

LAG Air / Oil Separator (AOS)



**INSTRUCTIONS FOR 2008-2009 SUBARU IMPREZA WRX, 2005-
2009 SUBARU LEGACY GT, 2005-2009 SUBARU OUTBACK XT**



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

Fitment:

2008-2009 Subaru Impreza WRX EJ 2.5L TC

2005-2009 Subaru Legacy GT EJ 2.5L TC

2005-2009 Subaru Outback 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 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** 27" Drain Hose
- 6** x2 19" Coolant Hoses
- 7** 16.5" Breather Hose
- 8** 18" Breather 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** Yellow 28mm Clamp
Purple 29mm Clamp
- 17** Wiring Harness
Relocation Bracket
- 18** AOS Mounting Bracket

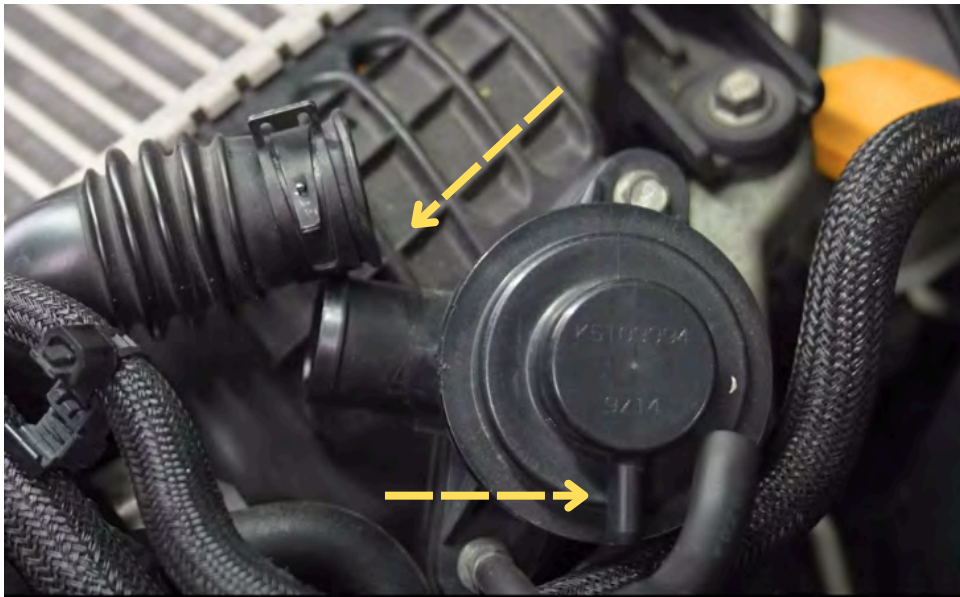


Tools needed: 10mm wrench, 12mm socket, 8mm nut driver, socket, razor, all purpose lube, needle nose pliers, pipe/hose cutters, pick tool, zip ties and hose clamps.



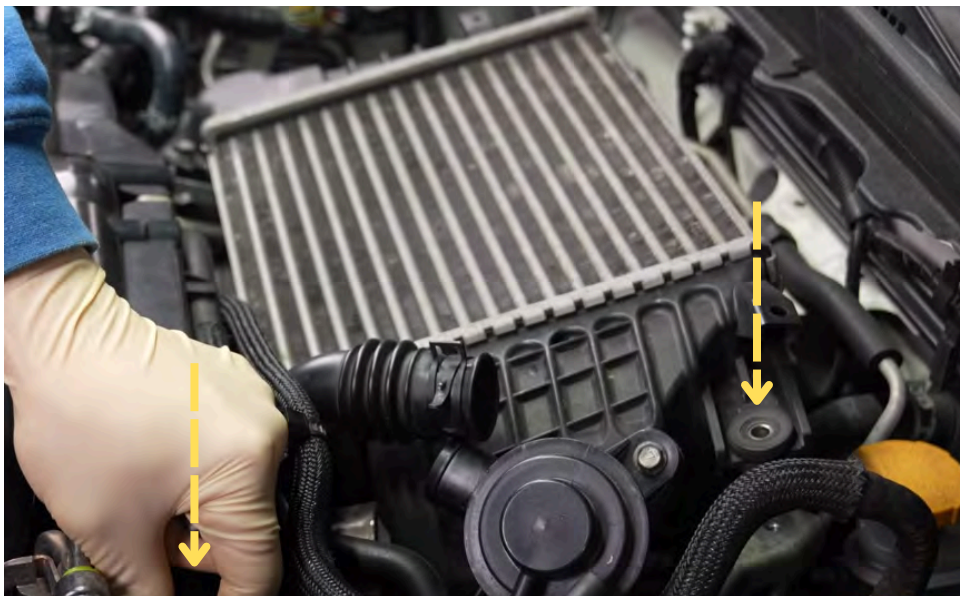
Step 1

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



Step 2

Loosen clamp and disconnect the BPV lines.



Step 3

Use a 12mm socket to remove the passenger and driver's side bolts holding the intercooler.



Step 3 pt.2



Step 4

Loosen the clamp on the throttle body coupler.



Step 5

Remove the intercooler by pulling up and away from engine bay.

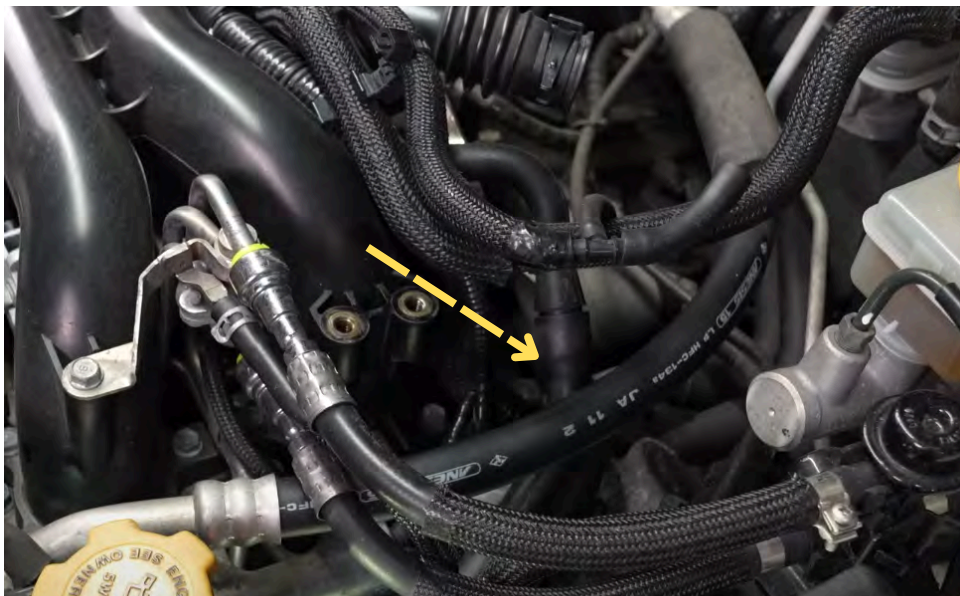


Step 6

Loosen clamp at bottom and remove passenger side valve cover hose.

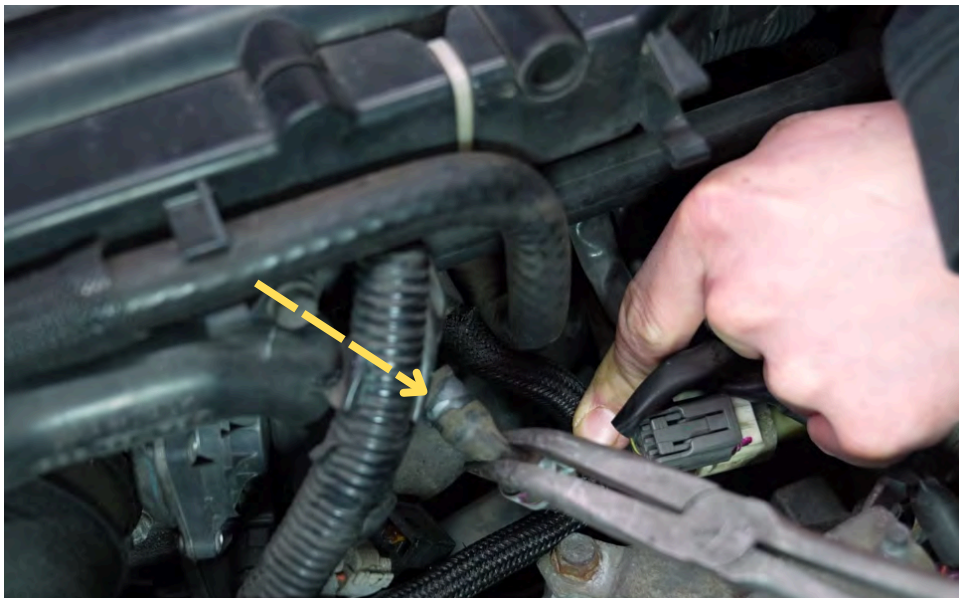


Step 6 pt.2



Step 7

Loosen clamp at bottom of hose and remove the driver's side valve cover hose.



Step 8

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



Step 9

Loosen the hose clamp with a pick, and detach PCV sensor.



Step 9 pt. 2

Detach the connector from the PCV sensor by depressing the tab on the connector.



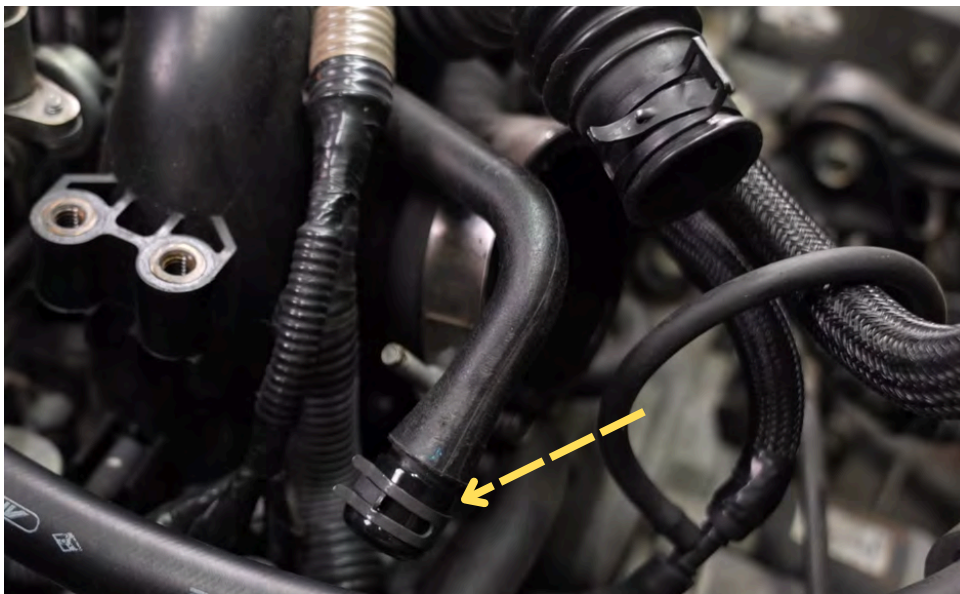
Step 10

Use a pick to remove the connector from the breather assembly.



Step 10 pt. 2

Remove the block breather assembly.



Step 11

Install the block-off cap and secure with 5/8" clamp.

Reference step 7.

12



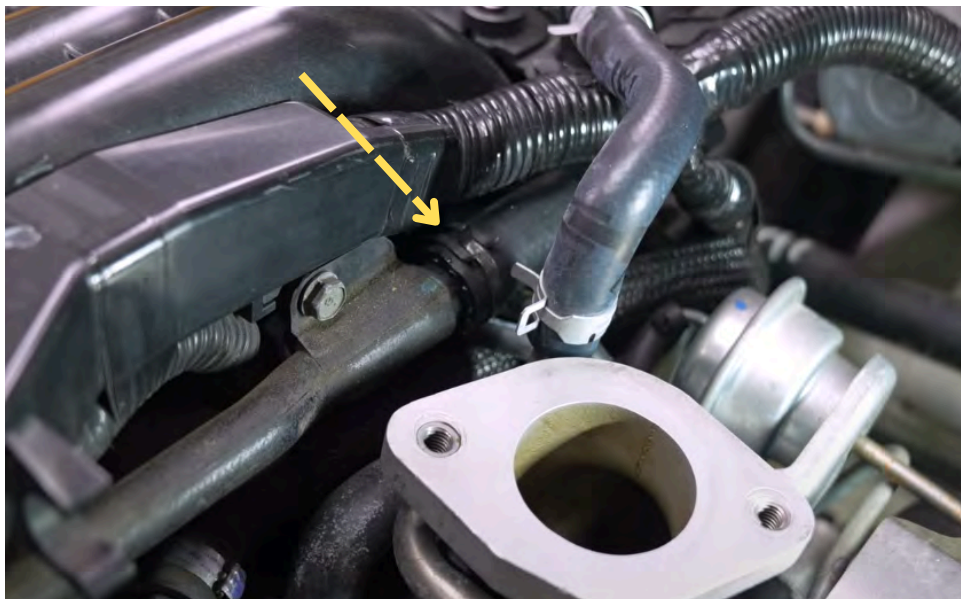


Step 12

Prepare PCV vent hose extension.

Install 2 hose clamps onto hose ends.

14



Step 13

Install PCV vent hose to factory hard line.



Step 14

Prepare new breather hose.

Apply a small amount of lube to the block drain hose.

16

24

15





Step 14 pt. 2

Install the Y fitting to hose.

Tighten the yellow 28mm clamp to the Y fitting.

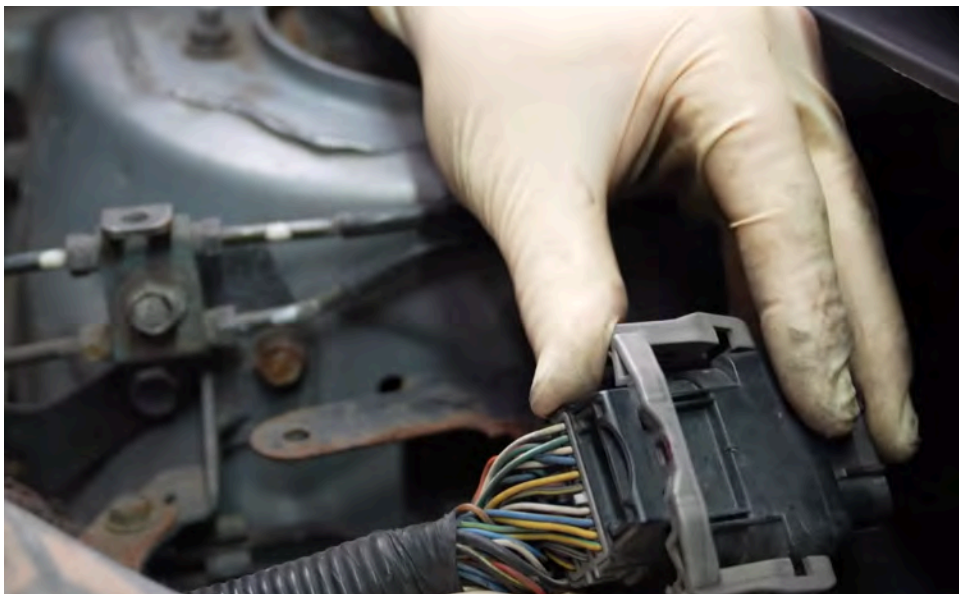
Install purple 29mm clamp to bottom hose, do not tighten.



Step 15

Install the new breather assembly onto the block breather.

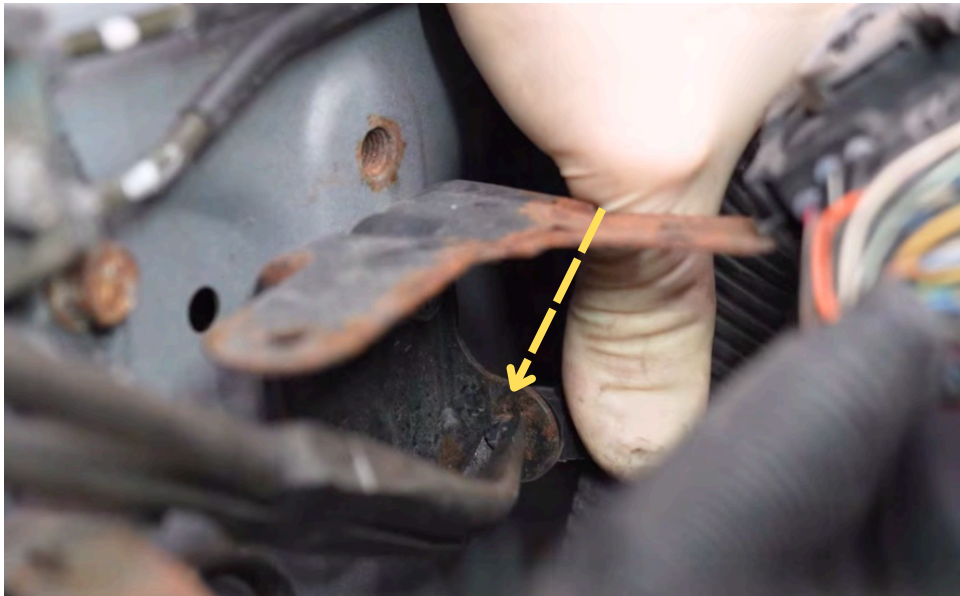
Tighten bottom purple 29mm clamp.



Step 16

Remove electrical connector from the passenger side strut tower.

Depress tab on connector and slide off bracket.



Step 17

Remove wiring harness from bracket.
Use pliers to squeeze harness clip.



Step 18

Remove the two 10mm bolts from the bracket, and remove bracket.



Step 19

Prepare the 19 inch coolant hoses.
Apply a small amount of lube to the fittings.





Step 19 pt. 2

Install the two coolant lines to the AOS, as shown in picture.

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



Step 20

Using supplied hardware, install new bracket onto AOS. Position bracket as illustrated, and tighten bolts.



Step 20 pt. 2

Install 27" drain hose to bottom fitting on the AOS can.





Step 21

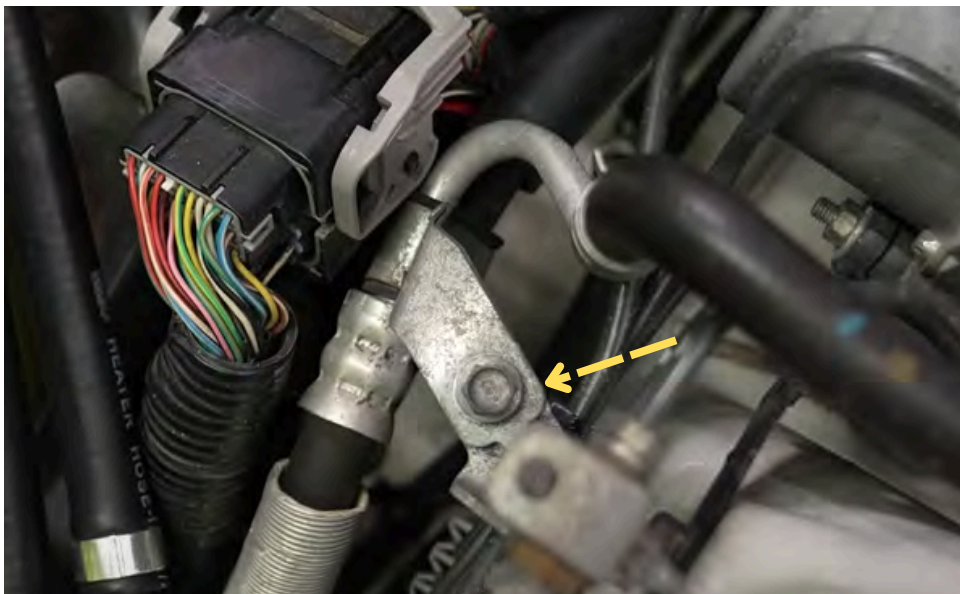
Using provided hardware, install AOS unit to passenger strut tower.

19



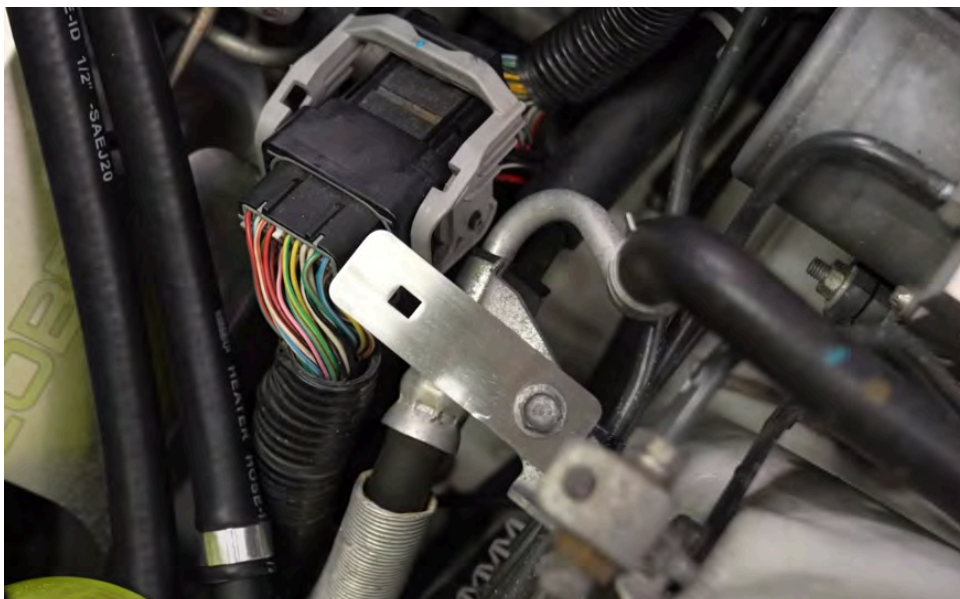
Step 22

Tighten the 10mm bolts.



Step 23

Loosen 10mm bolt, and remove factory bracket.

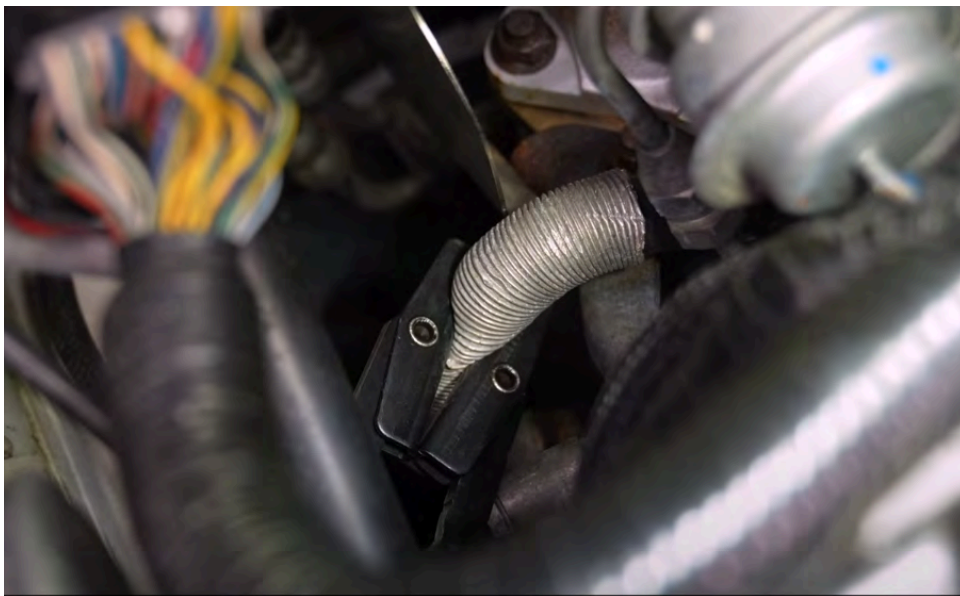


Step 24

Reusing the factory bolt from the previous step, install new wiring bracket into vehicle.

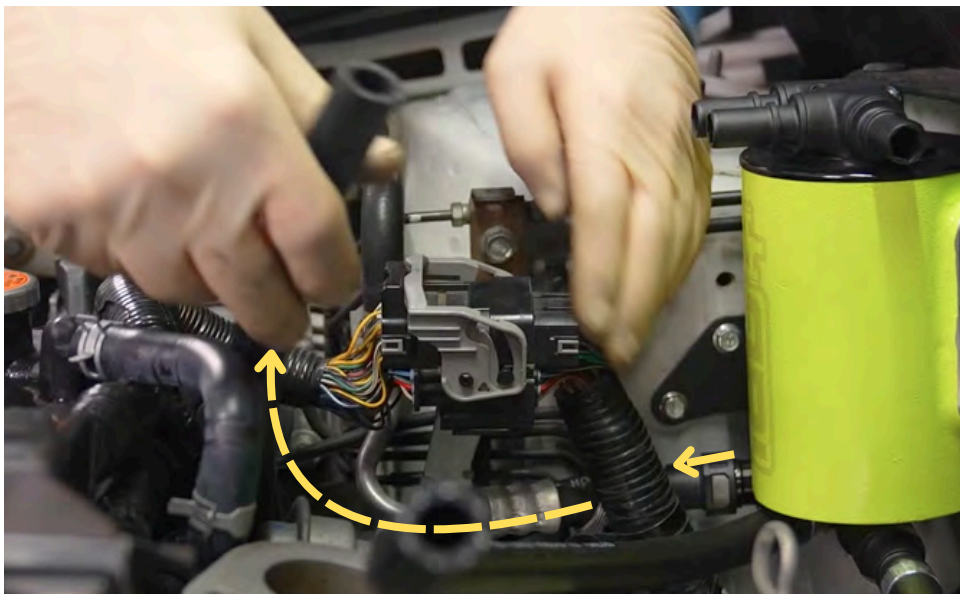
Install the connector onto the bracket.

17



Step 25

Using pinch off pliers, clamp the turbo coolant hose.



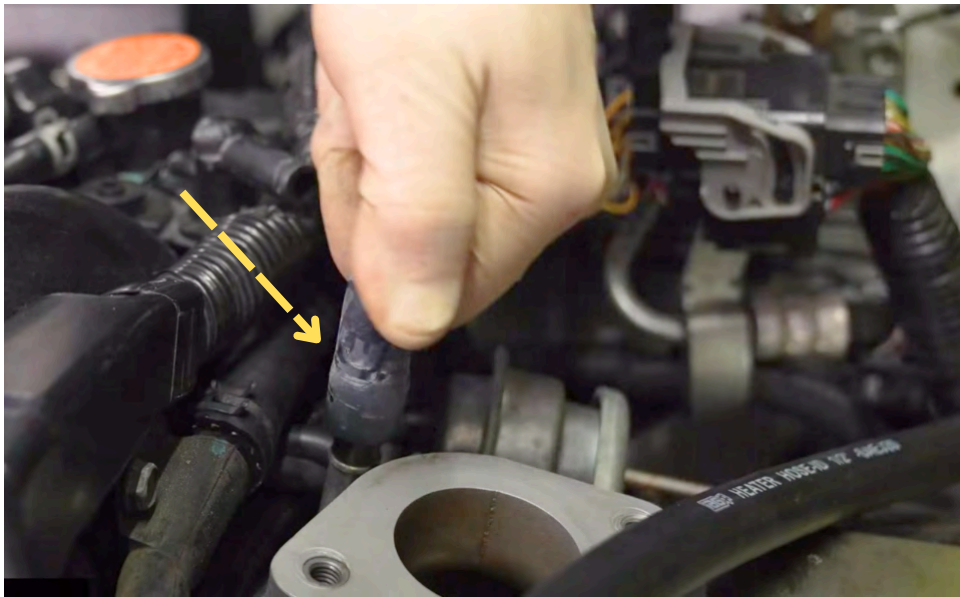
Step 26

Route coolant hose from the AOS underneath the wiring harness.



Step 27

Use a pair of needle nose pliers to loosen the clamp and remove the OEM coolant hose.



Step 28

Loosen the clamp on other end of coolant hose and remove hose.

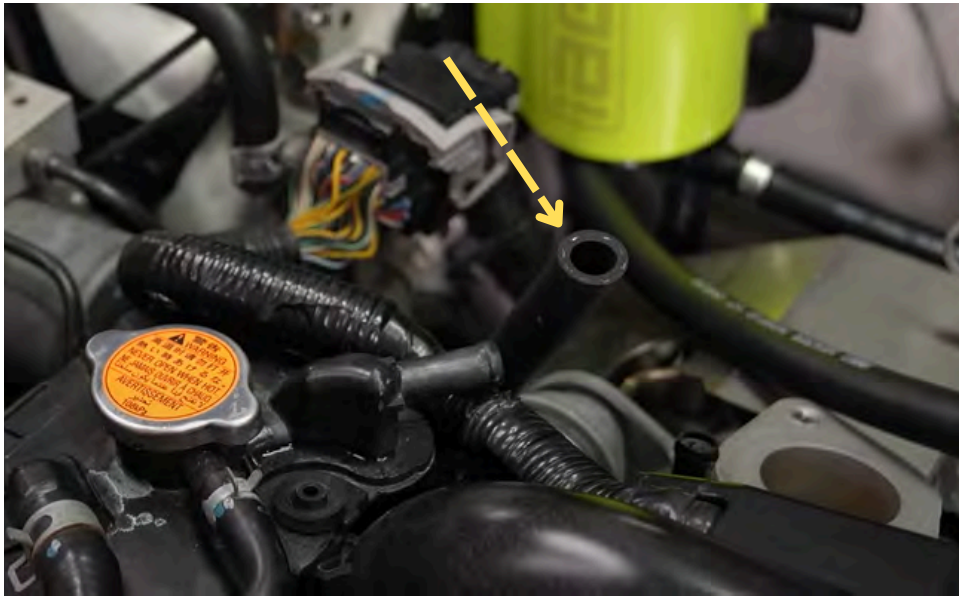


Step 29

Route the AOS coolant hose to the coolant reservoir.

Make a mark at an appropriate length to trim the excess length from the hose.

Cut the excess hose.



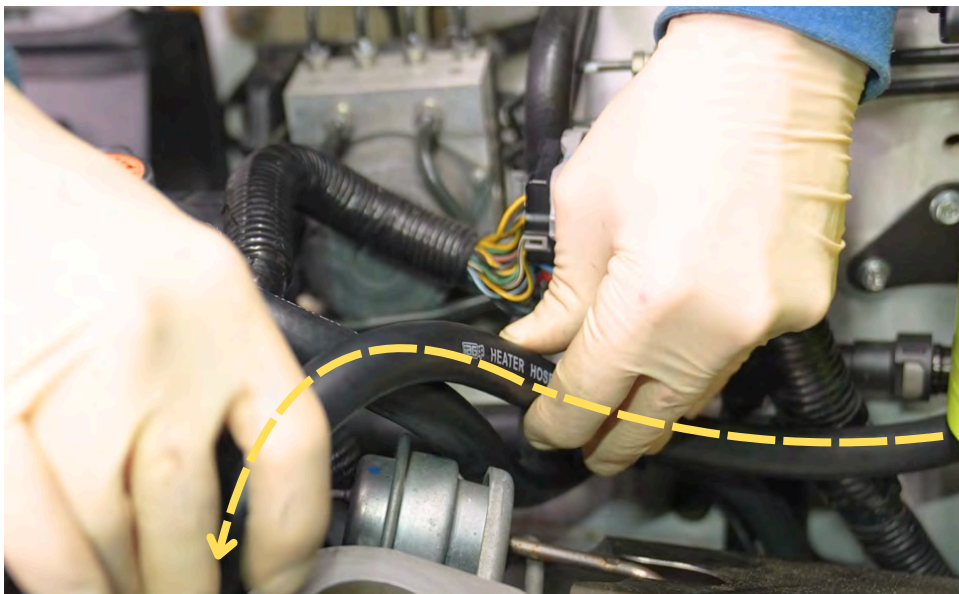
Step 29 pt. 2



Step 30

Slide a hose clamp onto the end of the hose.

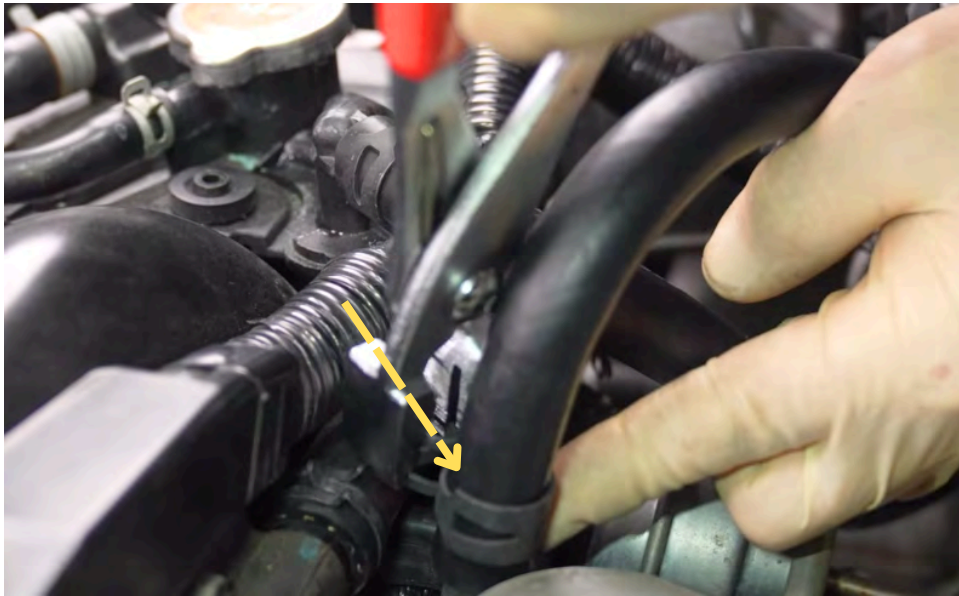
Install coolant hose onto reservoir and secure hose clamp.



Step 31

Route the other AOS coolant hose to the coolant fitting on the turbo.

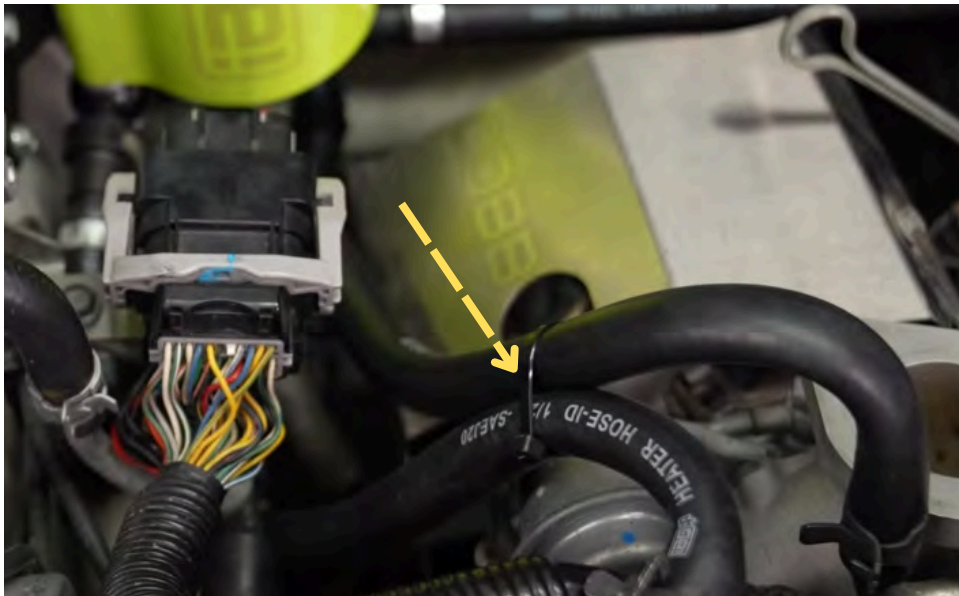
Make a mark at an appropriate length to trim the excess length from the hose.



Step 32

Slide a clamp onto end of hose and install to fitting.

Secure the clamp on the hose.



Step 33

Install a zip tie to the coolant hoses.

Cut excess zip tie.



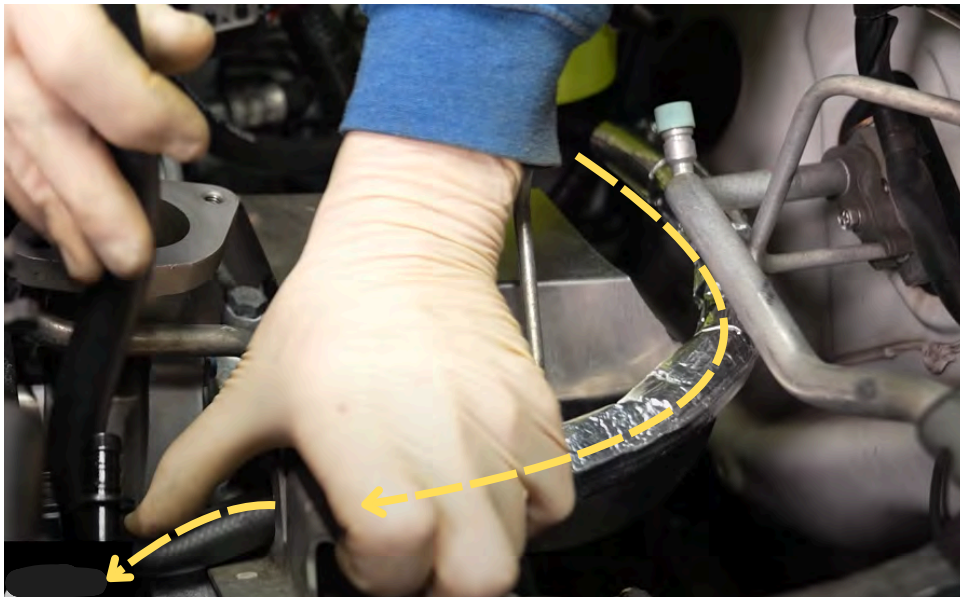
Step 34

Remove the pinch off pliers from the coolant hose.



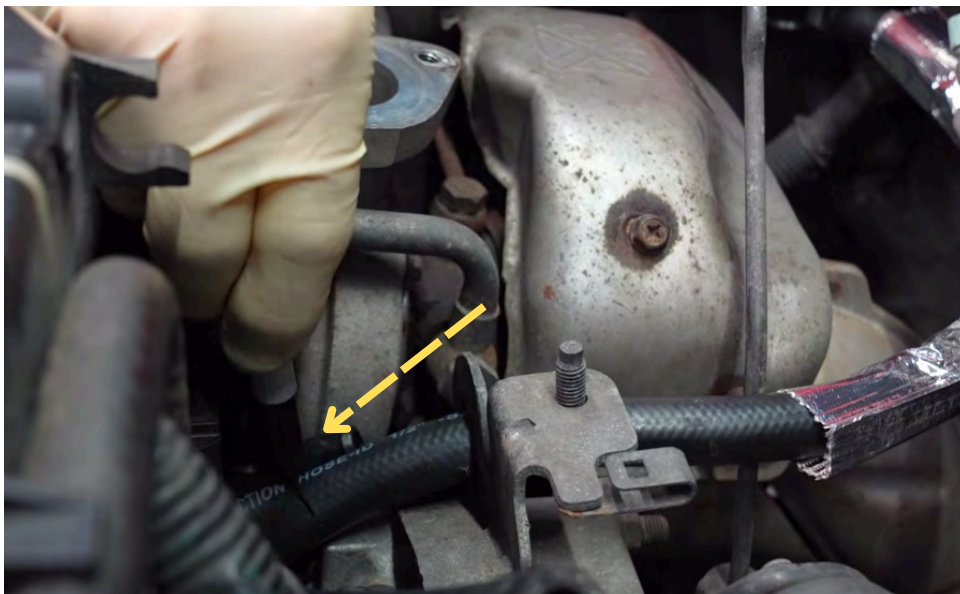
Step 35

Install 12 inch heat sleeve to AOS drain hose.



Step 36

Route drain hose and thread through bracket.



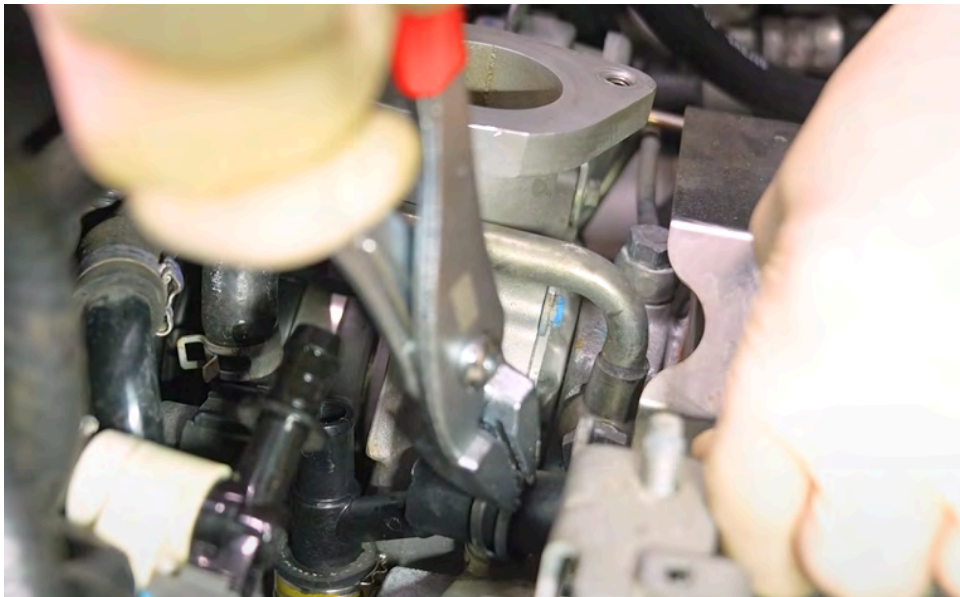
Step 37

Measure and mark the drain hose at an appropriate length to attach to the block breather.



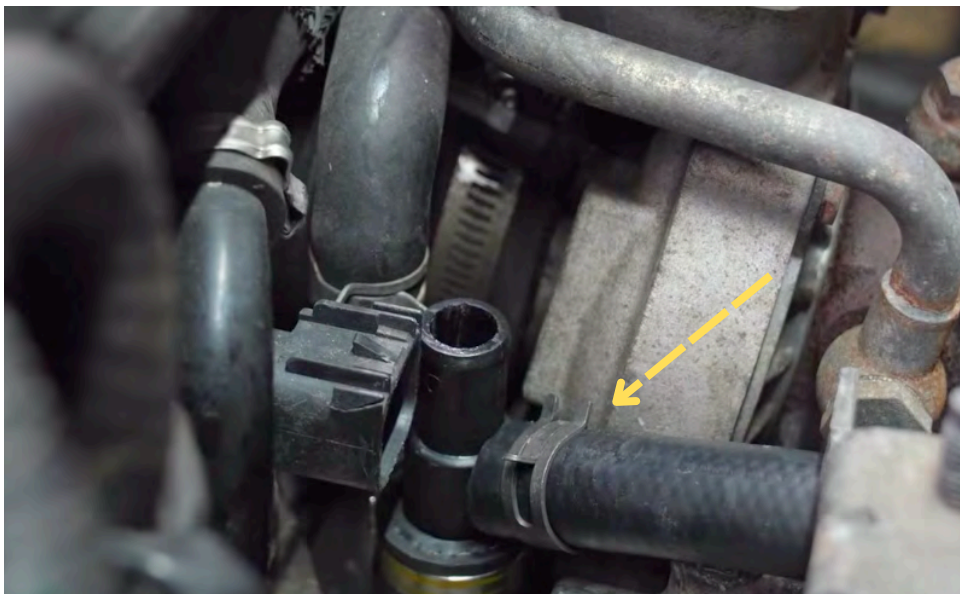
Step 37 pt.2

Cut excess hose.



Step 38

Install hose clamp to drain hose.



Step 38 pt.2

Install drain hose to block breather.

Secure with hose clamp.

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



Step 39

Using a zip tie attach the drain hose to the AC hard line.



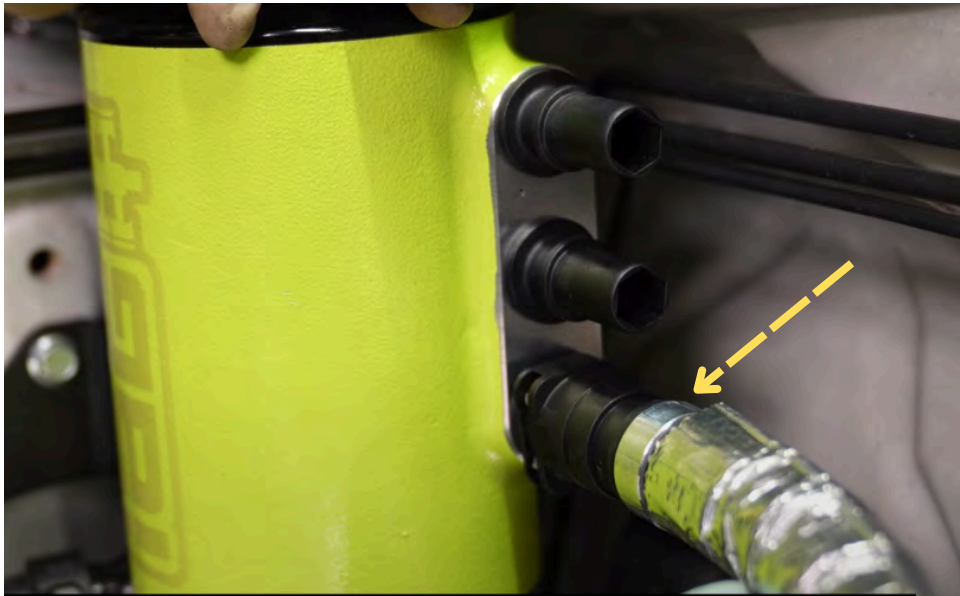
Step 40

Prepare block vent hose.
Use a tape measure and cut off one inch off the 90 degree hose.



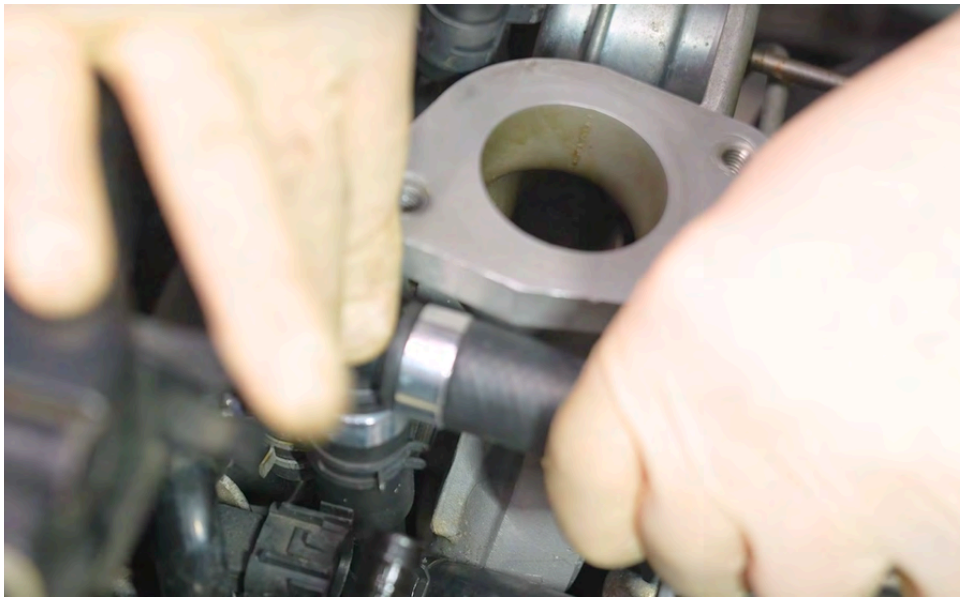
Step 41

Apply a small amount of lube to the fitting. Install hose clamp to opposing end.



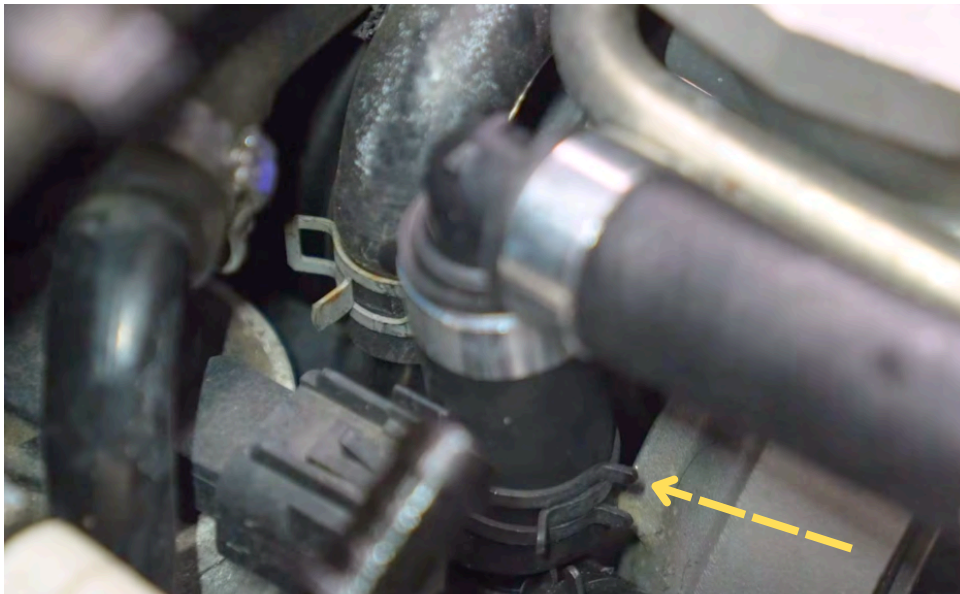
Step 42

Install the hose to the bottom port on the AOS can.



Step 43

Install 90 degree hose to the top of the breather assembly.



Step 44

Secure with hose clamp.



Step 45

Prepare 38" vent hose.
Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.



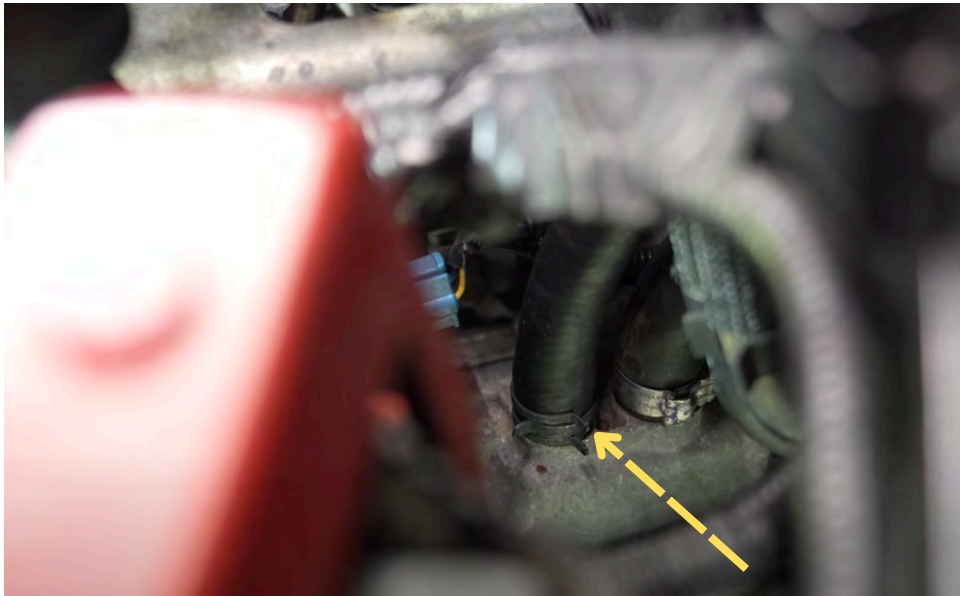
Step 46

Route vent hose to driver's side.
Route underneath hoses/lines.



Step 47

Install fitting to top port of AOS.



Step 48

Install driver's side valve cover vent hose.

Secure clamp.



Step 49

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

Cut excess zip tie.



Step 50

Prepare 28" vent hose.

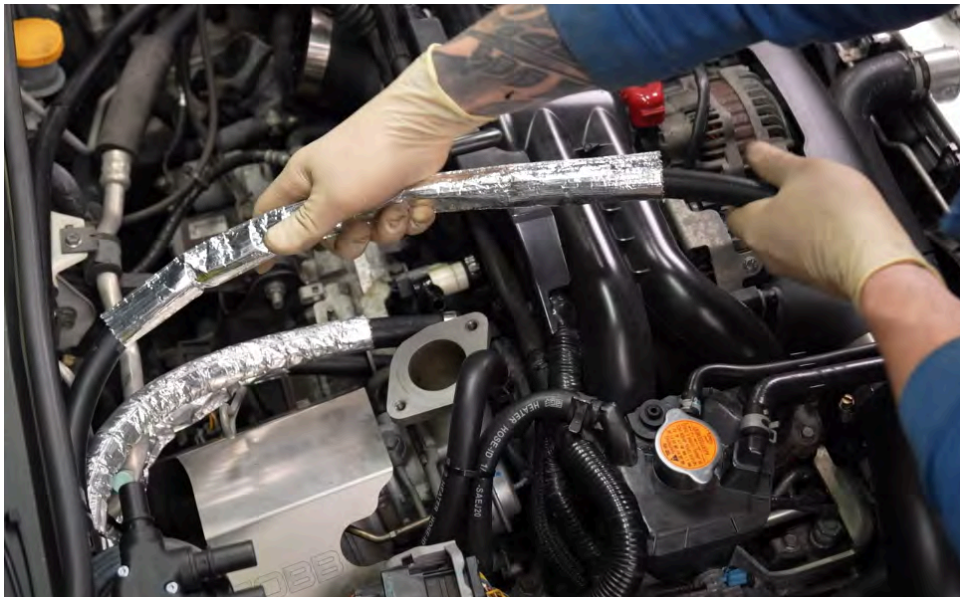
Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.





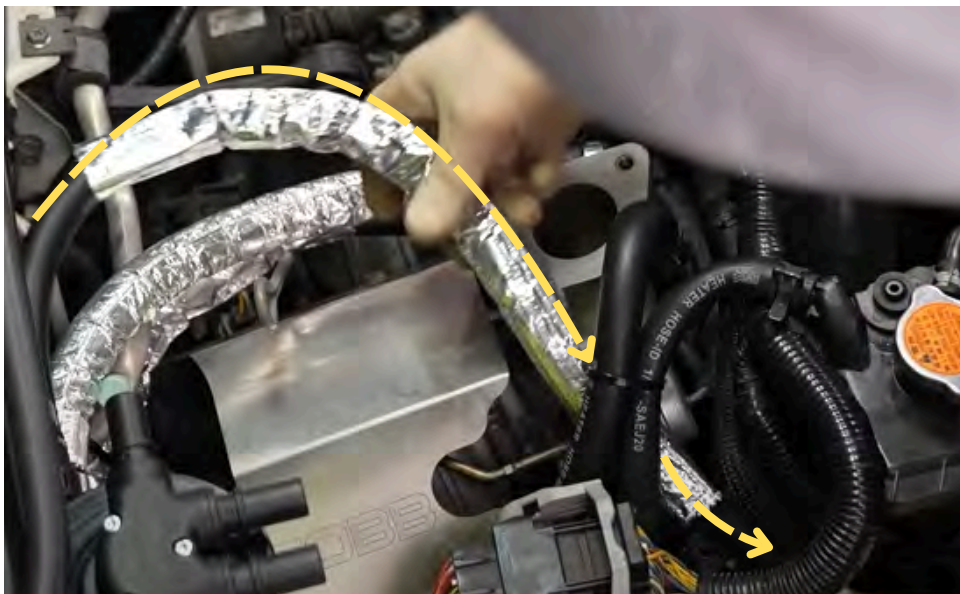
Step 51

Install hose fitting to middle port on AOS.



Step 52

Install the 16 inch heat sleeve onto the valve cover hose.



Step 53

Route hose under coolant hoses and down towards the passenger side valve cover.



Step 54

Zip tie AOS hoses together.
Cut excess zip tie.



Step 55

Measure and mark the vent
hose at an appropriate length to
attach to the valve cover.



Step 55 pt. 2

Cut the excess hose



Step 56

Install vent hose onto valve cover.

Secure with hose clamp

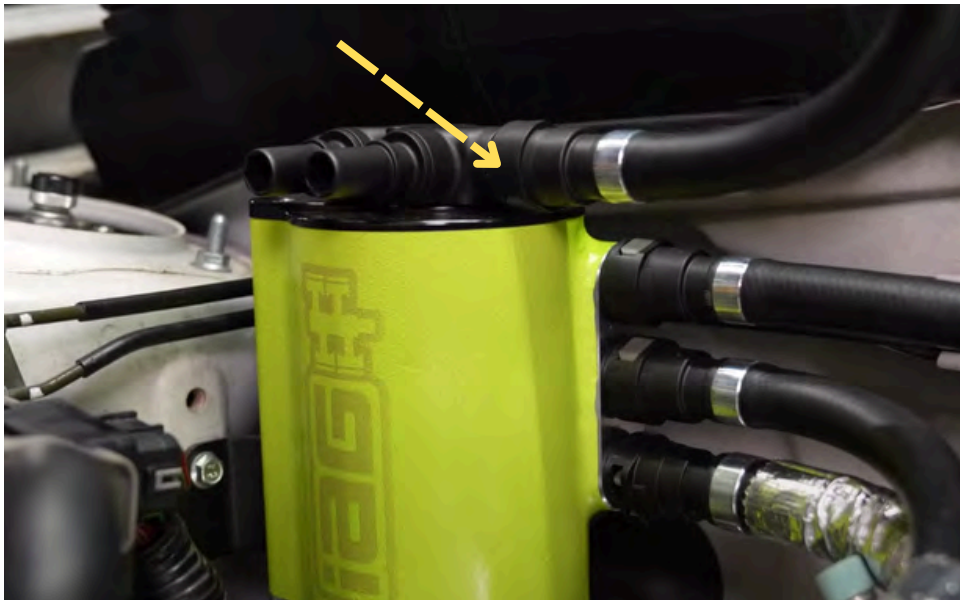


Step 57

Prepare PCV hose.

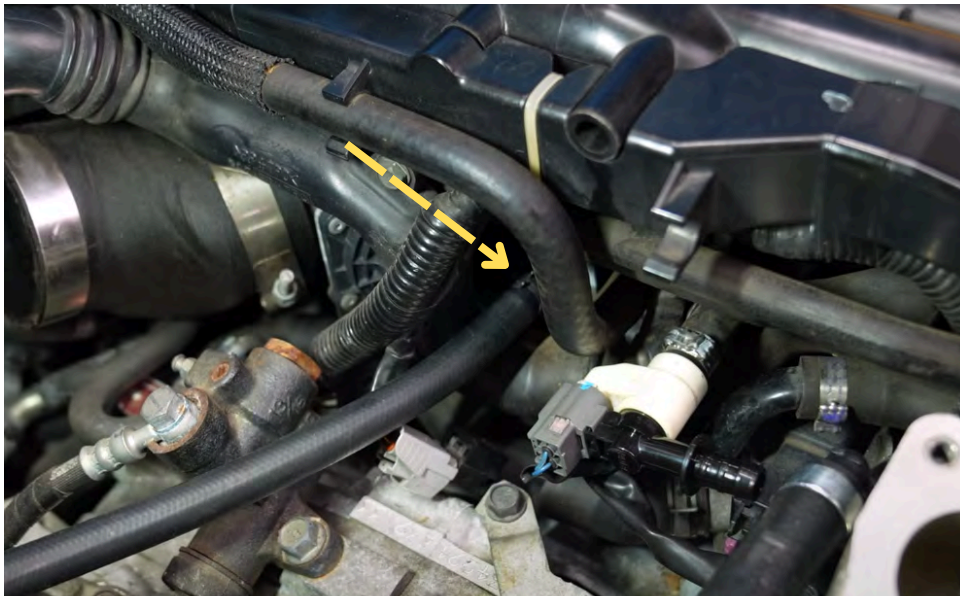
Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.

2



Step 58

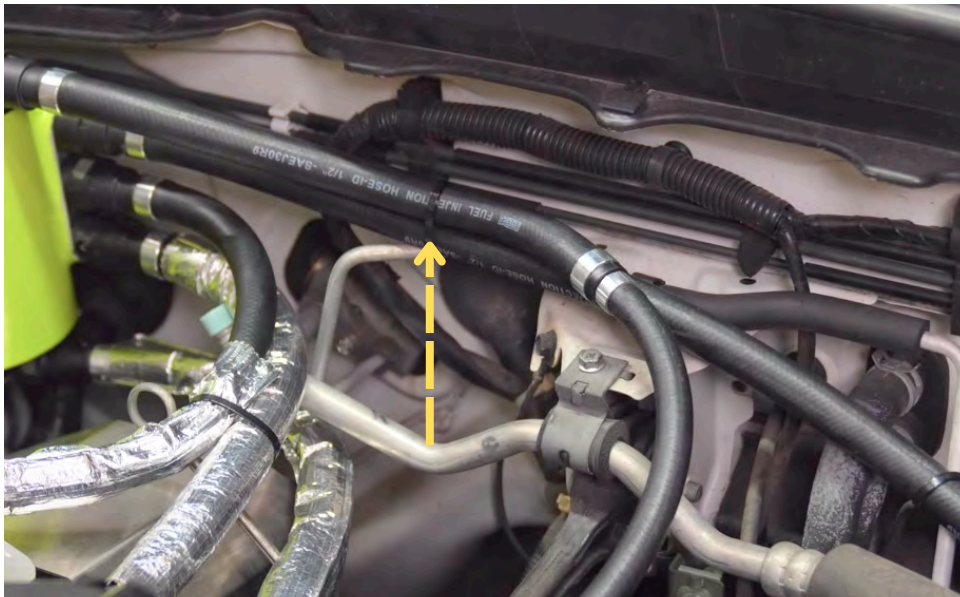
Connect to top of AOS can.



Step 59

Attach the other end of PCV hose to the nipple on the intake manifold.

Secure the clamp.



Step 60

Secure the two lines to the AC hard line with a zip tie.

Cut excess zip tie.



Step 61

Locate the 18" Breather hose.





Step 62

Prepare the 18" Breather hose. Using a razor blade, carefully cut off the 90° bend.



Step 63

Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.



Step 63 pt.2

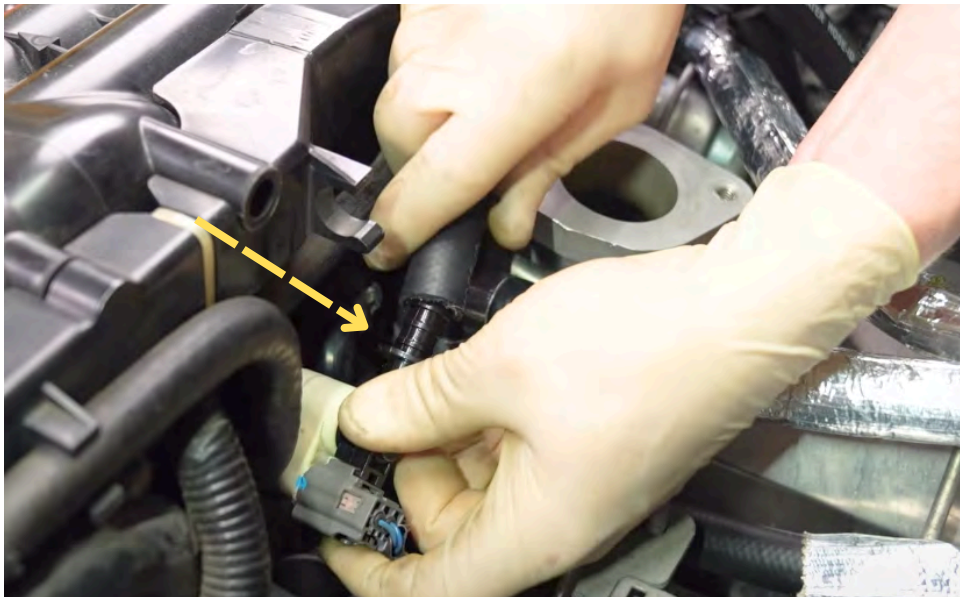
Route hose as shown.



Step 64

Install the inlet fitting for the PCV sensor.

11



Step 64 pt.2

Install the breather hose onto the PCV fitting.

Secure hose with hose clamp.



Step 65

Connect fitting to top right port of AOS can.



Step 66

Prepare the 16.5" breather hose.

Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.



Step 67

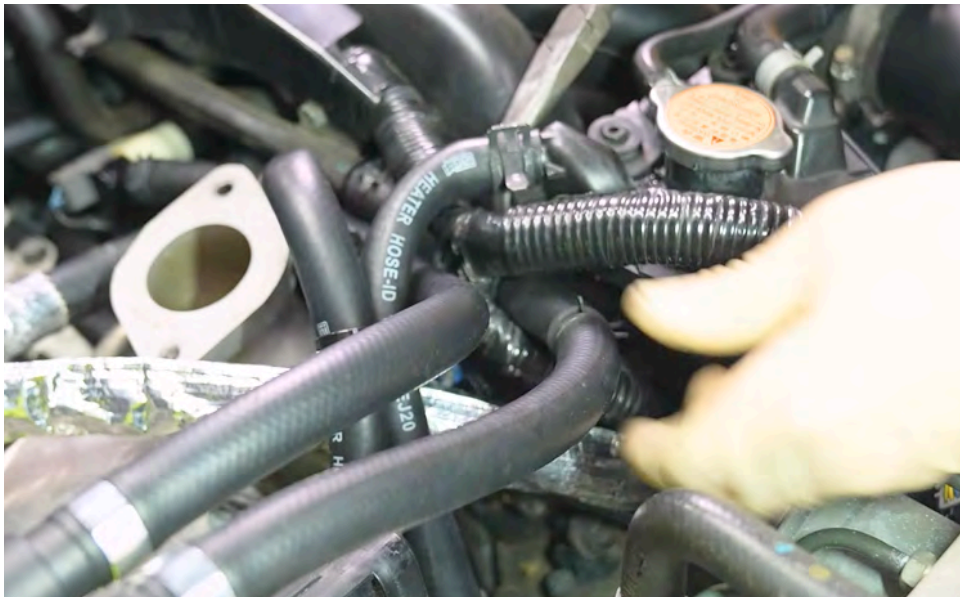
Connect fitting to top left of AOS can.



Step 68

Measure and mark the hose at an appropriate length to attach to the PCV line.

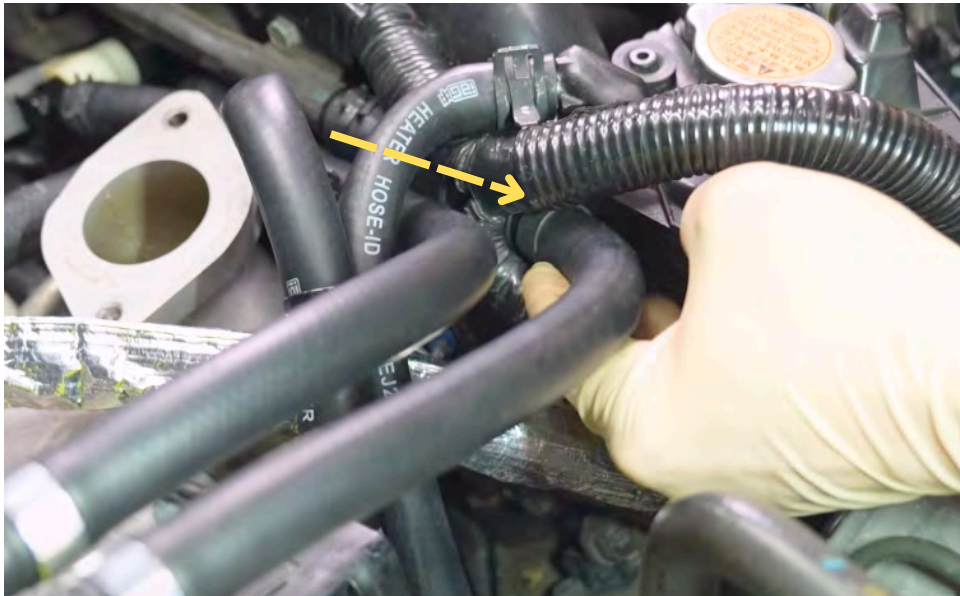
Cut the excess hose.



Step 69

Install clamp onto end of hose.

Connect breather hose to PCV line.



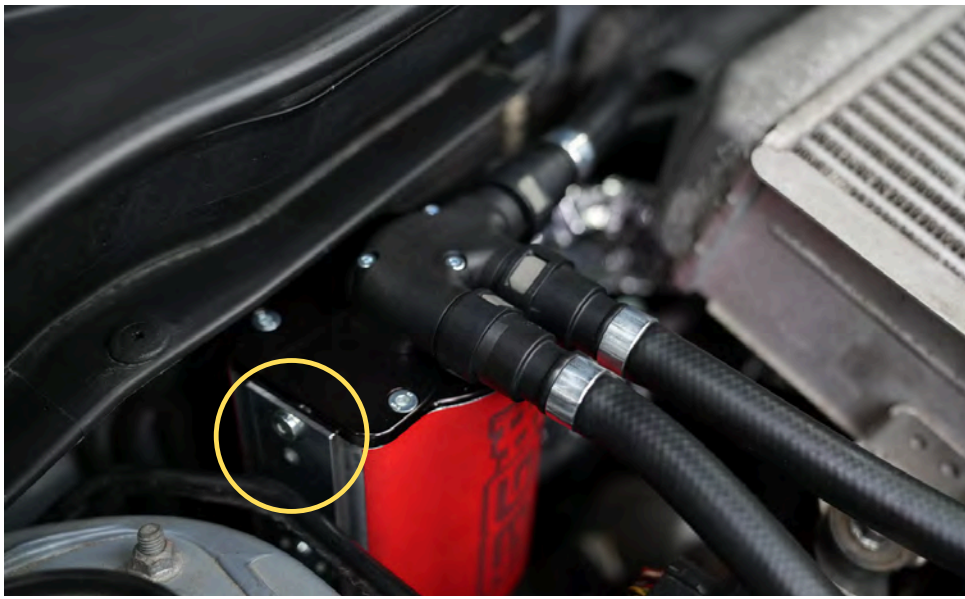
Step 70

Secure with clamp.



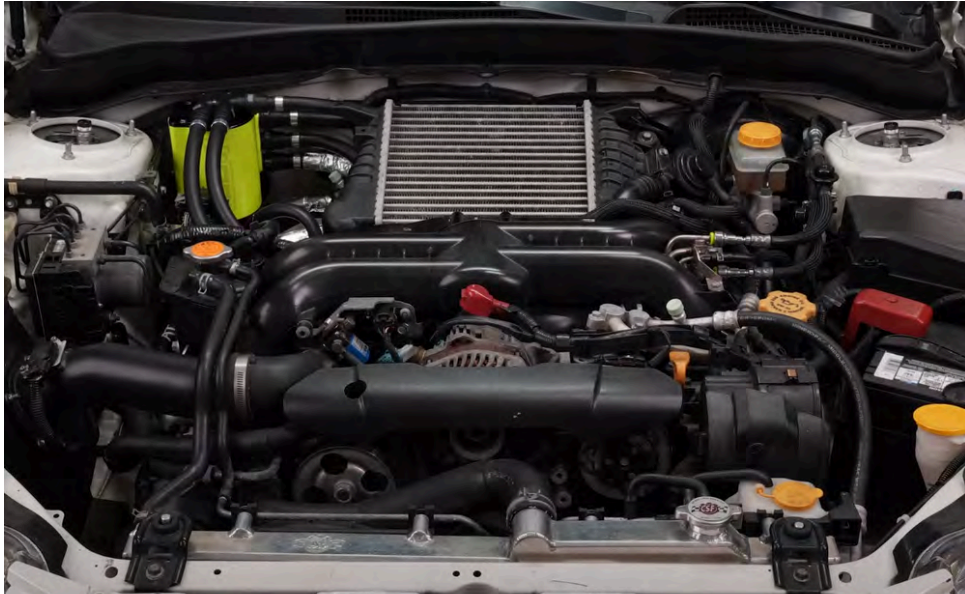
Step 71

Reinstall the top mount intercooler, BPV and intercooler brackets.

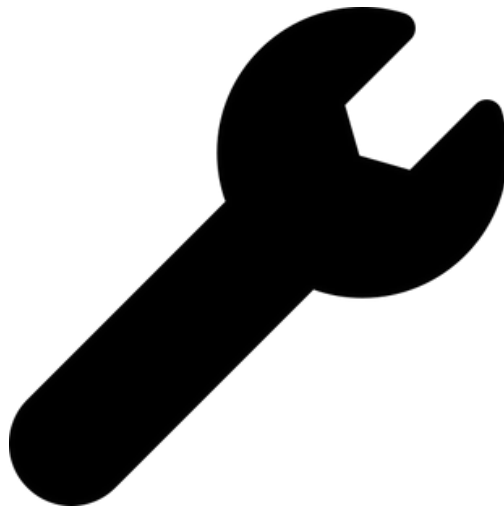


Step 72

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.



Step 73



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 or call 410-840-3555