

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



**INSTRUCTIONS FOR 2008-2009 SUBARU WRX STI**



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

## **Fitment:**

2008-2009 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](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** 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



**19** x2 AOS bracket bolts

**20** x3 AOS mounting bolts

**21** Hose Clamps

**22** Zip Ties

**23** Block Vent Hose

**24** Block Drain Hose

**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.



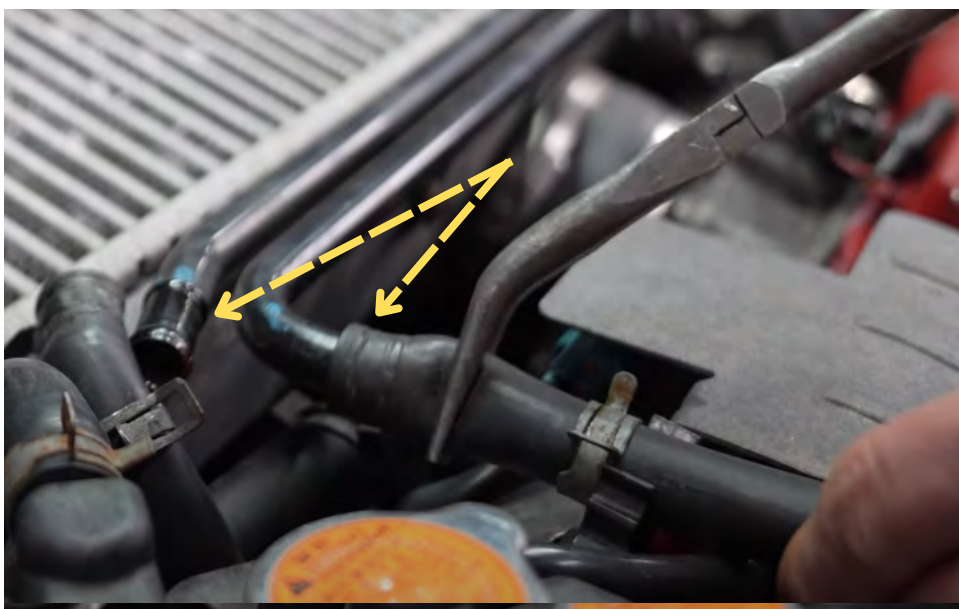
### Step 1

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



### Step 2

Use a pair of needle nose pliers, loosen the clamp from the drivers side PCV line, and remove hose.



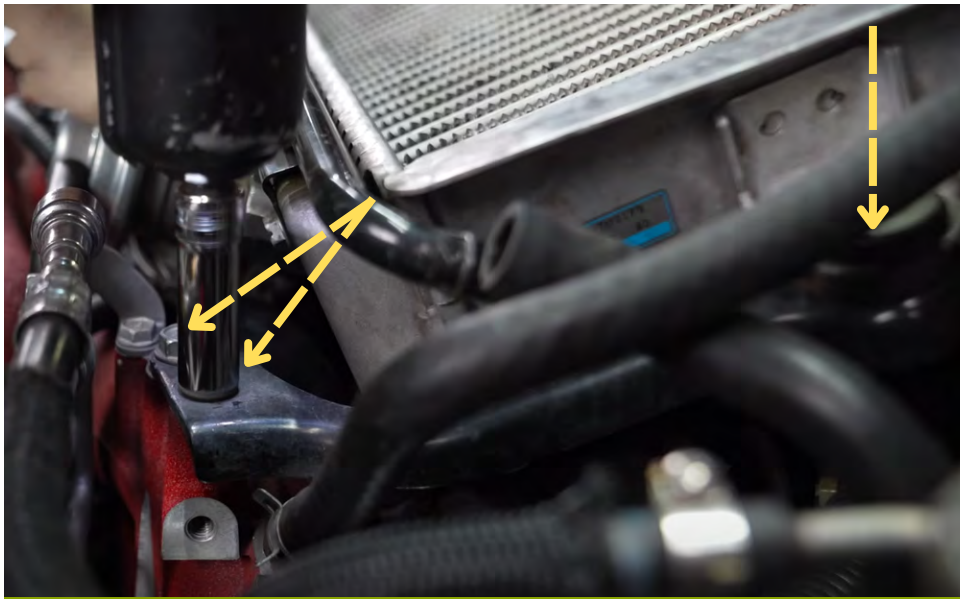
### Step 3

Repeat the process on the passenger side.



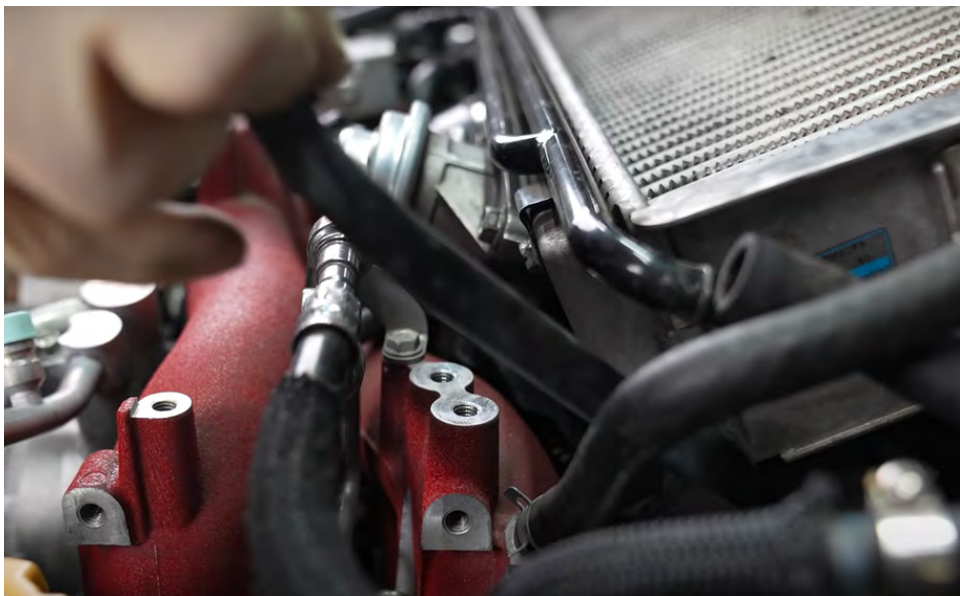
#### Step 4

Remove the 12mm bolt from the passenger side of the intercooler.



#### Step 4

Remove the 3 12mm bolts from the drivers side of the intercooler.



#### Step 5

Remove intercooler bracket.



#### Step 6

Remove the 2 BPV bolts, and loosen BPV from intercooler.



#### Step 7

Loosen the 8mm hose clamp on the throttle body.



#### Step 7 pt. 2

Loosen the 8mm hose clamp on the intercooler pipe.



#### Step 8

Wiggle intercooler away from intake pipe, and carefully remove the intercooler.



#### Step 9

Loosen 8mm hose clamp, and remove rubber coupler from throttle body.



#### Step 10

Remove the 2 bolts from the crossover pipe, and remove crossover pipe.



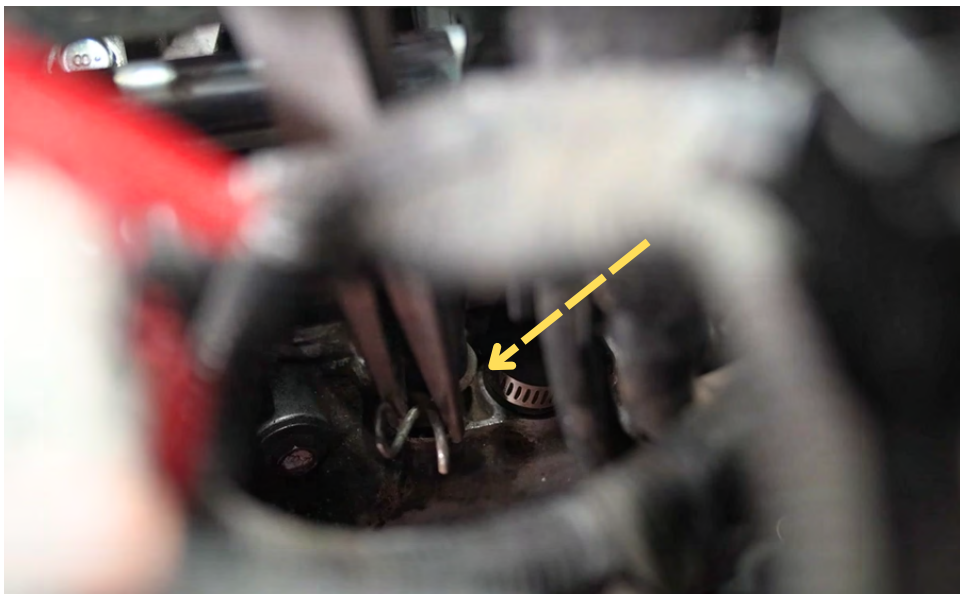
#### Step 11

Loosen clamp from passenger side valve cover hose.



#### Step 11 pt. 2

Remove passenger side valve cover hose.



#### Step 12

Using needle nose pliers, loosen clamp from drivers side valve cover hose.



#### Step 12 pt. 2

Remove drivers side valve cover hose.



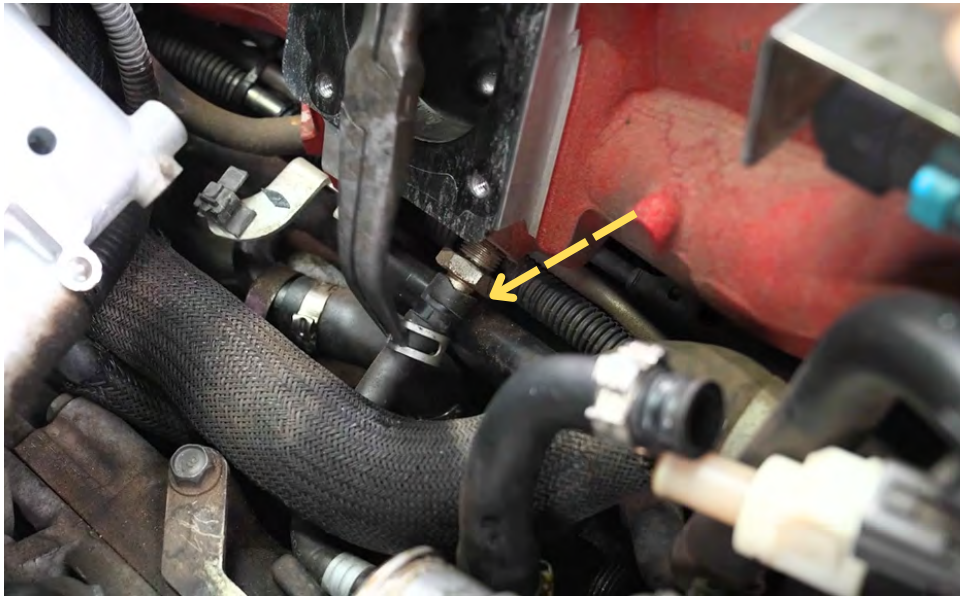
#### Step 13

Remove the 4 10mm bolts from the throttle body, and remove throttle body.



#### Step 14

Using a pick, remove the clamp from the block breather hose. Remove breather hose from sensor.



#### Step 15

Loosen hose clamp with pliers, and remove PCV vacuum hose from the intake manifold.



#### Step 16

Using a pick, remove the lower block breather hose clamp.



#### Step 16 pt. 2

Remove the block breather.



### Step 17

Prepare new breather hose.

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



### Step 17 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 18

Install the new breather assembly.

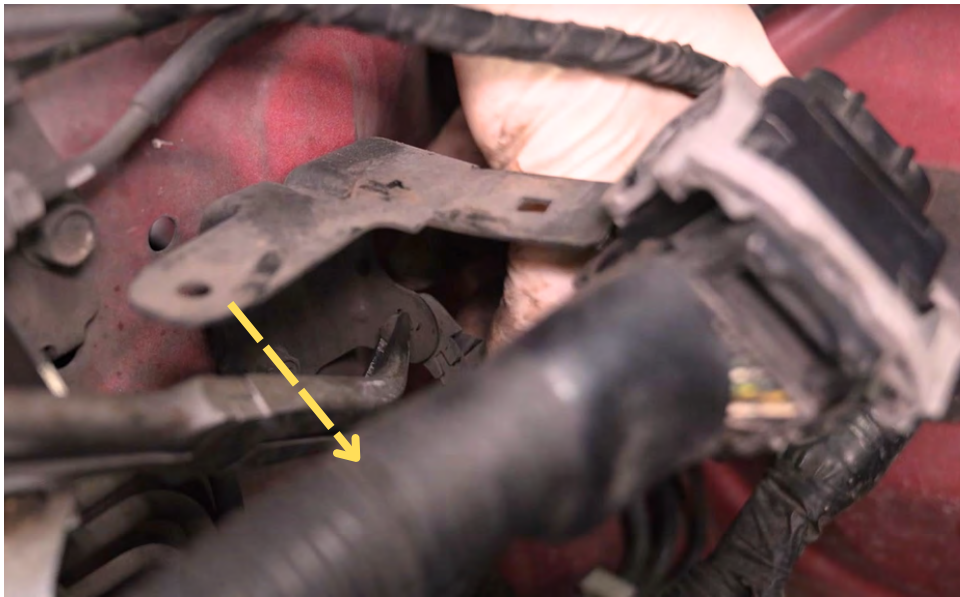
Tighten bottom purple 29mm clamp.



#### Step 19

Locate wiring harness on passenger side.

Press tab and 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

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



### Step 23

Prepare 27" Drain hose. Apply a small amount of lube to the fitting, and attach to the bottom of the AOS.



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



### Step 24

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





### Step 25

Tighten the bracket bolts to the strut tower.



### Step 26

Remove the 10mm bolt from the hose bracket.

Save bolt for next step.



### Step 27

Install the new harness relocation bracket to the wiring harness.

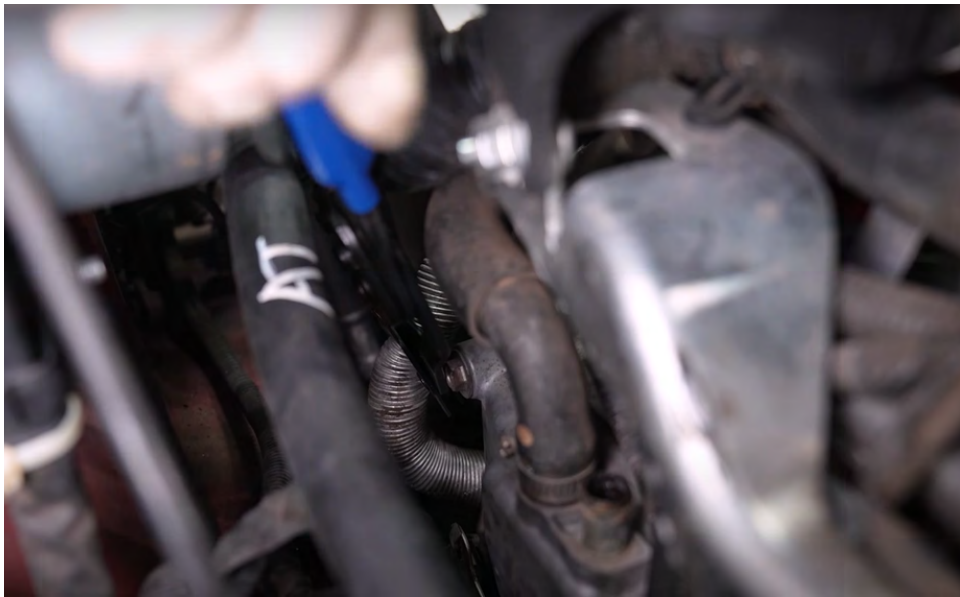
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#### Step 27 pt.2

Reinstall the 10mm bolt from step 26.



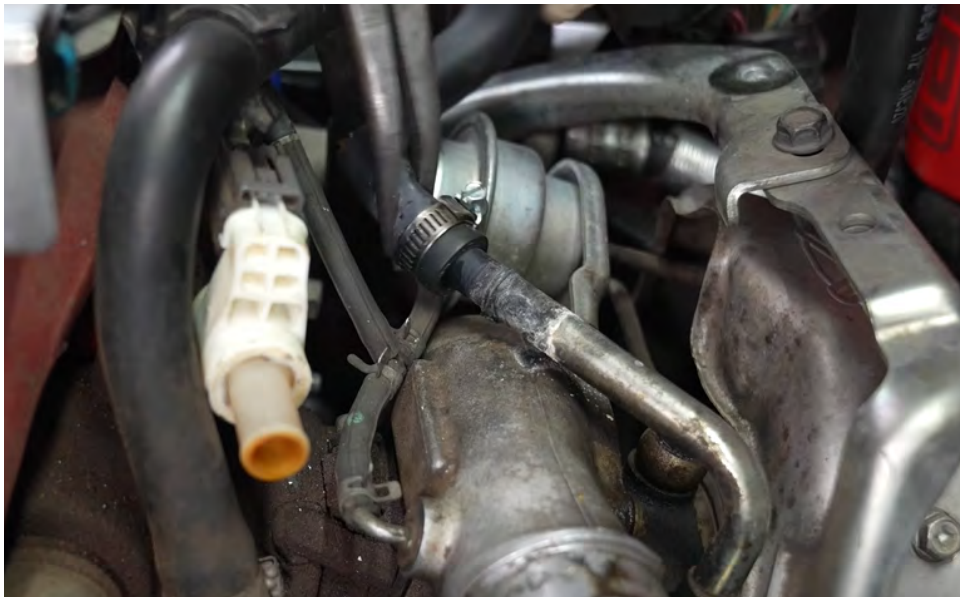
#### Step 28

Using pinch off pliers, clamp the turbo coolant line.



#### Step 29

Loosen the hose clamp, and remove coolant hose from coolant reservoir.



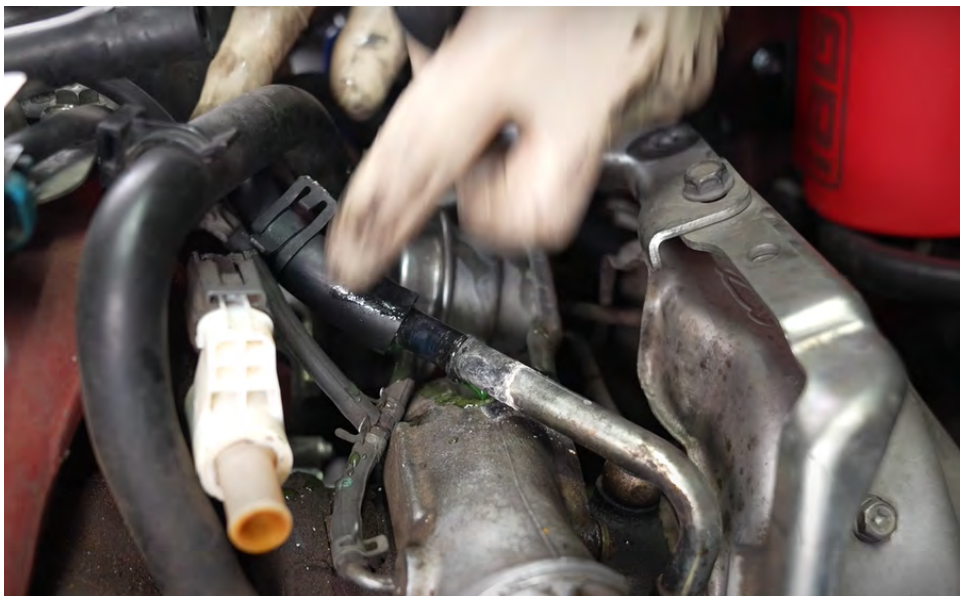
#### Step 30

Loosen hose clamp, and prepare to remove coolant hose from turbo.



#### Step 31

Route new coolant hose from AOS.



#### Step 32

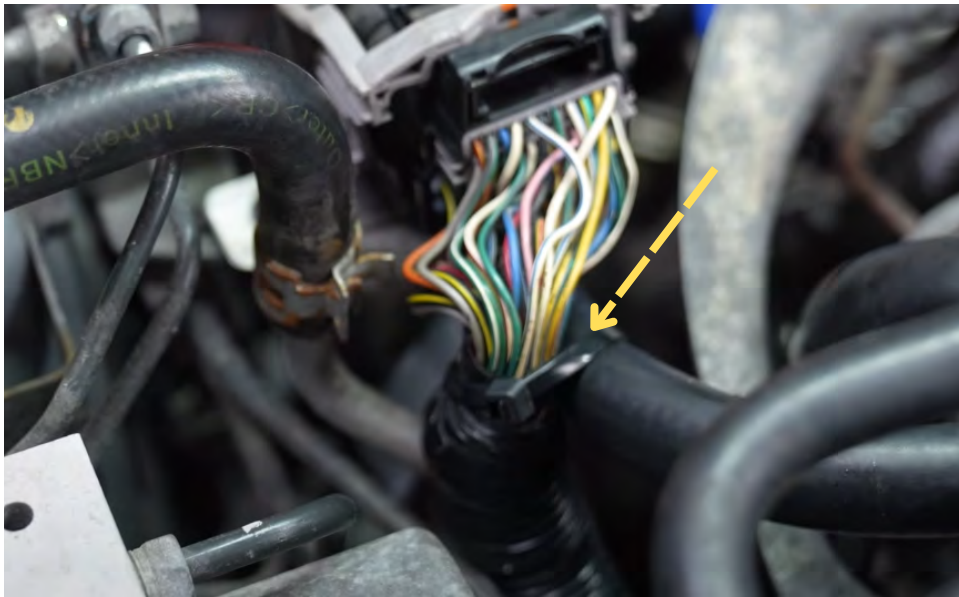
Remove old coolant hose from turbo, and quickly attach the new AOS line. (This avoids losing excessive coolant.)

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



Step 32 pt.2

Tighten new hose clamp



Step 33

Secure AOS coolant hose to wiring harness using a zip tie.



Step 34

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



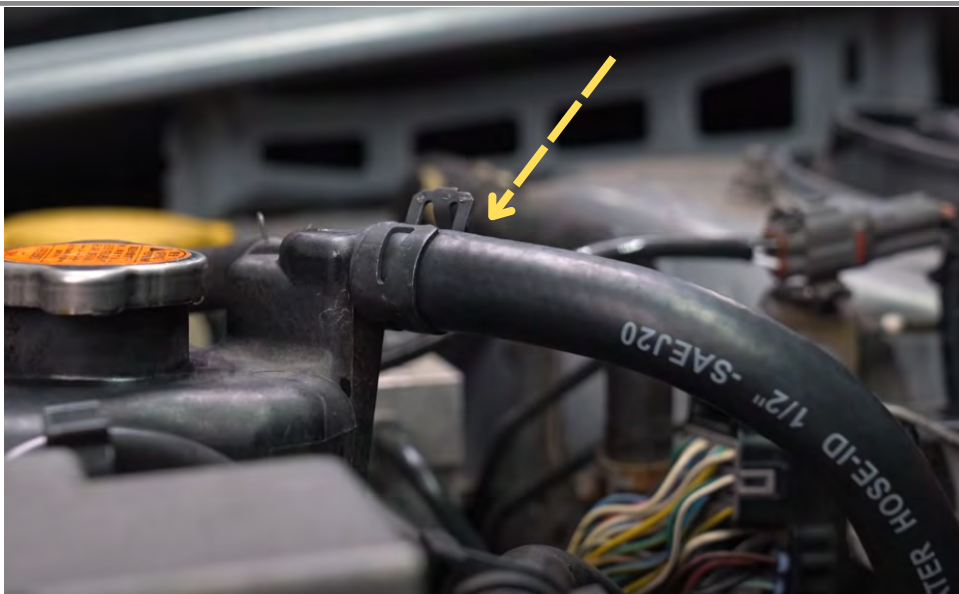
### Step 35

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



### Step 35 pt.2

Cut excess coolant hose.



### Step 36

Install hose onto coolant tank, and secure with provided hose clamp.



#### Step 36 pt.2

Secure the two AOS coolant hoses together with a zip tie.

Cut excess zip tie.



#### Step 37

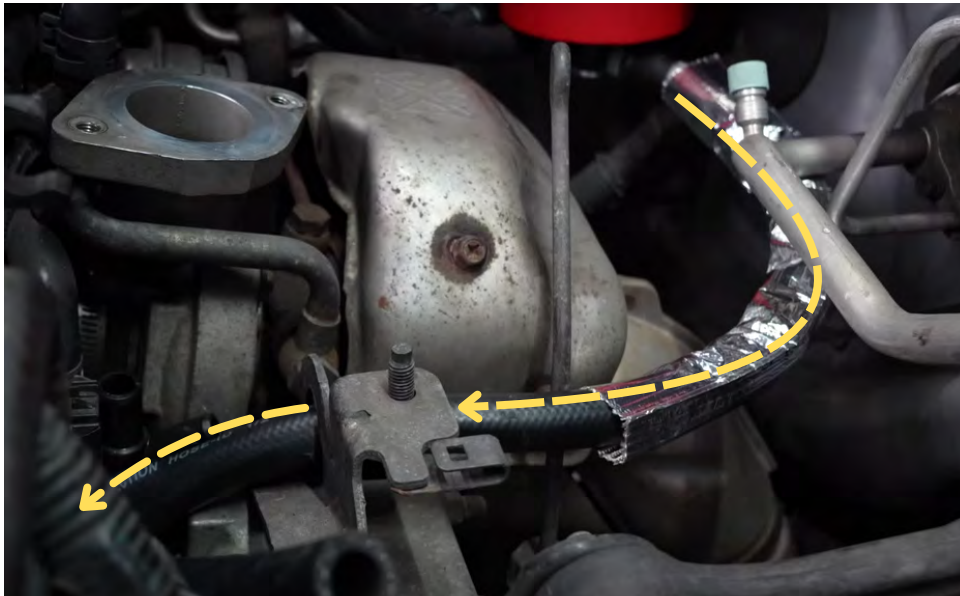
Remove the coolant hose pinch off pliers from step 28.



#### Step 38

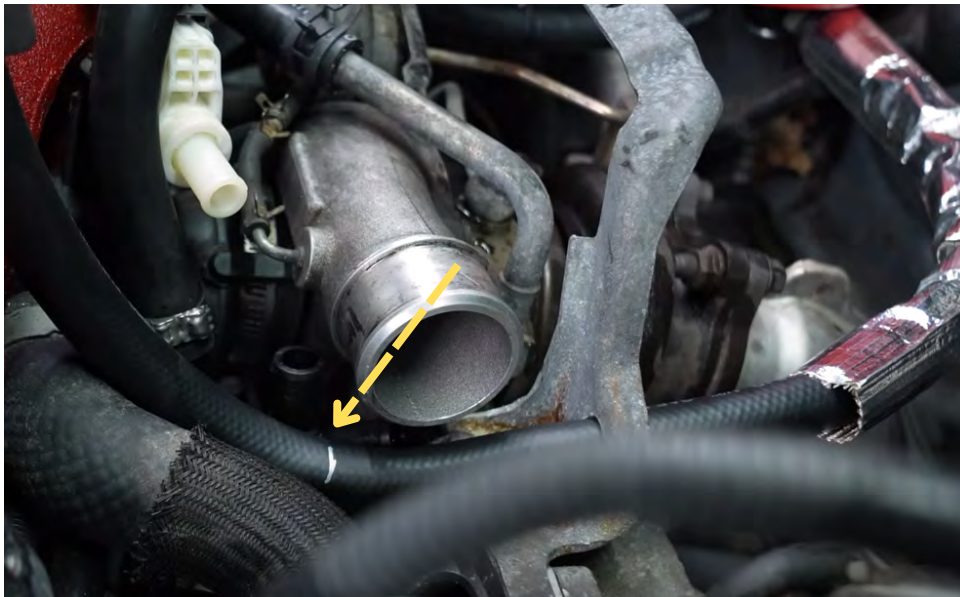
Slide the 12" piece of heat sleeve onto the drain hose.





#### Step 39

Route drain hose and thread through bracket.



#### Step 40

Measure, mark and cut the drain hose.

This hose will connect to the breather assembly.



#### Step 40 pt.2

Cut excess drain hose.



#### Step 41

Install the supplied hose clamp to drain hose.

Attach the hose to the breather assembly, and secure hose clamp.

Reference step 18.

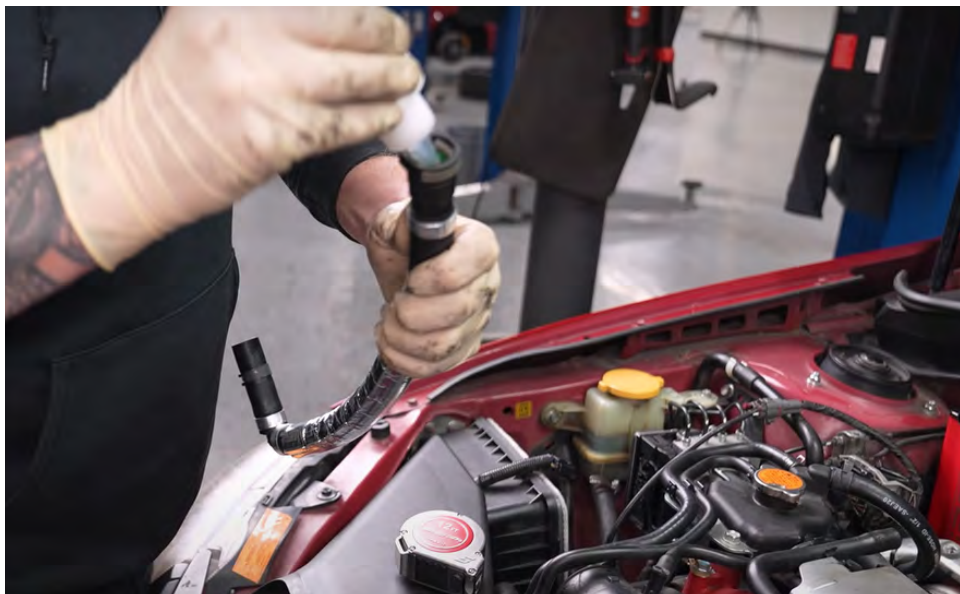
Note: Make sure drain hose is at a downward slope for proper drainage.



#### Step 42

Secure the drain hose to the AC hardline with zip tie.

Cut excess zip tie.



#### Step 43

Prepare the block vent breather hose.

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





#### Step 44

Route block breather hose under bracket.



#### Step 44 pt. 2

Attach block breather hose to bottom fitting on AOS.



#### Step 45

Connect the 90 degree block vent hose to Y fitting on breather assembly.

Secure the clamp.



#### Step 46

Prepare PCV hose.

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

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#### Step 47

Route PCV hose underneath AC lines.



#### Step 48

Connect PCV hose to top port of AOS.



#### Step 49

Route PCV hose underneath engine coolant hose.



#### Step 50

Attach the PCV hose to the nipple on the intake manifold.

Secure the clamp.



#### Step 51

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

Cut excess zip tie.



#### Step 52

Reinstall the throttle body to manifold.



#### Step 53

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



#### Step 54

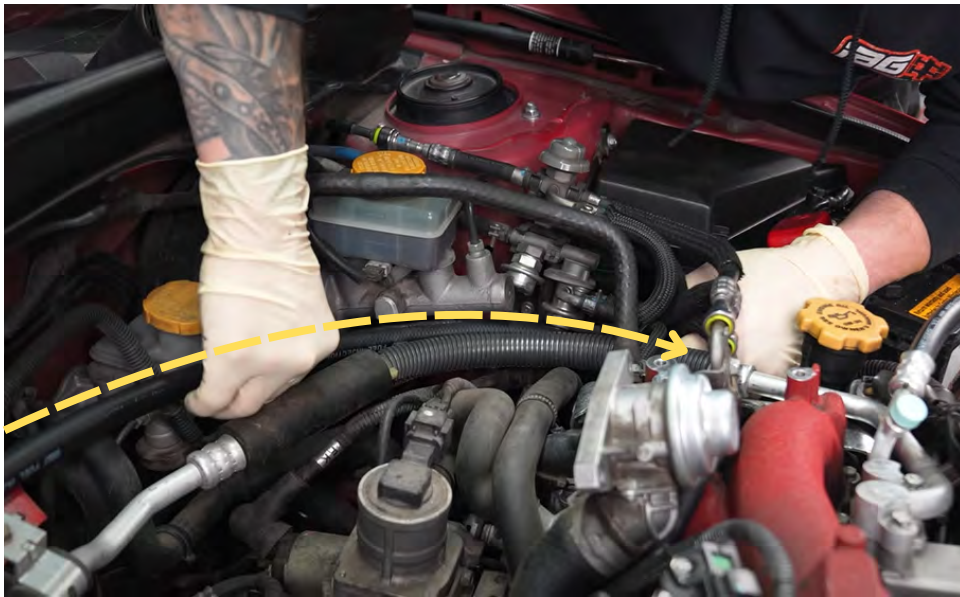
Prepare the 38 inch vent hose. Apply a small amount of lube to the fitting, and install a hose clamp to the opposing end.





#### Step 55

Connect vent hose to the top side port on AOS.



#### Step 56

Route hose to the driver's side valve cover.



#### Step 57

Install the vent hose to drivers side valve cover fitting.

Secure the clamp.



#### Step 58

Secure vent hose to AC line using zip tie.

Cut excess zip tie.

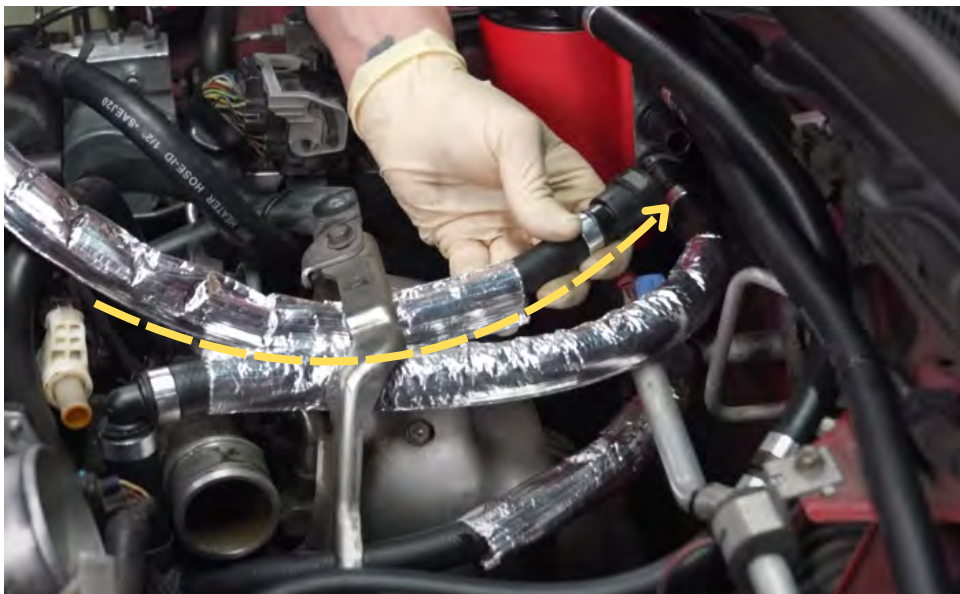


#### Step 59

Prepare the 28" vent hose.

Slide 16" heat sleeve on hose.

Apply a small amount of lube to the fitting.



#### Step 60

Route the vent hose under heat shield bracket.



#### Step 61

Connect the vent hose to the middle side port on AOS.



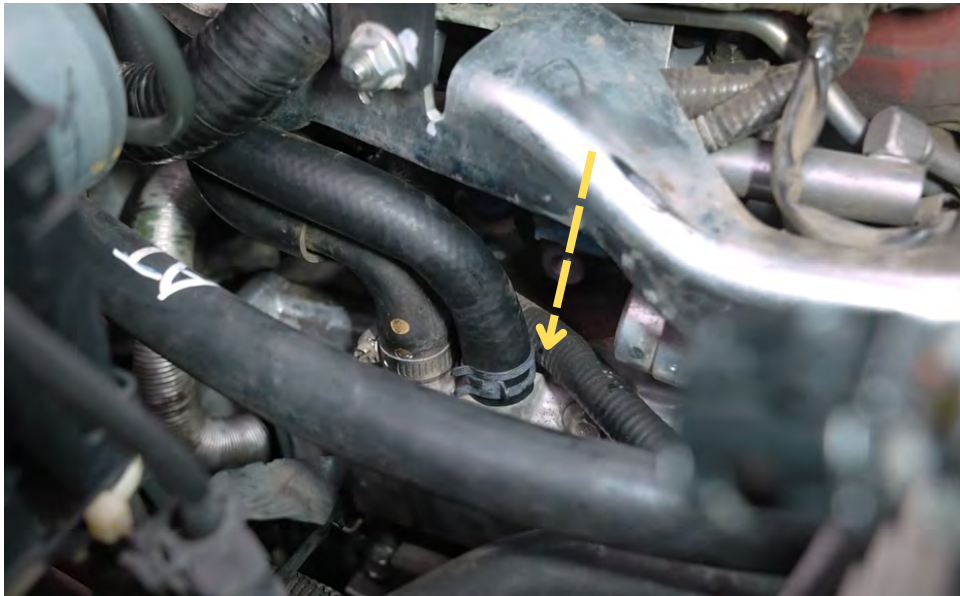
#### Step 62

Route the vent hose to the passenger side valve cover. Route under brackets and coolant lines.



#### Step 63

Install hose clamp onto vent hose with pliers.



#### Step 64

Attach vent hose to valve cover.

Secure the clamp.



#### Step 65

Secure the vent hose to the breather hose with a zip tie. Ensure both heat sleeves are positioned above the turbo.

Trim excess zip tie.



#### Step 66

Prepare the 18" breather hose. Apply a small amount of lube to the fitting, and install a hose clamp to the opposing side.





#### Step 67

Connect to top left port on AOS.



#### Step 68

Route breather hose under coolant hose.

Install provided PCV fitting onto end of breather hose.

Secure with clamp.

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#### Step 69

Measure and cut OEM PCV hose to connect to breather hose.



#### Step 70

Install hose clamp on to OEM PCV hose.  
Insert AOS breather hose into PCV hose.

Secure the clamp.



#### Step 71

Secure PCV hose with zip tie.

Trim excess zip tie



#### Step 72

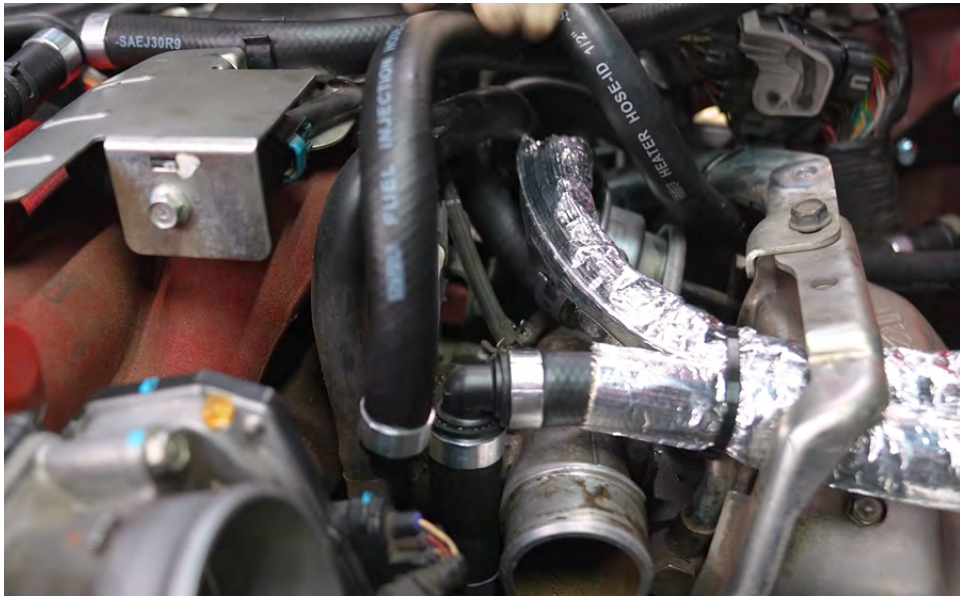
Prepare final 16.5" breather hose. Apply a small amount of lube to the fitting, and install a hose clamp to the opposing side.





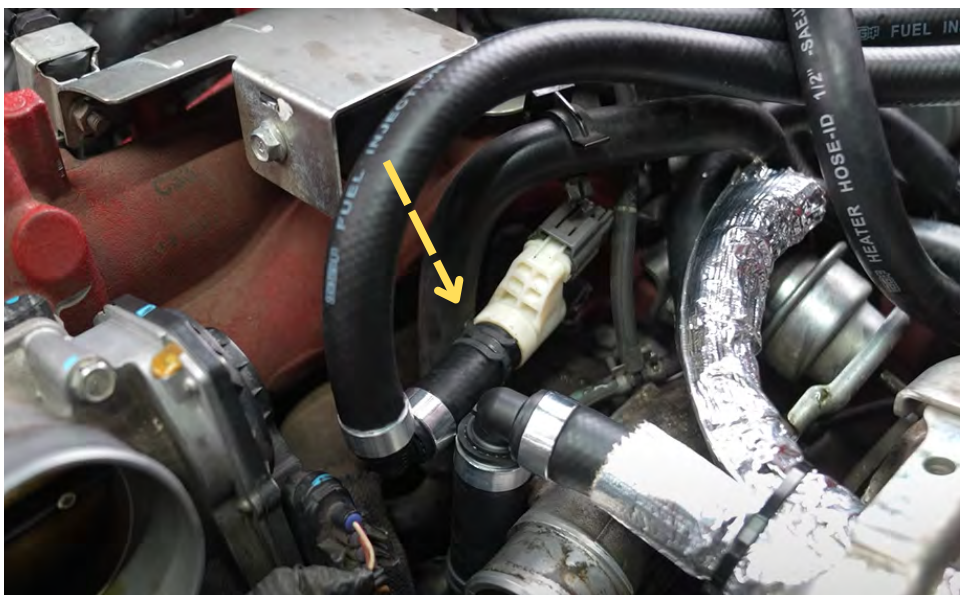
#### Step 73

Route the breather hose underneath the coolant line, and connect fitting to the AOS.



#### Step 74

Connect breather hose to PCV sensor.



#### Step 75

Secure clamp to PCV sensor.



#### Step 76

Reinstall the intercooler, BPV, and brackets.



#### Step 77

Reinstall the negative battery terminal.



#### Step 78

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**