



advanced FLOW engineering BladeRunner – Hot Side Charge Pipe Kit

Instruction Manual P/N: 46-20718-R

Make: Toyota	Model: Sequoia	Year: 2023+	Engine: V6-3.4L (t) Hybrid
Make: Toyota	Model: Tundra	Year: 2022+	Engine: V6-3.4L (t) Hybrid



- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- For technical support please call 951-493-7185.
- Ensure you have all necessary tools before proceeding.
- Do not attempt to work on your vehicle when the engine is hot.
- Retain factory parts for future use.

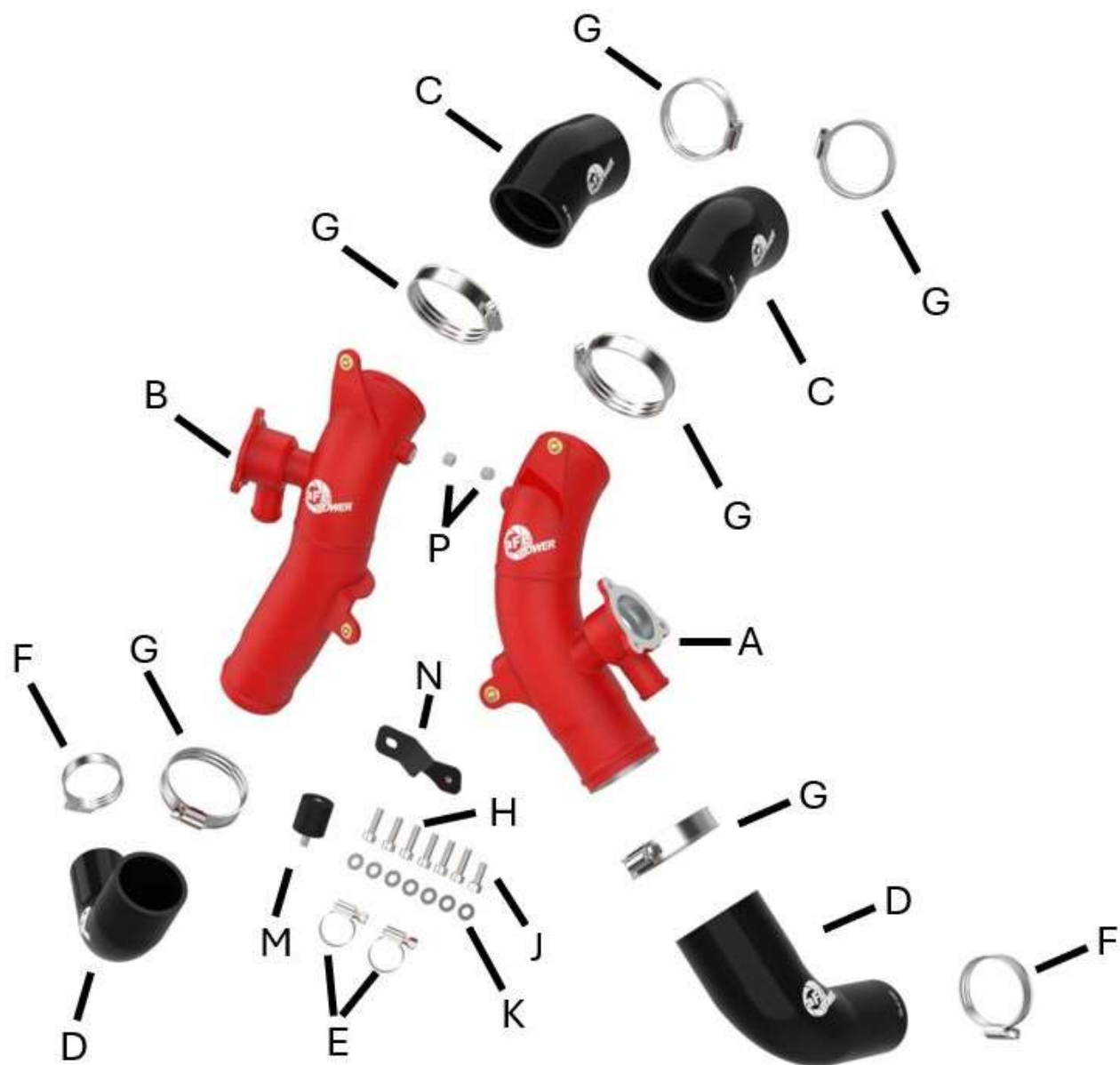
Label	Qty.	UoM	Description	Part Number
A	1	Ea.	Tube, DS Hot Side: 46-20718	05-61276R
B	1	Ea.	Tube, PS Hot Side: 46-20718	05-61277R
C	2	Ea.	Coupling, Silicone Elbow: 2.5"ID x 30 Deg w/bead	05-61652
D	2	Ea.	Coupling, Silicone Reducer Elbow: 2.5" x 1.75" 75DEG	05-61253
E	2	Ea.	Clamp, Mini 016 (11/16" - 1-1/2")	03-50091
F	2	Ea.	Clamp, SmartSeal, 032 (1.94" – 2.31")	03-50655
G	6	Ea.	Clamp, SmartSeal, 044 (2.50" – 3.06")	03-50656
H	6	Ea.	Screw, Socket Head Cap: M6x1.0x20, S/S	03-50241
J	1	Ea.	Screw, Socket Hd Cap: M6 x 1.0 x 16mm	03-50787
K	7	Ea.	Washer, M6 (12mm OD x 6.4mm ID)	03-50177
M	1	Ea.	Male/Female M6x1x1 Isolation Mount	03-50206
N	1	Ea.	Bracket; Wire Harness	05-61509
P	2	Ea.	Plug, Hex Hd Socket: 1/8" NPT (Zn Plt)	03-50029

Installation will require the following tools:

8mm socket, 10mm socket, 5mm allen wrench, 3/16" allen wrench, T30 Torx socket, 6" extension, ratchet, pick, & thread sealant

Warranty Information available at <https://afepower.com/contact#warranty>

Emissions Disclaimer: 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.





REMOVAL

Figure A

Refer to Figure A for Steps 1-6

Step 1: Park the vehicle on level ground and engage the parking brake.

Step 2: Disconnect the negative battery cable.

Step 3: Remove the engine cover from vehicle by lifting upwards on the front, then pulling the cover forward to remove the cover from the vehicle. ①

Step 4: Disconnect the air intake sensor from the air intake tube and the unclip harness from the air box ② on both sides of the vehicle.

Step 5: Loosen the clamp securing the air intake tube onto the turbo inlet tube ③ on both sides of the vehicle.

Step 6: Unclip the top of the air box from the bottom of the air box ④ then remove the air intake tube and top from the vehicle on both sides.



Figure B

Refer to Figure B for Steps 7-13

Step 7: Disconnect the MAP sensor connector from the heat exchanger ⑤

Step 8: Disconnect the camshaft position sensor connector located directly behind the driver's side charge pipe ⑥

Step 9: Disconnect the bypass valve actuator connector on each charge pipe ⑦

Step 10: Disconnect the coolant temp sensor connector from the water pump ⑧

Step 11: Disconnect the fan clutch connector located on the passenger side charge pipe mounting bracket ⑨

Step 12: Remove the two screws securing the wire harness to the charge pipes ⑩

Step 13: Set the harness to the side ⑪ to be reinstalled later.

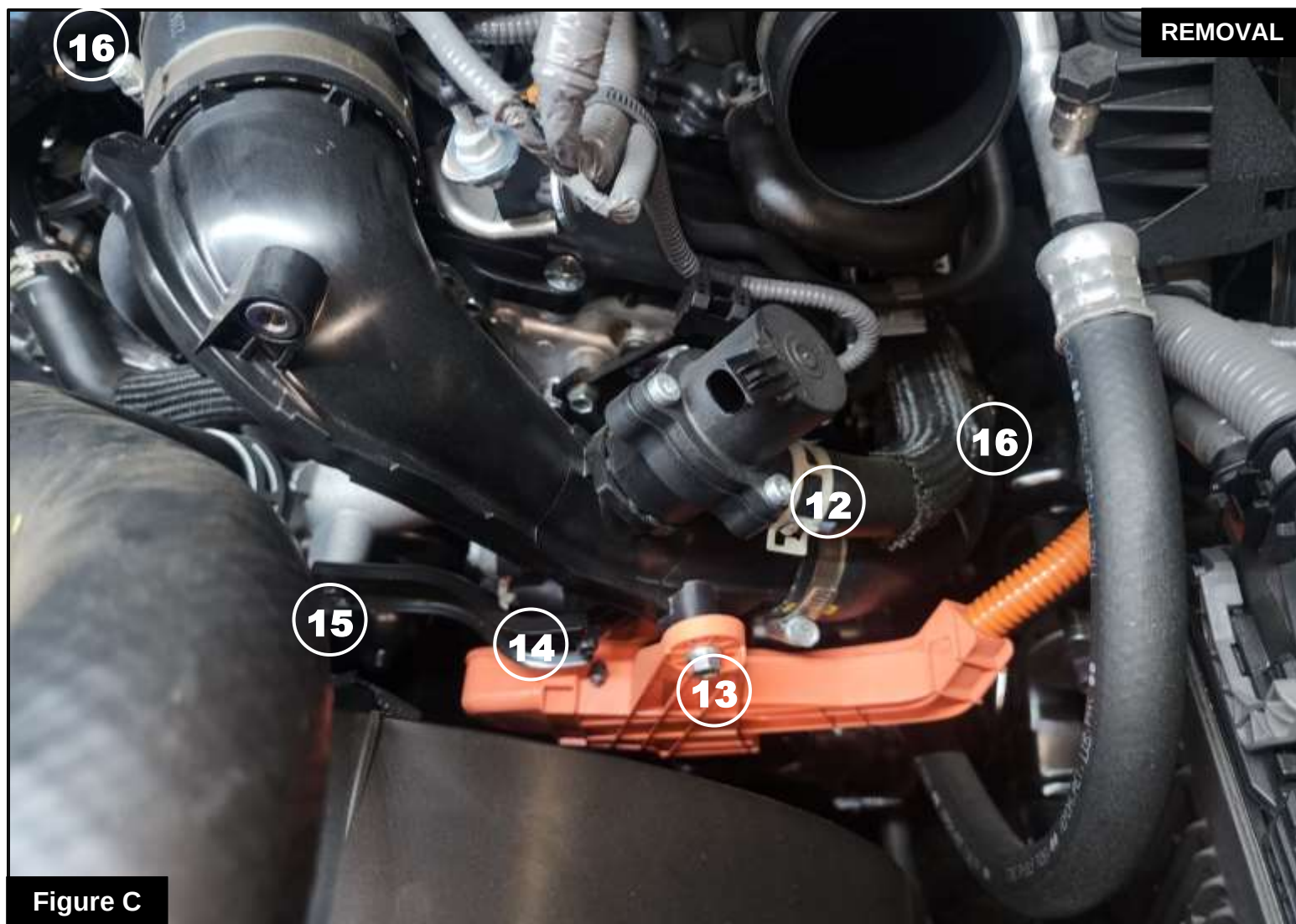


Figure C

Refer to Figure C for Steps 14-19

- Step 14: Disconnect the bypass valve hose from the charge pipe on the driver's side of the vehicle (12)
- Step 15: Remove the screw securing the orange wire harness to the charge pipe (13)
- Step 16: Remove the mounting screw securing the driver's side charge pipe to the charge pipe mounting bracket (14) set aside for later use.
- Step 17: Loosen the mounting screw securing the driver's side charge pipe mounting bracket to the engine and rotate down and out of the way (15)
- Step 18: Loosen the clamps securing the charge pipe couplings to the turbo and to the heat exchanger (16)
- Step 19: Remove the driver's side hot charge pipe from the vehicle.

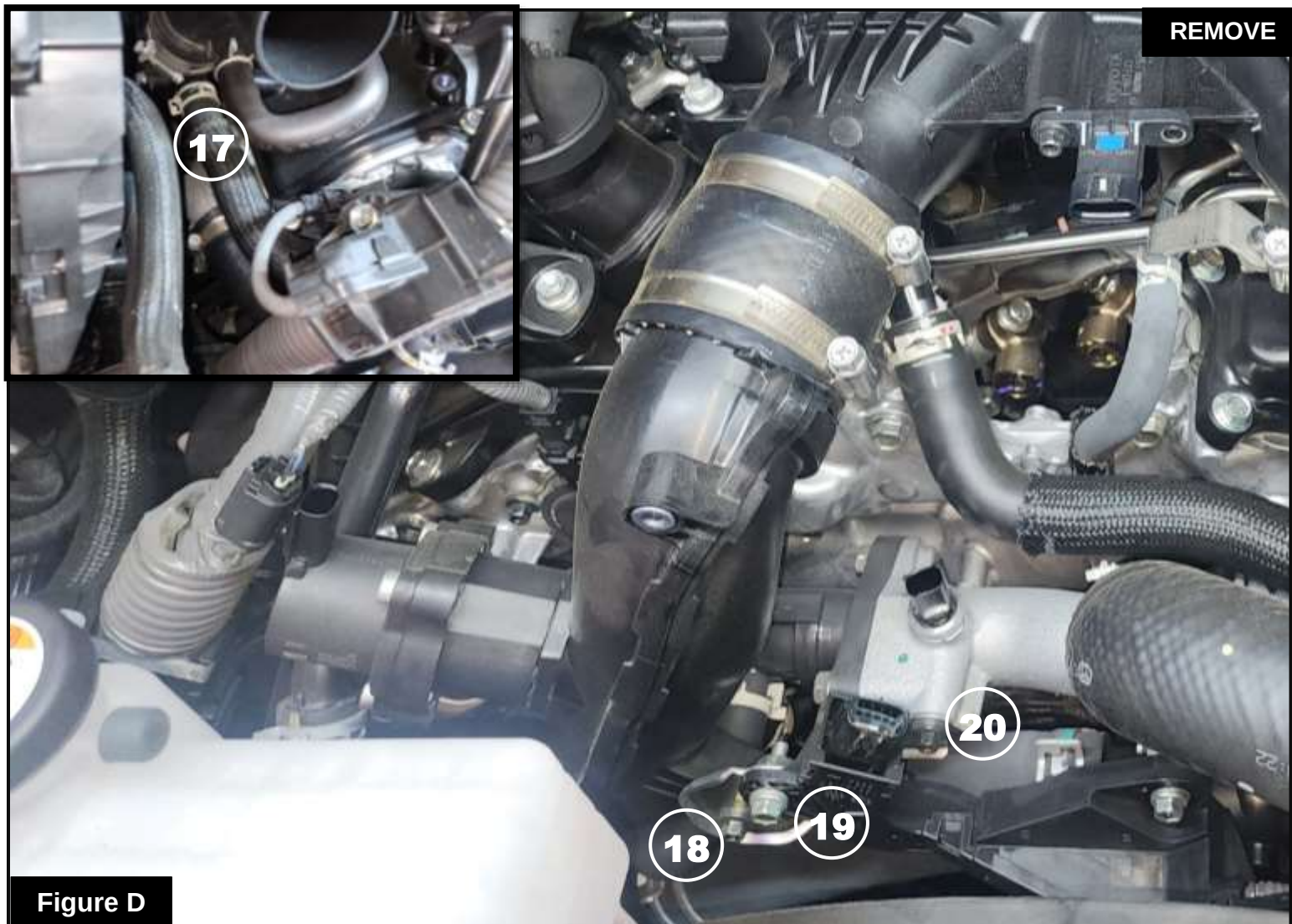


Figure D

Refer to Figure D for Steps 20-24

- Step 20: Disconnect the bypass valve hose on the passenger side of the vehicle from the turbo inlet tube, located directly above the turbo coupling (17)
- Step 21: Remove the mounting screw securing the passenger side charge pipe to the charge pipe mounting bracket (18) set aside for later use.
- Step 22: Remove the mounting screw securing the fan clutch harness to the charge pipe mounting bracket (19) set aside for later use.
- Step 23: Loosen the mounting screw securing the passenger side charge pipe mounting bracket to the engine and rotate down and out of the way (20)
- Step 24: Remove passenger side hot side charge pipe with bypass valve hose from the vehicle.



Figure E

Refer to Figure E for Steps 25-29

Step 25: If equipped, remove the two screws securing the air deflector to the motor underneath the vehicle

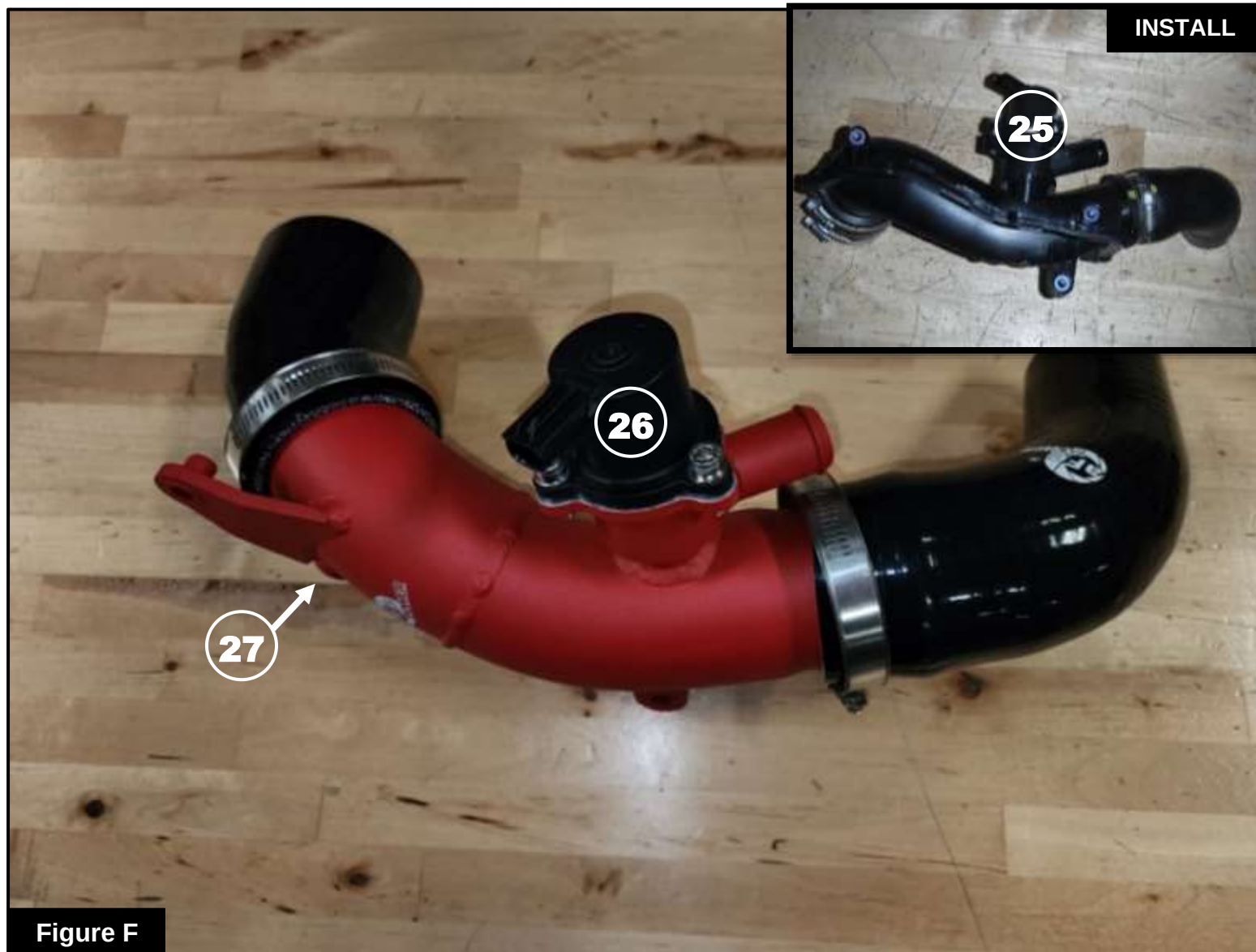
②① They are located underneath the rubber trim of the air deflector. This allows the air deflector to fold down out of the way.

Step 26: Remove the four screws securing the skid plate underneath the vehicle and remove the skid plate from the vehicle ②②

Step 27: Remove the screw securing the bottom of the orange electrical harness cover to the engine.

Step 28: Install the supplied isolation mount onto the vehicle into the screw hole from the previous Step ②③

Step 29: Install the orange electrical harness onto the isolation mount with the factory screw ②④, do not tighten this screw yet.



Refer to Figure F for Steps 30-33

Step 30: Remove the driver's side bypass valve actuator from the factory charge pipe (25)

Step 31: Install the factory bypass valve actuator from the previous step onto the new aFe driver's side hot charge pipe using the supplied M6x1.0x20mm screws and M6 washers (26)

Step 32: Repeat Steps 30 and 31 for the passenger side charge pipe.

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

Step 33: If you are not using any aftermarket sensors, install the supplied 1/8" NPT plugs (27) into the threaded fitting on each of the aFe hot charge pipes.


Figure G

Refer to Figure G for Steps 34-37

Step 34: Install the supplied 2.5"x 30Deg coupling along with one SmartSeal, 044 (2.50" – 3.06") onto the short end of the passenger side aFe charge pipe, ensure that the bead on the inside of the coupling interlocks into the groove on the aFe charge pipe (28)

Step 35: Install the supplied aFe silicone reducer elbow 2.375"ID x 1.75"x 75Deg coupling along with one SmartSeal, 044 (2.50" – 3.06") onto the longer end of the passenger side aFe hot charge pipe (29) do not tighten the clamp yet.

Step 36: Repeat Steps 34 and 35 for the driver's side charge pipe.

Step 37: Transfer the bypass hose from the factory passenger side charge pipe to the passenger side aFe charge pipe, secure it with the supplied mini clamp 16 (0.69" – 1.50") (30)



Figure H

Refer to Figure H for Steps 38-41

Note: Be sure to thoroughly clean all oil residue off of the connections before installing any of the aFe couplings onto the vehicle.

Step 38: Install the aFe driver's side hot charge pipe assembly into the vehicle along with one SmartSeal, 044 (2.50" – 3.06") on the heat exchanger side and one SmartSeal, 032 (1.94" – 2.31") on the turbo outlet (31) do not tighten the clamps yet.

Step 39: Install the factory bypass valve hose onto the aFe charge pipe, secure it with the supplied mini clamp 16 (0.69" – 1.50") (32)

Step 40: Align the factory mounting bracket with the aFe charge pipe mount and install the supplied wire harness bracket with the factory charge pipe mounting screw into the aFe charge pipe mount (33) do not tighten this screw yet.

Step 41: Secure the orange wire harness cover to the aFe POWER wire harness bracket with the supplied M6x1x16 screw (34)

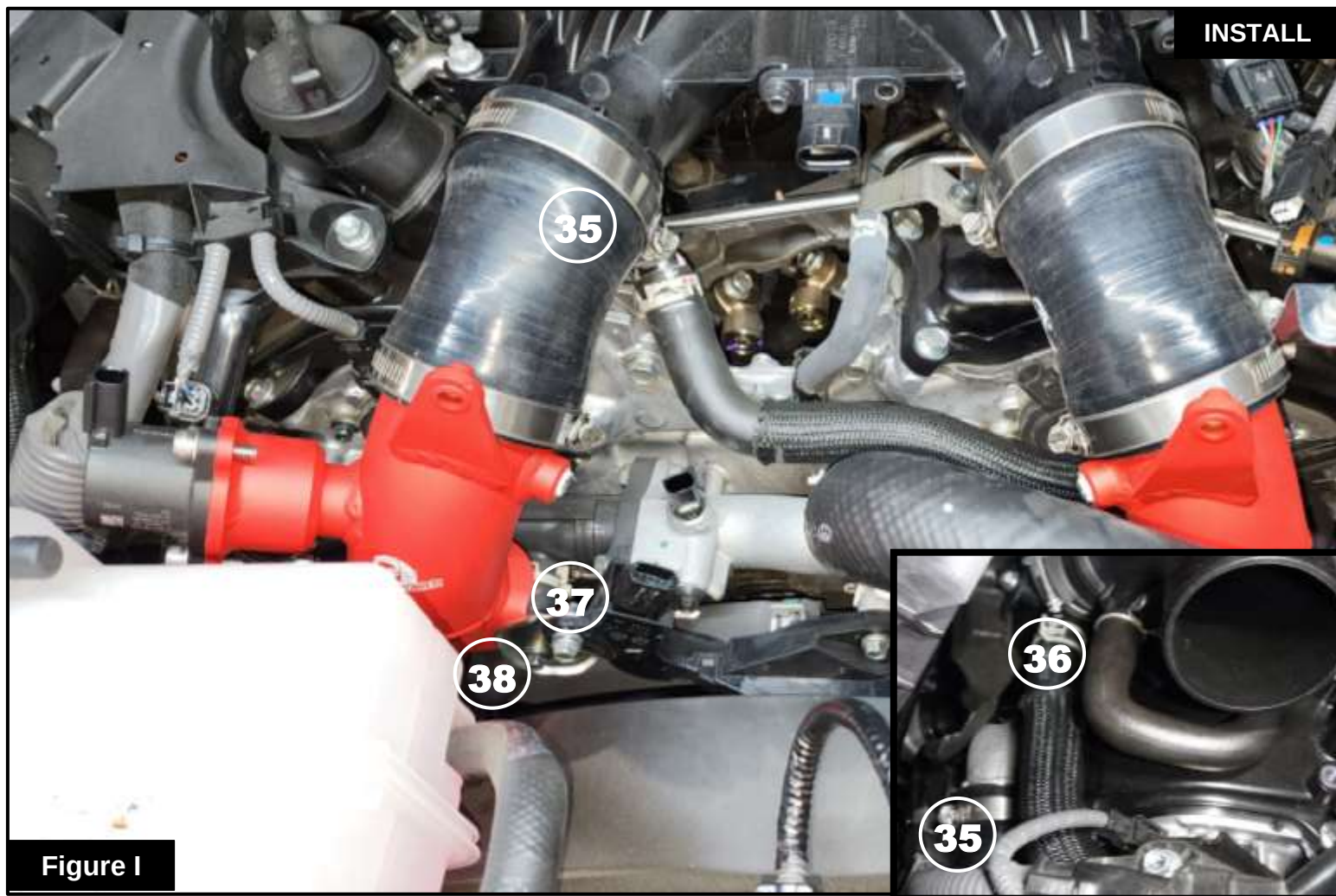


Figure I

Refer to Figure I for Steps 42-45

Note: Be sure to thoroughly clean all oil residue off of the connections before installing any of the aFe couplings onto the vehicle.

Step 42: Install the aFe passenger side hot charge pipe assembly into the vehicle along with one SmartSeal, 044 (2.50" – 3.06") on the heat exchanger side and one SmartSeal, 032 (1.94" – 2.31") on the turbo outlet (35) do not tighten the clamps yet.

Step 43: Install the factory bypass valve hose onto the factory turbo inlet tube (36)

Step 44: Align the mounting bracket with the fan clutch harness mounting hole and install the factory screw (37) do not tighten the screw yet.

Step 45: Align the mounting bracket with the aFe charge pipe mount and install the factory charge pipe mounting screw into the mount (38) do not tighten the screw yet.



Figure J

Refer to Figure J for Steps 46-52

Step 46: Reinstall the factory engine harness mount onto the aFe charge pipes using the factory mounting screws (39) aFe charge pipes will need to be adjusted at this point.

Step 47: Once the aFe charge pipes are adjusted and the engine harness mount is installed, tighten all mounting screws and all clamps. Torque all SmartSeal clamps to 6 Ft-lbs(72in-lbs)

Step 48: Reconnect the camshaft position sensor connector.

Step 49: Reconnect the MAP sensor connector.

Step 50: Reconnect the coolant temperature sensor connector.

Step 51: Reconnect the fan clutch harness connector.

Step 52: Reconnect the bypass valve actuator connectors on each charge pipe.



Figure K

Refer to Figure K for Steps 53-60

Step 53: Reinstall the air intake tube and air box top into the vehicle and tighten the clamps (40) on both sides.

Step 54: Reconnect the air intake sensor connector to the air intake tube and clip harness onto the air box (41) on both sides.

Step 55: Tighten the lower orange harness mounting screw from Step 29.

Step 56: Install splash shield.

Step 57: Install air deflector screws.

Step 58: Reinstall the engine cover (42)

Step 59: Reconnect the negative battery cable.

Step 60: Install is now complete.

NOTE: Check all clamps, and connectors are secure after 100-200 miles



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