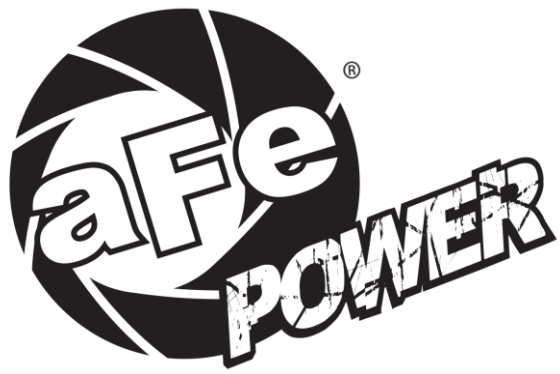




advanced FLOW engineering BladeRunner – Charge Pipe Combo Kit

Instruction Manual P/N: 46-20754-R

Make: **Ford**

Model: **Bronco Raptor**

Year: **2022-2025**

Engine: **V6-3.0L (tt)**

Make: **Ford**

Model: **Ranger Raptor**

Year: **2024-2025**

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, Hot Side DS: 46-20758	05-61529R
B	1	Ea.	Hose, Hot Side DS: 46-20758	05-61530B
C	1	Ea.	Tube, Hot Side PS: 46-20758	05-61531R
D	1	Ea.	Hose, Hot Side PS: 46-20758	05-61532B
E	1	Ea.	Tube, Cold Side: 46-20759	05-61533R
F	1	Ea.	Hose, Cold Side: 46-20759	05-61534B
G	1	Ea.	Coupling, Silicone Reducer: 2.25" x 1.85"ID x 3.5"L	05-60940
H	1	Ea.	Coupling, Silicone Elbow Rdr: 2.25" x 1.85"ID	05-61521
J	1	Ea.	Coupling, Silicone Reducer: (3" x 2-3/4") ID x 4"L	05-01490
K	3	Ea.	Clamp, SmartSeal, 052 (2.88" – 3.56")	03-50786
M	4	Ea.	Clamp, SmartSeal, 044 (2.50" – 3.06")	03-50656
N	2	Ea.	Clamp, SmartSeal, 032 (1.94" – 2.31")	03-50655
P	1	Ea.	Clamp, Mini 016 (0.94" – 1.50")	03-50091
Q	1	Ea.	Clamp, Mini 012 (0.69" – 1.25")	03-50023
R	1	Ea.	Mount, Aluminum: M8x1.25x7	05-01547
S	6	Ea.	Screw, Socket Head Cap: M6x1.0x20, S/S	03-50241
T	1	Ea.	Screw, Hex Head: M6x1.0x20	03-50057
U	7	Ea.	Washer, M6 (12mm OD x 6.4mm ID)	03-50177
V	1	Ea.	Clip Nut, M6	03-50414
X	3	Ea.	Plug, Hex Hd Socket: 1/8" NPT	03-50029

Installation will require the following tools:

1/4", 4mm, 7mm, 8mm, 10mm, 15mm, T30 Torx sockets , 5mm allen, 3/16" allen, extensions, ratchet, pliers, pick, teflon tape, grease.

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.

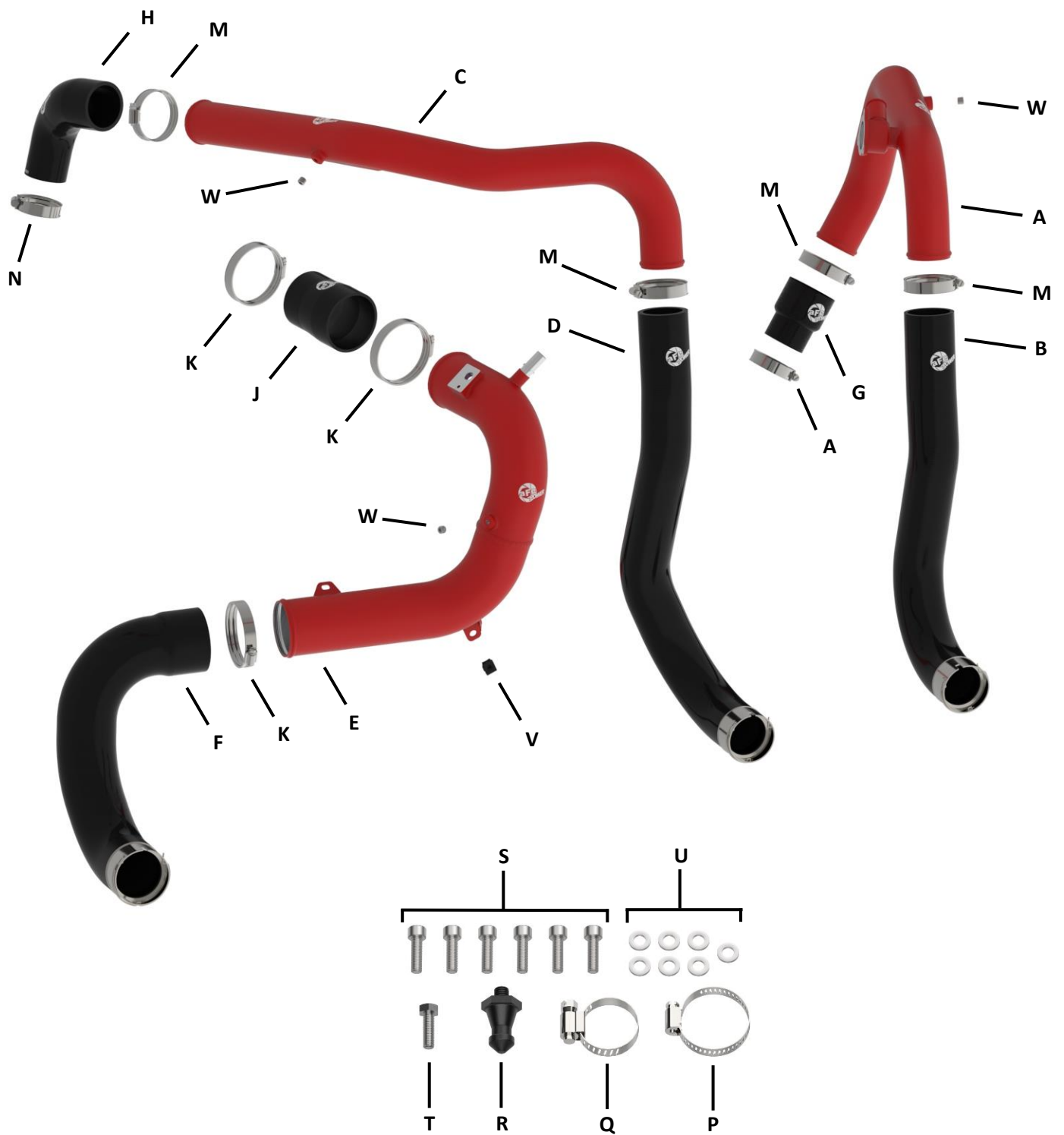




Figure A

Refer to Figure A for Steps 1-5

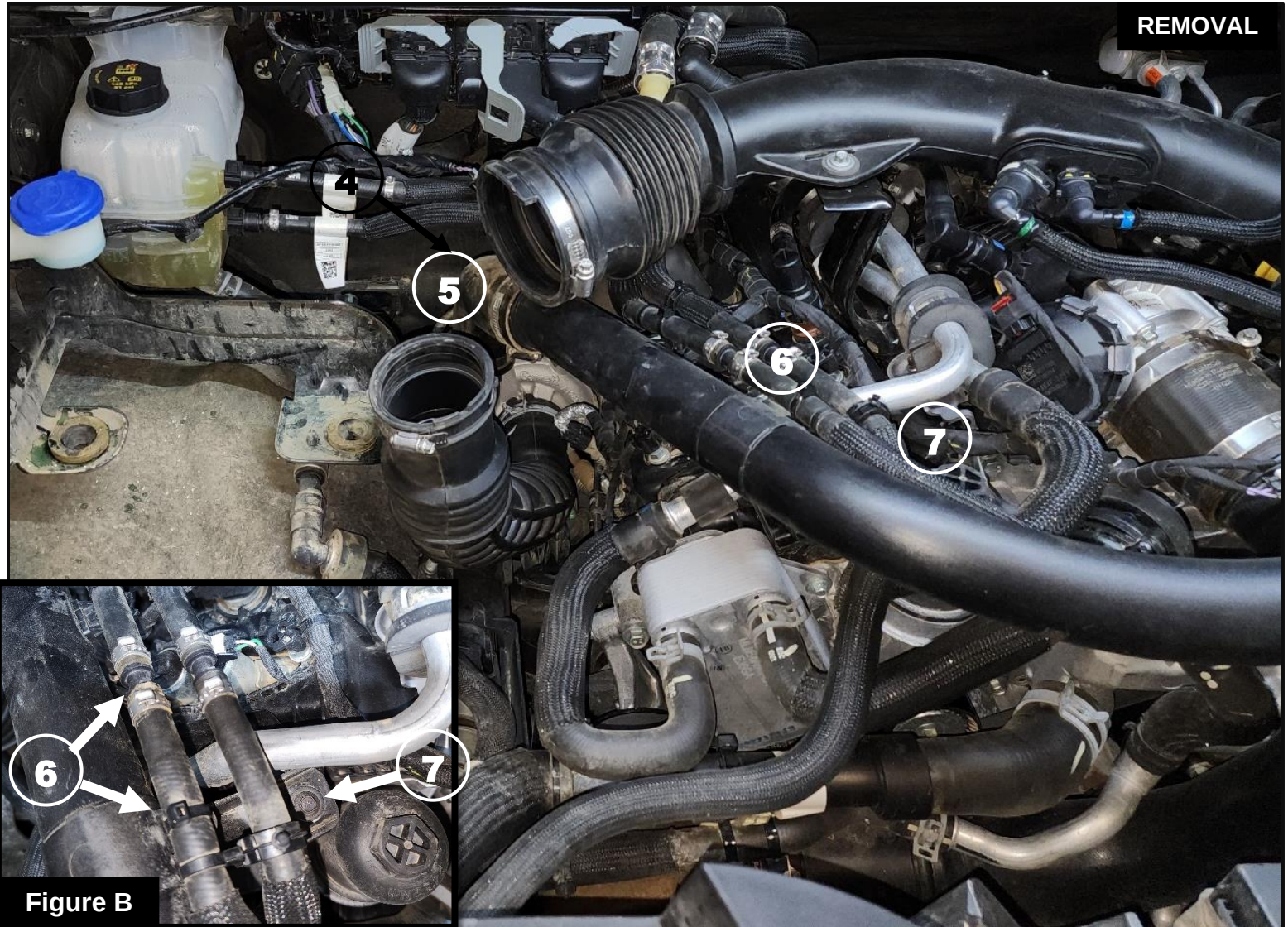
Step 1: Disconnect the negative battery cable.

Step 2: Remove the screw securing the intake air scoop to the air box and set it aside (1).

Step 3: Disconnect the air intake sensor connector and unclip the wire harness from the intake air box on the passenger side of the vehicle (2).

Step 4: Loosen the two clamps securing the air intake tubes onto the intake air box (3).

Step 5: Disconnect the air intake tubes from the air box, then lift the air box up to and remove it from the vehicle (4).

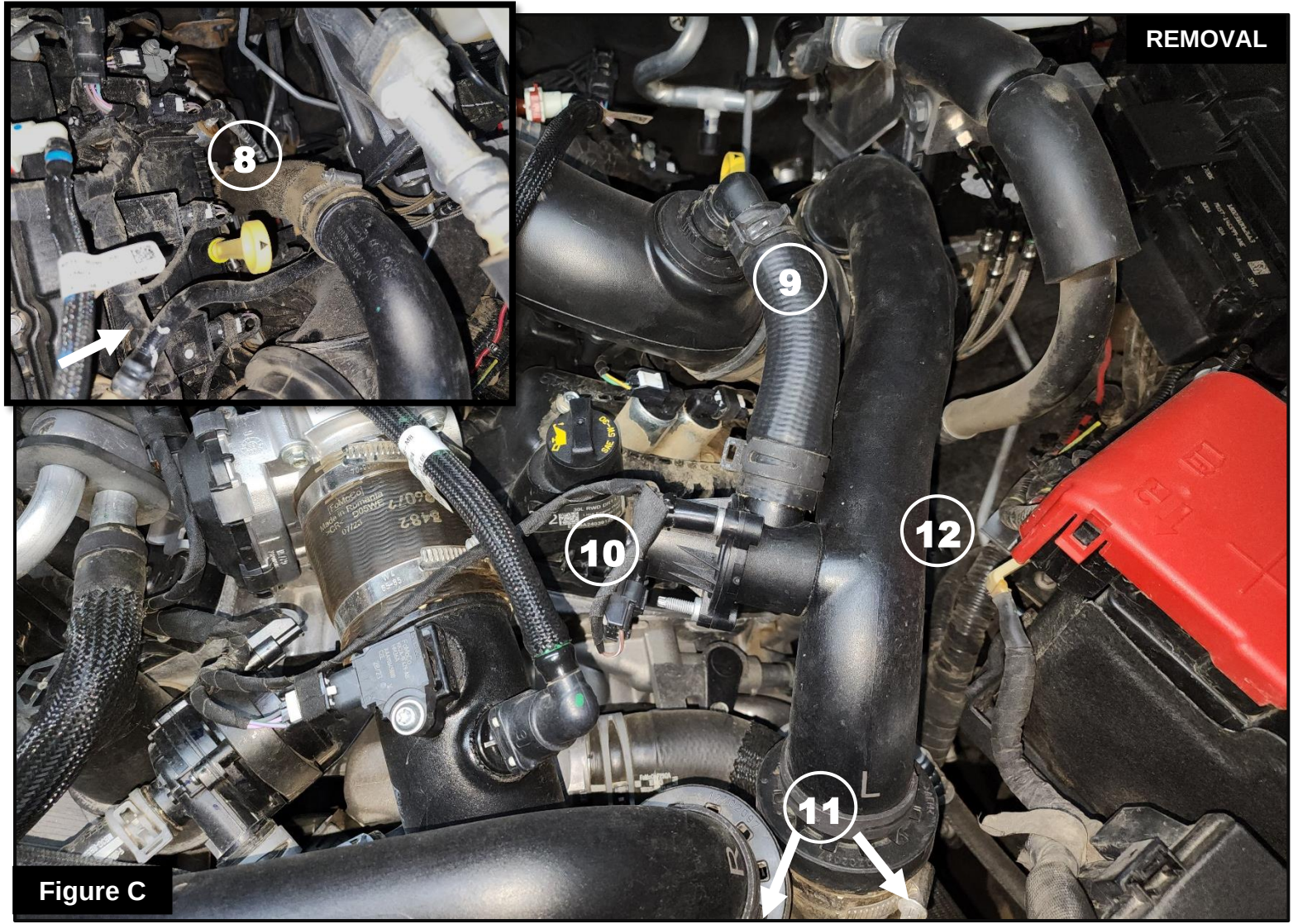


Refer to Figure B for Steps 6-8

Step 6: Loosen the clamp securing the passenger side hot charge pipe to the turbo ⑤.

Step 7: Unclip the hoses from the passenger side hot charge pipe ⑥.

Step 8: Remove the screw securing the passenger side hot charge pipe to the engine ⑦.



Refer to Figure C for Steps 9-14

Step 9: Loosen the clamp securing the driver's side hot charge pipe to the turbo (8).

Step 10: Release the spring clamp securing the bypass valve hose onto the air intake tube (9), then disconnect the hose.

Step 11: Disconnect the bypass valve actuator connector on the driver's side hot charge pipe (10) by sliding the security tab back then pressing the tab down and pulling it off the sensor.

Step 12: Loosen the two clamps securing the hot side charge pipes to the hot side charge pipe hoses that lead down to the intercooler (11).

Step 13: Lubricate the driver's side hot charge pipe mounting grommet with WD-40 (12).

Step 14: Remove the two hot side charge pipes from the vehicle.



Figure D

Refer to Figure D for Steps 15-18

- Step 15: Underneath the vehicle, loosen the two rearward screws securing the skid plate, then remove the two remaining screws from the skid plate and remove it from the vehicle (13).
- Step 16: Release the factory retaining clip securing the two hot side charge pipes to the intercooler by sliding the clip back to lock it in the open position (14).
- Step 17: Disconnect the hot side charge pipes from the intercooler and remove them from either the bottom or the top of the vehicle (15).
- Step 18: Release the retaining clip securing the cold side charge pipe to the intercooler, then disconnect the charge pipe from the intercooler (16).

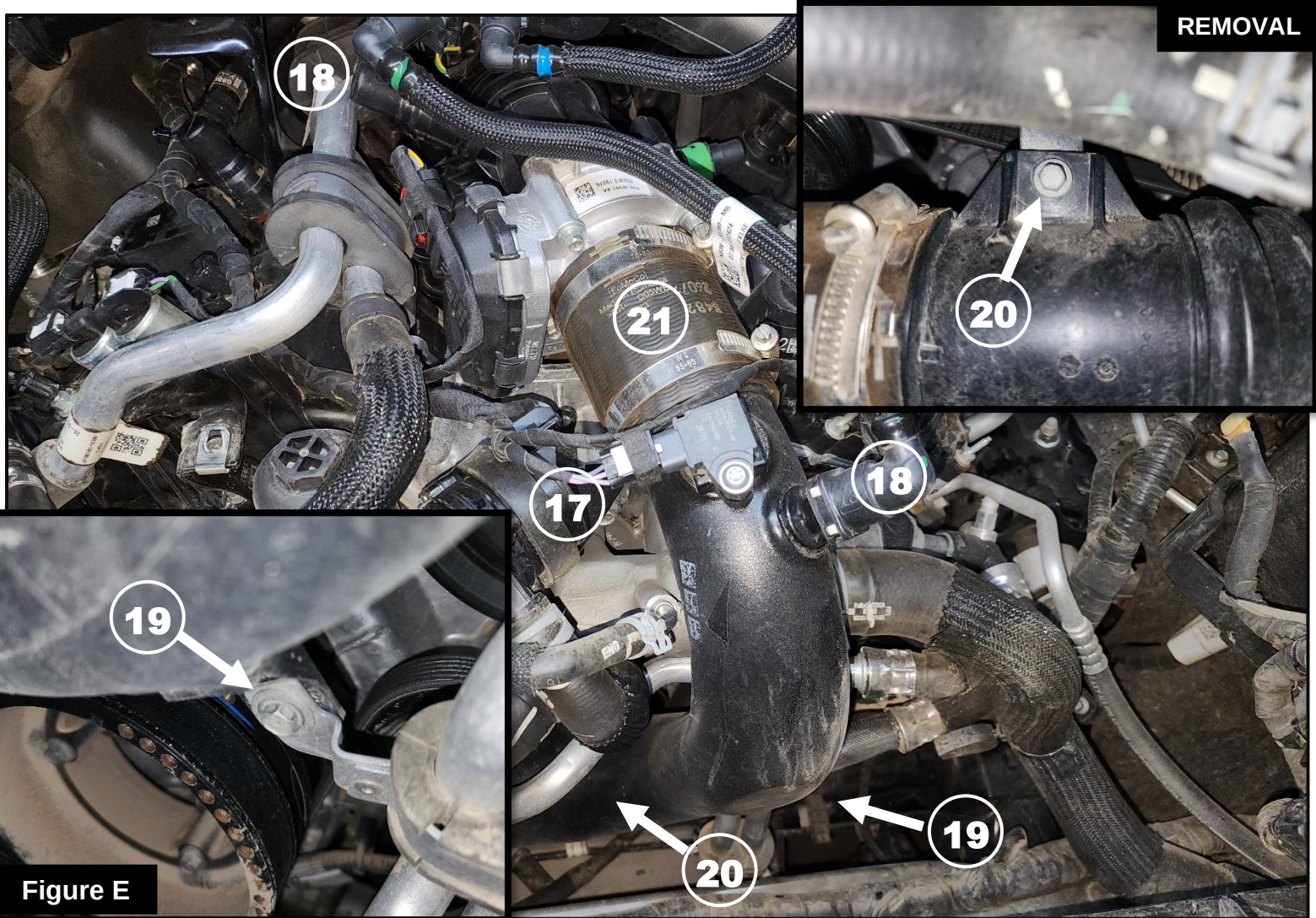


Figure E

Refer to Figure E for Steps 19-24

Step 19: Disconnect the MAP sensor connector from the cold side charge pipe (17).

Step 20: Remove the crankcase breather tube from the vehicle by pressing the white button and disconnecting it from the cold side charge pipe and the air intake tube (18).

Step 21: Remove the screw securing the A/C line to the cold side charge pipe (19).

Step 22: Remove the screw securing the cold side charge pipe to the bracket on the engine (20).

Step 23: Loosen the clamp securing the cold side charge pipe to the throttle body (21).

Step 24: Remove the cold side charge pipe from the top of the vehicle.



Figure F

Refer to Figure F for Steps 25-29

Step 25: Remove the bypass valve actuator and hose from the factory hot side charge pipe (22).

Step 26: Install the factory bypass valve actuator onto the supplied aFe POWER driver's side hot charge pipe using three (3) of the supplied SHCS M6x1.0x20mm and M6 washers (23).

Step 27: Install the supplied M8x1.25x7 aluminum mount onto the aFe POWER driver's side hot charge pipe (24).

Step 28: Install the supplied aFe POWER silicone reducer coupling 2.25" x 1.85"ID x 3.5"L along with one SmartSeal, 044 (2.50" – 3.06") clamp onto the driver's side aFe POWER hot charge pipe as shown (25), do not tighten the clamp yet.

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

Step 29: If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug into the threaded fitting on the aFe POWER driver's side hot side charge pipe (26).


Figure G

Refer to Figure G for Steps 30-31

Step 30: Install the supplied aFe POWER silicone reducer elbow coupling 2.25"ID x 1.85"ID along with one SmartSeal, 044 (2.50" – 3.06") clamp onto the long side of the passenger's side aFe POWER hot charge pipe as shown (27). Do not tighten the clamp yet.

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

Step 31: If you are not using any aftermarket sensors, install the supplied 1/8" NPT plug into the threaded fitting on the aFe POWER passenger's side hot side charge pipe (28).



Figure H

Refer to Figure H for Steps 32-35

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

Step 32: 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 (29).

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

Step 33: Transfer the factory MAP sensor from the factory cold side charge pipe onto the aFe POWER cold side charge pipe using one (1) supplied SHCS M6x1.0x20 and M6 washer (30).

Step 34: Install the supplied M6 clip nut onto the mount on the side of the aFe POWER cold side charge pipe as shown (31).

Step 35: Install the supplied aFe POWER cold side hose along with one SmartSeal, 052 (2.88" – 3.56") clamp onto the long side of the aFe POWER cold charge pipe as shown (32). Do not tighten the clamp yet.



Figure I

Refer to Figure I for Steps 36-40

Step 36: Install the supplied aFe POWER silicone reducer coupling 3" x 2.75" along with two SmartSeal, 052 (2.88" – 3.56") clamps onto the throttle body (33). Do not tighten the clamp yet.

Step 37: Install the aFe POWER cold side charge pipe assembly into the vehicle (34) and connect it to the throttle body coupler.

Step 38: Install the one (1) supplied Hex Head Screw M6x1.0x20 and washer to mount the aFe POWER charge pipe to the engine (35), do not tighten the screw yet.

Step 39: Install one (1) supplied SHCS M6x1.0x20 and washer to mount the A/C line to the aFe POWER charge pipe (36). Do not tighten the screw yet.

Step 40: Lubricate the seal on the inside of the quick-connect fitting on the aFe POWER cold side charge pipe hose and connect it to the intercooler. Be sure the clip snaps into place all the way around (37).

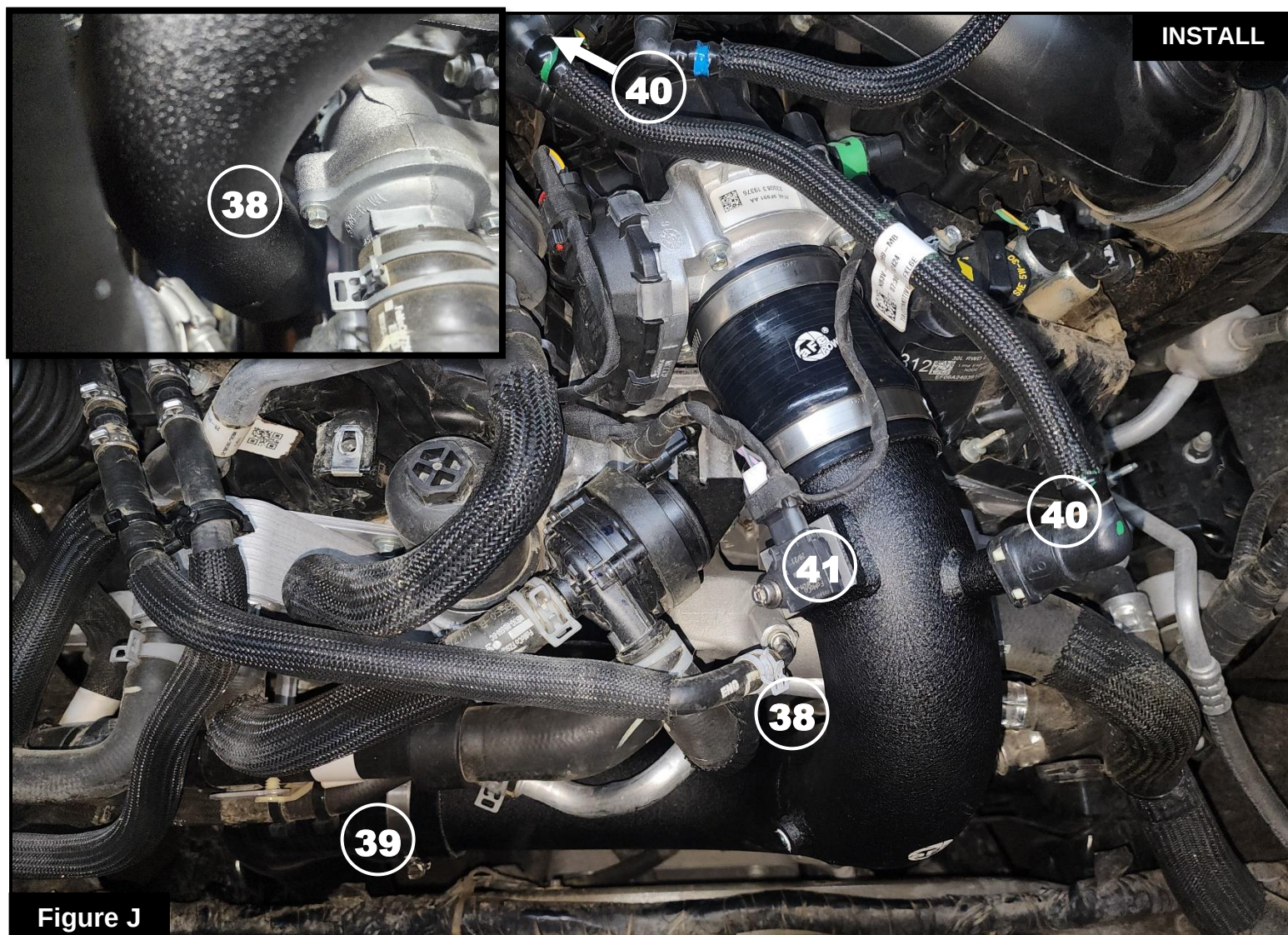


Figure J

Refer to Figure J for Steps 41-44

Step 41: Adjust the aFe POWER cold side charge pipe so that it is not touching the engine (38)

Step 42: Adjust the aFe POWER cold side hose as needed, then tighten all of the hose clamps on the cold side charge pipe (39). Torque all SmartSeal clamps to 6 Ft-lbs(72in-lbs)

Step 43: Lubricate the crankcase breather fittings, then install the crankcase breather hose onto the aFe POWER charge pipe then onto the air intake tube (40).

Step 44: Reconnect the MAP sensor connector and lock the security tab (41).

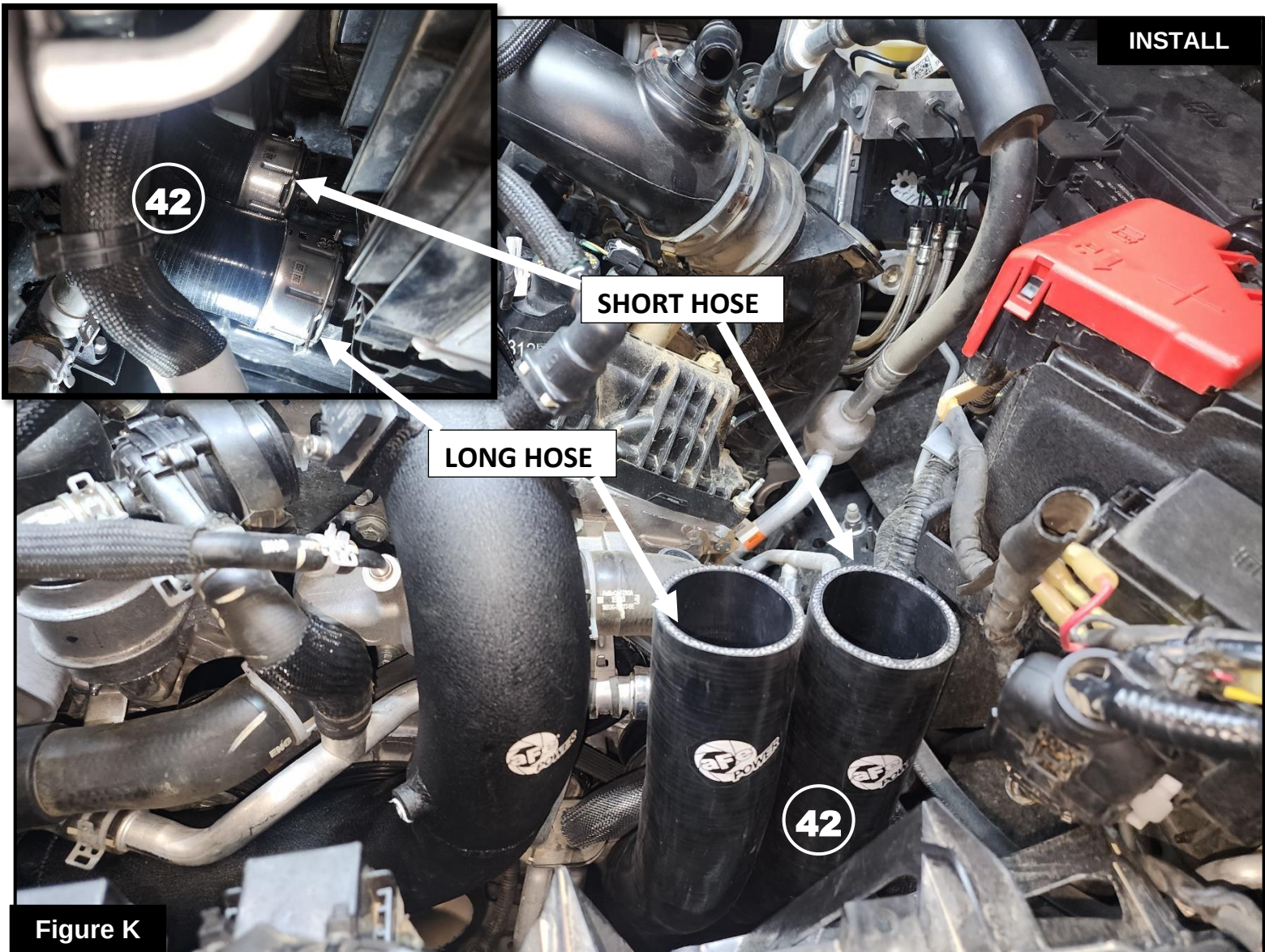


Figure K

Refer to Figure K for Step 45

Step 45: Lubricate the seals on the inside of the quick-connect fittings on the aFe POWER hot side charge pipe hoses and connect them to the intercooler, be sure the clips snap into place all the way around (42). The longer hose connects to the bottom connection on the intercooler and the passenger side hot charge pipe. The shorter hose connects to the higher connection and the driver's side hot charge pipe.

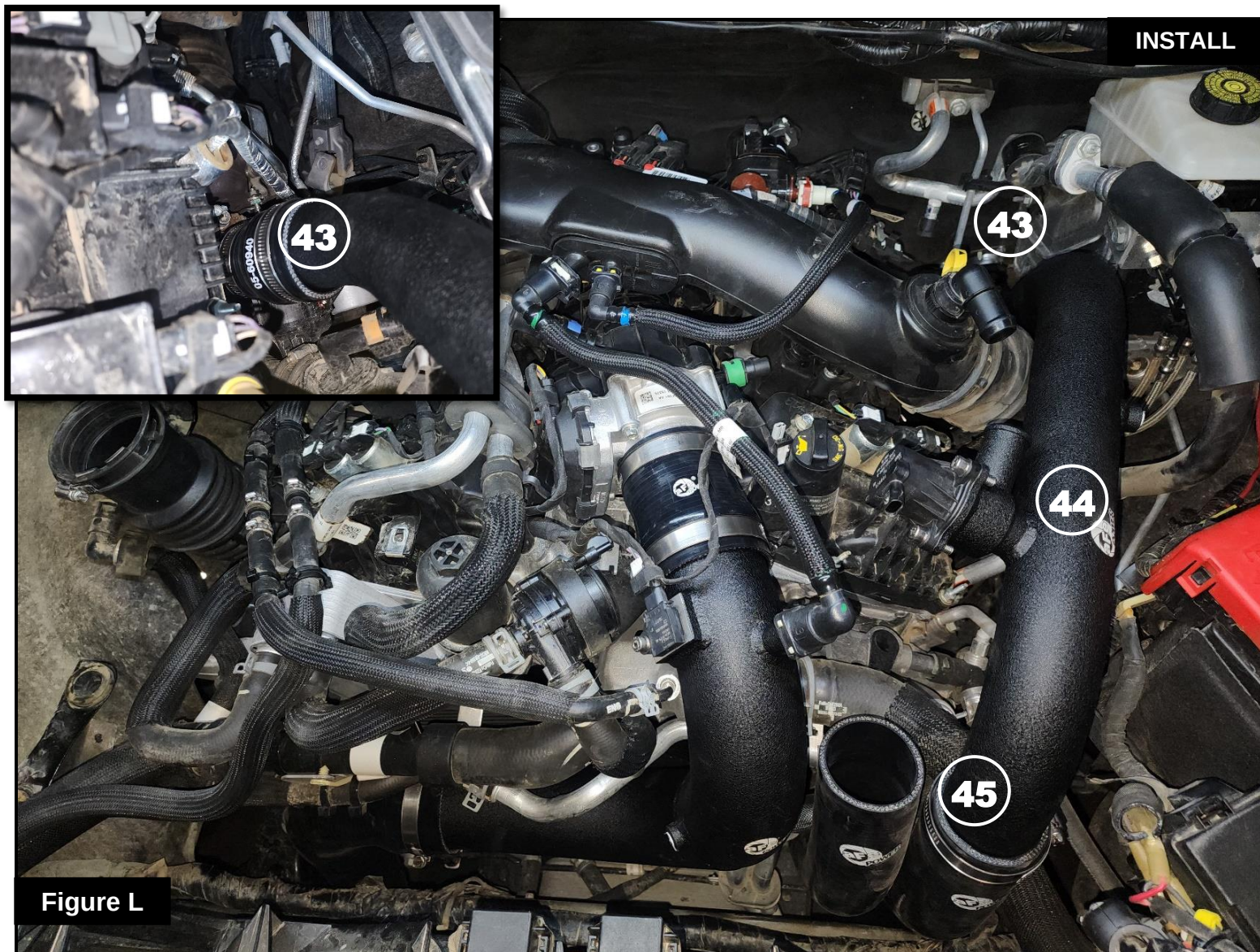


Figure L

Refer to Figure L for Steps 46-48

Step 46: Install the aFe POWER driver's side hot charge pipe into the vehicle (43) along with one supplied SmartSeal 032 (1.94" – 2.31") clamp connecting it to the turbo. Do not tighten the clamp yet.

Step 47: Lubricate the factory rubber mounting grommet and install the aFe POWER charge pipe mount into it (44).

Step 48: Install the aFe POWER charge pipe into the driver's side charge pipe hose (45) leading to the upper inlet on the intercooler along with one supplied SmartSeal, 044 (2.50" – 3.06") clamp. Do not tighten the clamp yet.

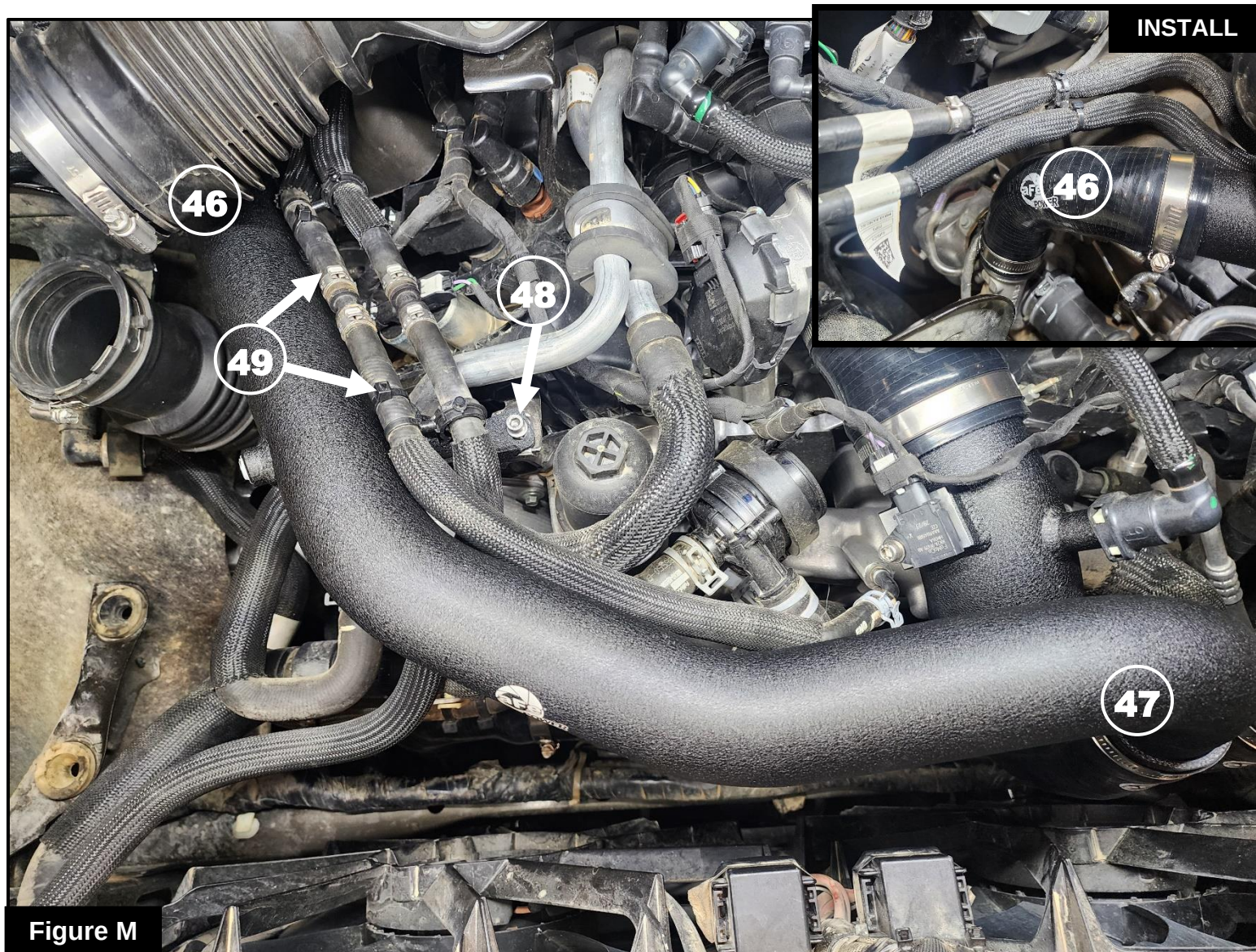


Figure M

Refer to Figure M for Steps 49-53

- Step 49: Install the aFe POWER passenger side hot charge pipe into the vehicle (46) along with one supplied SmartSeal 032 (1.94" – 2.31") clamp connecting it to the turbo. Do not tighten the clamp yet.
- Step 50: Install the aFe POWER charge pipe into the passenger side charge pipe hose (47) leading to the lower inlet on the intercooler along with one supplied SmartSeal, 044 (2.50" – 3.06") clamp. Do not tighten the clamp yet.
- Step 51: Line up the passenger side mounting bracket to the factory location and install one (1) supplied SHCS M6x1.0x20mm and washer (48). Do not tighten the screw yet.
- Step 52: Secure the factory coolant hoses to the aFe POWER charge pipe (49)
- Step 53: Adjust the aFe POWER hot side pipes as needed, then tighten all the hose clamps on both of the hot side charge pipes. Torque all SmartSeal clamps to 6 Ft-lbs(72in-lbs)



Figure N

Refer to Figure N for Steps 54-56

- Step 54: Install the factory bypass valve hose onto the vehicle securing it with the one (1) supplied Mini Clamp 016 on the charge pipe side and one (1) supplied Mini Clamp 012 on the intake tube side (50).
- Step 55: Reconnect the bypass actuator electrical connector and lock the security tab (51).
- Step 56: Ensure the aFe POWER charge pipes are not touching anything, then tighten all of the mounting hardware (52).

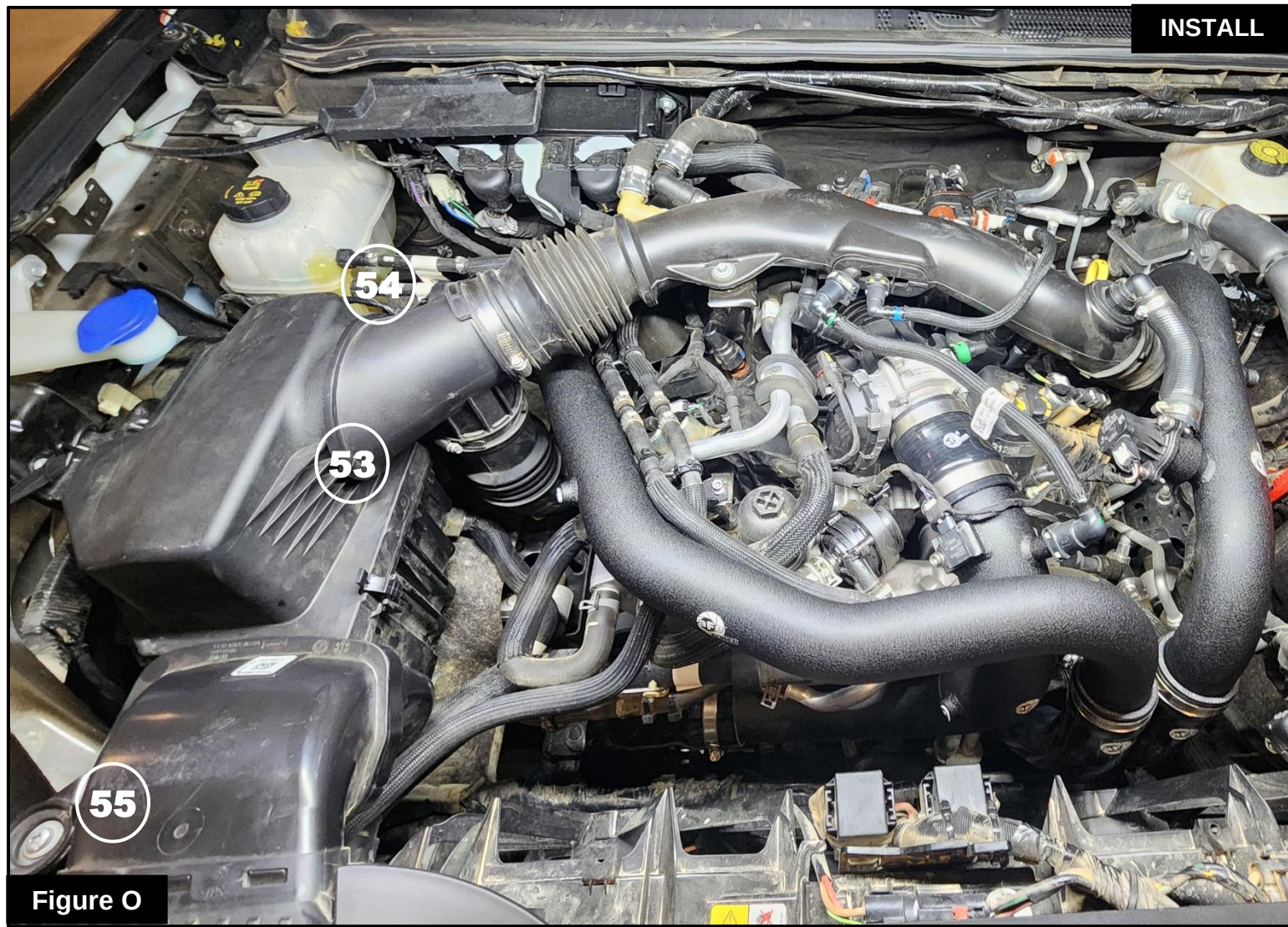


Figure O

Refer to Figure O for Steps 57-62

Step 57: Reinstall the skid plate underneath the vehicle using the factory hardware.

Step 58: Install the intake air box into the vehicle and secure the intake hoses to it (53).

Step 59: Reconnect the air intake sensor connector and secure the wiring harness to the air box (54).

Step 60: Reinstall the intake air scoop and secure it with the factory screw (55).

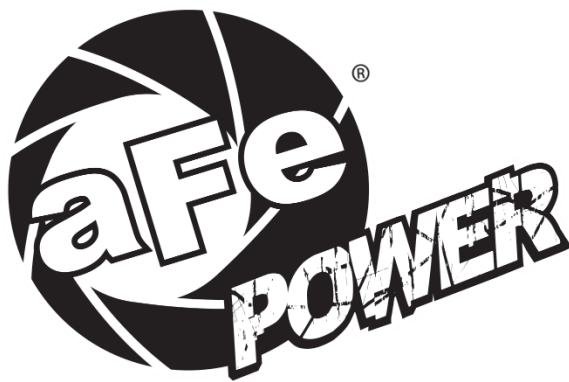
Step 61: Reconnect the negative battery cable.

Step 62: Install is now complete.

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



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