

IAG Air / Oil Separator (AOS)

For 2017-23 Ford F-150 & Raptor 3.5L EcoBoost





IAG-ENG-F7900 IAG Air / Oil Separator (AOS) For 2017-23 Ford F-150 & Raptor 3.5L Ecoboost

Congratulations on the purchase of your Air/Oil Separator (AOS) and thank you for choosing IAG Performance. This installation manual is intended to guide you through the modification of the factory PCV system and the installation of the IAG AOS. If you already have an aftermarket catch can or AOS installed, please consult the specific instructions for your hardware to aid in its removal. PLEASE ENSURE THE VEHICLE IS COMPLETELY COOL BEFORE STARTING THE INSTALLATION.



Please read through the entire instruction manual before beginning work on your vehicle. You will not use all parts in this kit depending on the application. If you encounter any problems or have questions please stop and contact our support team at 410-840-3555 or email us at support@iagoffroad.com for help.

***Driver Side (only use if truck is NOT equipped w/ sensor)**



- 1** AOS Body Assembly
- 2** 36.5" Valve Cover Hose (Drivers Side)
- 3** 31" Vacuum Hose w/ 90 Degree Q.C.
- 4** 26" Coolant Hose w/ 90 Degree Q.C.
- 5** Oil Filler Neck
- *6** 18" PCV Hose w/ 90 and 45 Degree Q.C.
- 7** 18" PCV Hose w/ 90 and 45 Degree Q.C.
- 8** 21.5" Coolant Hose w/ Straight Connect
- 9** PCV Hose w/ 90 and 45 Degree Q.C. w/ Sensor

"Q.C." is Quick Disconnect Fittings



- 10** 12" Vacuum Hose w/ x2 30 Degree Q.C.
- 11** AOS Mounting Bracket
- 12** Harness Extension
- 13** Hardware Kit
- 14** PCV Fitting
- 15** Engine Cover Template

Tools needed: 25mm, 15mm, 10mm, 8mm, 5mm sockets/allen, needle nose pliers, hose clamp pliers, 1" hole saw, mini electric handheld saw, file



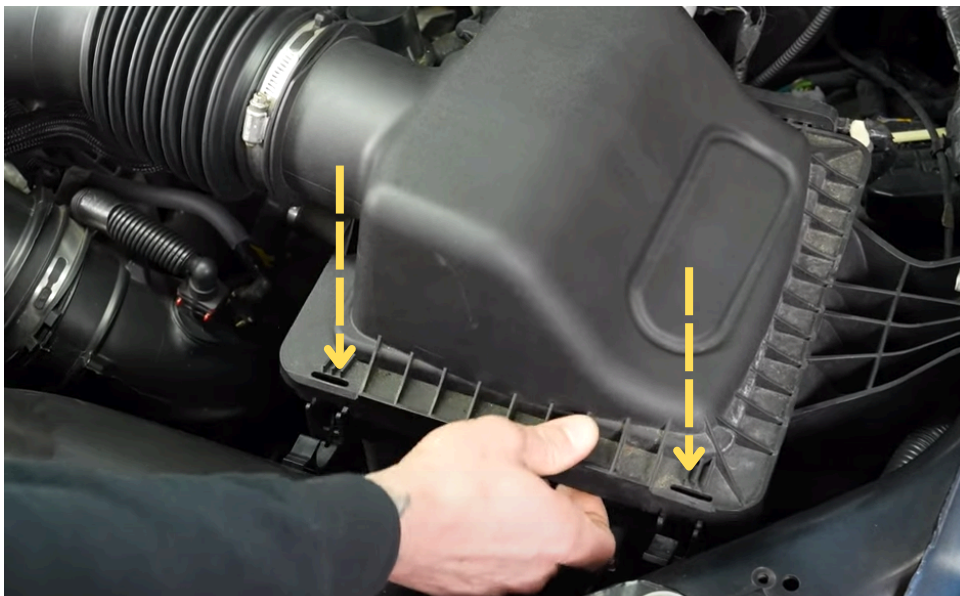
Step 1

Remove the two 10mm nuts from the engine cover.



Step 2

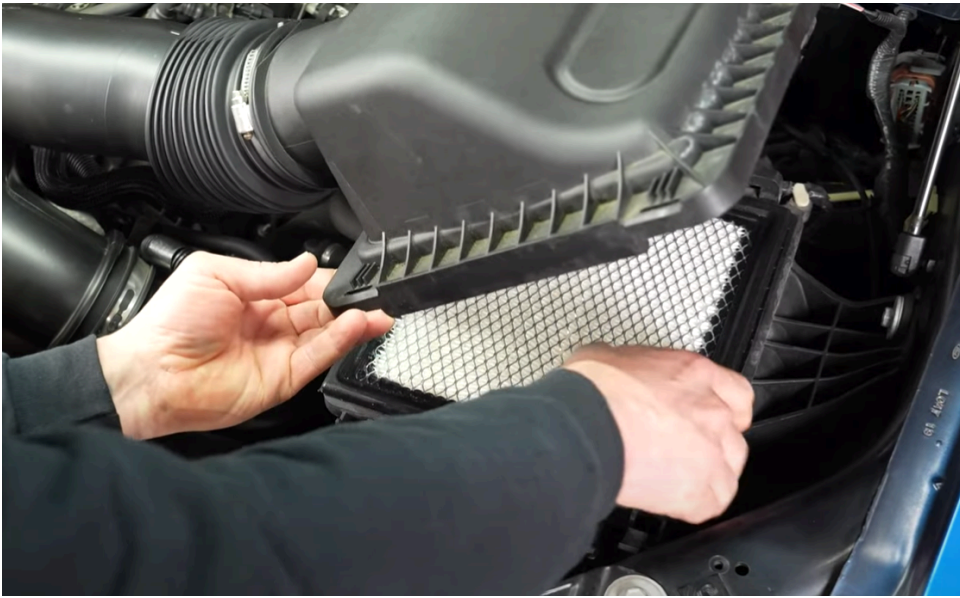
Remove engine cover.



Step 3

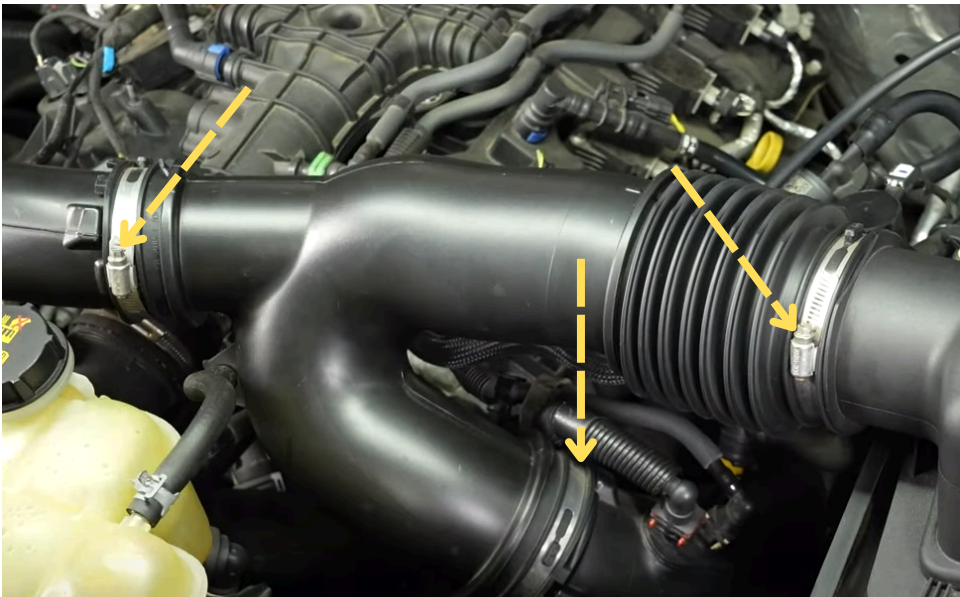
Unhook the two air box clips and remove the air filter.

Step 3 pt.2



Step 4

Use a flathead screwdriver or a 8mm socket and loosen the three band clamps.



Step 5

Unclip the coolant line.





Step 6

Remove the inlet pipe.



Step 7

Unclip the sensor on the back of the inlet pipe.



Step 7 pt.2

Step 8



On passenger side push on the blue tab for the PCV line and remove from the intake manifold.

Step 8 pt.2

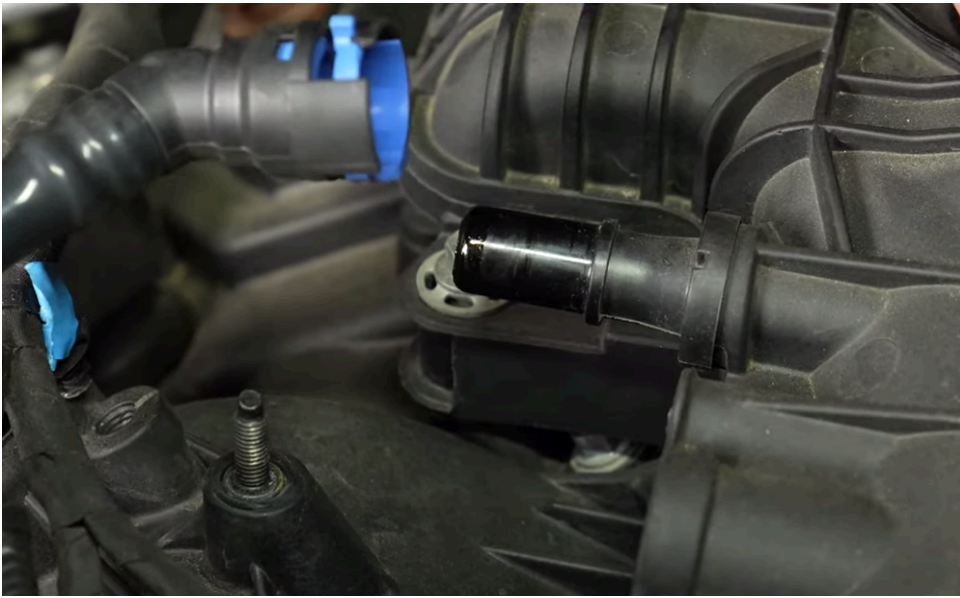


Step 9



Push on the blue tab for the other end of PCV line and remove from the intake manifold.

Step 9 pt.2



Step 10

On driver side unclip the sensor from PCV line and pull it off.



Step 10 pt.2

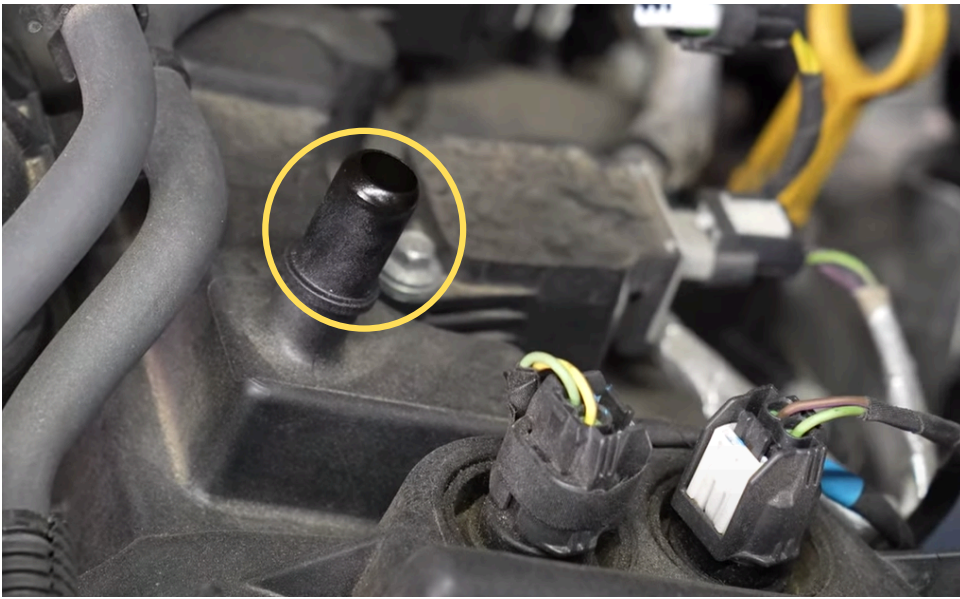


Step 11



On the driver side push on the blue tab for the other end of PCV line and remove from the valve cover port.

Step 11 pt.2



Step 12

Push on the blue tab for the other end of PCV line and remove from the inlet pipe.

Step 12 pt.2



Step 13

Remove the oil filler neck by twisting counterclockwise.



Step 14

Twist clockwise to install the new oil filler neck.





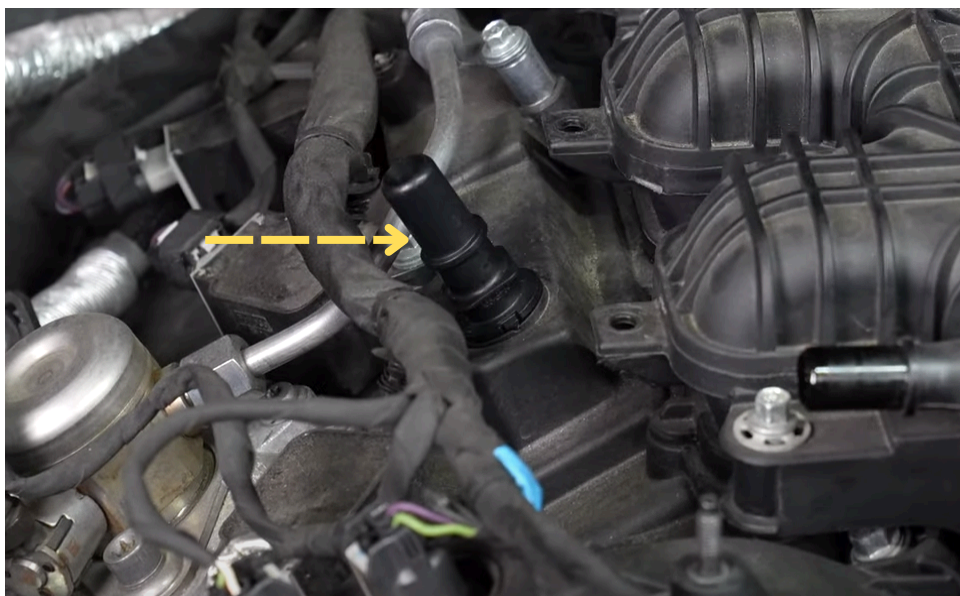
Step 15

Reinstall the oil filler cap.



Step 16

Remove the OEM PCV fitting.



Step 17

Install the new PCV fitting.

14





Step 18

Mount the bracket onto the AOS.

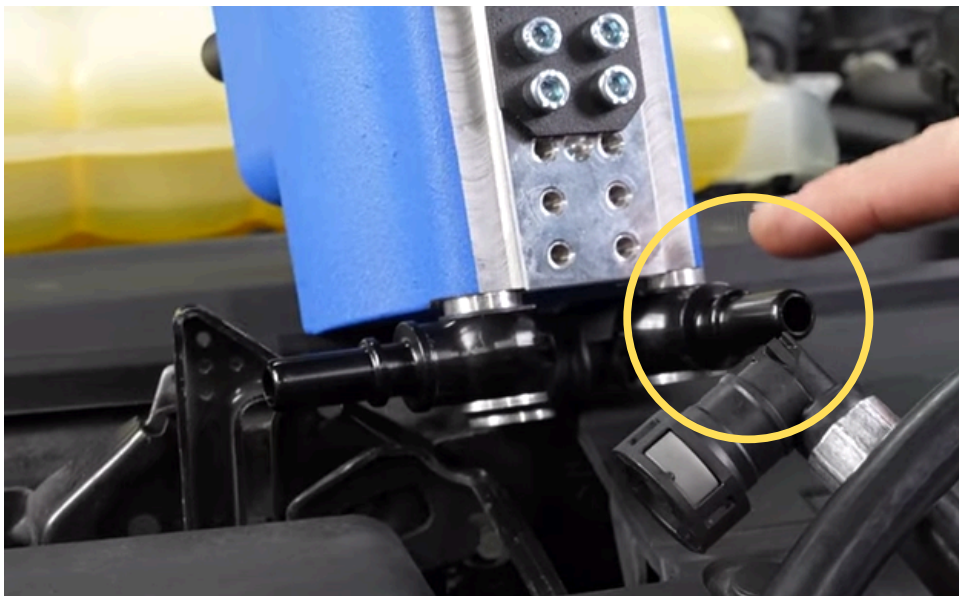
Make sure you have three holes showing at the bottom.

11



Step 19

Use the four supplied 5mm allen bolts and tighten bracket to AOS.



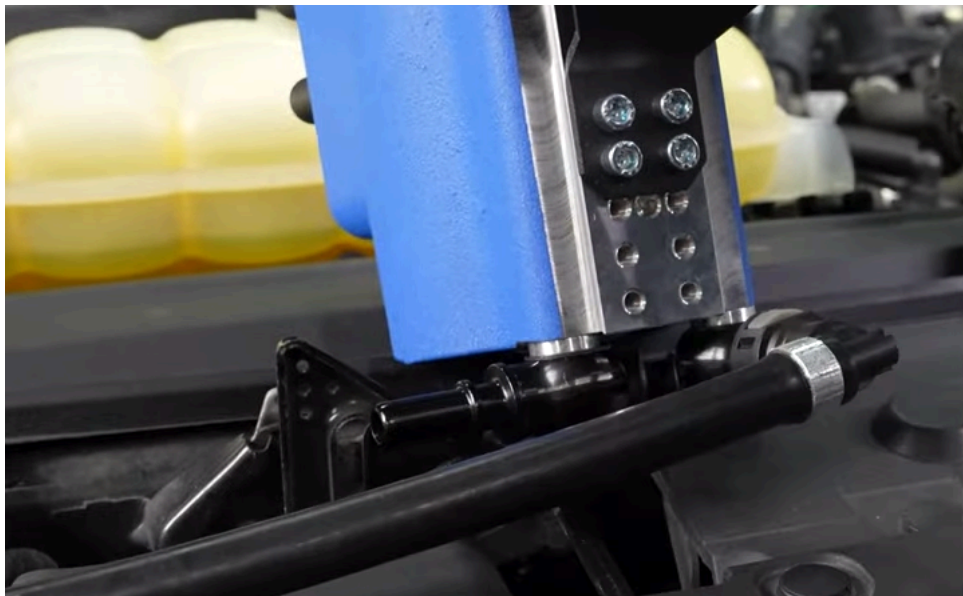
Step 20

Install the 26" coolant line to AOS fitting.

4



Step 20 pt.2



Step 21

Install the 21.5" coolant line to the other AOS fitting.



8



Step 22

On the driver side, remove the 10mm bolt.

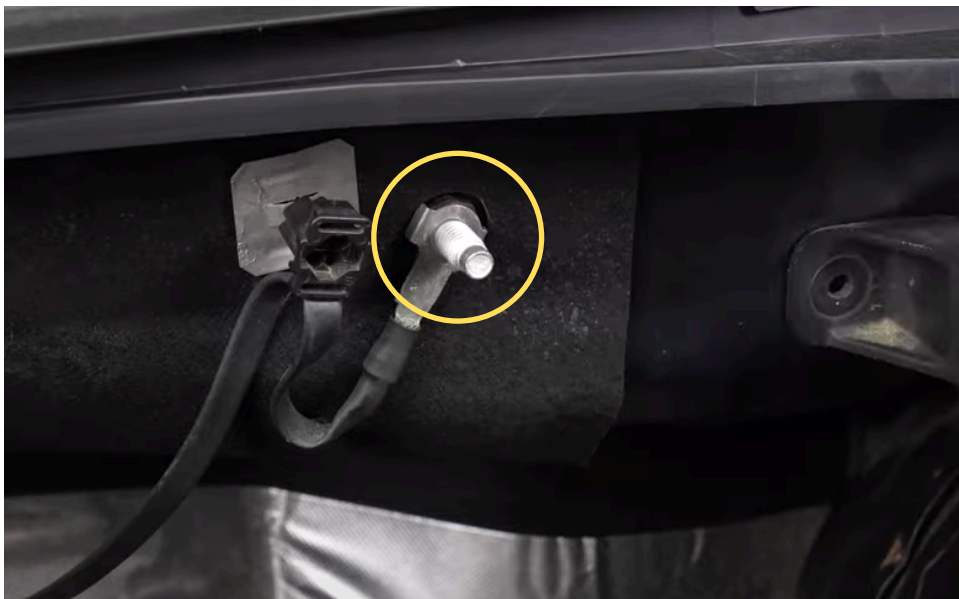




Step 23

Remove the 15mm nut.

Make sure the ground wire stays on.



Step 23 pt.2



Step 24

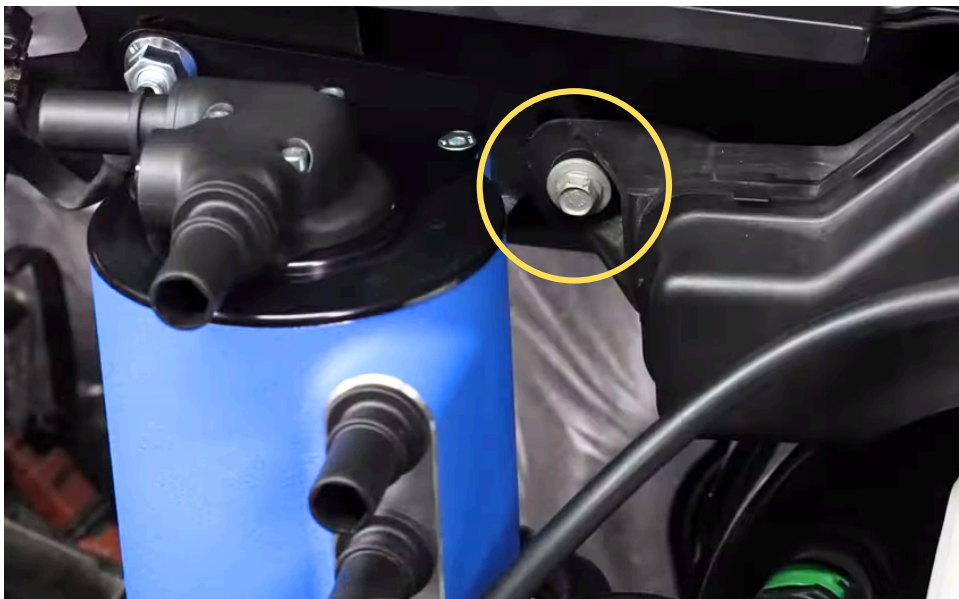
Install the AOS onto the 15mm stud.



Step 25

Install the supplied 15mm nut to the stud.

Do not fully tighten.



Step 26

Install bracket behind and reinstall the 10mm bolt.



Step 27

Tighten the 15mm nut.

Do not over tighten.



Step 28

Install the drain line from the oil filler neck to the bottom port on AOS.

Reference step 14.



Step 28 pt.2



Step 29

Use a pair of hose clamping pliers to clamp the coolant line.



Step 30

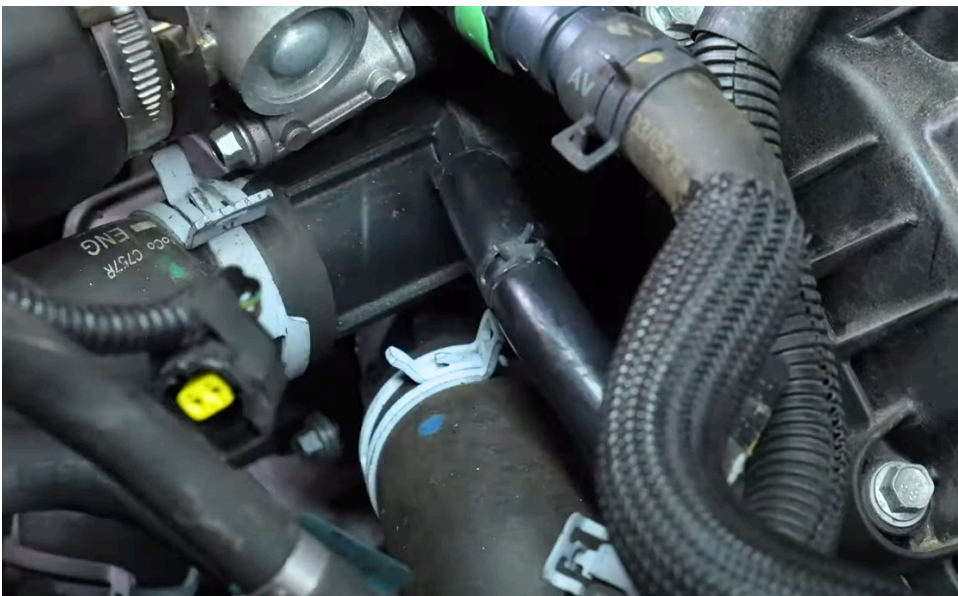
Using a pair of needle nose pliers loosen the clamp from the coolant line.



Step 31

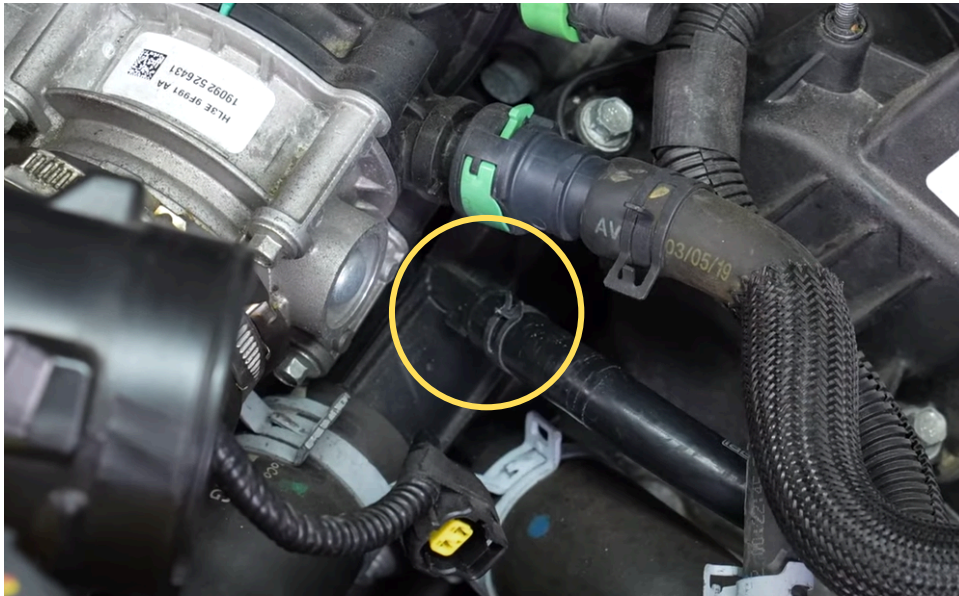
Remove the OEM coolant line.

Note: A small amount of coolant may come out of line.



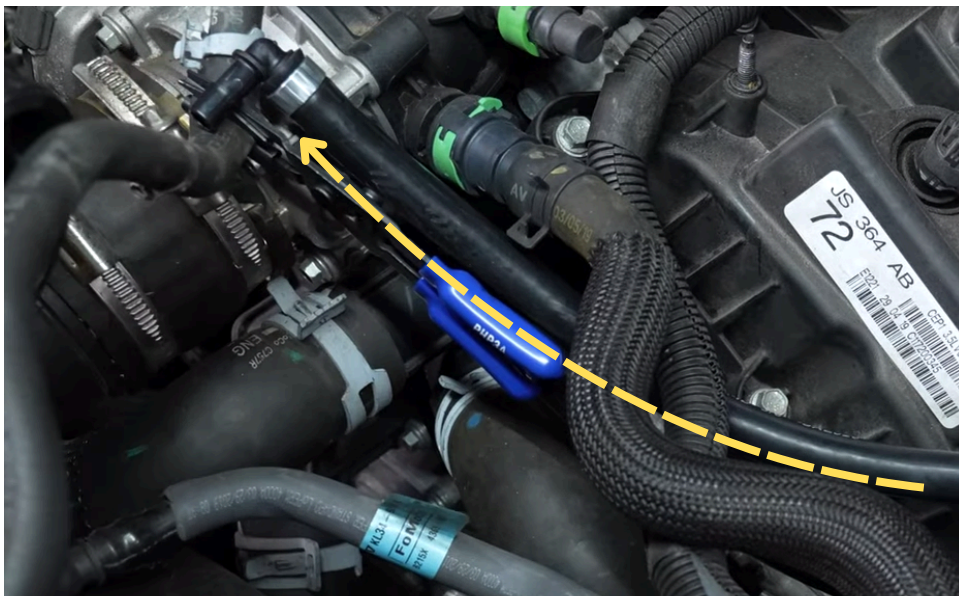
Step 32

Install the new coolant line from step 21.



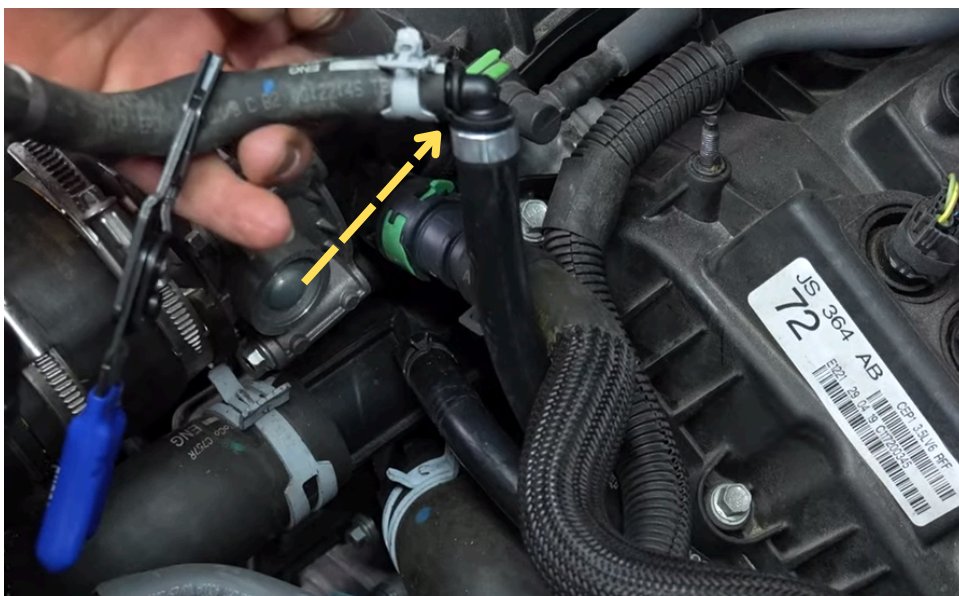
Step 32

Use a pair of pliers to secure the clamp to the coolant line.



Step 33

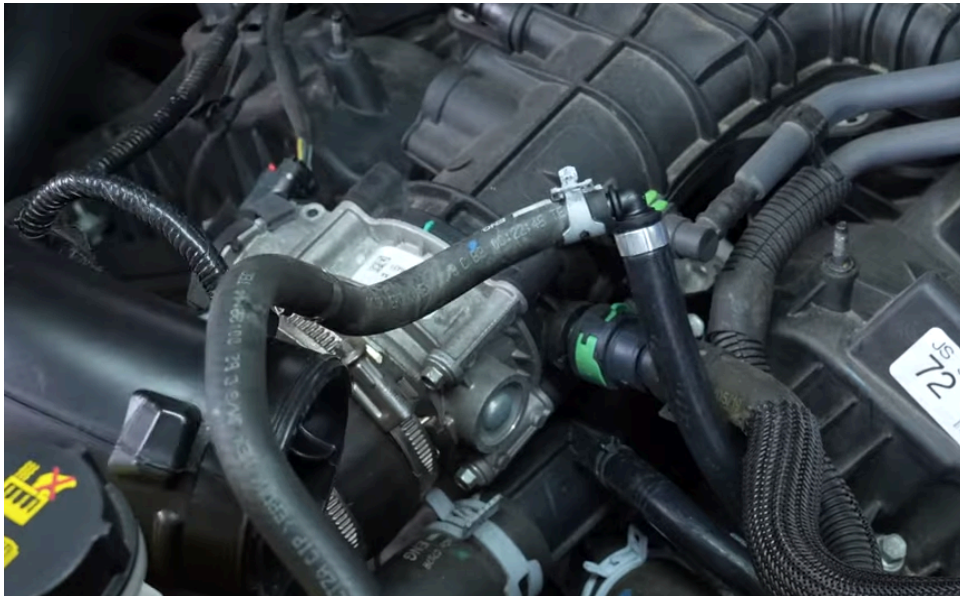
Route other coolant line as shown.



Step 34

Install the 90 degree fitting to the OEM coolant line from step 30.

Secure the clamp to line.



Step 35

Remove the hose clamp pliers from step 29.



Step 36

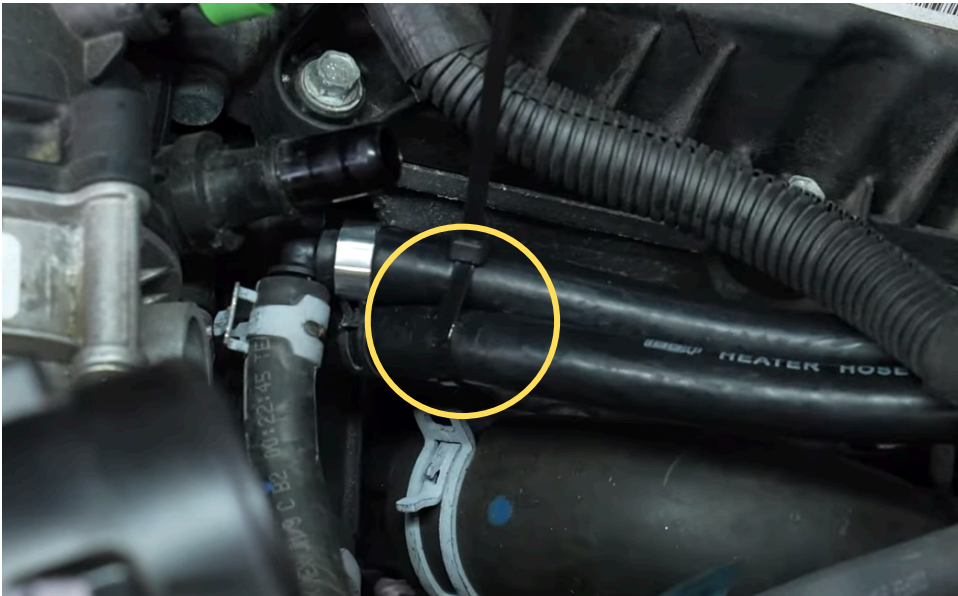
Zip tie the lines together.

Cut excess zip tie.



Step 36 pt.2

Step 36 pt.3



Step 37

Install the driver side PCV line to valve cover port from step 11.

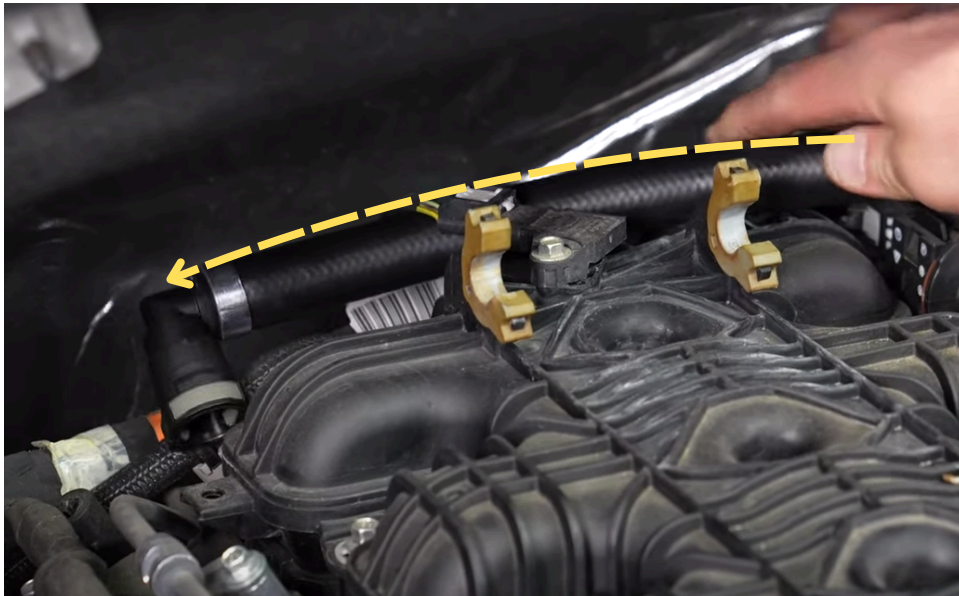
Install *6 if truck is NOT equipped with sensor.



Step 38

Install 45 degree fitting from PCV line to the middle port on the AOS.





Step 39

Install the passenger side PCV line and route under the MAP sensor wire to the port on the valve cover.

2



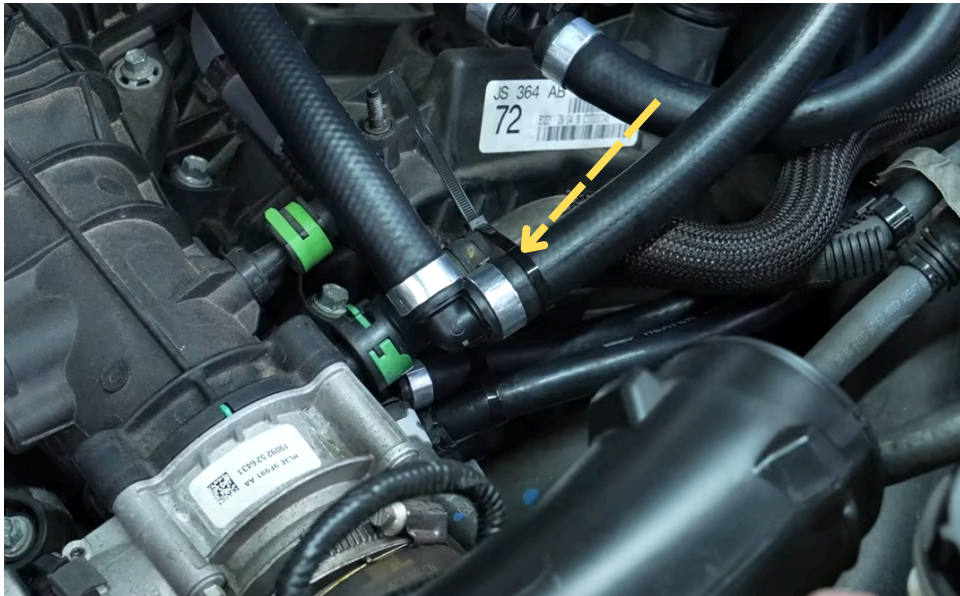
Step 40

Install the fitting onto the port from step 16.



Step 41

Install the other fitting to the top port on the AOS.



Step 42

Secure line with zip ties.

Cut the excess zip ties.



Step 42 pt.2



Step 43

Install the OEM fitting from step 16 to the end of the 31" vacuum line.





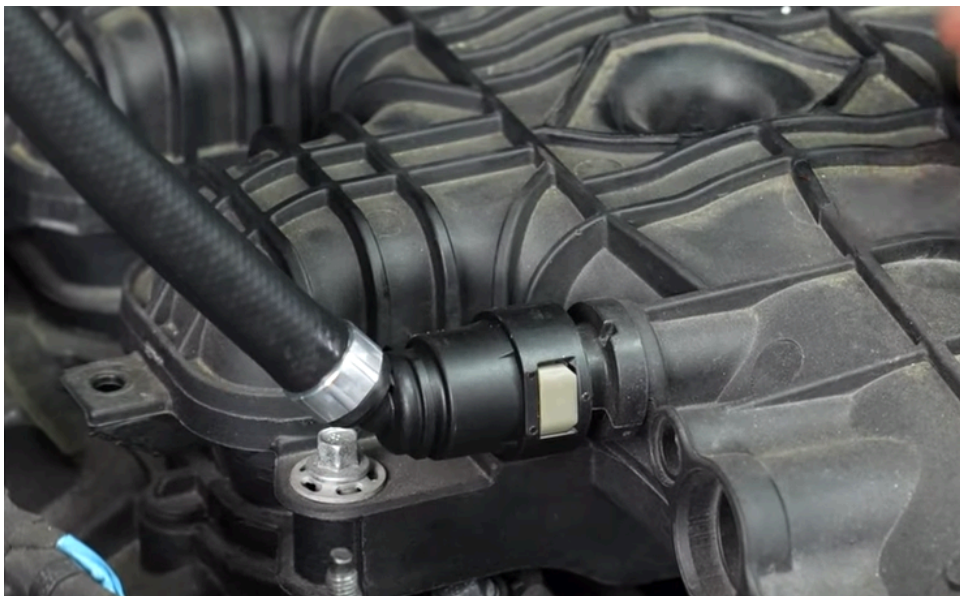
Step 44

Route the line under the MAP sensor wire to the passenger side valve cover.



Step 45

Install the other end of the vacuum line to the side port on the AOS.

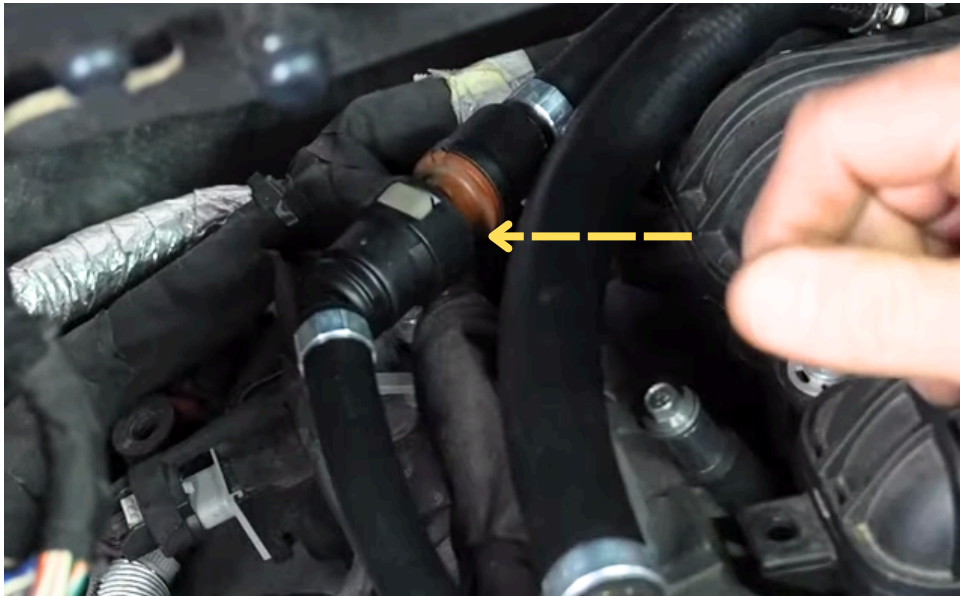


Step 46

Install the 12" vacuum line to the port on the intake manifold from step 9.

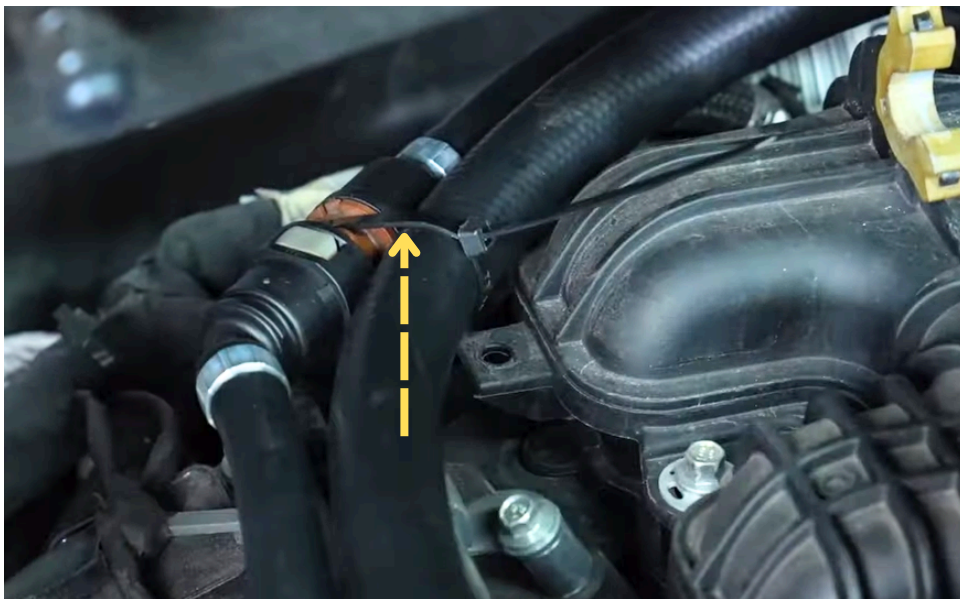
10





Step 47

Install the other fitting to the OEM PCV valve from step 44.



Step 48

Secure the line with a zip tie.

Cut excess zip tie.



Step 48 pt.2



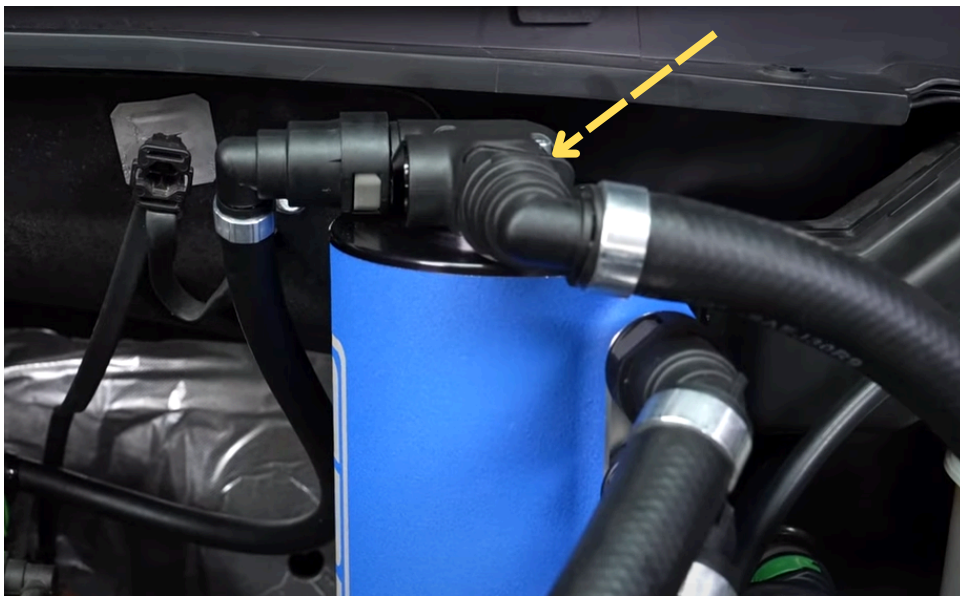
Step 49

Install the 45 degree fitting from the 18" line to the inlet from step 12.

7



Step 49 pt.2



Step 50

Install the 90 degree fitting to the front port on the AOS.



Step 51

Remove the sensor on the OEM line from step 10.



Step 51 pt.2



Step 52

Install the sensor to the line from step 37.

Make sure the connector end is facing the firewall.



Step 53

Install the harness extension.

12



Step 54

Install this connector to the connector from step 10.

Push down on the tab to lock it in place.



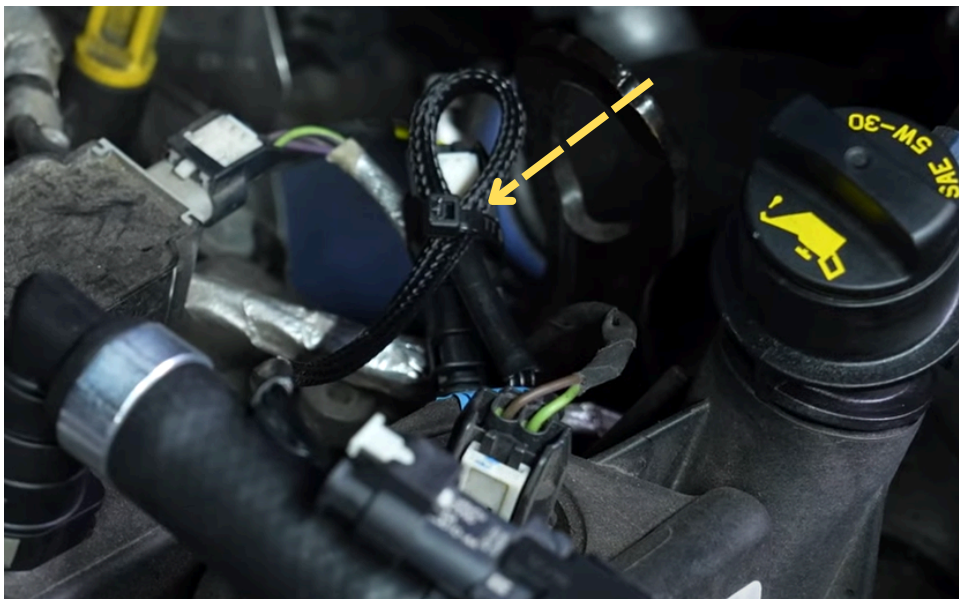
Step 54 pt.2



Step 55

Install the other connector end to the sensor on the PCV line.

Push down on the tab to lock it in place.



Step 56

Use a zip tie to secure the wiring harness extension.

Cut excess zip tie.



Step 57

Install the engine cover template onto the oil filler neck cover.

15





Step 58

Use a 1" hole saw and a saw to cut the notch out for the drain line.



Step 58 pt.2



Step 58 pt.3



Step 59

Use an electric mini handheld saw to cut the remainder of the cover.



Step 59 pt.2



Step 60

Use a file to clean up the cuts.



Step 61

Reinstall the engine cover so the hole fits over the oil filler neck from step 14.



Step 62

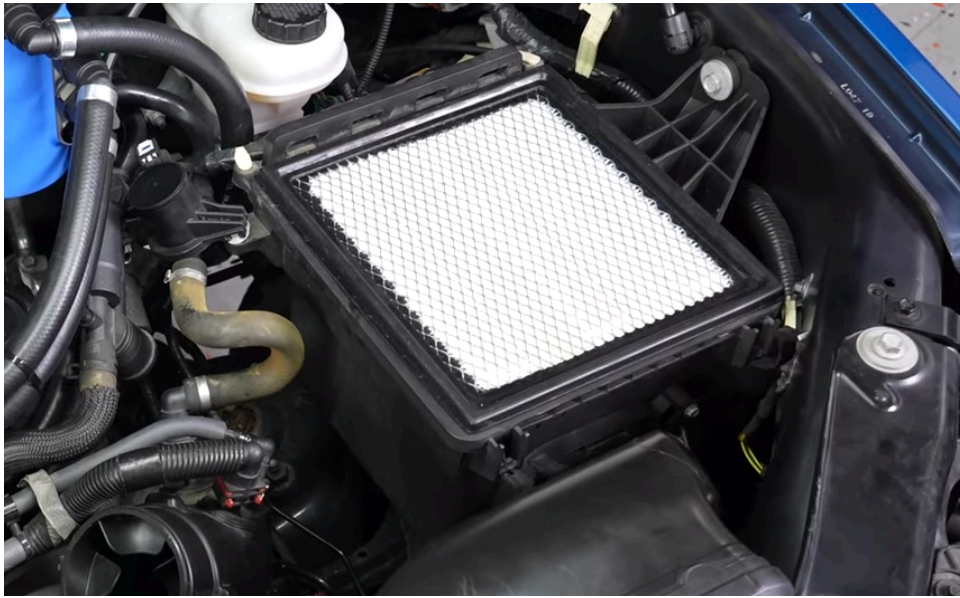
Reinstall the two 10mm nuts from step 1.



Step 63

Use a zip tie to secure the two PCV lines together.

Cut excess zip tie.



Step 64

Reinstall the air filter.



Step 65

Reinstall the sensor to the inlet pipe from step 7.



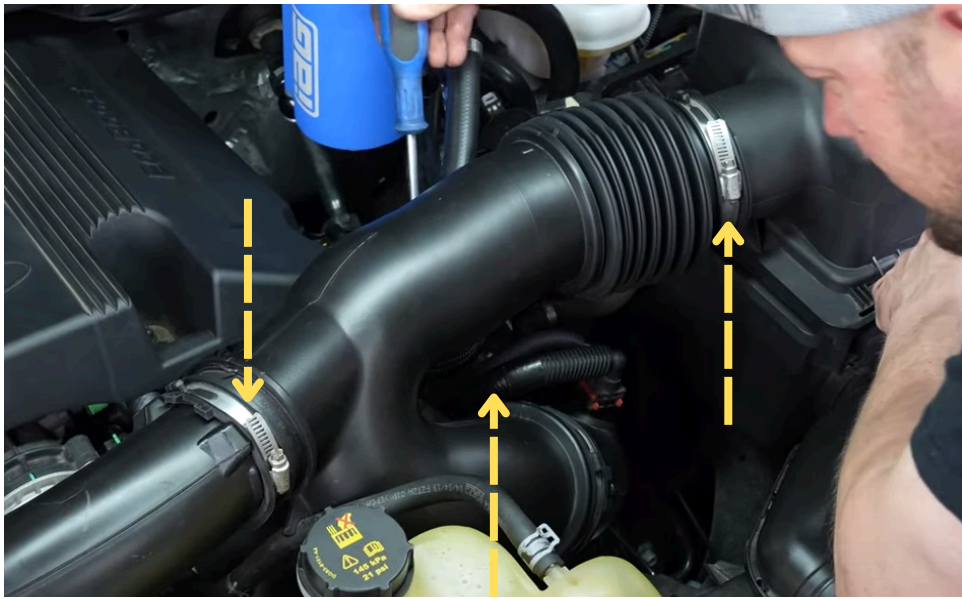
Step 66

Reinstall the inlet pipe.



Step 67

Reinstall the OEM coolant line from step 5.



Step 68

Tighten the three band clamps.



Step 69

Rehook the two air box clips.

Step 70

Start vehicle and check for leaks.



If you have any questions about the product or install please reach out to support@iagoffroad.com