

LAG Air / Oil Separator (AOS)



INSTRUCTIONS FOR 2010-2014 SUBARU IMPREZA WRX STI



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

Fitment:

2010-2014 Subaru Impreza WRX STI 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** 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

Use a pair of needle nose pliers to loosen the clamp and disconnect the hose.



Step 3

Repeat the process on the passenger side.



Step 3 pt.2



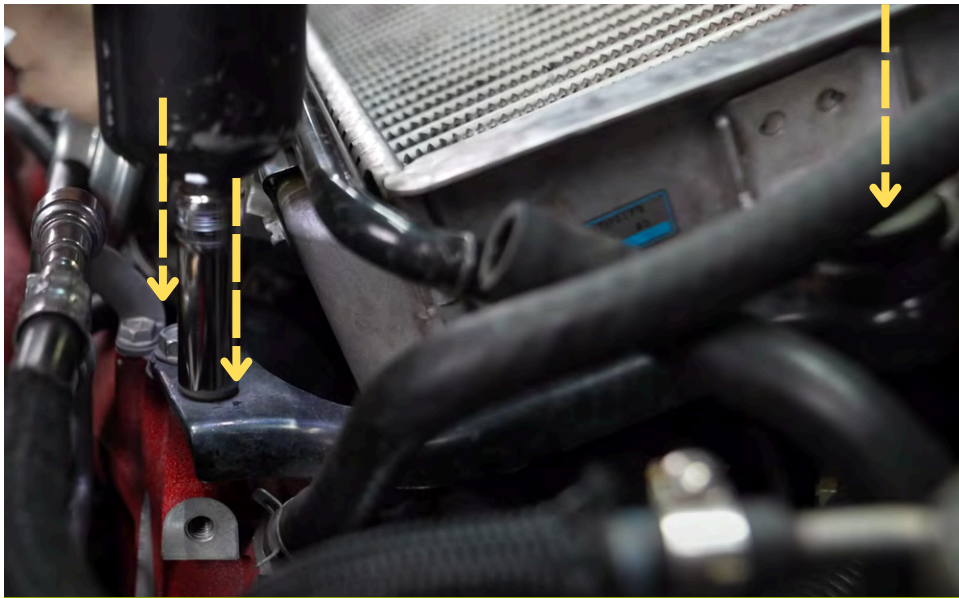
Step 4

Loosen clamp and remove hose from PCV connector.

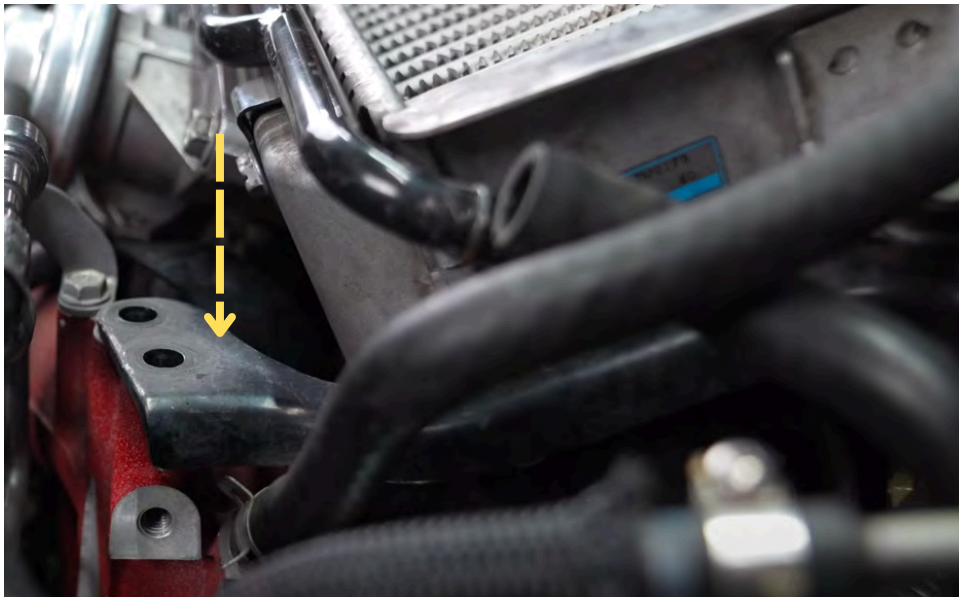


Step 5

Using a 12mm socket, remove the passenger and driver's side bracket bolts.

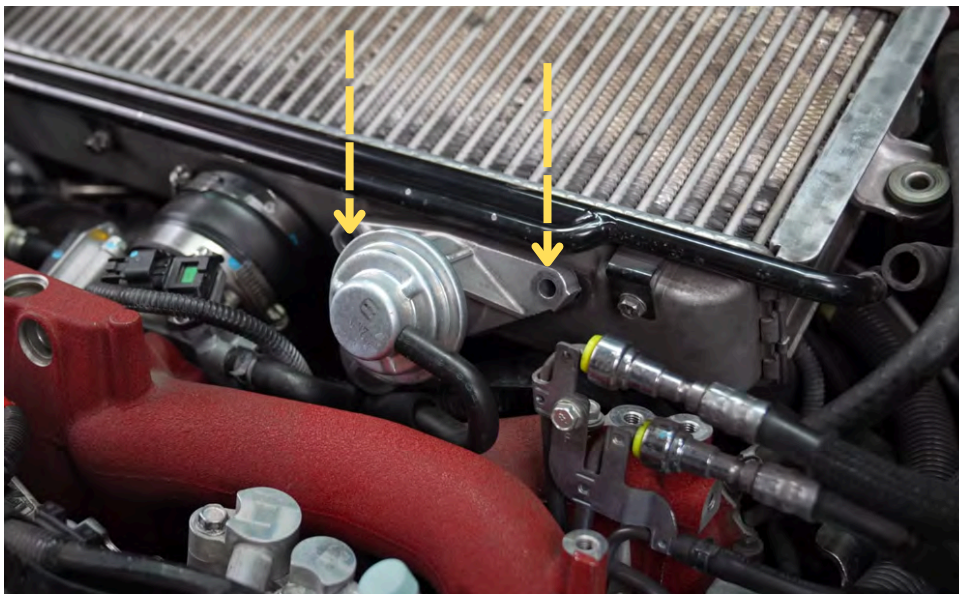


Step 5 pt.2



Step 6

Once unbolted, remove the driver's side bracket.



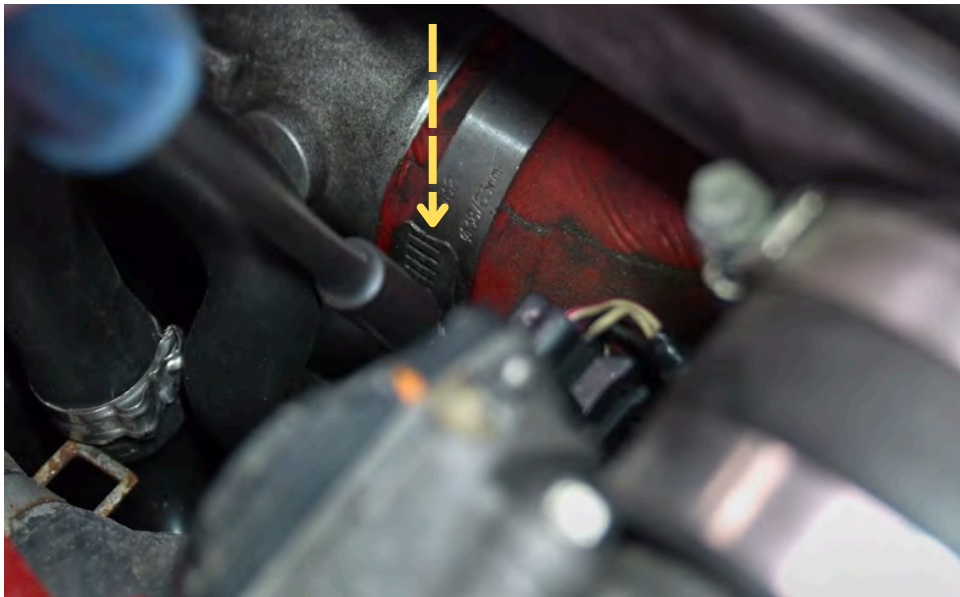
Step 7

Remove the two bolts that hold the BPV to the intercooler.



Step 8

Using a 8mm nut driver, loosen the two worm clamps on the throttle body and Y pipe.

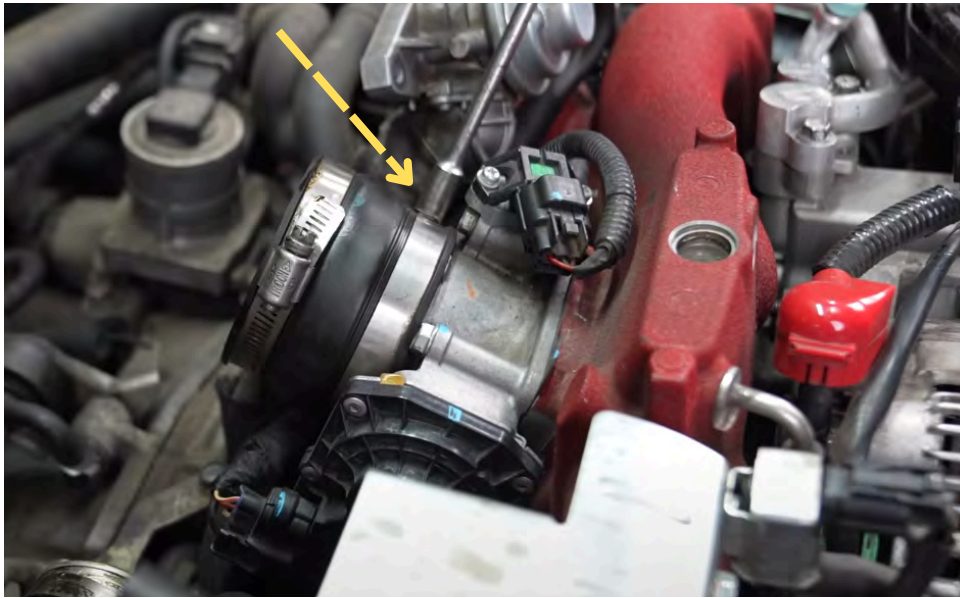


Step 8 pt.2



Step 9

Maneuver the intercooler away from the Y pipe and remove.



Step 10

Loosen the rubber coupler clamp and remove from throttle body.



Step 10 pt.2



Step 11

Remove the crossover pipe from the intercooler.



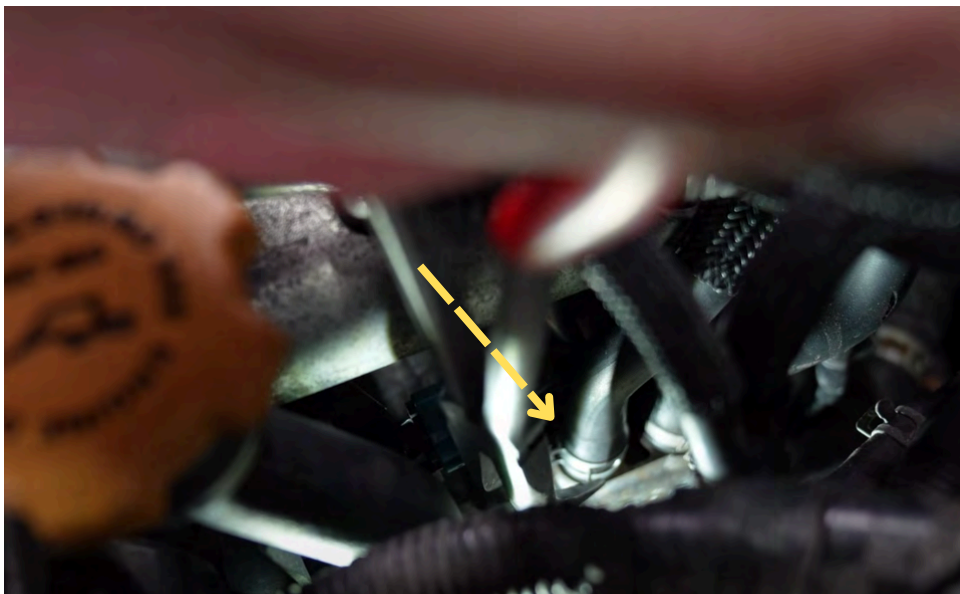
Step 12

On passenger side undo the clamp and remove valve cover hose from fitting.

Reference step 3 for first part of removal.



Step 12 pt.2



Step 13

On driver's side undo the clamp and remove valve cover hose from fitting.

Reference step 2 for first part of removal.

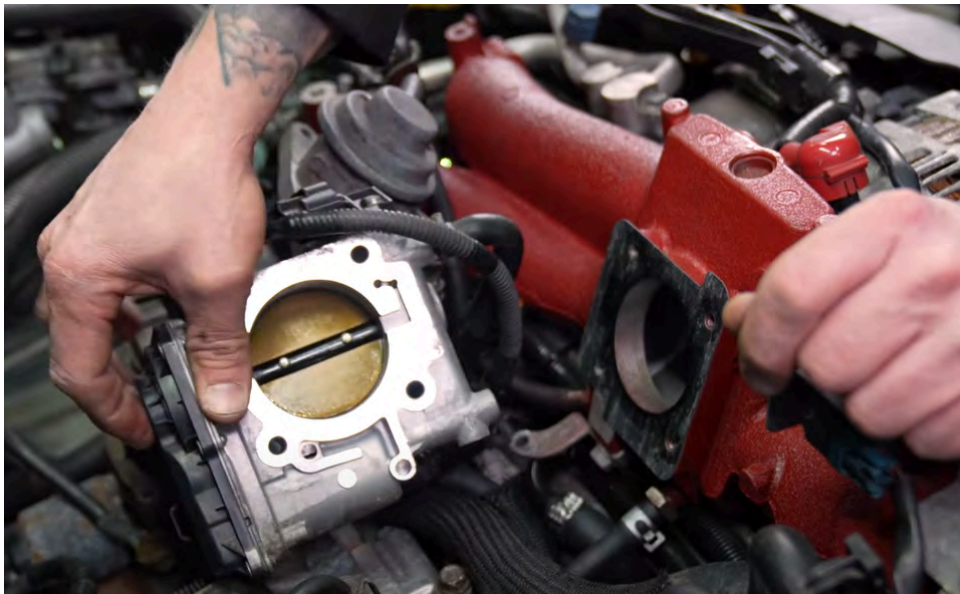


Step 13 pt.2



Step 14

Using a 10mm socket, remove the four bolts attaching the throttle body to the manifold.



Step 14 pt.2



Step 15

Use a pick to loosen clamp on breather hose.



Step 16

Loosen clamp and remove hose from PCV connector.

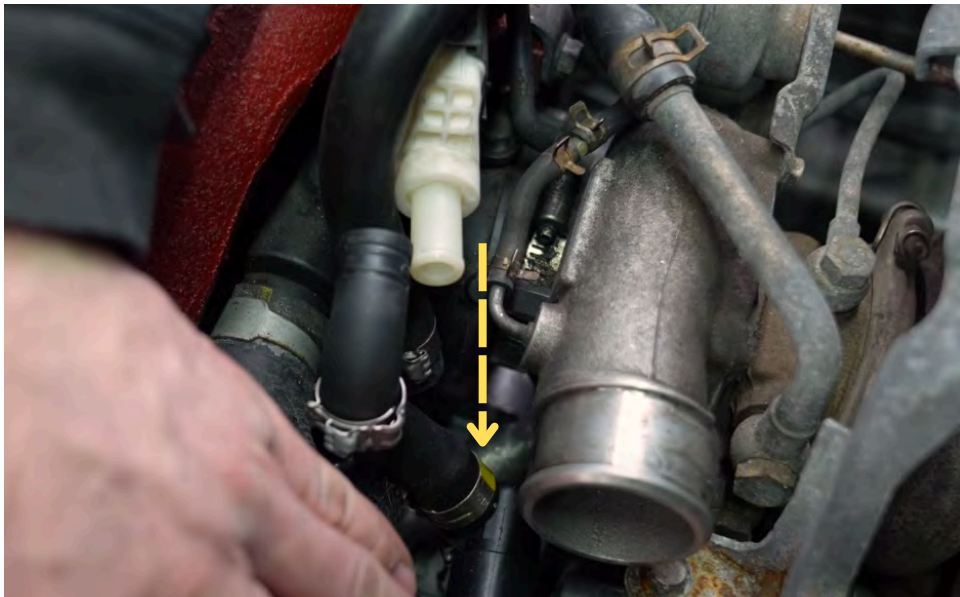


Step 17

Using a pair of needle nose pliers loosen the clamp on vacuum hose.



Step 18
Remove vacuum hose.



Step 19
Using a pick loosen the lower
clamp on the block breather.



Step 19 pt.2



Step 20

Prepare new breather hose.

Apply a small amount of lube to the hose.

15



Step 21

Install the Y fitting to hose.

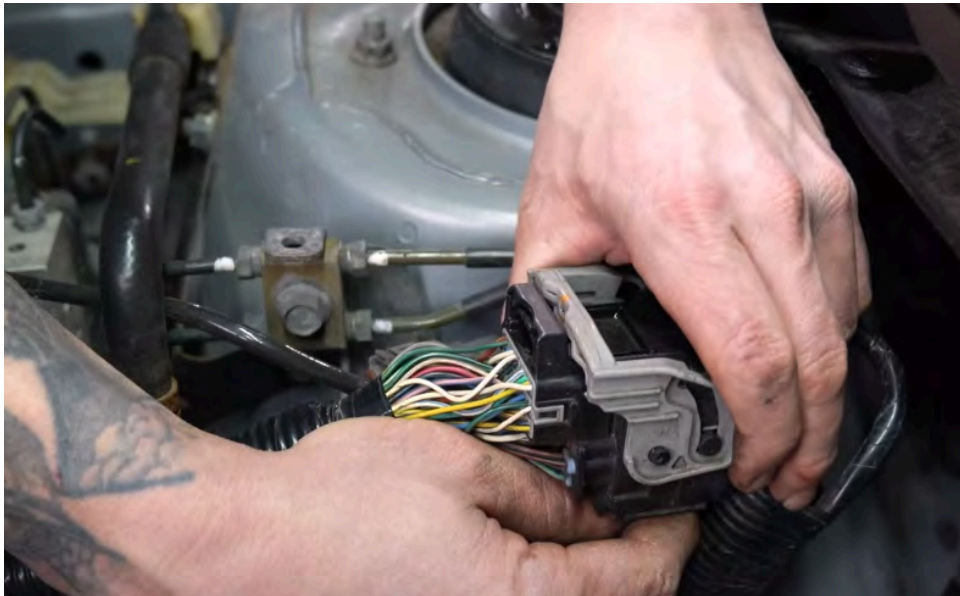
Place clamps on hose and tighten the top clamp, but leave the bottom loose.



Step 22

Install the new breather assembly.

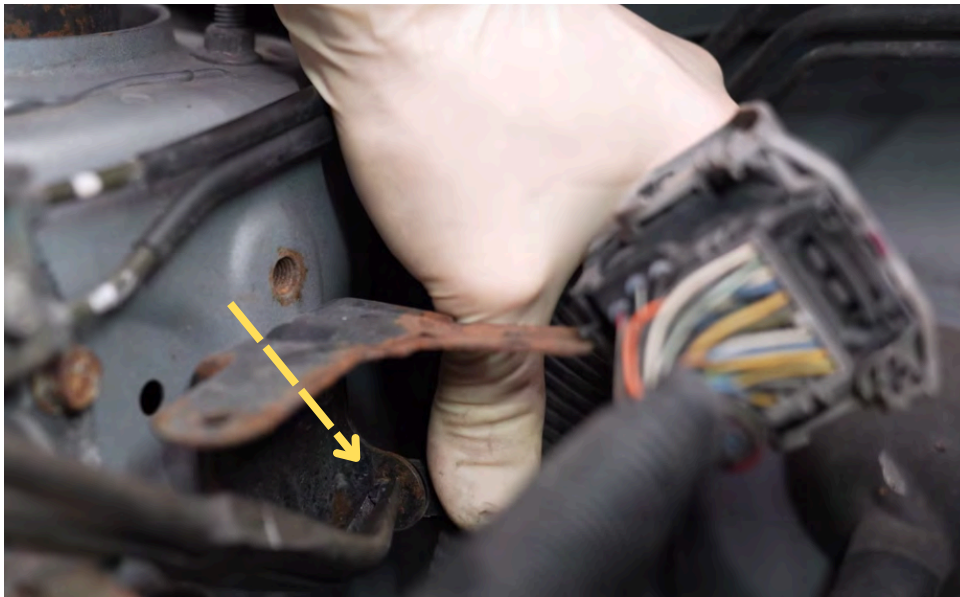
Tighten bottom clamp.



Step 23

Locate wiring harness on passenger side.

Press tab and slide the connector off the clip that secures the connector to the bracket.



Step 24

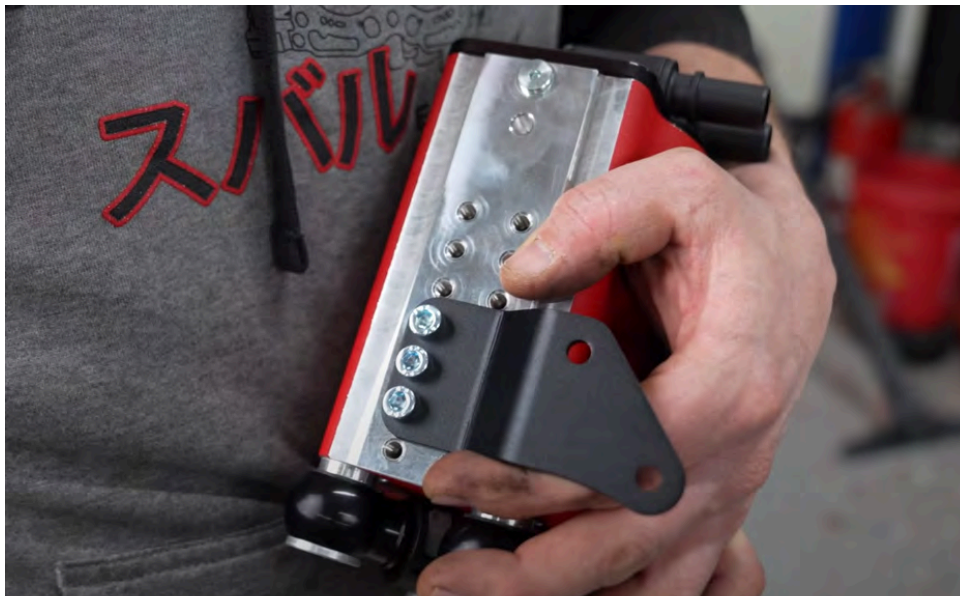
Use pliers to squeeze the end of the clip and push it through the hole.

This will release the clip attaching the wiring connector.



Step 25

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



Step 26

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

18



Step 27

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 28

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 29

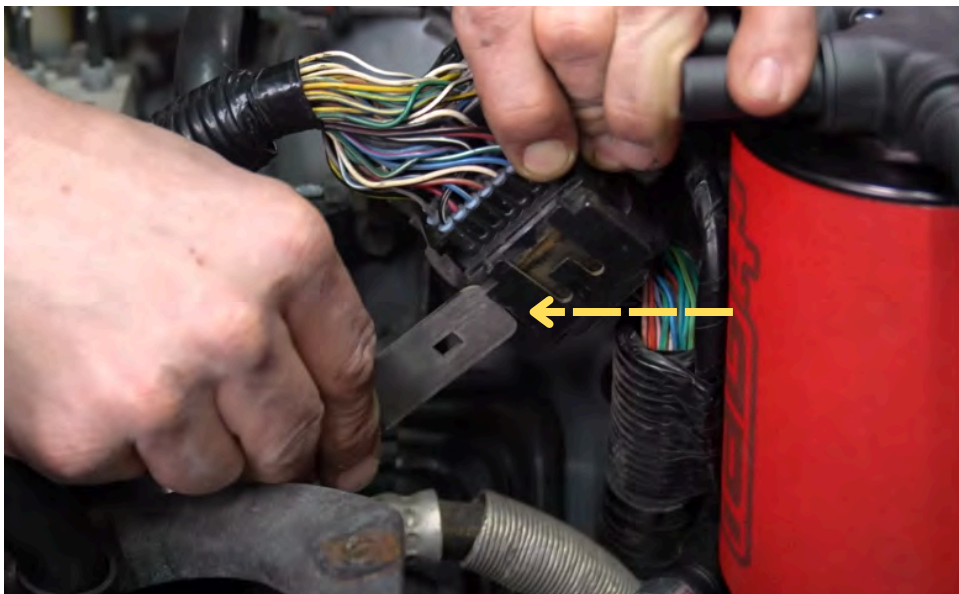
Using the provided 10mm bolts install the bracket and AOS onto the strut tower using a 10mm wrench.



Step 30

Remove the 10mm bolt using socket.

Save for future step.

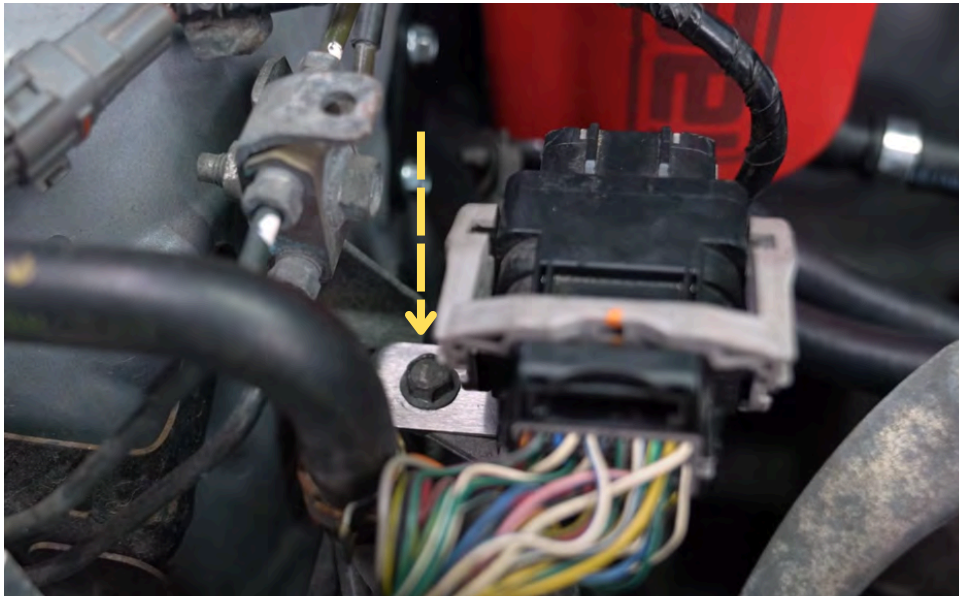


Step 31

Install the new harness bracket to the wiring harness.

17





Step 32

Reinstall the 10mm bolt from step 30.



Step 33

Using hose clamp pliers, clamp the turbo coolant hose.



Step 34

Use pliers to loosen clamps on coolant hose.



Step 34 pt.2



Step 35

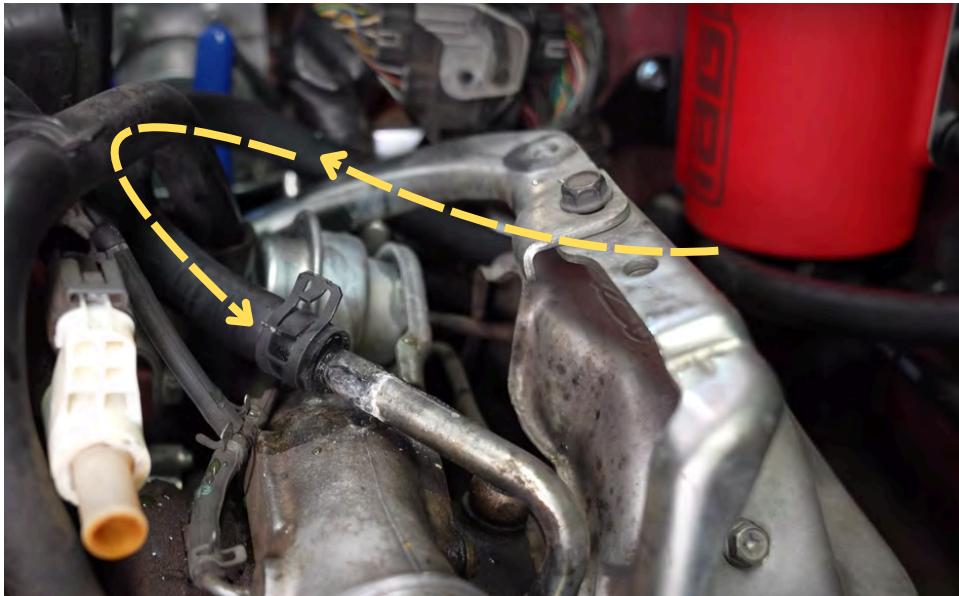
Remove coolant hose from expansion tank.



Step 36

Remove the turbo coolant hose.

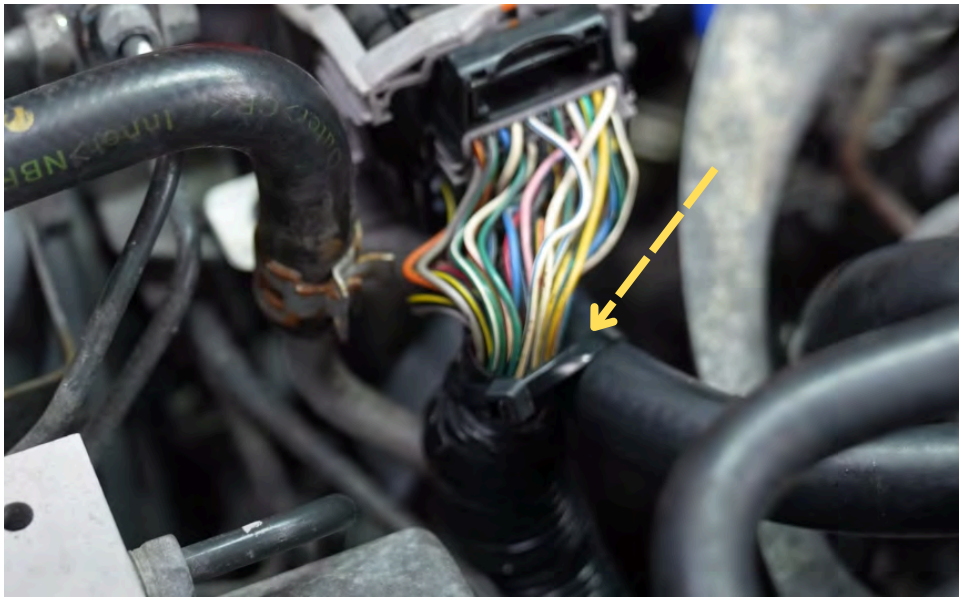
Note: A small amount of coolant may come out of line.



Step 37

Route new coolant hose from bottom of AOS to fitting from step 36.

Install the supplied clamp onto hose and secure.



Step 38

Secure hose to wiring harness using a zip tie.



Step 39

Route the other coolant hose under the turbo heat shield bracket.



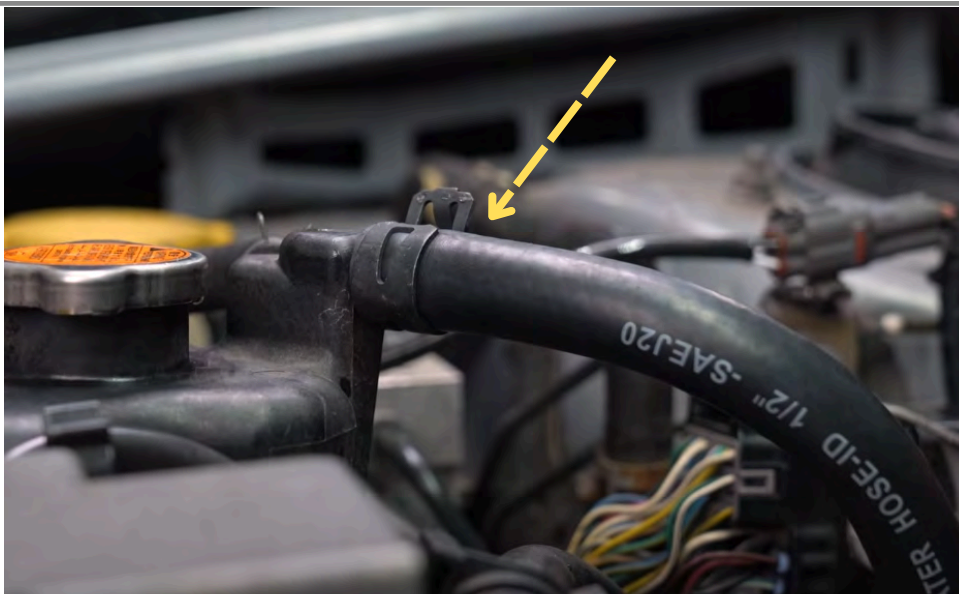
Step 40

Once hose is routed, measure and mark the coolant hose.



Step 41

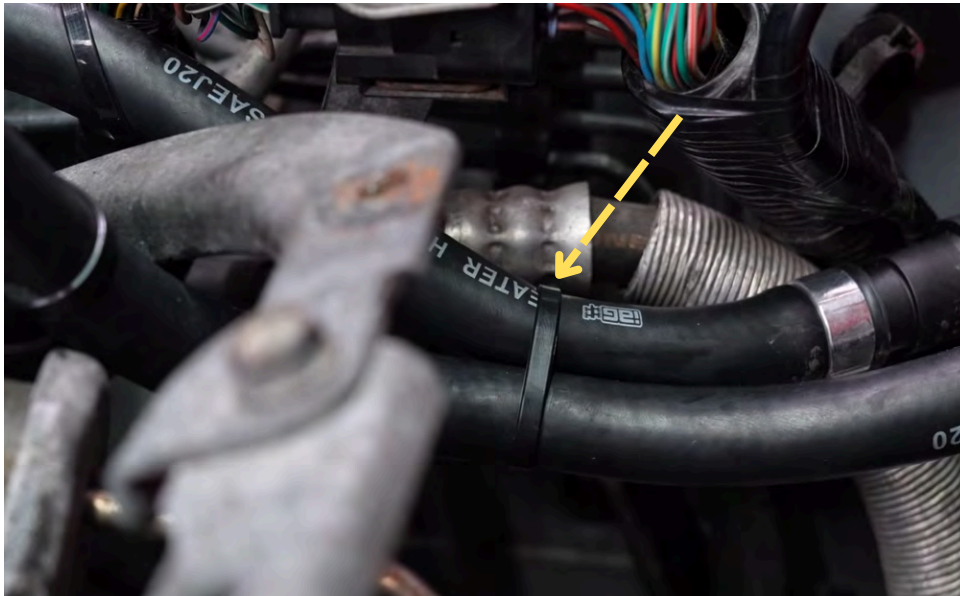
Cut excess coolant hose.



Step 42

Install the supplied clamp to hose and install to coolant tank.

Secure the clamp to hose.



Step 43

Zip tie the two coolant hoses together.

Cut excess zip tie.



Step 44

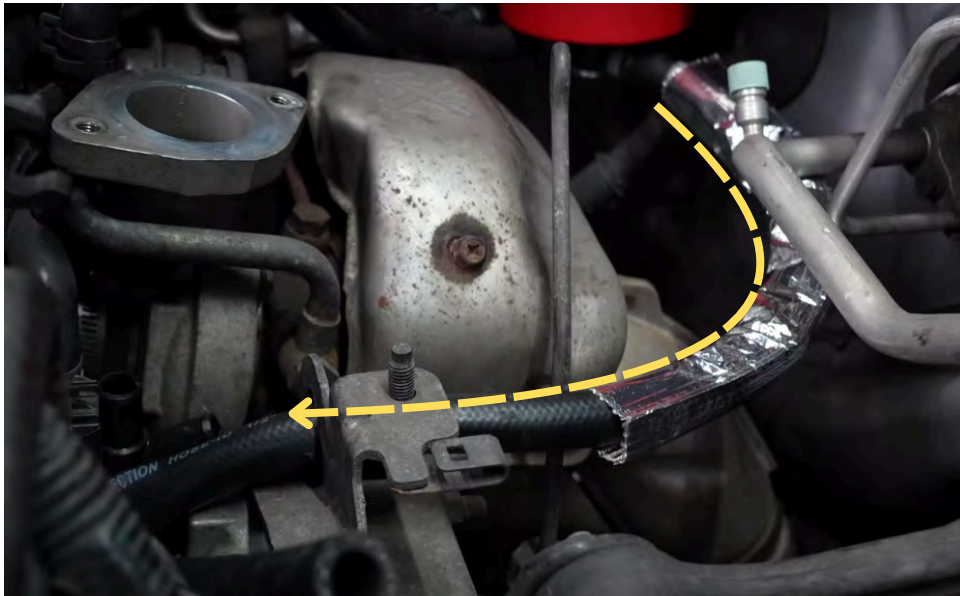
Remove the coolant hose clamp from step 33.



Step 45

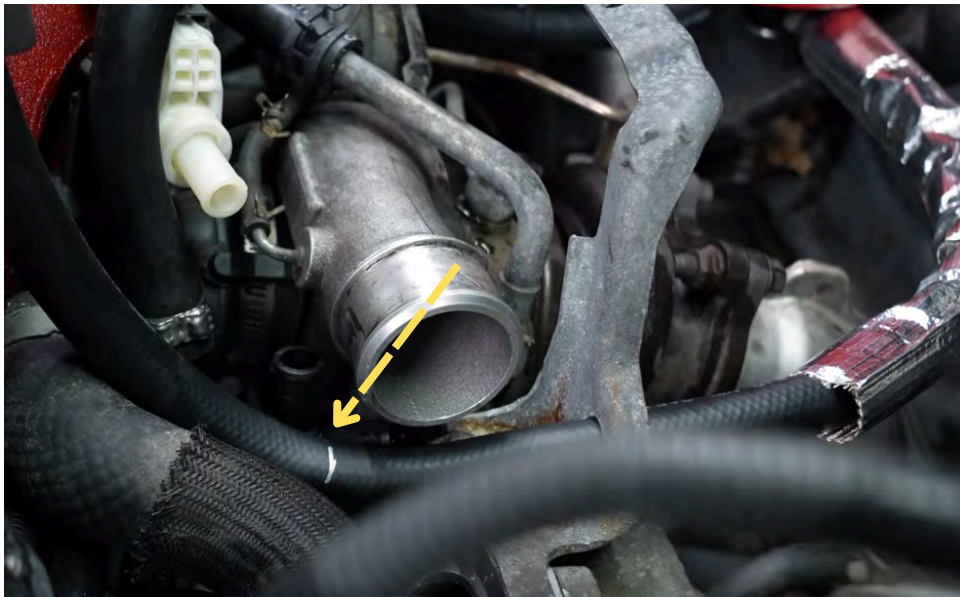
Slide the 12 inch piece of heat sleeve onto the drain hose.





Step 46

Route drain hose and thread through bracket.



Step 47

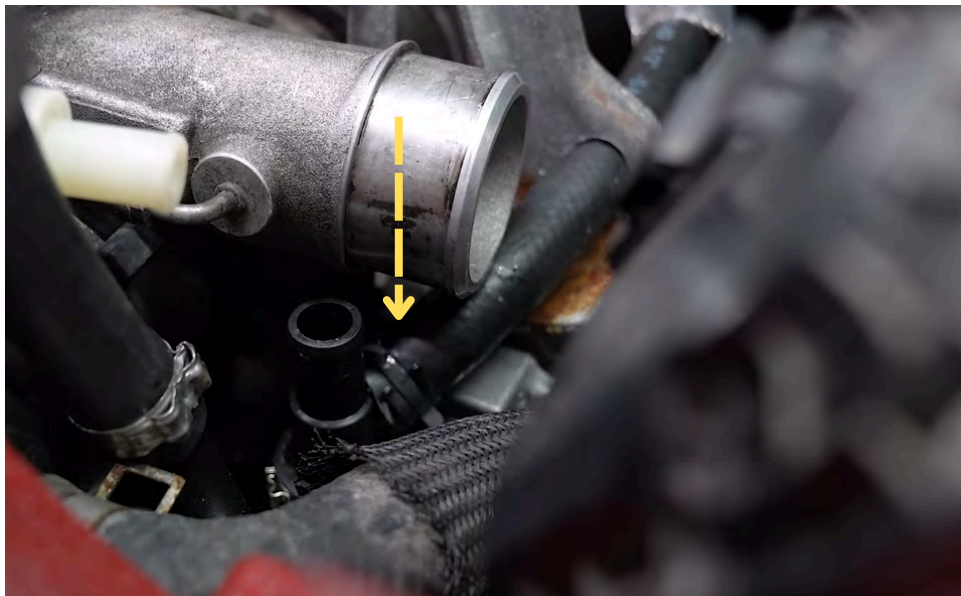
Measure, mark and cut the drain hose.

This hose will connect to the breather assembly.



Step 48

Cut excess drain hose.



Step 49

Install the supplied clamp to drain hose.

Attach the hose to the breather assembly.

Reference step 22.

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



Step 50

Zip tie the drain hose to the AC hard line.

Cut excess zip tie.



Step 51

Install supplied clamp to 90 degree elbow on hose.

Apply a small amount of lube to the other end.





Step 52

Attach hose to bottom fitting on AOS can.



Step 53

Route the vent hose under heat shield bracket.



Step 54

Connect the 90 degree fitting to Y fitting on breather assembly.

Secure the clamp.

Reference step 22.



Step 55

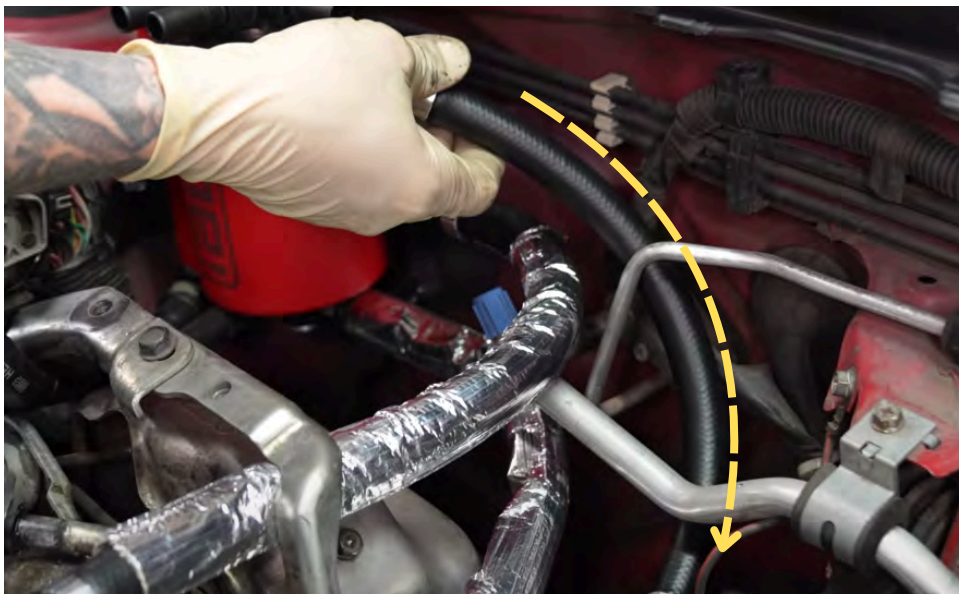
Prepare PCV hose by applying a small amount of lube to the fitting.

2



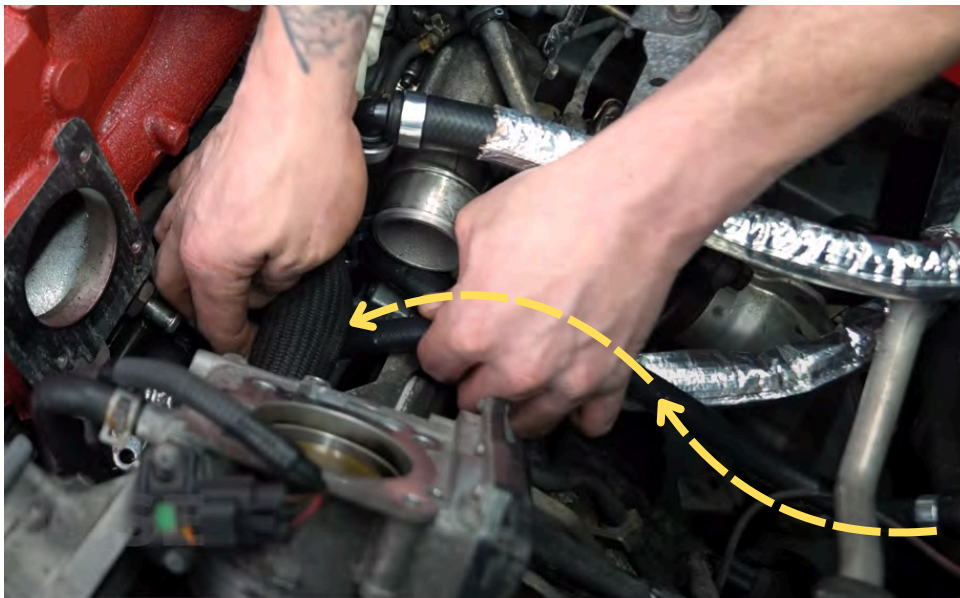
Step 56

Connect hose to top of AOS can.



Step 57

Route hose behind the AC hard line.



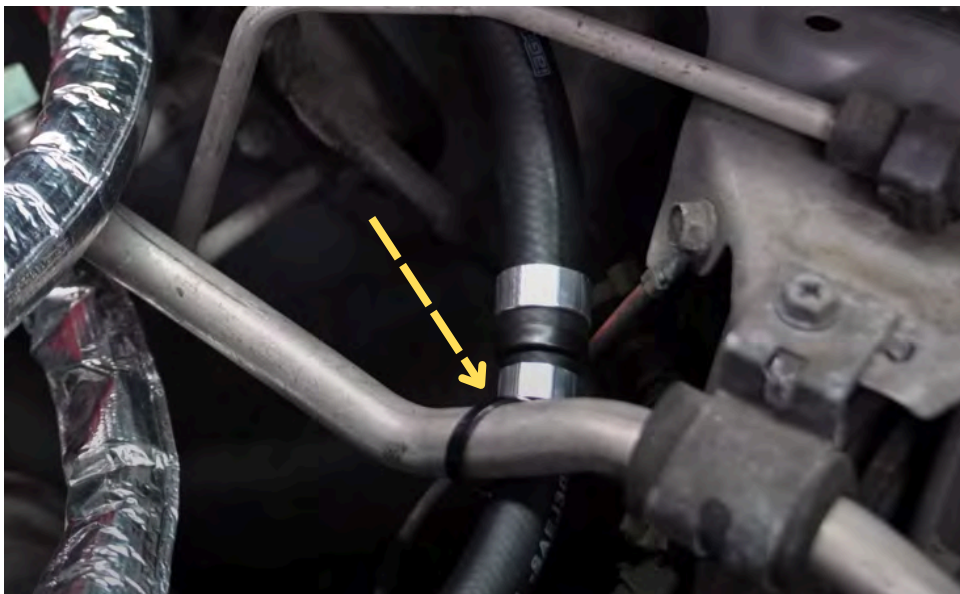
Step 57 pt.2



Step 59

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

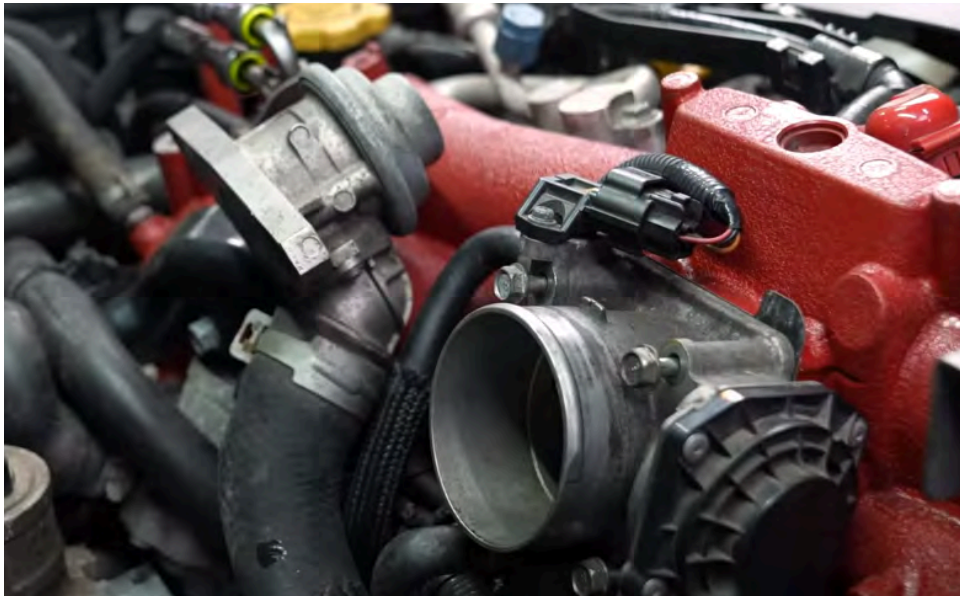
Secure the clamp.



Step 60

Attach the zip tie to hose and AC hard line.

Cut excess zip tie.



Step 61

Reinstall the throttle body to manifold.



Step 62

Use a torque wrench and tighten the throttle body to OEM specs.

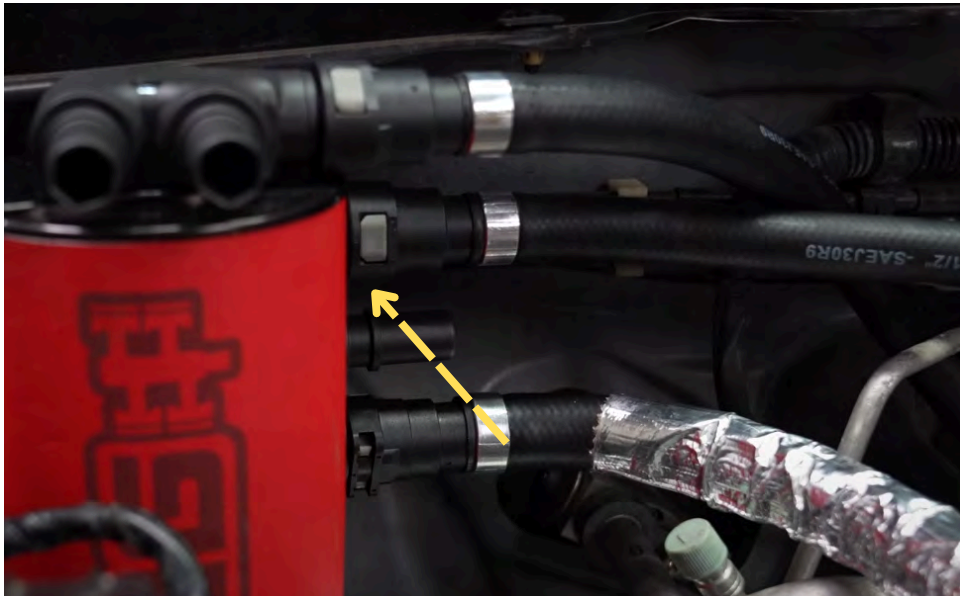


Step 63

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

Slide a clamp onto other end of hose.





Step 64

Connect hose to port on AOS.



Step 65

Route hose to the driver's side valve cover.



Step 66

Install the valve cover vent hose to fitting.

Secure the clamp to hose.

Reference step 13.



Step 67

Secure hose to AC line using a zip tie.

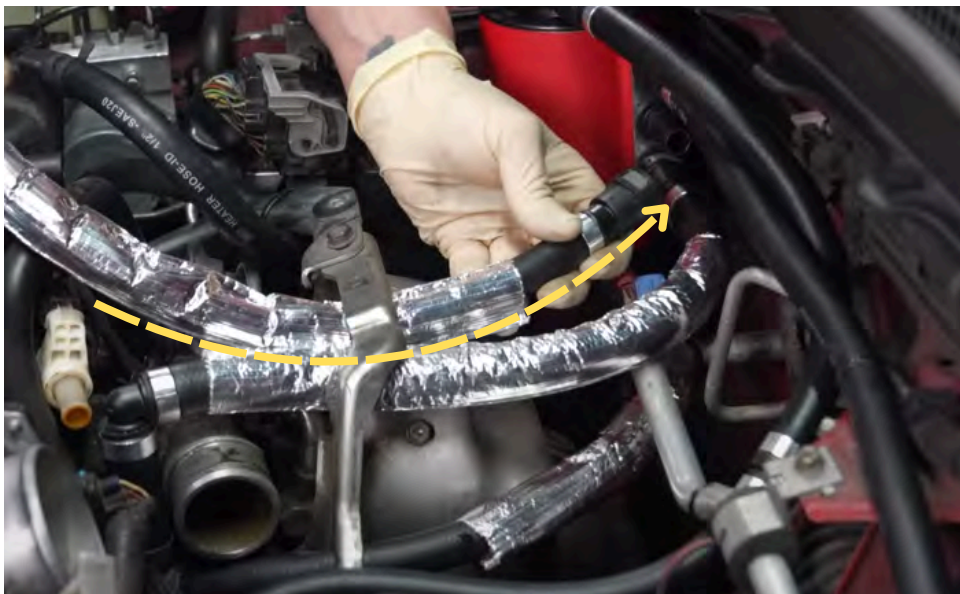
Cut excess zip tie.



Step 68

Slide the 16 inch heat sleeve to 28 inch vent hose.

Apply a small amount of lube to fitting.



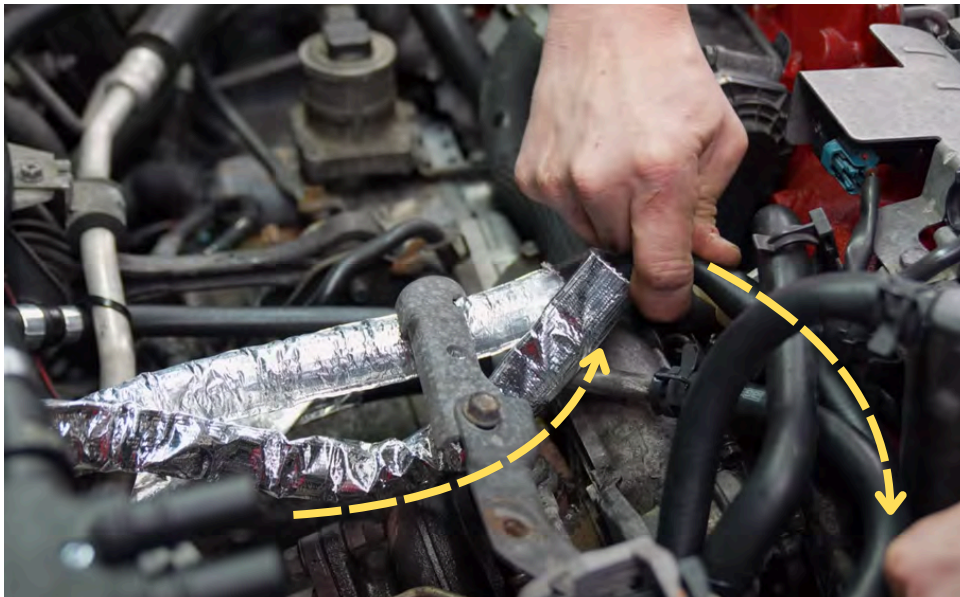
Step 69

Route the vent hose under heat shield bracket.



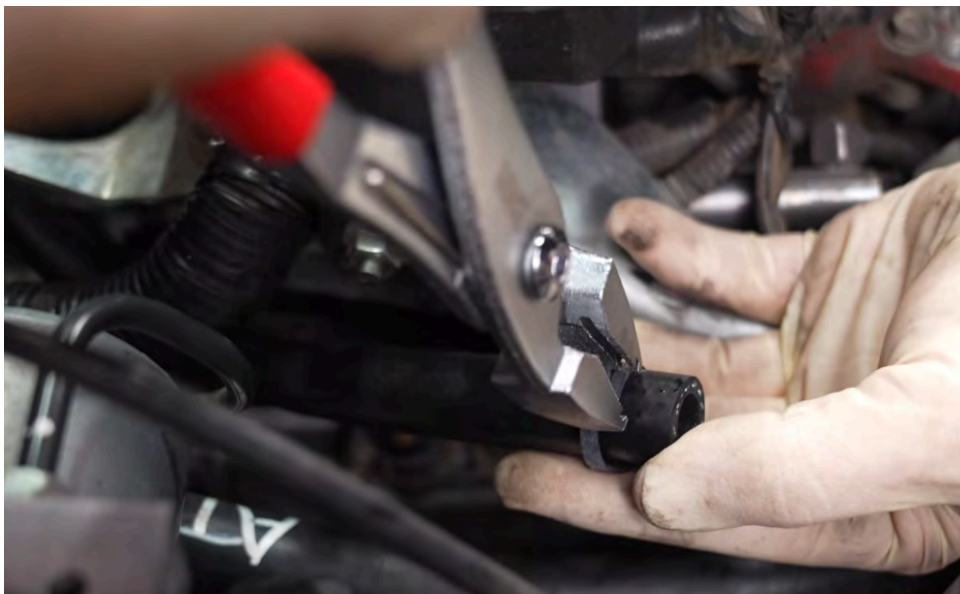
Step 70

Connect the hose to the middle port on AOS.



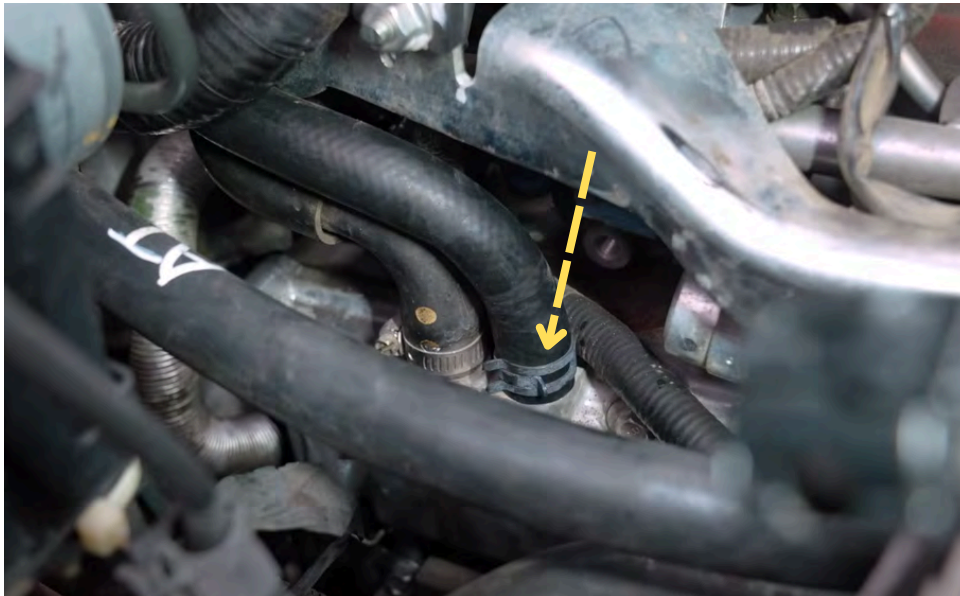
Step 71

Route the hose to the passenger valve cover.



Step 72

Slide clamp onto hose with pliers.



Step 73

Attach hose to valve cover fitting.

Secure the clamp.

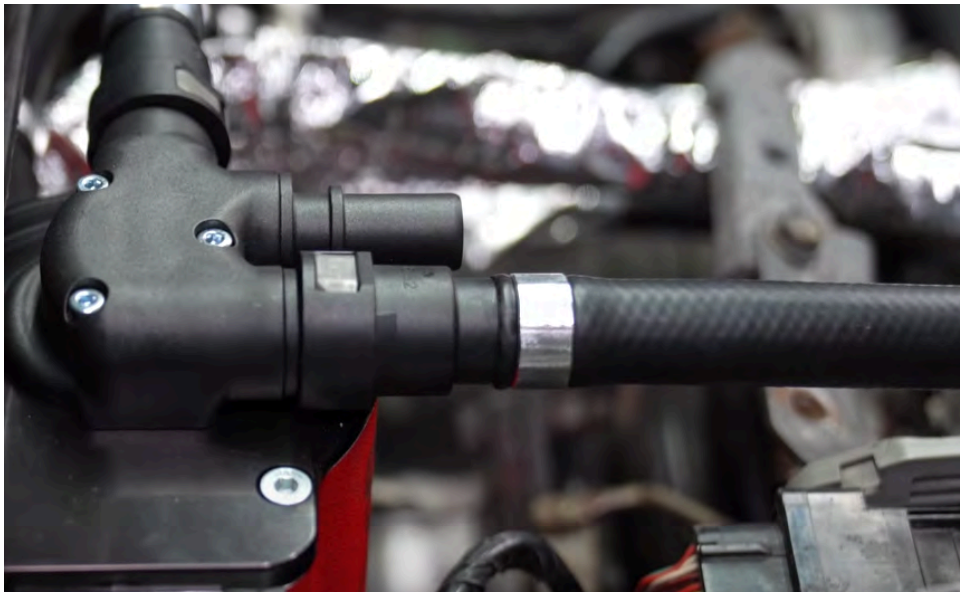
Reference step 12.



Step 74

Apply a small amount of lube to the fitting on one of the 18 inch breather hoses.

Install clamp.



Step 75

Connect to top left port on AOS can.



Step 76

Install the 90 degree fitting to the PCV connector.

Secure the clamp to the hose.

Reference step 4.



Step 77

Apply a small amount of lube to the fitting on the other 18 inch breather hose.

Install clamp.



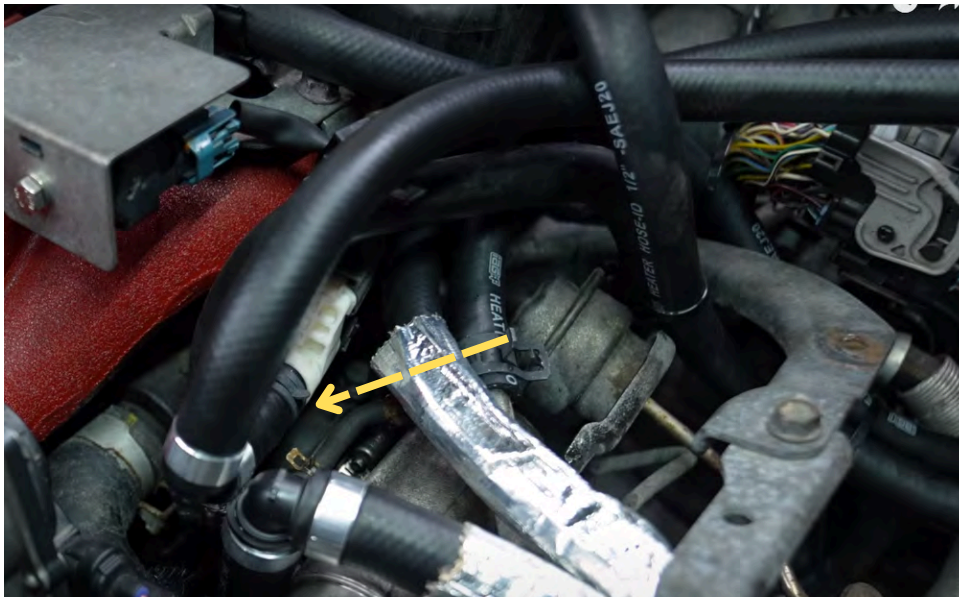
Step 78

Route hose under coolant line.



Step 79

Connect hose to top right port on AOS can.



Step 80

Connect hose to PCV connector.

Secure the clamp to the hose.



Step 81

Reinstall the top mount intercooler, BPV and intercooler brackets.

Step 82

Reinstall the negative battery terminal.



Step 83

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 or call 410-840-3555