

LAG Air / Oil Separator (AOS)



INSTRUCTIONS FOR 2017-2021 SUBARU WRX



IAG-ENG-7187 IAG Air / Oil Separator (AOS)

Fitment:

2017-2021 Subaru WRX FA 2.0L TC

Part # IAG-ENG-7187BK, IAG-ENG-7187RD, IAG-ENG-7187NY, IAG-ENG-7187GT, IAG-ENG-7187WRB, IAG-ENG-7187HP

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 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@iagperformance.com for help.

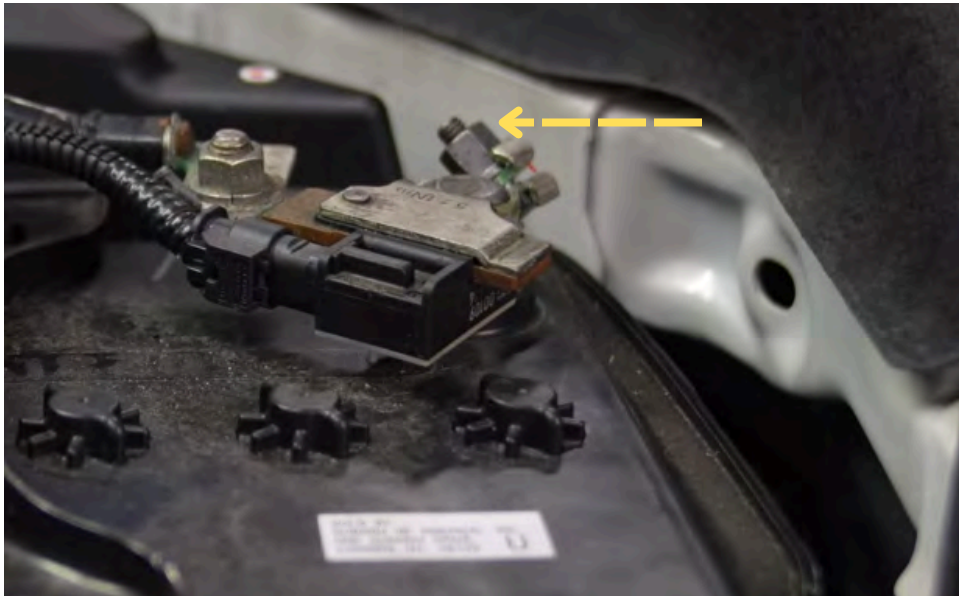


- 1** AOS Body Assembly
- 2** 31.5" Coolant Line w/ 90 Degree Fitting
- 3** 34" Coolant Line w/ Straight Fitting
- 4** Y Hose
- 5** 41.5" Hose w/ 90 Degree Fitting
- 6** 39" Hose w/ 30 Degree Quick Connect
- 7** 16" Hose w/ 90 Degree Fitting
- 8** 24" Hose w/ 30 and 90 Degree Fitting
- 9** AOS Mounting Bracket



- 10** x2 M4x25mm Socket Head Cap Screws
- 11** x2 M6x1.00x12mm Low Profile Socket Cap Screws
- 12** x3 M6x10mm Allen Head Bolts
- 13** Hose Clamps
- 14** Breather Fitting
- 15** Block Breather
- 16** ECU Relocation Bracket
- 17** Zip Ties

Tools needed: 10mm wrench/allen, 12mm socket, 25mm socket, 8mm nut driver, socket, razor, all purpose lube, needle nose pliers, pick tool, pipe/hose cutters, zip ties



Step 1

Using a 10mm wrench, remove the negative battery terminal.



Step 2

Carefully take off the plastic engine cover and set it aside.



Step 3

Remove the air intake duct by removing the two front clips.



Step 4

Disconnect passenger side radiator fan wiring harness.



Step 5

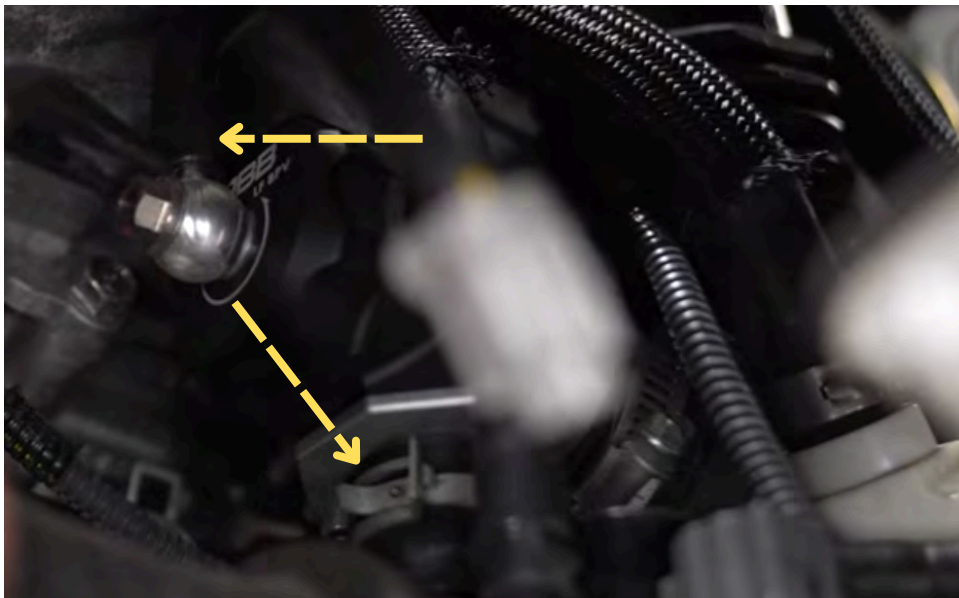
Unscrew the two bolts that secure the radiator fan.

Remove radiator fan.



Step 6

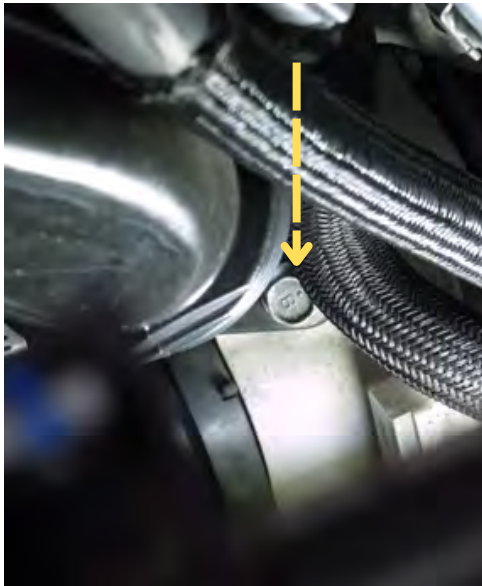
Press tab and disconnect the electrical connector for the PCV sensor.



Step 7

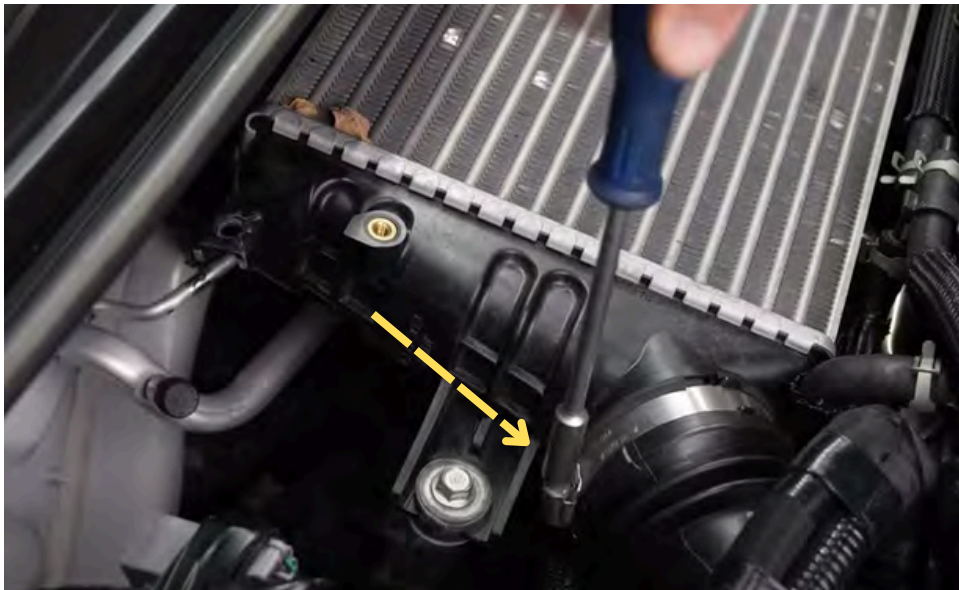
Disconnect the vacuum line that attaches to the BPV.

Loosen clamp and disconnect the BPV.



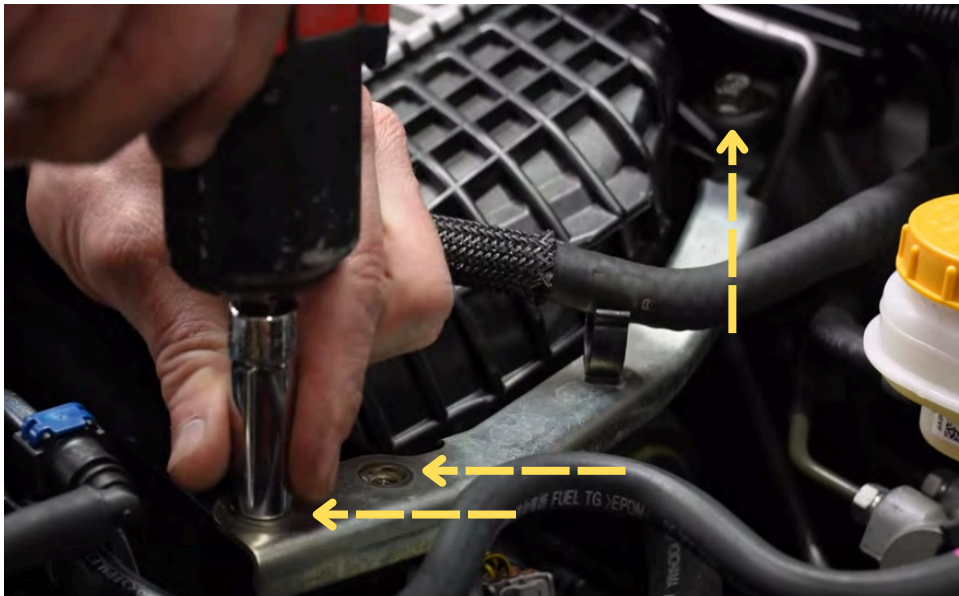
Step 8

Remove hardware securing charge pipe.



Step 9

Loosen the clamp and remove charge pipe.



Step 10

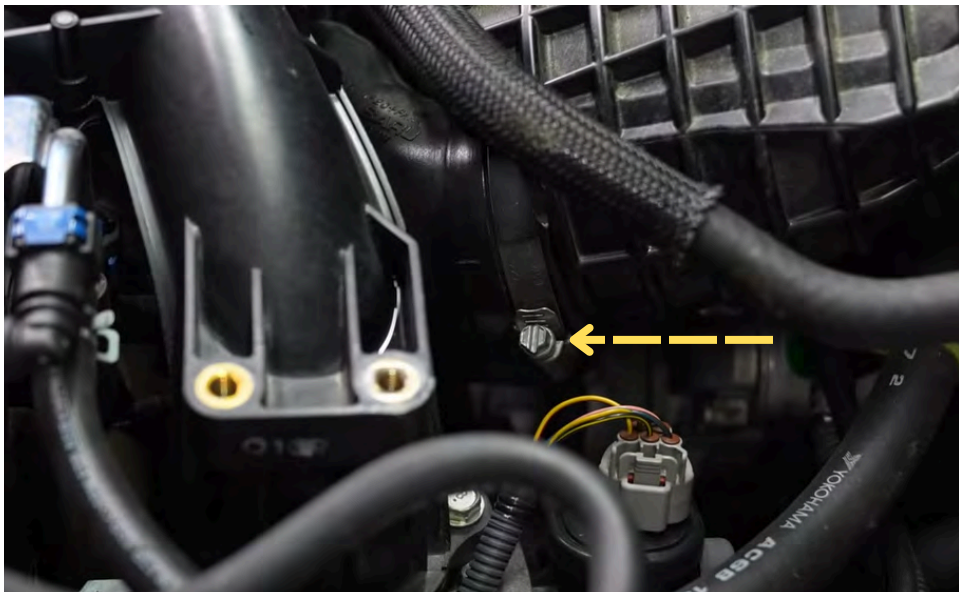
Remove the three intercooler bolts on drivers side with a 12mm socket.

Then remove intercooler bracket.



Step 11

Remove the intercooler bolt on the passenger side with a 12mm socket.



Step 12

Loosen the clamp on the throttle body.



Step 13

Remove the intercooler by pulling up and away from the throttle body.



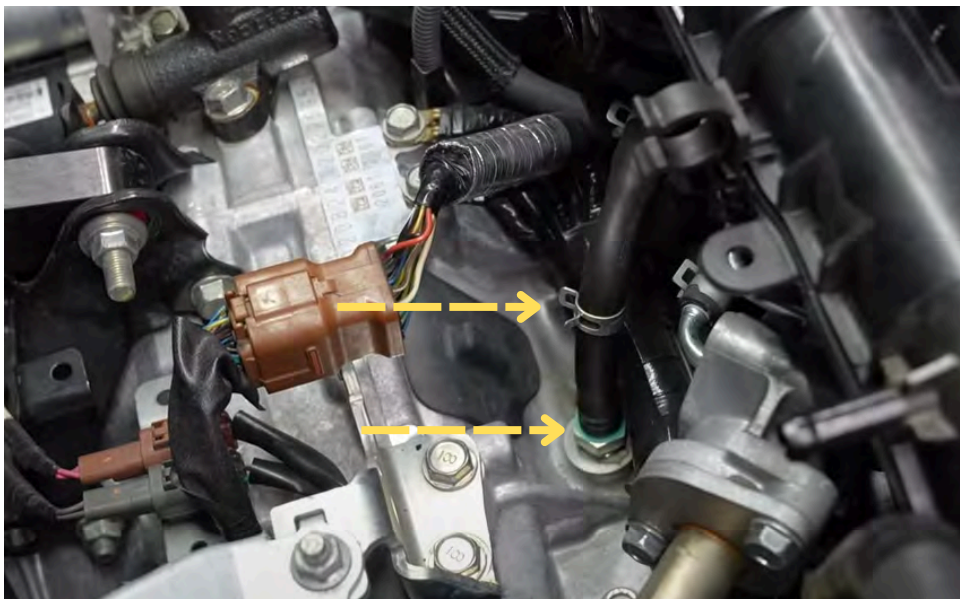
Step 14

Remove the four 12mm bolts that secure the EGR pipe.



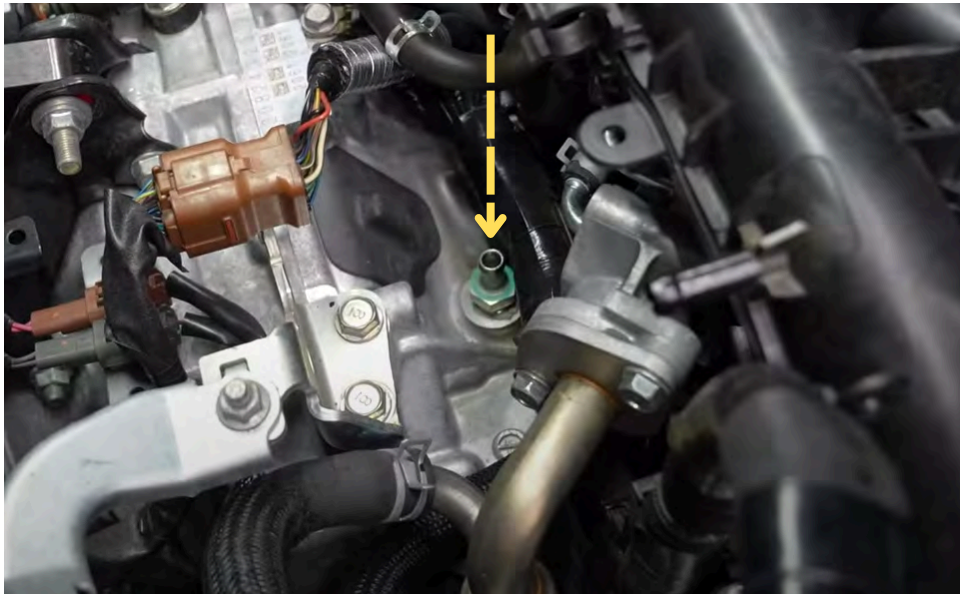
Step 15

Remove the EGR pipe.



Step 16

Using a pair of needle nose pliers to loosen the clamp and disconnect the hose going to the OEM PCV valve.



Step 17

Remove the OEM PCV valve from block.



Step 18

Reinstall the OEM PCV valve into the new fitting.

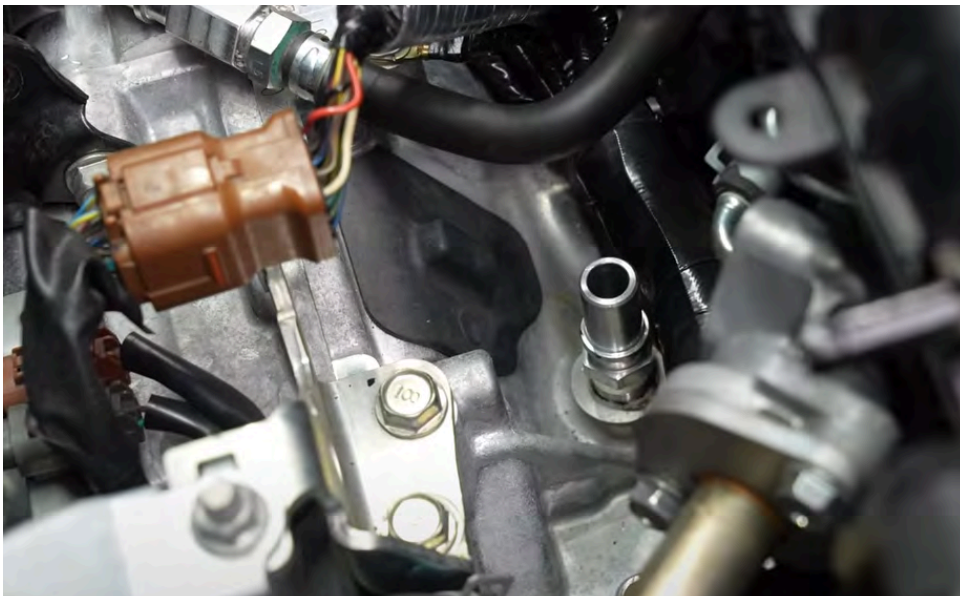
14





Step 19

Install the new fitting into the hose that went to the OEM PCV valve.



Step 20

Install the new block breather and tighten to OEM specs.

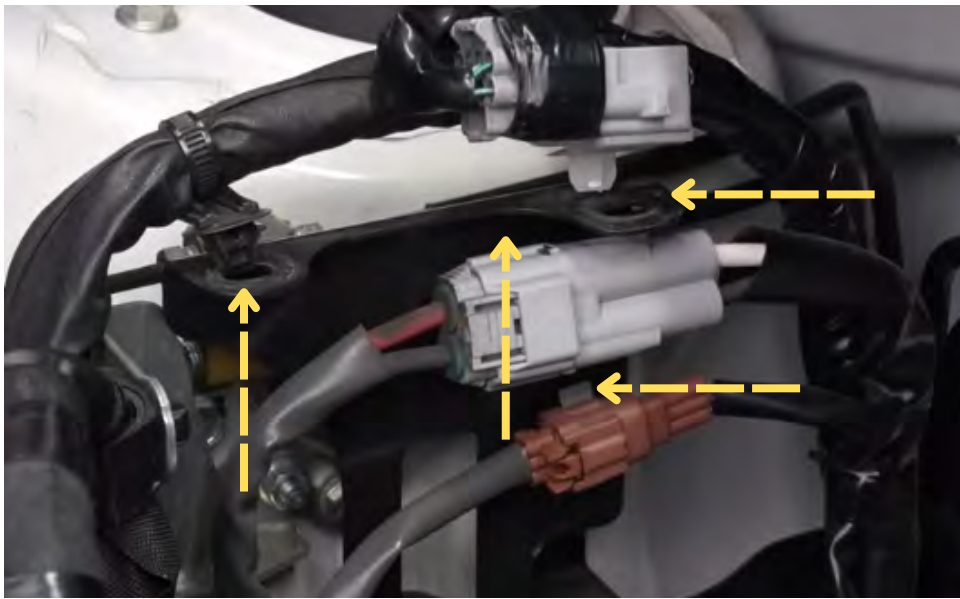
15



Step 21

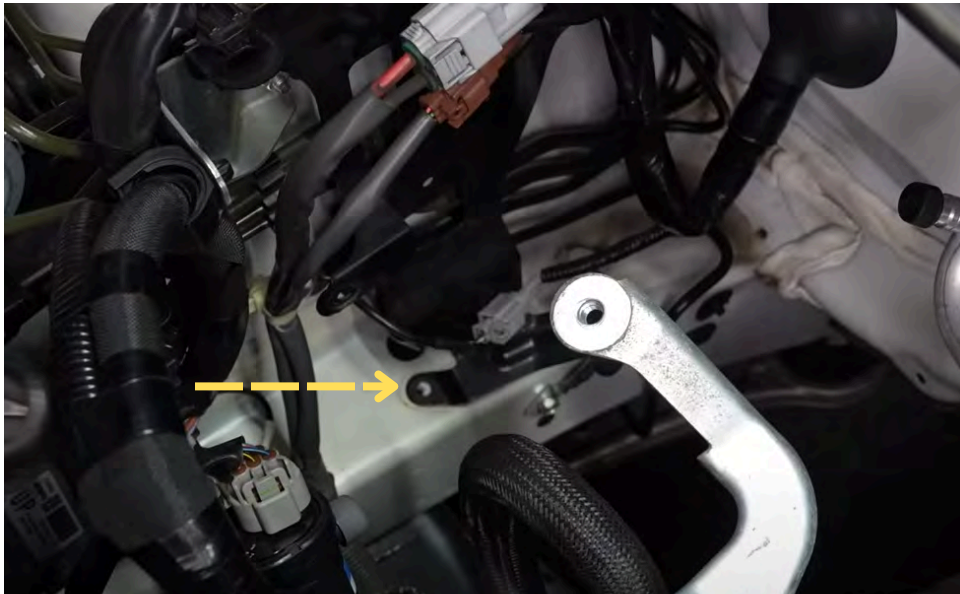
Reinstall the EGR pipe back to the manifold.

Use a torque wrench and tighten to OEM specs.



Step 22

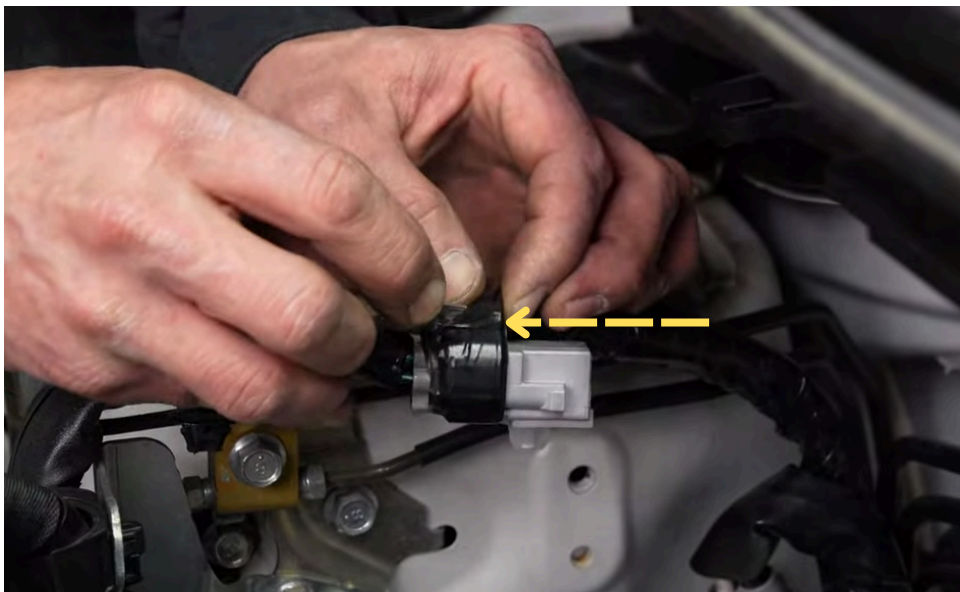
Use a pair of needle nose pliers and unclip the four electrical harnesses from the bracket.



Step 23

Remove the 10mm bolts which secure the ECU bracket to the strut tower.

Uninstall the bracket.



Step 24

With a razor carefully cut and remove the tape off the electrical connector.



Step 25

Remove plastic piece from harness.



Step 26

Hand tighten the bracket hardware then tighten until snug.



Step 27

Apply a small amount of lube to the coolant hose with the 90 degree fitting.

Install on AOS.

2





Step 28

Apply a small amount of lube to fitting on the other coolant hose.

Install on AOS.



Step 29

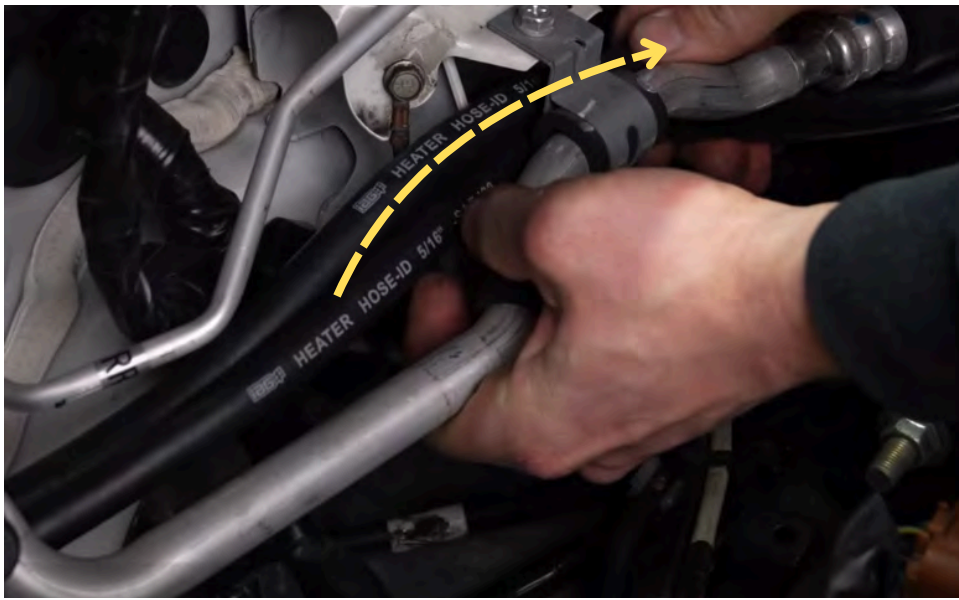
Attach the AOS bracket to the strut tower and tighten 10mm bolts.



Step 30

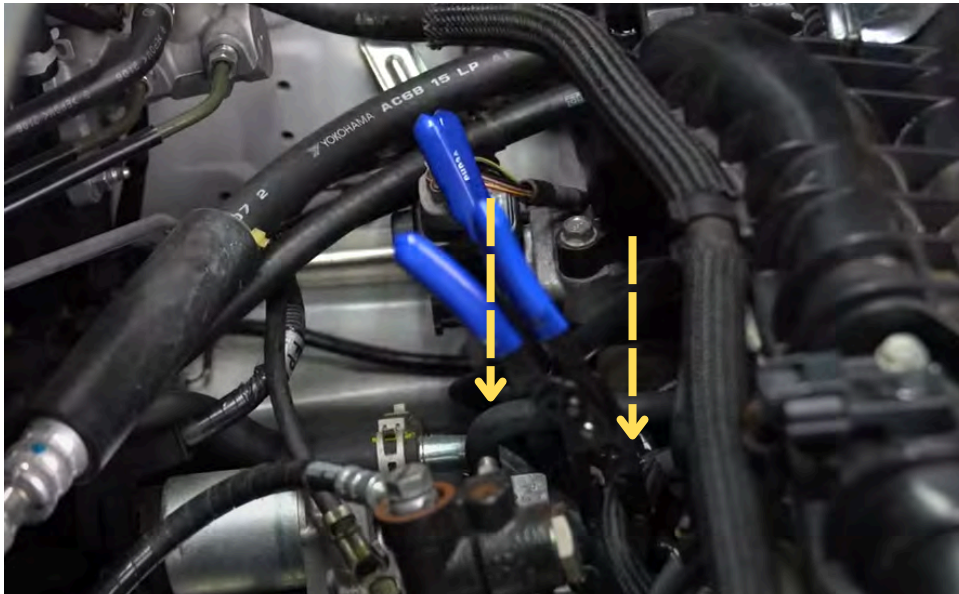
Secure the electrical harness using a zip tie.

Cut excess.



Step 31

Route both coolant hoses behind the AC line.



Step 32

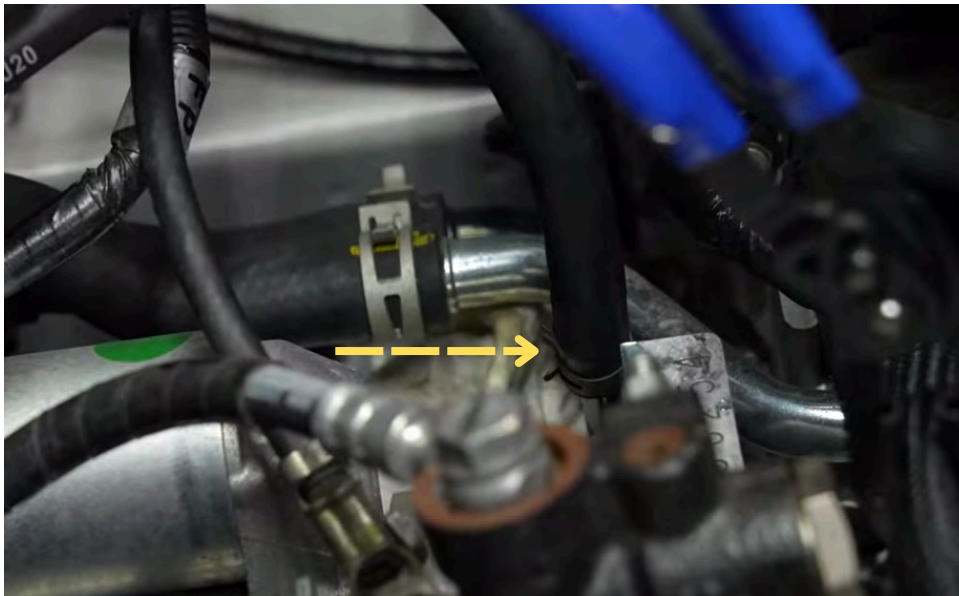
Using hose clamp pliers, clamp the coolant hoses.



Step 33

Use pliers to remove the clamp and OEM coolant hose.

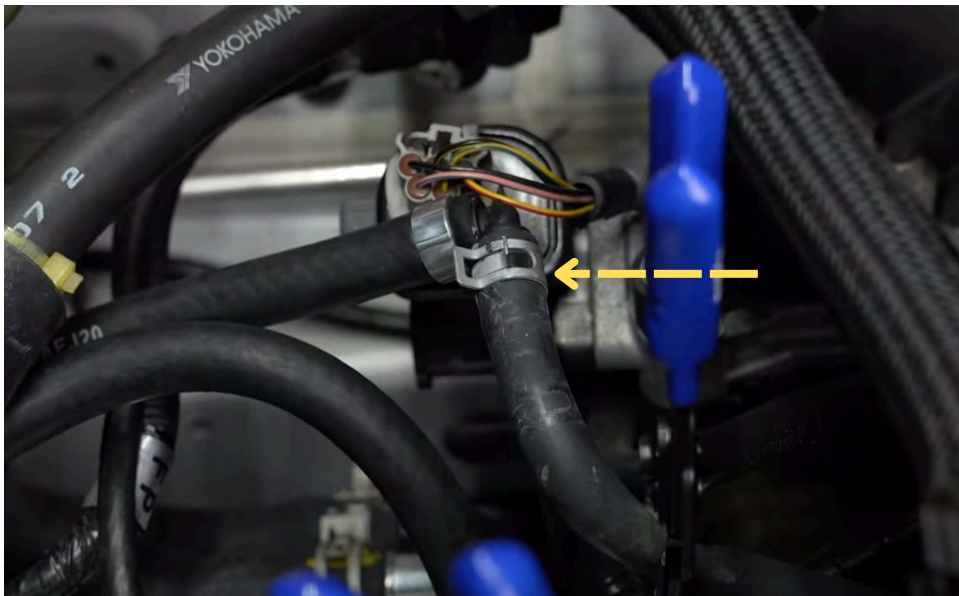
Note: A small amount of coolant may come out of line.



Step 34

Install supplied clamp to AOS coolant hose and attach to OEM port.

Secure clamp to hose.

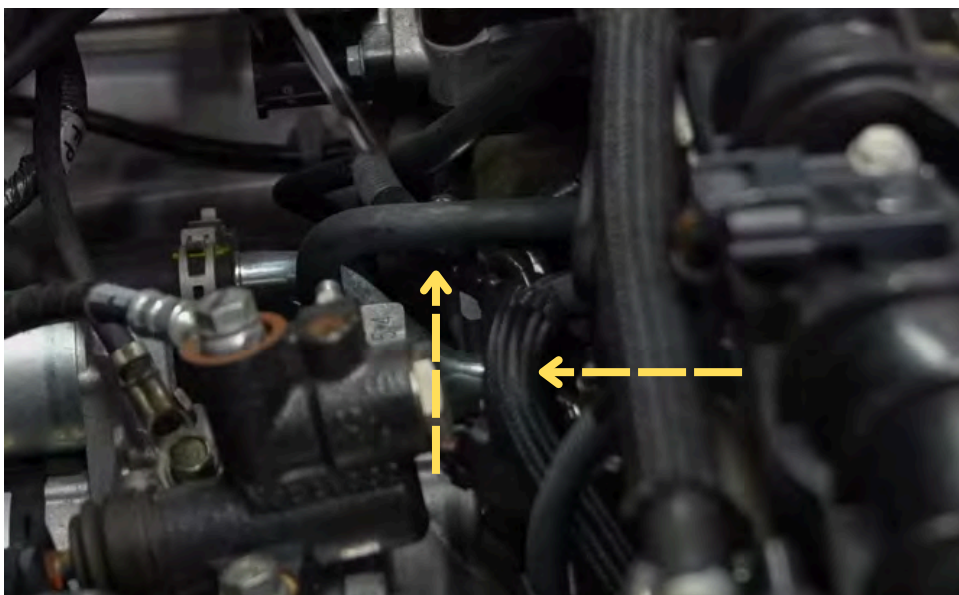


Step 35

Install the AOS coolant hose with 90 degree fitting to OEM coolant line.

Using pliers slide the clamp back into place and secure.

Reference step 33.



Step 36

Remove the clamps from the coolant lines from step 32.



Passenger side



Driver side

Step 37

Using two zip ties secure the coolant lines to the AC hard line and brake master line.

Cut excess zip tie.



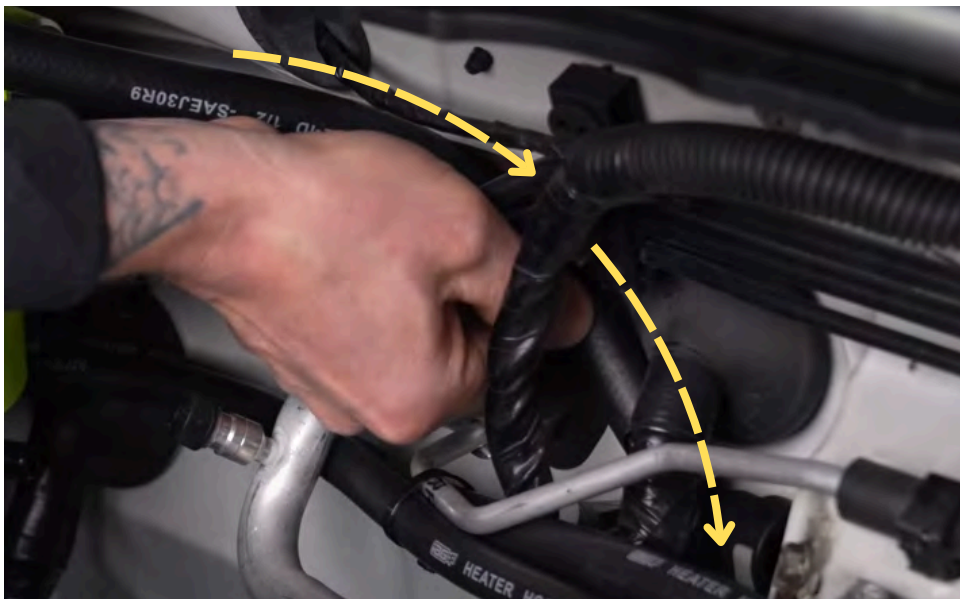
Step 38

Apply a small amount of lube to both fittings on the 24 inch hose.



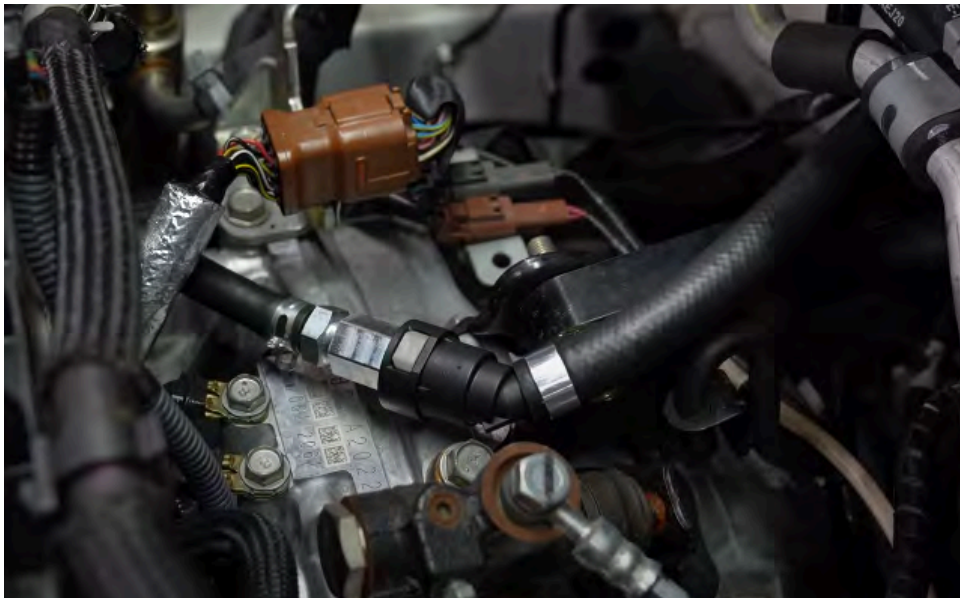
Step 39

Install 90 degree fitting to top of AOS.



Step 40

Route the breather hose behind the harness down towards the breather fitting.



Step 41

Install the 30 degree fitting to the breather fitting.

Reference step 19.



Step 42

Apply a small amount of lube to the three fittings on the Y hose.

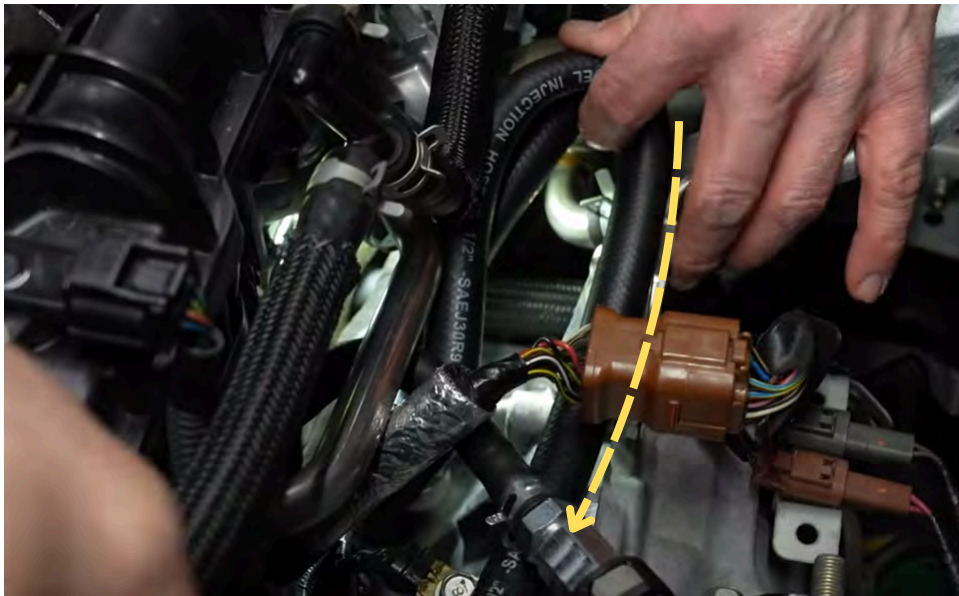




Step 43

Install the Y fitting to the block breather and press down.

Reference step 20.



Step 44

Route the Y hose under harness and breather fitting.



Step 45

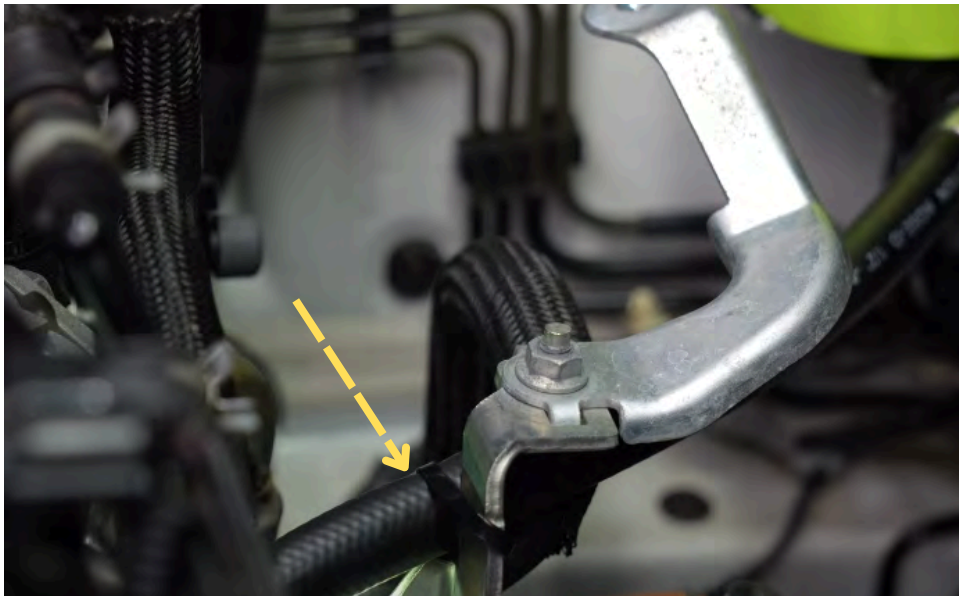
Install fitting to middle port on AOS can.



Step 46

Connect drain hose on the passenger side to the bottom of the AOS can.

Press in yellow tab down to secure.



Step 47

Using a zip tie secure the drain line to bracket on passenger side.

Cut excess zip tie.

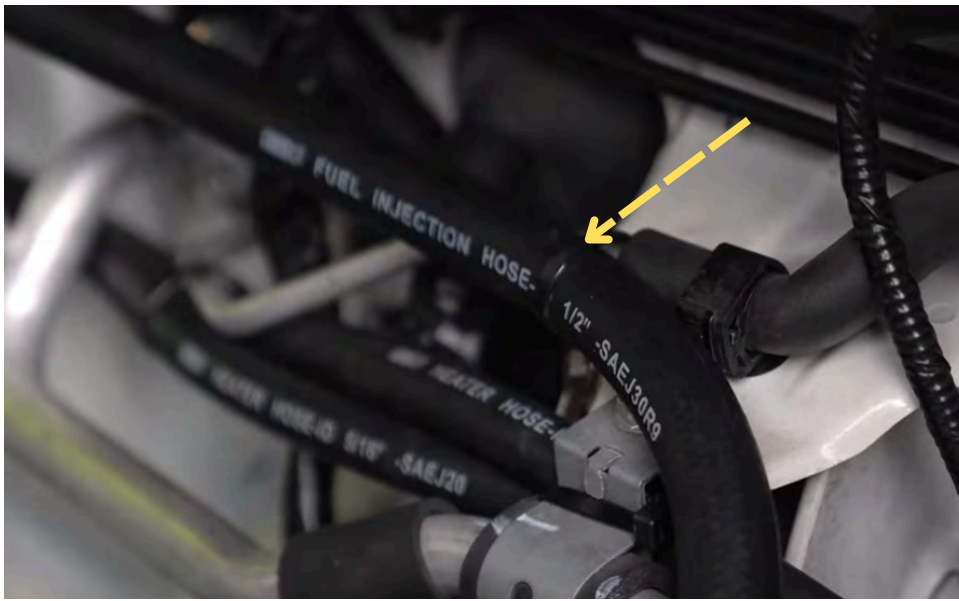
Note: Make sure drain hose is at a downward slope for proper drainage.



Step 48

Zip tie the the breather hose with the 30 degree fitting and breather hose together on drivers side.

Cut excess zip tie.



Step 49

Zip tie the breather hose to AC line.

Cut excess zip tie.



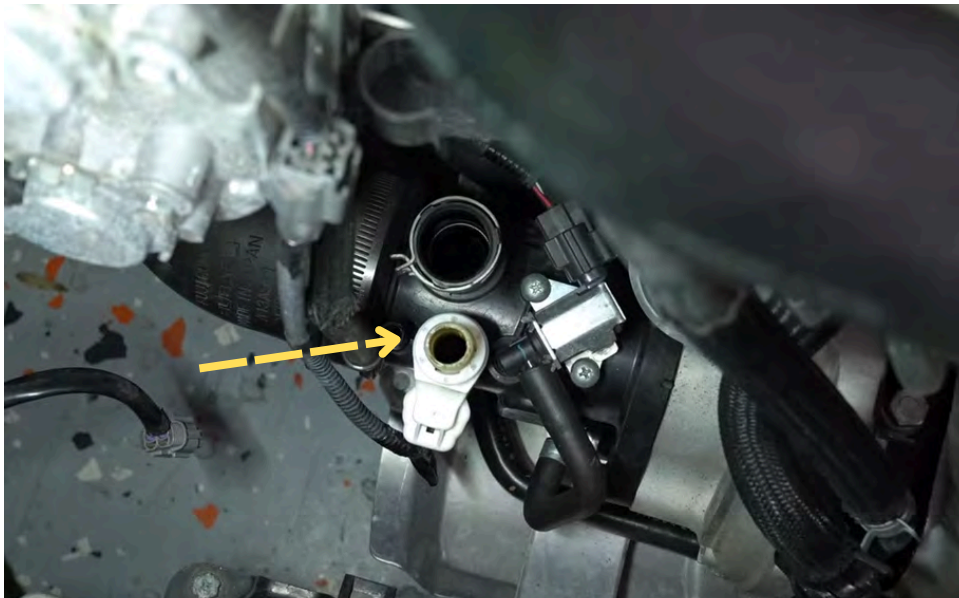
Step 50

Locate the hose and connector that goes to the turbo inlet.



Step 51

Remove the PCV connector and clamp from hose.



Step 52

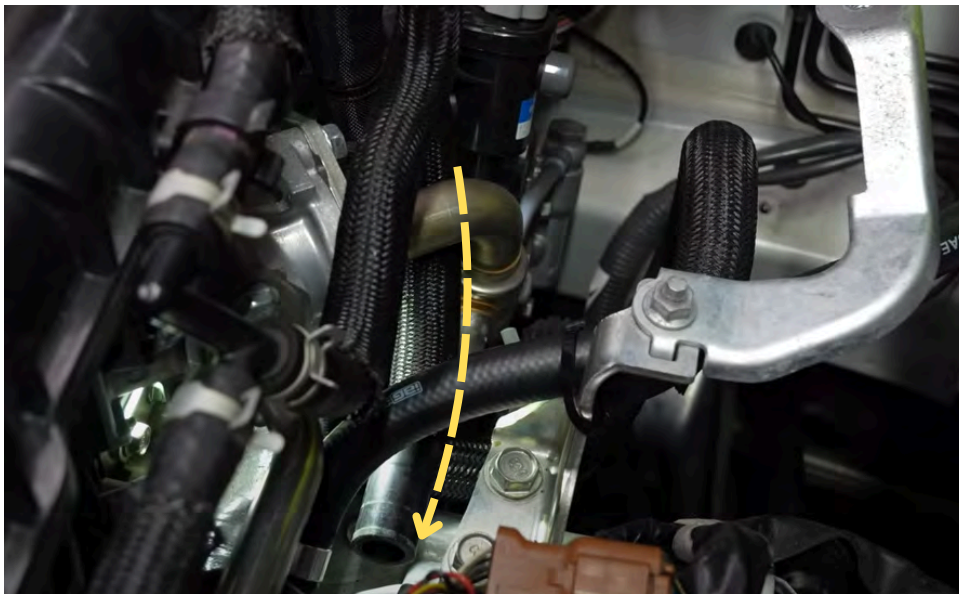
Install the PCV connector back onto the turbo inlet.



Step 53

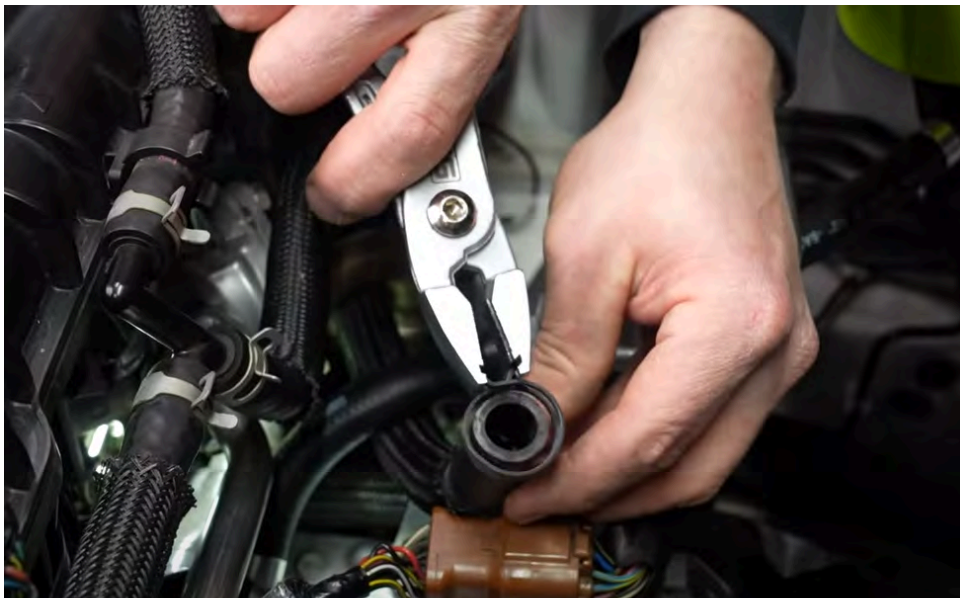
Route the vent hose under hose and behind the intake manifold.

Continued in next step.



Step 54

Route the vent hose under hose and behind the intake manifold.



Step 55

Install clamp on OEM vent hose.



Step 56

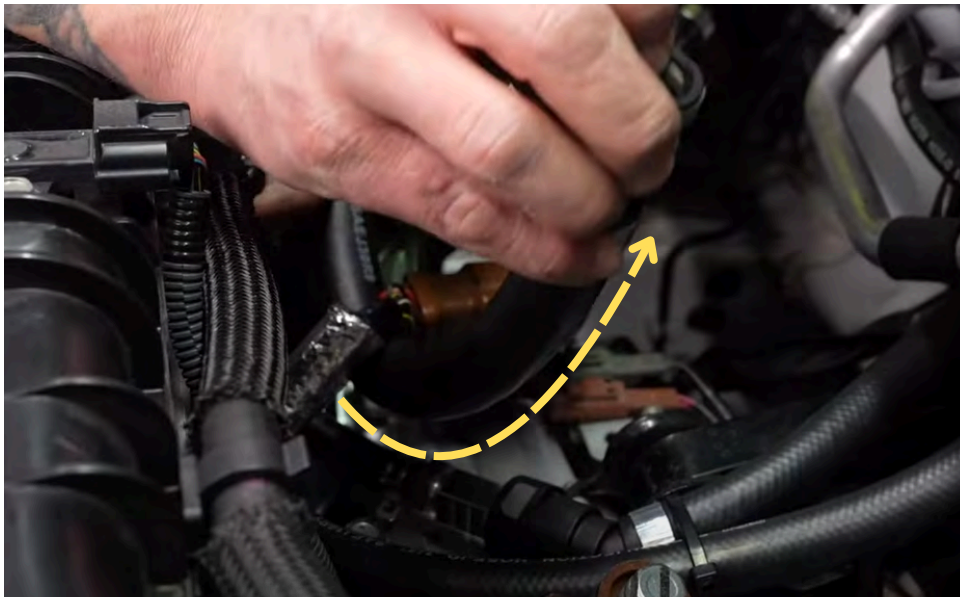
Apply a small amount of lube to both vent hose fittings.



Step 57

Attach the 90 degree fitting from new vent hose to the old one and secure the clamp.

Reference step 55.



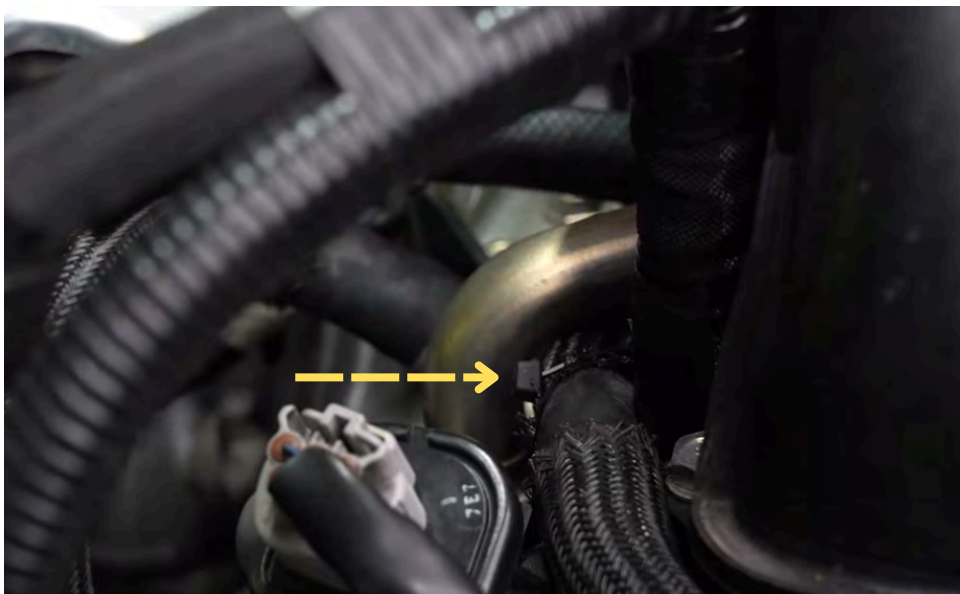
Step 58

Route hose under wiring harness shown in step 57 and up to the AOS.



Step 59

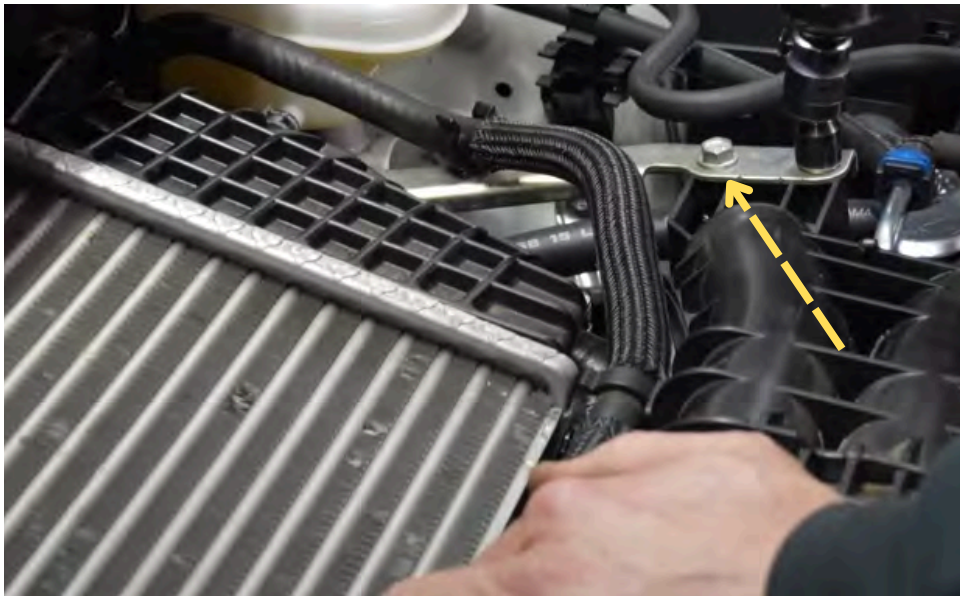
Connect other end of new vent hose to the bottom port on the AOS.



Step 60

Zip tie vent hose.

Cut off excess zip tie.



Step 61

Reinstall the intercooler and brackets back onto the engine.

Tighten until snug.



Step 62

Using a nut driver, tighten the throttle body clamp.



Step 63

Reinstall the charge pipe and tighten the top clamp.

Do not install the bottom bolts for the charge pipe yet.



Step 64

Apply a small amount of lube to fitting on the 39 inch hose.

6



Step 65

Route fitting under charge pipe and down towards the PCV fitting.

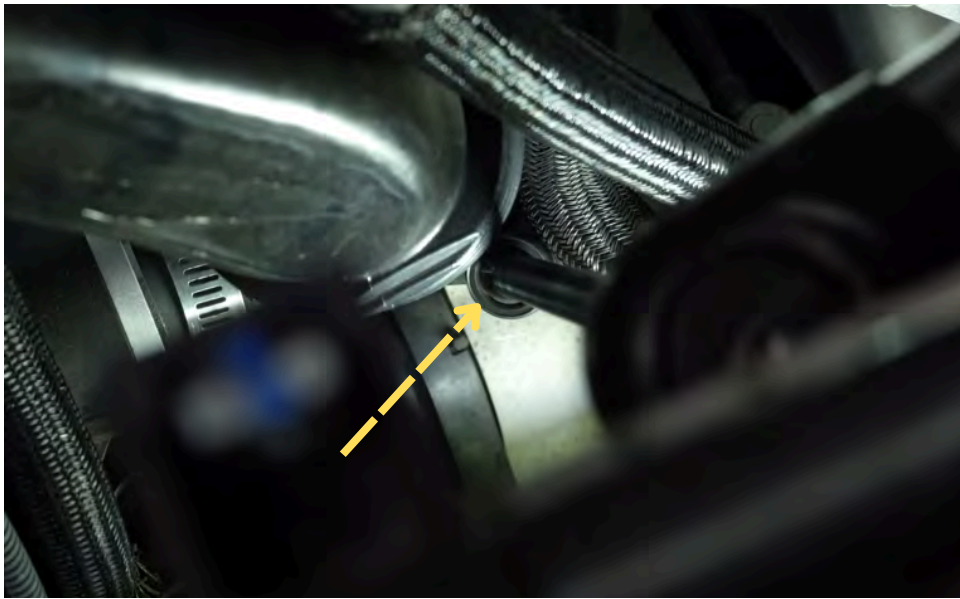


Step 66

Slide a clamp onto hose.

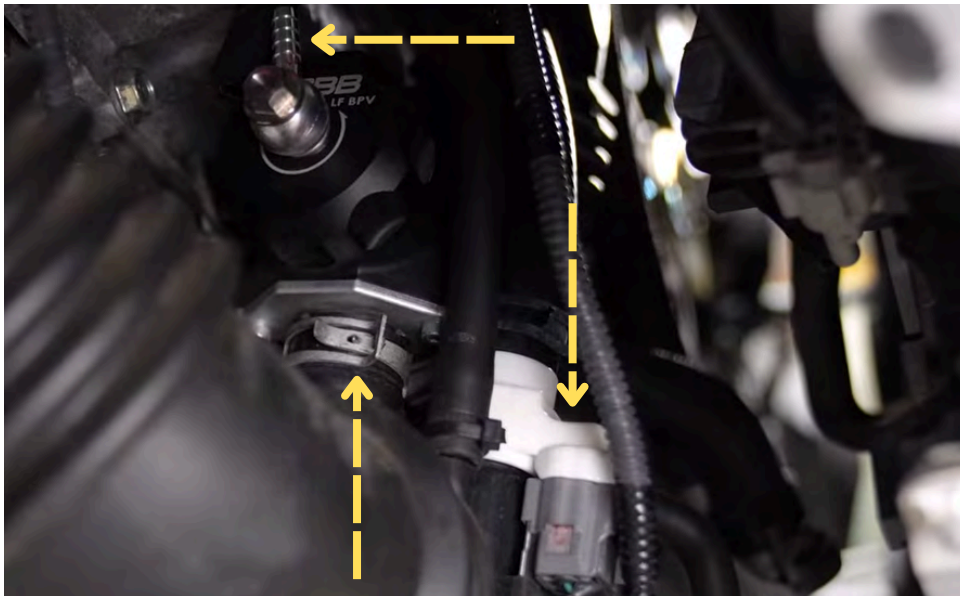
Attach the hose to the PCV turbo inlet fitting, then secure with a clamp.

Reference step 52.



Step 67

Install the bottom charge pipe bolts and tighten.



Step 68

Reinstall the clamp on BPV and vacuum line.

Reconnect the PCV sensor plug.

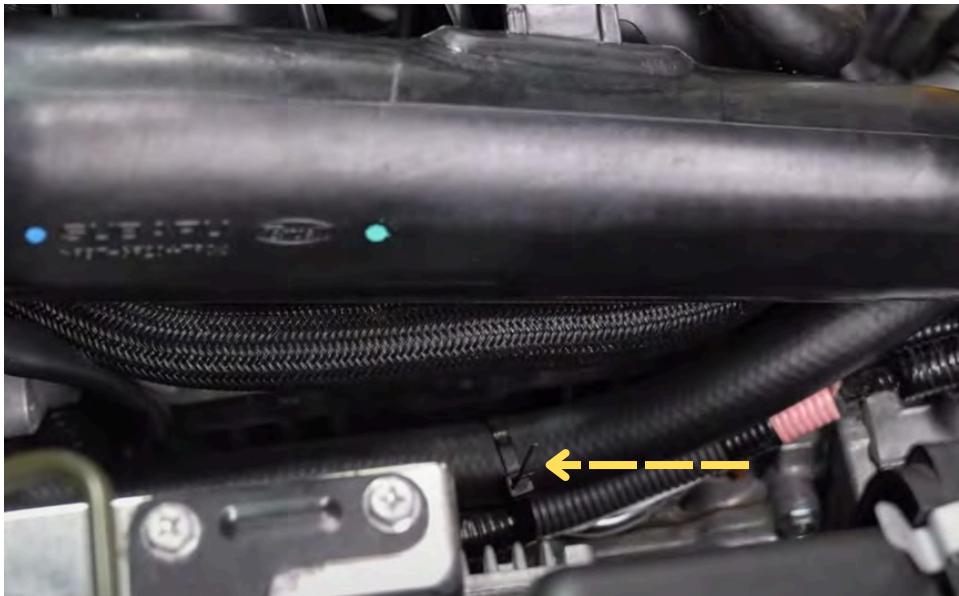
Reference step 6 and 7.



Step 69

Route hose under harness.

Connect the 30 degree fitting to the top of the AOS can.



Step 70

Secure hose using a zip tie on passenger side under charge pipe.

Cut excess zip tie.



Step 71

Reinstall the radiator fan.

Reconnect passenger side radiator fan wiring harness.



Step 72

Reinstall the intake duct.



Step 73

Reinstall the plastic engine cover.



Step 74

Reattach the negative battery terminal.



Step 75

Loosen the AOS coolant breather fitting. Top off any coolant lost during installation. Start the vehicle and let it come to operating temperature. Some coolant will begin to weep from this hole. Once the air has been released tighten the bleeder fitting.



The OEM PCV valve should be replaced following the factory service and maintenance schedule. Please refer to the factory Subaru service guide for more information.



If you have any questions about the product or install please reach out to support@iagperformance.com or call 410-840-3555