advanced FLOW engineering BladeRunner – Charge Pipe Combo Kit

Instruction Manual P/N: 46-20794-B

Make: **RAM** Model: **1500 RHO** Year: **2025–2027** Engine: **L6-3.0L (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, Front: 46-20798-B	05-61749B
B	1	Ea.	Tube, Hot Side, Rear: 46-20798-B	05-61750B
C	1	Ea.	Tube, Cold Side: 46-20799-B	05-61704B
D	2	Ea.	Coupling, Silicone Straight: 2-1/4"ID x 2-1/2"L	05-60782
E	1	Ea.	Coupling, Silicone Elb Rdr: (3.50"x3.75")IDx9Deg	05-61702
F	4	Ea.	Clamp, SmartSeal, 044 (2-1/2" - 3-1/16")	03-50656
G	2	Ea.	Clamp, SmartSeal, 060 (3-1/4" - 4-1/16")	03-50790
H	2	Ea.	O-Ring, Viton (-327)	05-61768
J	1	Ea.	O-Ring, Viton (80mmID x 5mmW)	05-61769
K	1	Ea.	Screw, Socket Head Cap: M6x1.0x20, S/S	03-50782
M	1	Ea.	Washer, M6 (12mm OD x 6.4mm ID)	03-50177
N	3	Ea.	Plug, Hex Hd Socket: 1/8 NPT (Zn Plt)	03-50029

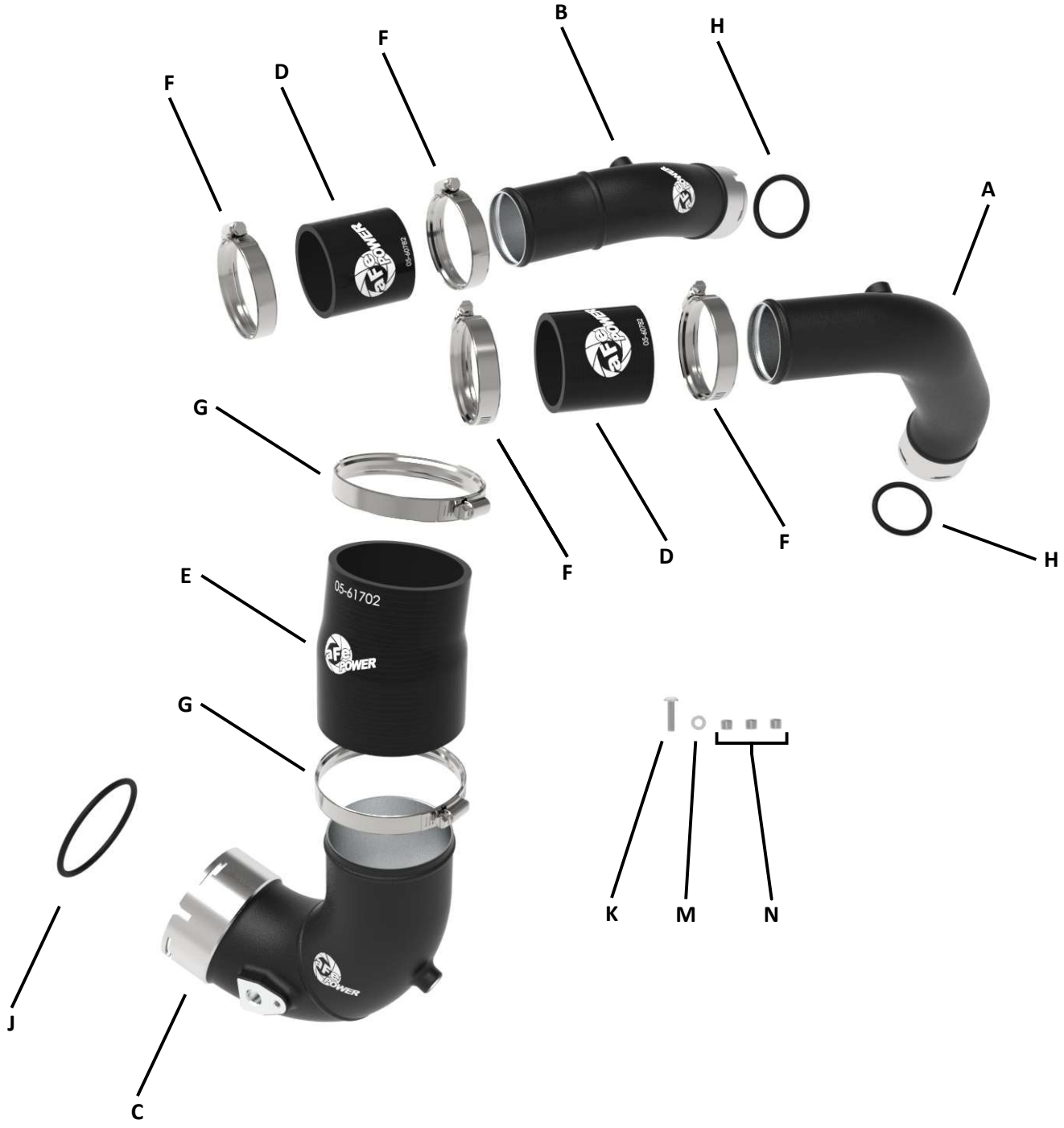
Installation will require the following tools:

- Torque Wrench
- 3/8” Socket Wrench
- 1/4" Socket Wrench
- 6” Extensions
- 8mm Socket
- 10mm Socket
- 13mm Socket
- 5/16” Deep Socket
- 3/16” Hex Key Wrench
- 5mm Hex Key Wrench
- Trim Removal Tool Set
- Pick Set
- Thread Sealant

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.

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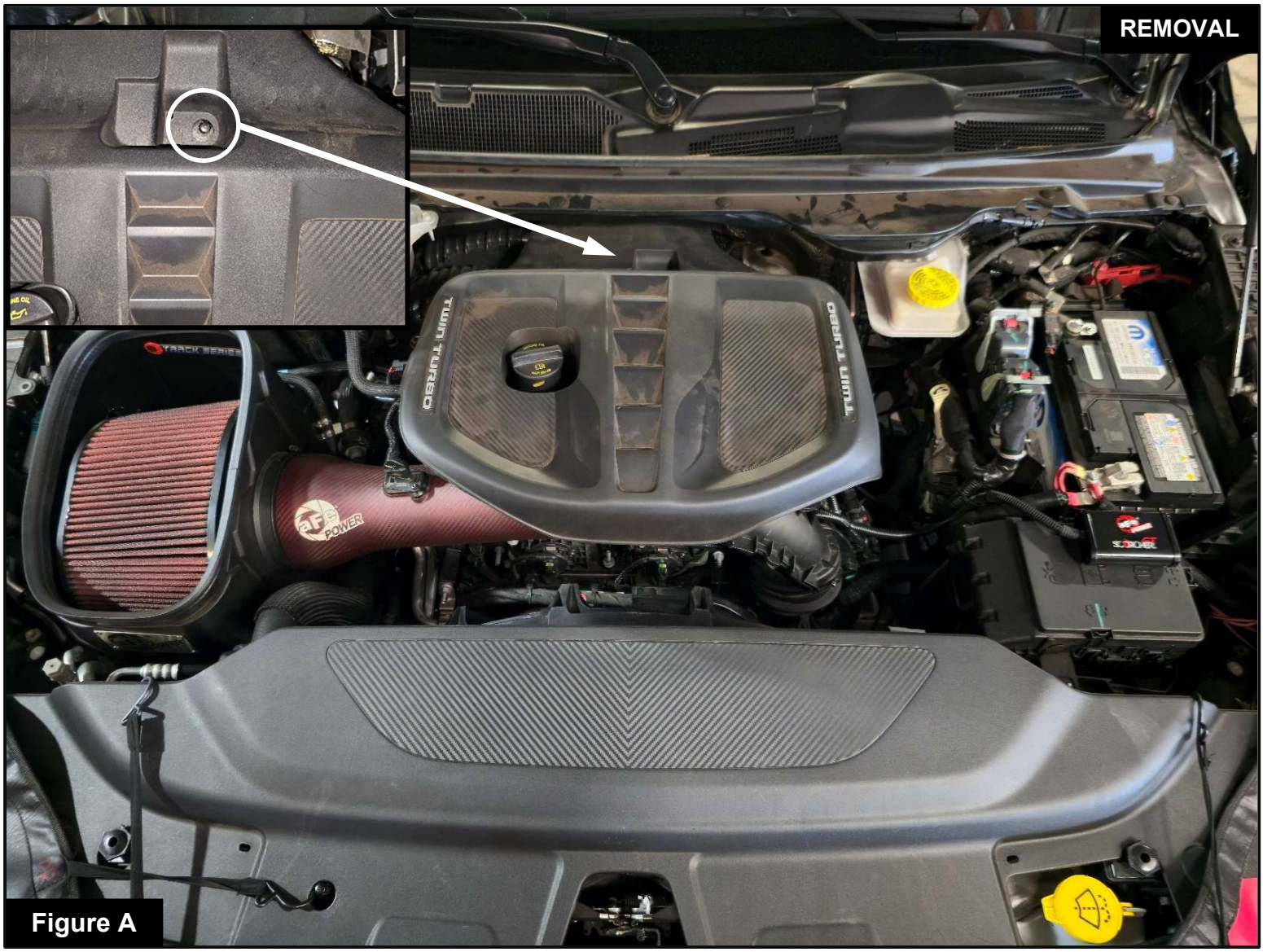

Figure A

Refer to Figure A for Steps 1-4

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

Step 2: Disconnect the negative battery cable.

Step 3: Remove the nut securing the engine cover.

Step 4: Grabbing the engine cover, firmly pull upward to remove the engine cover.

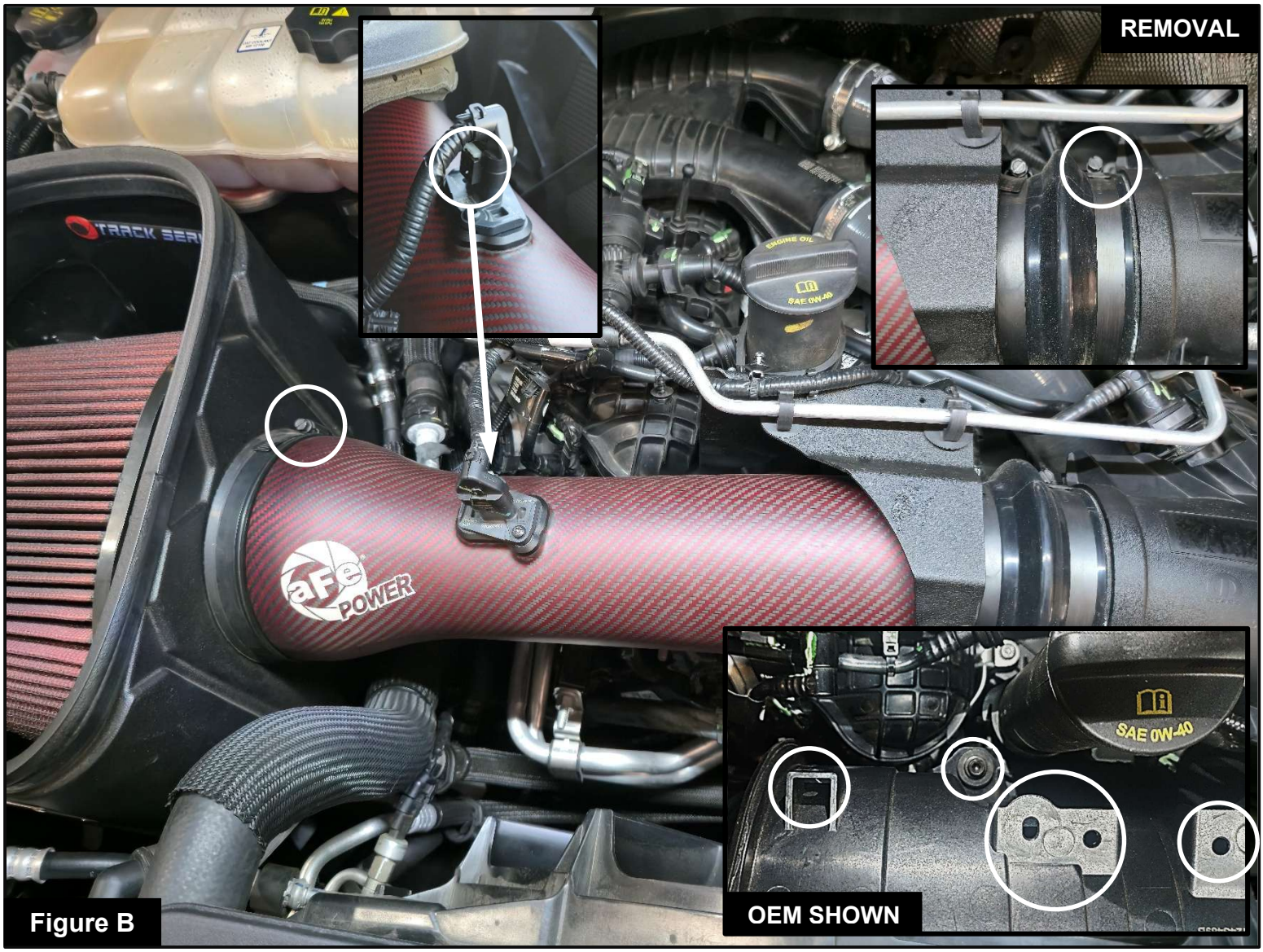

Figure B

Refer to Figure B for Steps 5-9

NOTE: aFe POWER Track Series AIS is currently shown. For the OEM air intake tube, additional removal of one mounting screw and all attached routing clips is required before removing the air intake tube.

Step 5: Disconnect the wiring harness clip from the Mass Air Flow (MAF) Sensor by releasing the locking clip and depressing the locking tab.

Step 6: Carefully tuck the sensor wiring harness out of the way, taking care not to damage the wiring or connector.

Step 7: Loosen the clamp attaching the air filter to the air intake tube.

Step 8: Loosen the coupler clamp to the turbo inlet tube.

Step 9: Remove the air intake tube with the coupler from the turbo inlet tube and set safely off to the side.

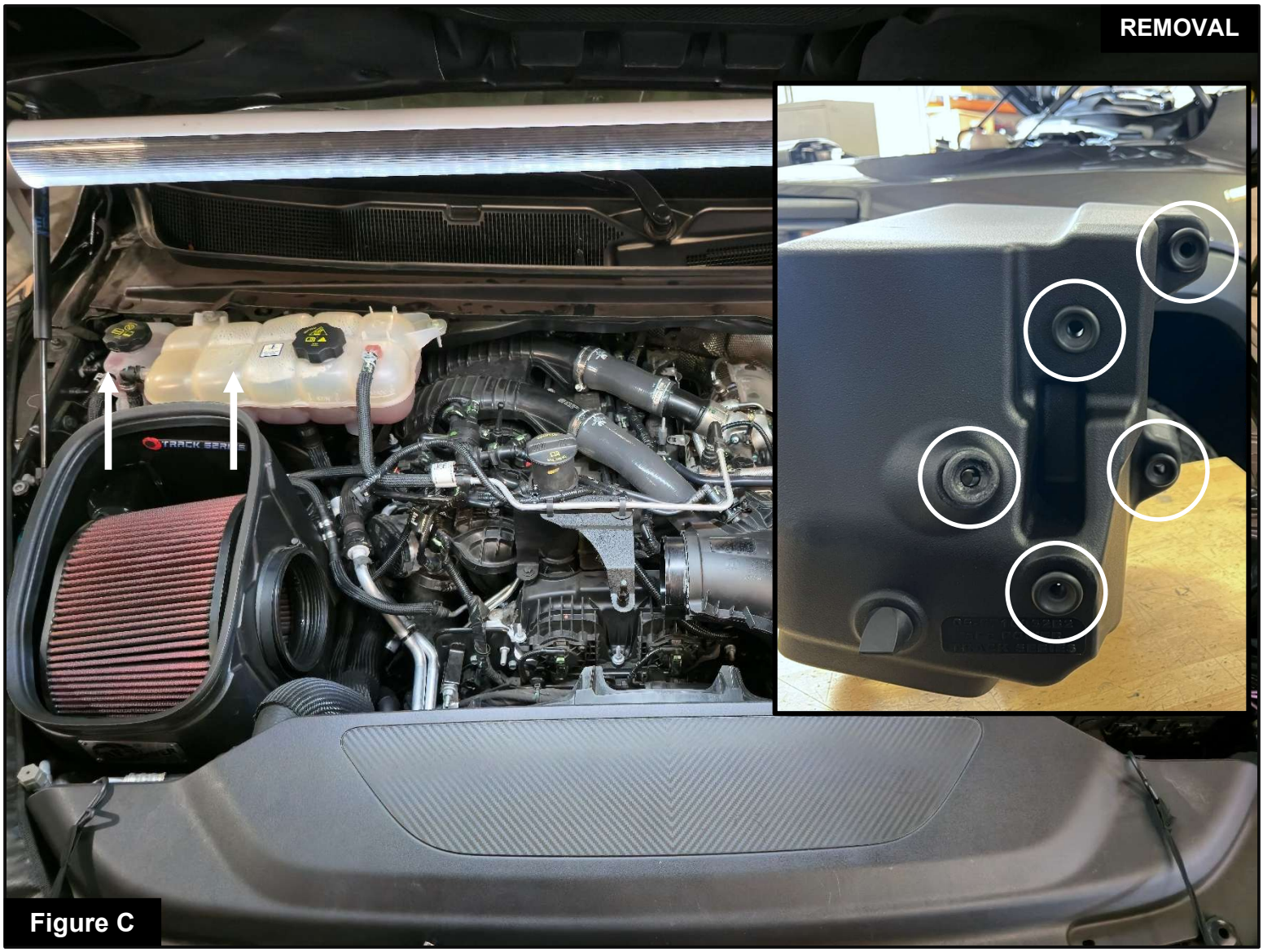

Figure C

Refer to Figure C for Steps 10-12

Step 10: Firmly grab the air filter housing and pull straight upward to release the housing from the mounting pegs.

Step 11: Remove the air filter housing from the vehicle and place safely off to the side.

Step 12: Check to make sure all isolator grommets have remained on the air filter housing and have not fallen out.

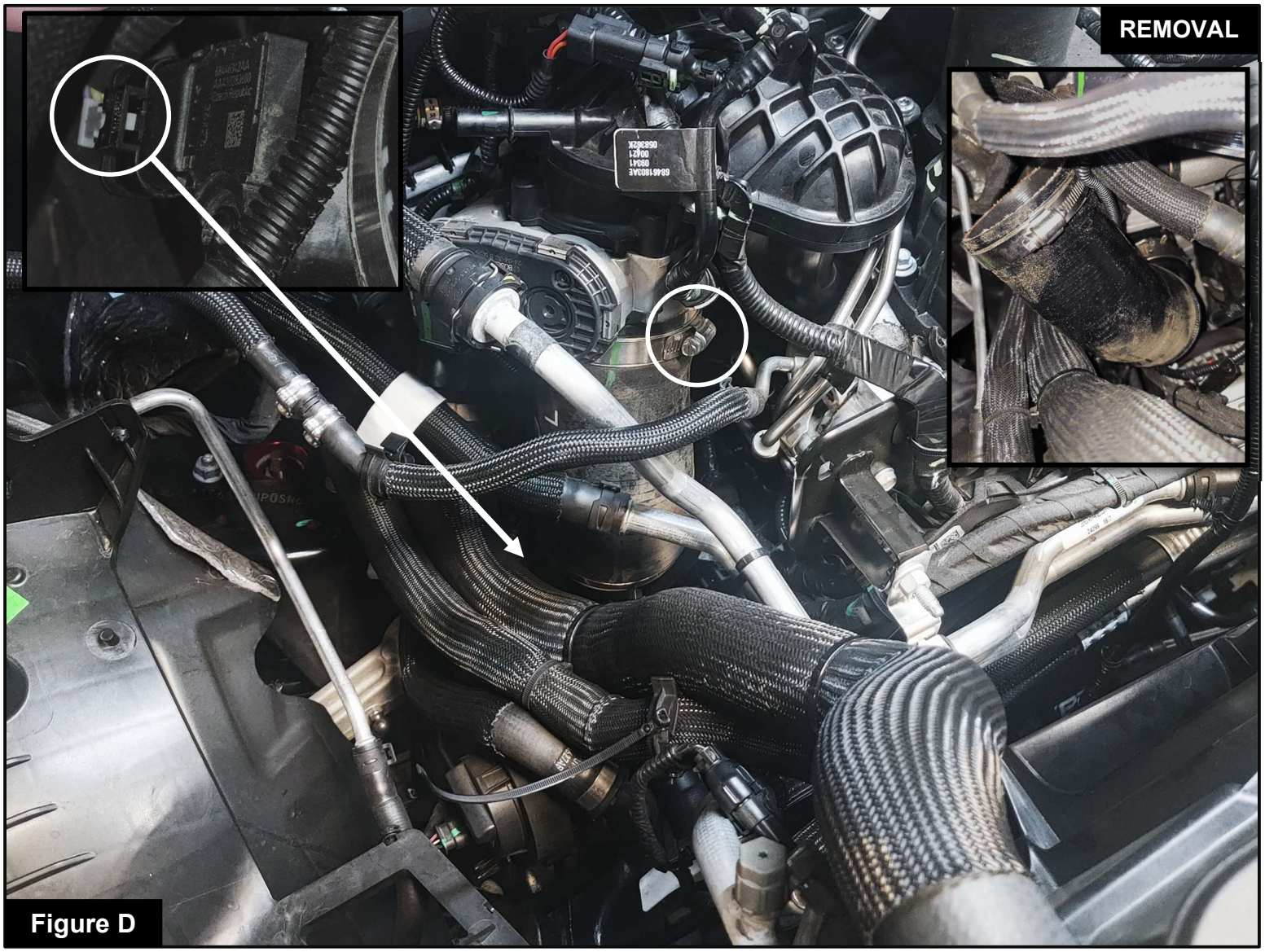

Figure D

Refer to Figure D for Steps 13-16

Step 13: Loosen the clamp atttaching the cold side CAC tube to the throttle body.

Step 14: Disconnect the wiring harness clip from the Manifold Absolute Pressure (MAP) Sensor by releasing the locking clip and depressing the locking tab.

Step 15: Carefully tuck the sensor wiring harness out of the way, taking care not to damage the wiring or connector.

Step 16: Carefully rotate the CAC tube counter clockwise taking care not to cut or damage the coupler.

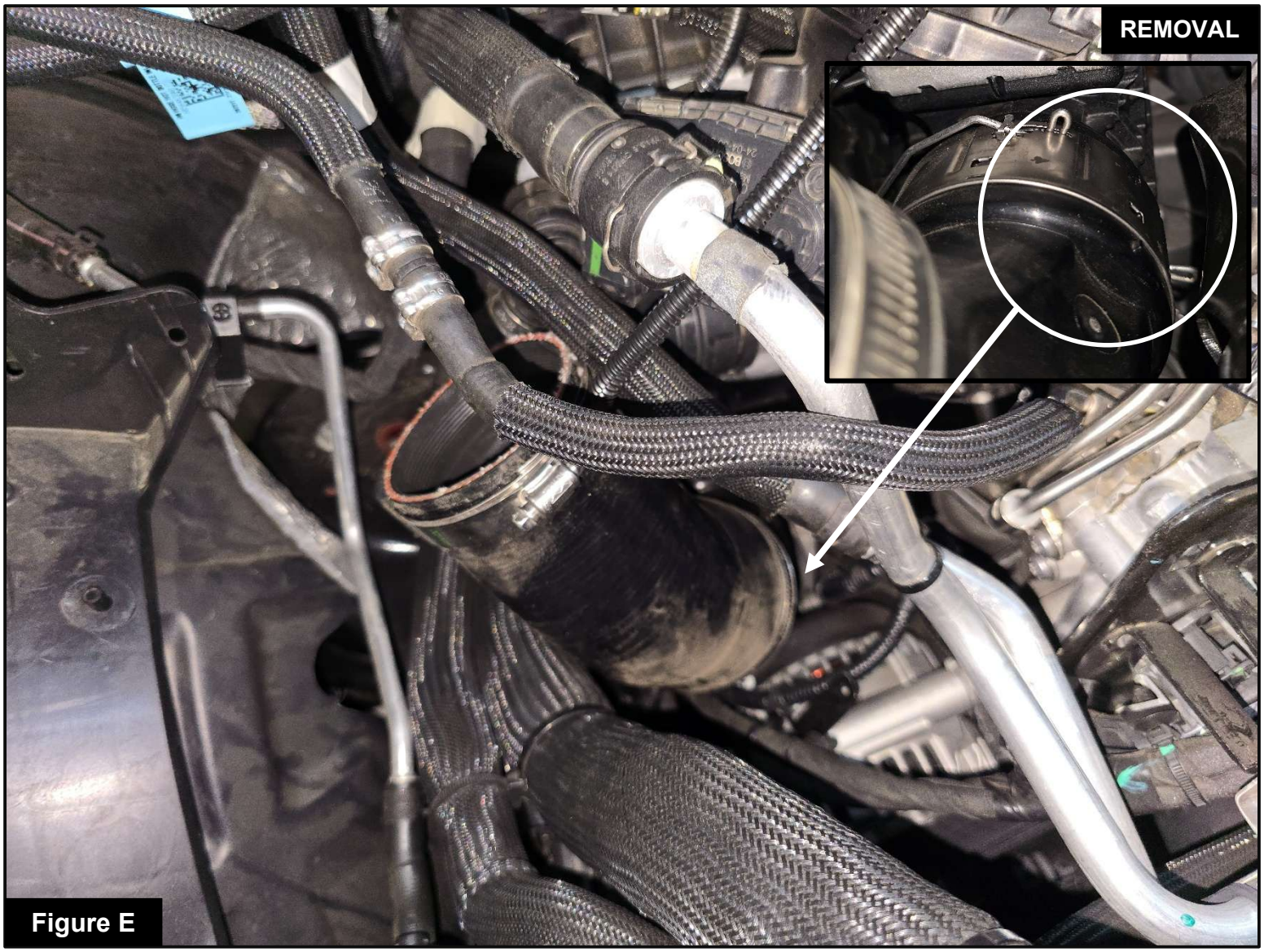

Figure E

Refer to Figure E for Steps 17-18

NOTE: A pick set may be helpful to disengage the quick connectors.

Step 17: Disengage the quick connector retaining spring clip by pulling the clip away from the joint until the looped-ends of the clip are locked and resting in the retention grooves of the connector body.

Step 18: Carefully remove the cold side CAC tube and place safely off to the side.

Figure F

Refer to Figure F for Steps 19-21

Note: The retaining spring clip will need to be removed from the stock CAC tube for reuse with the aFe POWER charge pipes.

Step 19: Carefully remove the retaining spring clip from the quick connector body by lightly prying the retention hooks up just enough to clear the clip of the slot; use light pressure to avoid damaging.

Step 20: Do this for both ends, and set aside the spring clip for reuse.

Step 21: Remove the fastener holding the OEM Manifold Absolute Pressure Sensor (MAP) from the tube and set the sensor aside.

Figure G

Refer to Figure G for Steps 22-23

Note: Lubricate the O-rings with silicone grease to prevent tearing during installation.

Step 22: Install the supplied 80mmIDx5mmW O-Ring into the adaptor groove of the aFe POWER cold side charge pipe, ensuring the O-Ring is fully seated in the groove.

Step 23: Install the retaining spring clip into the adaptor slots of the aFe POWER cold side charge pipe, making sure the clip is seated fully into all slots.

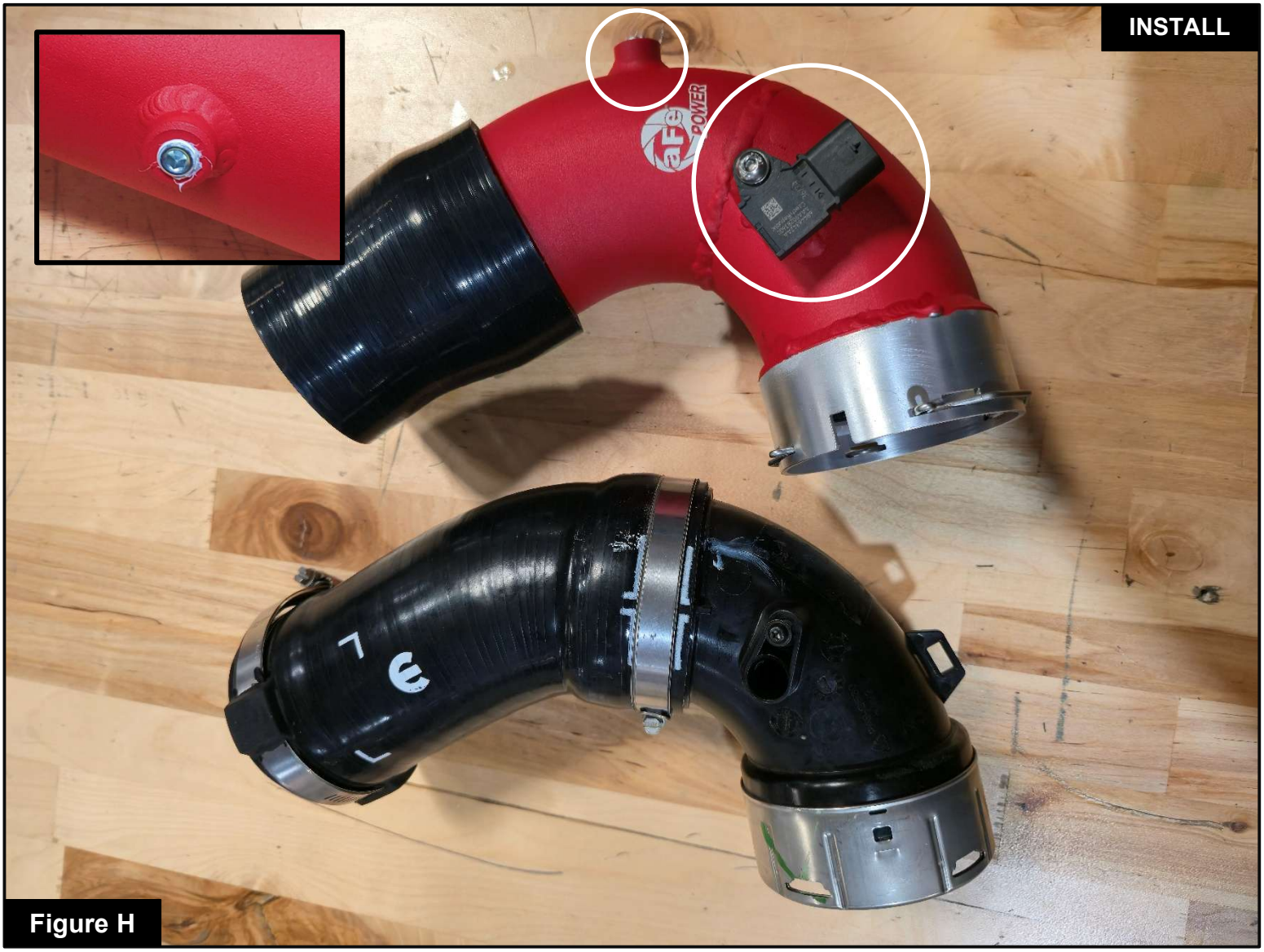

Figure H

Refer to Figure H for Steps 24-25

Note: Be sure to use thread sealant on threaded components when installing to prevent any leakage.

Step 24: 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.

Step 25: Install the OEM MAP sensor onto the MAP pad of the aFe POWER charge pipe using the supplied M6 Button Head Cap Screw and washer.

Figure I

Refer to Figure I for Steps 26-27

Step 26: Install the 05-61702 Reducing Coupler with one of the supplied 060 - SmartSeal clamps onto the aFe POWER charge pipe; leave the clamp loose.

Step 27: Push the coupler onto the aFe POWER cold side charge pipe so that the pipe is fully seated into the coupler and rotate the coupler in a similar orientation to the OEM CAC tube; leave the clamp loose.

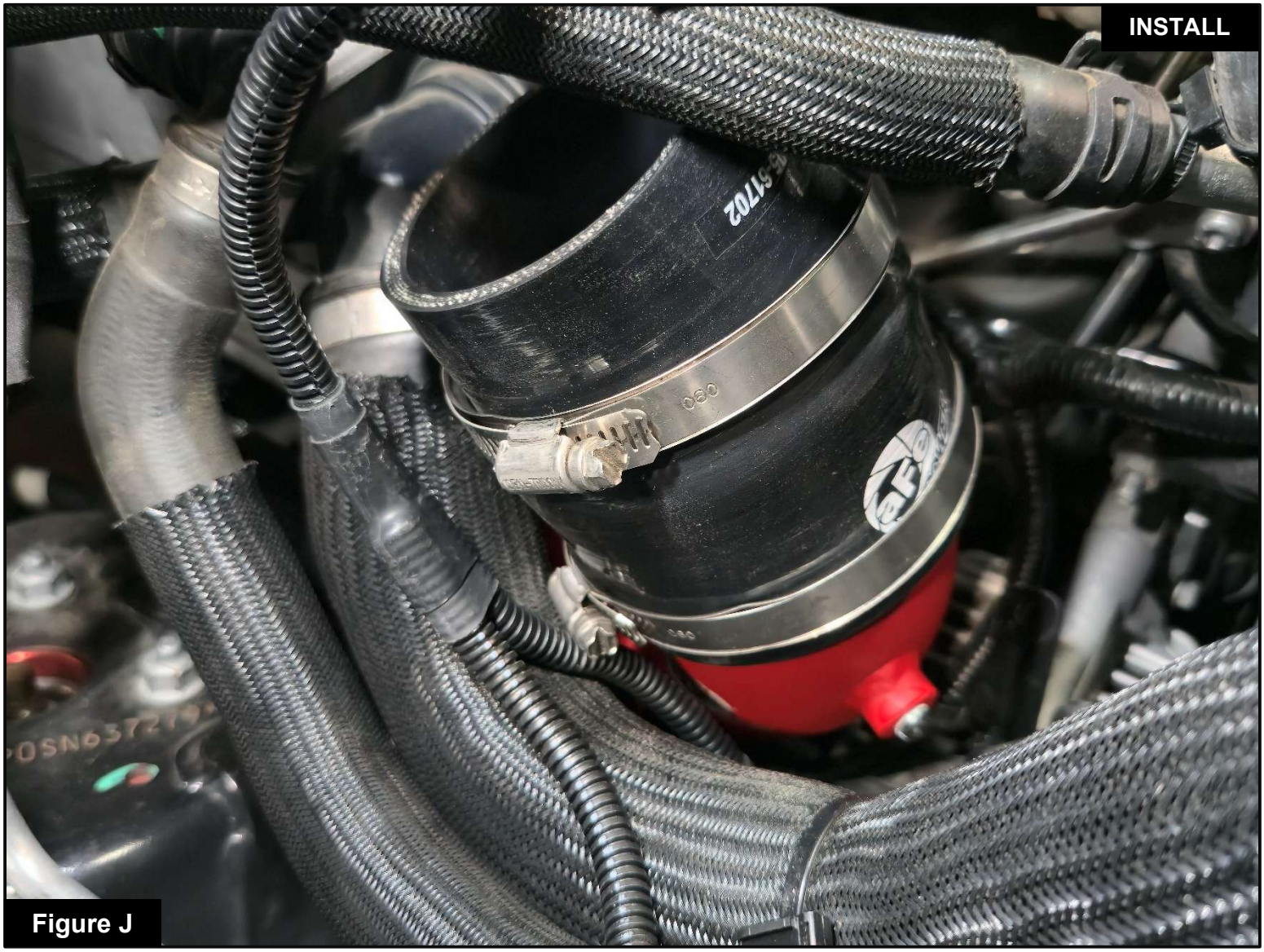

Figure J

Refer to Figure J for Steps 28-30

Step 28: Install the remaining 060 - SmartSeal clamp onto the aFe POWER coupling; leave the clamps loose.

Step 29: Install the aFe POWER charge pipe onto the intercooler by rotating the pipe counterclockwise in the orientation shown and pushing the adaptor onto the intercooler outlet; you should hear and feel an audible *click* indicating that the retaining spring clip has engaged into the retention groove as is properly installed.

Step 30: Verify the adaptor is installed correctly by lightly pulling on the aFe POWER charge pipe ensuring the charge pipe stays attached to the intercooler outlet.

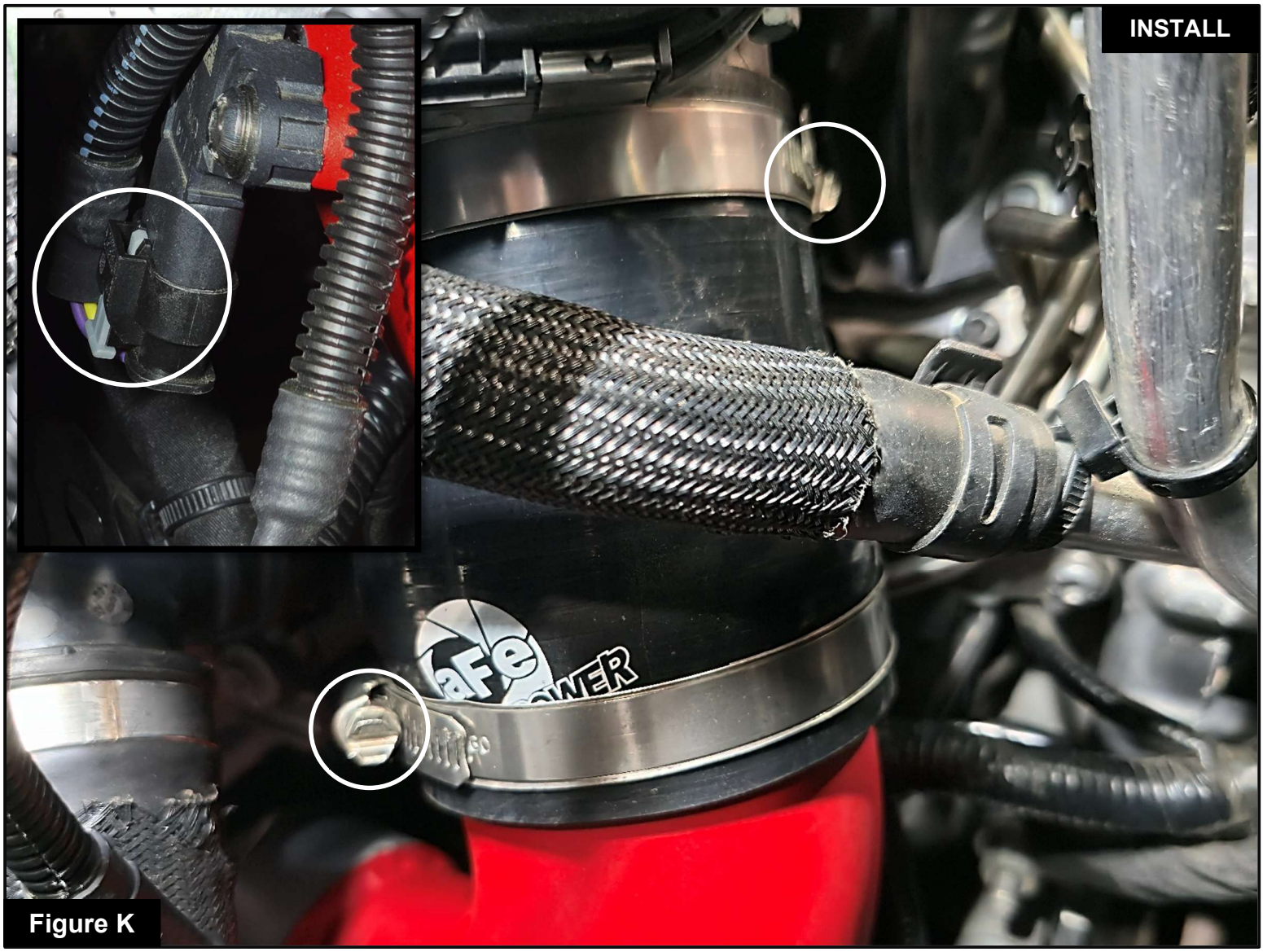

Figure K

Refer to Figure K for Steps 31-34

Step 31: With the aFe POWER charge pipe attached to the intercooler, carefully rotate the charge pipe clockwise to align the coupler to the throttle body inlet, taking care not to tear or damage the coupler.

Step 32: Once aligned, push the coupler onto the throttle body inlet until it is fully seated against the shoulder of the inlet; adjust the charge pipe and coupler to fit.

Step 33: Reconnect the wiring harness to the MAP sensor and engage the locking tab to secure.

Step 34: Torque all SmartSeal clamps to 6 Ft-lbs. (72in-lbs).

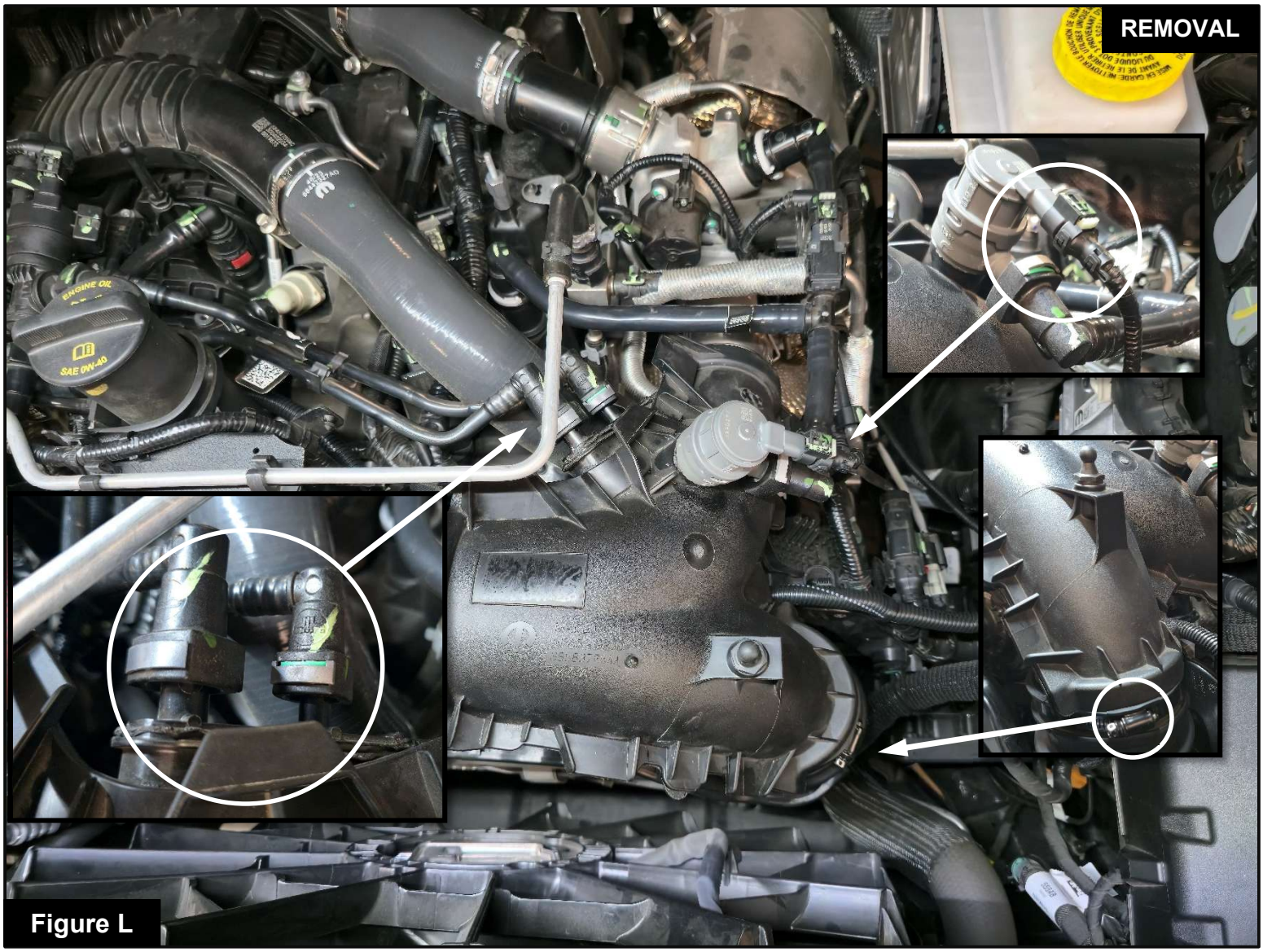

Figure L

Refer to Figure L for Steps 36-38

Step 35: Disconnect the wiring harness from the Positive Crankcase Ventilation (PCV) sensor by releasing the locking clip and depressing the locking tab.

Step 36: Disconnect the PCV vent line by firmly depressing the locking tab on the fitting to release the push-connector.

Step 37: Disconnect both purge lines from the turbo inlet tube by firmly depressing the locking tab on each fitting to release the push-connector.

Step 38: Loosen the clamp attaching the lower coupling to the turbo inlet tube and carefully pull the coupling free from the tube.

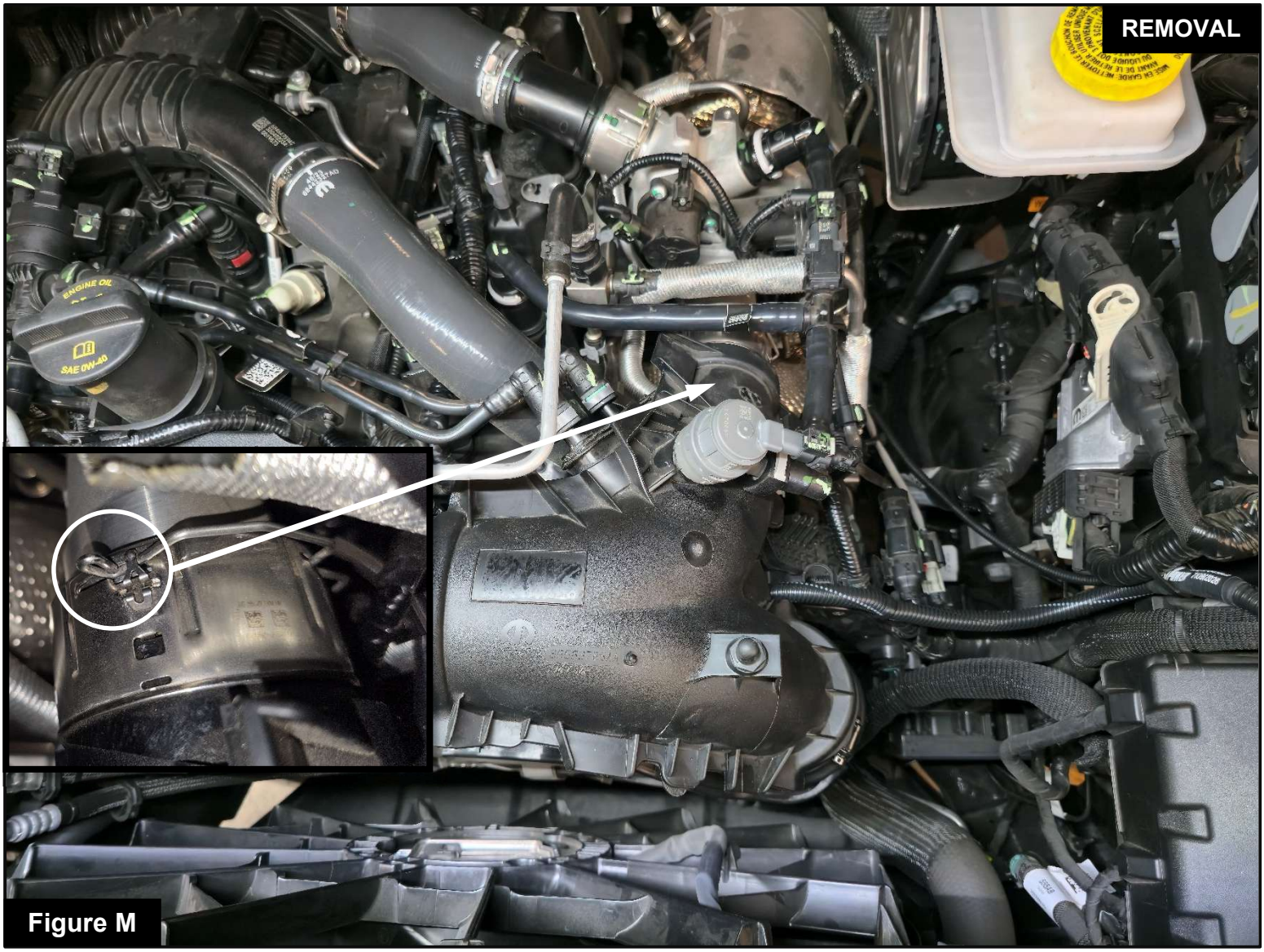

Figure M

Refer to Figure M for Steps 39-41

NOTE: A pick set may be helpful to disengage the quick connectors.

Step 39: Disengage the quick connector retaining spring clip attaching the turbo inlet tube to the turbocharger by pulling the clip away from the joint until the looped-ends of the clip are locked and resting in the retention grooves of the connector body.

Step 40: Remove the turbo inlet tube from the vehicle and place safely off to the side.

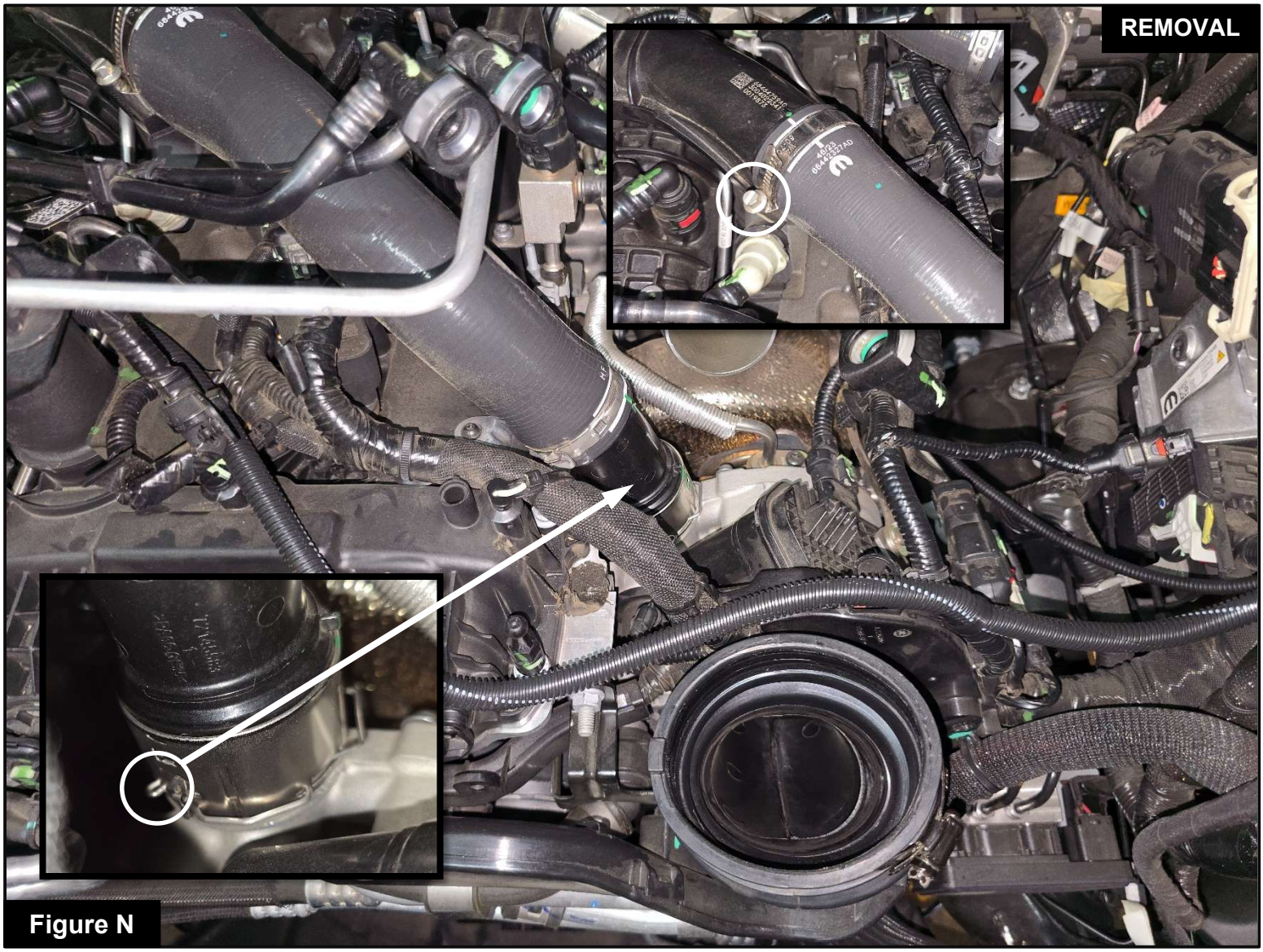

Figure N

Refer to Figure N for Steps 41-43

NOTE: A pick set may be helpful to disengage the quick connectors.

Step 41: Loosen the clamp attaching the CAC duct hose to the intercooler duct.

Step 42: Disengage the quick connector retaining spring clip attaching the front Charge Air Cooler (CAC) duct tube to the turbocharger by pulling the clip away from the joint until the looped-ends of the clip are locked and resting in the retention grooves of the connector body (NOTE: a pick set might be helpful to perform this step).

Step 43: Remove the front CAC duct hose from the vehicle and safely set off to the side.

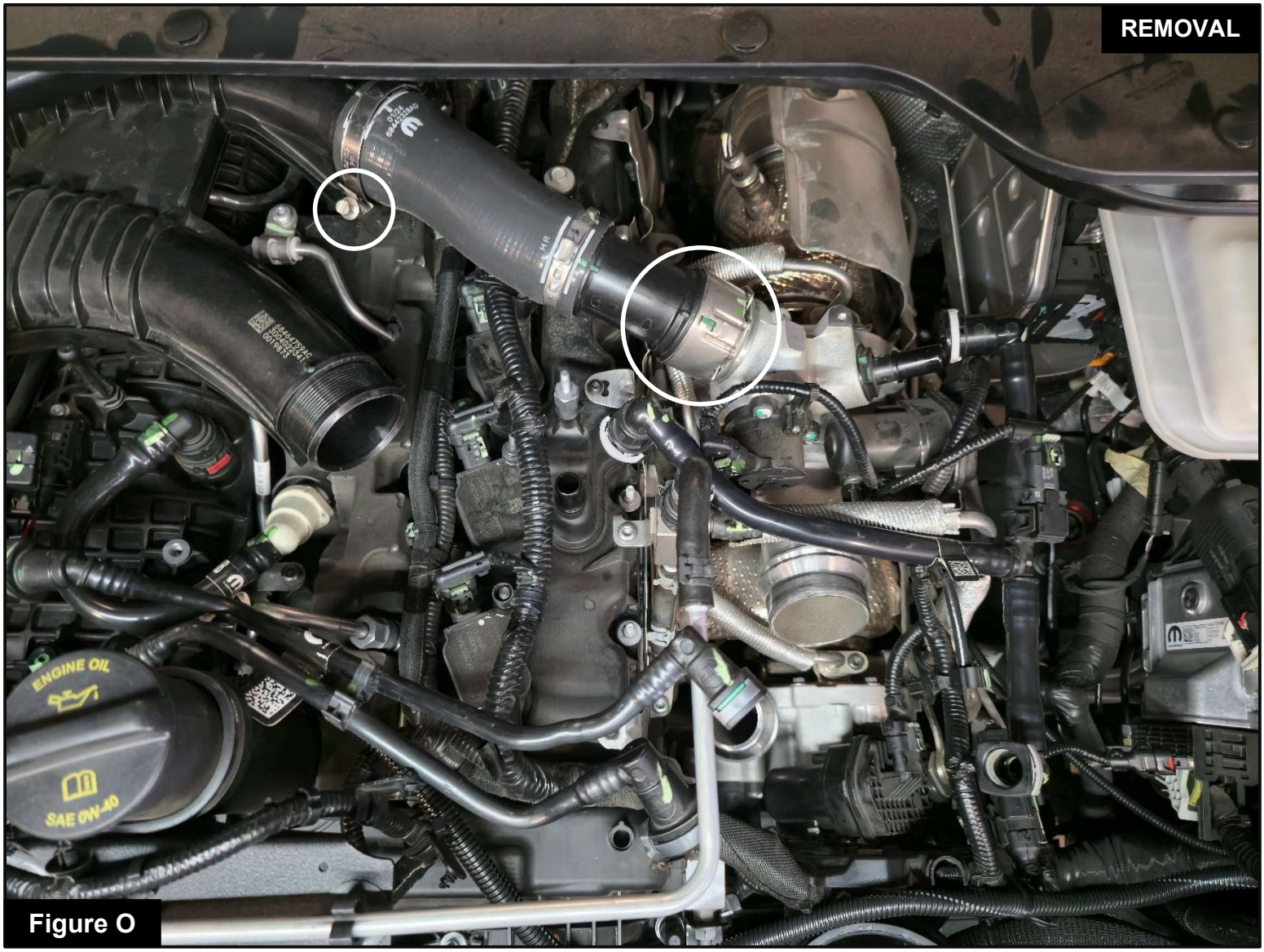

Figure O

Refer to Figure O for Steps 44-46

NOTE: A pick set may be helpful to disengage the quick connectors.

Step 44: Loosen the clamp attaching the CAC duct hose to the intercooler duct.

Step 45: Disengage the quick connector retaining spring clip attaching the rear Charge Air Cooler (CAC) duct tube to the turbocharger by pulling the clip away from the joint until the looped-ends of the clip are locked and resting in the retention grooves of the connector body (NOTE: a pick set might be helpful to perform this step).

Step 46: Remove the rear CAC duct hose from the vehicle and safely set off to the side.

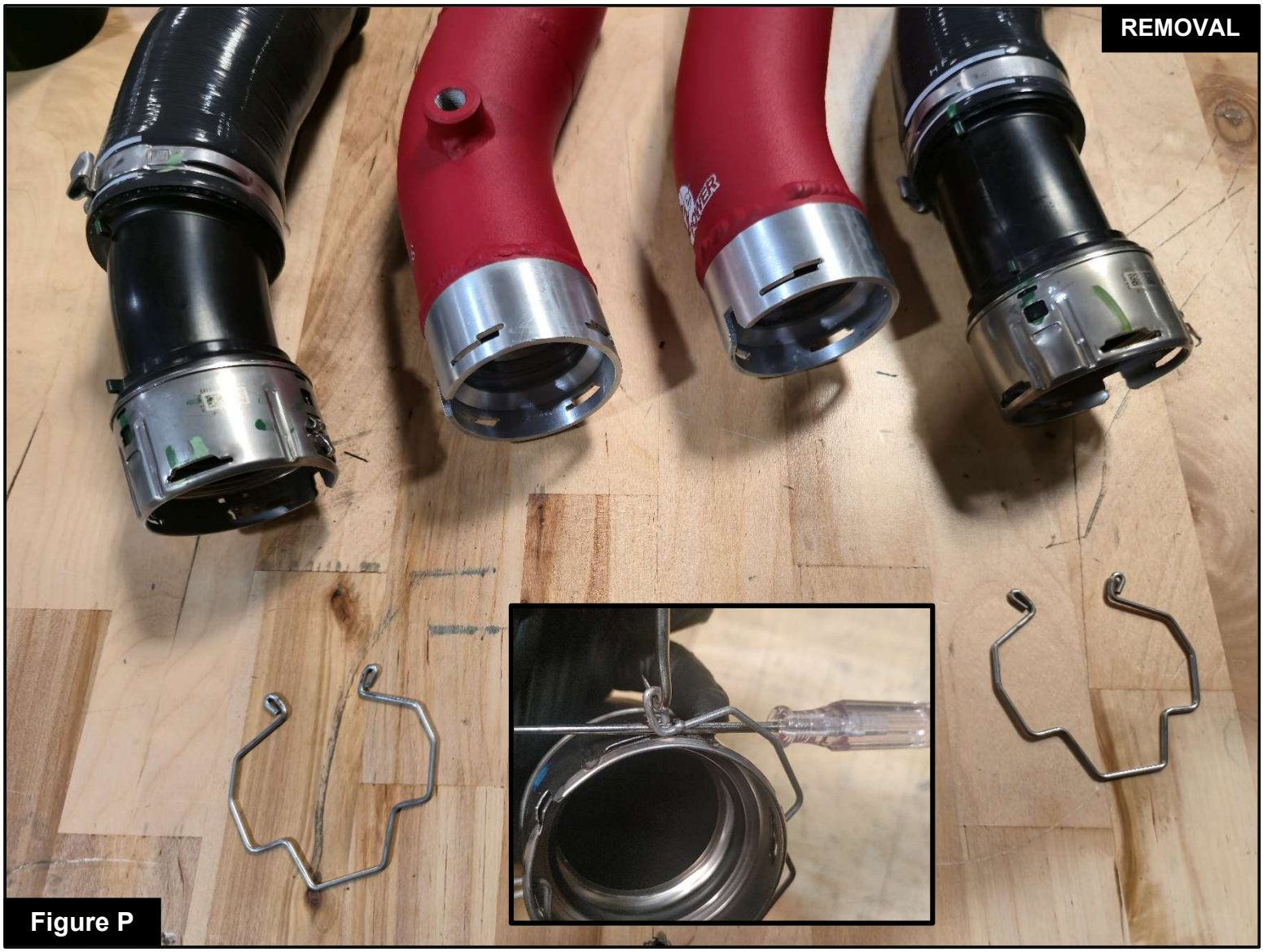

Figure P

Refer to Figure P for Steps 47-49

Note: The retaining spring clip will need to be removed from the stock CAC tube hose for reuse with the aFe POWER charge pipes.

Step 47: Carefully remove the retaining spring clip from the quick connector body by lightly prying the retention hooks up just enough to clear the clip of the slot; use light pressure to avoid damaging.

Step 48: Do this for both ends, and set aside the spring clip for reuse.

Step 49: Repeat steps 47-48 for the other CAC duct hose.

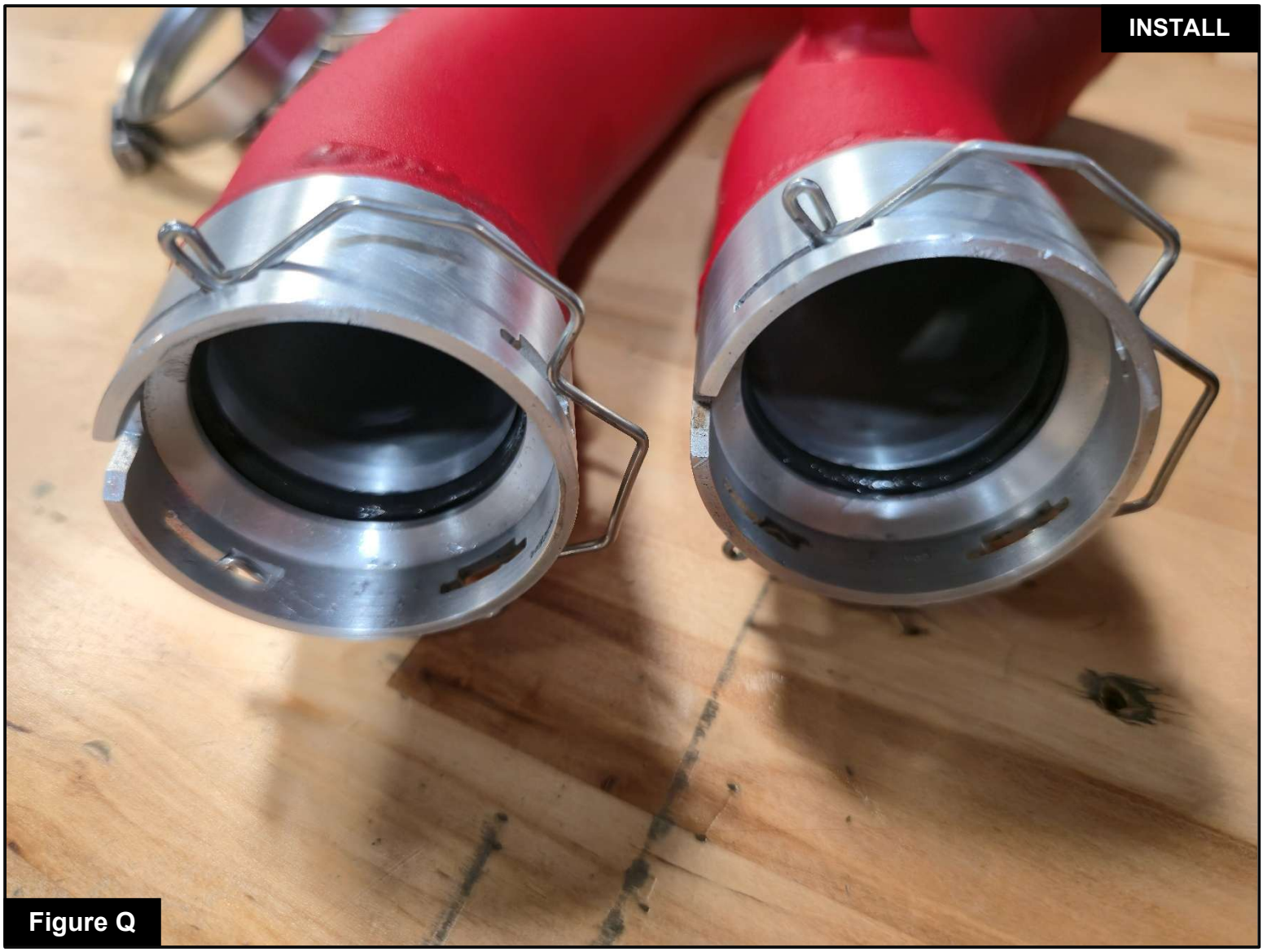

Figure Q

Refer to Figure Q for Steps 50-52

Note: Lubricate the O-rings with silicone grease to prevent tearing during installation.

Step 50: Install the supplied -327 O-Ring into the adaptor groove of the aFe POWER hot side charge pipe, ensuring the O-Ring is fully seated in the groove.

Step 51: Install the retaining spring clip into the adaptor slots of the aFe POWER hot side charge pipe, making sure the clip is seated fully into all slots.

Step 52: Repeat steps 50-51 for the other aFe POWER hot side harge pipe.

Figure R

Refer to Figure R for Steps 53-55

Note: Be sure to use thread sealant on threaded components when installing to prevent any leakage.

Step 53: If you are not using any aftermarket sensors, install the supplied 1/8 NPT plug into the threaded fittings on both aFe POWER hot side charge pipes.

Step 54: Install both supplied aFe POWER 2-1/4” diameter straight couplers with two 044-SmartSeal clamps to both aFe POWER hot side charge pipes; leave the clamps loose.

Step 55: Push both couplers down onto the charge pipes as shown; leave the clamps loose.

Figure S

Refer to Figure S for Steps 56-58

Step 56: Install one of the 044 - SmartSeal clamp onto the aFe POWER coupling; leave the clamps loose.

Step 57: Install the aFe POWER charge pipe onto the turbocharger by rotating the pipe clockwise in the orientation shown, pushing the adaptor onto the turbocharger outlet; you should hear and feel an audible *click* indicating that the retaining spring clip has engaged into the retention groove as is properly installed.

Step 58: Verify the adaptor is installed correctly by visually inspecting that the clip is seated into the turbocharger groove and lightly pulling on the aFe POWER charge pipe to ensure the charge pipe stays attached to the turbocharger outlet.

Figure T

Refer to Figure T for Steps 59-62

Step 59: With the aFe POWER charge pipe attached to the turbocharger, carefully rotate the charge pipe counterclockwise to align the coupler to the intercooler duct inlet, taking care not to tear or damage the coupler.

Step 60: Once aligned, push the coupler onto the intercooler duct inlet until it is fully seated against the shoulder of the inlet; adjust the charge pipe and coupler to fit.

Step 61: Slide the clamps into the positions shown.

Step 62: Torque both SmartSeal clamps to 6 Ft-lbs. (72in-lbs).

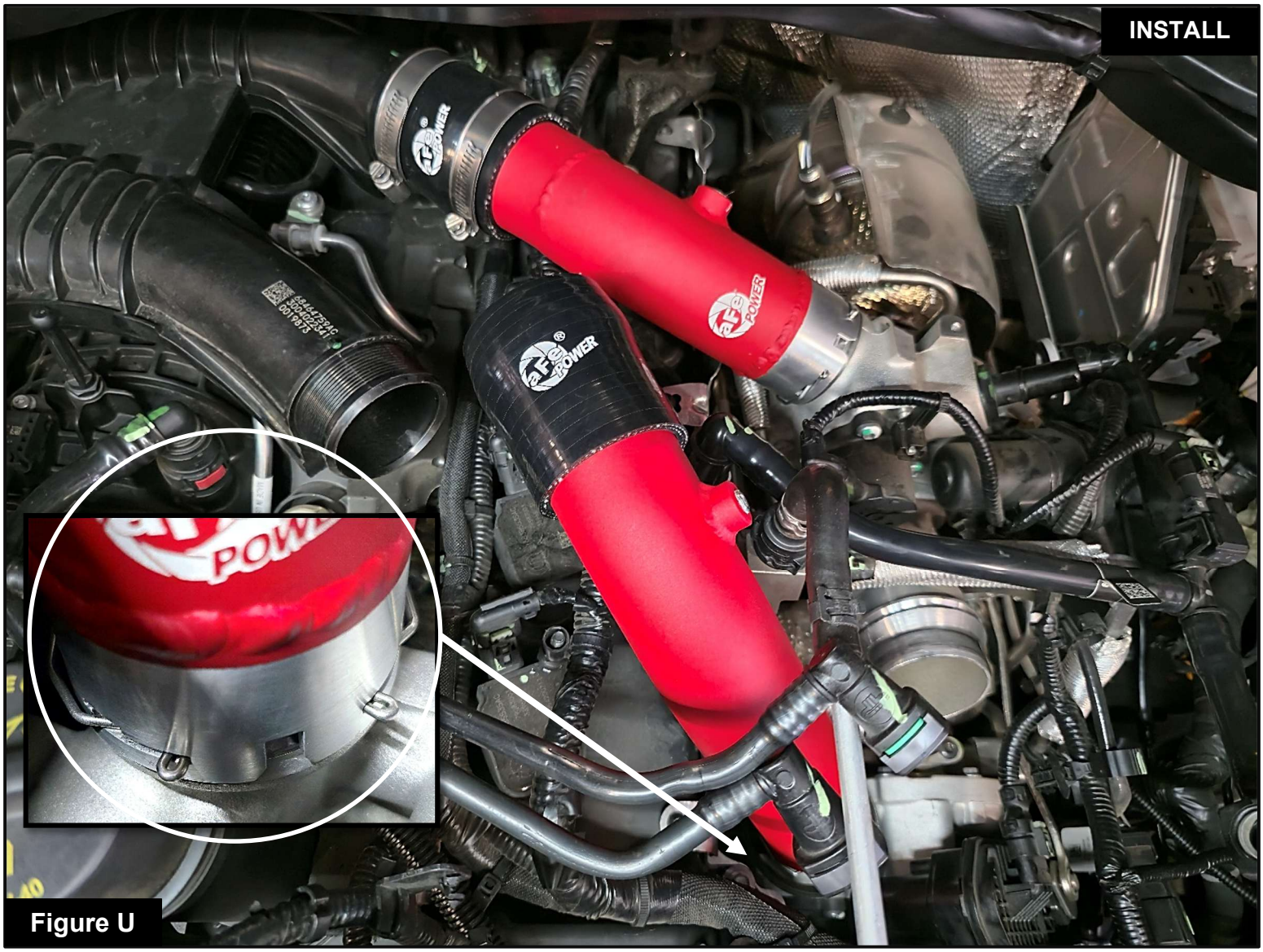

Figure U

Refer to Figure U for Steps 63-65

Step 63: Install one of the 044 - SmartSeal clamp onto the aFe POWER coupling; leave the clamps loose.

Step 64: Install the aFe POWER charge pipe onto the turbocharger by rotating the pipe clockwise in the orientation shown, pushing the adaptor onto the turbocharger outlet; you should hear and feel an audible *click* indicating that the retaining spring clip has engaged into the retention groove as is properly installed.

Step 65: Verify the adaptor is installed correctly by visually inspecting that the clip is seated into the turbocharger groove and lightly pulling on the aFe POWER charge pipe to ensure the charge pipe stays attached to the turbocharger outlet.

Figure V

Refer to Figure V for Steps 66-69

Step 66: With the aFe POWER charge pipe attached to the turbocharger, carefully rotate the charge pipe counterclockwise to align the coupler to the intercooler duct inlet, taking care not to tear or damage the coupler.

Step 67: Once aligned, push the coupler onto the intercooler duct inlet until it is fully seated against the shoulder of the inlet; adjust the charge pipe and coupler to fit.

Step 68: Slide the clamps into the positions shown.

Step 69: Torque both SmartSeal clamps to 6 Ft-lbs. (72in-lbs).

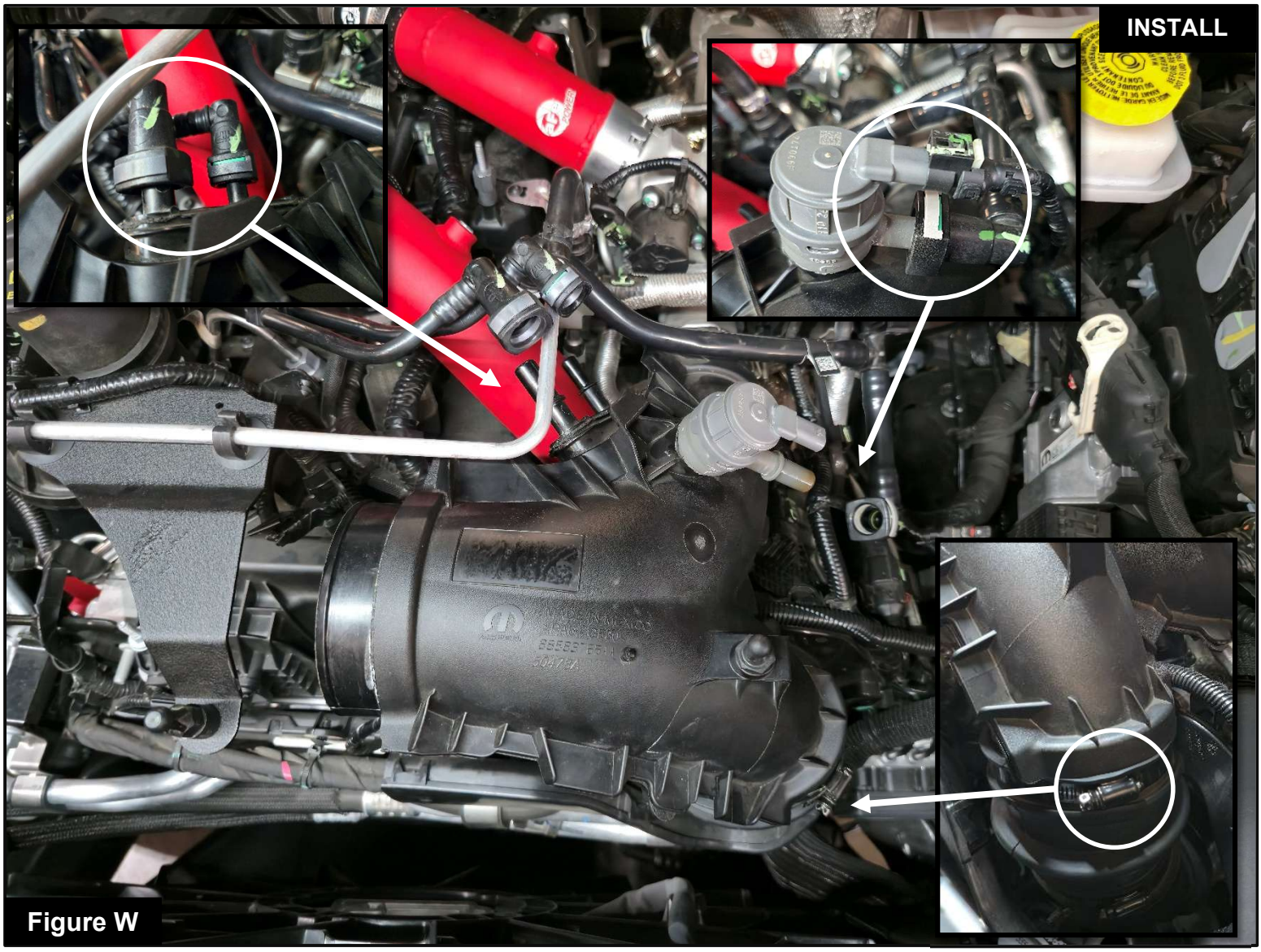

Figure W

Refer to Figure W for Steps 71-74

Step 71: Reinstall the turbo inlet tube, pushing the quick connector onto the turbocharger inlet and the turbo inlet tube into the lower coupling; you should hear and feel an audible *click* when the clip engages.

Step 72: Verify the quick connector is engaged by lightly pulling to ensure the retaining spring clip is engaged and tighten the rubber boot clamp to manufacture specifications.

Step 73: Reconnect all tube connections by pushing them onto the tube fitting until you hear and feel an audible *click* when the connector engages.

Step 74: Reconnect the PCV sensor connector, ensuring the locking tab is engaged.

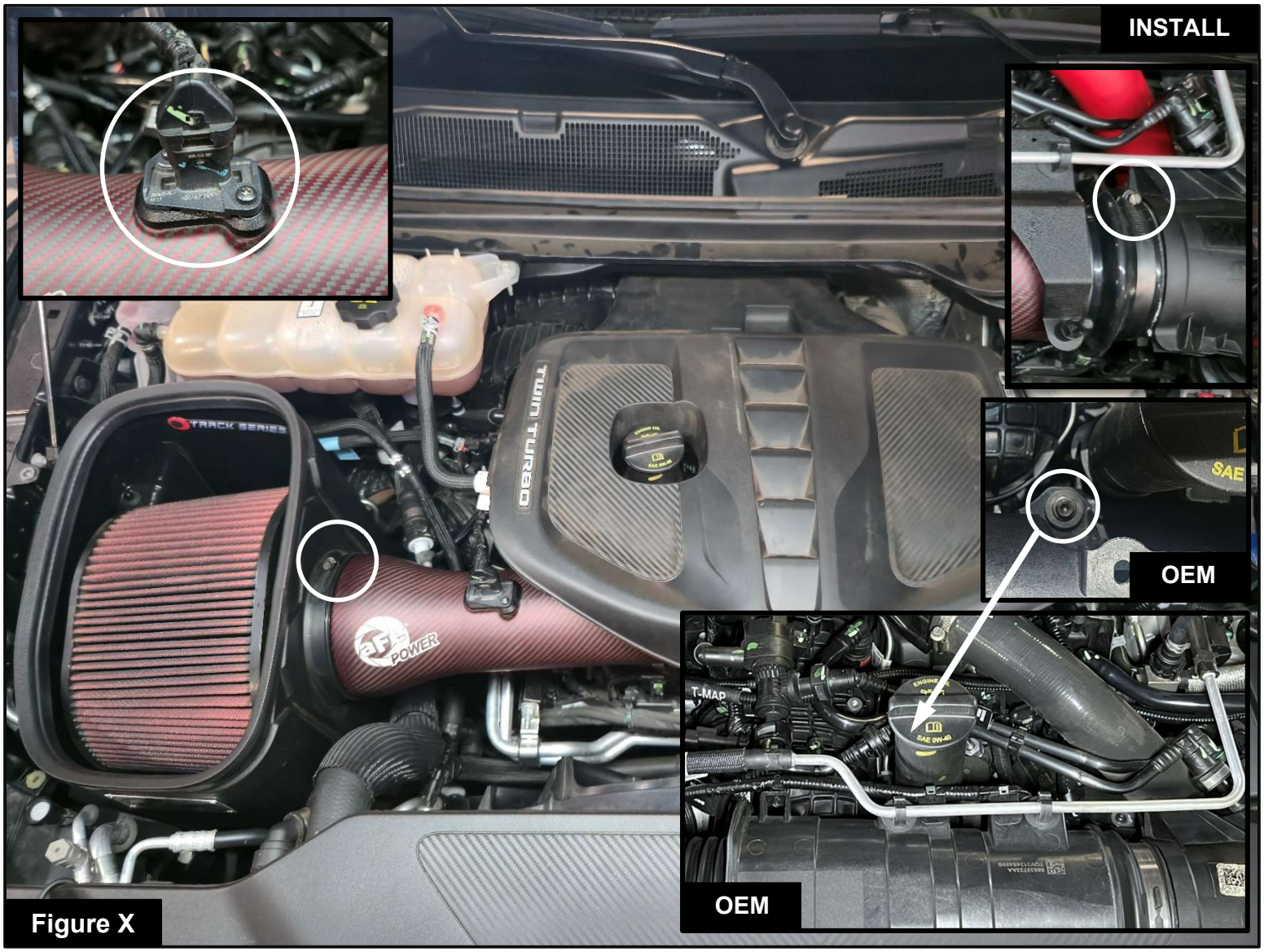

Figure X

Refer to Figure X for Steps 75-80

NOTE: For OEM air intake tube reuse, reinstall mounting screw and all attached routing clips.

Step 75: Reinstall air filter housing with isolator grommets.

Step 76: Reinstall the air intake tube, tighten both clamps to manufacturer specifications.

Step 77: Reconnect the MAF sensor connector, ensuring the locking tab is engaged.

Step 78: Reinstall the engine cover, taking care not to overtighten the nut.

Step 79: Reconnect the negative battery cable.

Step 80: Installation is now complete.

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

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