

IAG COMPETITION SERIES AOS FOR 06-07 WRX / 04-07 STI



Step 1/106

IAG-ENG-7280 Competition Series Air / Oil Separator (AOS)

For 2006-07 WRX & 2004-07 STI

Part# IAG-ENG-7280

Tools Required: Ratchet, extensions, needle nose pliers, hose cutter, snips/scissors, flat head screwdriver, hose clamping pliers

Sockets: 10mm, 12mm, 1/4" allen, 5mm allen

Wrenches: 7/8", 10mm, 12mm, 3mm allen, 5mm allen

Other: Electrical Tape

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 modification of the factory PCV system and 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.

Step 2/106

IAG-ENG-7280 Comp Series Air / Oil Separator (AOS) For For 2006-07 WRX & 2004-07 STI

WARNING

THE IAG COMPETITION SERIES AOS IS ONLY TO BE
INSTALLED ON OFF-ROAD COMPETITION VEHICLES
NOT SUBJECT TO VEHICLE EMISSIONS CONTROLS.

PLEASE CONTACT IAG PERFORMANCE OR YOUR
LOCAL IAG DEALER TO EXCHANGE THIS PRODUCT IF
THE VEHICLE WILL BE USED ON PUBLIC ROADS.

Step 3/106

NOTICE

**These instructions are for the IAG-ENG-
7280 Competition Series AOS**

For 2006-07 WRX & 2004-07 STI ONLY

**Please verify that you are using the correct
instructions for the product you purchased**

Some steps of these instructions feature
photos of the Street Version of the AOS.
However, all relevant information is correct in
each step.

Step 4/106

Numbered annotations (12)

- 1 AOS Body Assembly
- 2 16" Heat Sleeve x 2
- 3 12" Heat Sleeve
- 4 Comp Breather Hose 1" x 59"
- 5 Valve Cover Breather Hose 1/2" x 74"
- 6 Coolant Hose 1 - 20" (Preinstalled to AOS)
- 7 Coolant Hose 2 - 20" (Preinstalled to AOS)
- 8 Block Breather Hose - 5/8" x 25"
- 9 3/4" x 2" Block Breather Hose to Y fitting
- 10 AOS Drain Hose - 1/2" x 26"
- 11 AOS Bracket
- 12 Zip Ties

Step 5/106

Numbered annotations (11)

- 1 5/8" 90 Degree Nylon Elbow.
- 2 Y Fitting for Block Breather
- 3 AOS Mounting Hardware
- 4 Vacuum Cap Clamp
- 5 1/4" NPT Plug
- 6 5/8" Vacuum Cap
- 7 1/2" Vacuum Cap
- 8 3/4" Spring Clamp X 2
- 9 5/8" Band Clamp X 2
- 10 Coolant Hose Clamp x 2
- 11 1/2" Band Clamp X 8

Step 6/106



Step 7/106

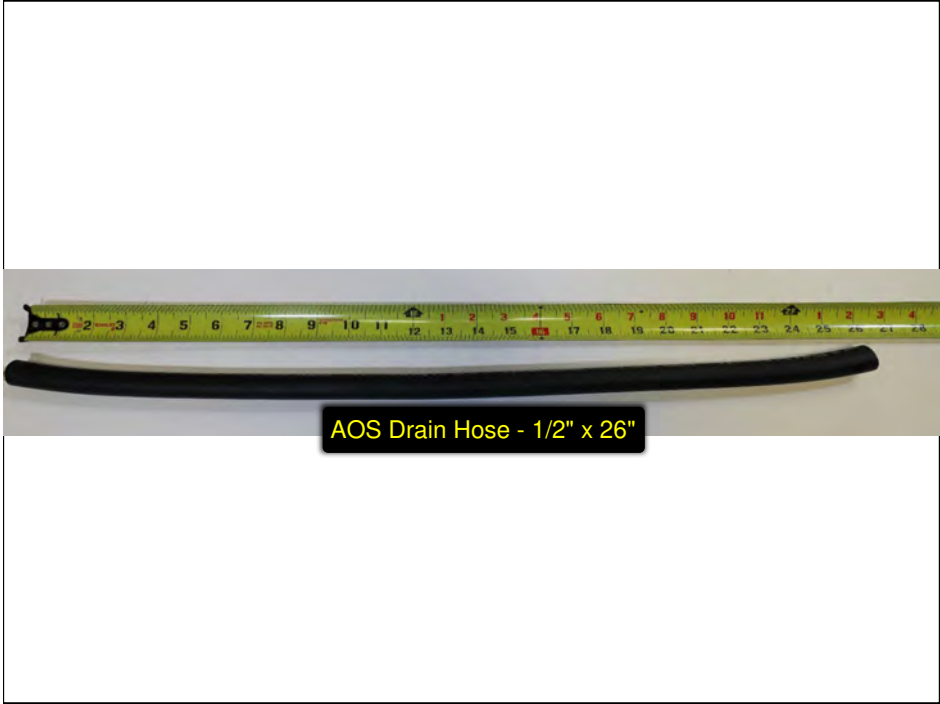


Step 8/106



Heat Sleeve 3 - 12"

Step 9/106

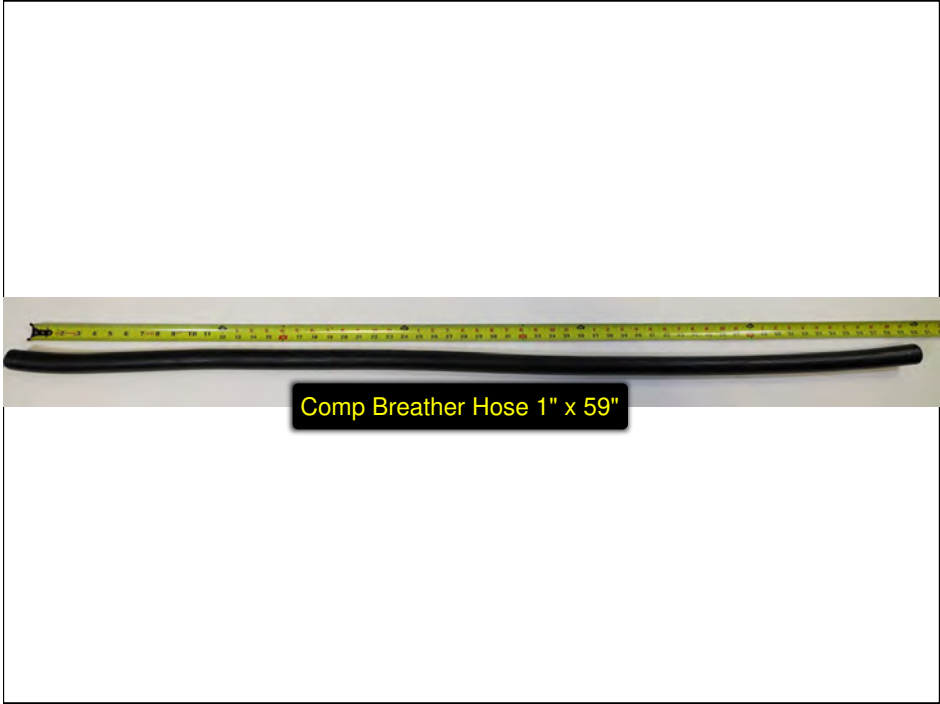


AOS Drain Hose - 1/2" x 26"

Step 10/106



Step 11/106



Step 12/106



Valve Cover Breather Hose 1/2" x 74"

Step 13/106



Coolant Hose 1 - 20"



Step 14/106



Step 15/106

Numbered annotations (7)

- 1 Atmospheric Vent Hose (Routed under vehicle)
- 2 1/2" Valve Cover Vent Hose - Driver side
- 3 1/2" Valve Cover Vent Hose - Passenger Side
- 4 5/8" Block Breather Vent- Top of Y fitting on Block Breather
- 5 1/2" Drain Hose
- 6 Coolant Hose 1
- 7 Coolant Hose 2



Step 16/106

Numbered annotations (1)

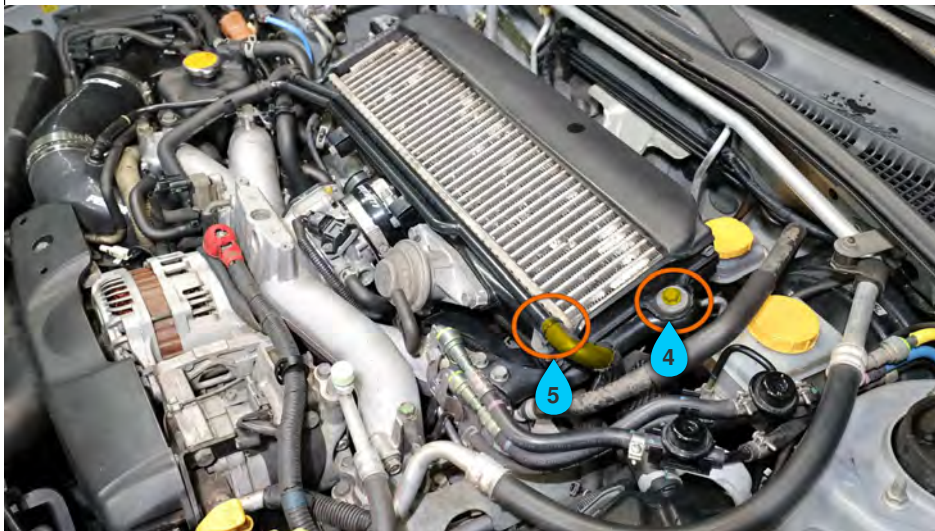
- 1 Disconnect the negative battery terminal.



Step 17/106

Numbered annotations (2)

- 2 Remove the intercooler mounting bolt.
- 3 Disconnect the PCV crossover hoses.

**Step 18/106**

Numbered annotations (2)

- 4 Remove the intercooler mounting bolt
- 5 Disconnect the hose from the PCV crossover pipe.

**Step 19/106**

Numbered annotations (1)

- 6 Remove the bolts securing the BPV and loosen the clamps on the intercooler couplers.



Step 20/106

Numbered annotations (1)

- 7 Remove the intercooler.

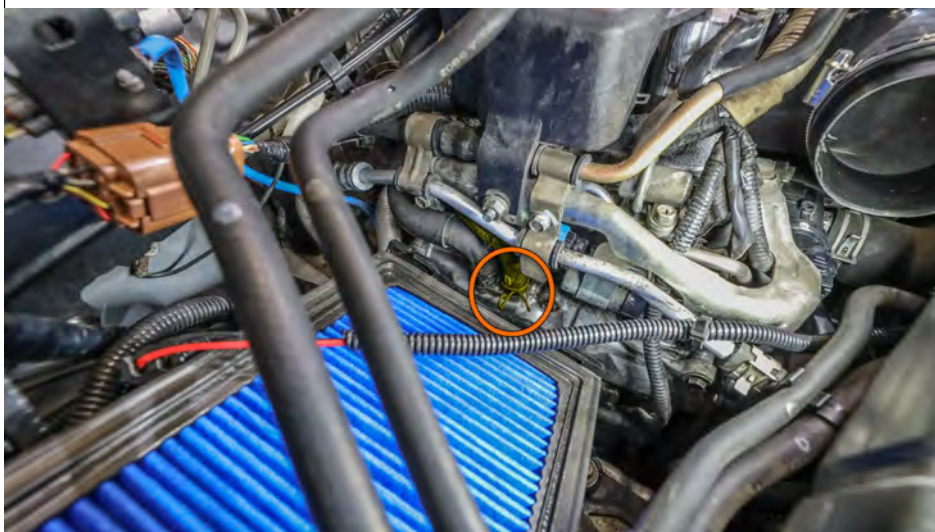


Step 21/106

Numbered annotations (1)

- 8 Disconnect and remove the hose from the passenger side valve cover

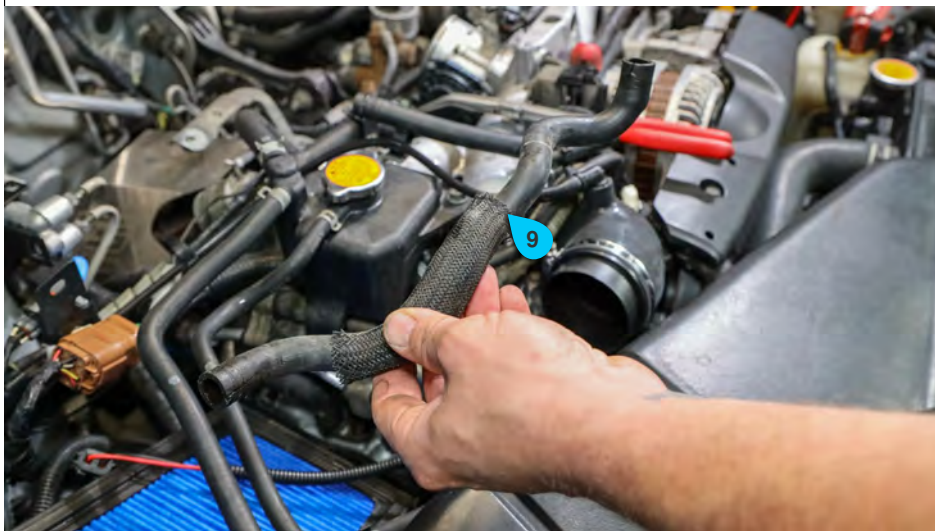
Step 22/106



Step 23/106

Numbered annotations (1)

- 9 Remove the valve cover vent hose from the vehicle.



Step 24/106



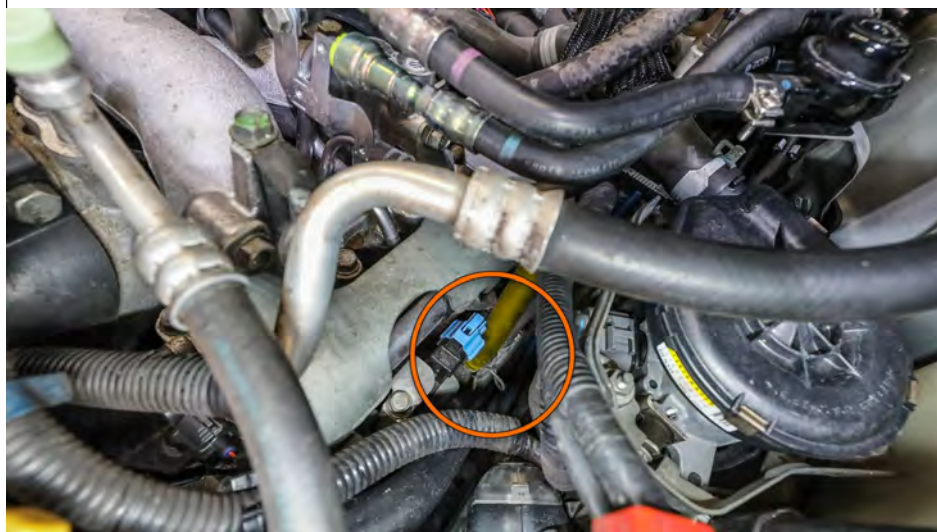
Step 25/106

Numbered annotations (1)

- 10 Disconnect and remove the PCV vent hose from the driver side valve cover.



Step 26/106



Step 27/106

Numbered annotations (1)

- 11 Remove the valve cover vent hose from the vehicle.



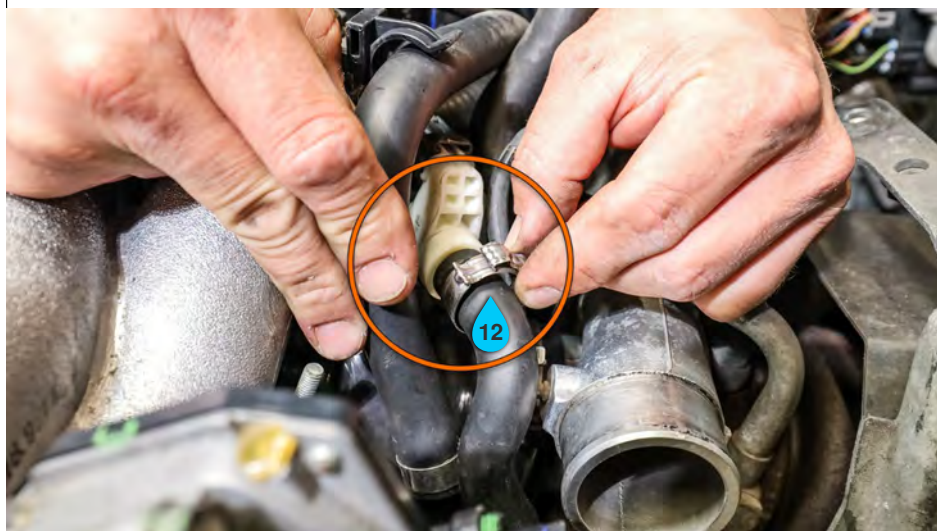
Step 28/106



Step 29/106

Numbered annotations (1)

- 12 Use a pick tool to release the spring clamp on the PCV sensor at the turbo inlet.



Step 30/106

Numbered annotations (1)

- 13 Disconnect the hose from the PCV sensor.



Step 31/106

Numbered annotations (1)

- 14 Remove the bolts securing the throttle body.



Step 32/106

Numbered annotations (1)

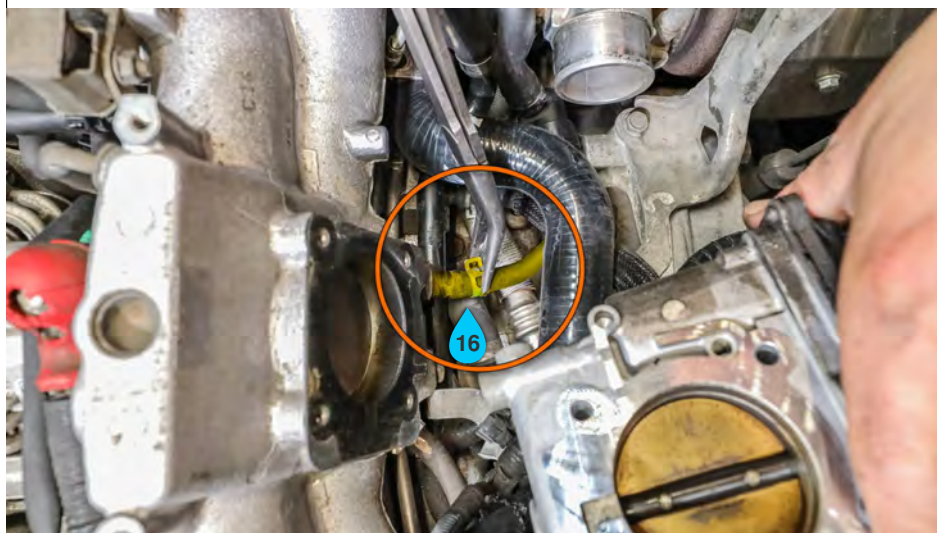
- 15 Move the throttle body out of the way.



Step 33/106

Numbered annotations (1)

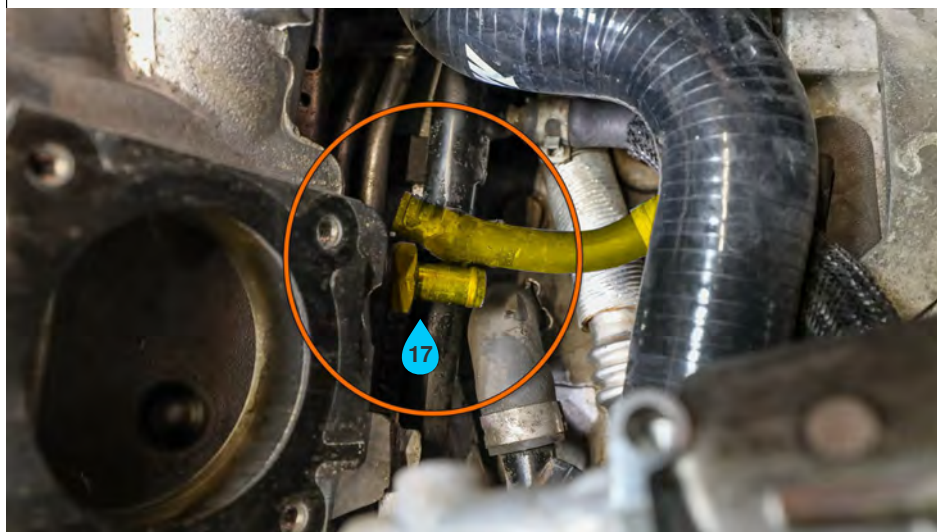
- 16 Loosen the clamp on the PCV vacuum hose and remove the hose.



Step 34/106

Numbered annotations (1)

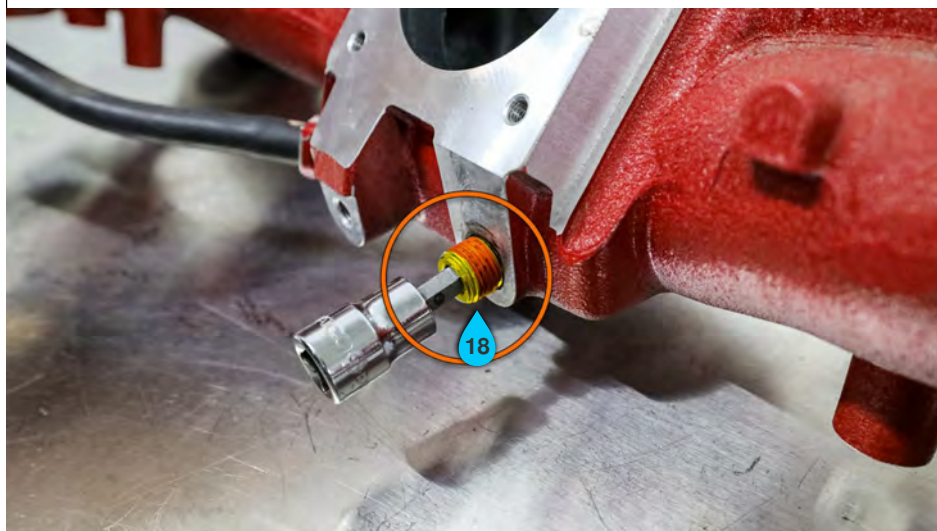
- 17 Remove this fitting.

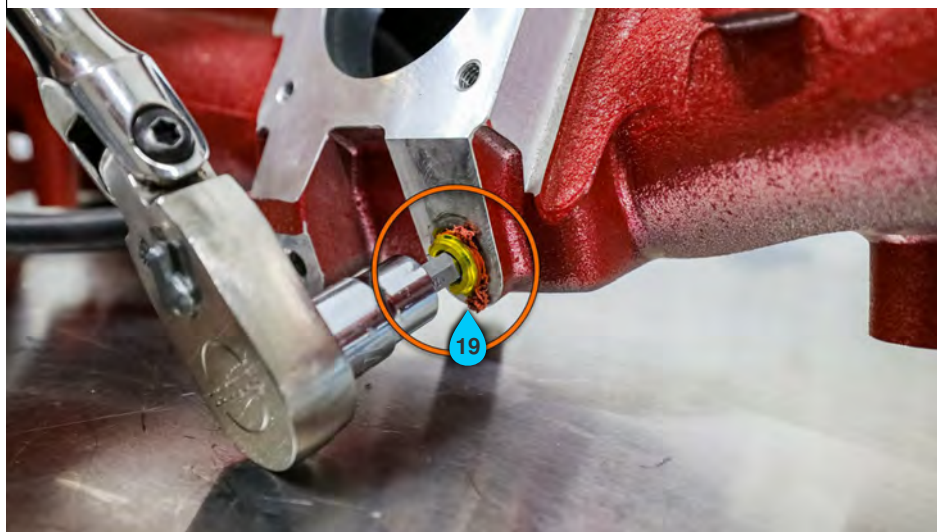


Step 35/106

Numbered annotations (1)

- 18 Install the 1/4" NPT plug where the fitting was installed.





Step 36/106

Numbered annotations (1)

- 19 Torque the 1/4" NPT plug to 15 ft lbs.



Step 37/106

Numbered annotations (1)

- 20 Using a pick tool loosen the spring clamp at the block vent and remove the PCV assembly.

Step 38/106



Step 39/106

Numbered annotations (1)

- 21 Attach the supplied 3/4" x 2" hose to the supplied block breather Y fitting using the 3/4" spring clamps. Tighten both springs clamps with pliers now.



**Step 40/106**

Numbered annotations (1)

- 22 Lubricate the inside of the lower portion of the hose with silicone lube or petroleum jelly.

**Step 41/106**

Numbered annotations (1)

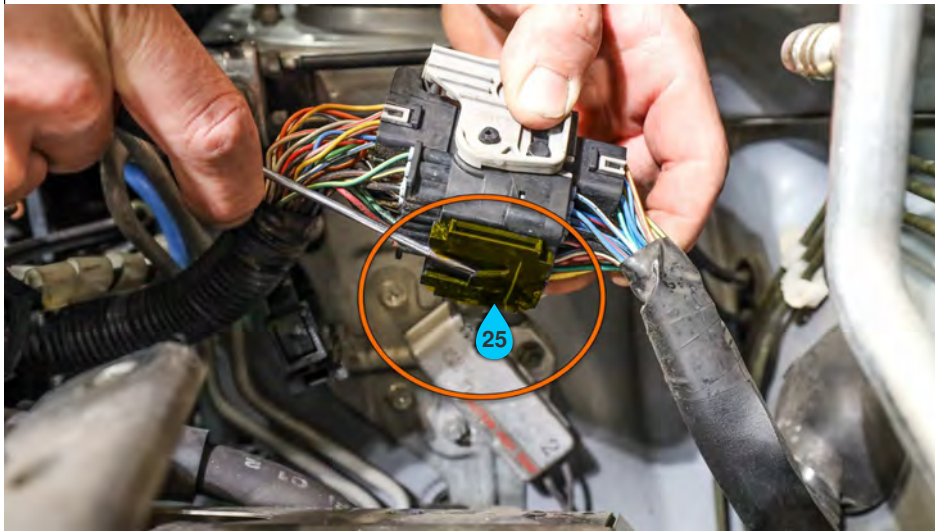
- 23 Push the hose assembly over the barb on the block vent. Pliers or another tool pushing down on the clamp will help to get the assembly over the barb on the block vent.



Step 42/106

Numbered annotations (1)

- 24 Disconnect the harness retaining clip.



Step 43/106

Numbered annotations (1)

- 25 Disconnect the harness from the mounting bracket by releasing this clip.

Step 44/106

Numbered annotations (1)

- 26** Remove the bolt securing this module. Zip tie this module out of the way.

**Step 45/106**

Numbered annotations (1)

- 27** Disconnect the engine harness by lifting the release clip.



Step 46/106

Numbered annotations (1)

- 28 Push the vehicle side portion of the harness behind the harness coming out of the wirewall.



Step 47/106

Numbered annotations (1)

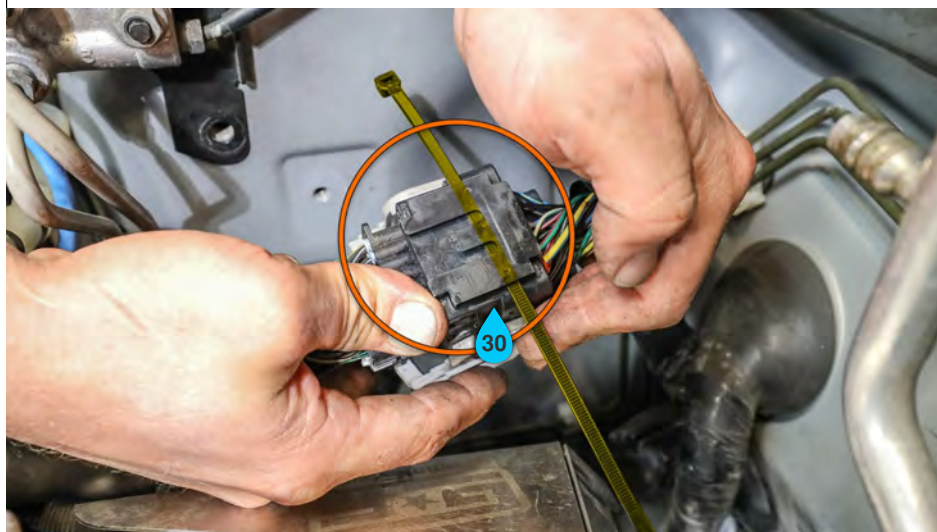
- 29 Reconnect the engine harness.



Step 48/106

Numbered annotations (1)

- 30** Push a zip tie through here.

**Step 49/106**

Numbered annotations (1)

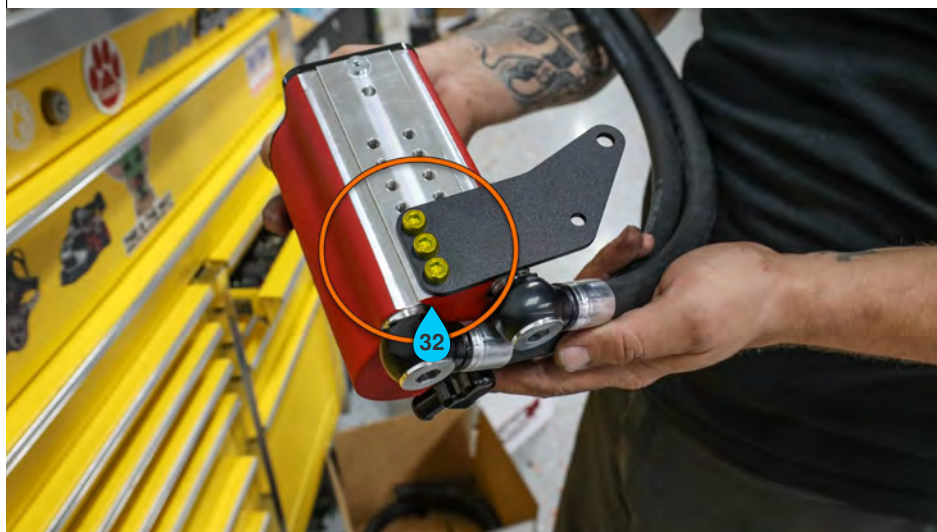
- 31** Secure the harness to these lines using the zip tie.



Step 50/106

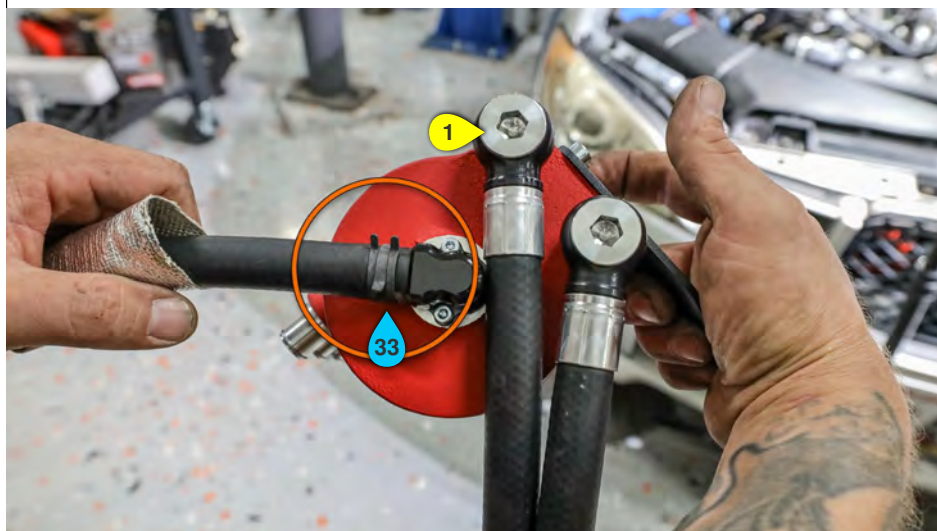
Numbered annotations (1)

- 32** Install the AOS mounting bracket.
Torque the bolts to 7 ft lbs.

**Step 51/106**

Numbered annotations (2)

- 33** Attach the 1/2" AOS drain hose using the supplied clamp. Slide a 16" piece of heat sleeve over the drain hose.
- 1** These fittings are preinstalled and torqued. The fitting is designed to swivel around the bolt. Do not remove or tighten further.





Step 52/106

Numbered annotations (1)

- 34 Mount the AOS here using the supplied hardware.



Step 53/106

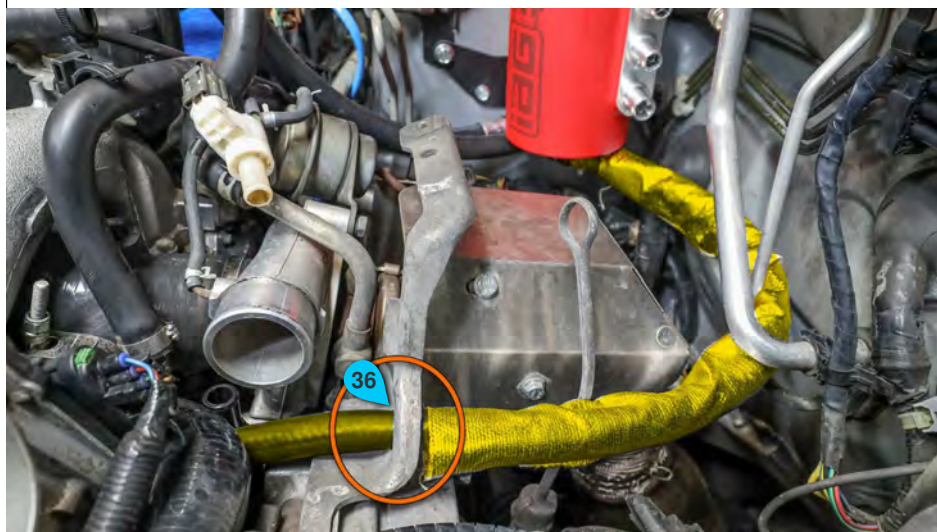
Numbered annotations (1)

- 35 Route the AOS drain hose through here. Make sure the drain flows downhill the whole way to ensure proper drainage.

Step 54/106

Numbered annotations (1)

- 36 Pass the AOS drain hose through the hole in this bracket.

**Step 55/106**

Numbered annotations (1)

- 37 Measure and mark the length of the AOS drain hose against the Y fitting.



**Step 56/106**

Numbered annotations (1)

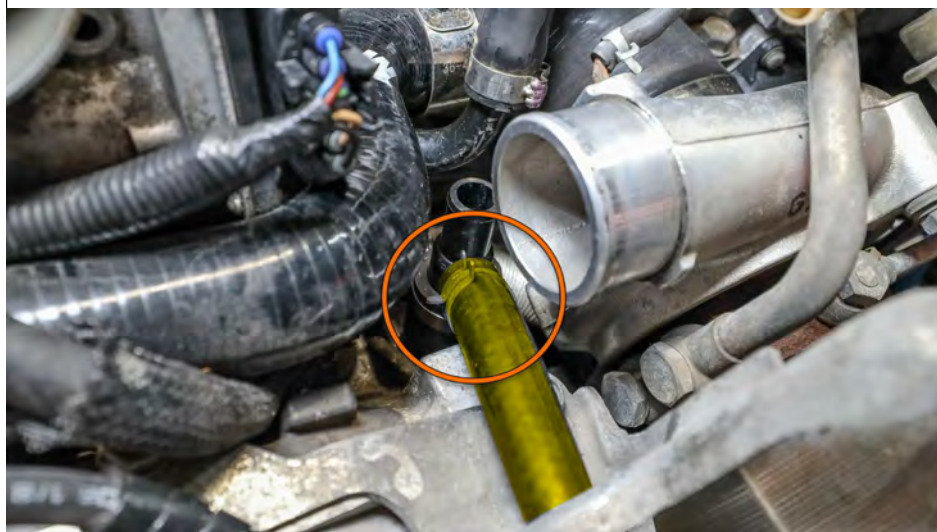
- 38 Trim the excess drain hose.

**Step 57/106**

Numbered annotations (1)

- 39 Attach the drain hose to the Y fitting using the supplied clamp.

Step 58/106



Step 59/106

Numbered annotations (1)

- 40 Locate the lower turbocharger coolant line and pinch it off using hose clamping pliers to prevent coolant loss.



Step 60/106



Step 61/106

Numbered annotations (1)

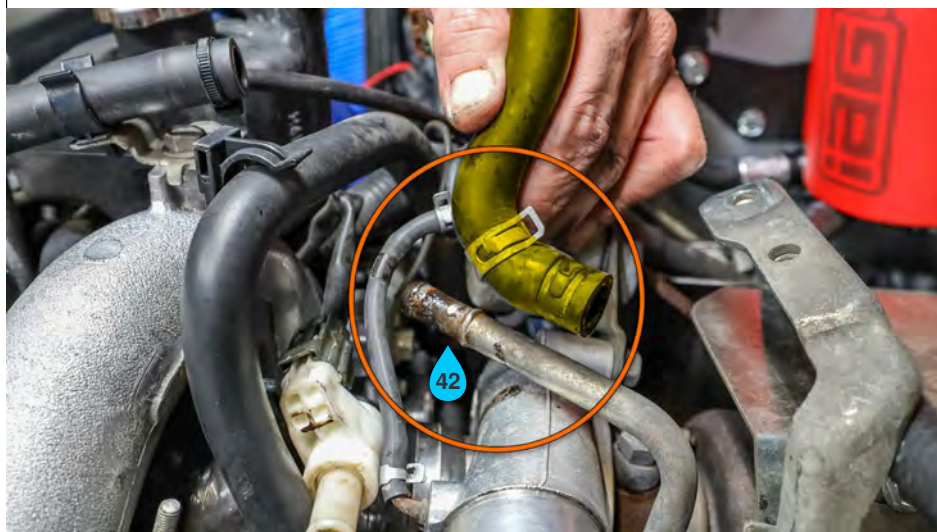
- 41 Disconnect the upper turbo coolant hose from the expansion tank.



Step 62/106

Numbered annotations (1)

- 42 Disconnect the upper coolant hose from the turbo and remove the hose.



Step 63/106





Step 64/106

Numbered annotations (1)

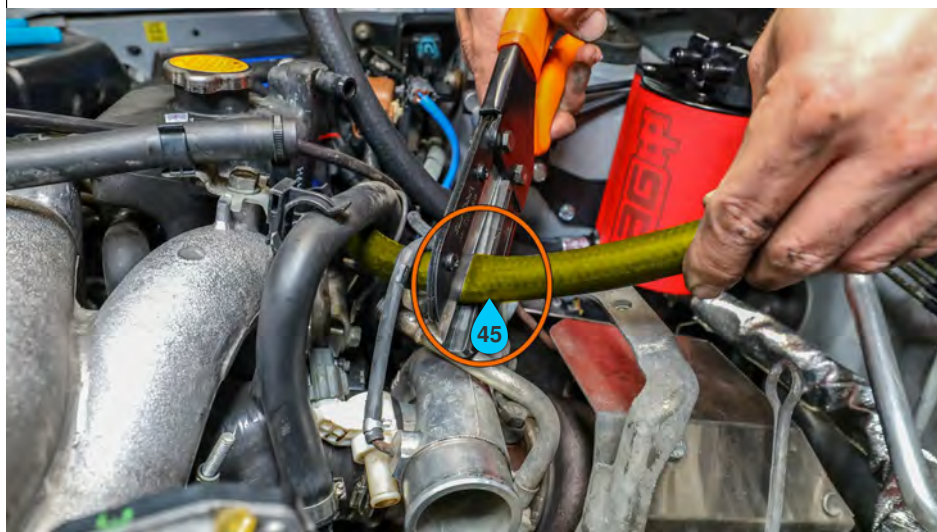
- 43 Route the AOS coolant hose as shown.



Step 65/106

Numbered annotations (1)

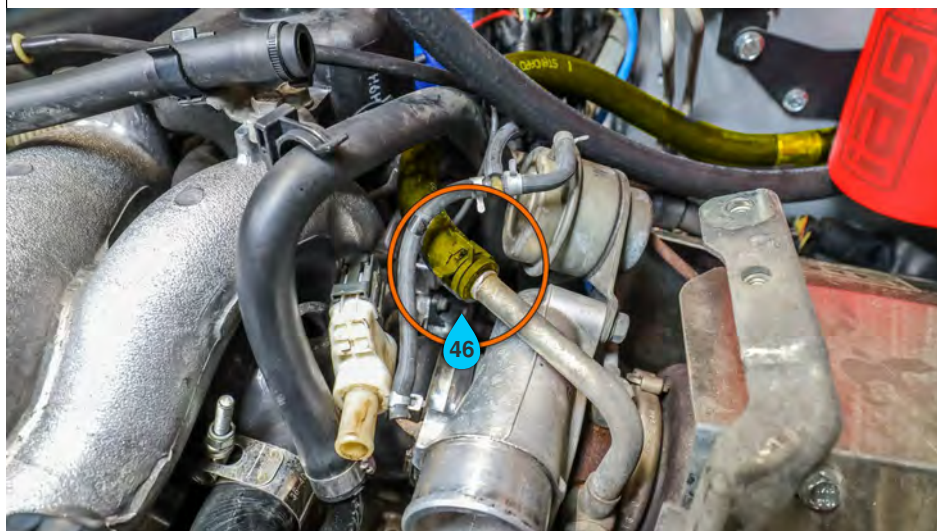
- 44 Measure and mark the coolant hose for length.



Step 66/106

Numbered annotations (1)

- 45 Trim the excess hose.



Step 67/106

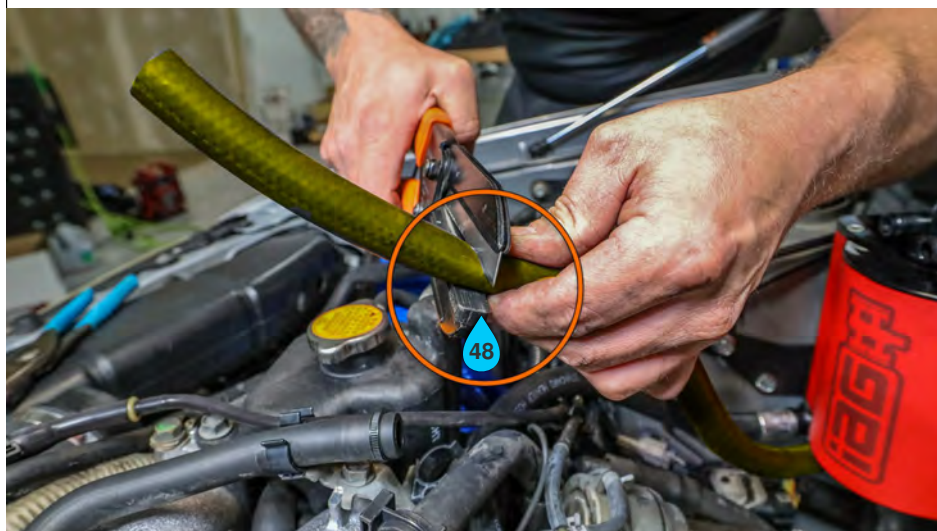
Numbered annotations (1)

- 46 Connect the AOS coolant hose to the upper turbo coolant bar using the supplied clamp.

**Step 68/106**

Numbered annotations (1)

- 47 Measure and mark the other AOS coolant hose.

**Step 69/106**

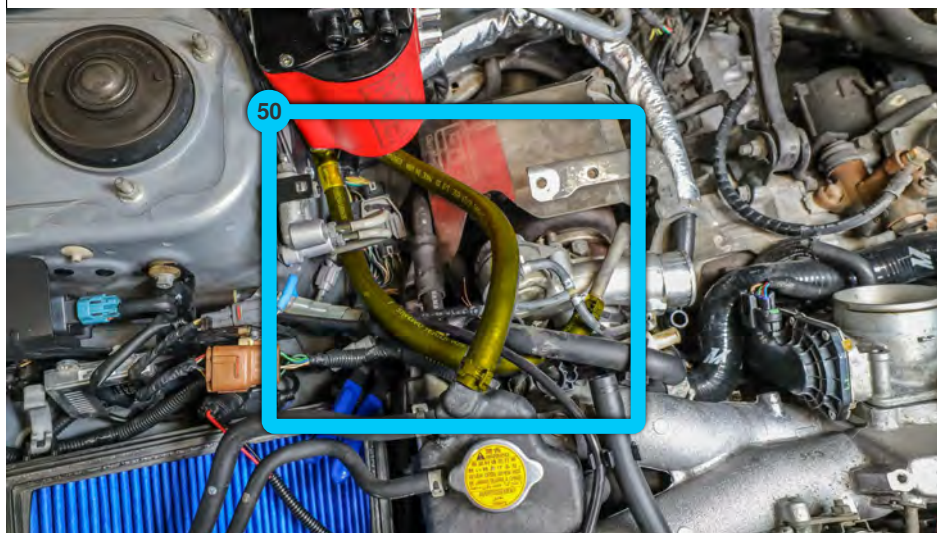
Numbered annotations (1)

- 48 Trim the excess AOS coolant hose.

**Step 70/106**

Numbered annotations (1)

- 49 Attach the AOS coolant hose to the expansion tank using the supplied clamp.

**Step 71/106**

Numbered annotations (1)

- 50 Routing of AOS coolant hoses.
Remove the hose clamping pliers



Step 72/106

Numbered annotations (1)

- 51 Locate the 5/8" AOS vent hose. Measure 3" and cut the hose. Slide the other 16" piece of heat sleeve over the hose.



Step 73/106

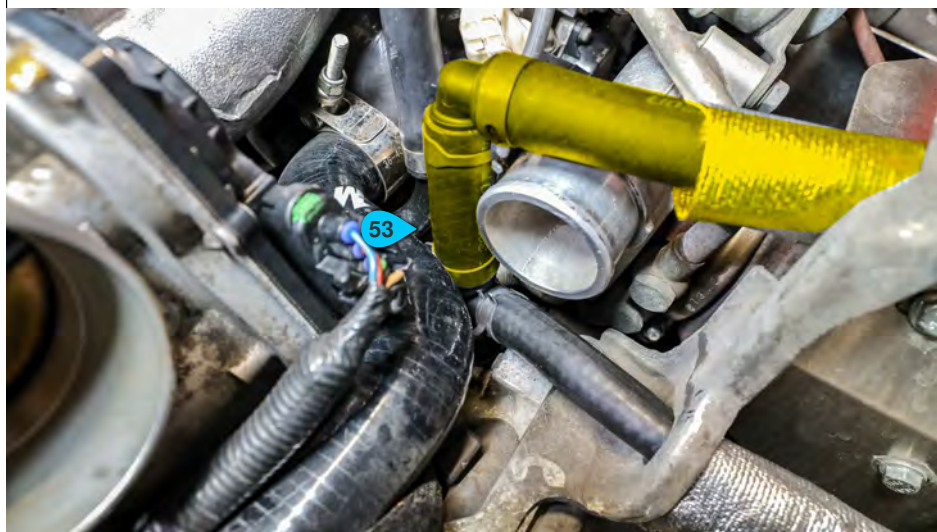
Numbered annotations (1)

- 52 Assemble the vent tube as shown using the supplied 5/8" 90 degree elbow and clamps.

Step 74/106

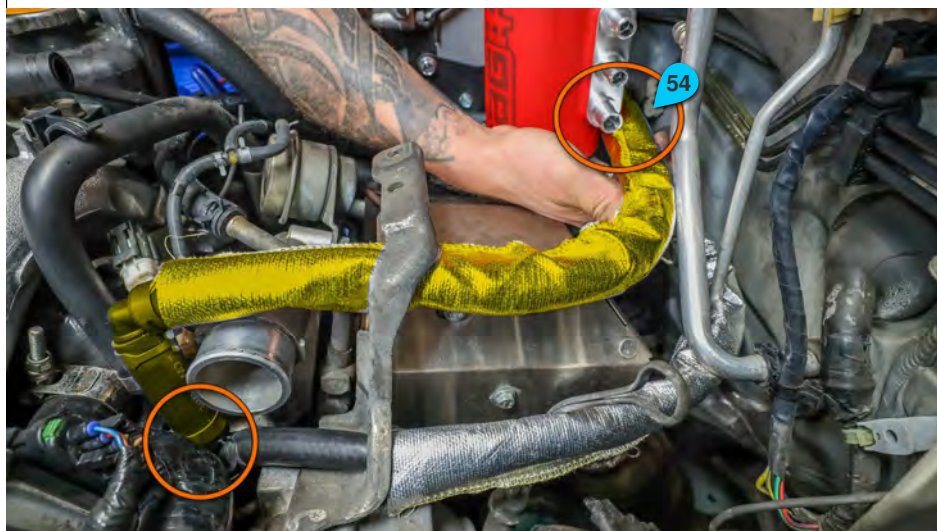
Numbered annotations (1)

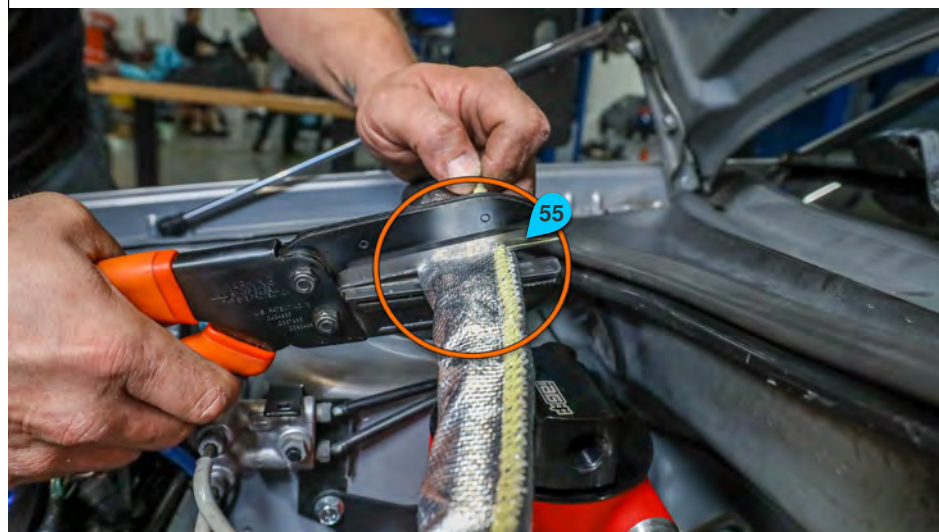
- 53 Install the AOS vent tube to the Y fitting at the top of the block using the supplied clamp.

**Step 75/106**

Numbered annotations (1)

- 54 Measure the length of the 5/8" AOS vent hose.

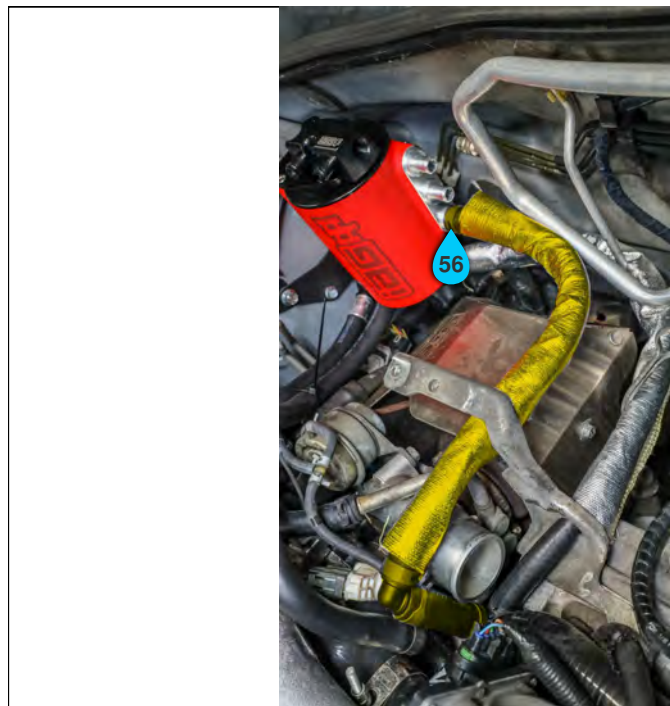




Step 76/106

Numbered annotations (1)

- 55 Trim the excess vent hose.



Step 77/106

Numbered annotations (1)

- 56 Attach the AOS vent hose here using the supplied clamp.



Step 78/106

Numbered annotations (1)

- 57 Secure the vent hose to the A/C line using a zip tie.



Step 79/106

Numbered annotations (1)

- 58 Routing to the vent hose.



Step 80/106

Numbered annotations (1)

- 59 Reinstall the throttle body using the OEM torque specs.



Step 81/106

Numbered annotations (1)

- 60 Attach the 74" long 1/2" AOS valve cover vent hose to the passenger side valve cover using the supplied clamp.



Step 82/106

Numbered annotations (1)

- 61 Route the hose through here as shown.



Step 83/106

Numbered annotations (2)

- 62 Route the hose through here as shown.
- 63 Slide the 12" piece of heat sleeve over the valve cover vent hose.



Step 84/106

Numbered annotations (1)

- 64 Measure and mark the length of the passenger side AOS valve cover vent hose.



Step 85/106

Numbered annotations (1)

- 65 Trim the excess AOS vent hose. Reserve the excess hose.

Step 86/106

Numbered annotations (1)

- 66 Attach the AOS vent hose here using the supplied clamp.



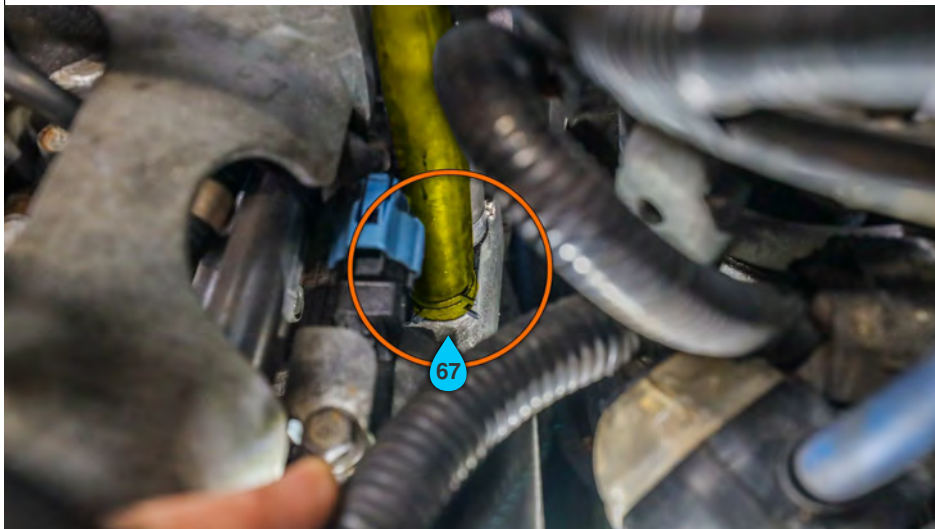
Step 87/106



Step 88/106

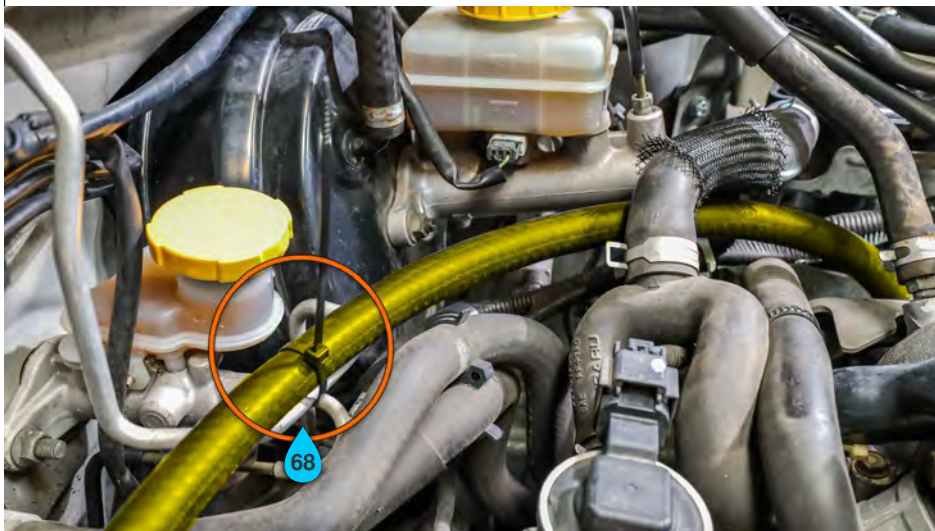
Numbered annotations (1)

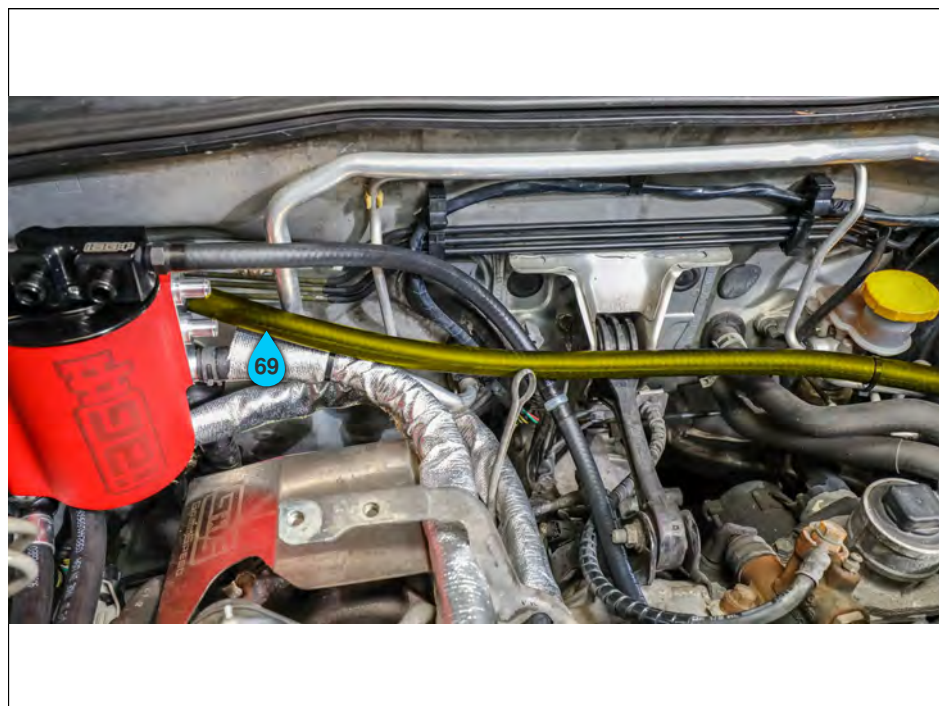
- 67 Attach the reserved piece of 1/2" AOS valve cover vent hose to the driver side valve cover using the supplied clamp.

**Step 89/106**

Numbered annotations (1)

- 68 Route the hose as shown. Secure the hose here with a zip tie.

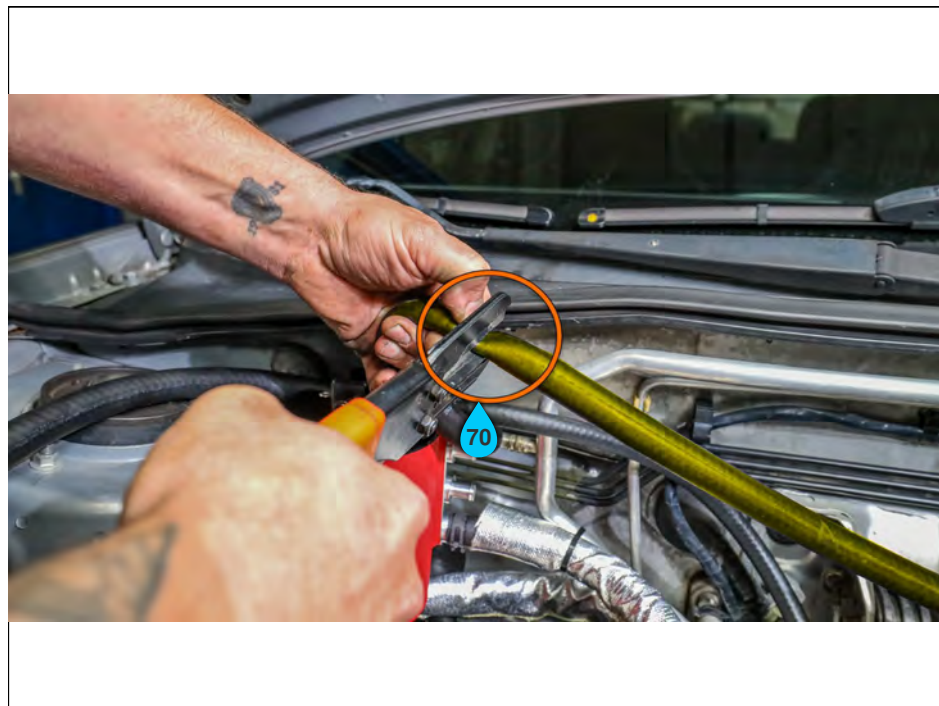




Step 90/106

Numbered annotations (1)

- 69 Measure and mark the length of this hose.



Step 91/106

Numbered annotations (1)

- 70 Trim excess vent hose.

Step 92/106



Step 93/106

Numbered annotations (1)

- 71 Attach the vent hose here using the supplied clamp.



Step 94/106

Numbered annotations (1)

- 72 Using the supplied clamps, install the supplied vacuum caps on both ports as shown.

**Step 95/106**

Step 96/106



Step 97/106

Numbered annotations (1)

- 73 Route the 1" AOS breather hose here.

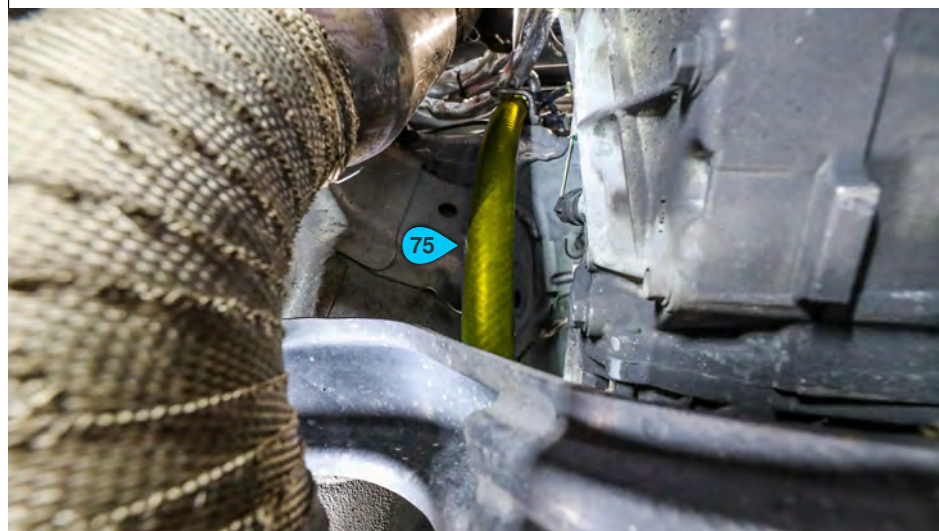




Step 98/106

Numbered annotations (1)

- 74 Secure the 1" breather hose with two zip ties.



Step 99/106

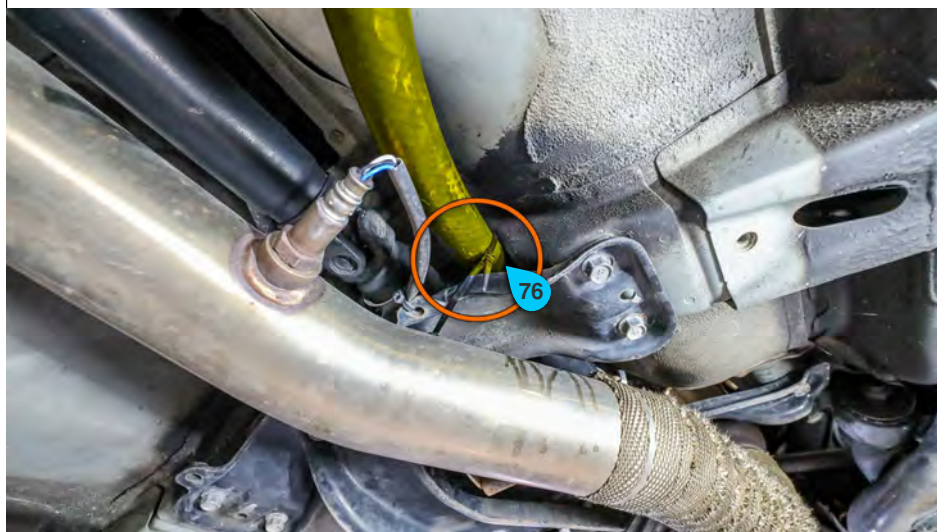
Numbered annotations (1)

- 75 Routing of AOS vent hose.

Step 100/106

Numbered annotations (1)

- 76 Secure the AOS vent hose here with a zip tie.

**Step 101/106**

Numbered annotations (1)

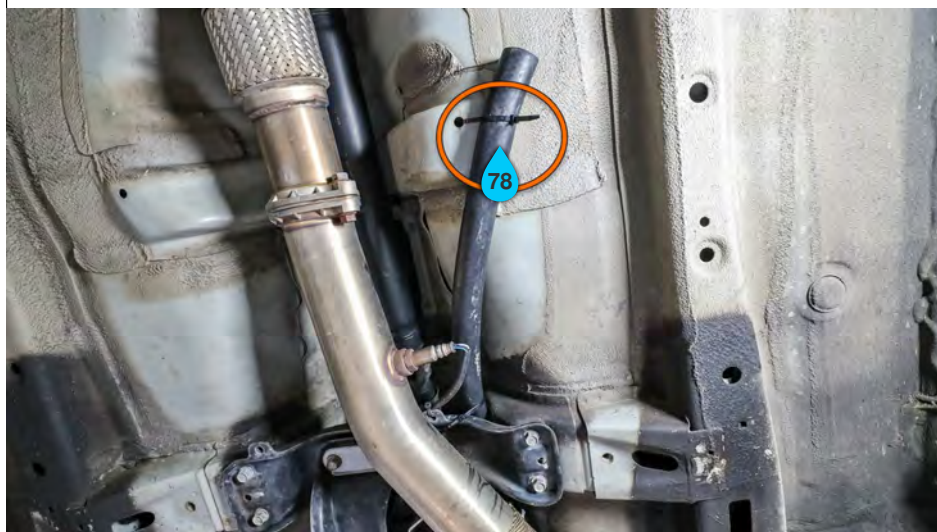
- 77 Thread a zip tie through these holes as shown.



Step 102/106

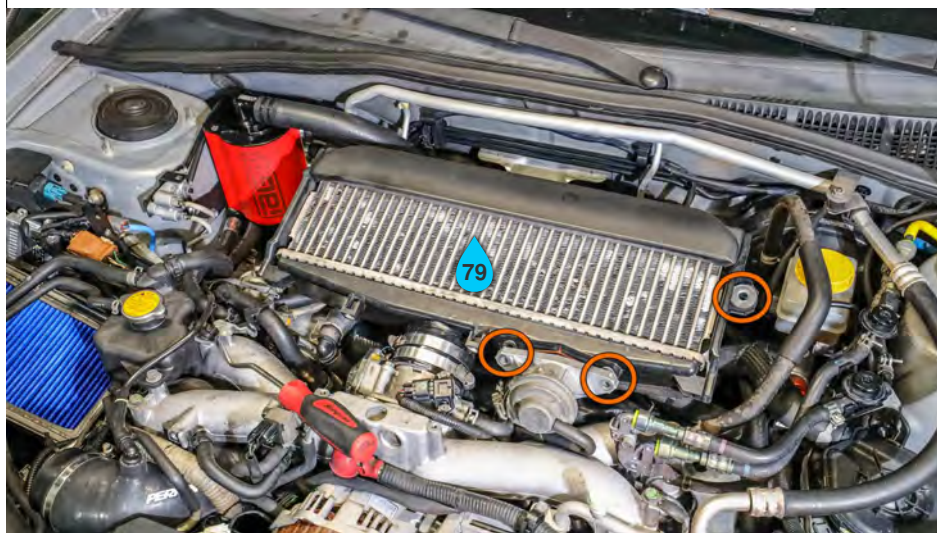
Numbered annotations (1)

- 78 Secure the vent hose using the zip tie.

**Step 103/106**

Numbered annotations (1)

- 79 Reinstall the intercooler.



Step 104/106

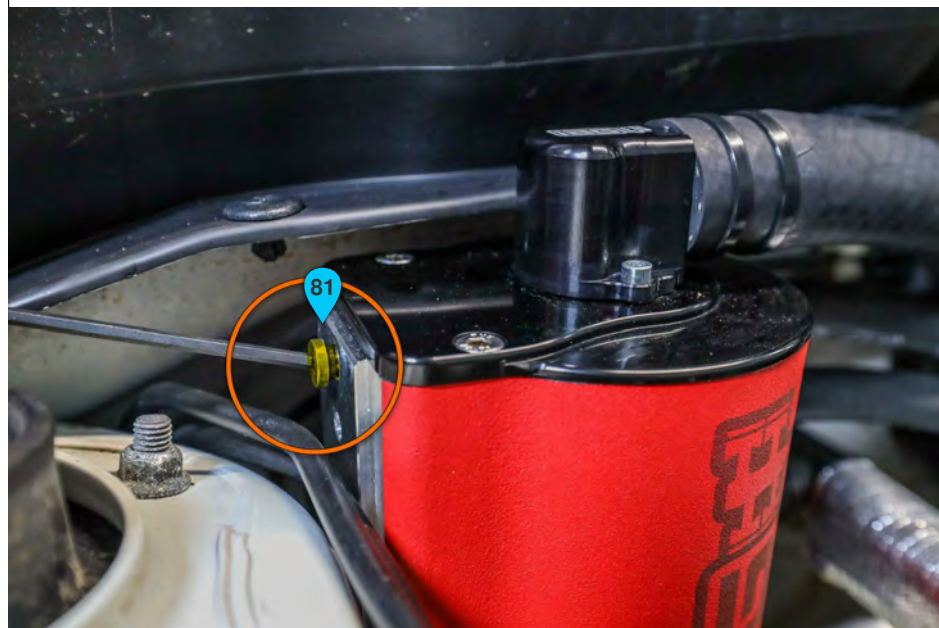


Step 105/106

Numbered annotations (1)

- 80 Reconnect the negative battery terminal.





Step 106/106

Numbered annotations (1)

- 81 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.