

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



Step 1/115

IAG-ENG-7180 Street Series Air / Oil Separator (AOS) For 2006-07 WRX & 2004- 07 STI

Part# IAG-ENG-7180

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 2/115

Numbered annotations (13)



- 1 AOS Body Assembly
- 2 Heat Sleeve 16" x 2
- 3 Heat Sleeve 12"
- 4 AOS Drain Hose - 1/2" x 26"
- 5 AOS Vent Hose - 5/8" x 25"
- 6 Breather Hose Assembly 1/2" x 44"
- 7 Valve Cover Breather Hose - 1/2" x 74"
- 8 PCV Hose Assembly 1/2" x 28"
- 9 Coolant Hose 1 - 20"
- 10 Coolant Hose 2 - 20"
- 11 PCV Vent Hose Extension
- 12 Block Breather Hose to Y fitting - 3/4" x 2"
- 13 AOS Mounting Bracket

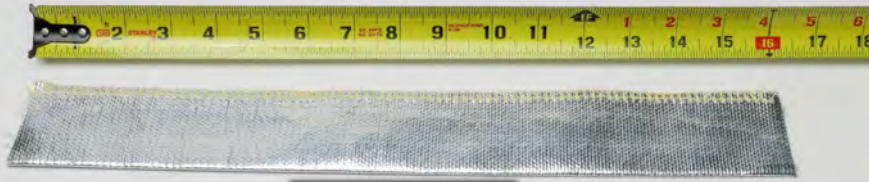
Step 3/115

Numbered annotations (12)



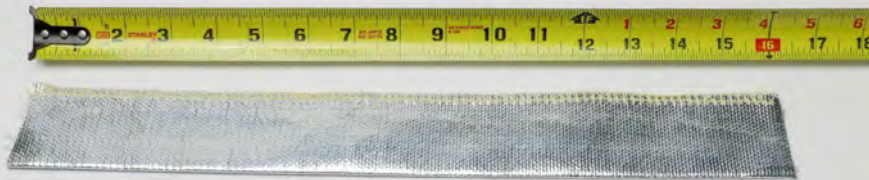
- 1 Wiring Harness Relocation Bracket
- 2 Inlet fitting for PCV sensor
- 3 Y Fitting for Block Breather
- 4 1/2" Hose Clamp x 16
- 5 1/2" 90 Degree Elbow x 2
- 6 5/8" Hose Clamp x 8
- 7 5/8" 90 Degree Elbow
- 8 1/2" Nylon Union
- 9 3/4" Spring Clamp x 2
- 11 AOS Mounting Hardware (M6x12mm x 2, M6x10mm x 3)
- 12 5/8" Vacuum Cap
- 13 Zip Ties

Step 4/115



Heat Sleeve 1 - 16"

Step 5/115

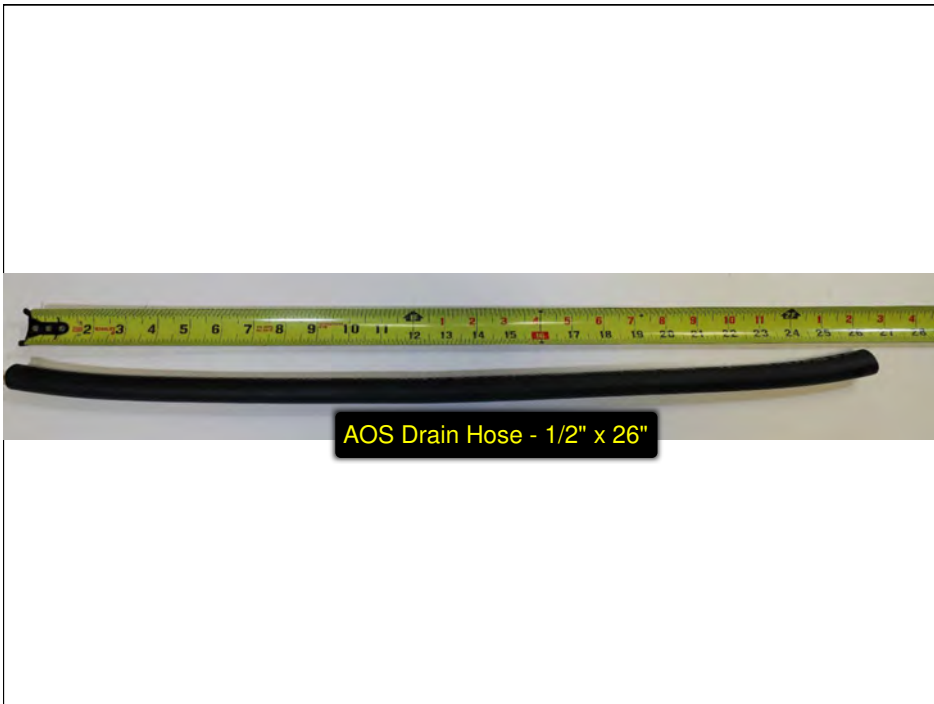


Heat Sleeve 2 - 16"

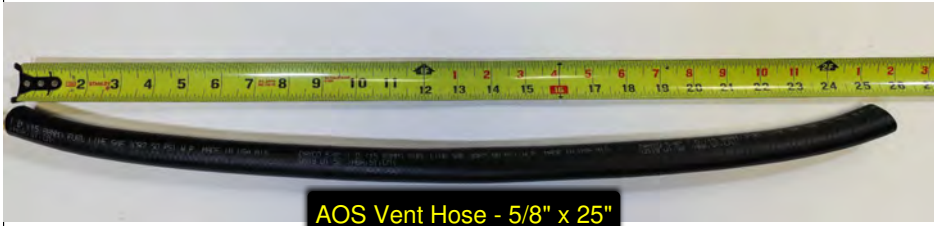
Step 6/115



Step 7/115



Step 8/115



AOS Vent Hose - 5/8" x 25"

Step 9/115



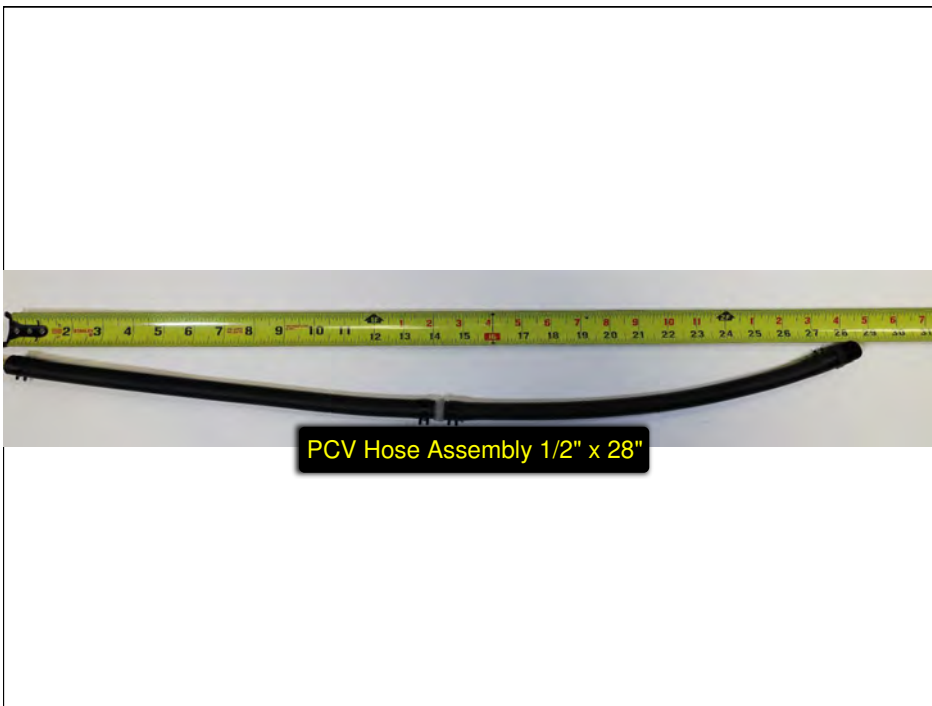
Breather Hose Assembly 1/2" x 44"

Step 10/115



Valve Cover Breather Hose - 1/2" x 74"

Step 11/115



PCV Hose Assembly 1/2" x 28"

Step 12/115



Coolant Hose 1 - 20"

Step 13/115



Coolant Hose 2 - 20"

Step 14/115

Numbered annotations (8)



- 1 AOS Vent Hose to turbo inlet (Both must be connected individually.)
- 2 AOS Vent Hose to turbo inlet (Both must be connected individually.)
- 3 Valve Cover Vent Hose (Driver Side)
- 4 Valve Cover Vent Hose (Passenger Side)
- 5 5/8" Block Vent Hose from Y fitting.
- 6 1/2" Drain hose to Y Fitting at top of block
- 7 Coolant Hose 1
- 8 Coolant Hose 2

Step 15/115

Numbered annotations (1)



- 1 Disconnect the negative battery terminal

Step 16/115

Numbered annotations (2)

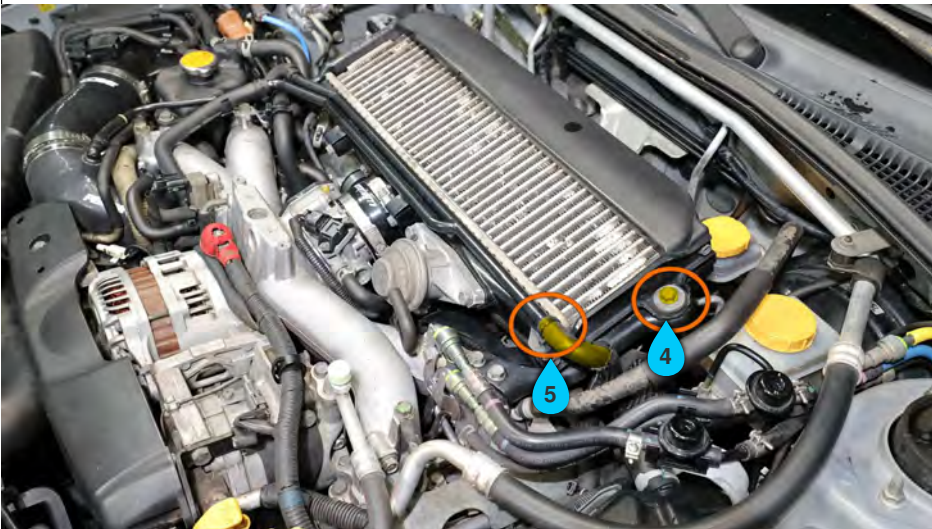
- 2 Remove the intercooler mounting bolt.
- 3 Disconnect the PCV crossover hoses.



Step 17/115

Numbered annotations (2)

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

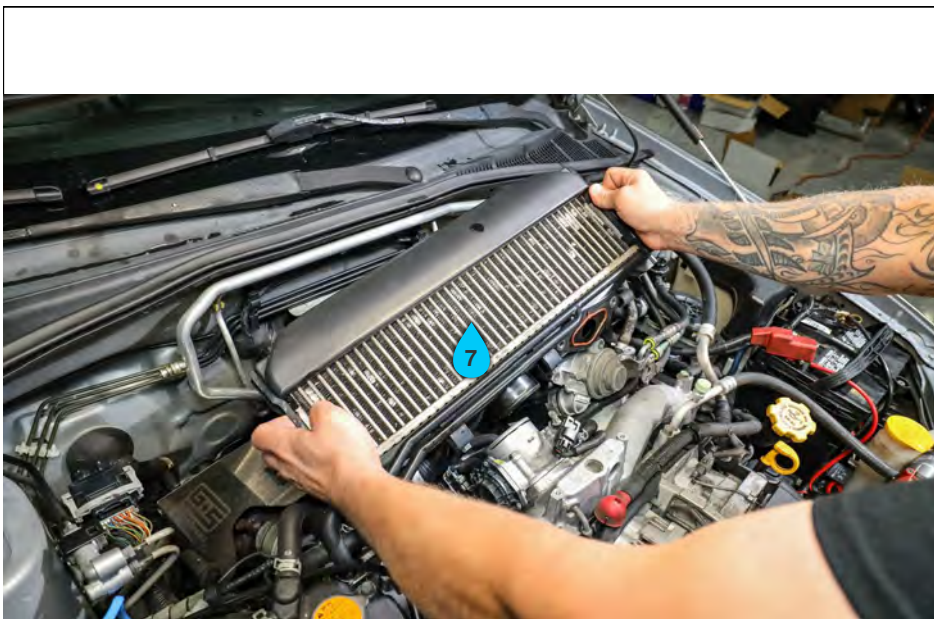




Step 18/115

Numbered annotations (1)

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



Step 19/115

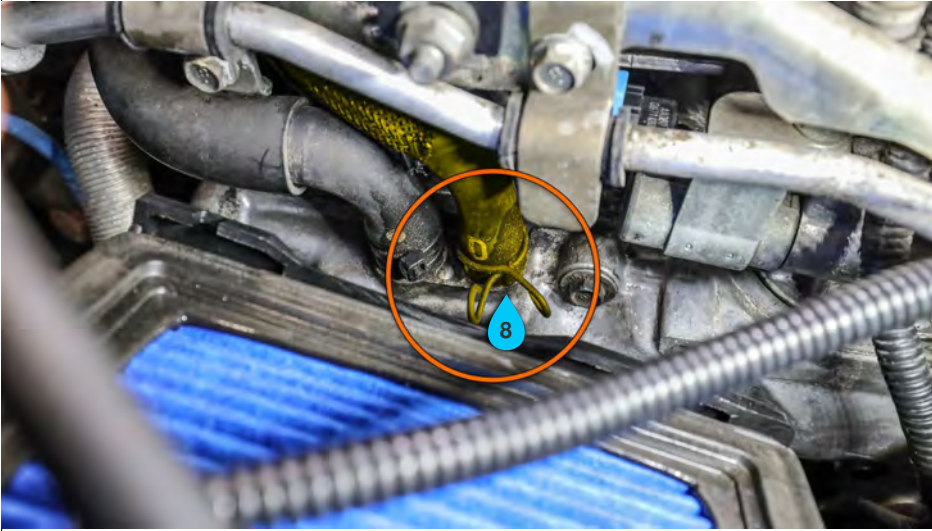
Numbered annotations (1)

- 7 Remove the intercooler.

Step 20/115

Numbered annotations (1)

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



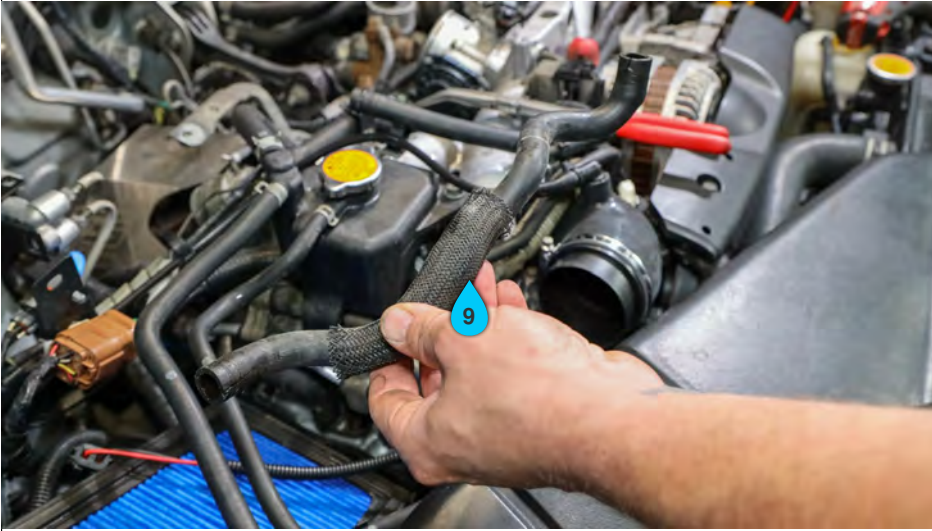
Step 21/115



Step 22/115

Numbered annotations (1)

- 9 Remove the hose.



Step 23/115



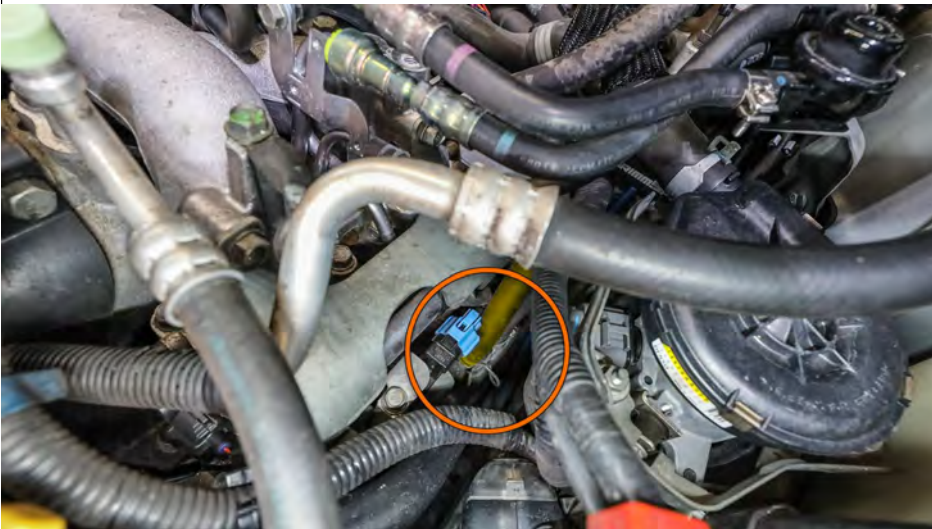
Step 24/115

Numbered annotations (1)

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



Step 25/115



Step 26/115

Numbered annotations (1)

- 11 Remove the hose.



Step 27/115



Step 28/115

Numbered annotations (1)

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



Step 29/115

Numbered annotations (1)

- 13 Disconnect the hose from the sensor.



Step 30/115



Numbered annotations (1)

- 14 Remove the bolts securing the throttle body.

Step 31/115



Numbered annotations (1)

- 15 Move the throttle body out of the way.

Step 32/115

Numbered annotations (1)

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



Step 33/115



Step 34/115



Step 35/115



Numbered annotations (1)

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

Step 36/115



Step 37/115

Numbered annotations (1)



- 18** Attach this hose to the supplied Y pipe using the spring clamps. Tighten both springs clamps with pliers now.

Step 38/115

Numbered annotations (1)

- 19 Apply silicone lube or petroleum jelly to the lower portion of the short hose.



Step 39/115

Numbered annotations (1)

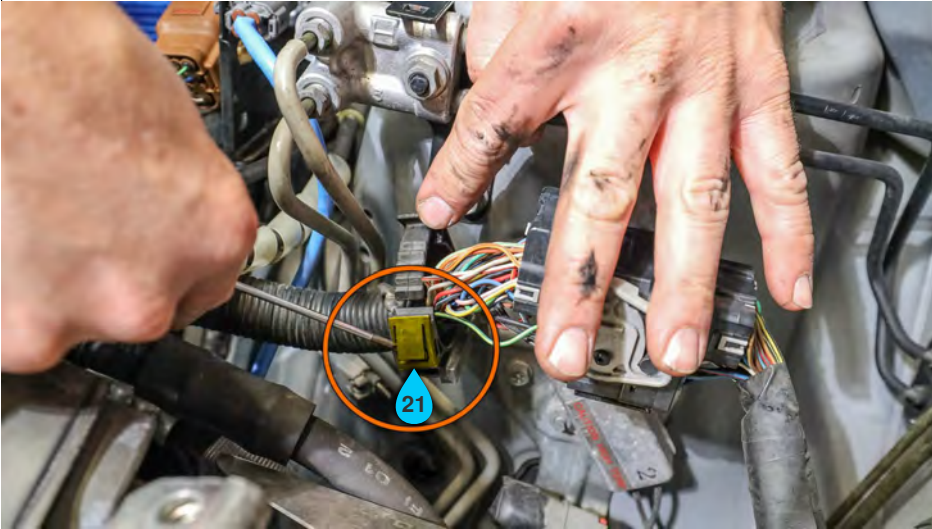
- 20 Push the hose assembly over the barb on the block vent.



Step 40/115

Numbered annotations (1)

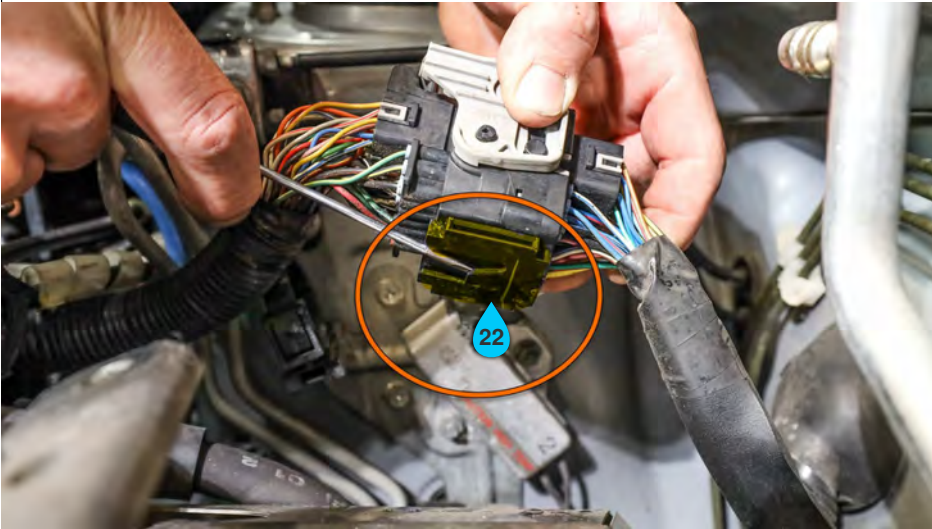
- 21 Disconnect the harness retaining clip.



Step 41/115

Numbered annotations (1)

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



Step 42/115

Numbered annotations (1)

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



Step 43/115

Numbered annotations (1)

- 24 Disconnect the engine harness by lifting the release clip.



Step 44/115

Numbered annotations (1)

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



Step 45/115

Numbered annotations (1)

- 26 Reconnect the engine harness.



Step 46/115

Numbered annotations (1)

- 27 Push a zip tie through here.



Step 47/115

Numbered annotations (1)

- 28 Secure the harness to these lines using the zip tie.



Step 48/115

Numbered annotations (1)

- 29 Apply petroleum jelly or silicone lubricant to the coolant fitting o-rings.



Step 49/115

Numbered annotations (1)

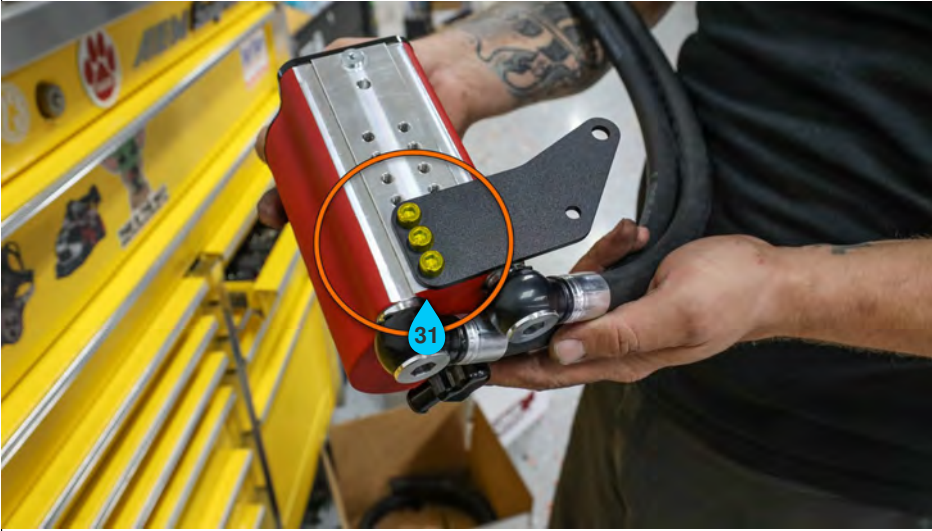
- 30 Torque the coolant fittings to 7 ft lbs.



Step 50/115

Numbered annotations (1)

- 31 Install the AOS mounting bracket. Torque the bolts to 7 ft/lbs.



Step 51/115

Numbered annotations (1)

- 32 Attach the AOS drain hose using the supplied clamp.



Step 52/115



Numbered annotations (1)

- 33 Mount the AOS here using the supplied hardware.

Step 53/115



Numbered annotations (1)

- 34 Slide a 16" section of heat sleeve over the drain hose. Route the AOS drain hose through here. Make sure the drain flows downhill the whole way to ensure proper drainage.

Step 54/115

Numbered annotations (1)

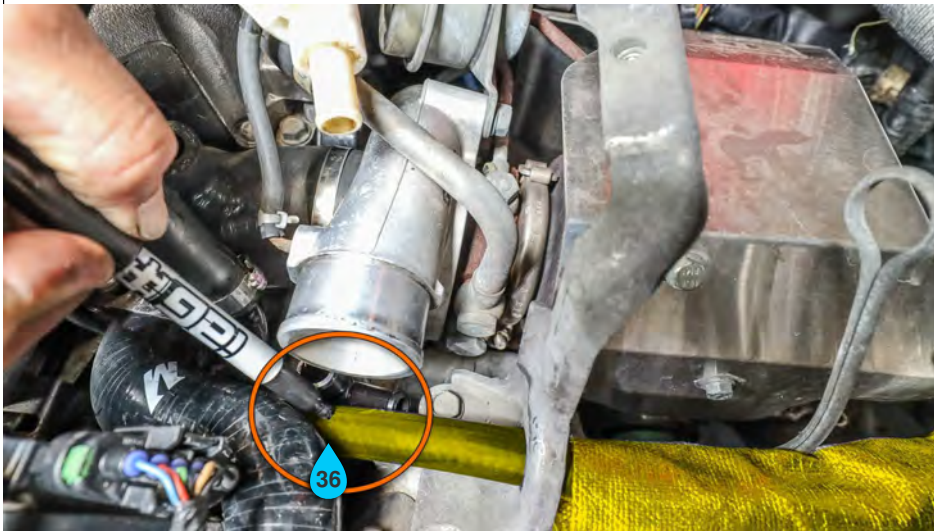
- 35 Pass the AOS drain hose through the hole in this bracket.



Step 55/115

Numbered annotations (1)

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



Step 56/115

Numbered annotations (1)

- 37 Trim the excess hose.



Step 57/115

Numbered annotations (1)

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



Step 58/115



Step 59/115



Numbered annotations (1)

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

Step 60/115



Step 61/115



Numbered annotations (1)

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

Step 62/115

Numbered annotations (1)

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



Step 63/115



Step 64/115



Numbered annotations (1)

- 42 Route the AOS coolant line as shown.

Step 65/115



Numbered annotations (1)

- 43 Measure and mark the coolant hose for length.

Step 66/115



Numbered annotations (1)

- 44 Trim the excess hose.

Step 67/115



Numbered annotations (1)

- 45 Connect the AOS coolant hose to the upper turbo coolant barb using the supplied clamp.

Step 68/115

Numbered annotations (1)

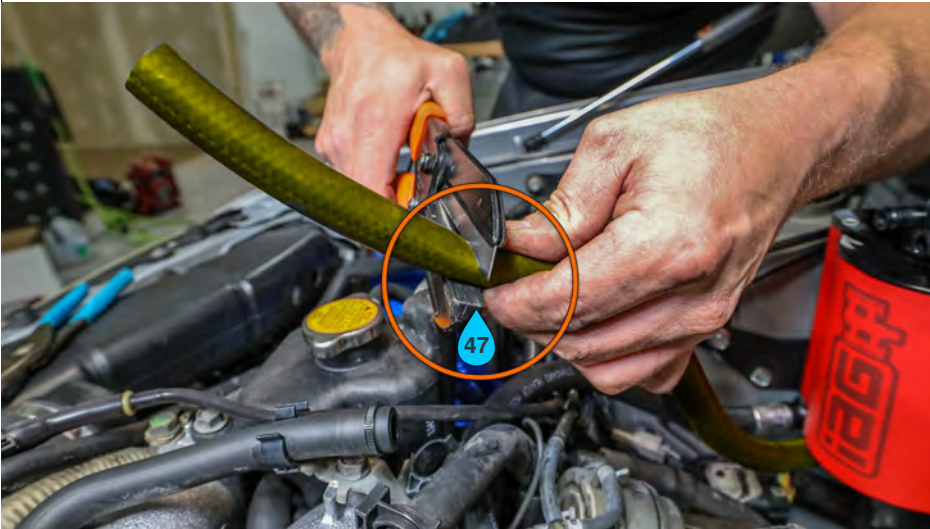
- 46 Measure and mark the other AOS coolant hose.



Step 69/115

Numbered annotations (1)

- 47 Trim the excess AOS coolant hose.



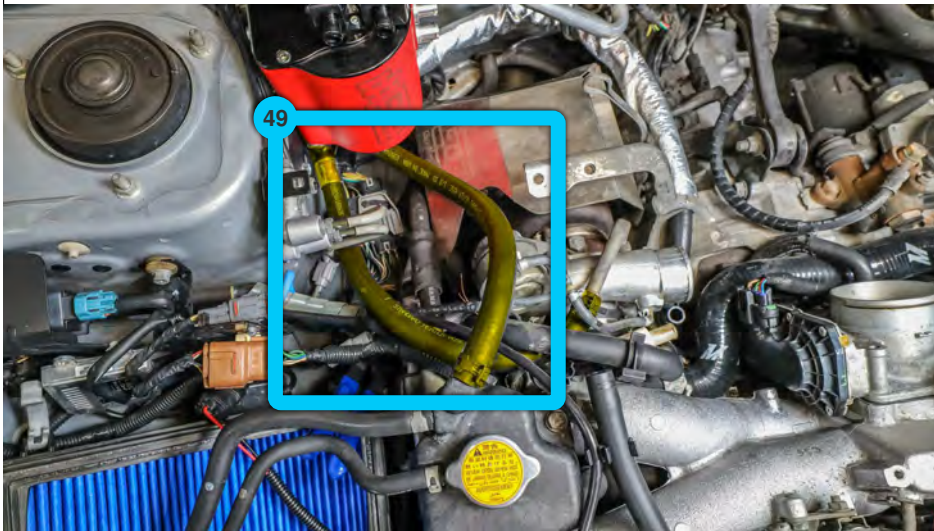
Step 70/115



Numbered annotations (1)

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

Step 71/115



Numbered annotations (1)

- 49 Ensure that the coolant hoses are routed as shown.

Step 72/115

Numbered annotations (1)

- 50 Locate the 5/8" AOS vent hose. Measure 3" and cut the hose.



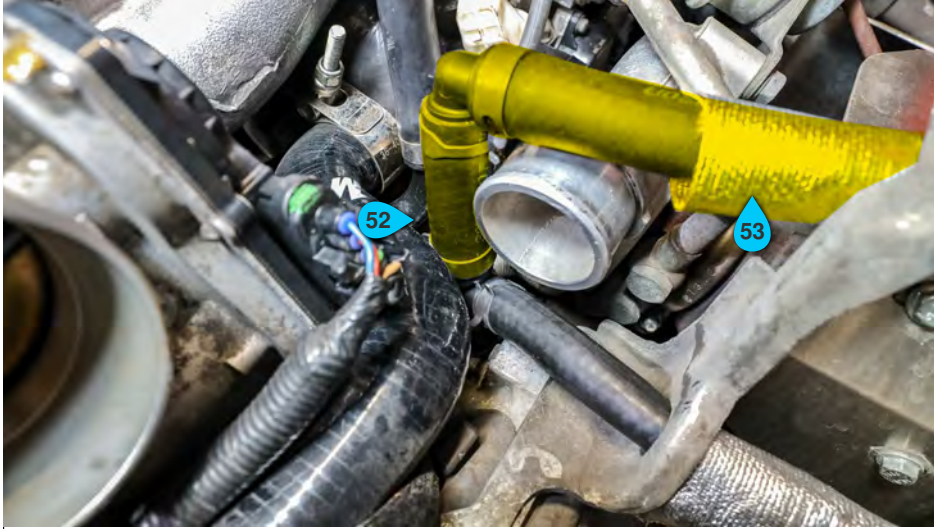
Step 73/115

Numbered annotations (1)

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



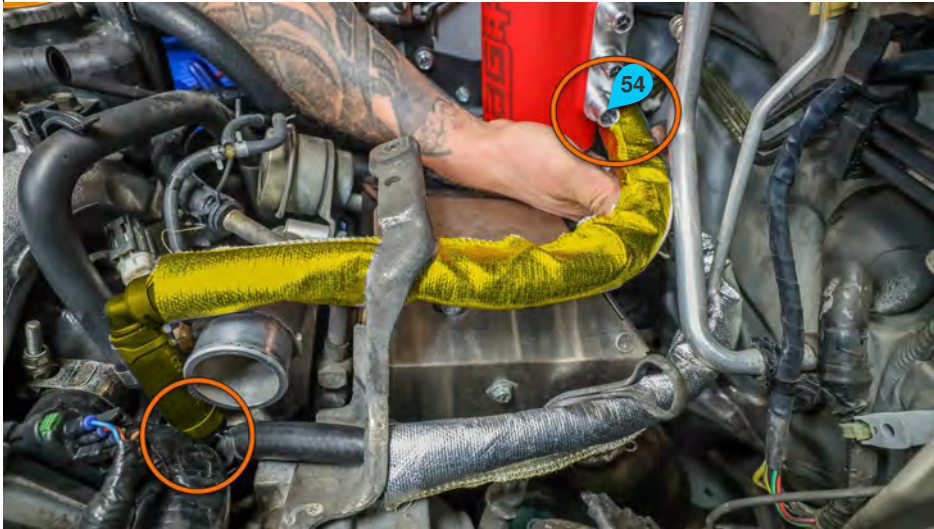
Step 74/115



Numbered annotations (2)

- 52 Install the AOS vent hose to the Y fitting at the top of the block using the supplied clamp.
- 53 Slide the other 16" section of heat sleeve over the vent hose.

Step 75/115



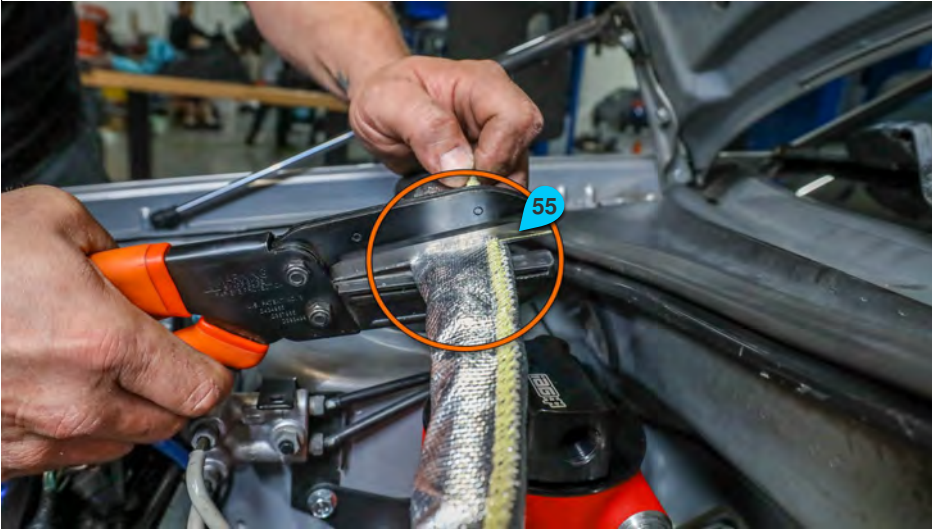
Numbered annotations (1)

- 54 Measure and mark the length of the 5/8" AOS vent hose to the 5/8" AOS barb.

Step 76/115

Numbered annotations (1)

- 55 Trim the excess vent hose.



Step 77/115

Numbered annotations (1)

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



Step 78/115

Numbered annotations (1)

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



Step 79/115

Numbered annotations (1)

- 58 Routing of the vent hose shown.



Step 80/115

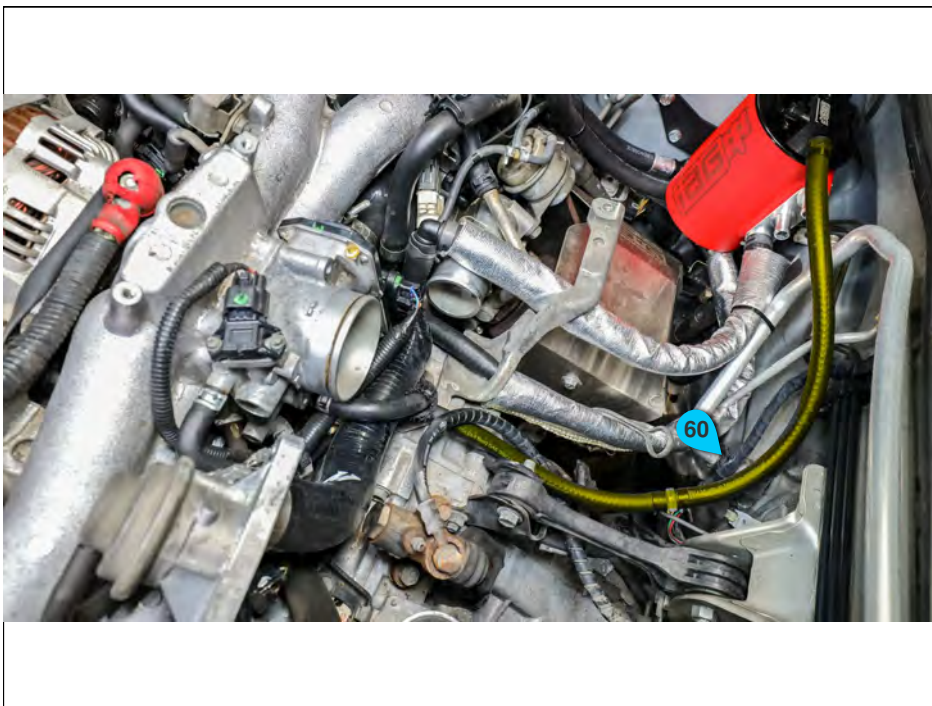
Numbered annotations (1)



- 59 Locate the supplied PCV hose (This hose has a white PCV valve installed in the middle and a 3/8" NPT fitting on one end.) Screw the fitting into the AOS, being careful not to over tighten the tapered fitting.

Step 81/115

Numbered annotations (1)



- 60 Routing of the PCV hose shown.

Step 82/115

Numbered annotations (1)

- 61 Attach the other end of the PCV hose to the nipple under the throttle body using the supplied clamp.



Step 83/115

Numbered annotations (1)

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



Step 84/115

Numbered annotations (1)

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



Step 85/115

Numbered annotations (1)

- 64 Route the valve cover vent hose through here.

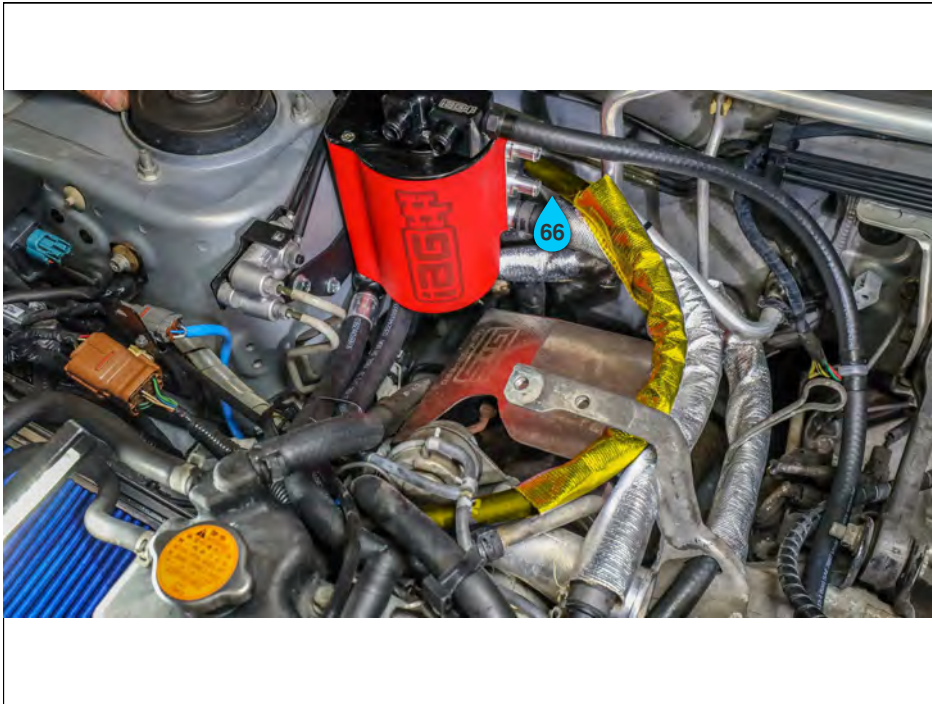




Step 86/115

Numbered annotations (1)

- 65 Route the hose through here as shown.



Step 87/115

Numbered annotations (1)

- 66 Slide a 12" piece of heat sleeving over this hose. Measure and mark the length of the AOS vent hose.

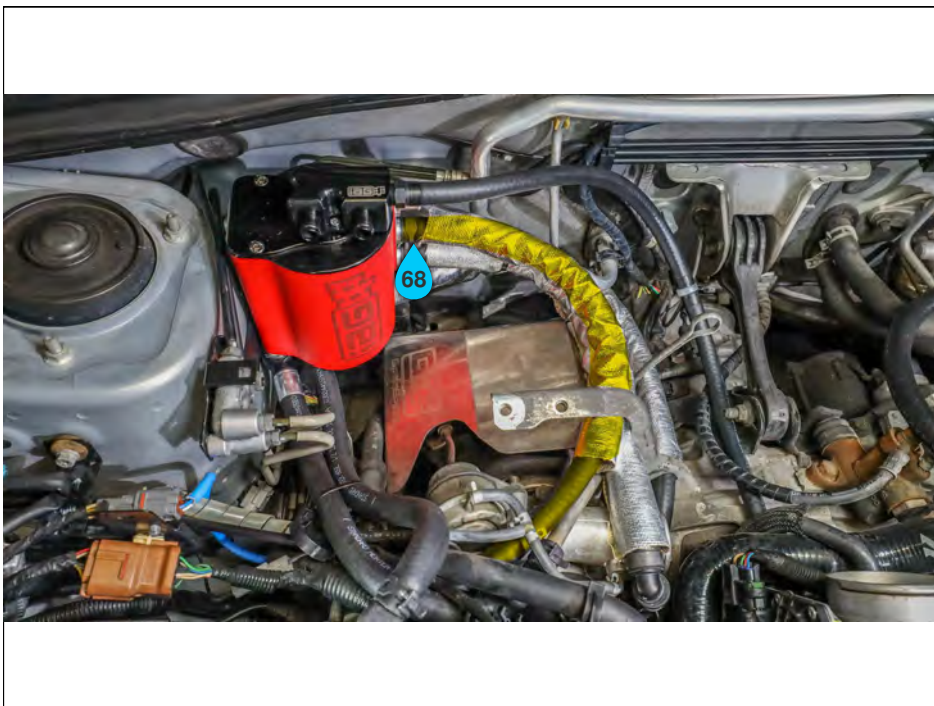
Step 88/115



Numbered annotations (1)

- 67 Trim the excess AOS vent hose. Reserve the excess valve cover vent hose.

Step 89/115



Numbered annotations (1)

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



Step 90/115



Step 91/115

Numbered annotations (1)

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

Step 92/115

Numbered annotations (1)

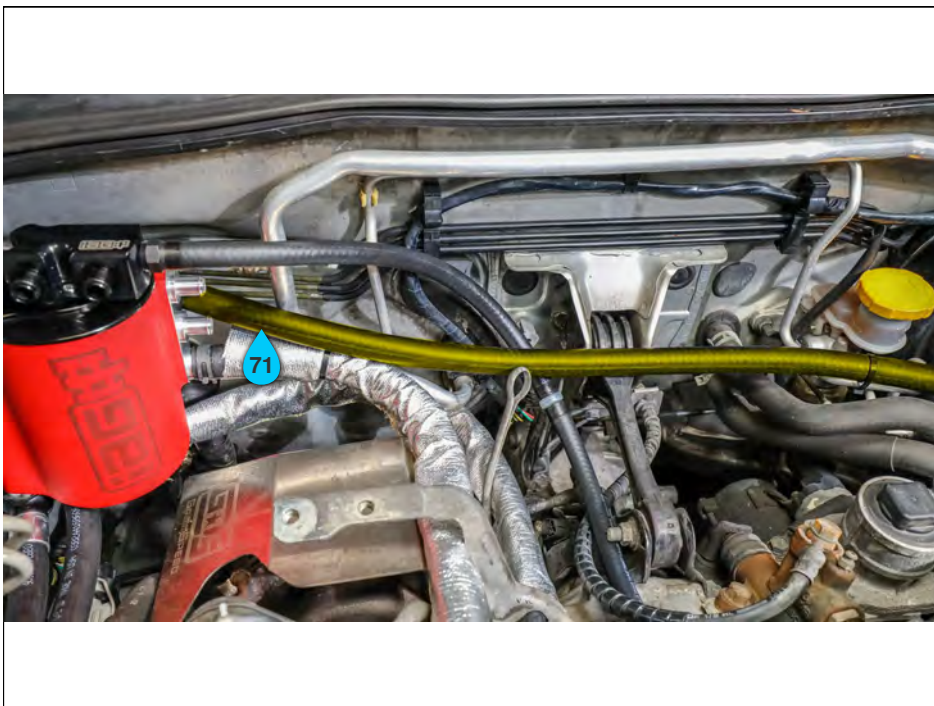
- 70 Route the 1/2" AOS valve cover vent hose and secure it with a zip tie as shown.



Step 93/115

Numbered annotations (1)

- 71 Measure and mark the length of this hose.



Step 94/115

Numbered annotations (1)

- 72 Trim excess vent hose.



Step 95/115

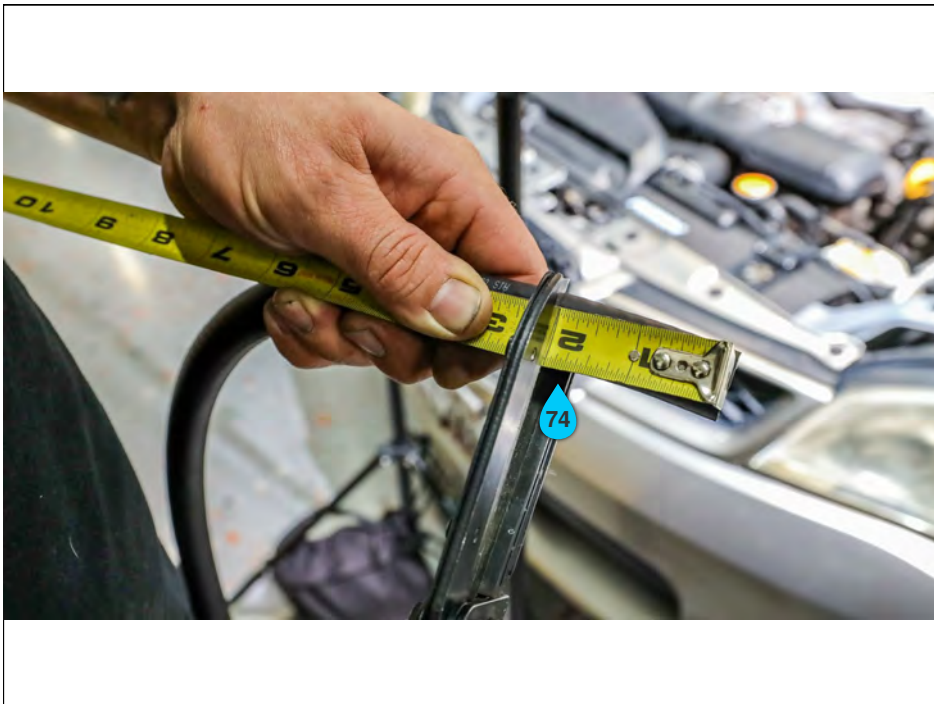
Numbered annotations (1)

- 73 Attach the 1/2" AOS vent hose here using the supplied hose clamp.





Step 96/115



Step 97/115

Numbered annotations (1)

- 74 Measure and cut two inches from the end of the 44" 1/2" AOS breather hose.

Step 98/115

Numbered annotations (1)

- 75 Assemble the vent hose as shown using the supplied 90 degree elbow and clamps.



Step 99/115

Numbered annotations (1)

- 76 Attach the vent hose to the white PCV sensor on the turbo inlet as shown.



Step 100/115

Numbered annotations (1)

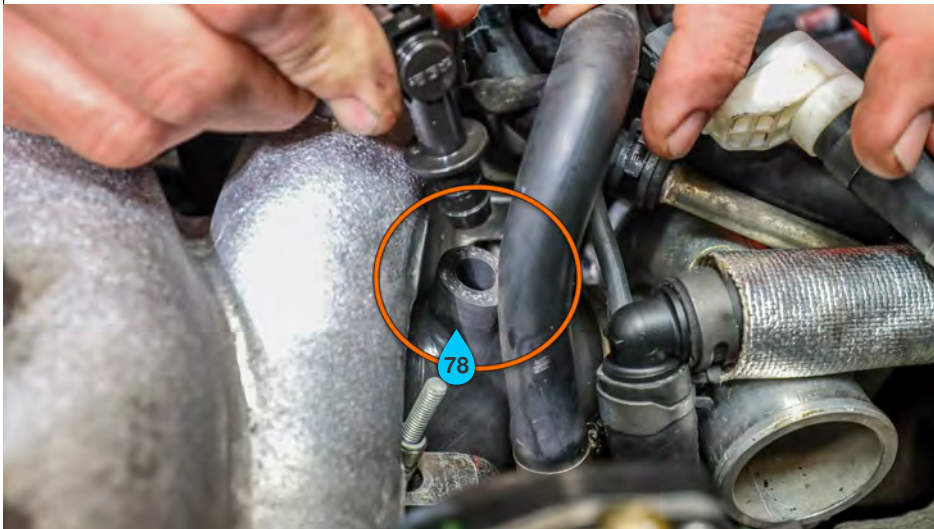
- 77 If using an aftermarket turbo inlet without a provision for the PCV sensor, locate the supplied fitting.



Step 101/115

Numbered annotations (1)

- 78 If using an aftermarket turbo inlet use the supplied fitting to connect the white PCV sensor to the turbo inlet.



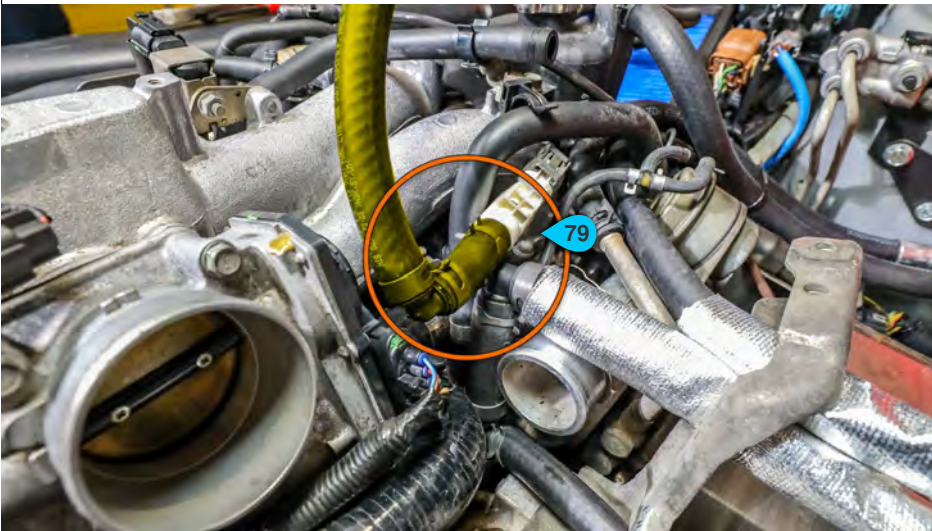
Step 102/115



Step 103/115

Numbered annotations (1)

- 79 Attach the hose assembly with white PCV sensor here.



Step 104/115



Step 105/115



Numbered annotations (1)

- 80 Measure the length of the PCV vent hose to the AOS breather port.

Step 106/115

Numbered annotations (1)

- 81 Trim the excess AOS breather hose. Reserve the excess hose.



Step 107/115

Numbered annotations (1)

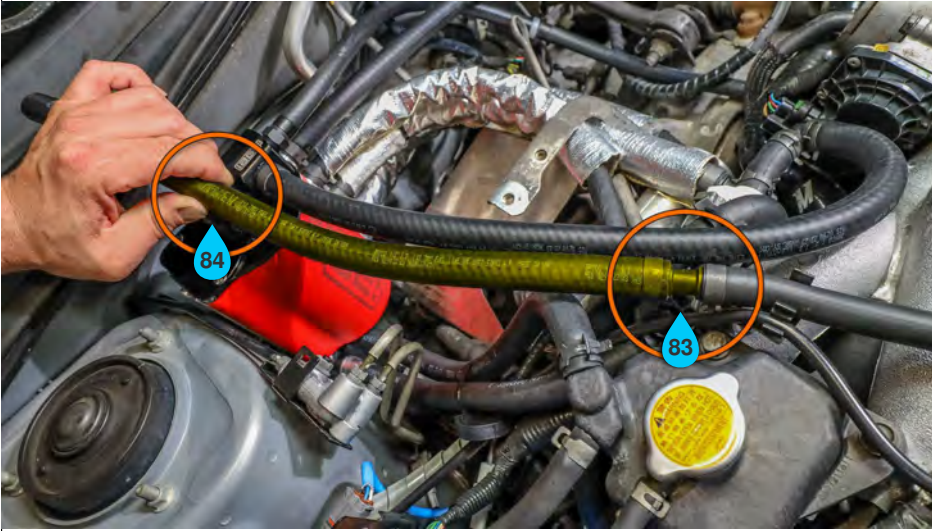
- 82 Attach the AOS vent hose here using the supplied clamp.



Step 108/115

Numbered annotations (2)

- 83 Attach the reserved 1/2" AOS breather hose to the OEM inlet hose using the supplied 1/2" nylon union and clamps.
- 84 Measure the AOS vent hose to length.



Step 109/115

Numbered annotations (1)

- 85 Trim the excess AOS breather hose.



Step 110/115

Numbered annotations (1)

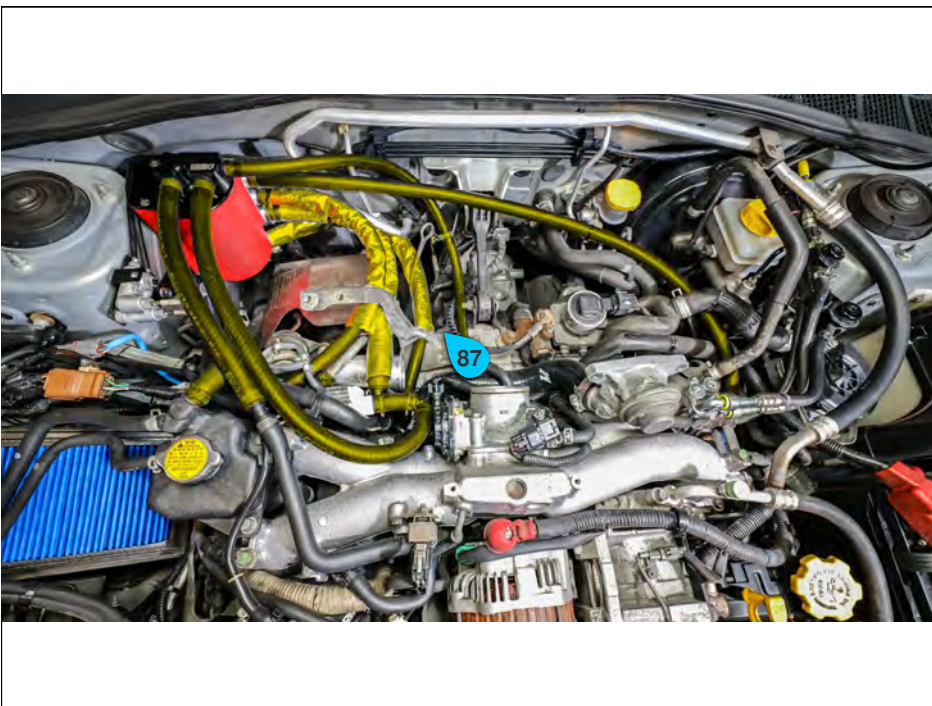
- 86 Attach the AOS breather hose here using the supplied clamp.



Step 111/115

Numbered annotations (1)

- 87 Routing of all AOS hoses shown.



- . Reinstall the intercooler**
- . Reconnect any white PCV connectors which were disconnected earlier.**

Step 112/115



Step 113/115

Step 114/115

Numbered annotations (1)

- 88 Reconnect the negative battery terminal



Step 115/115

Numbered annotations (1)

- 89 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.

