

# ***LAG Air / Oil Separator (AOS)***



**INSTRUCTIONS FOR 2010-2014 SUBARU IMPREZA WRX, 2009-2013 SUBARU FORESTER XT**



# **IAG-ENG-7186 IAG Air / Oil Separator (AOS)**

## **Fitment:**

2010-2014 Subaru Impreza WRX EJ 2.5L TC

2009-2013 Subaru Forester XT EJ 2.5L TC

**Part #** IAG-ENG-7186BK, IAG-ENG-7186RD, IAG-ENG-7186NY, IAG-ENG-7186GT, IAG-ENG-7186WRB, IAG-ENG-7186HP

**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](mailto:support@iagperformance.com) for help.**



- 1** AOS Body Assembly
- 2** PCV Hose Assembly
- 3** 38" Valve Cover Vent Hose (Drivers Side)
- 4** 28" Valve Cover Vent Hose (Pass Side)
- 5** 26" Drain Hose
- 6** x2 19" Coolant Hoses
- 7** x2 18" Breather Hoses
- 8** Block Vent Hose
- 9** 12" Heat Sleeve



- 10** 16" Heat Sleeve
- 11** Inlet Fitting for PCV Sensor
- 12** Block Off Cap
- 13** 1/2" Nylon Union
- 14** PCV Vent Hose Extension
- 15** Y Fitting for Block Breather
- 16** Spring Clamps
- 17** Wiring Harness Relocation Bracket
- 18** AOS Mounting Bracket





**19** x2 12mm Bolts

**20** x3 10mm Bolts

**21** Hose Clamps

**22** Zip Ties

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



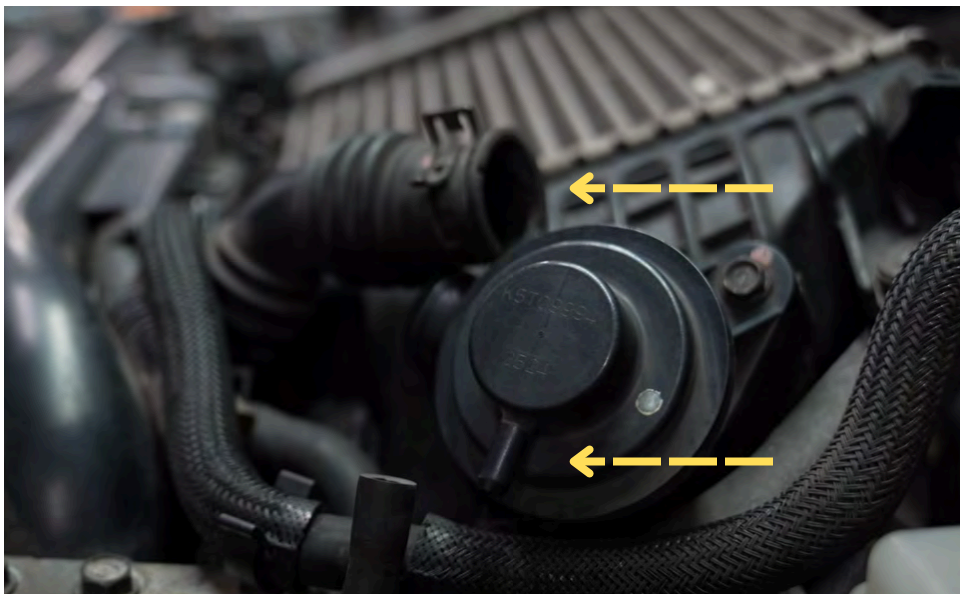
### Step 1

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



### Step 2

Using a 12mm socket, remove the three bolts on the intercooler.

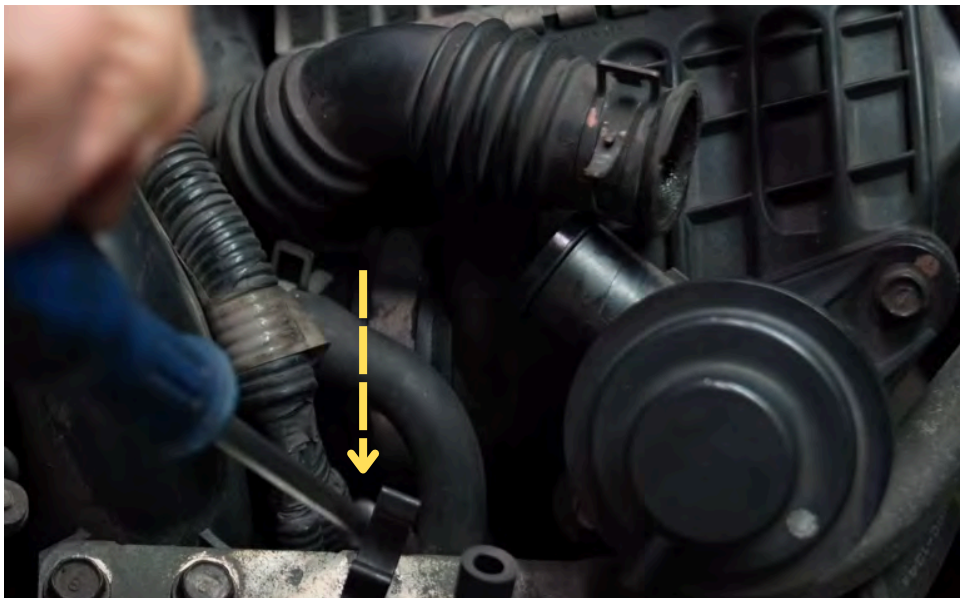


### Step 3

Loosen the clamp on the two BPV hoses.

Disconnect the two hoses.





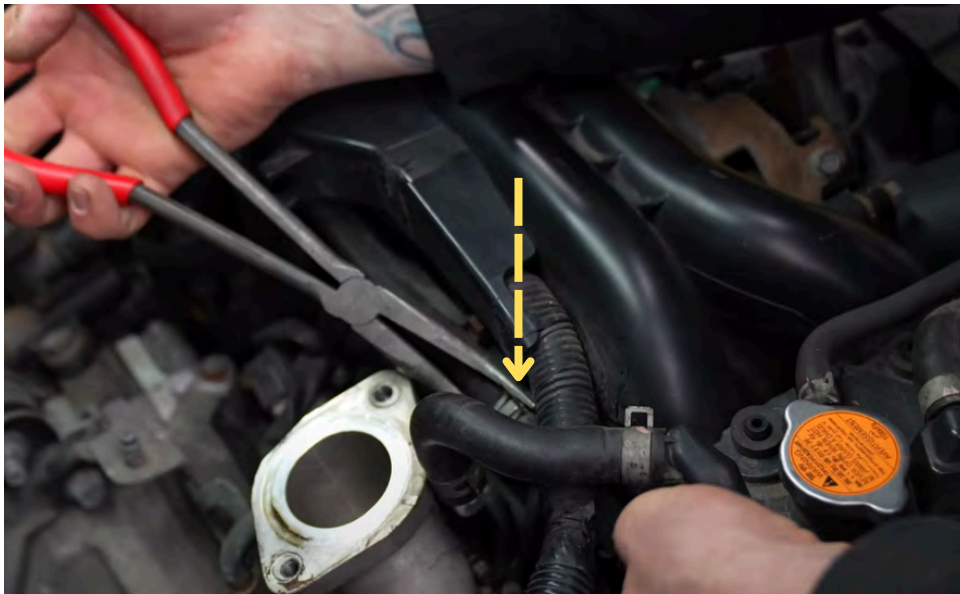
#### Step 4

Loosen the throttle body clamp.



#### Step 5

Pull up on intercooler to remove from vehicle.



#### Step 6

Loosen clamp and remove the passenger side valve cover hose.

Step 6 pt.2



Step 7

Loosen the clamp and remove the drivers side valve cover hose.



Step 8

With a pick loosen tab on the block breather hose.

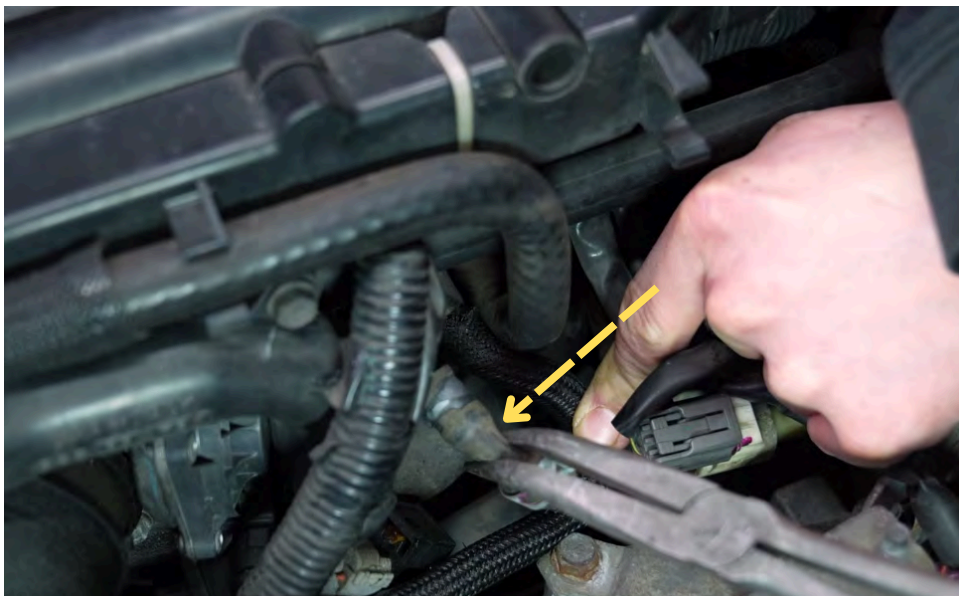






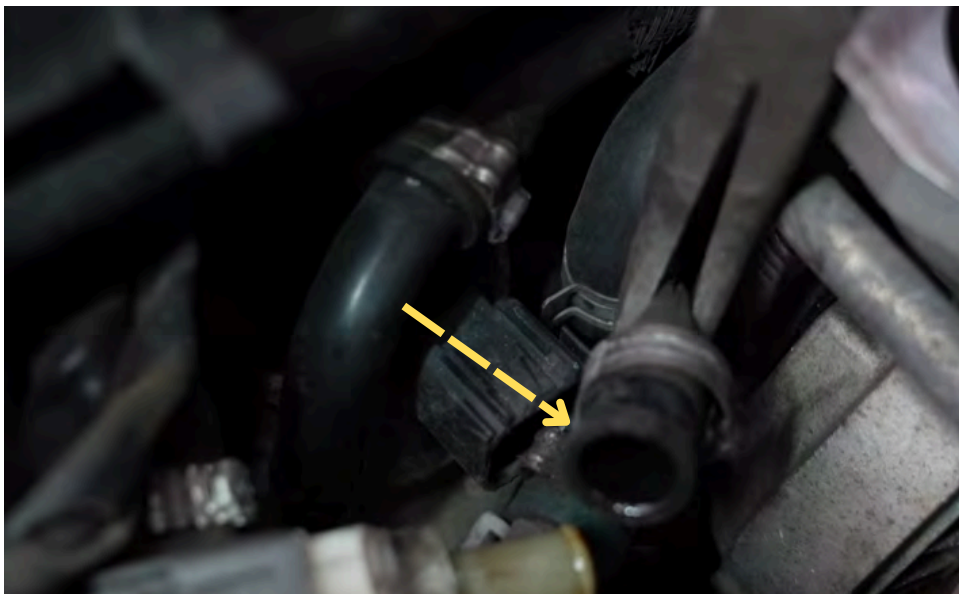
#### Step 9

Remove the PCV connector.



#### Step 10

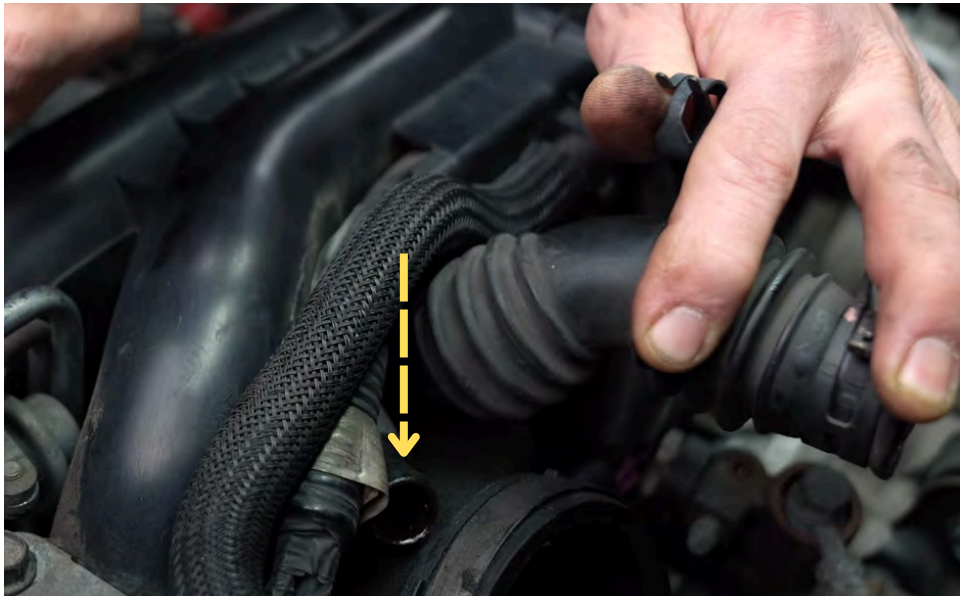
Using a pair of needle nose pliers loosen and slide down clamp and remove vacuum line.



#### Step 11

Loosen lower clamp on block breather hose and remove breather assembly.

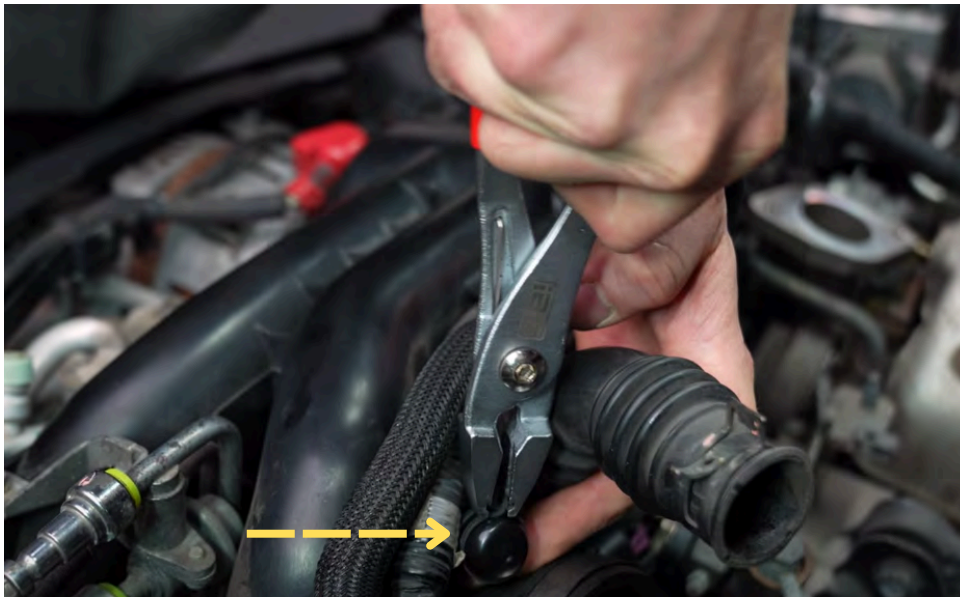




#### Step 12

Install block-off cap to valve cover breather on drivers side.

12



#### Step 13

Slide the 5/8" clamp onto the cap and secure.



#### Step 14

Install fitting and two clamps onto new valve cover hose.

14





### Step 15

Install new valve cover hose and secure clamp.

Reference step 6.



### Step 16

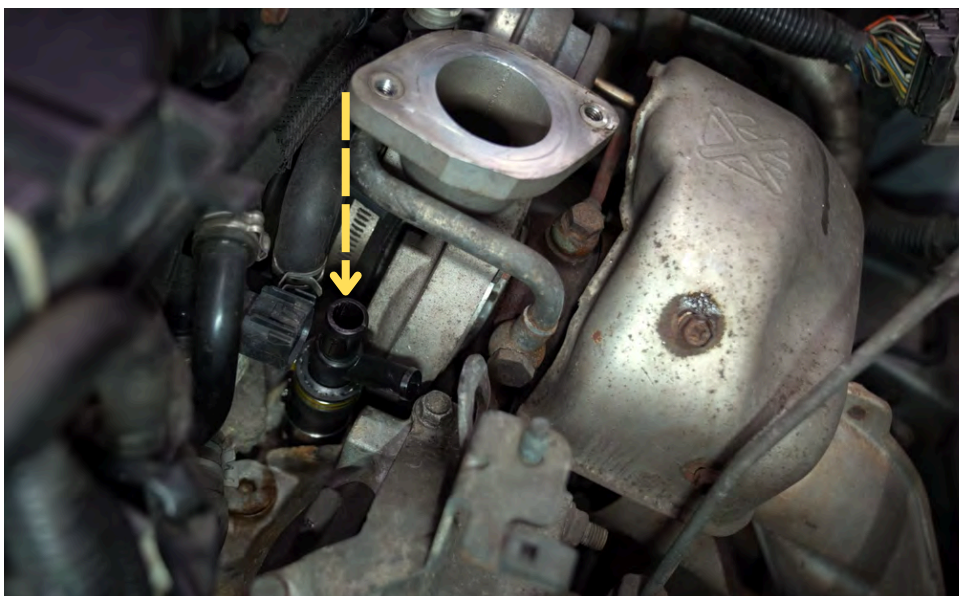
Apply a small amount of all purpose lube to hose.

Install two clamps onto hose.

Tighten the top clamp and leave the bottom loose.



15



### Step 17

Install new breather assembly.

Use a pick to tighten the bottom clamp.

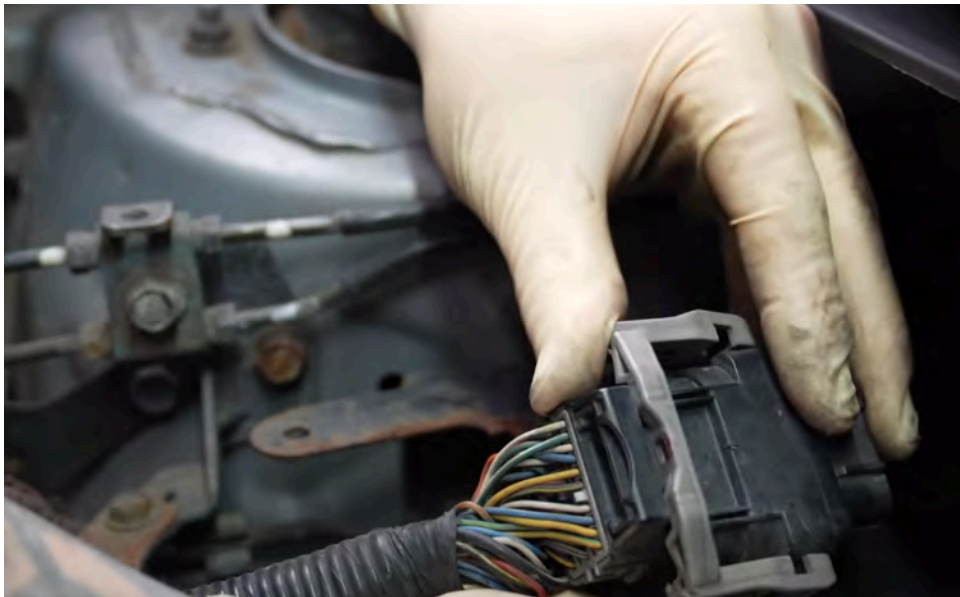
Reference step 11.





#### Step 18

Locate the main wiring harness connector on the passenger side.



#### Step 19

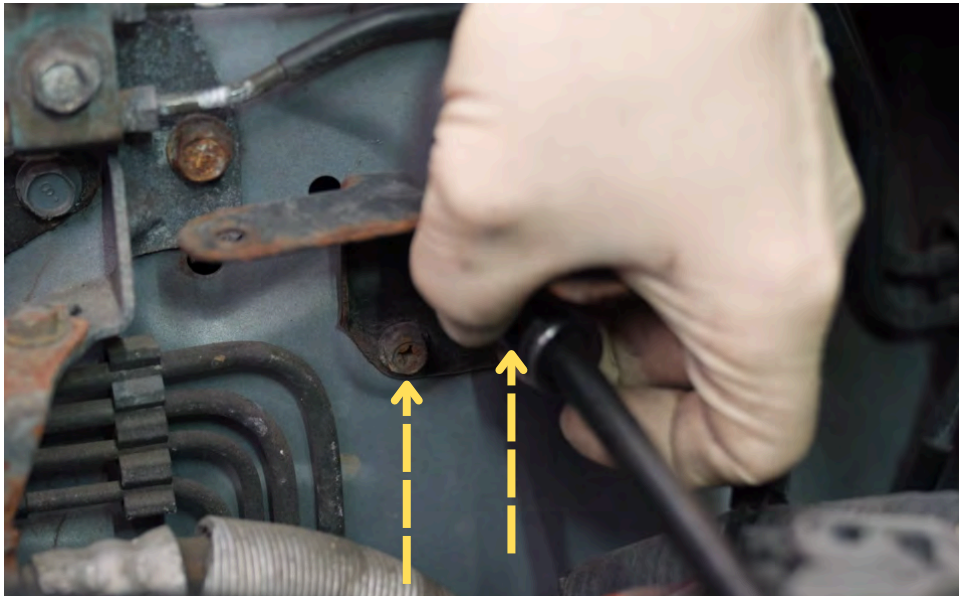
Slide the connector off the clip that secures the connector to the bracket.



#### Step 20

Use pliers to squeeze the end of the clip and push it through the hole.

This will release the clip attaching the wiring connector.



### Step 21

Using a 10mm socket unbolt the two bolts and remove the bracket.



### Step 22

Apply a small amount of lube to the fitting on the 26 inch drain hose.

**5**



Note: These fittings are preinstalled and torqued. The fitting is designed to swivel around the bolt. Do not remove or tighten further.



### Step 23

Install drain hose to bottom of AOS can.

Note: These fittings are preinstalled and torqued. The fitting is designed to swivel around the bolt. Do not remove or tighten further.





#### Step 24

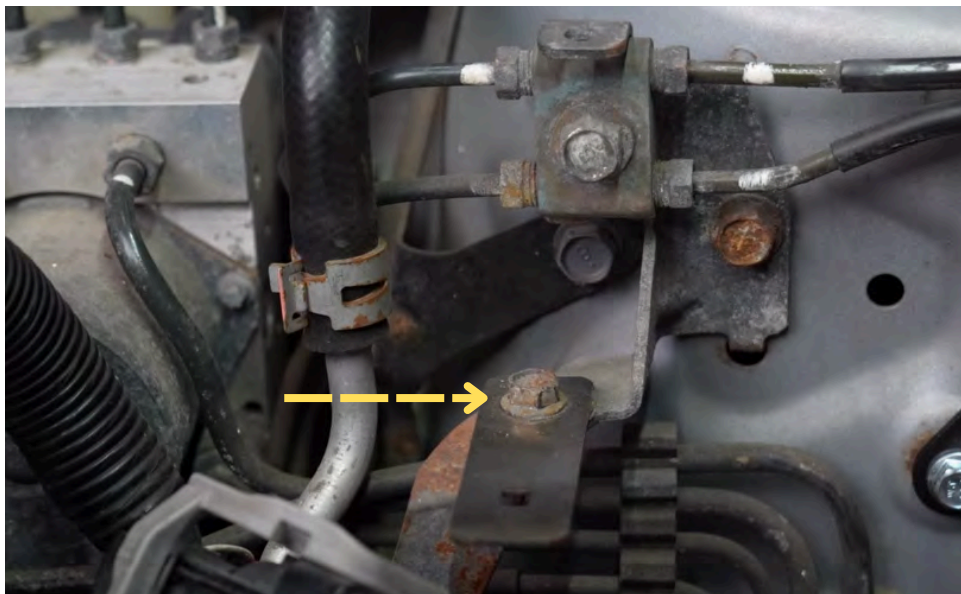
Install metal bracket to AOS and tighten until snug. Leave one hole exposed on bottom of AOS.

18



#### Step 25

Install the bracket and AOS onto the strut tower using a 10mm wrench.



#### Step 26

Install new harness bracket with OEM bolt.

17





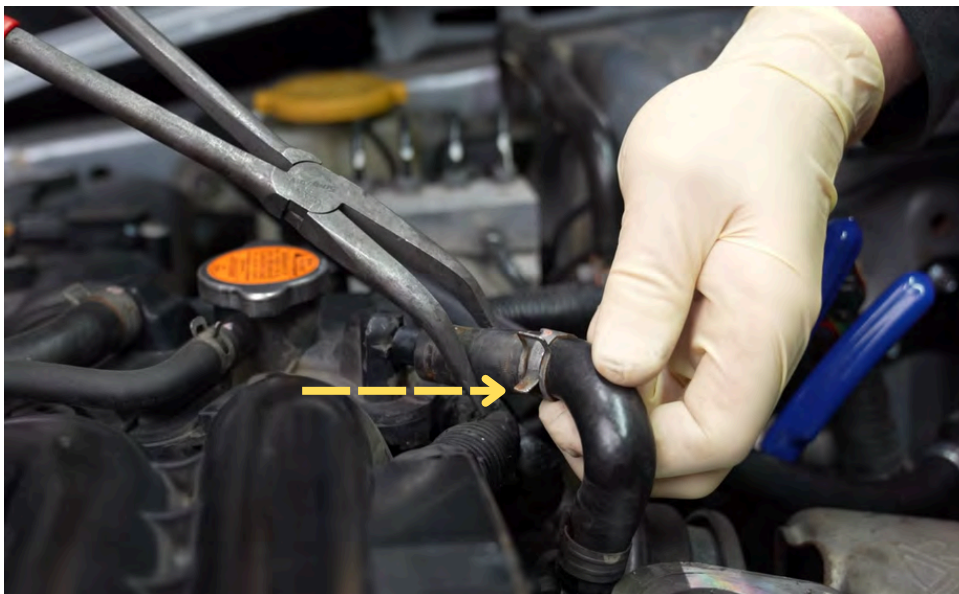
#### Step 27

Reinstall wiring harness to new bracket.



#### Step 28

Using hose clamp pliers, clamp the turbo coolant hose.

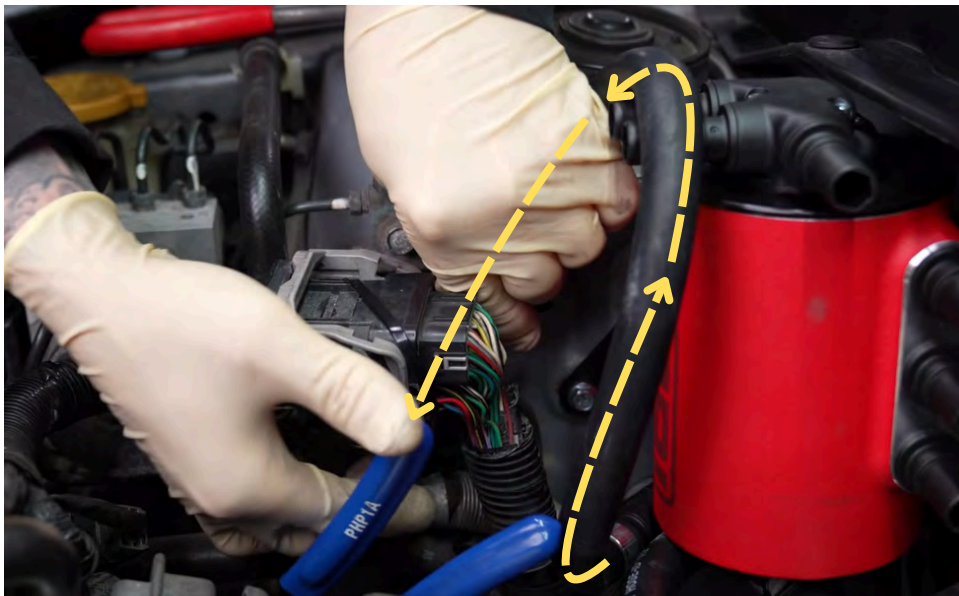


#### Step 29

Use a pair of needle nose pliers to loosen clamp and remove line from upper expansion tank.

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





### Step 30

Route coolant line from AOS under wiring harness.



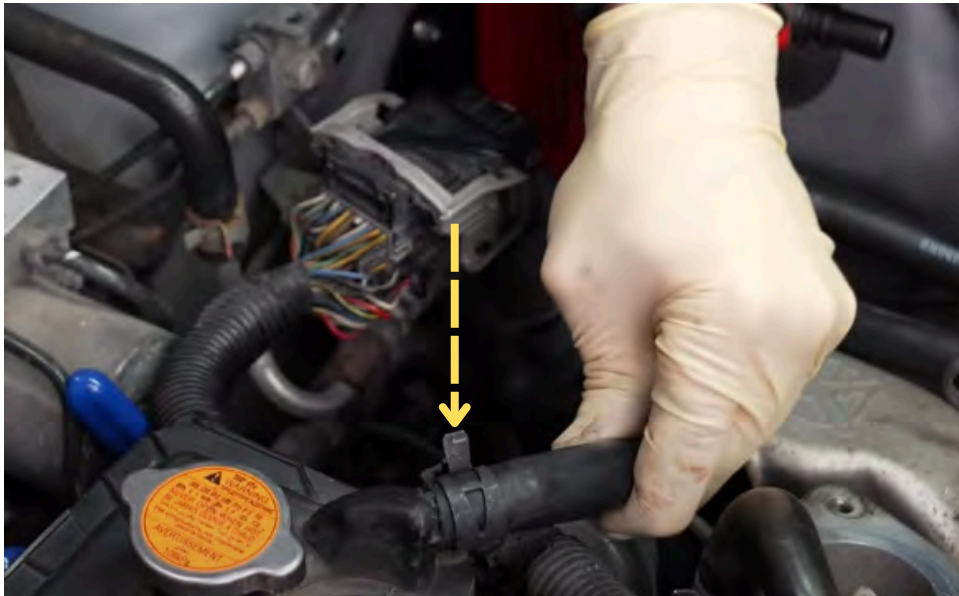
### Step 31

Measure the length of the coolant line and mark where to cut. Use the upper expansion tank as a reference.



### Step 32

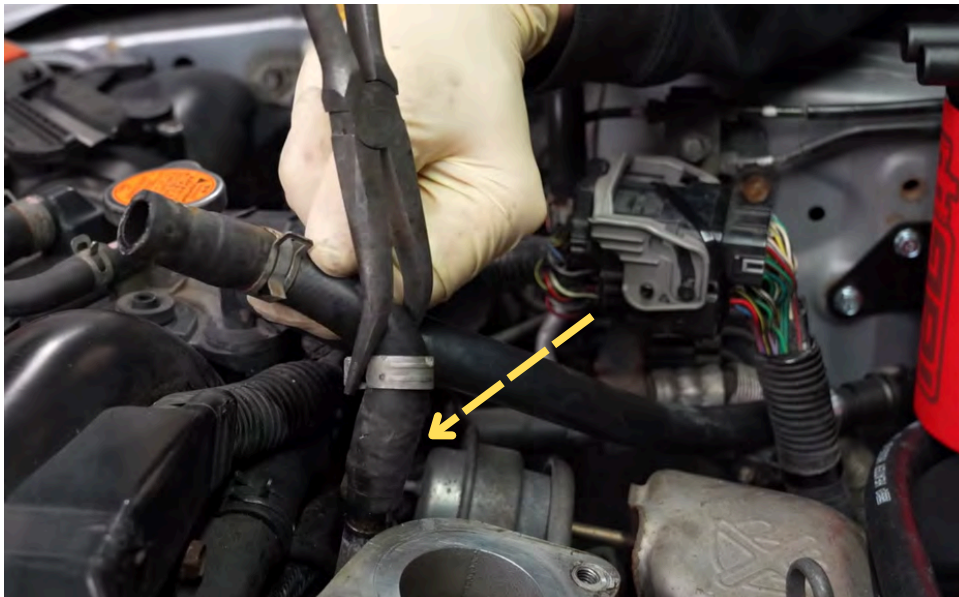
Cut excess line.



### Step 33

Install clamp onto coolant line and attach line to coolant tank.

Secure clamp on line.



### Step 34

Loosen clamp and remove upper OEM turbo coolant line assembly.

Reference step 29 for first part of removal.

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



### Step 35

Route the coolant line.

Measure the length of the line that needs to be cut.





#### Step 36

Cut excess line.



#### Step 37

Slide clamp on coolant line and install line onto OEM fitting.

Secure clamp onto line.



#### Step 38

Zip tie the two coolant lines together.

Cut excess zip tie.



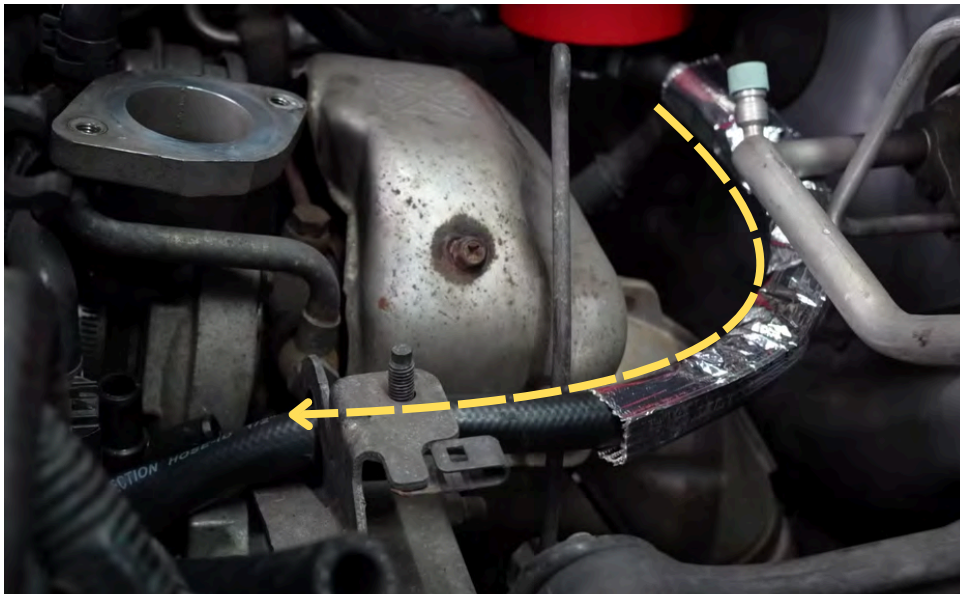
#### Step 39

Remove the coolant hose clamp from step 28.



#### Step 40

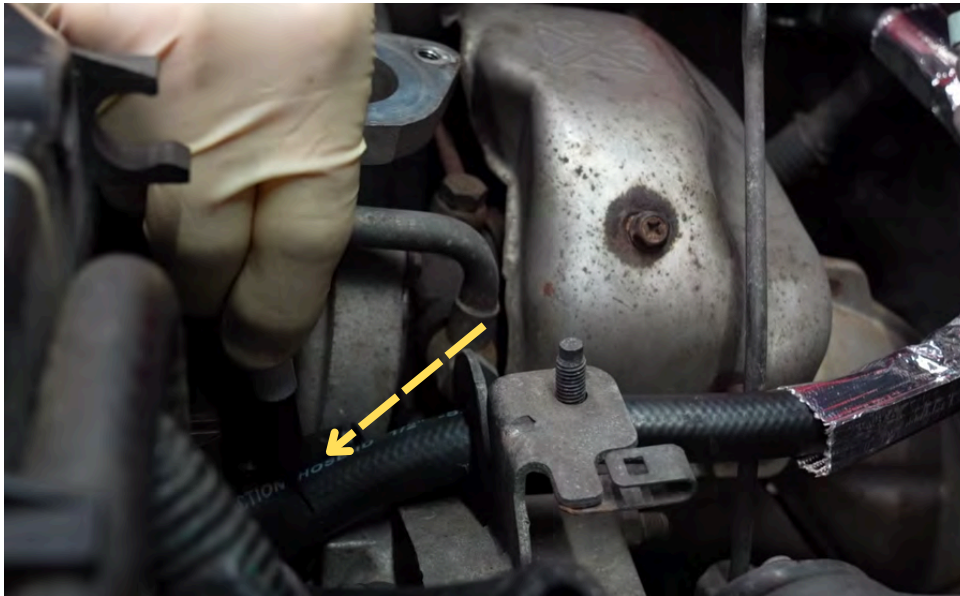
Install 12" heat sleeve to AOS drain hose.



#### Step 41

Route drain hose and thread through bracket.





#### Step 42

Measure the length of the drain and mark where to cut.



#### Step 43

Cut excess line.



#### Step 44

Route drain line back through the bracket.

Reference step 42.



#### Step 45

Slide clamp onto drain line and install line onto breather assembly.

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



#### Step 46

Attach drain hose to AC hardline using a zip tie.

Cut excess zip tie.



#### Step 47

Install supplied clamp to 90 degree elbow on hose.

Apply a small amount of lube to other end.

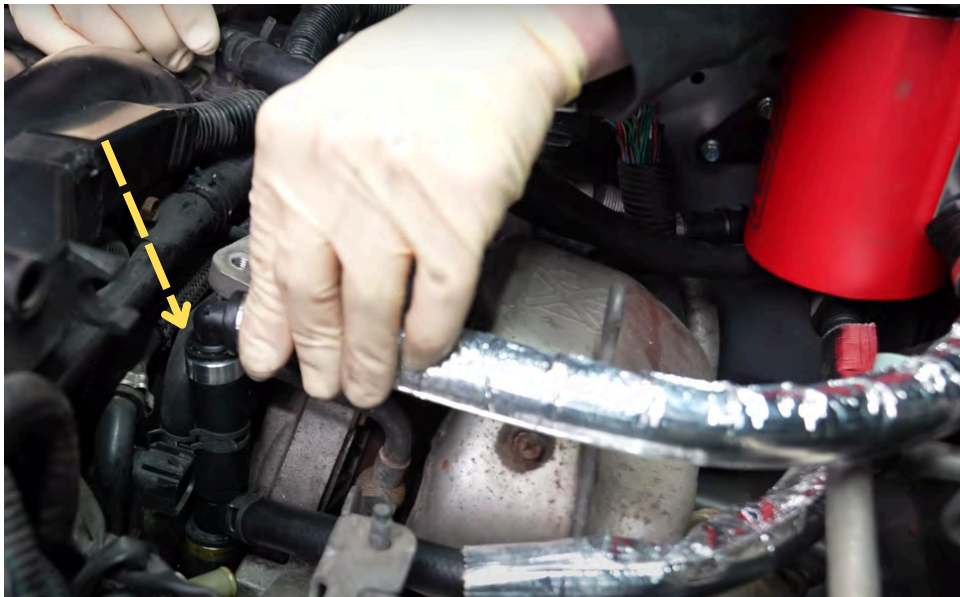






#### Step 48

Connect the hose to bottom port of AOS can.



#### Step 49

Install 90 degree vent hose fitting to top of breather assembly.

Use supplied clamp to secure.



#### Step 50

Apply a small amount of lube to fitting on 38 inch hose.





### Step 51

Install hose onto top port of AOS.



### Step 52

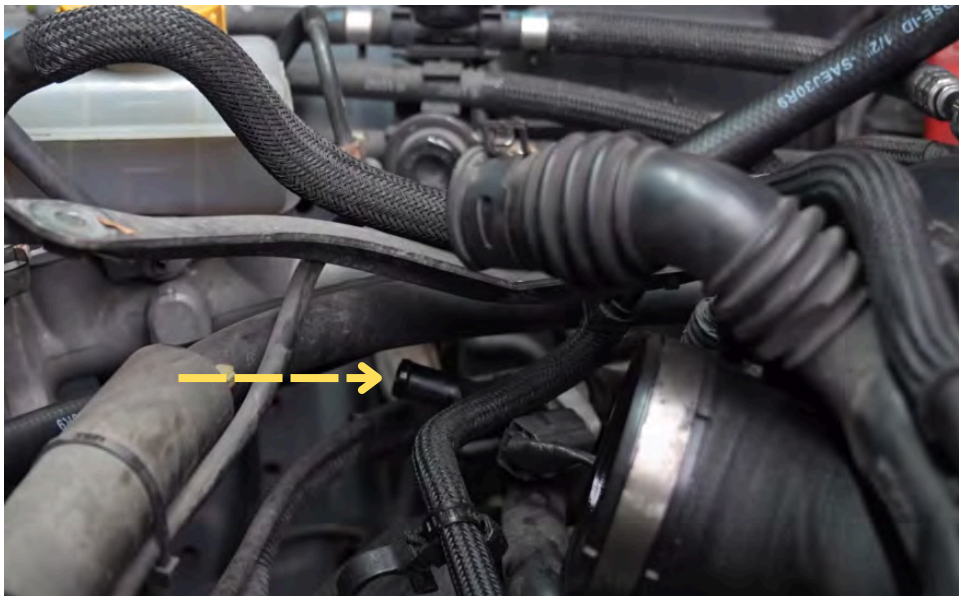
Route hose as shown.

Continued in next step.



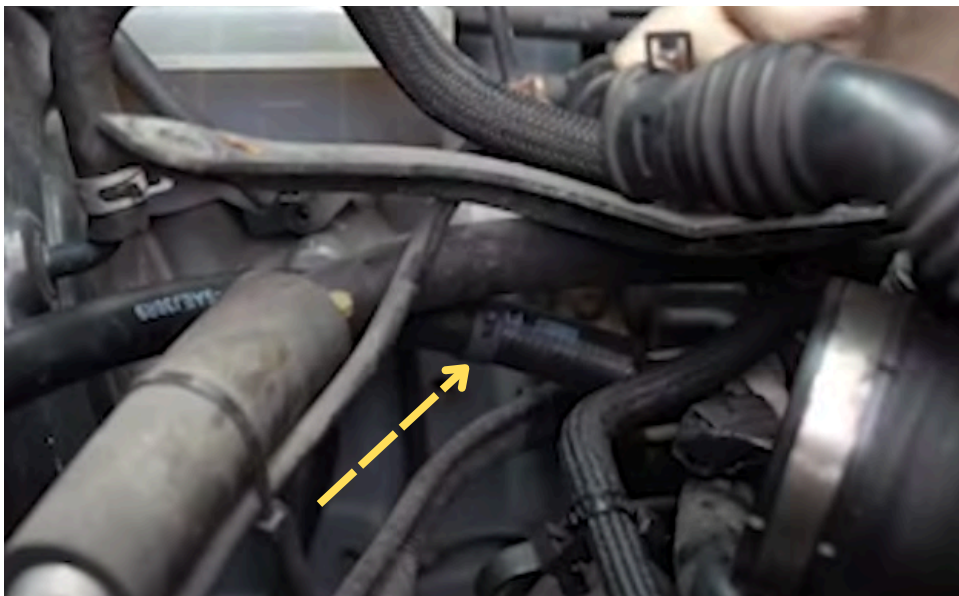
### Step 52 pt.2





### Step 53

Measure hose to where it fits up to the OEM fitting and cut excess.



### Step 54

Slide clamp on coolant line and install line onto OEM fitting.

Secure clamp onto line.



### Step 55

Secure hose to AC line using a zip tie.

Cut excess zip tie.



#### Step 56

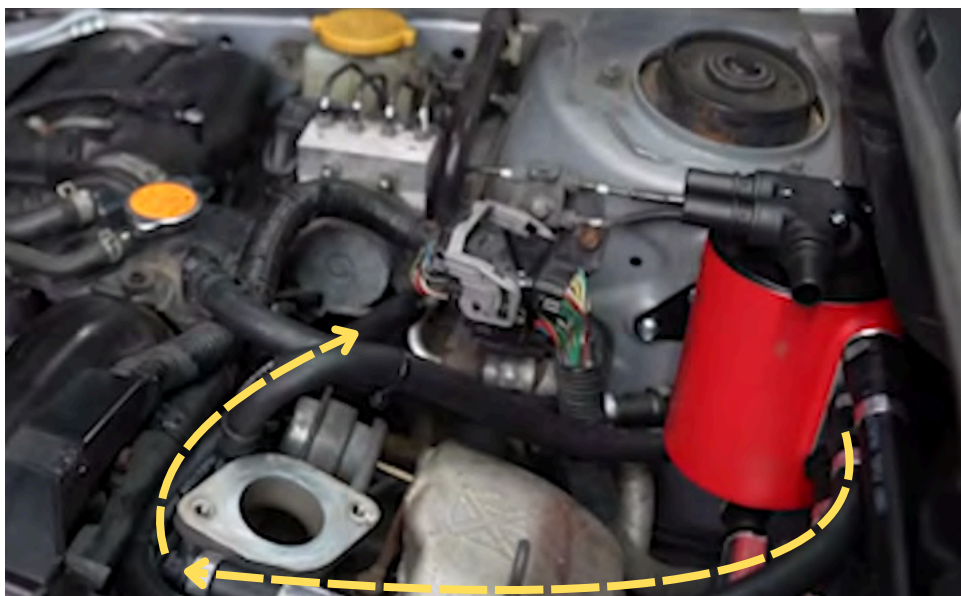
Apply a small amount of lube to the fitting of the 28 inch vent hose.

4



#### Step 57

Attach hose to middle fitting on the AOS.



#### Step 60

Route hose to the passenger side valve cover.





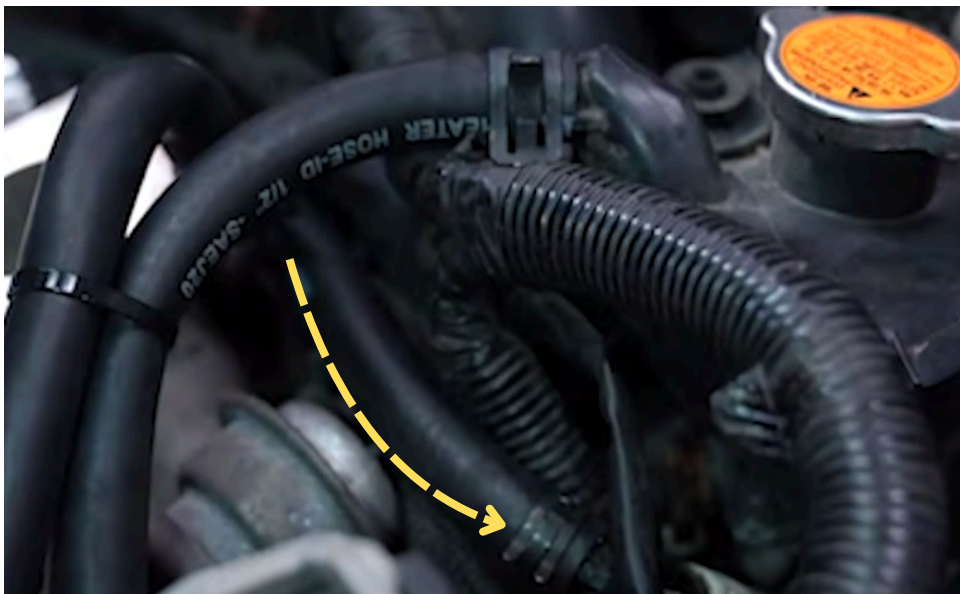
#### Step 61

Measure and cut excess hose.



#### Step 62

Install supplied clamp to hose.



#### Step 63

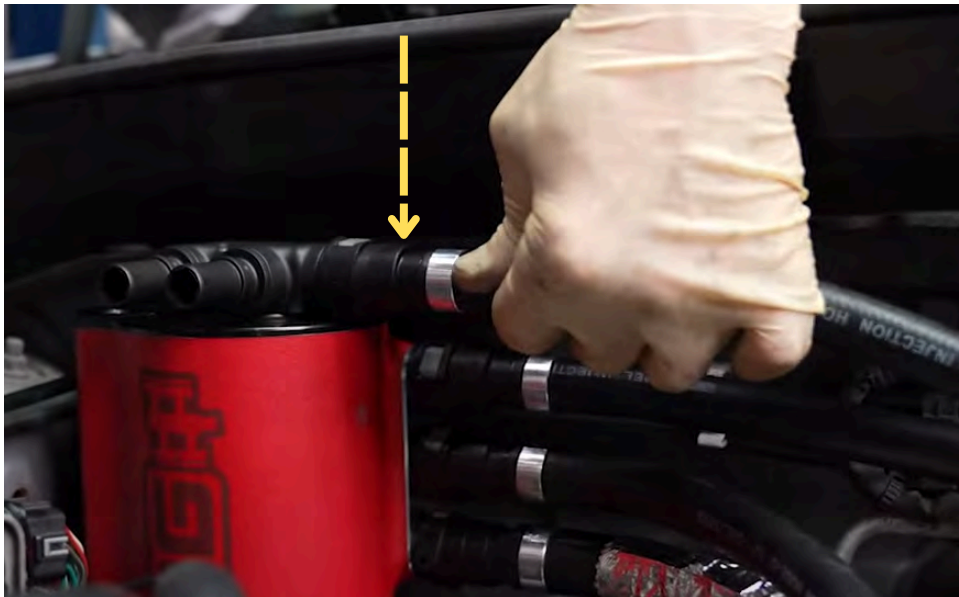
Attach valve cover hose and secure the clamp.



#### Step 64

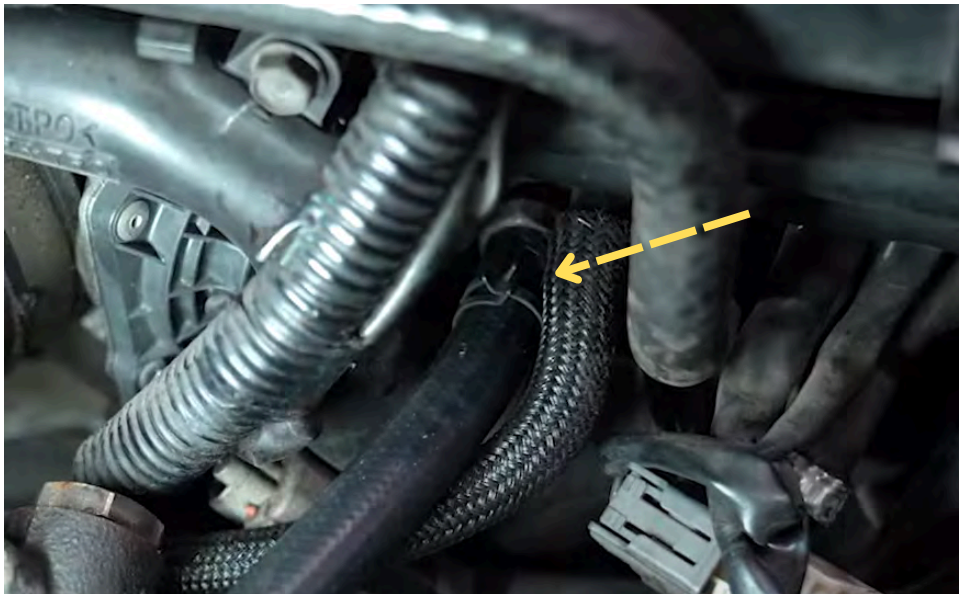
Apply a small amount of lube to the fitting.

2



#### Step 65

Install the PCV hose to the top of AOS can.



#### Step 66

Install PCV to intake manifold port and secure with clamp.

Reference step 10.





#### Step 67

Secure hose to the AC hard line with a zip tie.

Cut excess zip tie.



#### Step 68

Take one of the 18 inch 90 degree hoses and cut off the end.



#### Step 68 pt.2



#### Step 69

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



#### Step 70

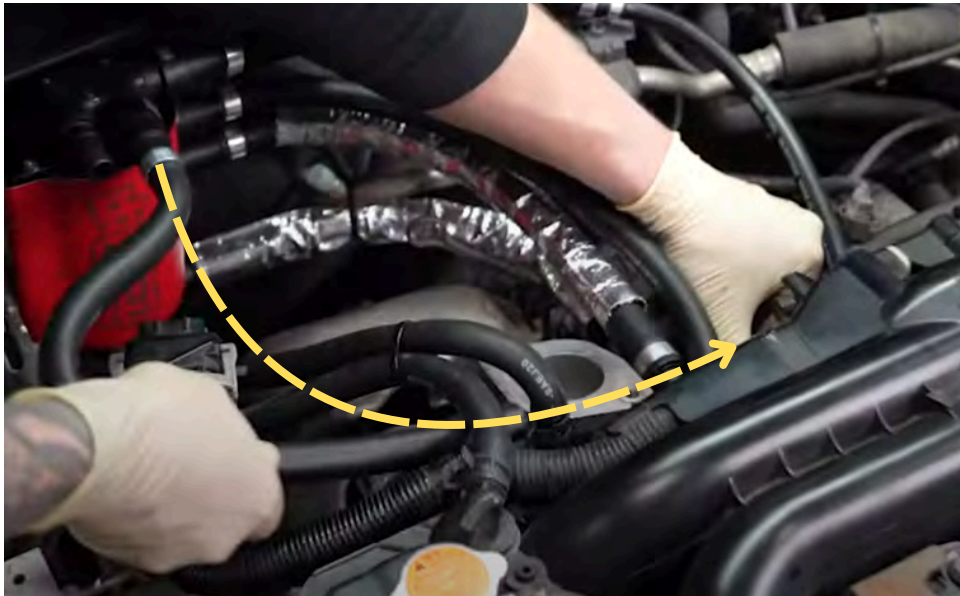
Attach fitting to top of AOS can.



#### Step 71

Using a pair of pliers install the supplied clamp to the open end of the hose.





#### Step 80

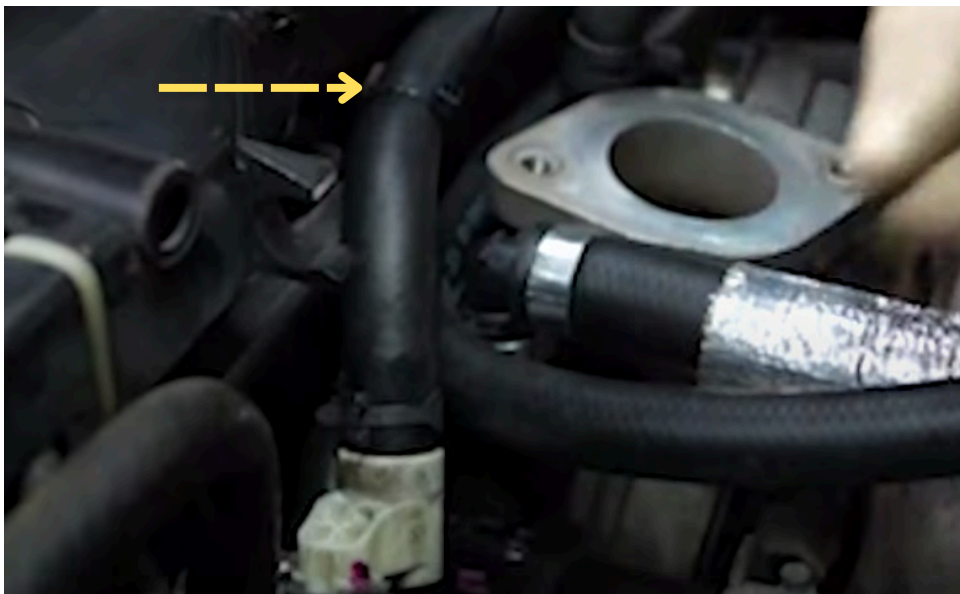
Route hose towards to the drivers side.



#### Step 82

Connect breather hose to the PCV connector and secure the clamp.

Reference step 9.



#### Step 83

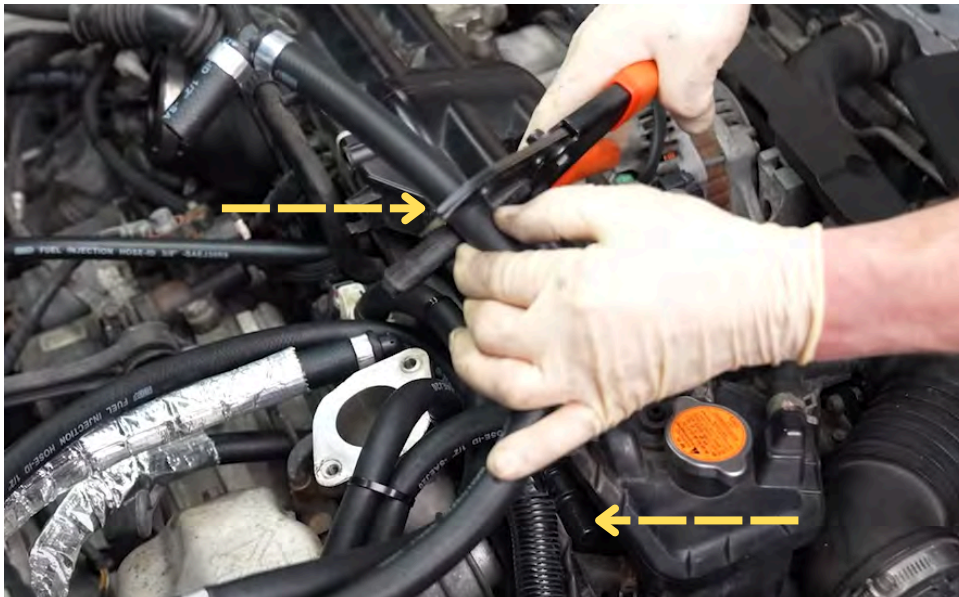
Secure line using a zip tie.

Cut excess zip tie.



#### Step 84

Install the other 18 inch breather hose to top left port on AOS.

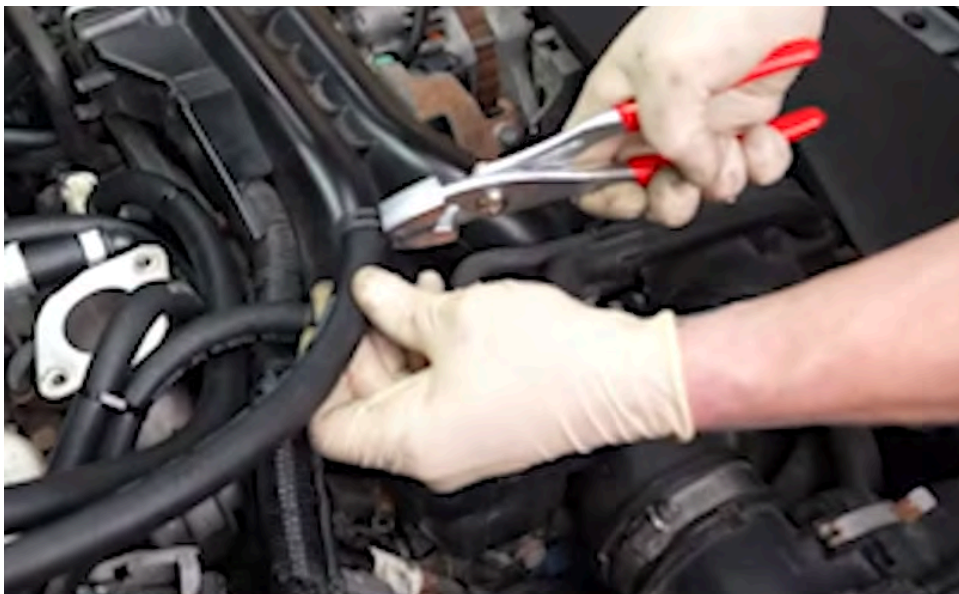


#### Step 85

Measure hose so it fits up to valve cover fitting.

Cut excess hose.

Reference step 6.



#### Step 86

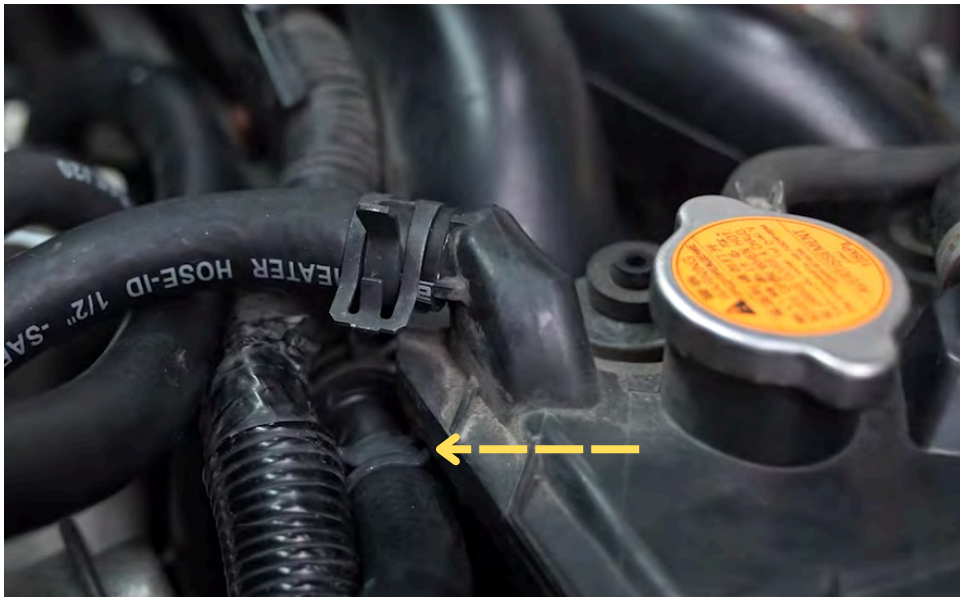
Install supplied clamp to end of hose.





#### Step 87

Apply a small amount of lube to the end of the hose.



#### Step 88

Install hose onto valve cover fitting near intake manifold.

Secure the clamp.

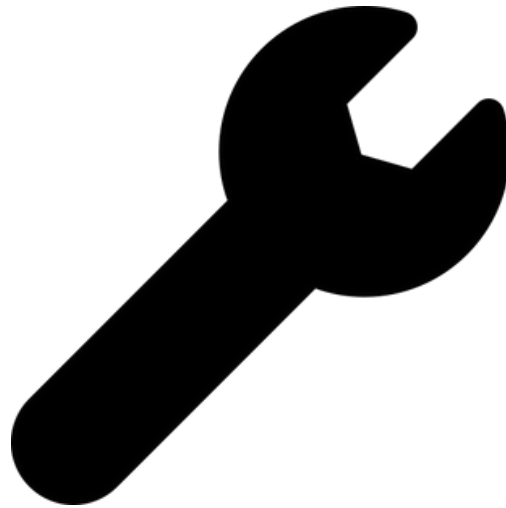


#### Step 89

Reinstall the top mount intercooler, BPV hoses and intercooler brackets.



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 included 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](mailto:support@iagperformance.com) or call 410-840-3555