



advanced FLOW engineering BladeRunner – Charge Pipe Combo Kit

Instruction Manual P/N: 46-20654-R

Make: Ford	Model: Explorer ST	Year: 20-21	Engine: V6-3.0L (tt)
Make: Ford	Model: Explorer	Year: 20-21	Engine: V6-3.0L (tt)
Make: Ford	Model: Aviator	Year: 20-21	Engine: V6-3.0L (tt)



- 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.

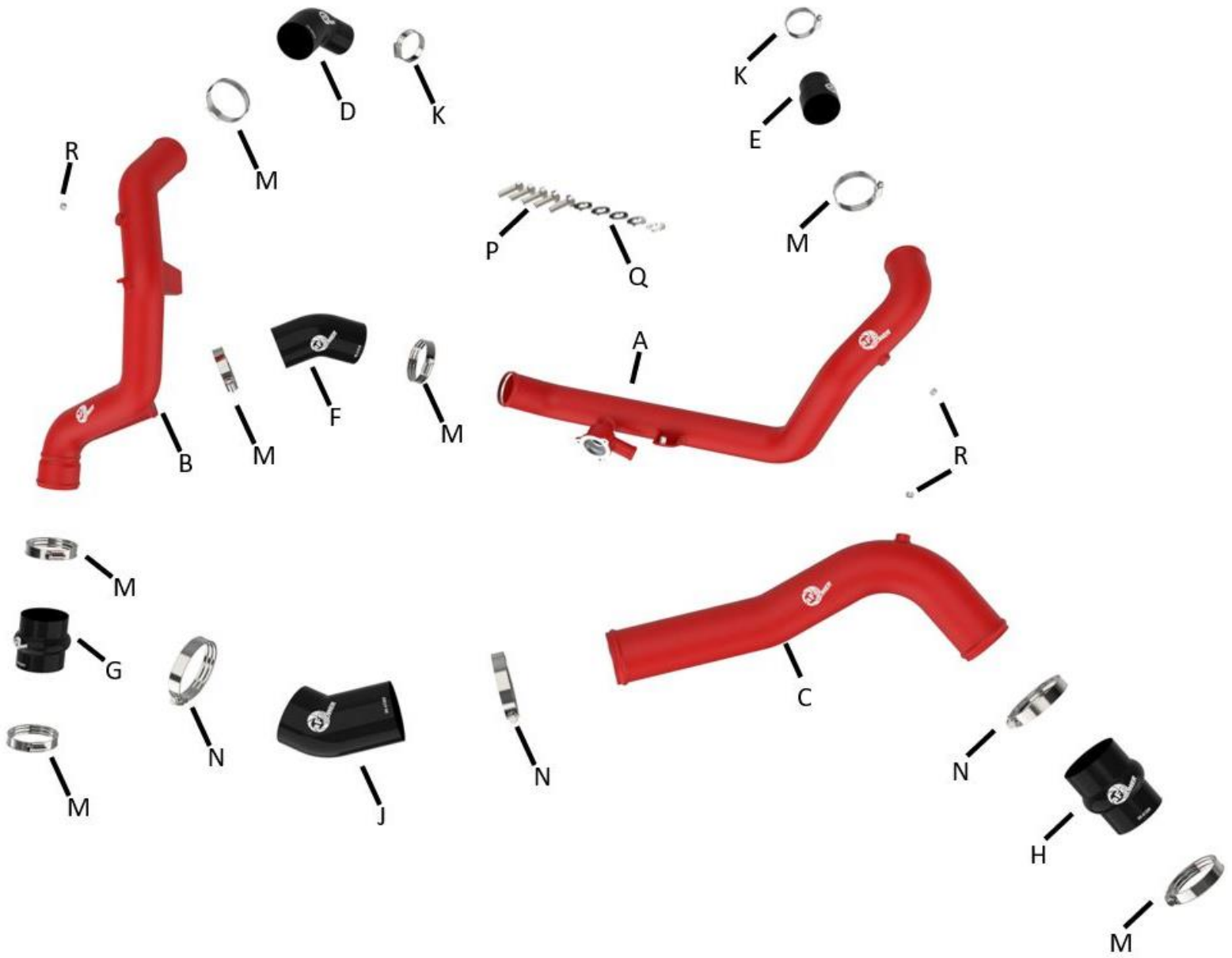
Label	Qty.	UoM	Description	Part Number
A	1	Ea.	Tube, DS Hot Side: 46-2065X-R	05-61315R
B	1	Ea.	Tube, PS Hot Side: 46-2065X-R	05-61316R
C	1	Ea.	Tube, Cold Side: 46-2065X-R	05-61317R
D	1	Ea.	Coupling, Silicone Rdr Elbow 2.25" x 1.50" 45 Deg	05-61275
E	1	Ea.	Coupling, Silicone Straight: 2.30" x1.85" x3.50"L	05-60940
F	1	Ea.	Coupling, Silicone Elbow: 2.25" x 40 Deg	05-61318
G	1	Ea.	Coupling, Silicone Hump: 2.50" x 3"L	05-61319
H	1	Ea.	Coupling, Silicone Reducer: 2.75" x 2.50" x 4"L	05-61320
J	1	Ea.	Coupling, Silicone Elbow: 2.75" x 38.5 Deg	05-61323
K	2	Ea.	Clamp, SmartSeal, 032 (1.94" – 2.31")	03-50655
M	7	Ea.	Clamp, SmartSeal, 044 (2.50" – 3.06")	03-50656
N	3	Ea.	Clamp, SmartSeal, 052 (2.88" – 3.56")	03-50786
P	5	Ea.	Screw, Socket Head Cap: M6x1.0x20, S/S	03-50241
Q	5	Ea.	Washer, M6 (12mm OD x 6.4mm ID)	03-50177
R	3	Ea.	Plug, Hex Hd Socket: 1/8" NPT (Zn Plt)	03-50029

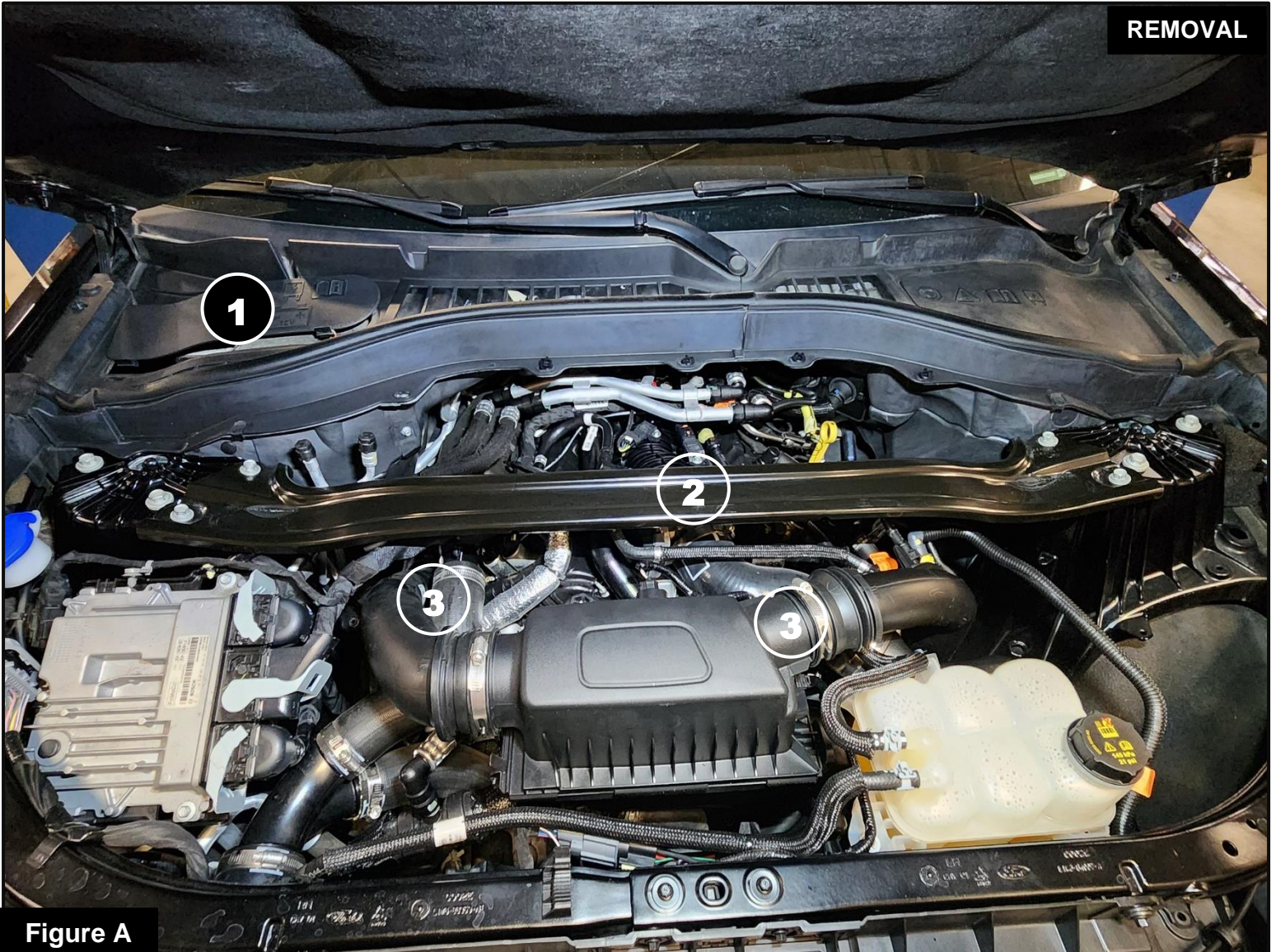
Installation will require the following tools:

7mm, 8mm, 10mm, 13mm sockets , 5mm allen, 3/16" allen, extensions, ratchet, plastic pannel popper, flat screwdriver, pick, teflon tape.

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.



**Figure A****Refer to Figure A for Steps 1-3**

Step 1: Disconnect the negative battery cable (1).

Step 2: Remove the screws securing the factory strut tower brace onto the vehicle (2) and remove the brace.

Step 3: Loosen the two clamps securing the passenger side turbo inlet tube into the vehicle, then remove it

(3).

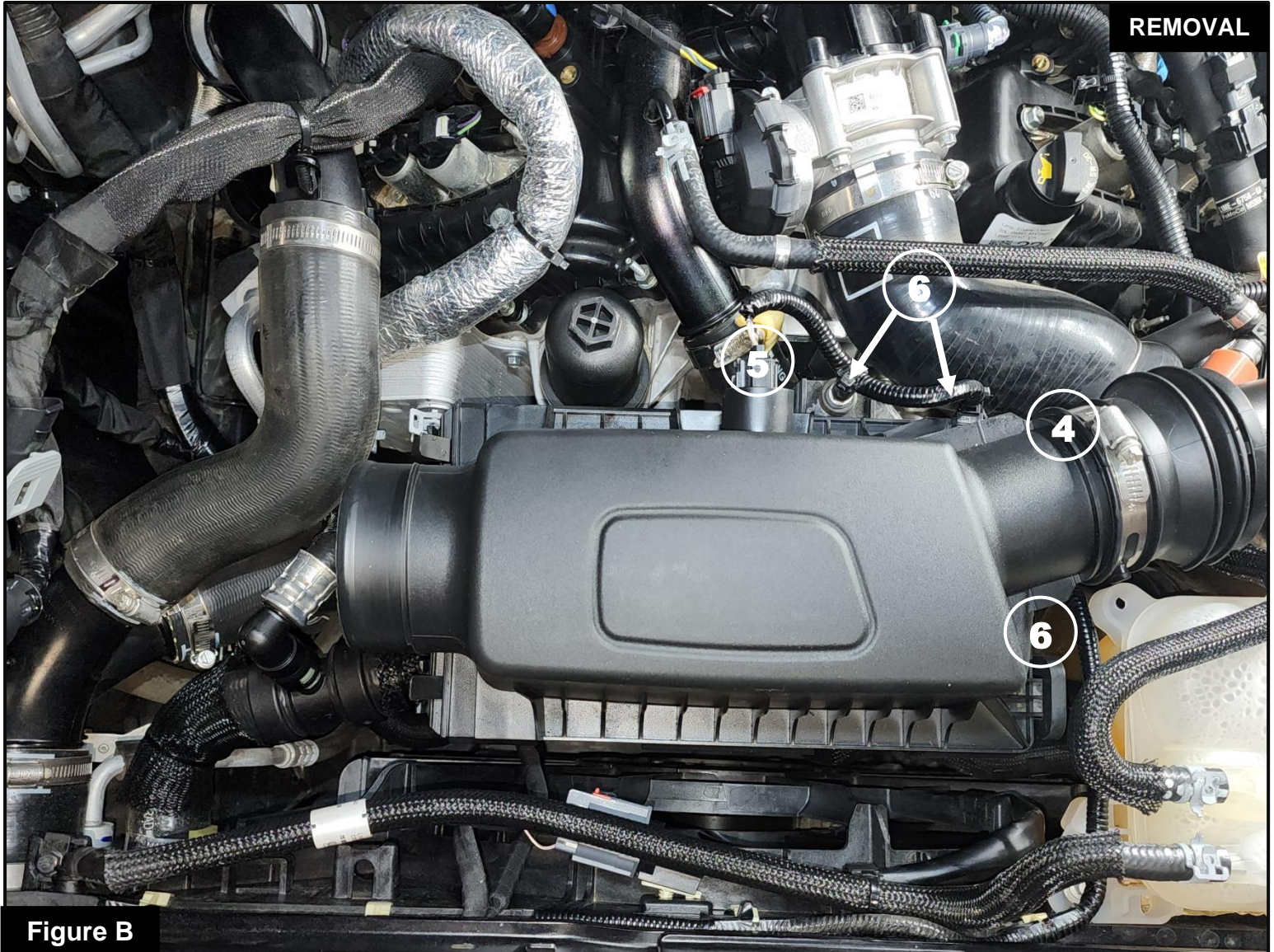


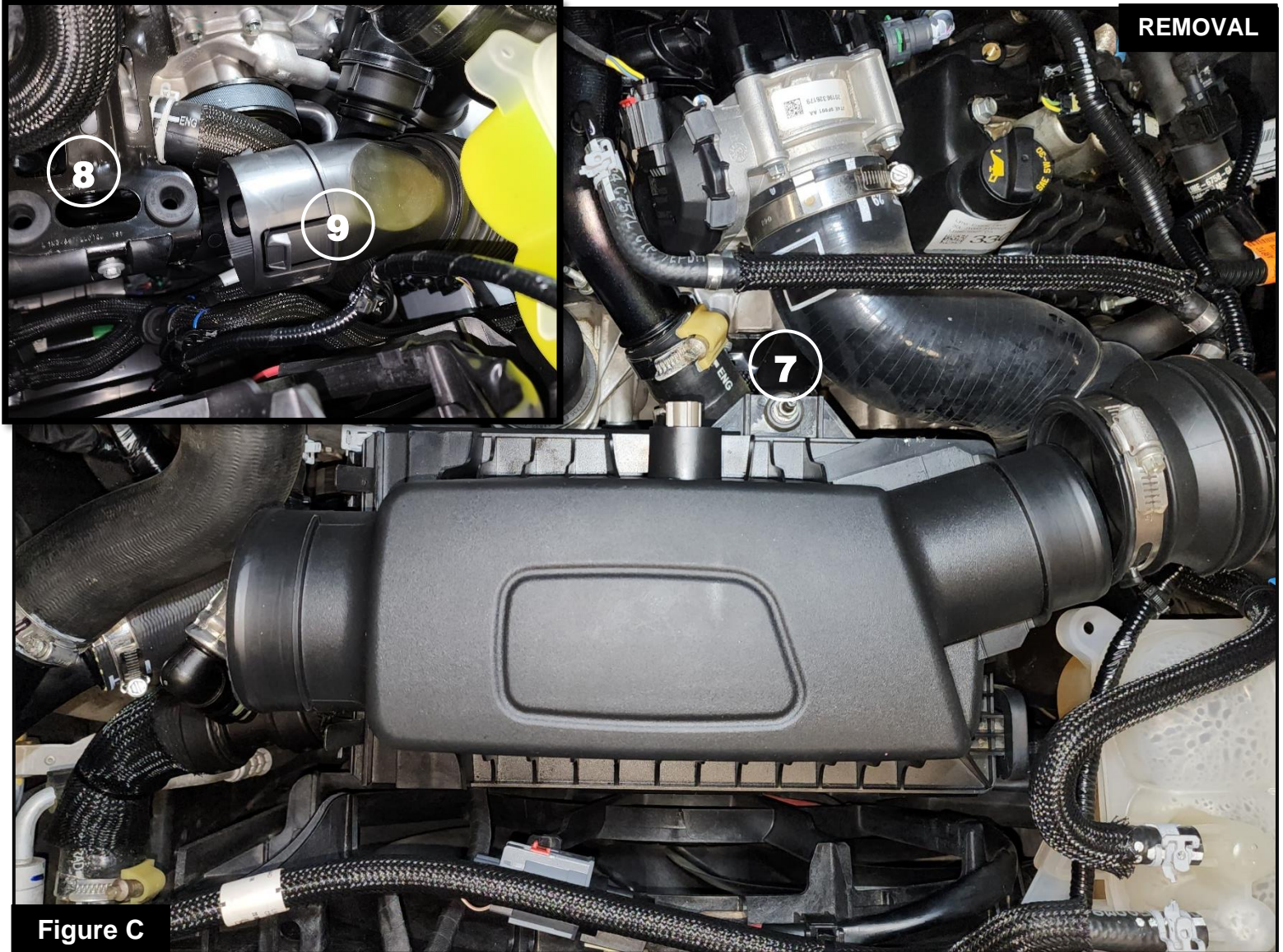
Figure B

Refer to Figure B for Steps 4-6

Step 4: Loosen the clamp securing the driver side turbo inlet tube to the intake air box, then disconnect it (4).

Step 5: Disconnect the air intake temperature sensor harness from the sensor on the intake air box (5).

Step 6: Unclip the air intake sensor wire harness from the mounting screw and intake air box lid (6)



Refer to Figure C for Steps 7-9

Step 7: Remove the nut securing the intake air box into the vehicle (7).

Step 8: Lift upwards on the factory intake air box to disconnect it from the lower mounting grommets (8).

Step 9: Disconnect the intake air scoop from the bottom half of the factory air box by firmly pulling the connection apart (9).

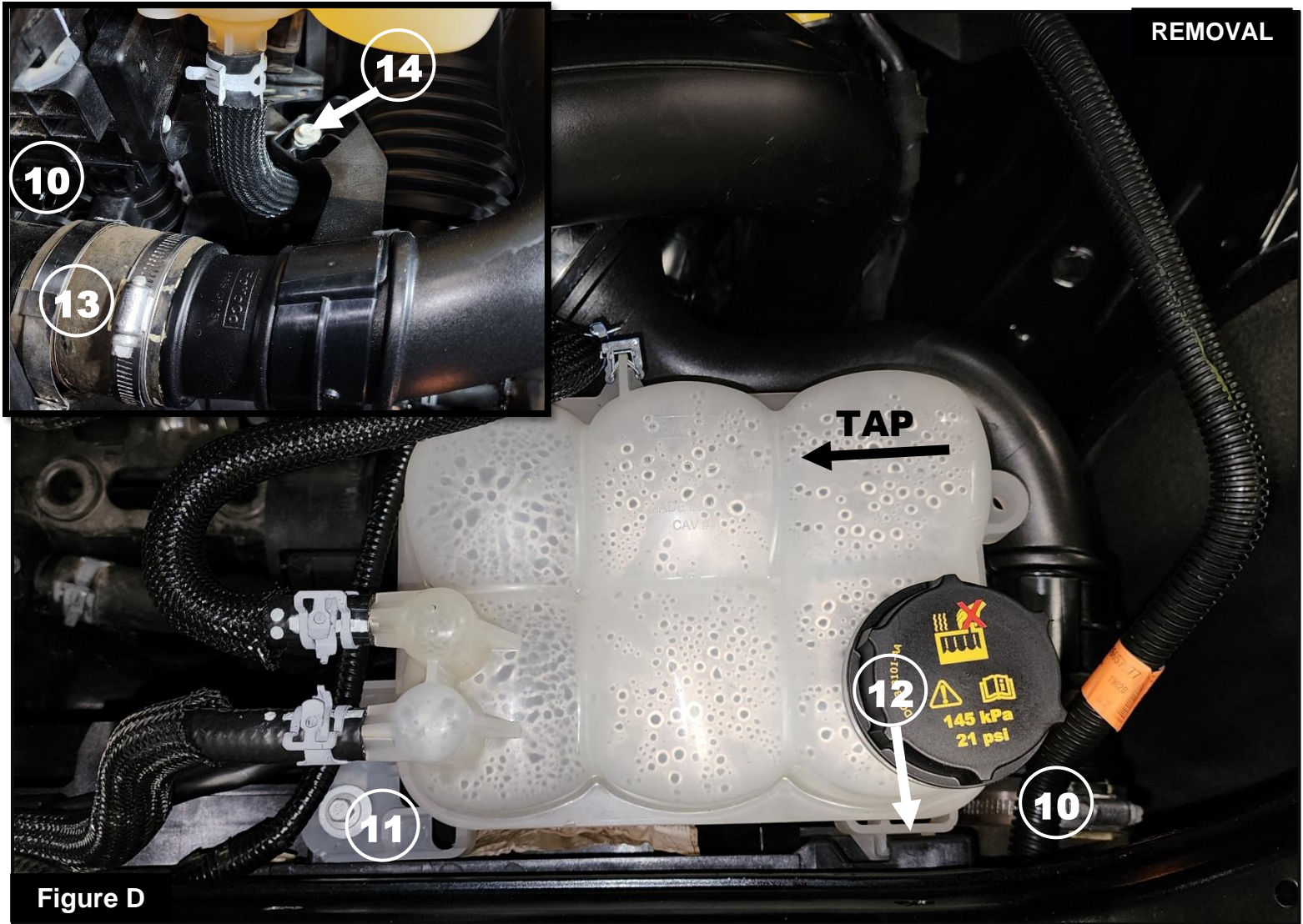
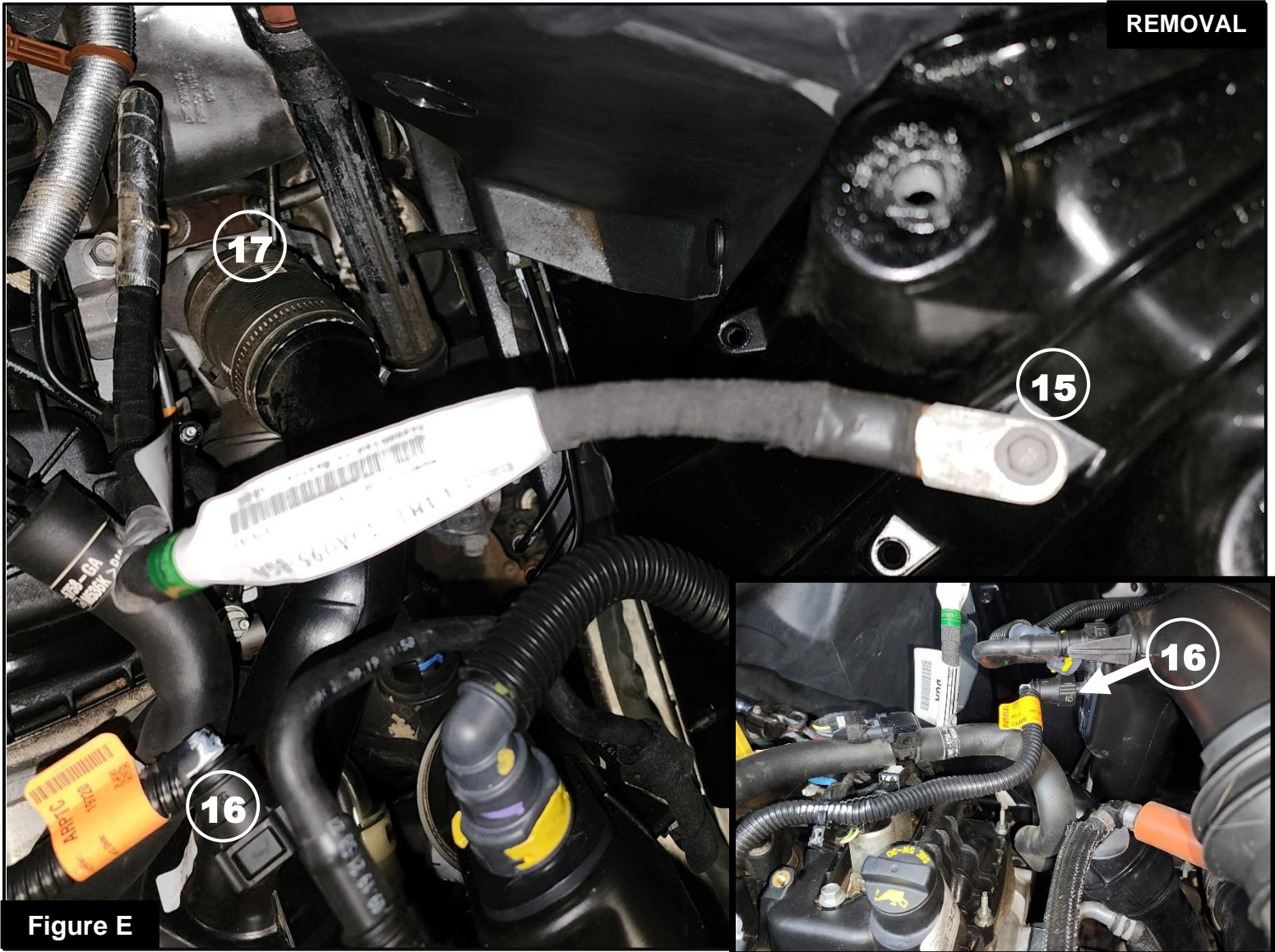


Figure D

Refer to Figure D for Steps 10-15

- Step 10: Disconnect the intercooler pressure line from the intercooler by releasing the security tab and disconnecting it (10)
- Step 11: Remove the screw securing the coolant reservoir to the vehicle (11)
- Step 12: Place a plastic pry tool between the reservoir and the fan shroud mount, and gently tap the coolant reservoir towards the passenger side to disconnect it from the vehicle (12)
- Step 13: Loosen the clamp securing the factory cold side charge pipe to the intercooler (13)
- Step 14: Lift the coolant reservoir and remove the nut securing the factory cold side charge pipe mounting bracket to the vehicle (14)
- Step 15: Loosen the clamp securing the factory cold side charge pipe to the throttle body, then remove the charge pipe from the vehicle.



Refer to Figure E for Steps 16-18

Step 16: Remove the screw securing the ground strap onto the vehicle (15)

Step 17: Disconnect the EVAP hose from the turbo inlet tube. It should have an orange tag on it (16)

Step 18: Loosen the clamp securing the driver's side hot charge pipe onto the turbo (17)

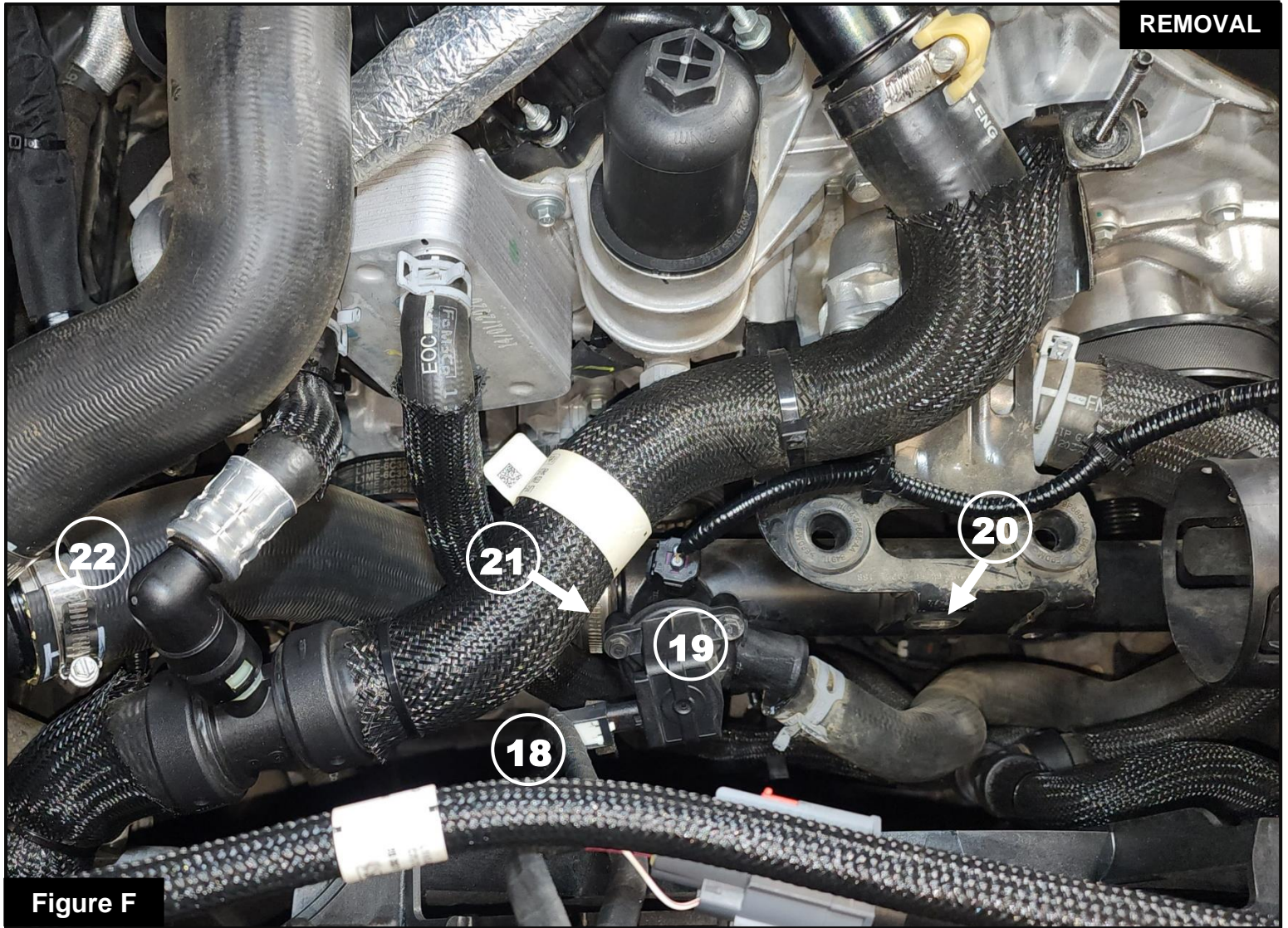


Figure F

Refer to Figure F for Steps 19-24

Step 19: Release the security tab on the electrical connector for the bypass control valve by sliding it back then disconnect it (18)

Step 20: Remove the screws securing the bypass control valve onto the driver's hot side charge pipe (19) and remove it from the vehicle. Disconnect the bypass control valve hose from the hot side charge pipe.

Step 21: Remove the screw securing the driver's side hot charge pipe to the intake mount (20)

Step 22: Loosen the clamp securing the hot side charge pipe merge coupling to the driver's side hot charge pipe and disconnect (21)

Step 23: Disconnect the driver's side hot charge pipe from the turbo and remove the pipe from the vehicle.

Step 24: Loosen the clamp securing the driver's side hot charge pipe coupling to the merge tube and remove the coupling from the vehicle (22)

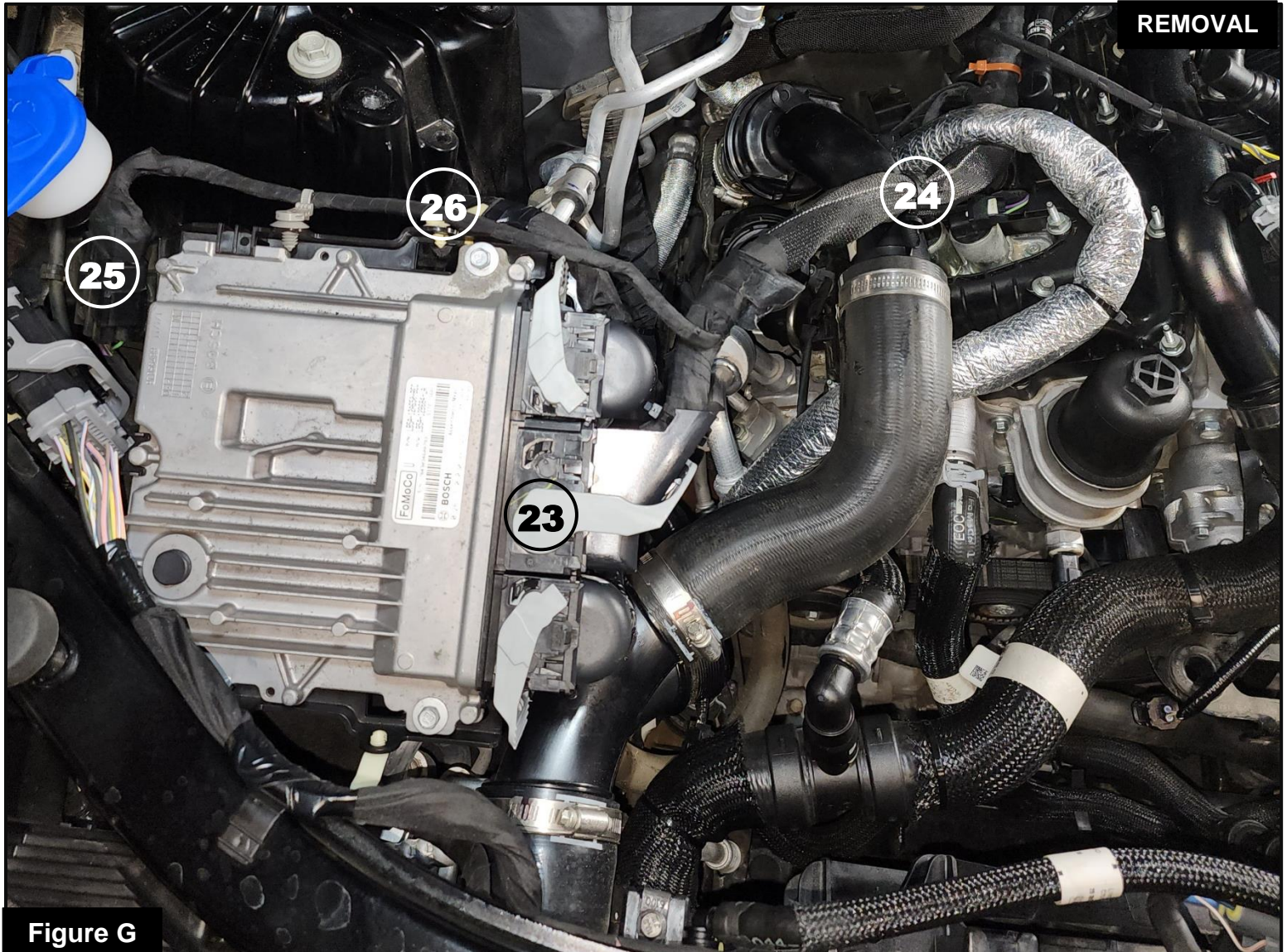


Figure G

Refer to Figure G for Steps 25-28

Step 25: Disconnect the middle ECU harness connector from the ECU (23)

Step 26: Disconnect the clip securing the harness to the passenger side hot charge pipe (24)

Step 27: Disconnect the electrical connector shown above (25)

Step 28: Disconnect the clip securing the harness from above to the ECU mounting bracket and lay the entire harness over the engine (26)

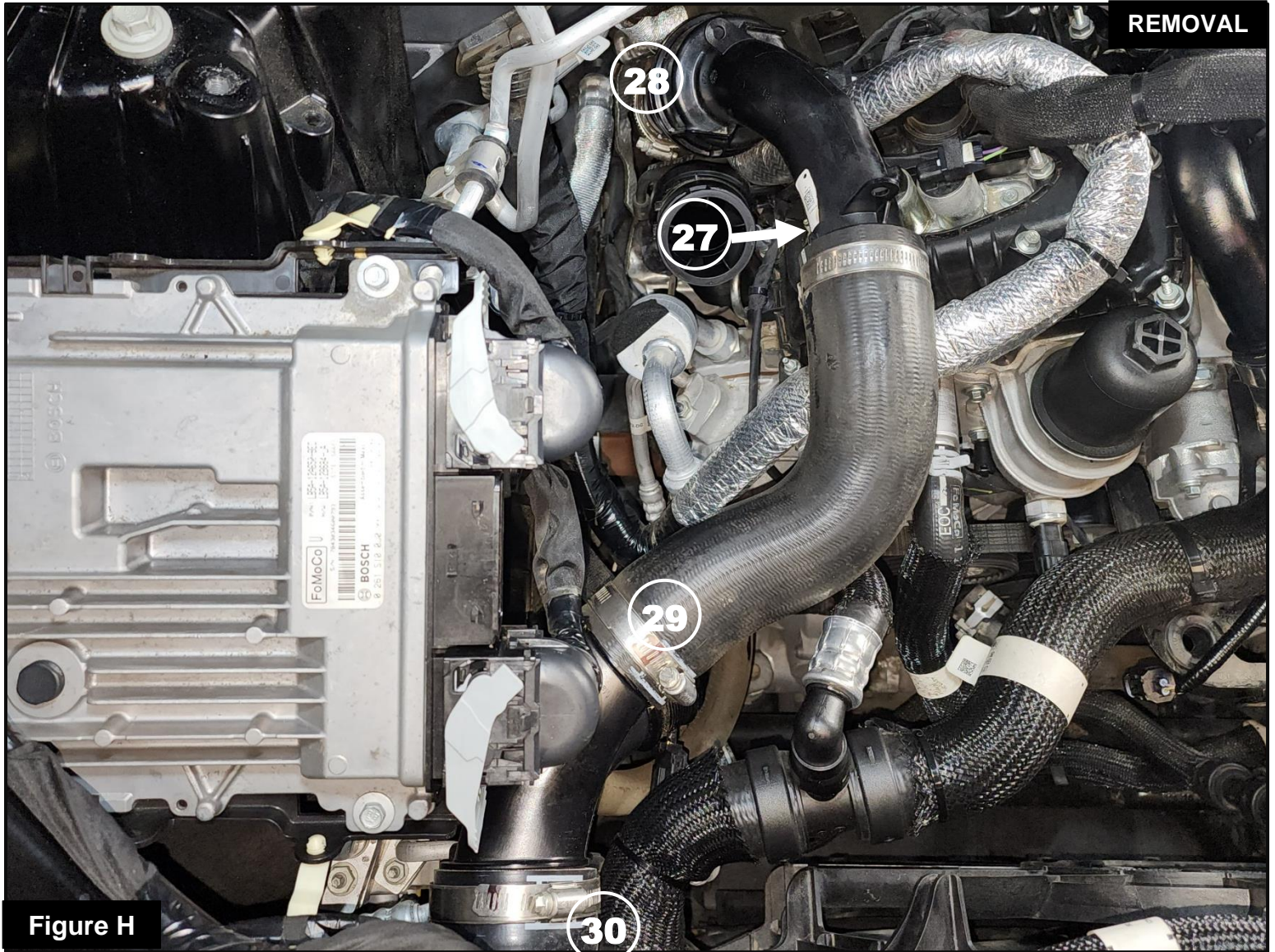


Figure H

Refer to Figure H for Steps 29-33

- Step 29: Remove the screw securing the passenger side hot charge pipe onto the engine (27)
- Step 30: Loosen the clamp securing the passenger side hot charge pipe coupling to the turbo (28)
- Step 31: Loosen the clamp securing the passenger side hot charge pipe coupling to the merge tube (29)
- Step 32: Remove the passenger side hot charge pipe from the vehicle.
- Step 33: Loosen the clamp securing the hot side merge tube to the intercooler and remove it from the vehicle (30)

**Figure I****Refer to Figure I for Steps 34-35**

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

Step 34: If you are not using any aftermarket sensors, install the supplied 1/8" NPT plugs into the threaded fittings on the aFe POWER driver's and passenger side hot charge pipes (31)

Step 35: Install the supplied aFe POWER silicone hump coupling, 2.50"x 3"L, (32) and one of the supplied 044 SmartSeal clamps onto the end of the aFe POWER passenger side hot charge pipe, do not tighten the clamp yet.

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

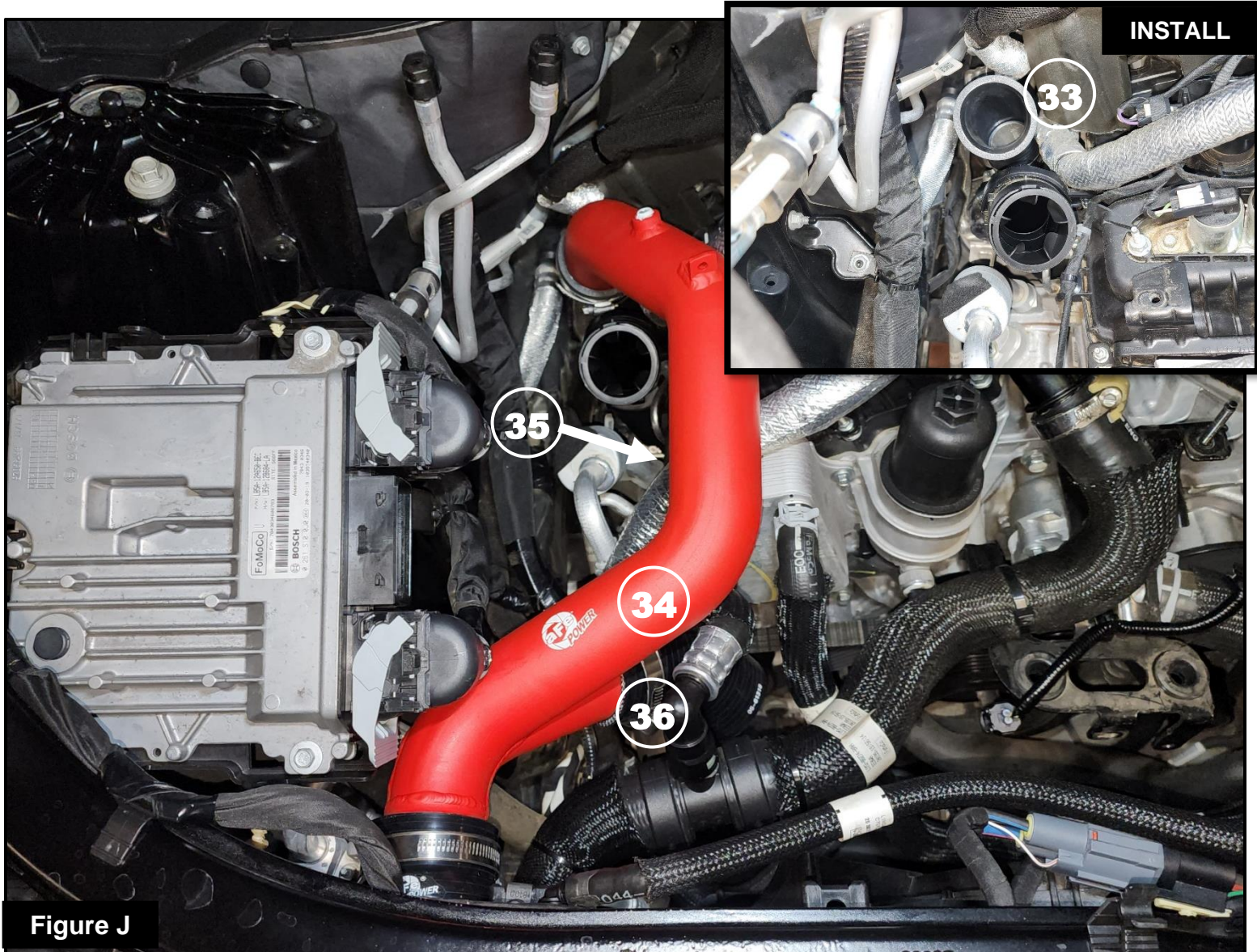


Figure J

Refer to Figure J for Steps 36-39

Step 36: Install the supplied aFe POWER silicone reducer elbow coupling 2.25"x 1.50" x 45 Deg and one of the supplied 032 SmartSeal clamps onto the passenger side turbo (33) do not tighten the clamp yet.

Step 37: Install your aFe POWER passenger side hot charge pipe along with one of the supplied 044 SmartSeal clamps on each end (34) Install it by connecting to the turbo coupling then to the intercooler, do not tighten the clamps yet.

Step 38: Adjust the couplings as needed and secure the charge pipe with one supplied M6 x 1 x 20 screw and M6 washer (35) then tighten all of the clamps for the passenger side hot charge pipe.

Step 39: Install the supplied aFe POWER silicone elbow coupling 2.25"x 40 Deg along with one 044 SmartSeal clamp onto the lower tube of the passenger side hot merge tube (36) do not tighten the clamps yet.

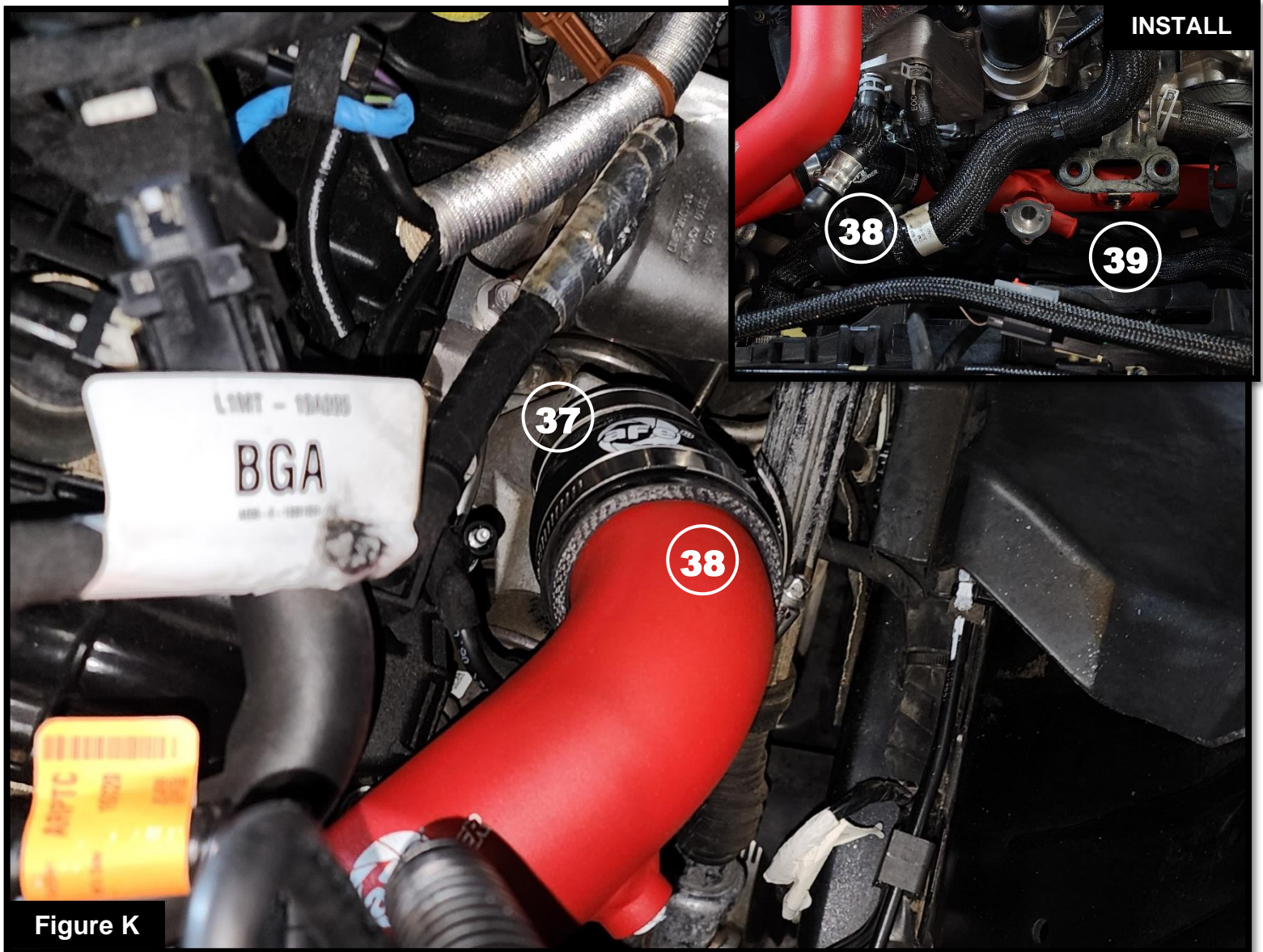


Figure K

Refer to Figure K for Step 40-42

Step 40: Install the supplied aFe POWER silicone reducer coupling 2.30" x1.85" x3.50"L and one supplied 032 SmartSeal clamp onto the driver's side turbo (37) do not tighten the clamp yet.

Step 41: Install your aFe POWER driver's side hot charge pipe along with one supplied 044 SmartSeal clamp on each end (38) Install it by connecting to the turbo coupling, then to the lower coupling on the passenger side hot merge tube, do not tighten the clamps yet.

Step 42: Adjust the couplings as needed and secure the charge pipe with one supplied M6 x 1 x 20 screw and M6 washer (39), then tighten all of the clamps for the driver's side hot charge pipe.



Figure L

Refer to Figure L for Step 43-44

Step 43: Install the bypass control valve with three of the supplied M6 x 1 x 20 screw and M6 washers and reconnect the electrical connector and secure the security tab (40)

Step 44: Install the bypass hose onto your aFe POWER driver's side hot charge pipe (41).



Figure M

Refer to Figure M for Steps 45-47

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

Step 45: If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug into the threaded fitting on the aFe POWER cold side charge pipe (42)

Step 46: Install the supplied aFe POWER silicone elbow coupling, 2.75"x 38.5 Deg, with two of the supplied 052 SmartSeal clamps onto the aFe POWER cold side charge pipe (43) do not tighten the clamps yet.

Step 47: Install the supplied aFe POWER silicone reducer coupling, 2.75"x 2.50" x 4"L, and one supplied 044 SmartSeal clamp onto the driver's side intercooler outlet (44) do not tighten the clamps yet.



Figure N

Refer to Figure N for Steps 48-52

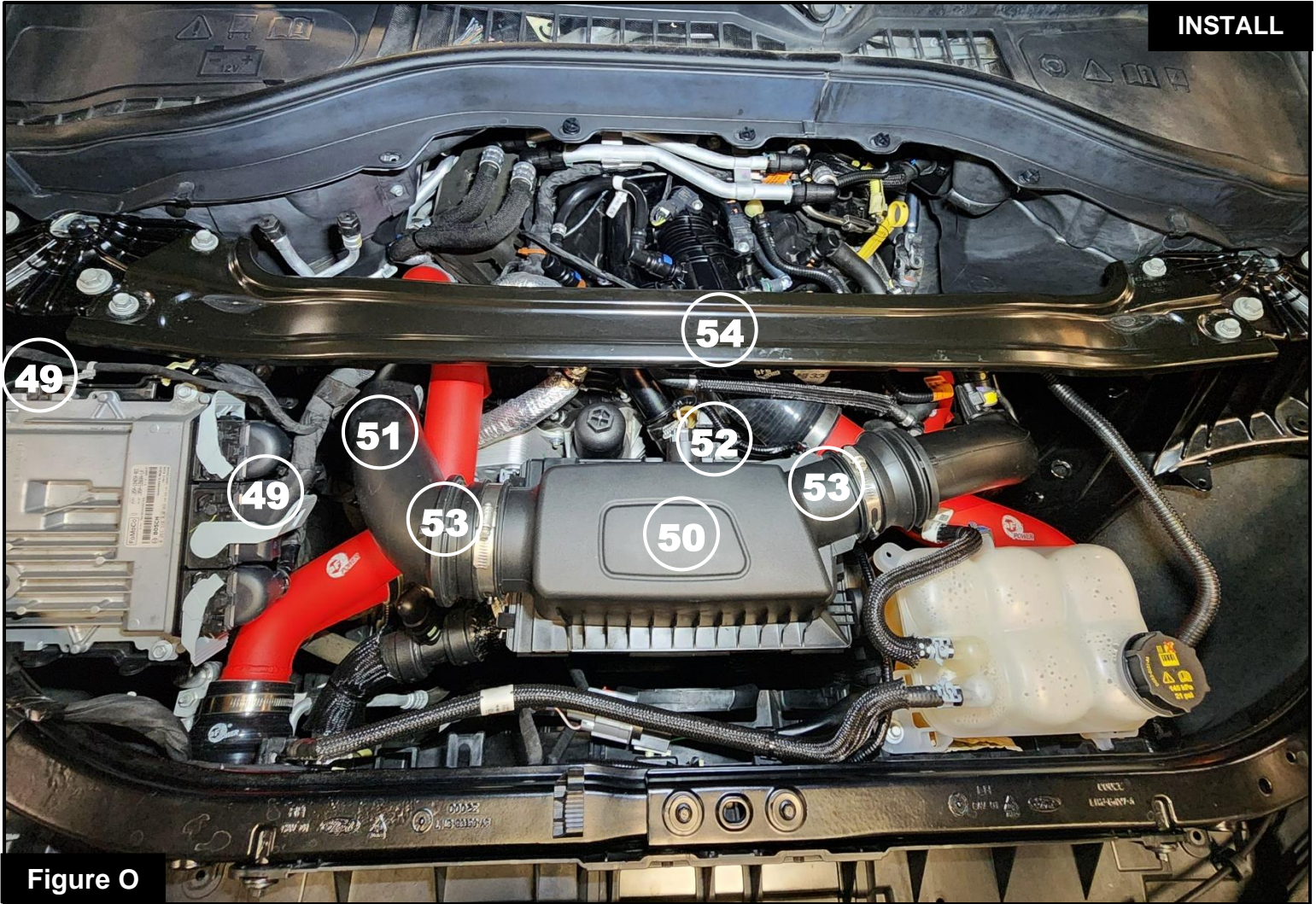
Step 48: Install the aFe POWER cold side charge pipe into the vehicle along with one of the 052 SmartSeal clamps on the intercooler side and tighten the clamps.

Step 49: Reconnect the intercooler pressure line to the intercooler and secure the security tab (45)

Step 50: Secure the ground strap back into place (46)

Step 51: Reinstall the coolant reservoir into its mounting tab and secure it using the factory screw (47)

Step 52: Reconnect the EVAP hose to the turbo inlet tube (48)


Figure O

Refer to Figure O for Steps 53-60

- Step 53: Reconnect the electrical connections for the ECU harness and secure it to the aFe POWER charge pipe and the ECU mounting bracket (49)
- Step 54: Reinstall the intake air box to the intake air scoop and secure it into the vehicle (50)
- Step 55: Reinstall the passenger side turbo inlet tube into the vehicle (51)
- Step 56: Reconnect the electrical harness to the intake air temperature sensor and secure the harness back to the air box (52)
- Step 57: Secure the air intake tubes to the air box (53)
- Step 58: Reinstall the strut brace into the vehicle (54)
- 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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