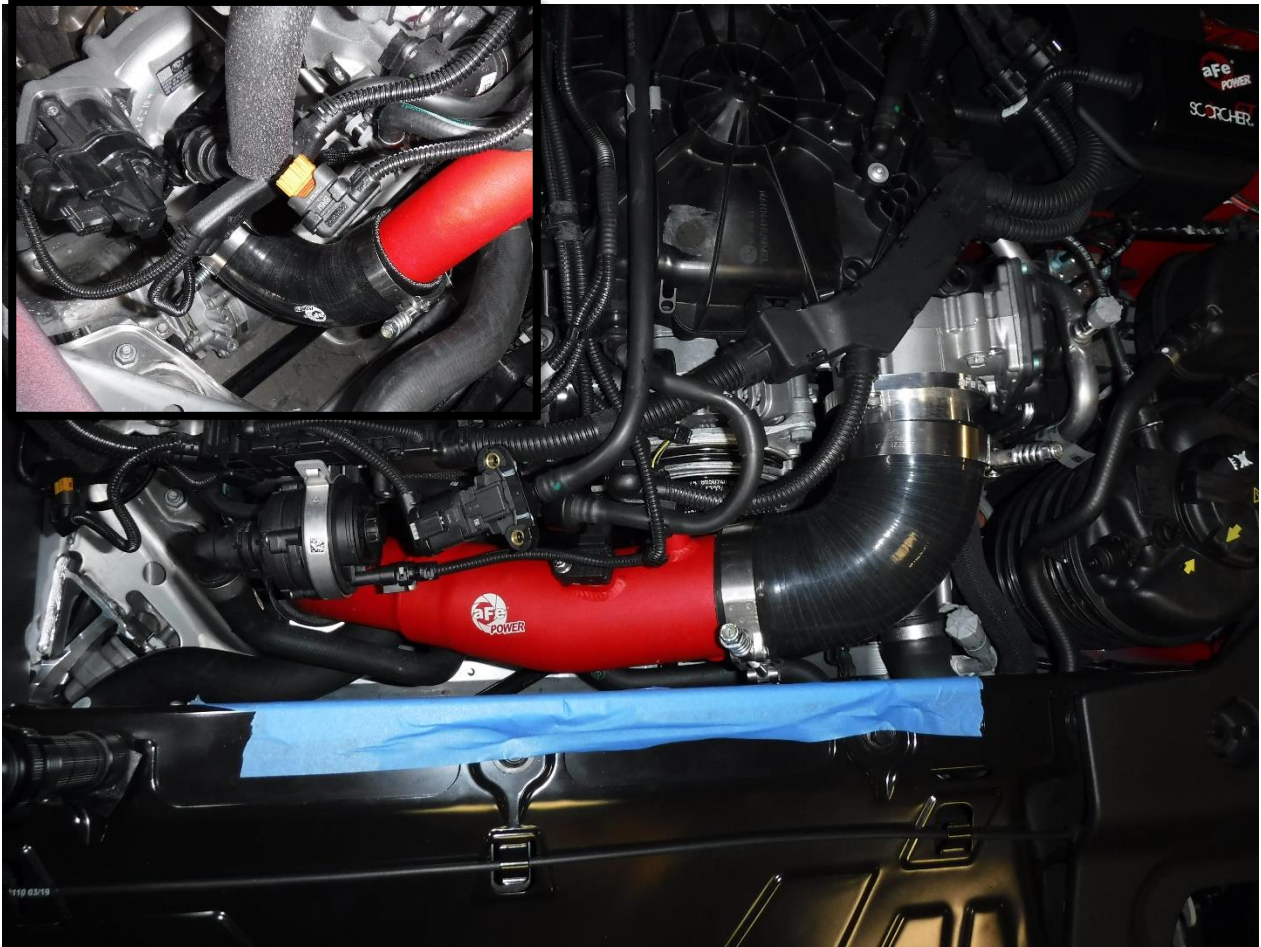
Note: Be sure to lubricate the O-ring with grease to prevent it from tearing during installation.

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

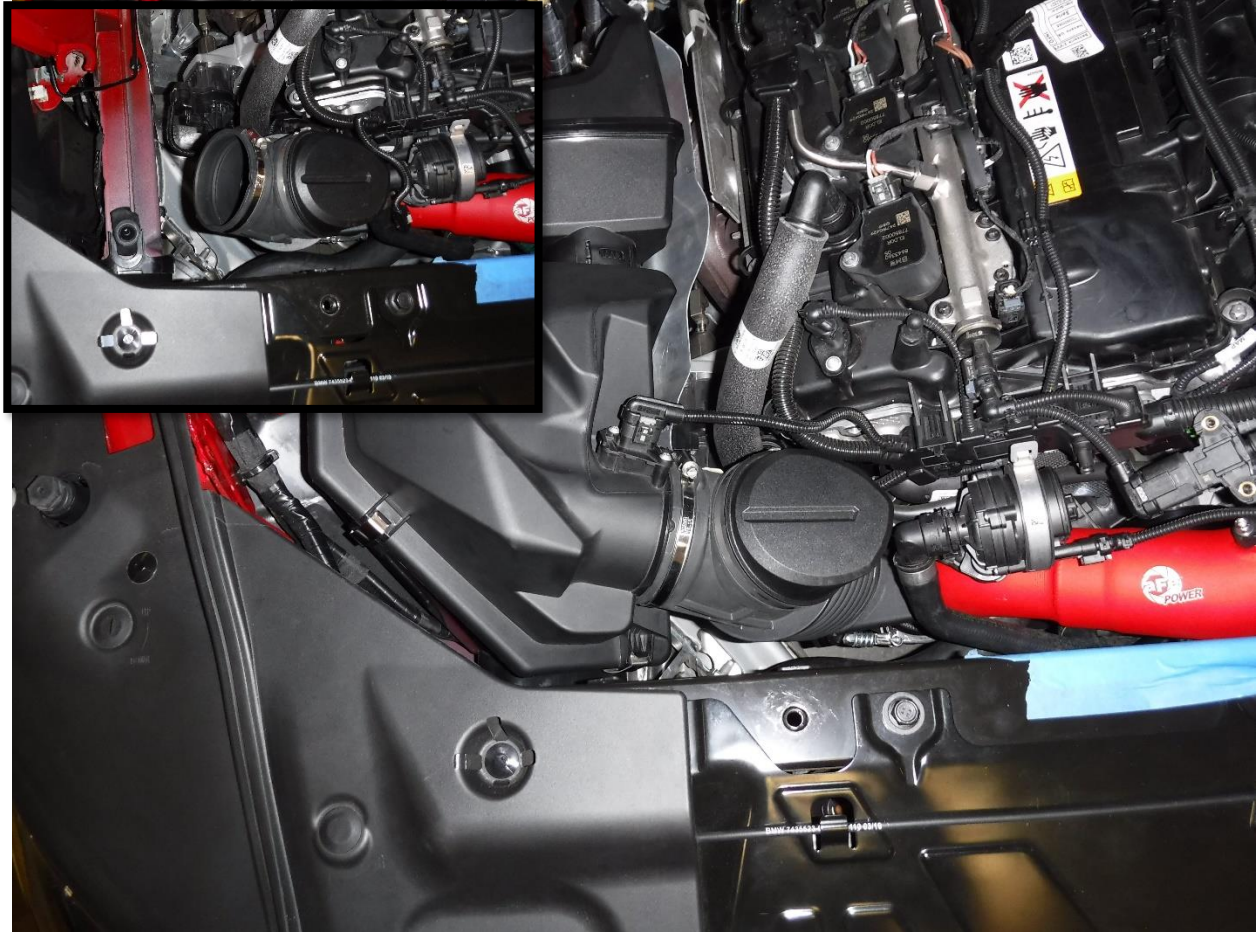


34. Install the supplied 3" x 90° w/bead silicone coupling along with one supplied 3-1/4" spring loaded T-bolt clamp onto the aFe hot side intercooler tube, with the longer side of the coupling on the tube, do not tighten the clamp yet.

35. Place the remaining 3-1/4" spring loaded T-bolt clamp onto the throttle body adaptor.



36. Install the aFe hot side intercooler tube into the vehicle from the top by first connecting the tube 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.
37. Rotate the tube in position to get all the connectors onto the sensors.
38. Reconnect the two (2) electrical connections on the aFe hot side intercooler tube and lock the locking tab.
39. Reinstall the water pump into place and secure it with the factory cradle and nut.
40. Reconnect the electrical connection to the water pump and lock the locking tab.
41. Ensure the aFe hot side intercooler tube is not touching anything and tighten all four (4) clamps.



42. 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.
43. Reconnect the plastic vacuum tube onto the air intake tube.
44. Reclip the wiring harness onto the air intake tube.
45. Reinstall the intake air box into the vehicle.
46. Reconnect the air intake tube to the air box and tighten the clamp.
47. Reconnect the electrical connection to the sensor in the air box and lock the locking tab.



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

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



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