

IAG STREET SERIES AOS FOR 2017-20 WRX



Step 1/120

IAG-ENG-7182 Street Series Air / Oil Separator (AOS) For 2017-2020 WRX

Part# IAG-ENG-7182

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 2/120



Numbered annotations (12)

- 1 AOS Body Assembly
- 2 Coolant Hose 1 - 43"
- 3 AOS Drain and Lower Breather Hose Assembly
- 4 Wiring harness relocation bracket (2015-2016 Only)
- 5 AOS PCV Hose 3/8" x 24"
- 6 Zip Ties
- 7 Block Breather Hose 1/2" x 44" x 90 degree x 3" (For 2015-2016 Model Years ONLY)
- 8 Vent Hose - 5/8" x 17" w/ 90 Degree Fitting (2017+ Model Years ONLY)
- 9 AOS Coolant Hose 2 - 15.5" with union fitting
- 10 AOS Breather Hose Assembly 5/8" x Y Fitting to 1/2" x 1/2" Hoses
- 11 AOS Bracket

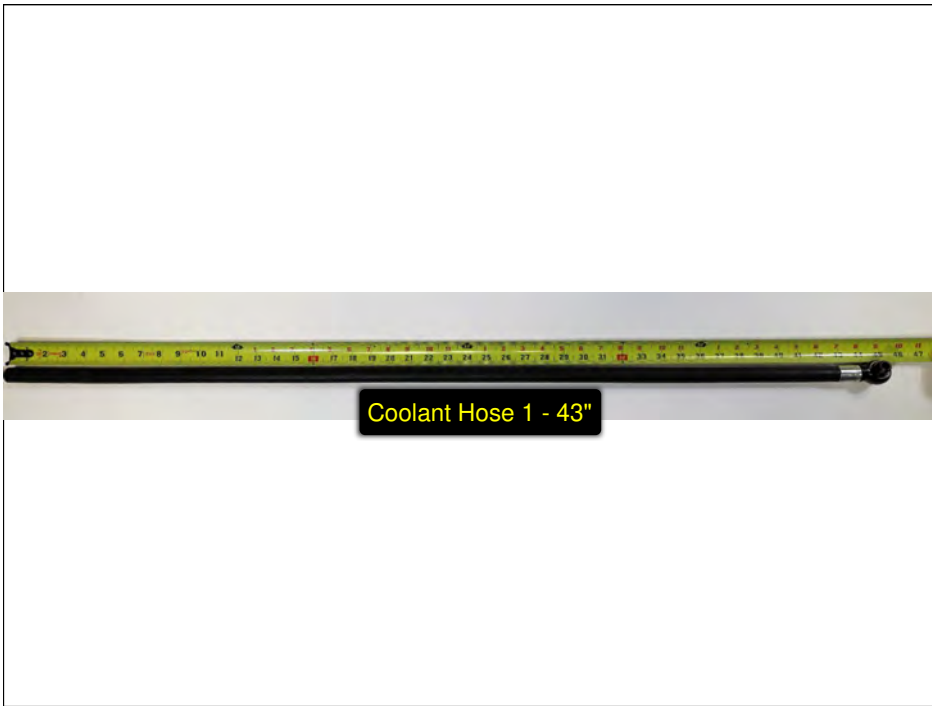
Step 3/120



Numbered annotations (8)

- 1 Coolant Clamp
- 2 AOS Block Fitting - 3/8" NPT to 5/8" Barb
- 3 3/8" Band Clamp x 2
- 4 3/8" 90 degree elbow
- 5 1/2" Band Clamp x 15
- 6 5/8" Band Clamp x 8
- 7 1/2" Vacuum Cap
- 8 5/8" Vacuum Cap

Step 4/120



Step 5/120



Step 6/120



Block Breather Hose 1/2" x 44" x 90 degree x 3" (For 2015-2016 Model Years ONLY)

Step 7/120



Vent Hose 5/8" x 17" w/ 90 Degree Fitting (2017+ Model Years ONLY)

Step 8/120



AOS Coolant Hose 2 - 15.5" with union fitting

Step 9/120



AOS Breather Hose Assembly 5/8" x Y Fitting to 1/2" x 1/2" Hoses

Step 10/120



Step 11/120



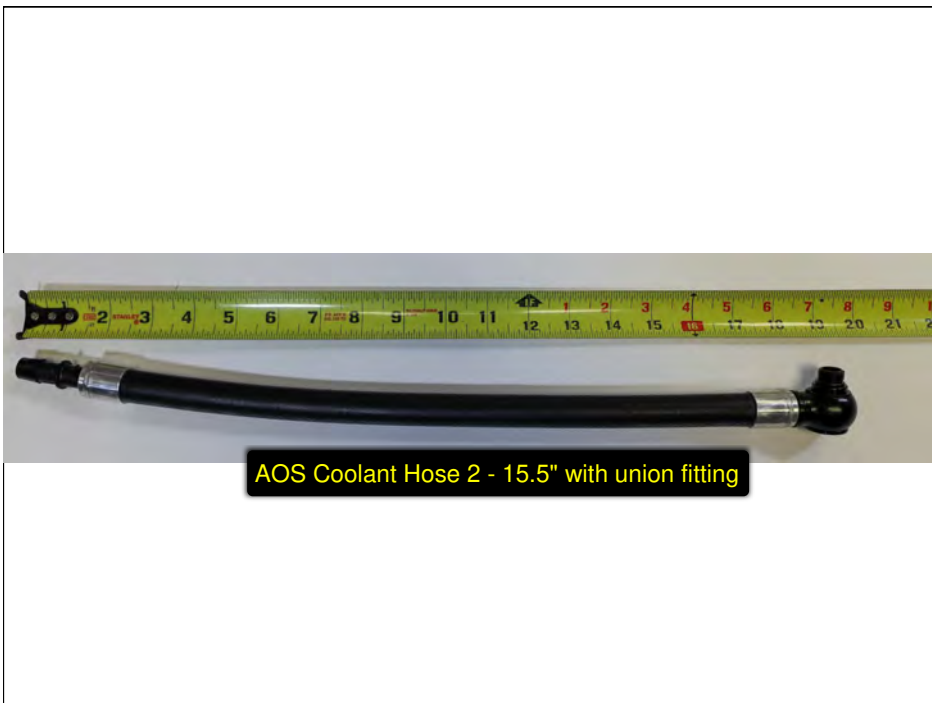
Step 12/120

Numbered annotations (8)



- 1 Connects to the AOS Breather Hose Assembly
- 2 Connects to the AOS Breather Hose Assembly
- 3 Connects to 1/2" x 44" PCV Vent Hose on 2015-2016 Vehicles. Capped with 1/2" vacuum cap on 2017+ Vehicles.
- 4 Connects to lower breather and drain hose assembly.
- 5 Connected to the Breather Hose 5/8" x 17" w/ 90 Degree Fitting on 2017+ Vehicles. (Capped with 5/8" Vacuum Cap on 2015-2016 Vehicles)
- 6 AOS Drain. Connects to lower breather and drain hose assembly.
- 7 Coolant Hose 1
- 8 Coolant Hose 2

Step 13/120



Step 14/120



AOS Breather Hose 1" x 59"

Step 15/120



Numbered annotations (7)

- 1 Connects to AOS Breather Hose
- 2 Connects to 1/2" x 44" PCV Vent Hose on 2015-2016 Vehicles. Capped with 1/2" vacuum cap on 2017+ Vehicles.
- 3 Connects to lower breather and drain hose assembly.
- 4 Connected to the Breather Hose 5/8" x 17" w/ 90 Degree Fitting. (Capped with 5/8" Vacuum Cap on 2015-2016 Vehicles)
- 5 AOS Drain. Connects to lower breather and drain hose assembly.
- 6 AOS Coolant Hose 1
- 7 AOS Coolant Hose 2



Step 16/120

Numbered annotations (1)

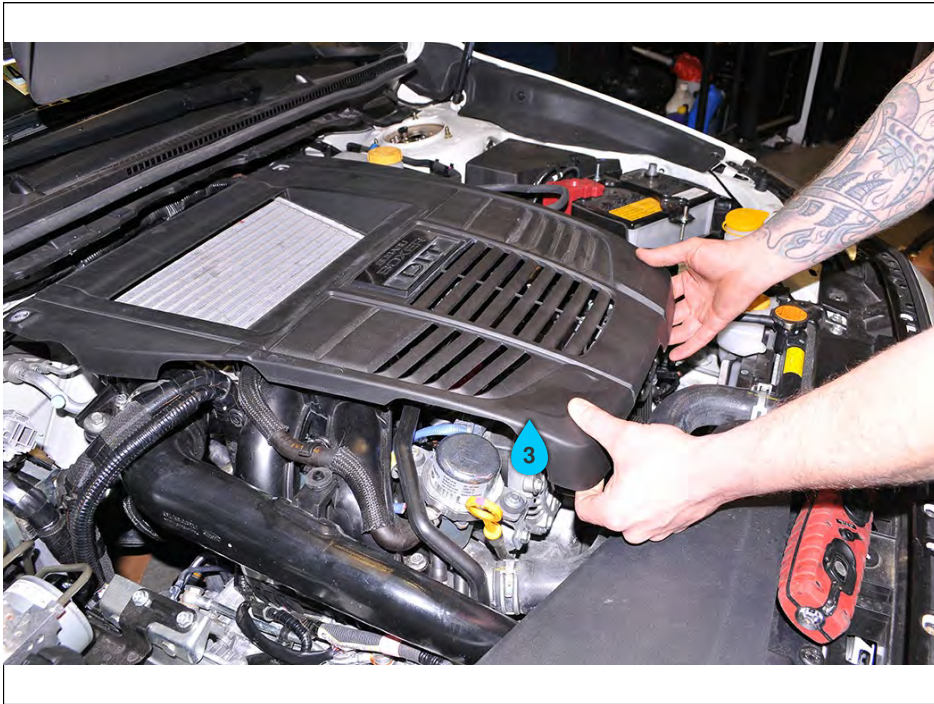
- 1 Disconnect the negative battery cable.



Step 17/120

Numbered annotations (1)

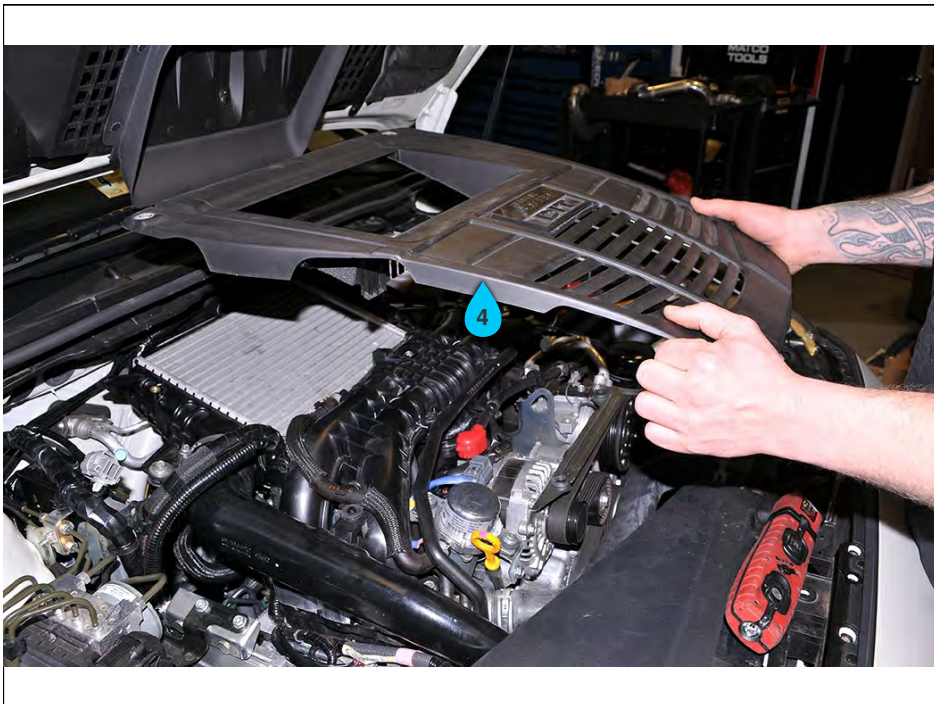
- 2 Remove the clips securing the engine cover.



Step 18/120

Numbered annotations (1)

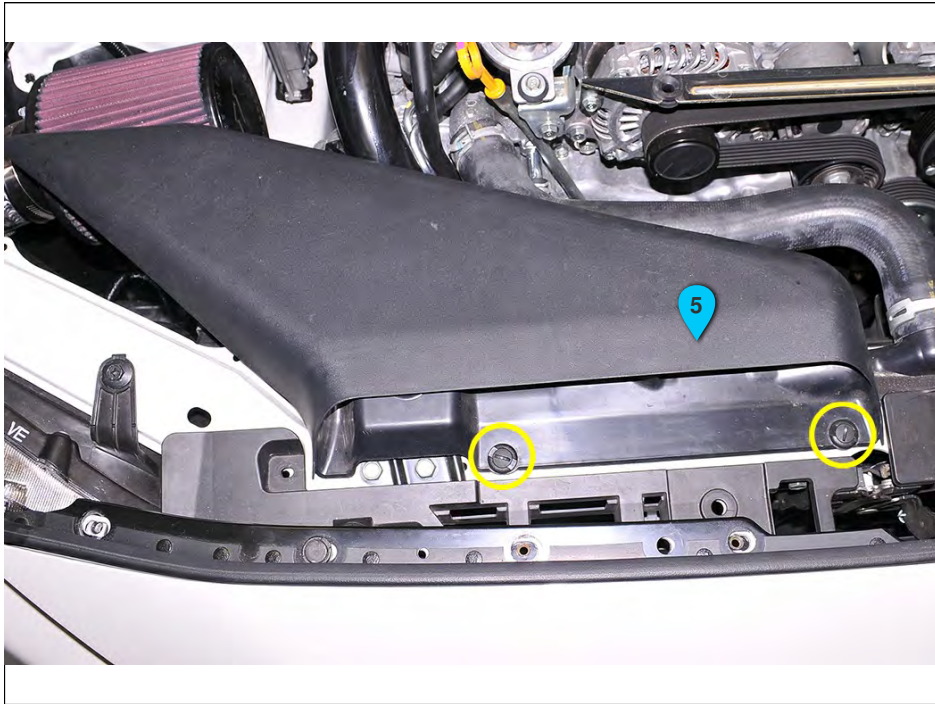
- 3 Pull up on the front of the cover to unclip it.



Step 19/120

Numbered annotations (1)

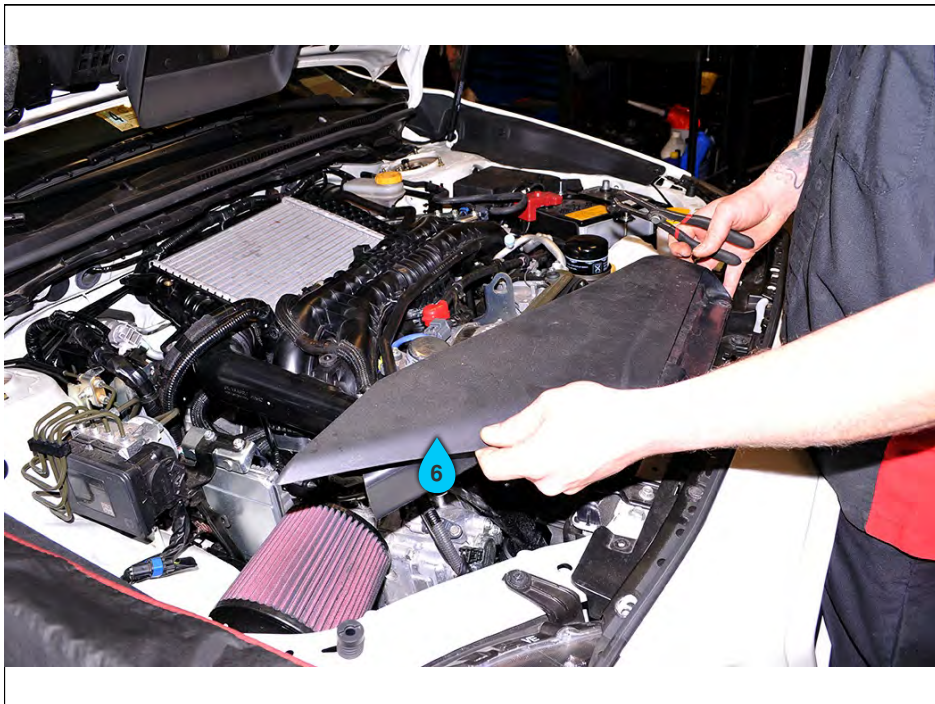
- 4 Remove engine cover.



Step 20/120

Numbered annotations (1)

- 5 Remove hardware securing intake snorkel.



Step 21/120

Numbered annotations (1)

- 6 Remove intake snorkel.

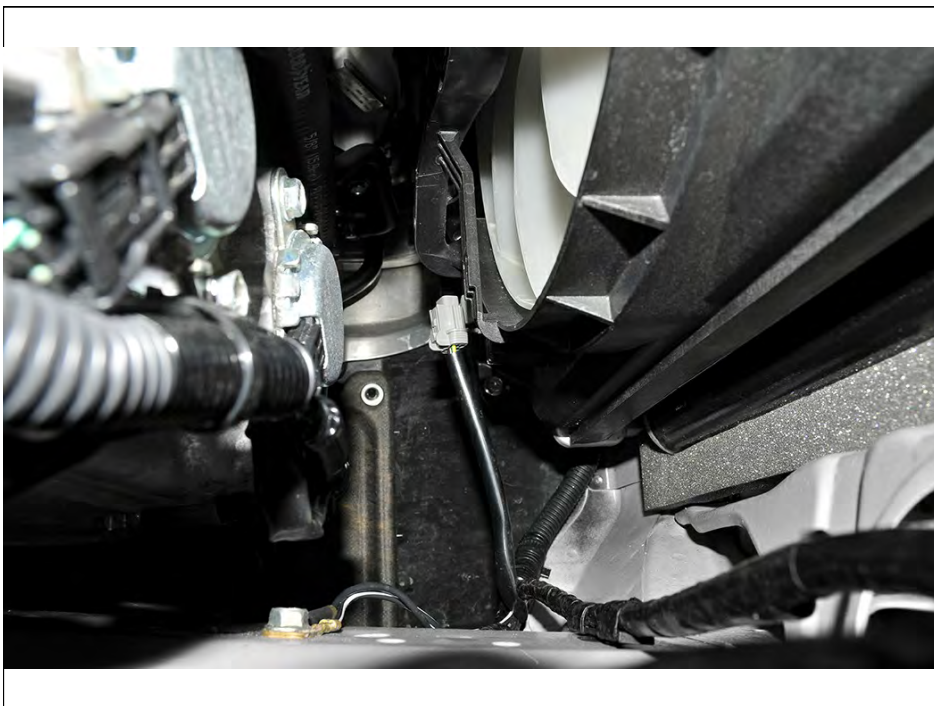
Step 22/120



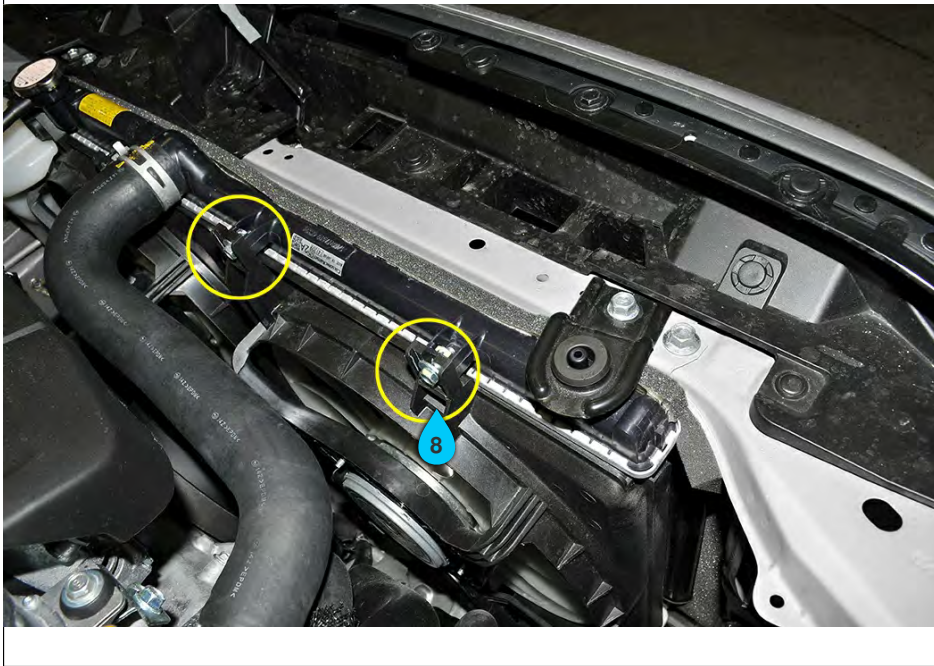
Numbered annotations (1)

- 7 Disconnect passenger side radiator fan wiring harness.

Step 23/120



Step 24/120



Numbered annotations (1)

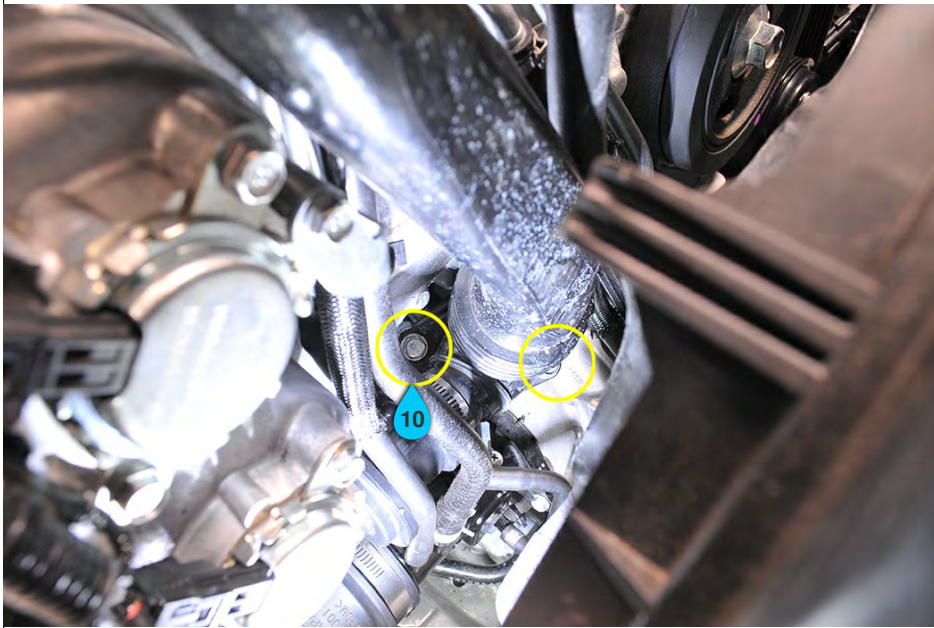
- 8 Remove hardware securing passenger side radiator fan.

Step 25/120



Numbered annotations (1)

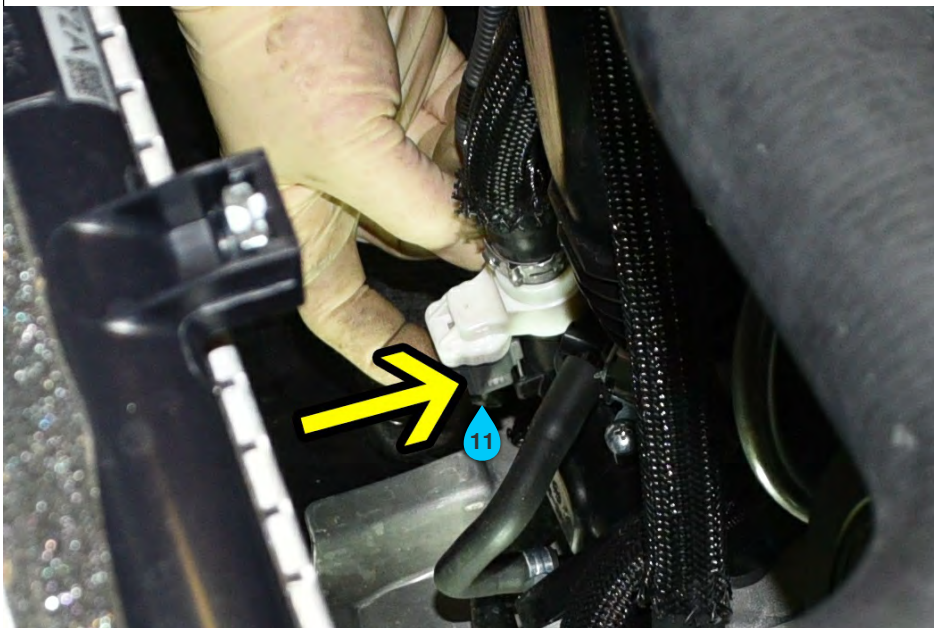
- 9 Remove passenger side radiator fan, being careful not to damage the radiator fins.



Step 26/120

Numbered annotations (1)

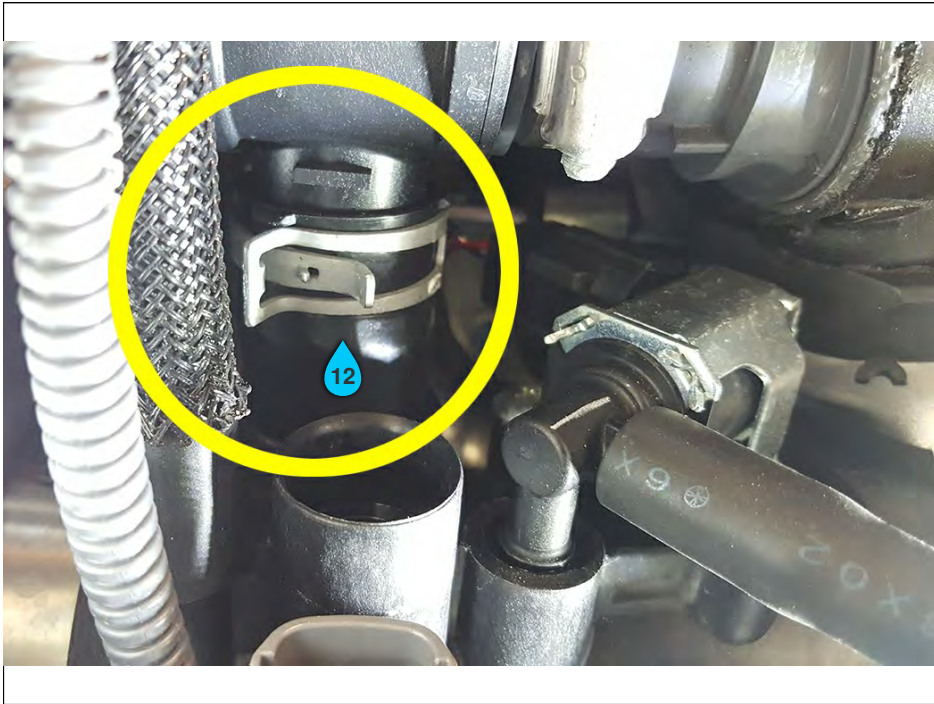
- 10 Remove hardware securing charge pipe.



Step 27/120

Numbered annotations (1)

- 11 Disconnect the electrical connector here



Step 28/120

Numbered annotations (1)

- 12 Loosen this clamp



Step 29/120

Numbered annotations (1)

- 13 Using pliers, pry off the hose clamp that holds the white crankcase sensor to the turbo inlet pipe.

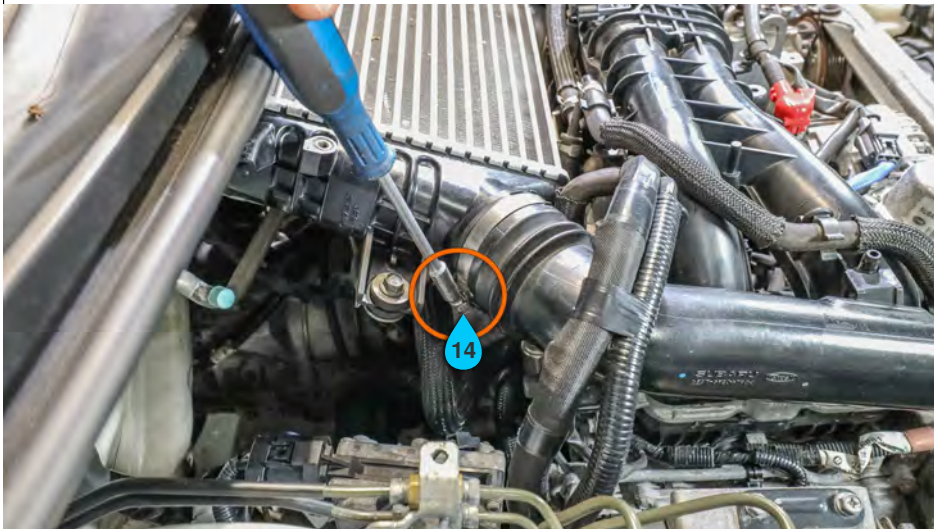
Step 30/120



Numbered annotations (1)

- 1 AOS Breather hose will connect here later.

Step 31/120



Numbered annotations (1)

- 14 Loosen this clamp.

Step 32/120



Numbered annotations (1)

- 15 Remove the charge pipe.

Step 33/120



Numbered annotations (1)

- 16 Ensure this part stays in the charge pipe.

Step 34/120

Numbered annotations (1)

17 The spacer fits here.



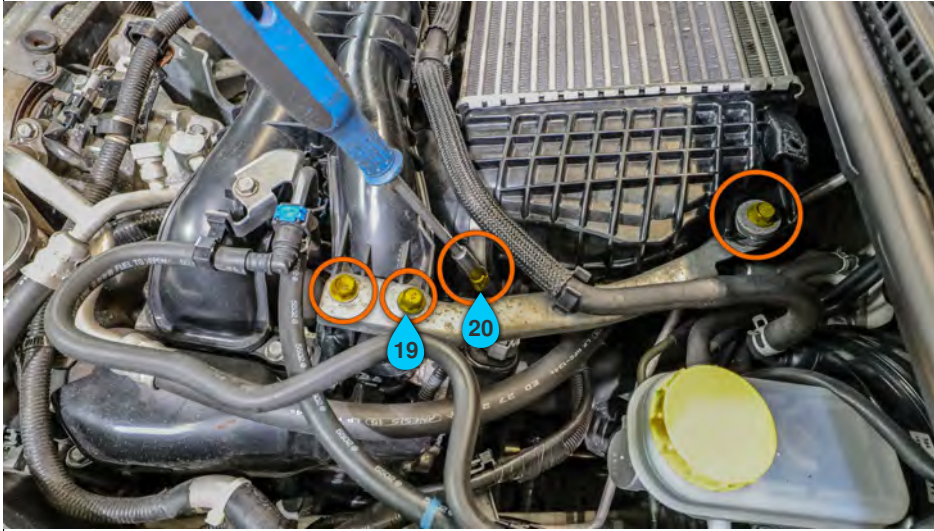
Step 35/120

Numbered annotations (1)

18 Remove this bolt.



Step 36/120



Numbered annotations (2)

- 19 Remove the 3 bolts holding the intercooler and bracket.
- 20 Loosen this hose clamp.

Step 37/120



Numbered annotations (1)

- 21 Remove the intercooler bracket.

Step 38/120

Numbered annotations (1)

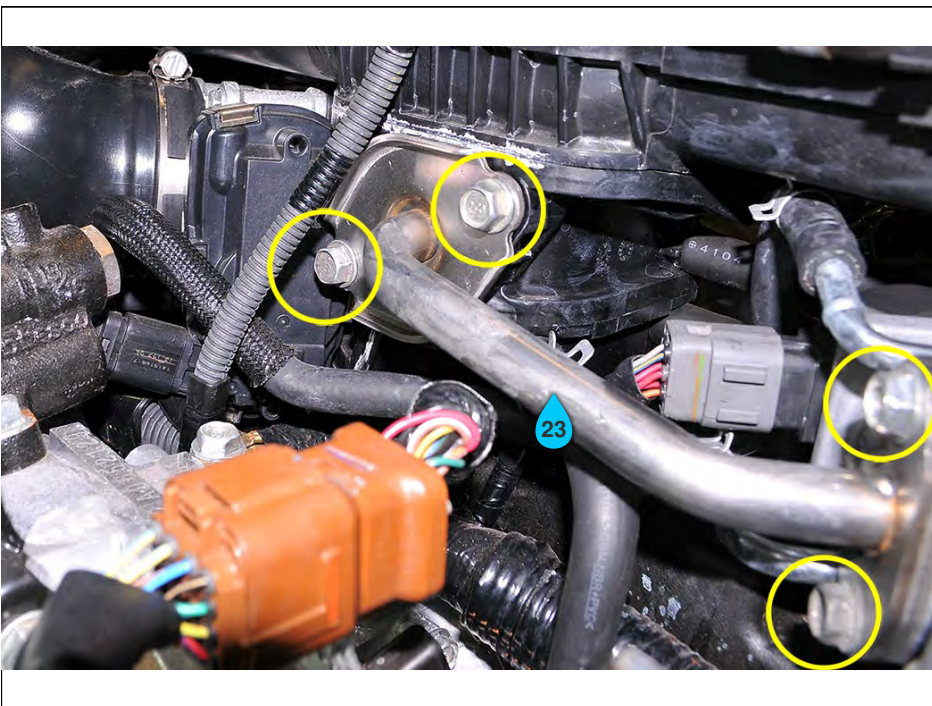
- 22 Remove the intercooler.



Step 39/120

Numbered annotations (1)

- 23 Remove the hardware securing this pipe behind the intake manifold.



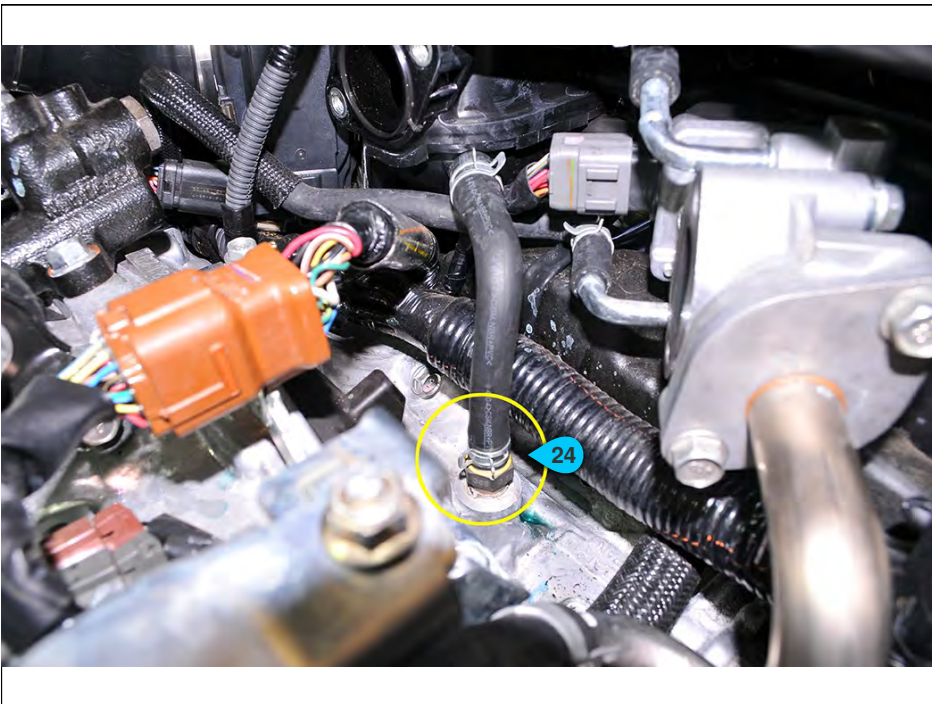
Step 40/120



Step 41/120

Numbered annotations (1)

- 24 Loosen this clamp and disconnect this hose.





Step 42/120



Step 43/120

Numbered annotations (1)

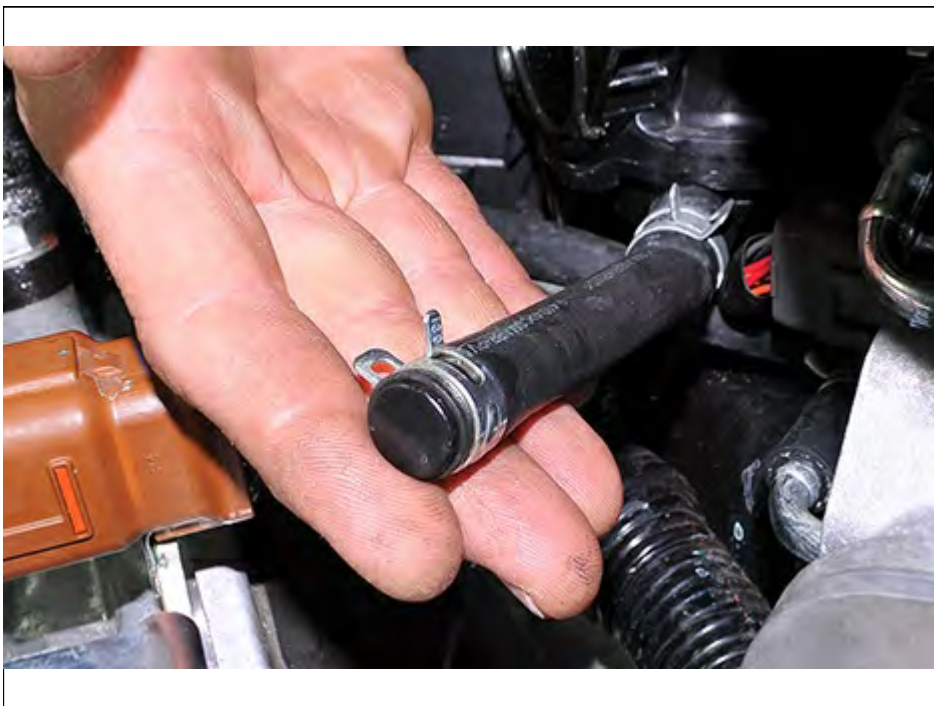
- 25 Locate the supplied vacuum cap.



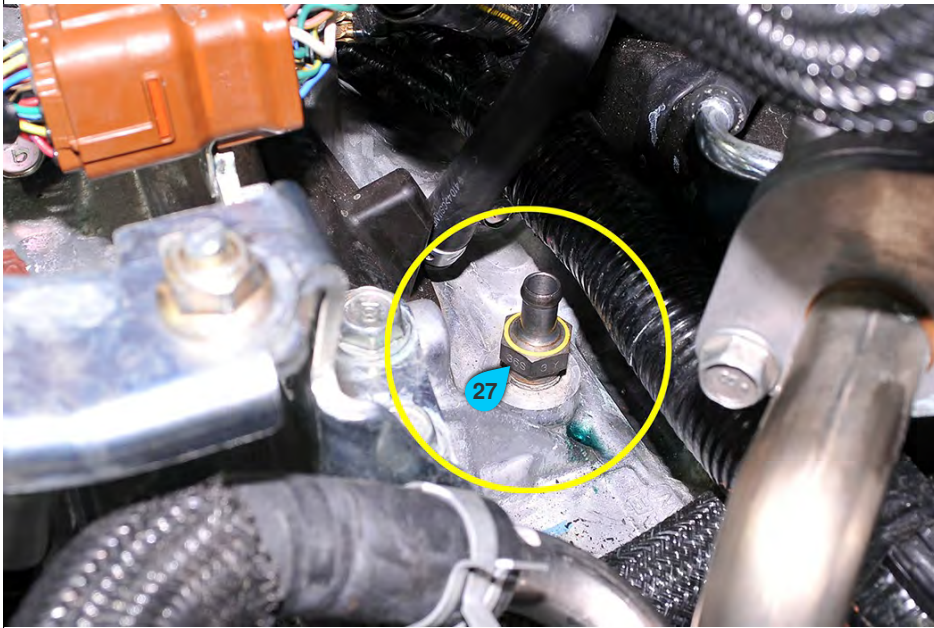
Step 44/120

Numbered annotations (1)

- 26 Install the supplied vacuum cap in this hose, secured with the OEM clamp.



Step 45/120



Step 46/120

Numbered annotations (1)

- 27 Remove this fitting.



Step 47/120

Step 48/120

Numbered annotations (1)

- 28 Locate the supplied block breather fitting.



Step 49/120

Numbered annotations (1)

- 29 Thread the block fitting into the block.

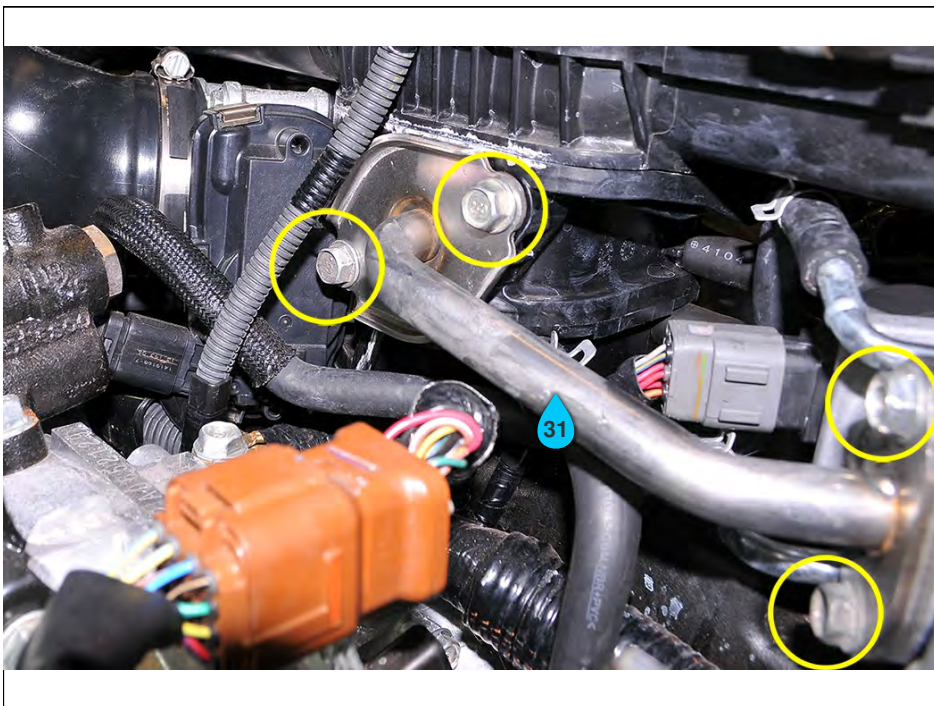




Step 50/120

Numbered annotations (1)

- 30 Torque the fitting to 15 ft/lbs.



Step 51/120

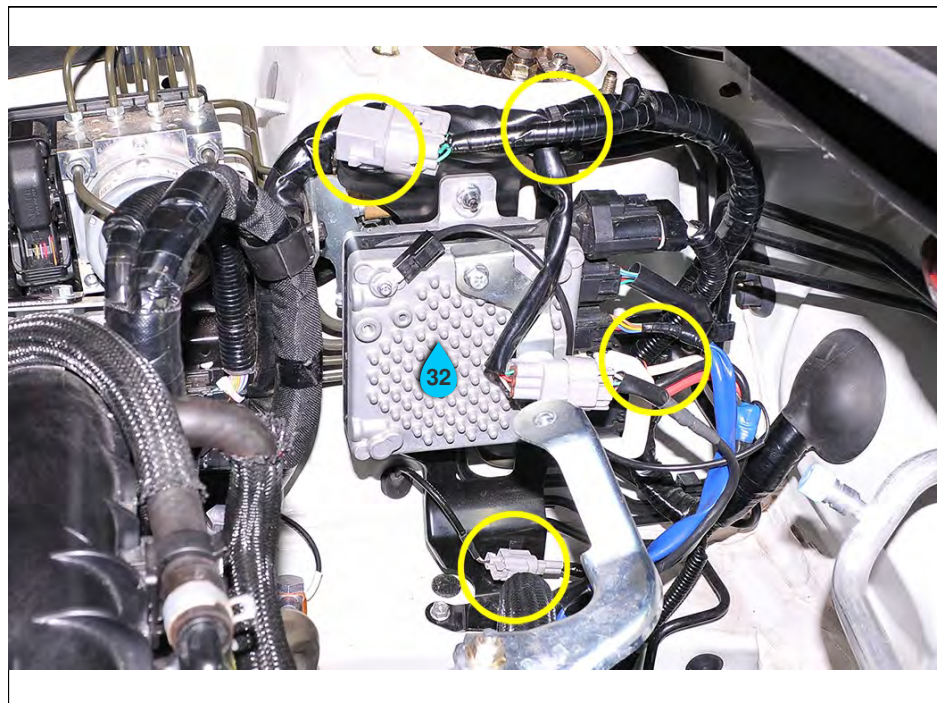
Numbered annotations (1)

- 31 Reinstall the EGR pipe, reusing the OEM gaskets and hardware.

STOP

**IF YOUR WRX WAS BUILT AFTER 4/30/17,
PLEASE SKIP TO STEP 73**

Step 52/120

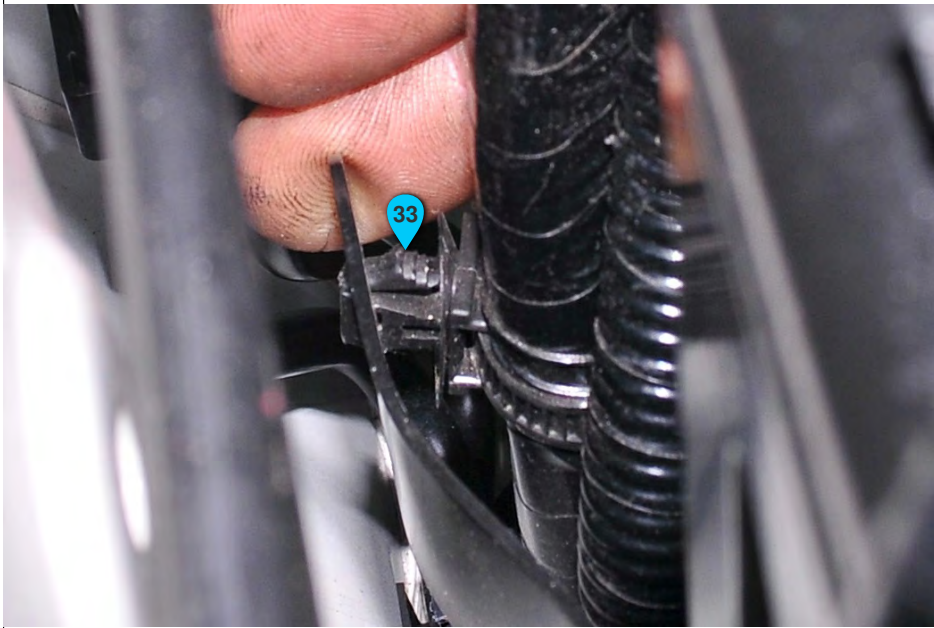


Step 53/120

Numbered annotations (1)

- 32 Remove the 4 wiring harness retaining clips from the ECU mounting bracket.

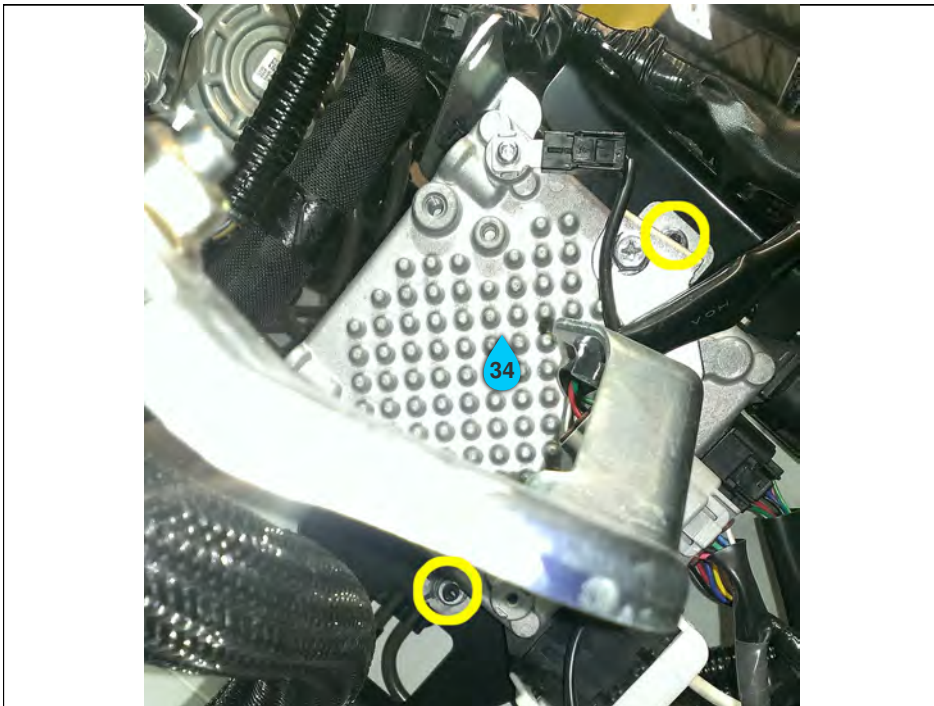
Step 54/120



Numbered annotations (1)

- 33 Use pliers to squeeze these zip ties then push them through the hole to remove.

Step 55/120

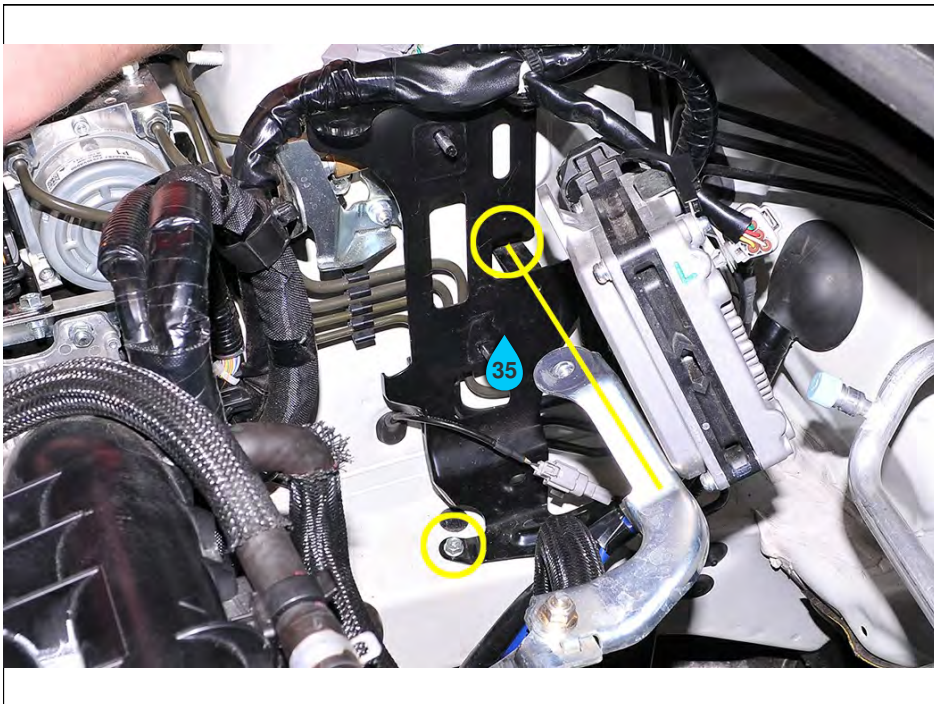


Numbered annotations (1)

- 34 Remove the two 10mm nuts which hold the ECU to the bracket. Pull the ecu free from the bracket and place it aside in the engine bay.



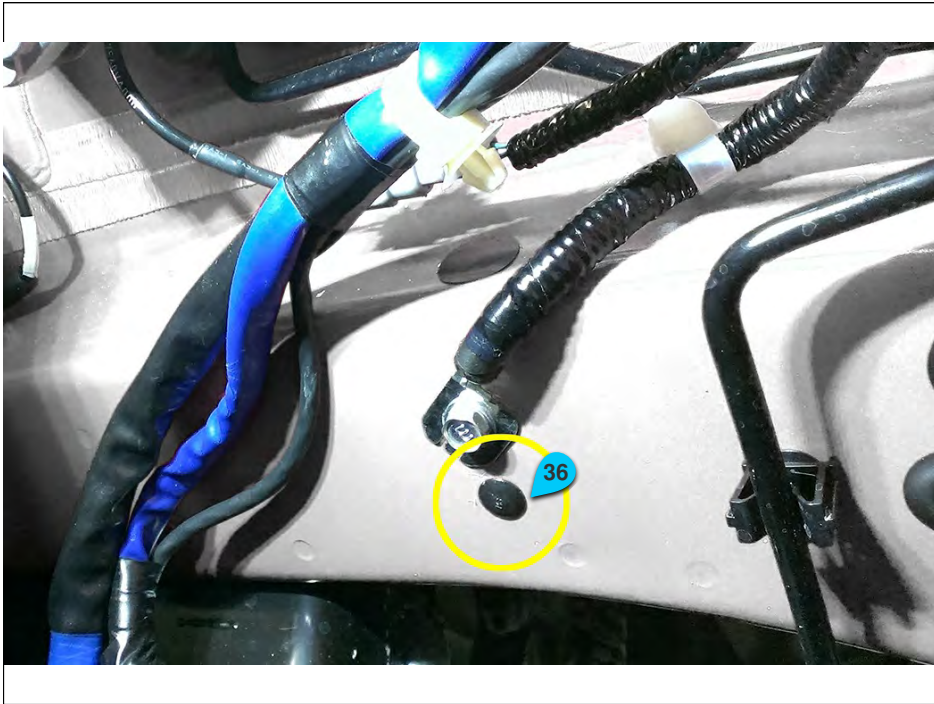
Step 56/120



Step 57/120

Numbered annotations (1)

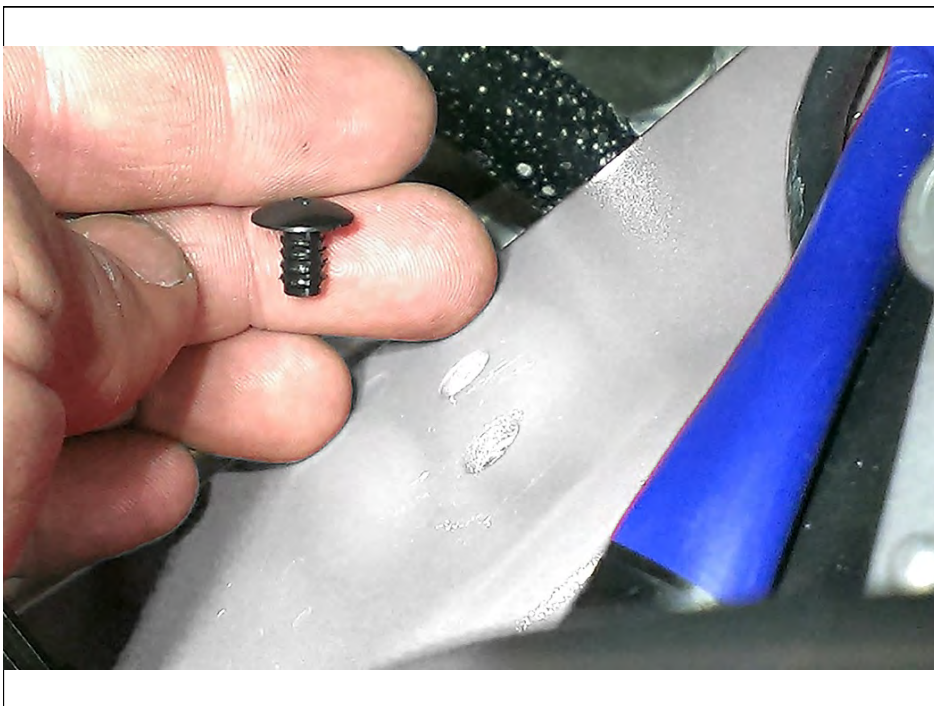
- 35 Remove the two 10mm bolts which secure the ECU bracket to the strut tower. Remove the bracket.



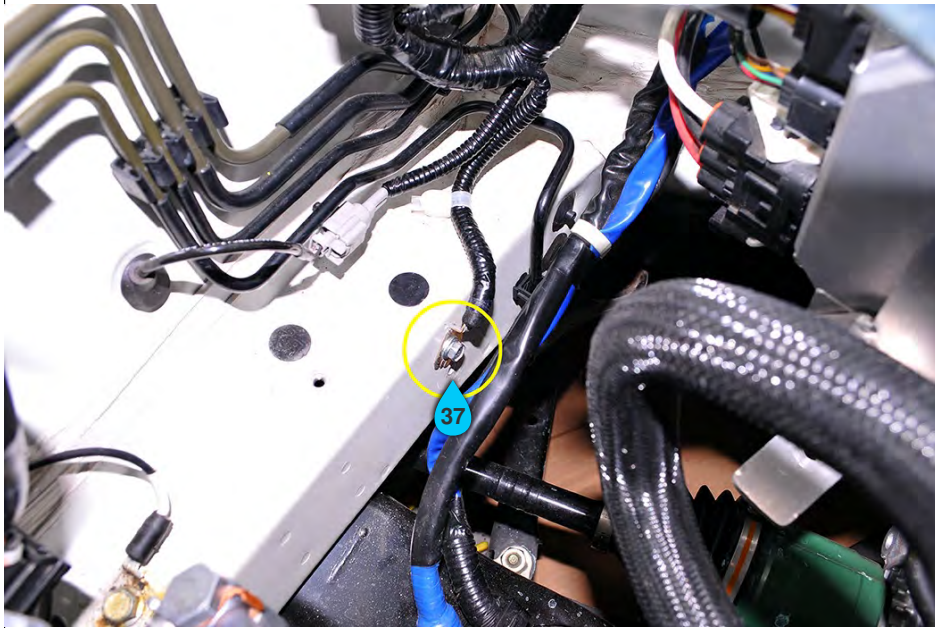
Step 58/120

Numbered annotations (1)

- 36 Remove this plug.



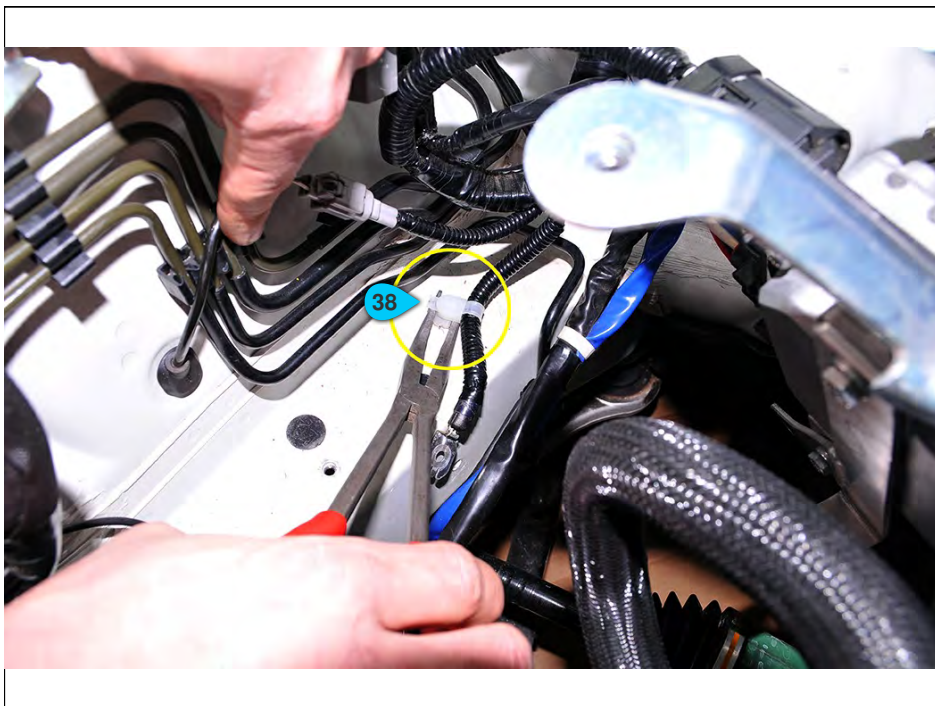
Step 59/120



Step 60/120

Numbered annotations (1)

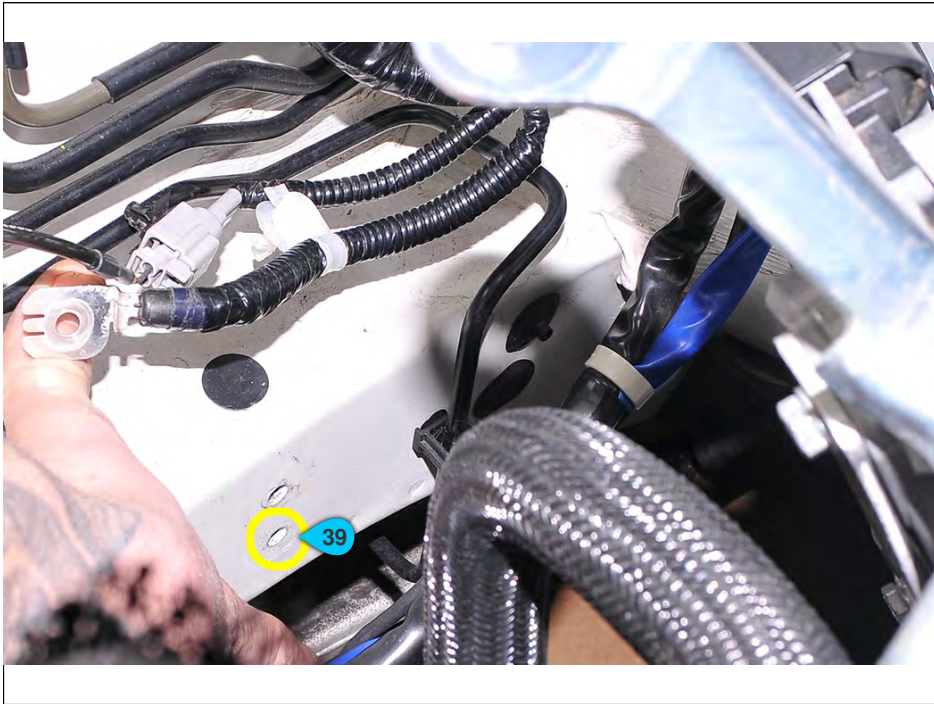
- 37 Remove this 10mm bolt.



Step 61/120

Numbered annotations (1)

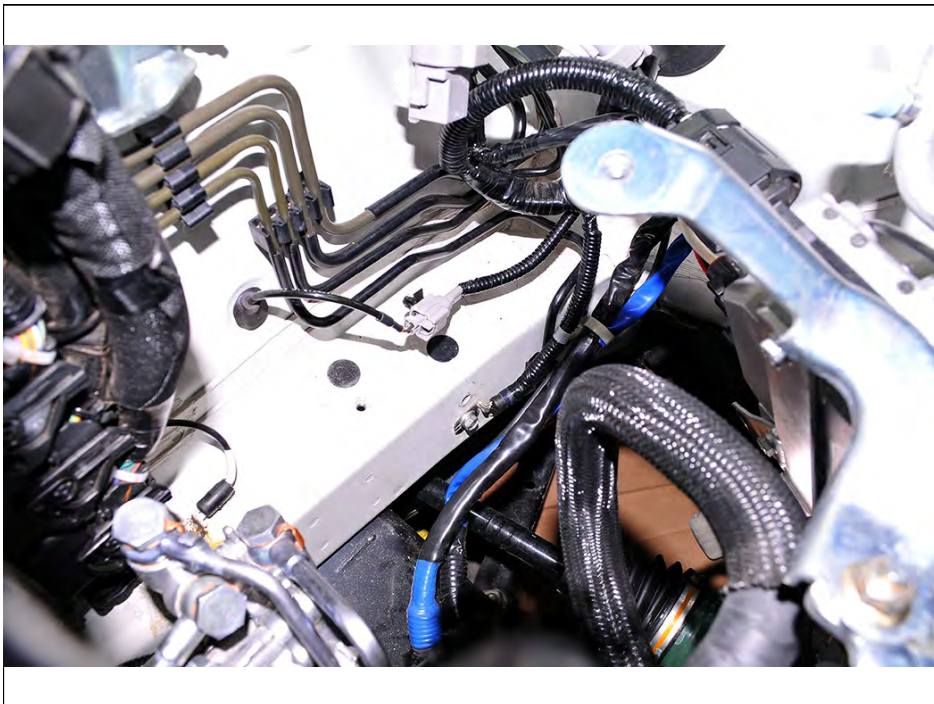
- 38 Use pliers to remove this mounting tie from the frame rail.



Step 62/120

Numbered annotations (1)

- 39 Reinstall the ground to this hole using the OEM 10mm bolt.



Step 63/120

Step 64/120

Numbered annotations (1)

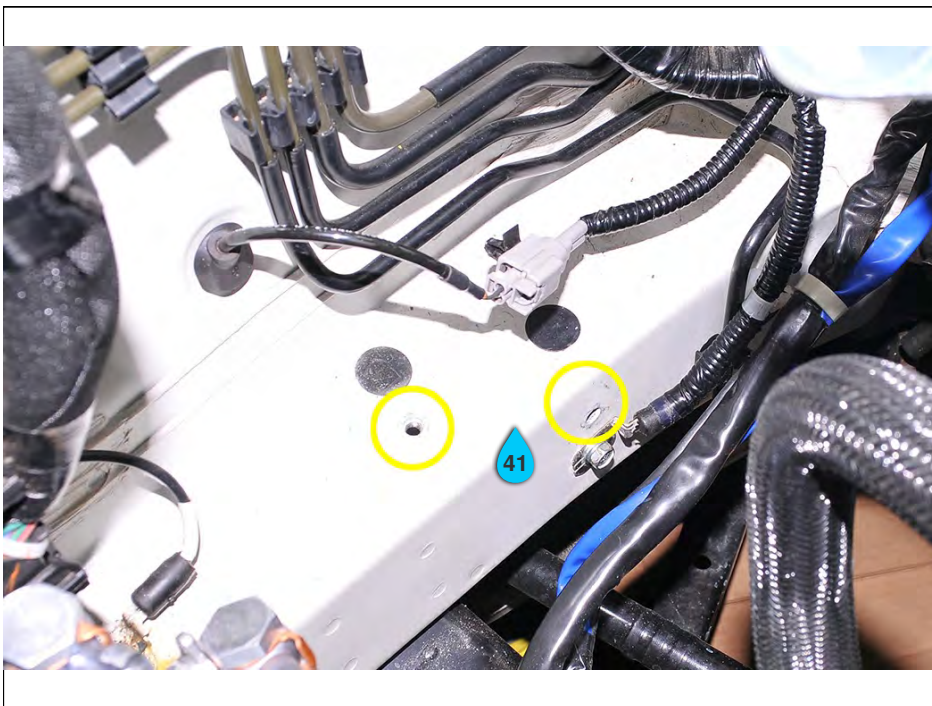
40 Locate the ECU relocation bracket.



Step 65/120

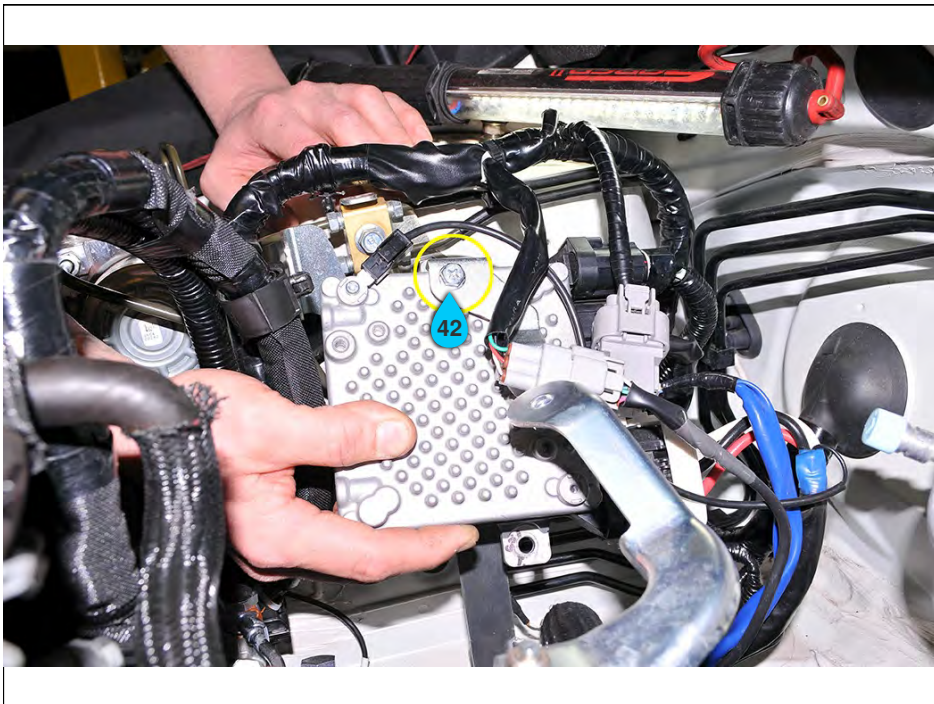
Numbered annotations (1)

41 Attach the ECU relocation bracket here using the OEM ecu bracket 10mm hardware.





Step 66/120

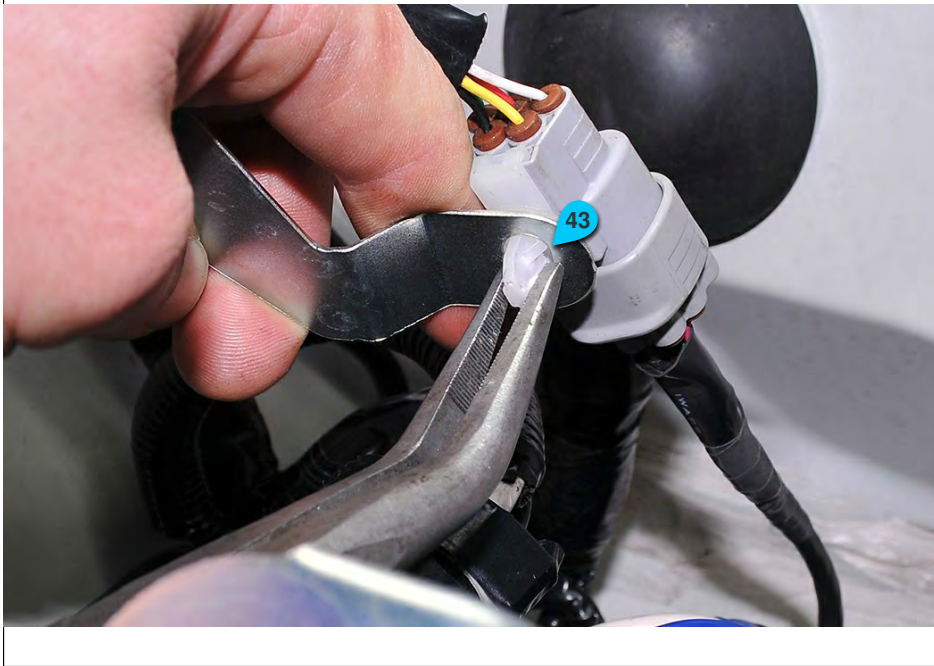


Step 67/120

Numbered annotations (1)

- 42 Remove the 10mm bolt securing the wiring harness to the ecu,

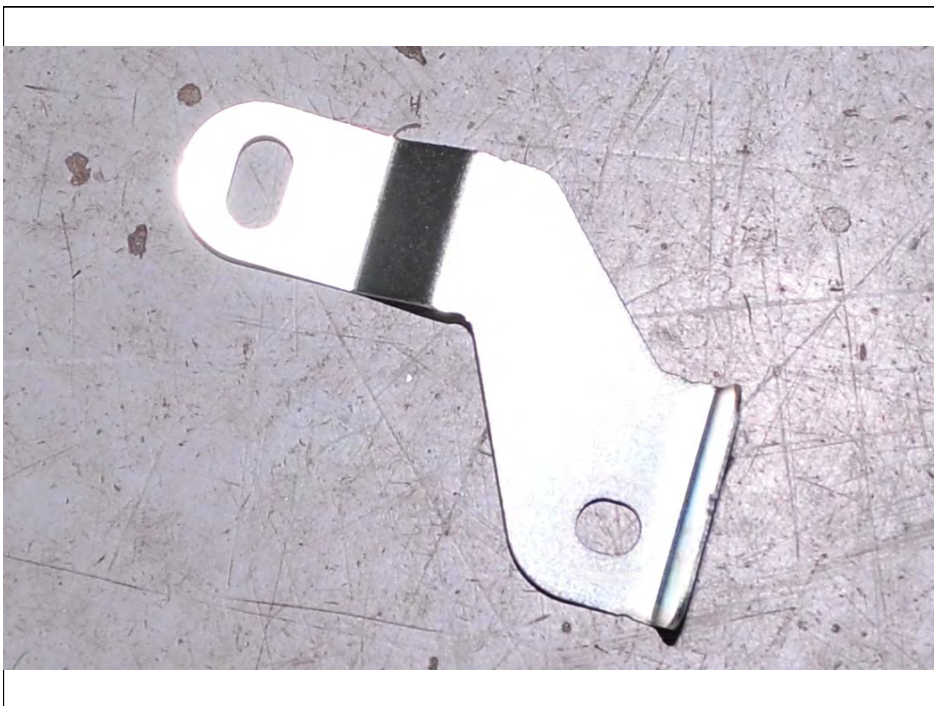
Step 68/120

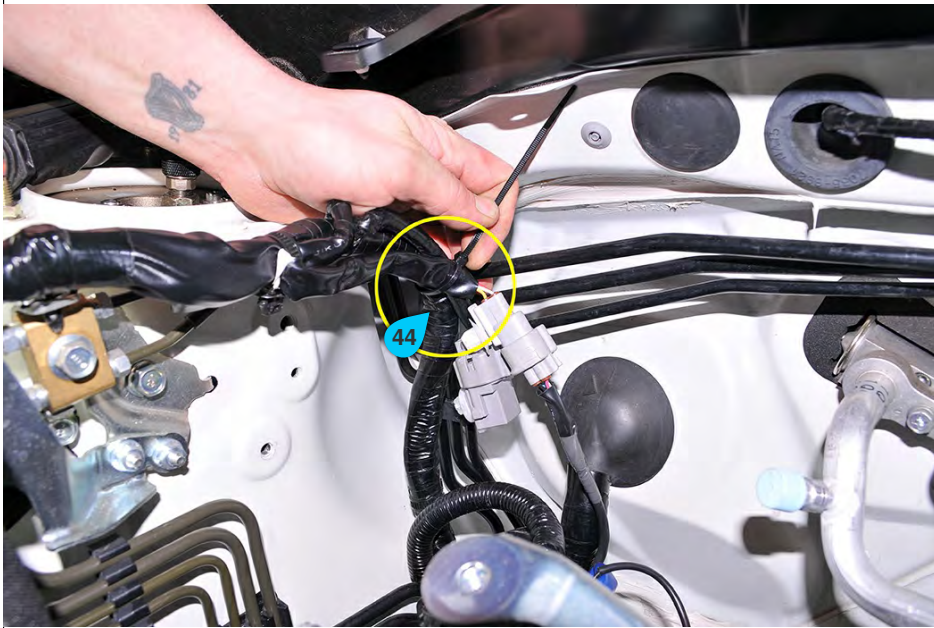


Numbered annotations (1)

- 43 Using pliers, remove the harness retaining clip from the bracket.

Step 69/120





Step 70/120

Numbered annotations (1)

- 44 Zip tie the harness here.



Step 71/120

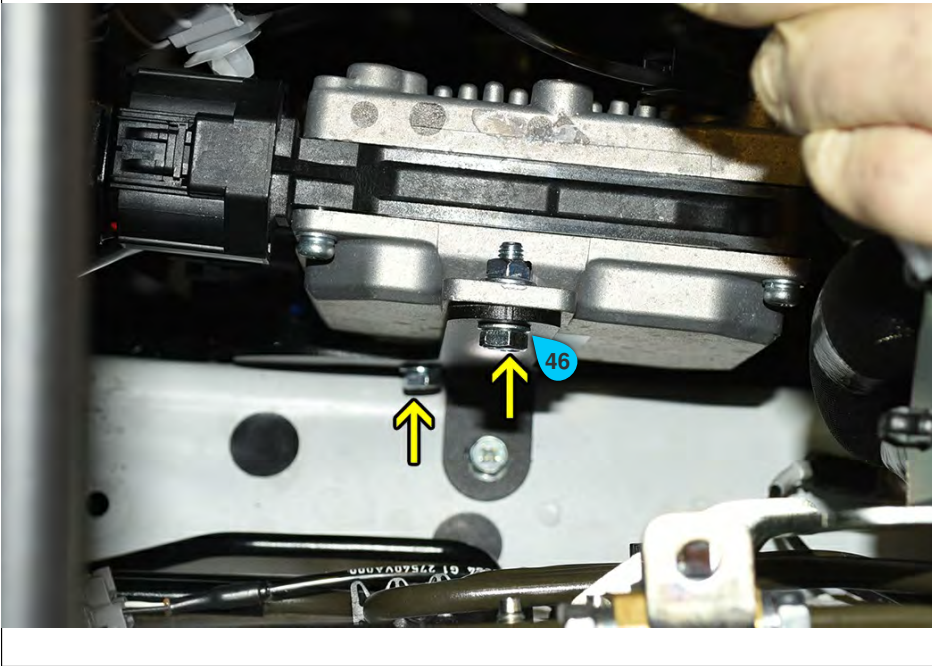
Numbered annotations (1)

- 45 Locate the supplied 6mmx15mm bolts, 6mm flat washers, and OEM ecu bracket nuts.

Step 72/120

Numbered annotations (1)

- 46 Attach the ECU to the bracket using the supplied 6mmx15mm bolts, 6mm flat washers, and the OEM nuts the secured the ecu to the OEM ECU bracket. (Make sure the bolt heads are on the bracket side.)



Step 73/120

Numbered annotations (1)

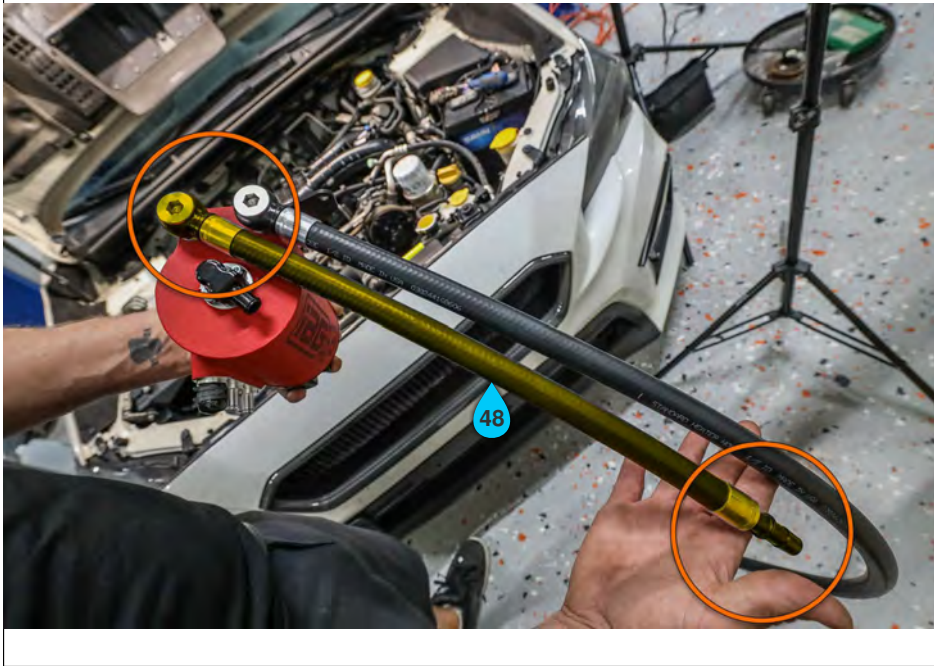
- 47 Locate the AOS body assembly and coolant lines with fittings. Loosely install both hoses using the supplied fittings.



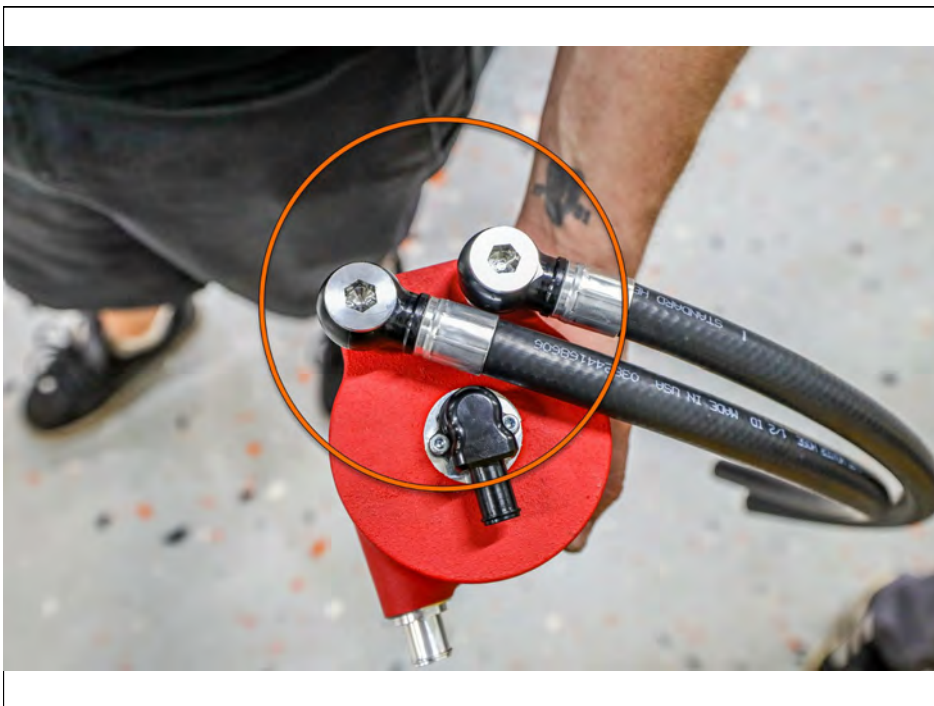
Step 74/120

Numbered annotations (1)

- 48 Make sure the shorter line is installed in this position.



Step 75/120

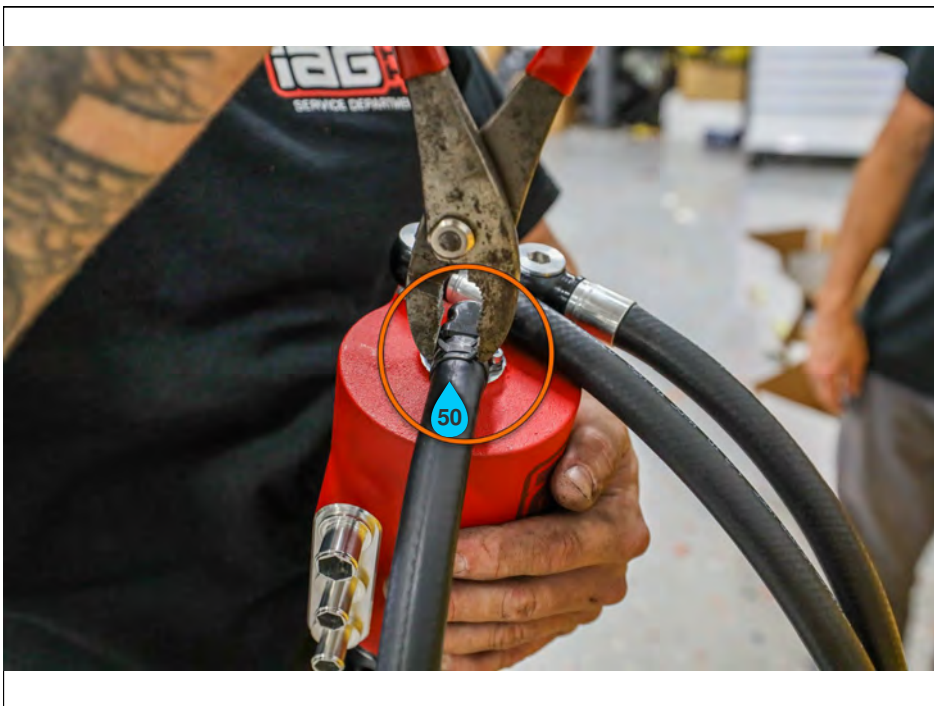




Step 76/120

Numbered annotations (1)

- 49 Tighten these fittings to _____ Ft lbs.
DO NOT OVER TIGHTEN!



Step 77/120

Numbered annotations (1)

- 50 Attach the drain hose using the supplied clamp.

Step 78/120



Step 79/120

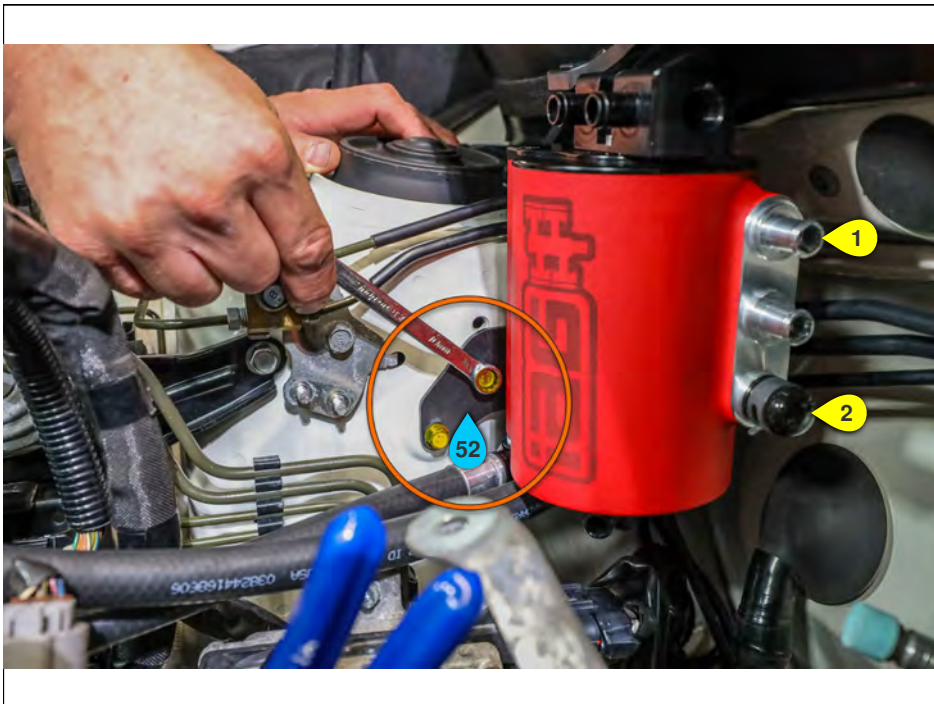
Numbered annotations (1)

- 51 Locate the bracket and supplied hardware and install the bracket as shown. Tighten to 7 ft/lbs





Step 80/120

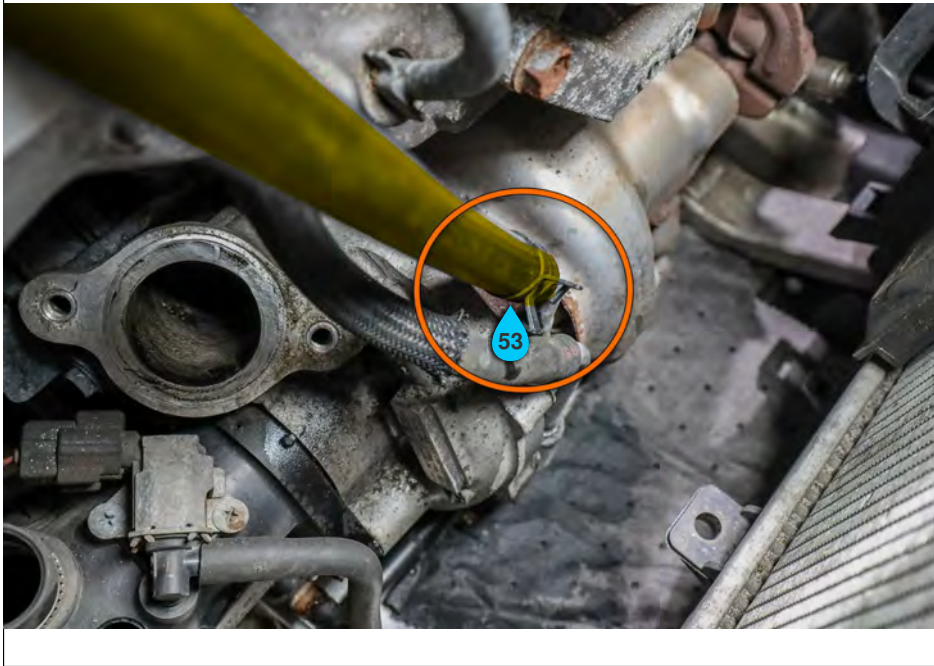


Step 81/120

Numbered annotations (3)

- 52 Mount the AOS here using the supplied bolts.
- 1 Cap installed on this port for 2017+ vehicles
- 2 Cap installed on this port for 2015-2016 vehicles.

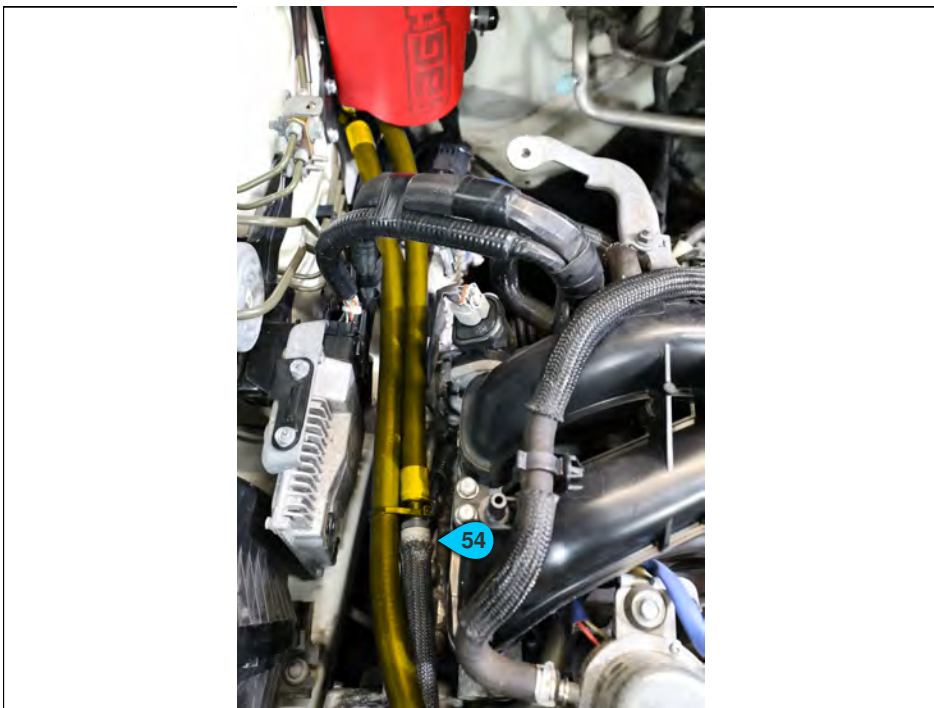
Step 82/120



Numbered annotations (1)

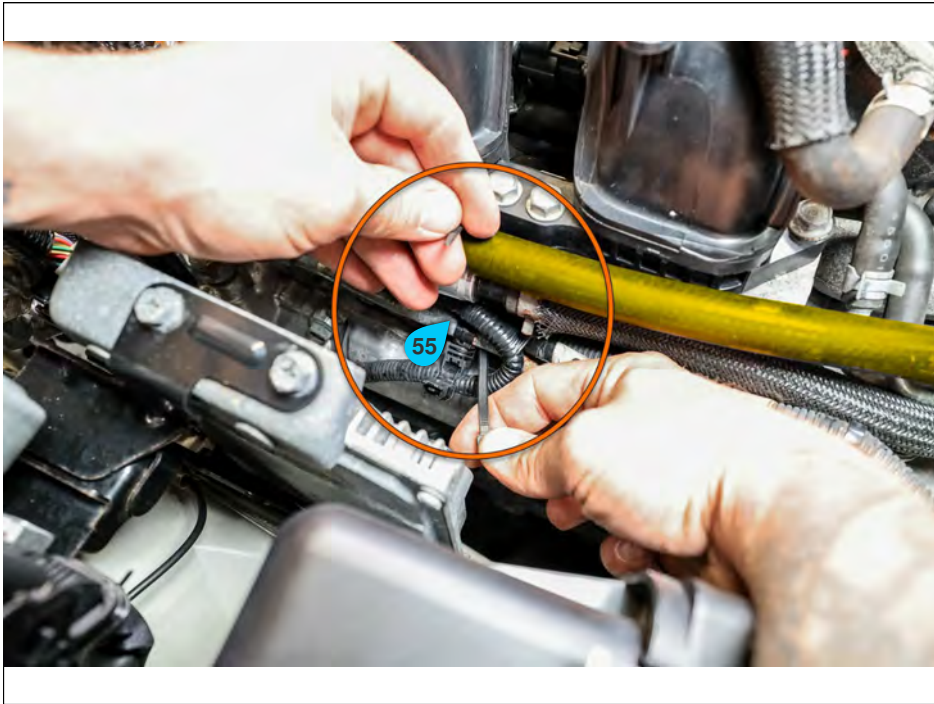
- 53 Attach the longer coolant hose here using the supplied clamp.

Step 83/120



Numbered annotations (1)

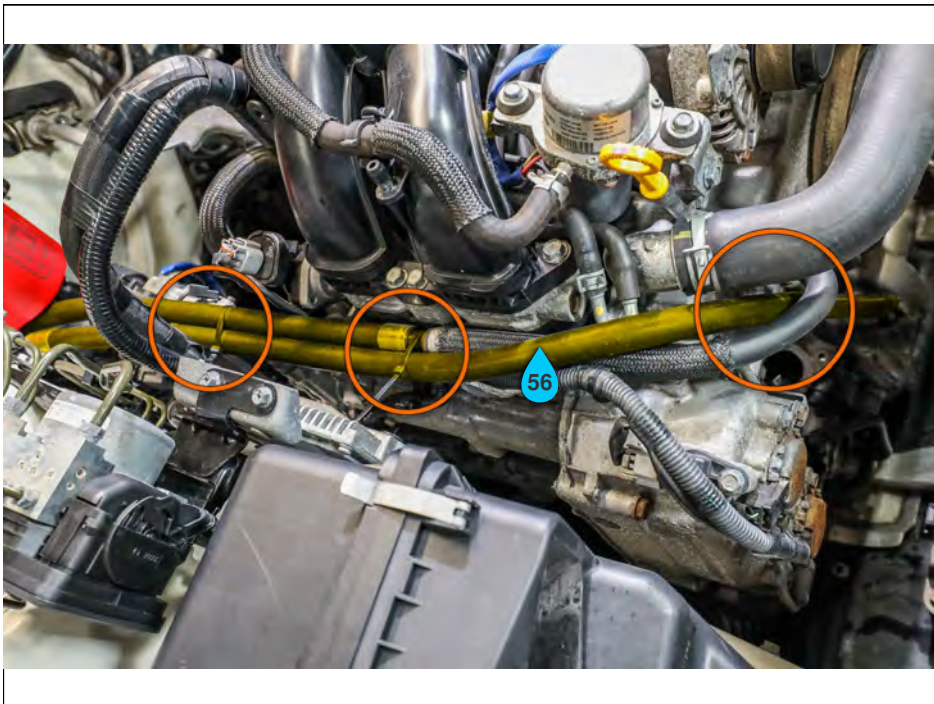
- 54 Attach the shorter coolant line with the union fitting here. Secure with the OEM clamp.



Step 84/120

Numbered annotations (1)

- 55 Secure the coolant lines together with a zip tie.



Step 85/120

Numbered annotations (1)

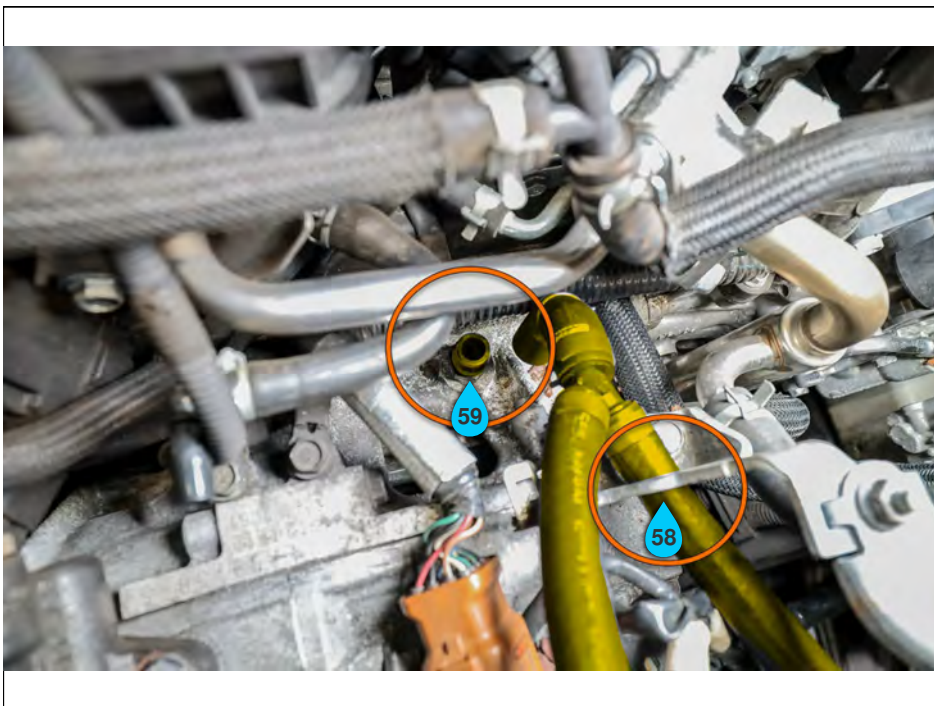
- 56 Use additional zip ties to keep the coolant hoses routed and secure.



Step 86/120

Numbered annotations (1)

- 57 Locate the Y shaped breather hose assembly.



Step 87/120

Numbered annotations (2)

- 58 Pass one hose through the bracket.
- 59 Attach 90 degree hose here using the supplied clamp.

Step 88/120

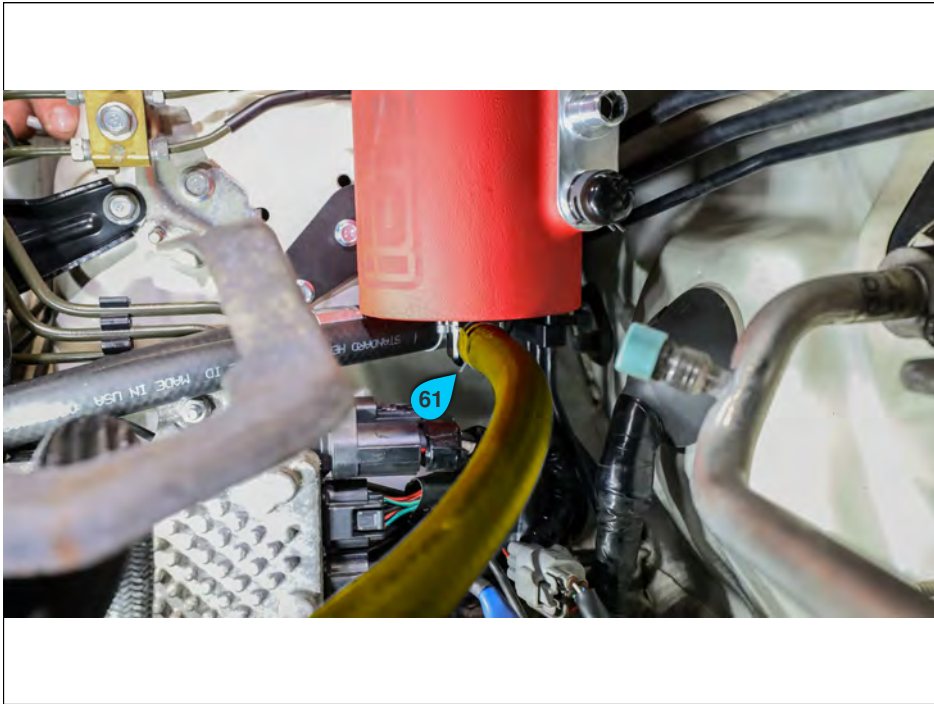


Step 89/120

Numbered annotations (1)

- 60 Ensure the drain hose is routed through this bracket. Measure and trim to length to attach the drain hose to the bottom of the AOS

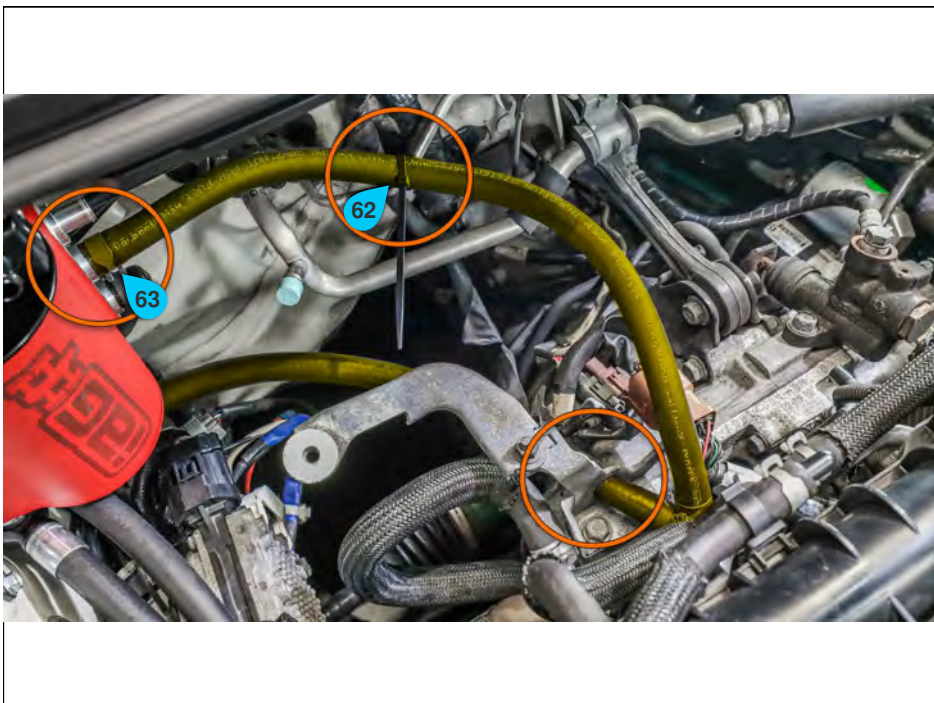




Step 90/120

Numbered annotations (1)

- 61 Attach the drain hose here using the supplied clamp.



Step 91/120

Numbered annotations (2)

- 62 Secure the vent hose assembly here with a zip tie.
- 63 Attach the vent hose to the middle port on the side of the AOS using the supplied clamp.

Step 92/120



Numbered annotations (1)

- 64 Locate the 3/8" AOS PCV hose assembly. (This hose has a white PCV valve in the middle. Screw the NPT fitting into the AOS, being careful not to over tighten.

Step 93/120

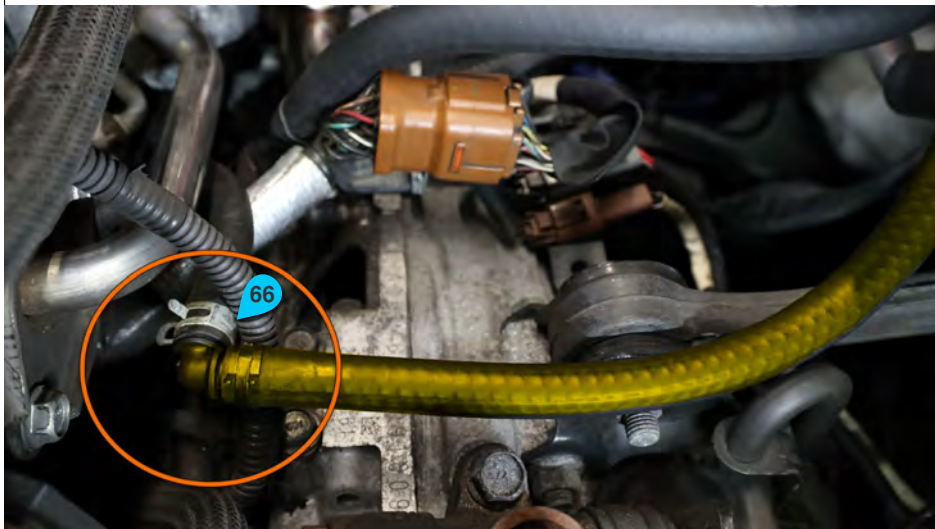


Numbered annotations (1)

- 65 Route the AOS PCV hose as pictured.

Step 94/120

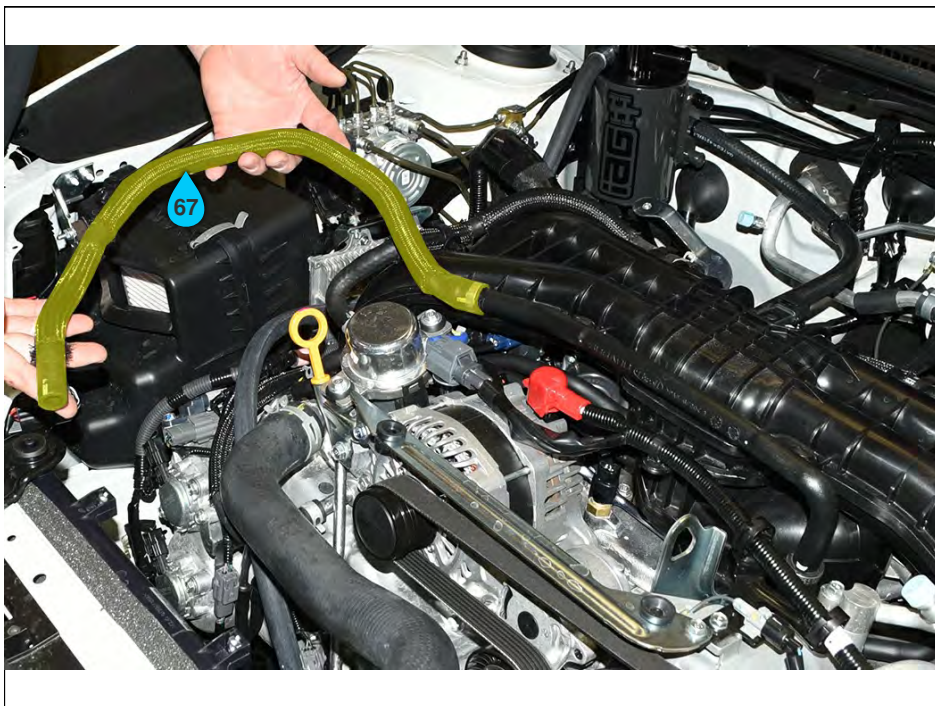
Numbered annotations (1)



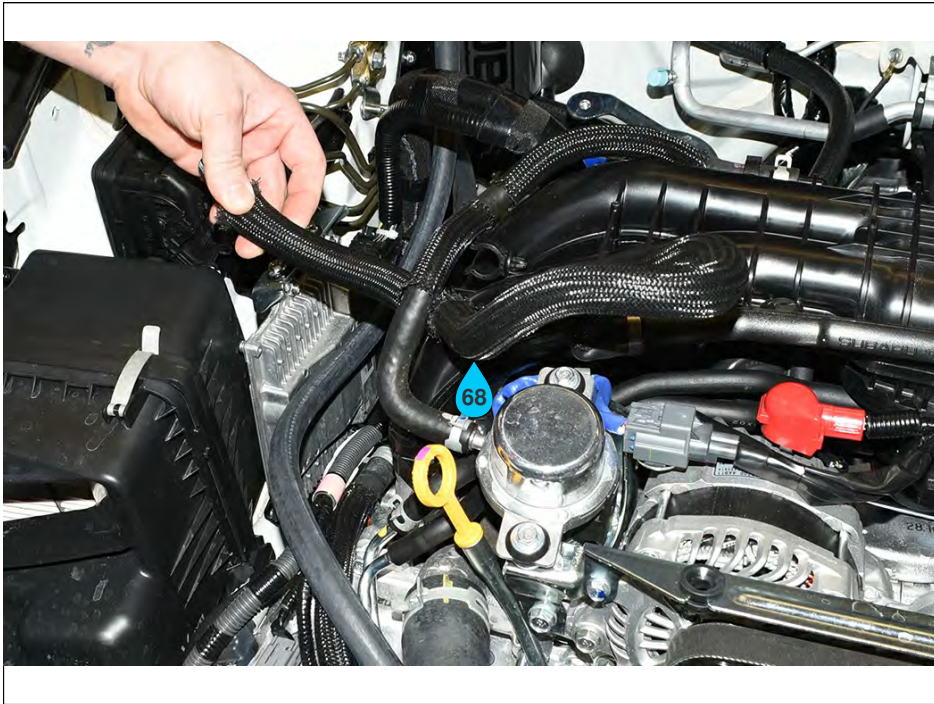
- 66 Attach this hose to to the hose coming from the intake manifold using the supplied 3/8" 90 degree fitting, the supplied clamp on one side and the OEM clamp on the other side.

Step 95/120

Numbered annotations (1)



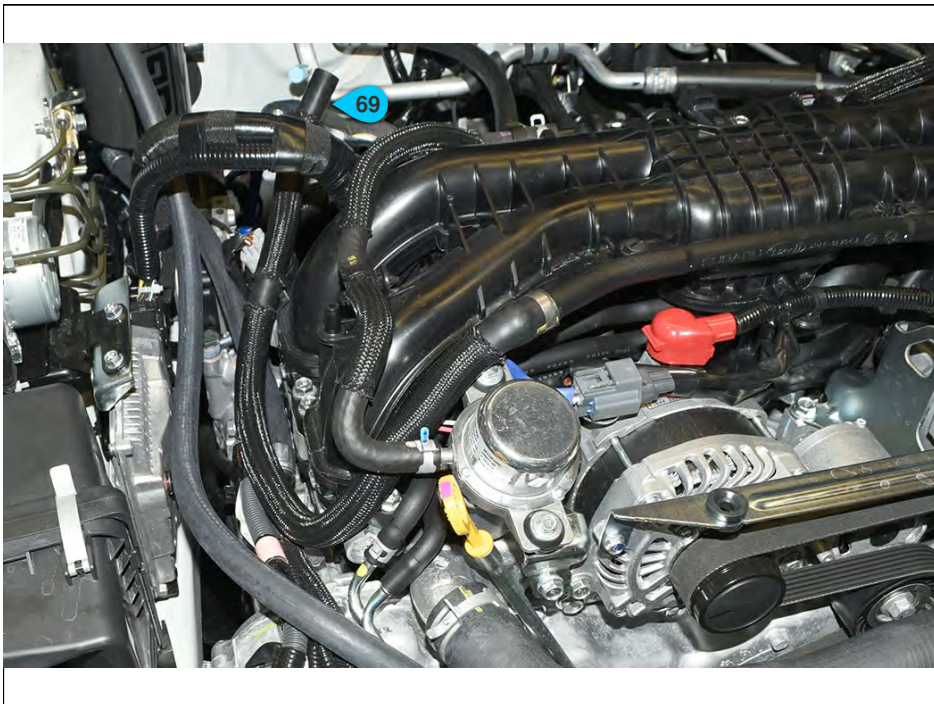
- 67 Locate the hose that went to the turbo inlet PCV connector.



Step 96/120

Numbered annotations (1)

68 Route the hose as shown.



Step 97/120

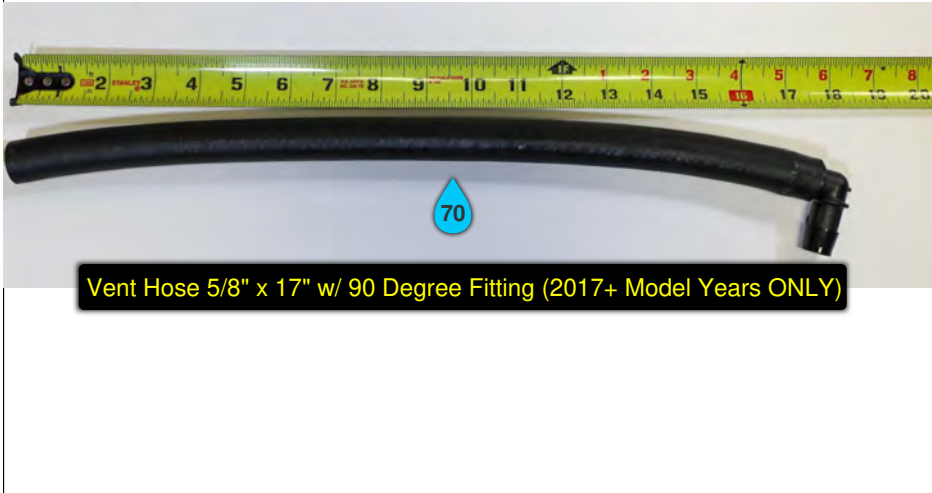
Numbered annotations (1)

69 Route vent hose through here.

Step 98/120

Numbered annotations (1)

- 70 Locate this hose.



Step 99/120

Numbered annotations (2)

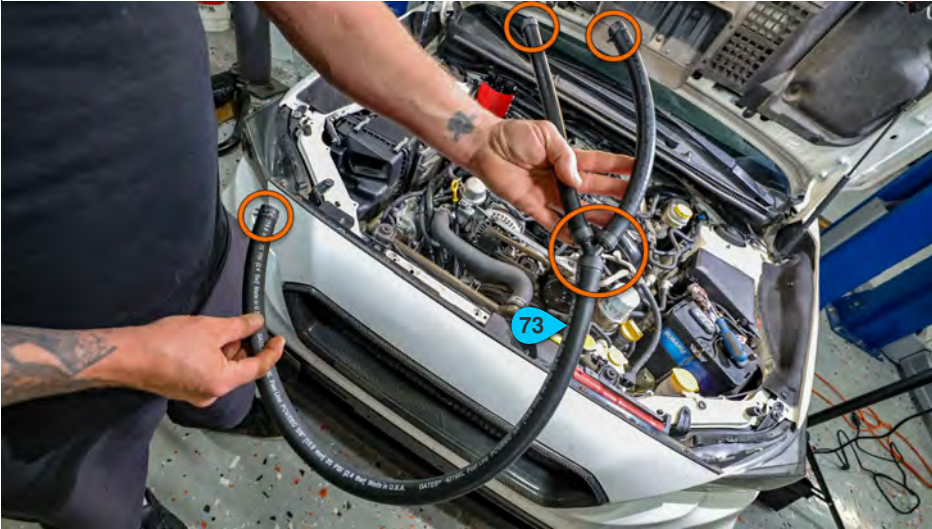
- 71 Insert the 90 degree fitting into the hose in step 84, securing with the supplied clamps. Connect the open end of the hose to the 5/8" port here.
- 72 Ensure the 1/2" vacuum cap is installed here and secured with the supplied clamp on the 2017+ vehicles.



Step 100/120

Numbered annotations (1)

- 73 Locate the Y shaped AOS breather hose. Install the supplied clamps at all of the indicated positions.



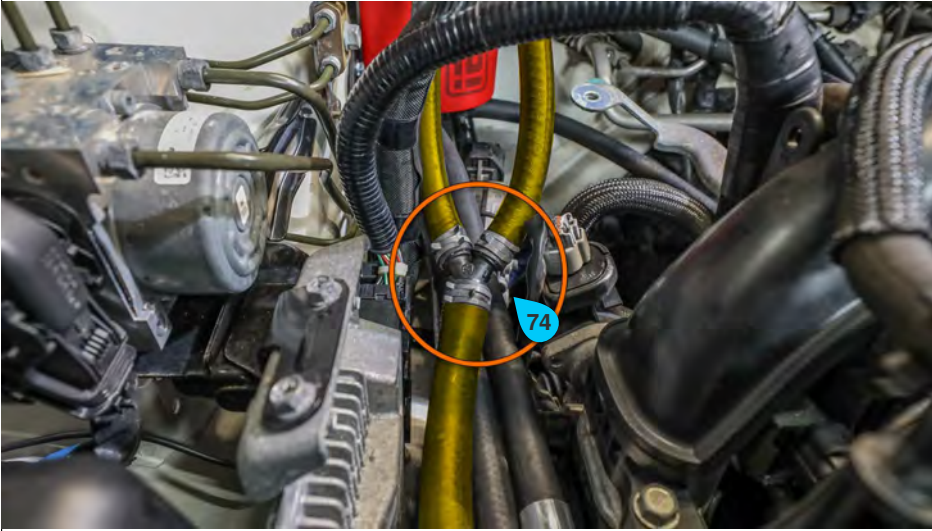
Step 101/120



Step 102/120

Numbered annotations (1)

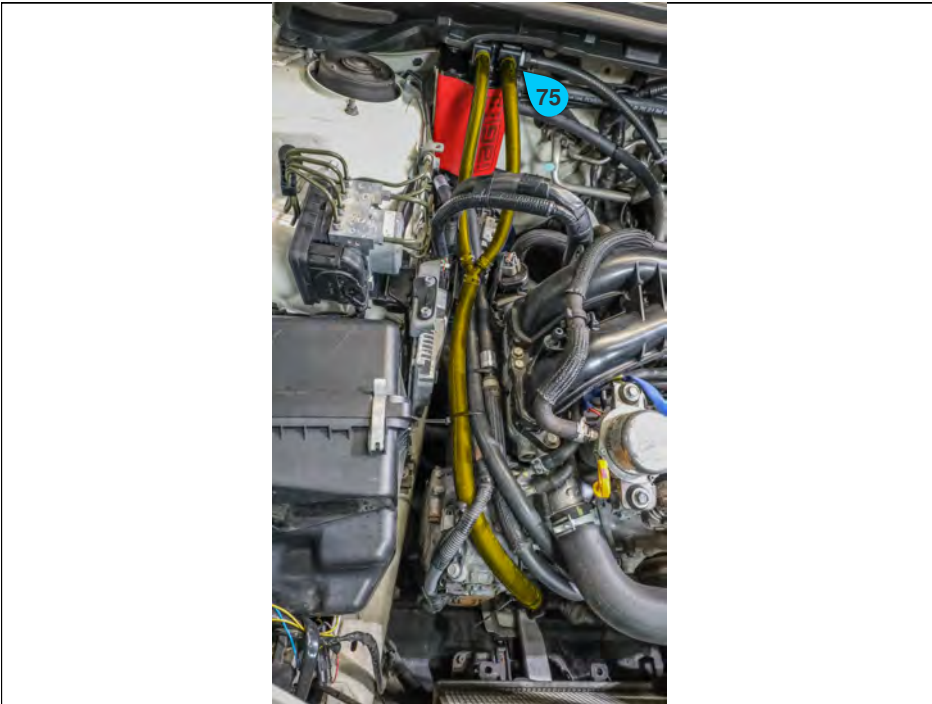
- 74 Route the AOS breather hoses as shown.



Step 103/120

Numbered annotations (1)

- 75 Attach the AOS breather hoses using the supplied clamps.

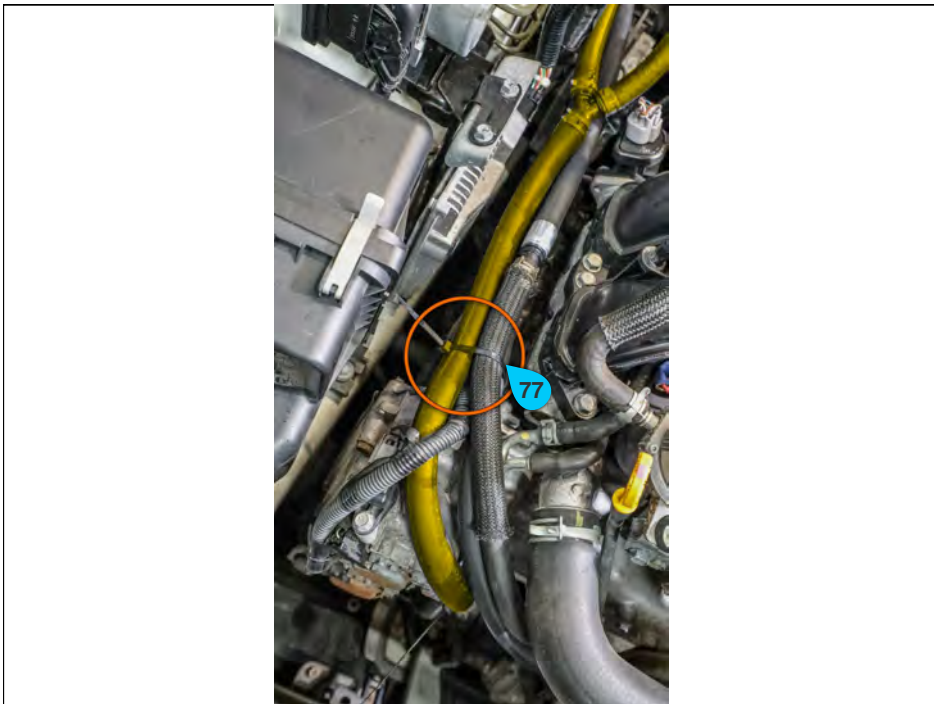




Step 104/120

Numbered annotations (1)

- 76 Attach the AOS breather hose to the open port on the turbo inlet pipe.



Step 105/120

Numbered annotations (1)

- 77 Secure the breather hose to the coolant hose with a zip tie.

Step 106/120

Numbered annotations (1)

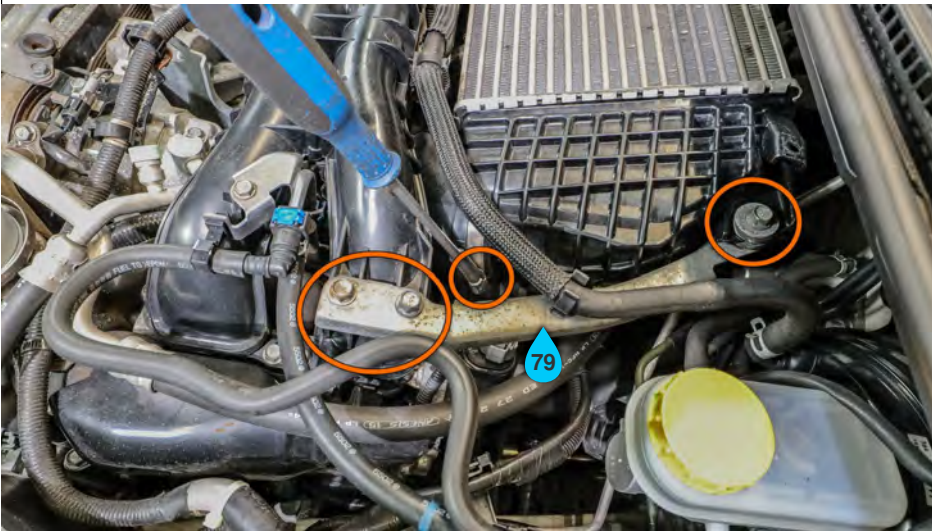
- 78 Secure the AOS breather hose with another zip tie here.

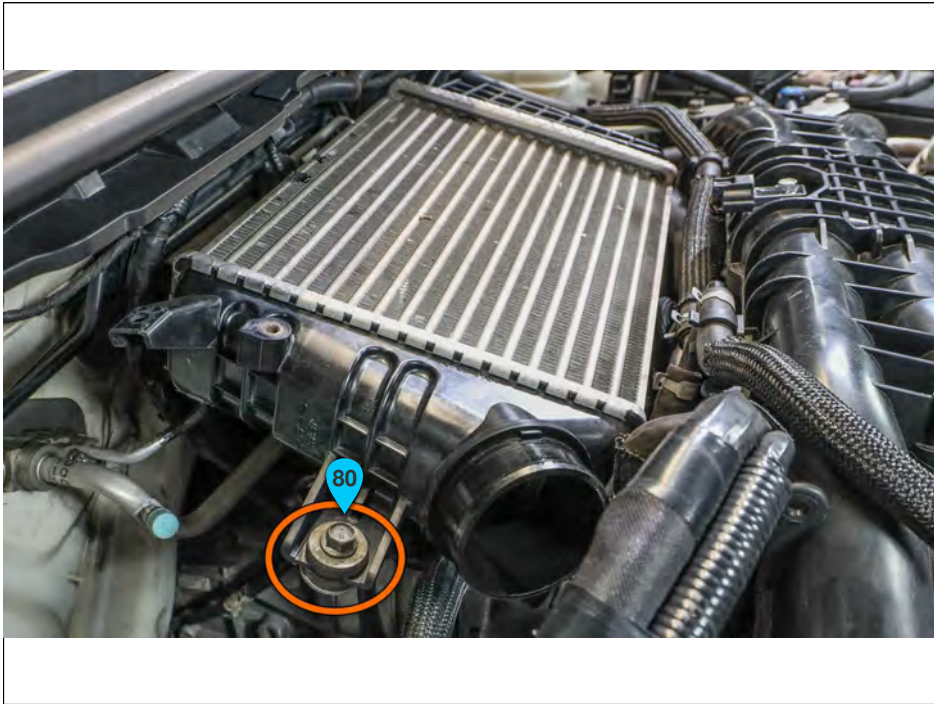


Step 107/120

Numbered annotations (1)

- 79 Reinstall the intercooler and bracket.

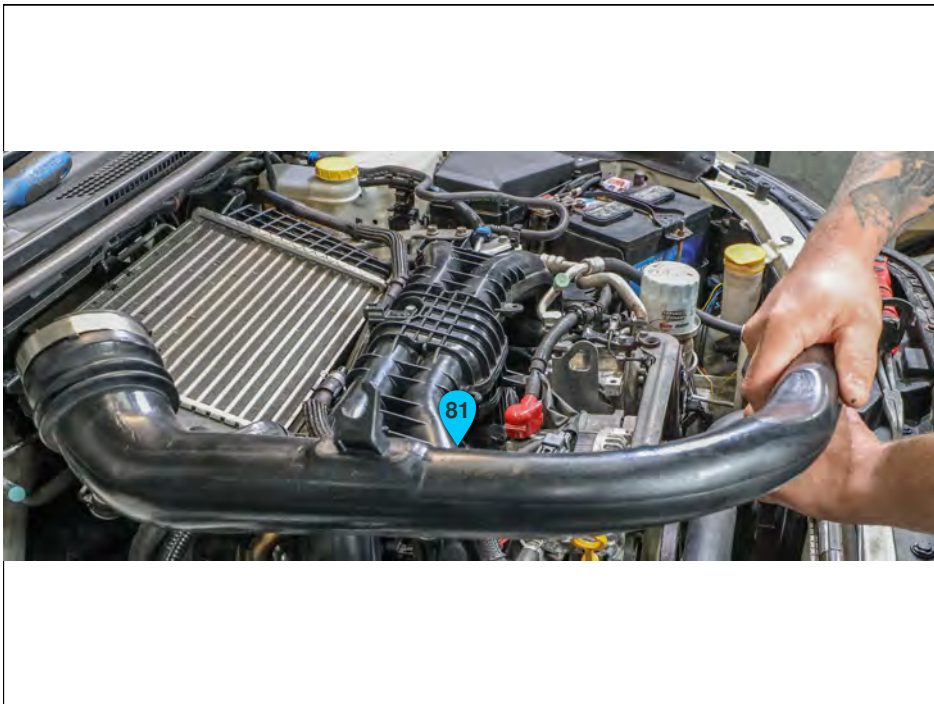




Step 108/120

Numbered annotations (1)

- 80 Reinstall this bolt.



Step 109/120

Numbered annotations (1)

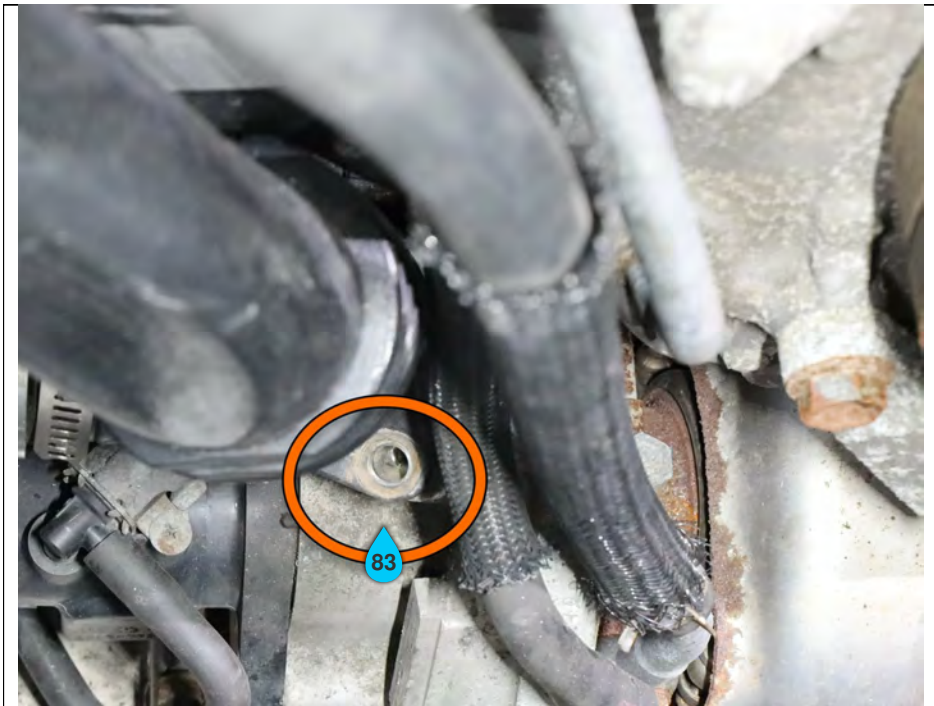
- 81 Reinstall the intercooler charge pipe.



Step 110/120

Numbered annotations (1)

- 82 Attach the charge pipe to the intercooler and tighten this clamp.



Step 111/120

Numbered annotations (1)

- 83 Reinstall both bolts for the charge pipe to the turbocharger.

Step 112/120

Numbered annotations (1)

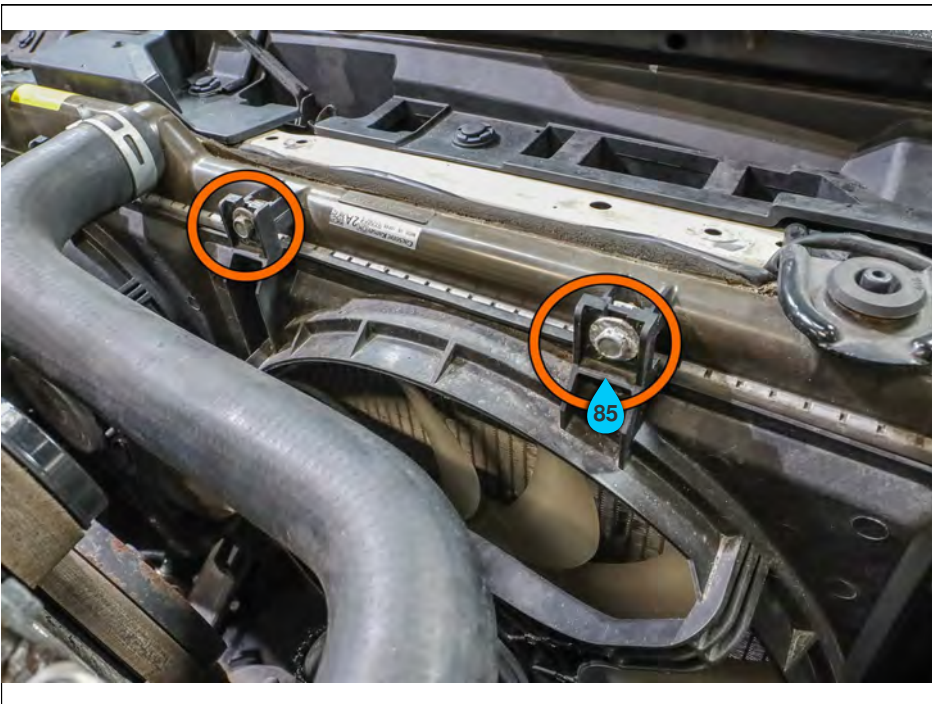
- 84 Reinstal the passenger side radiator fan.



Step 113/120

Numbered annotations (1)

- 85 Secure the fan with the OEM bolts.



Step 114/120

Numbered annotations (1)

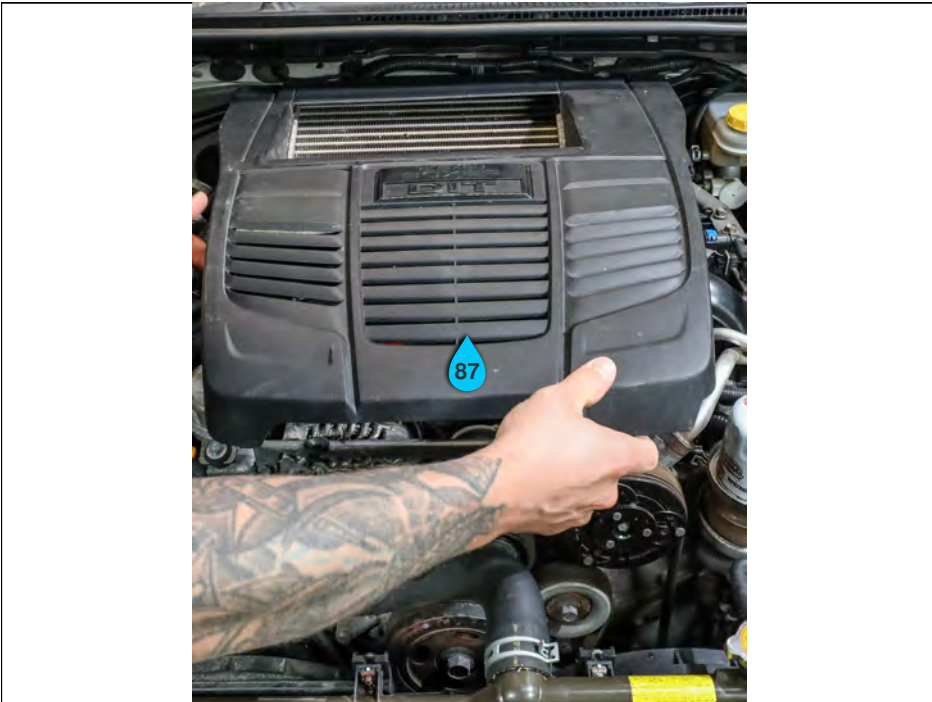
- 86 Plug the passenger fan electrical connector back in.



Step 115/120

Numbered annotations (1)

- 87 Reinstall the engine cover.





Step 116/120

Numbered annotations (1)

- 88 Reinstall the intake snorkel.



Step 117/120

Numbered annotations (1)

- 89 Secure the snorkel with the OEM hardware.

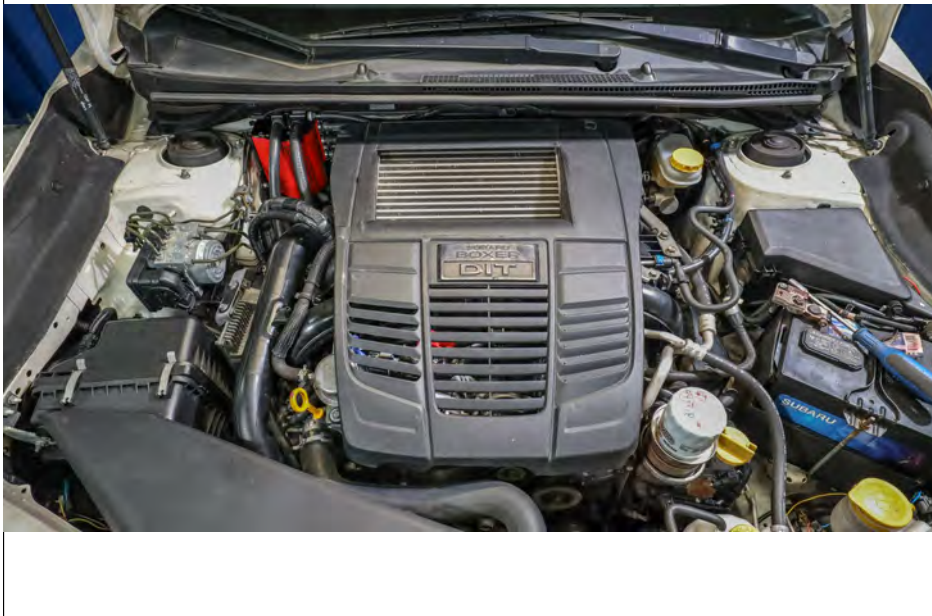
Step 118/120

Numbered annotations (1)

- 90 Reconnect the negative battery cable.



Step 119/120



Step 120/120

Numbered annotations (1)

- 91 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.

