

advanced FLOW engineering Cold Air Intake System

Instruction Manual P/N: 50-70099D/50-70099R

Make: FORD

Model: F-150

Year: 2021-2023

Engine: V6-3.5L(tt) PowerBoost™



- 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 951-493-7185.
- 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.	Description	Part Number
A	1	Air Filter (Pro 5R) For 50-70099R	24-91092
A	1	Air Filter (Pro DRY S) For 50-70099D	21-91092
B	1	Tube	05-5070099B1
C	1	Housing	05-5070072B2
D	1	Coupling, Silicone Reducer: (3-1/2" x 3")ID x 2-1/2"L	05-01580
E	1	Coupling, Silicone Hump: 4"ID x 2-1/2"L (2" to 3")	05-01399
F	1	Clamp, 052 (2-13/16" - 3-3/4 ")	03-50008
G	1	Clamp, 044 (2-5/16" - 3-1/4")	03-50019
H	2	Clamp, 064 (2-1/2"- 4-1/2 ")	03-50006
J	1	Grommet, Rubber	03-50167
K	1	Fitting, Air Temperature Sensor	05-01454
M	2	Retainer Clip, Push-In style: 6.5mm Hole	03-50773
N	1	Cable Holder, Push-In	05-01717
P	1	Insert, Vent	05-01405

Installation will require the following tools:

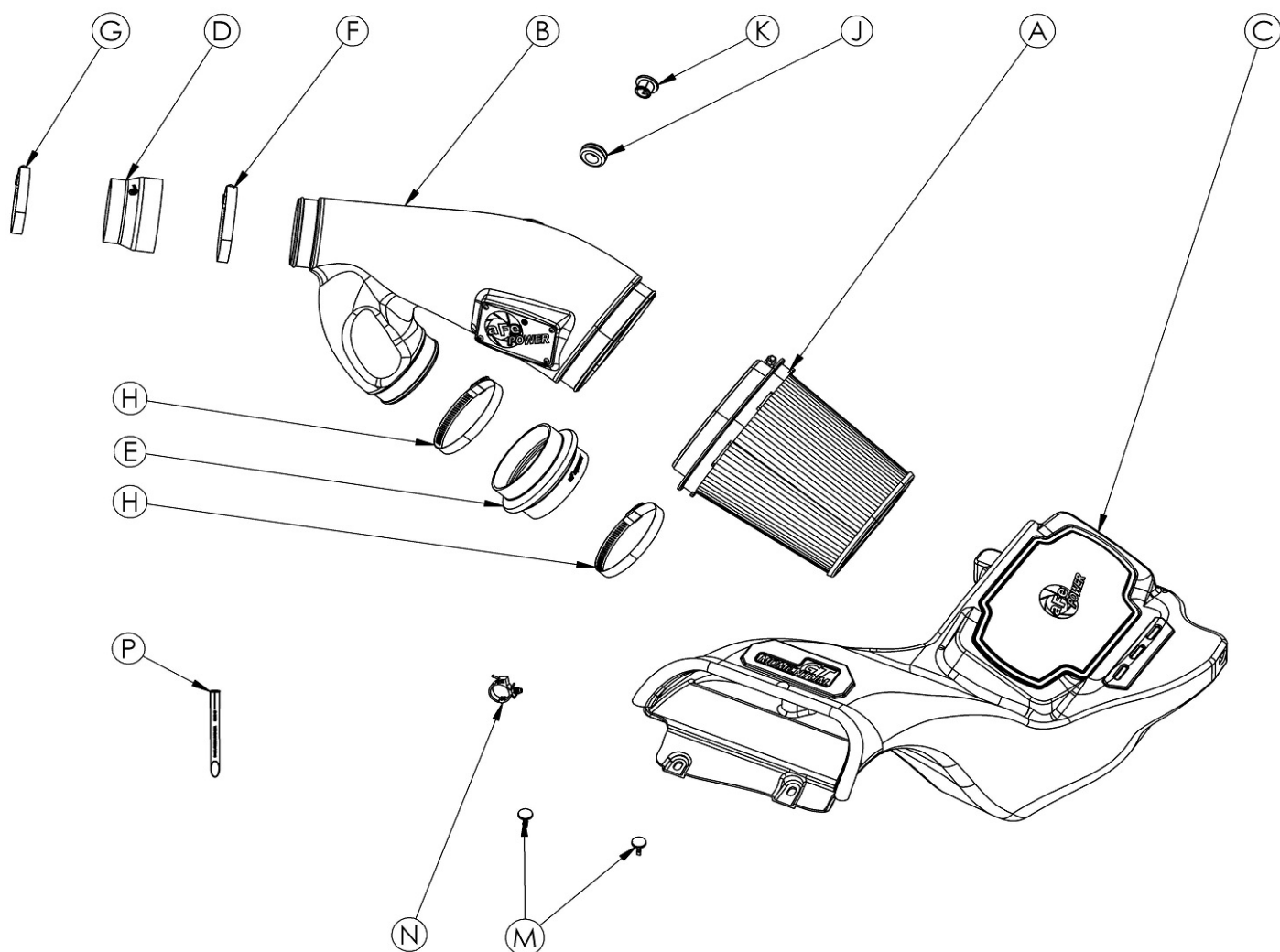
7mm, 8mm, 11mm and 13mm Nut Drivers or Ratchet and Sockets, Flat Head Screwdriver, 5/8" Quick disconnect tool*

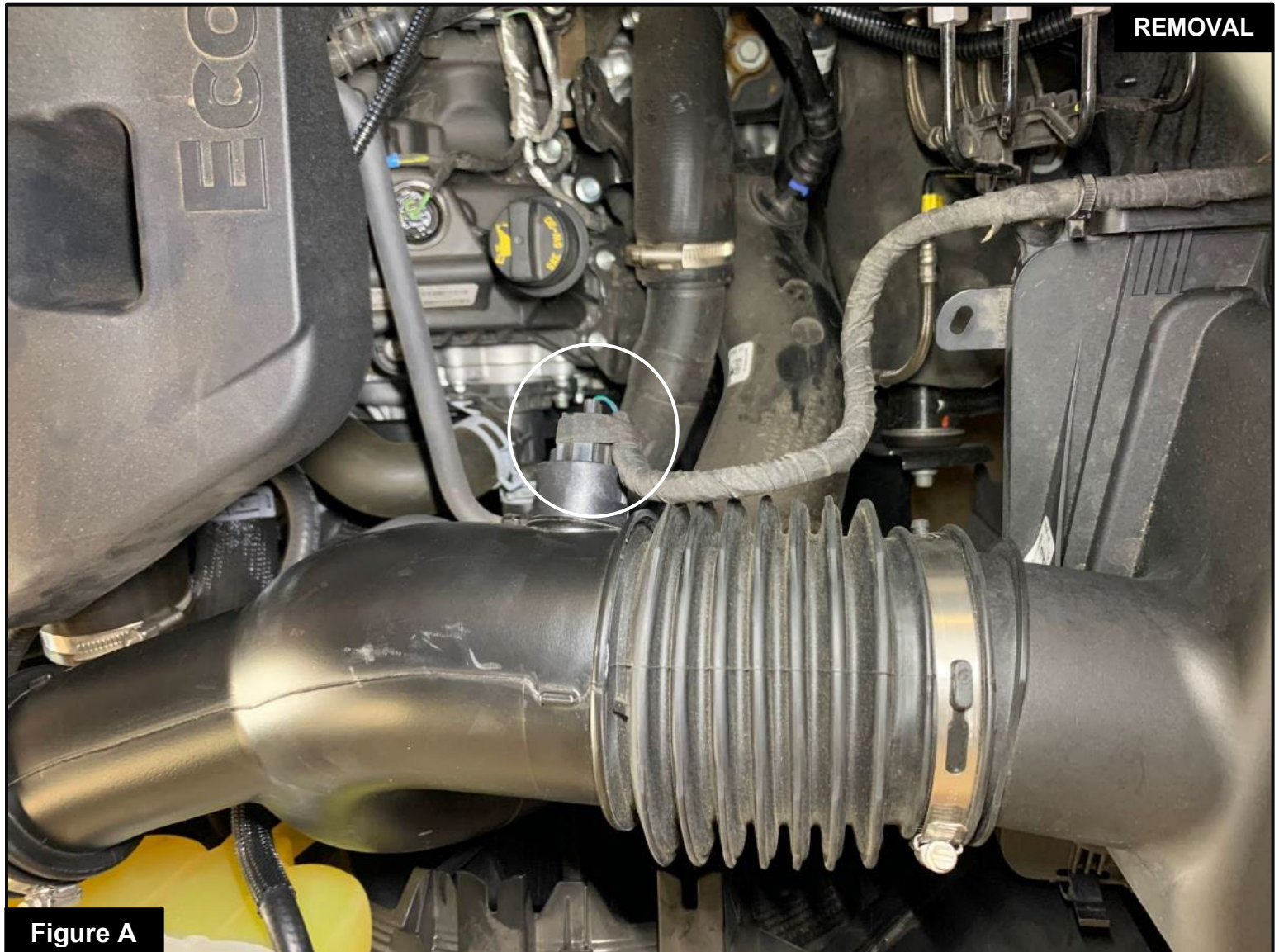
*Only required if vehicle equipped with orange tab on quick disconnect fitting, see page 9.

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

Product covered by one or more of the following patents: 11125150, 11603792, 10648404, 9440175, 10252202, 10532304, 11219850, 11331607, 11376536, 11135538, 11745129

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.





Refer to Figure A for Step 1

Step 1: Unplug the temperature sensor harness.



Refer to Figure B for Steps 2-4

Step 2: Loosen the two clamps connecting the intake tube to the turbo inlet tubes.

Step 3: Unclip the coolant line from the intake tube.

Step 4: Unclip the top of the factory air box and remove the intake tube, air filter and top of the air box from the vehicle.



Figure C

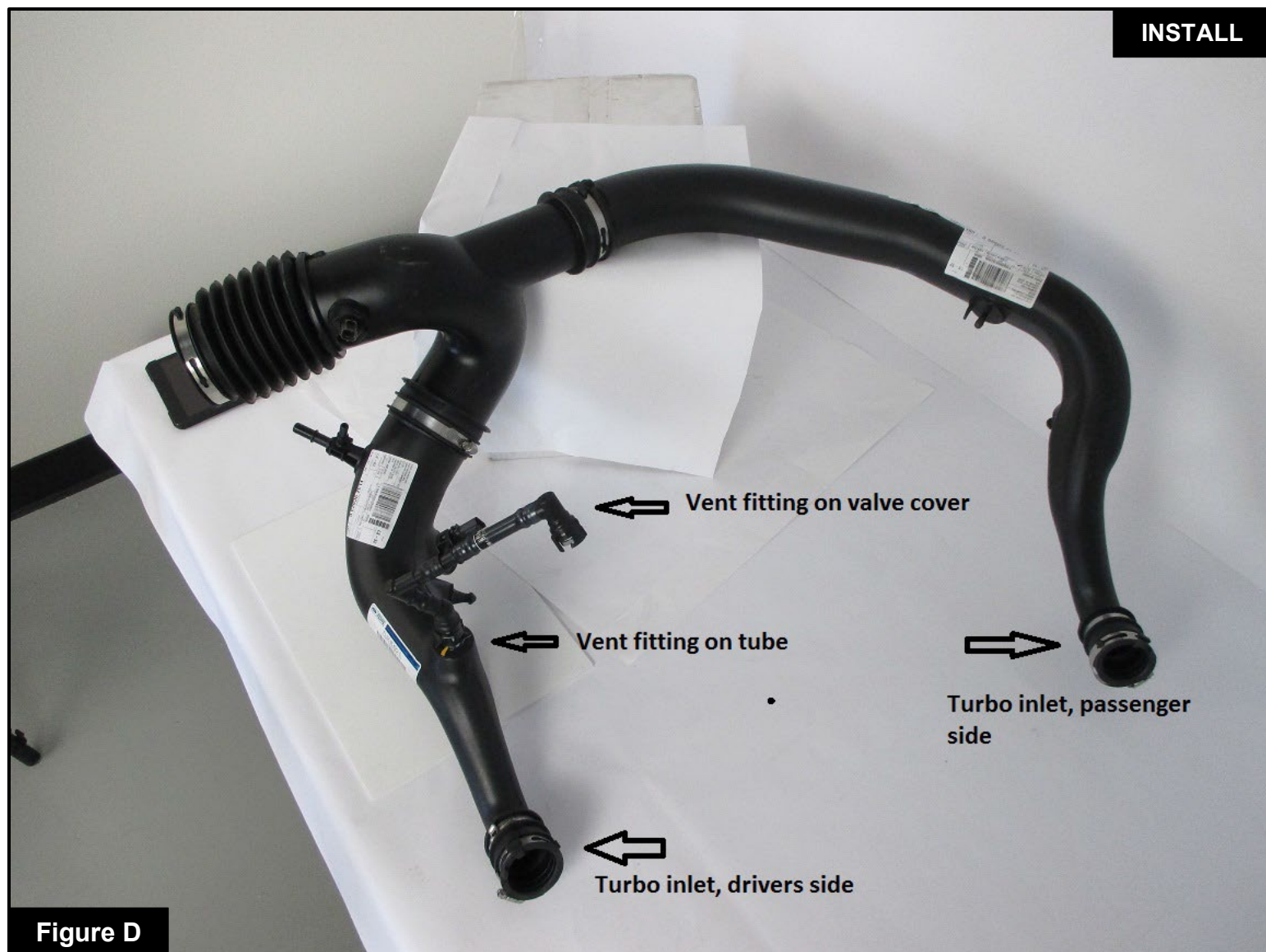
Refer to Figure C for Steps 5-7

Step 5: Remove the two plastic rivets securing the front scoop of the housing.

Step 6: Unclip the wire harness from the back of the air box.

Step 7: Remove the screw securing the air box to the fender, then pull the factory air box out of the truck.

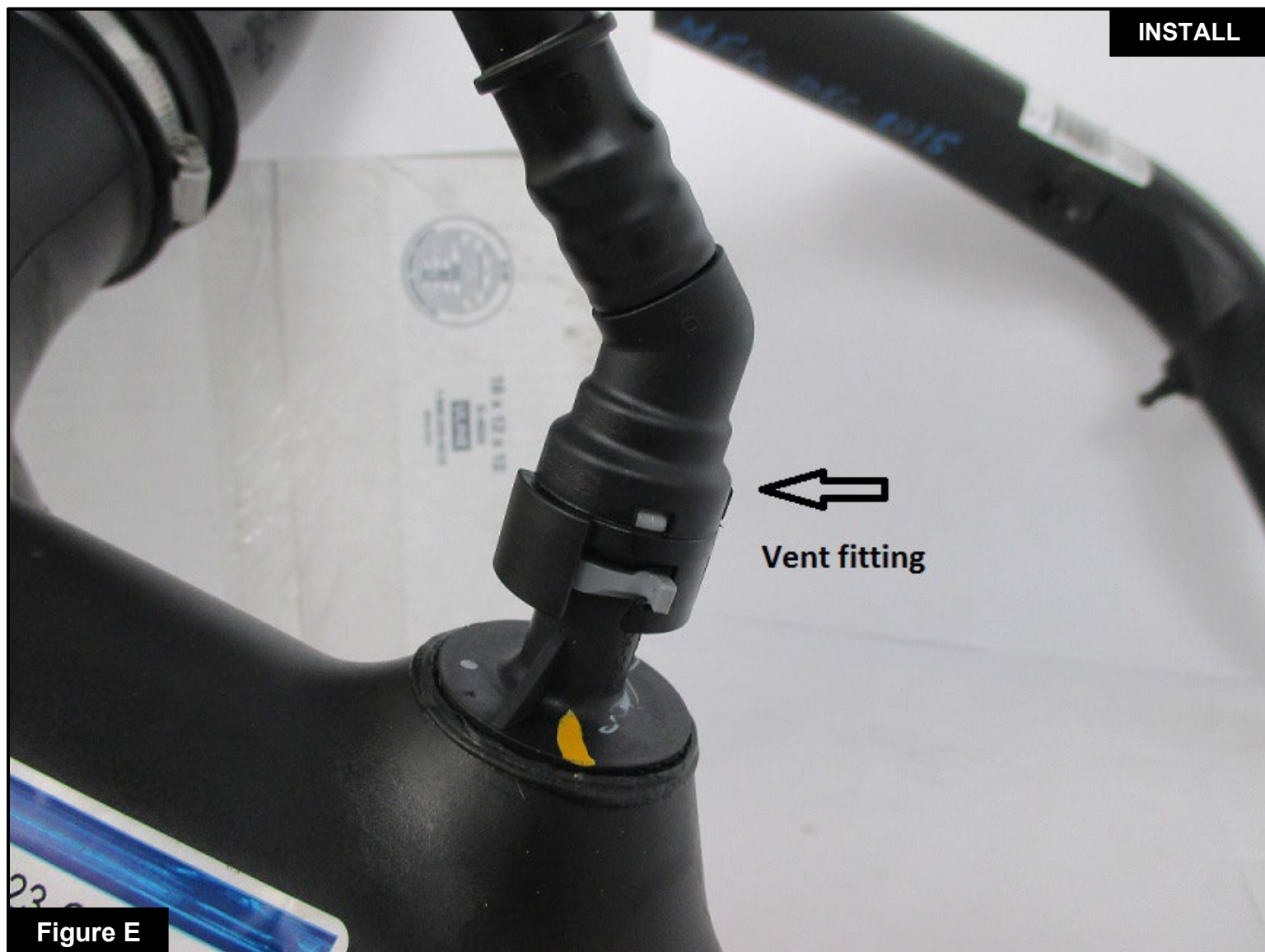
The screw will be reused to secure the aFe POWER housing.


Figure D

Refer to Figure D for Step 8

(The installation of the plastic vent tube insert is important to prevent check engine light. These procedures should be done with the turbo inlet tubes installed on the engine. It is shown off of the vehicle for better illustration.)

Step 8: Locate the factory plastic tube feeding the driver's side turbo inlet. This is the connection closer to the turbo.


Figure E

Refer to Figure E for Steps 9-10

Step 9: Locate the valve cover vent tube that feeds into the driver's side turbo inlet (the connection closer to the turbo). It is not necessary to remove the engine cover.

Step 10: Check the color of the locking tab on the quick disconnect fitting. If the locking tab is orange, go to steps 11 and 12. If the locking tab is blue or grey, go to step 13.


Figure F

Refer to Figure F for Step 11

Step 11: If the locking tab of the quick disconnect fitting is orange, like on this picture, you will need a quick disconnect tool to remove it. Those disconnect tools are commonly used on AC and fuel lines.


Figure G

Refer to Figure G for Step 12

Step 12: For the fitting with the orange locking tab, slide the 5/8" quick disconnect tool over the fitting and push it inside of the fitting. Rotate it and pull on the fitting at the same time.


Figure H

Refer to Figure H for Step 13

Step 13: If the locking tab is grey or blue, apply pressure against the exposed tail and pull vent fitting off the turbo inlet tube. It is not necessary to disconnect at the valve cover end. There is a sensor and wire harness on this vent tube. Do not damage or remove these components.



Figure I

Refer to Figure I for Step 14

Step 14: Insert vent fitting with slash cut facing the turbo. It should not be a loose fit. It is direction dependent and must not rotate once installed.


Figure J

Refer to Figure J for Steps 15-16

Step 15: Reconnect the vent fitting. It will snap over without having to release the plastic clip. Pull up slightly to confirm installation.

Step 16: Installation of the vent tube is complete. Any codes can be cleared with a code reader or by disconnecting the battery. You will lose any radio presets with battery disconnection.

If removal of the vent insert is required, it can be pulled out with internal snap ring pliers.



Figure K

Refer to Figure K for Steps 17-18

Step 17: Transfer the factory grommet and sleeve from the factory air box to the aFe POWER housing.

Step 18: Install the white cable holder that is provided into the hole below the filter opening.



Figure L

Refer to Figure L for Steps 19-21

Step 19: Install the aFe POWER housing into the truck by pushing it into the factory mounting grommets.

Step 20: Secure it using the factory screw removed at step 7.

Step 21: Secure the front of the housing with the two provided plastic retainer clips.



Figure M

Refer to Figure M for Steps 22-23

Step 22: Install the air filter into the aFe Power housing by firmly pushing it into the housing until the air filter tabs lock it into place. Install on the clamp onto the filter, but do not tighten at this time.

Step 23: Secure the coolant hose to the housing with the white cable holder.



Refer to Figure N for Steps 24-25

Step 24: Install the grommet into the hole on the aFe POWER tube. Press in the plastic fitting and orient it like on the picture to make sure the temperature sensor is clocked correctly.

Step 25: Remove the temperature sensor from the factory intake tube. Transfer it to the fitting onto the aFe POWER intake tube. Turn it clockwise until the tab locks it into place.

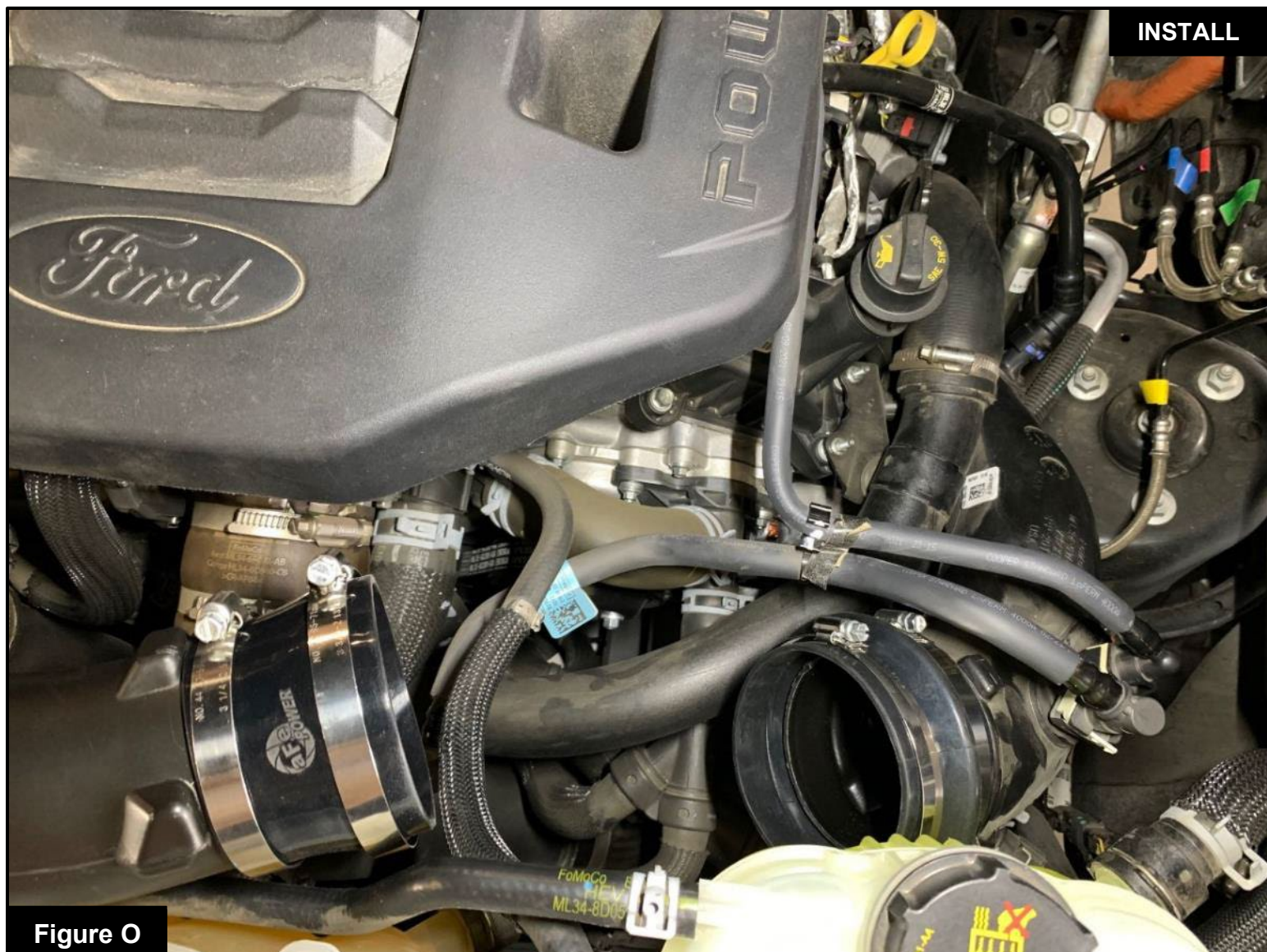


Figure O

Refer to Figure O for Steps 26-27

Step 26: Install the bellow coupling onto the driver side turbo inlet. Place the bigger clamps on it but do not tighten at this time.

Step 27: Install the reducer coupling on the other turbo inlet and place the clamps on it but to not tighten at this time.

**Figure P****Refer to Figure P for Steps 28-29**

Step 28: Install the aFe POWER intake tube into the filter flange then connect it to the two couplings.

Step 29: Align the tube and air filter, then tighten all clamps.



Figure Q

Refer to Figure Q for Steps 30-31

Step 30: Reconnect the temperature sensor harness.

Step 31: Secure the harness clip into the hole on the housing.



Figure R

Refer to Figure R for Step 32

Step 32: Verify that all clamps and connections are secured. Your installation is now complete. Thank you for choosing aFe POWER!



PAGE LEFT BLANK INTENTIONALLY



PAGE LEFT BLANK INTENTIONALLY



advanced FLOW engineering, Inc.

252 Granite Street Corona, CA 92879

<https://afepower.com/contact>