



# VERUS ENGINEERING

## AOS Kit and Accessories – FK8 Honda Civic Type R Install Manual



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Approvals: E. Hazen

### Document Revisions

Rev	Date	Author	Description
01	2023/11/09	E. Hazen	Initial release of install manual

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## AOS Kit and Accessories for FK8 Honda Civic Type R – Install Manual

**1. Introduction**

**1.1. Overview:** Detailed instructions on installing the Verus Engineering AOS and accessories associated with the AOS kit, for the FK8 Civic Type R.

**1.2. Difficulty:** Moderate

**1.3. Time Required:** 2-4 hours

**1.4. Tools Needed:**

- 1.4.1. Ratchet
- 1.4.2. 9/16" Wrench
- 1.4.3. 7/32" Socket
- 1.4.4. 10mm Socket
- 1.4.5. 2.5mm Allen Wrench
- 1.4.6. 3mm Allen Wrench
- 1.4.7. Flathead Screwdriver
- 1.4.8. Phillips Head Screwdriver
- 1.4.9. Utility Knife
- 1.4.10. Side Cuts / Hose Cutter
- 1.4.11. Needle Nose Pliers/Hose Clamp Pliers
- 1.4.12. Tape Measure
- 1.4.13. Hose Clamps



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**1.5. AOS Kit Components**

- 1.5.1.** (1) AOS, Assembled with (4) Desiccant filters and stainless mesh
- 1.5.2.** (1) AOS Bracket
- 1.5.3.** (70) Inches 1/2" Rubber Hose
- 1.5.4.** (6) Inches 3/8" Rubber Hose
- 1.5.5.** Hardware Bag
  - 1.5.5.1.** (1) M4x0.7 Rivet Nut
  - 1.5.5.2.** (1) M5x0.8 Rivet Nut
  - 1.5.5.3.** (1) M4 Rivet Nut Install Tool
  - 1.5.5.4.** (1) M5 Rivet Nuts Install Tool
  - 1.5.5.5.** (1) M4x0.7 BHCS x 12mm Long, Stainless
  - 1.5.5.6.** (1) M5x0.8 BHCS x 12mm Long, Stainless
  - 1.5.5.7.** (1) M4 SS Washer, Fender
  - 1.5.5.8.** (1) M5 SS Washer, Fender
  - 1.5.5.9.** (3) M6x1.0 BHCS x 16mm Long, Stainless
  - 1.5.5.10.** (3) M6 x 12mm OD Washer, Stainless
  - 1.5.5.11.** (6) Zip Tie
  - 1.5.5.12.** (2) 1/2" to 3/8" Nylon Reducer
  - 1.5.5.13.** (1) 5/16" to 5/16" Barbed Adapter
  - 1.5.5.14.** (2) Hose Clamp, 9-16mm



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**1.6. Coolant Add On Kit**

- 1.6.1. (1) Coolant Plate
- 1.6.2. (2) Banjo Bolt
- 1.6.3. (4) Banjo Washer
- 1.6.4. (2) 5/16" Banjo
- 1.6.5. (48) Inches of coolant hose
- 1.6.6. (4) M6x1.0 BHCS x 16mm Long, Stainless
- 1.6.7. (4) M6 x 12mm OD Washer, Stainless
- 1.6.8. (4) Hose Clamp, 9-16mm
- 1.6.9. (4) Zip Tie
- 1.6.10. (1) 5/16" to 5/16" Barbed Adapter



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**2. FK8 Civic Type R AOS install**

**2.1.** Verus Engineering is not responsible for damage to you or your vehicle by following this manual and/or installing Verus Engineering products.

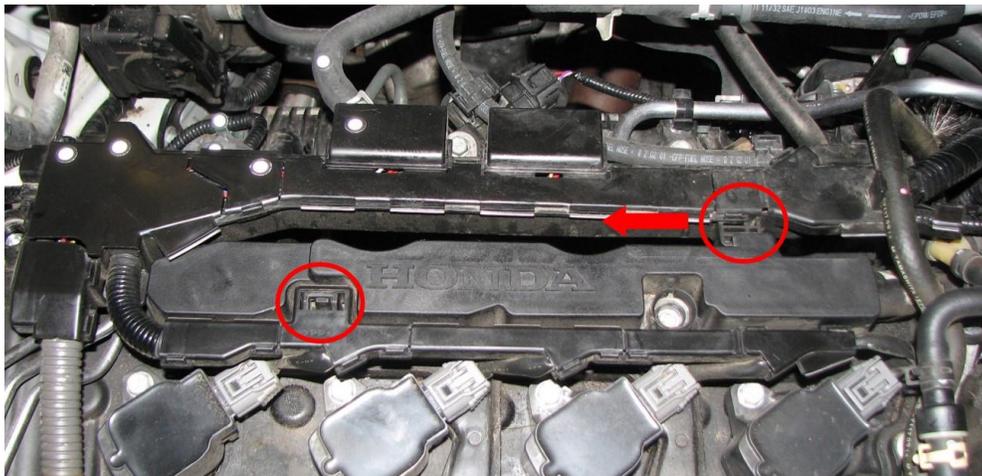
**\*\*MAKE SURE THE ENGINE IS COLD BEFORE ATTEMPTING THIS INSTALLATION\*\***

**2.2.** Start by popping the hood.

**2.3.** For this install, we have to remove the engine cover. Start by removing the 10mm bolts circled below.



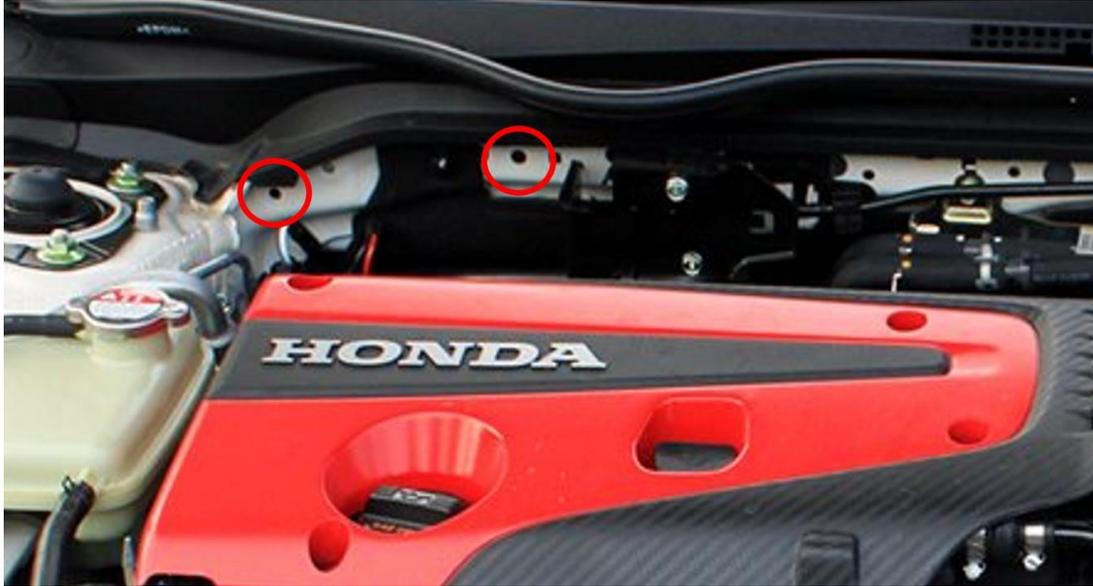
**2.4.** For extra accessibility slide back wiring loom at rear of engine and unclip loom in front of it.



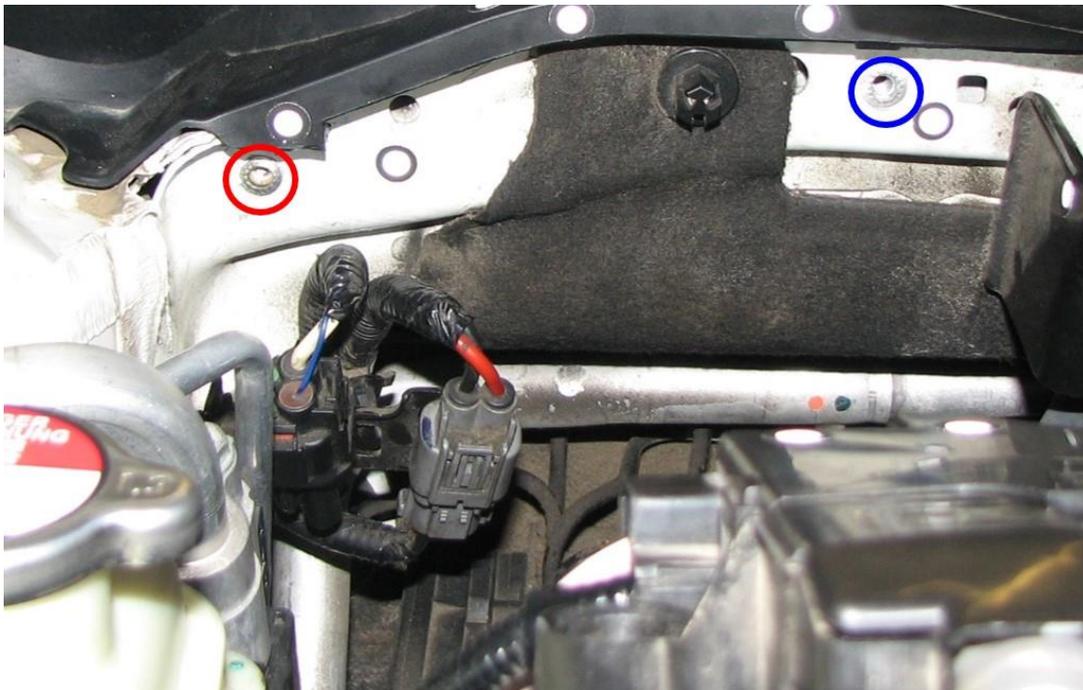
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- 2.5. Locate the two holes in the firewall (located on the passenger side), this is where the rivet nuts will be installed.



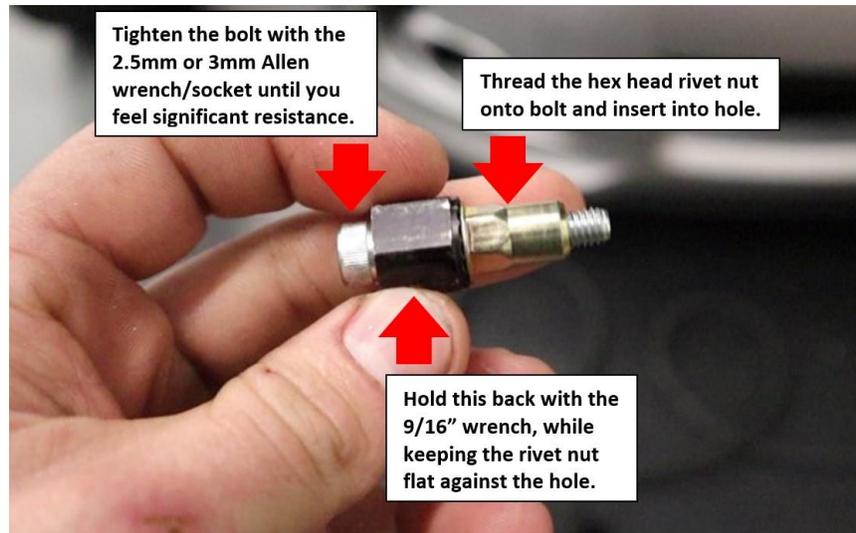
- 2.6. The M4x0.7 rivet nut will be installed in the outer hole (red) and the M5x0.8 rivet nut will be installed in the inner hole (blue).



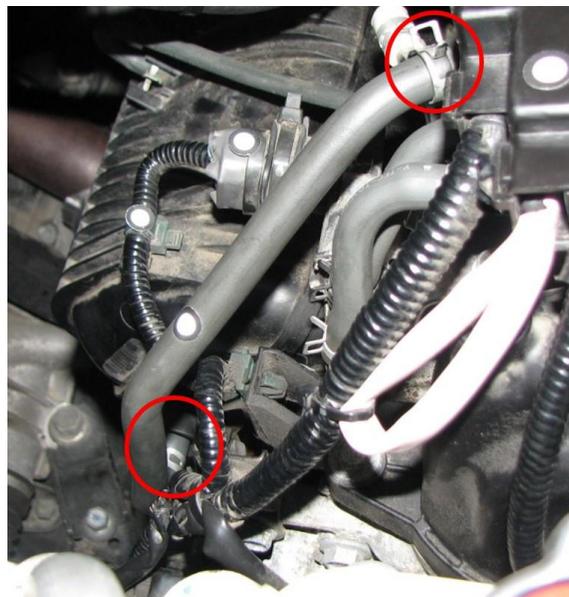
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- 2.6.1.** Using the supplied rivet nut install tool, it is time to install the rivet nuts for the AOS into the firewall. To use the tool, simply insert a M4 x 30mm SHCS through the install tool and thread it into the M4 rivet nut. Ensure the serrated side of the tool is touching the rivet nut. Tighten using a 9/16" wrench to hold the nut stationary and a 2.5mm Allen key to tighten the M4 bolt as shown below. Repeat the procedure for the M5 rivet nut, but use the supplied M5 bolt. Use a 3mm Allen key to tighten the M5 bolt.

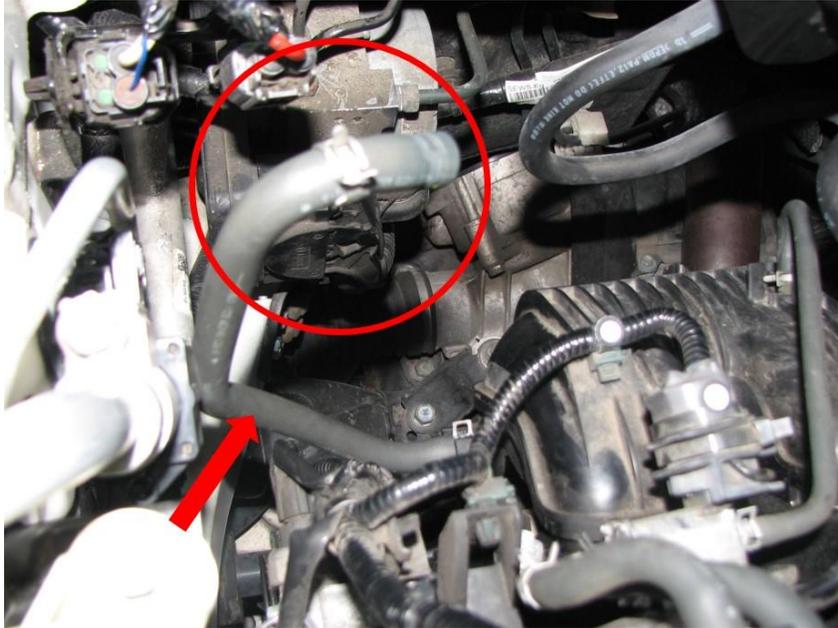


- 2.7.** With the rivet nuts installed it is now time to remove the OEM PCV hose. Use a hose clamp tool or a set of needle nose pliers to release the OEM hose clamps. The hose is located at the back of the engine, connected to the PCV system and the intake manifold.

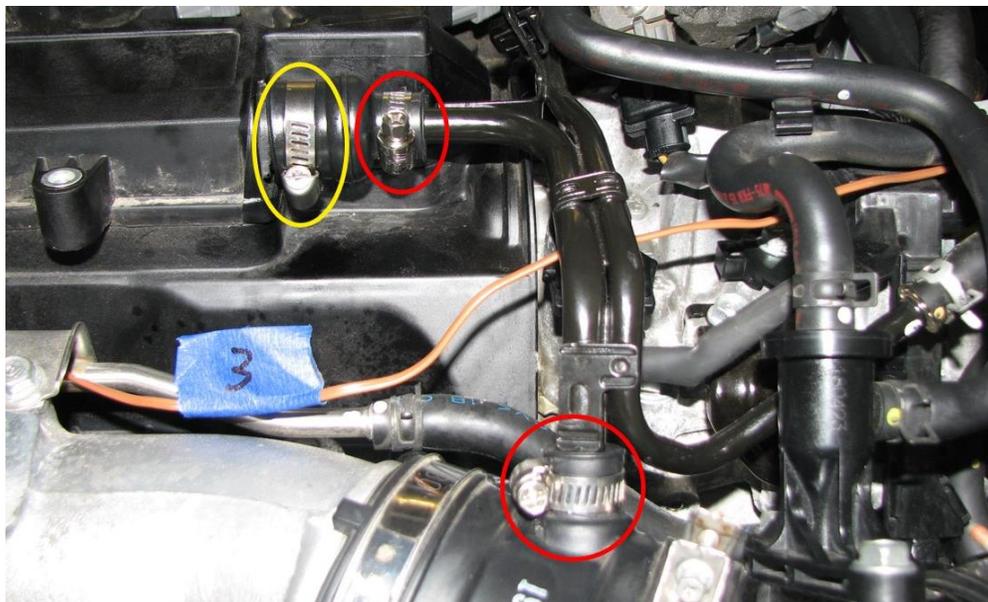


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- 2.8. Rotate the OEM PCV hose 180 degrees and refit to the intake manifold. (Bend goes at top).



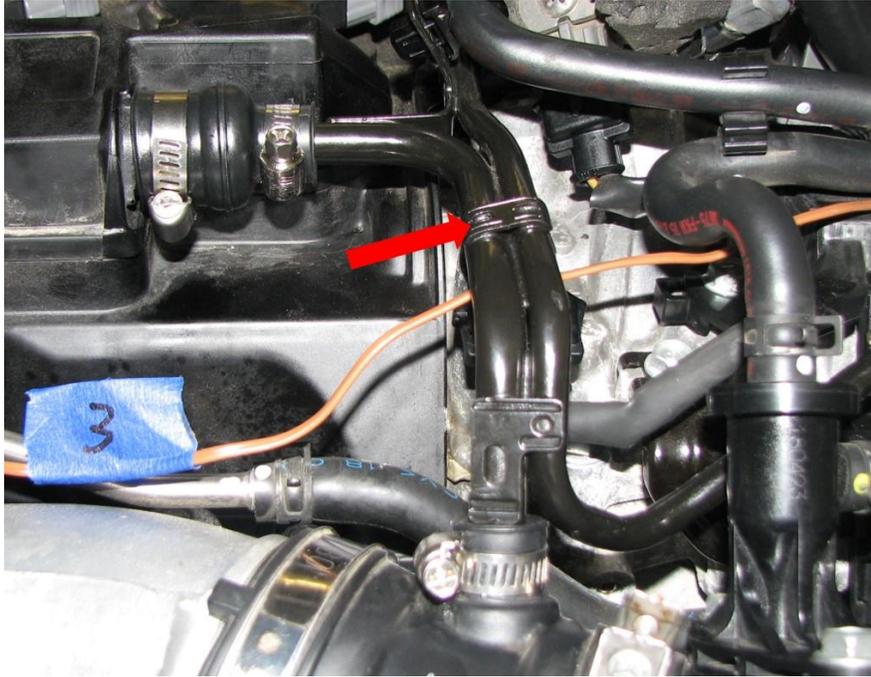
- 2.9. Loosen the clamps for the crankcase ventilation system. Honda uses security clamps (yellow). There are several methods of removing these. You can grip the “head” with some pliers or cut a slit in the head using a Dremel and then use a flathead screwdriver. If that doesn’t work, cut the clamp entirely with extra caution not to cause any damage. We supply replacement clamps (red) and recommend using them over the OEM clamps. We only need to remove the red clamps circled below for the install.



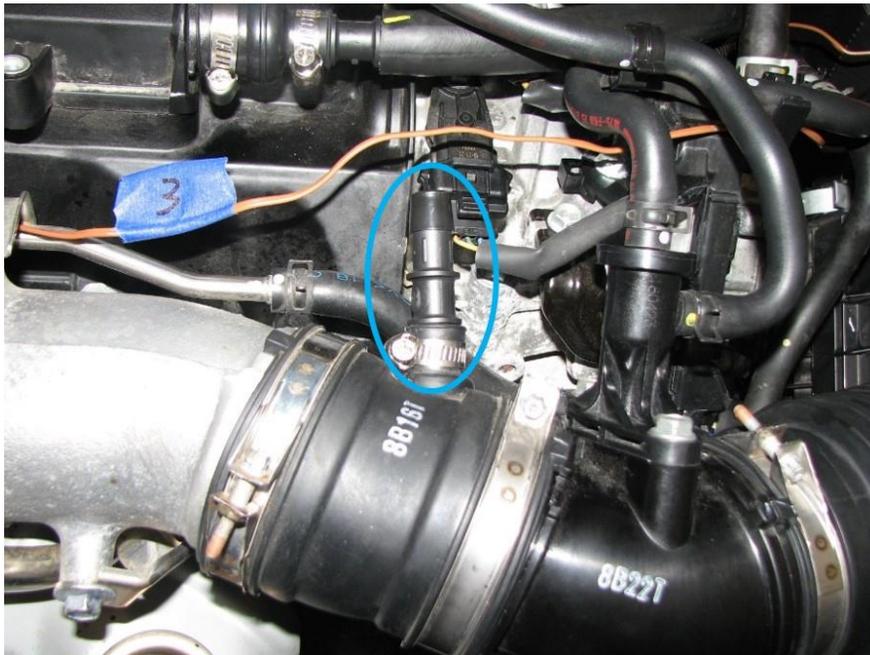
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- 2.10. Remove the metal OEM crankcase ventilation pipe.



- 2.11. Fit the first 1/2" to 3/8" Nylon Reducer to the engine air intake and use the supplied hose clamp, 9-16mm to secure.



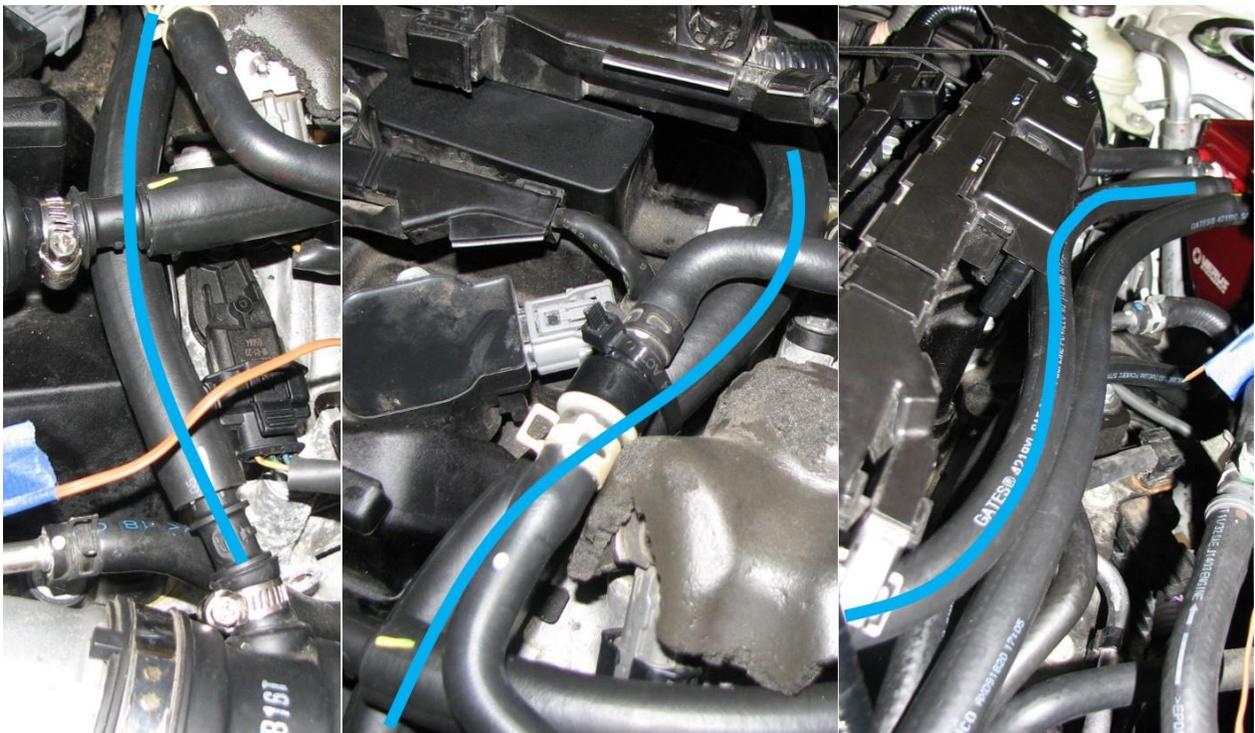
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2.12. Fit 30" of 1/2" hose to the reducer for the engine air intake.



2.13. Follow the routing for the hose as shown below.



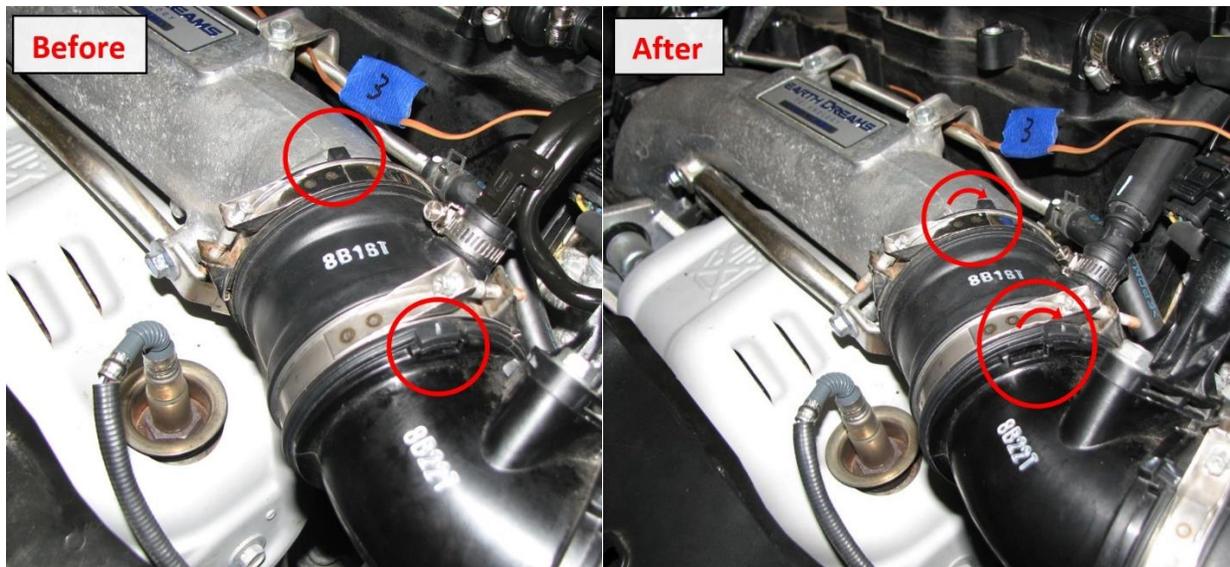
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- 2.14. Fit the second 1/2" to 3/8" Nylon Reducer to rubber boot on crankcase ventilation system and use the supplied hose clamp to secure in place.



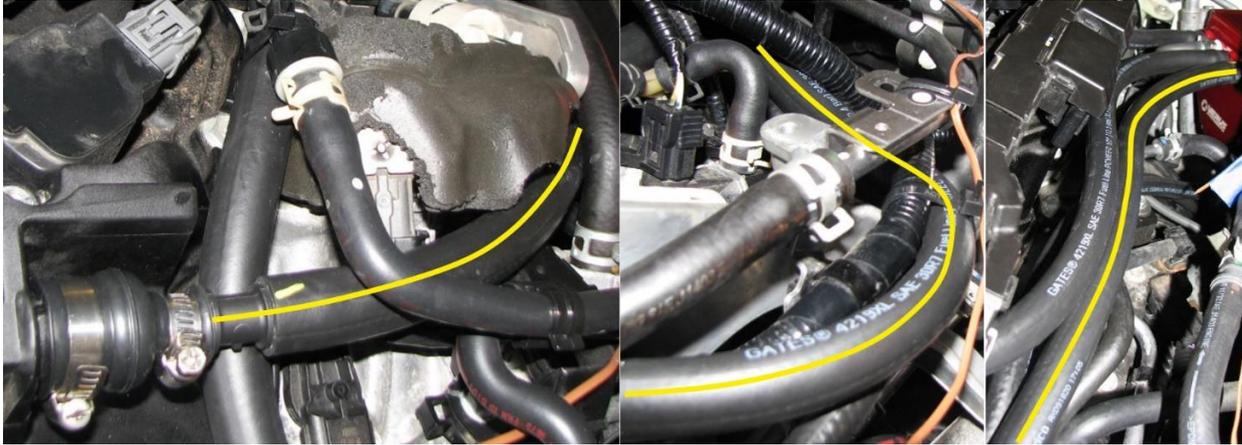
- 2.15. Before fitting the 1/2" inch hose to the engine air intake, loosen the clamps for the rubber hose of the engine air intake using a 7/32" socket and rotate rubber hose inwards as shown below. Tighten after rotating.



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- 2.16. Now fit 37" of the 1/2" rubber hose to the reducer for the crankcase ventilation system and route the hose as shown below.



- 2.17. Install the AOS to the AOS bracket before installing to the car. Use three 16mm long BHCS, and 12mm washers as shown below. Torque the bolts to 6 ft-lbs. **Note: If fitting the Coolant Add on Kit, then refer to section 3 before continuing with AOS install.**



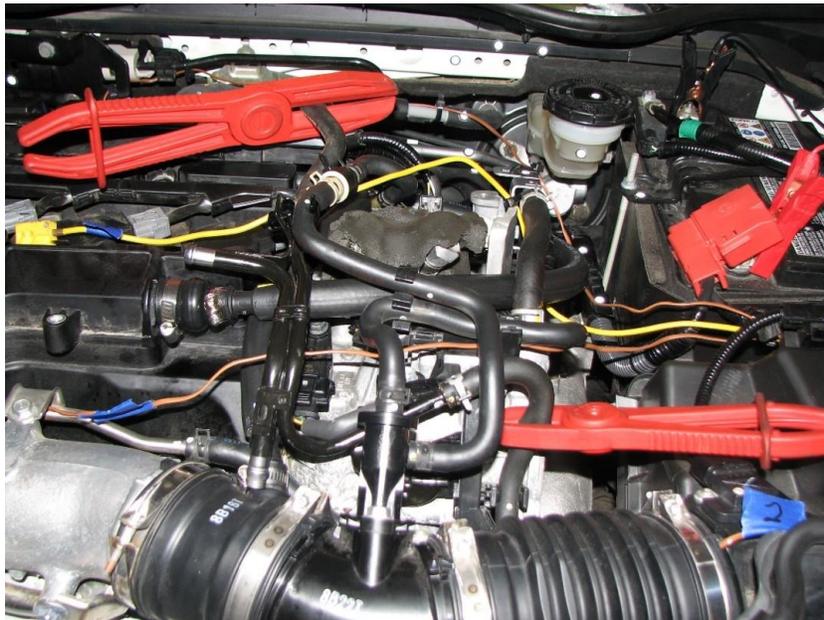
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- 2.18.** Install the AOS and AOS bracket to the rivet nuts we installed in 2.3.3. Using the 12mm long M4x0.7 BHCS and M4 washer (red) for the outer rivet nut and the 12mm long M5x0.8 BHCS and M5 washer (blue) for the inner rivet nut.



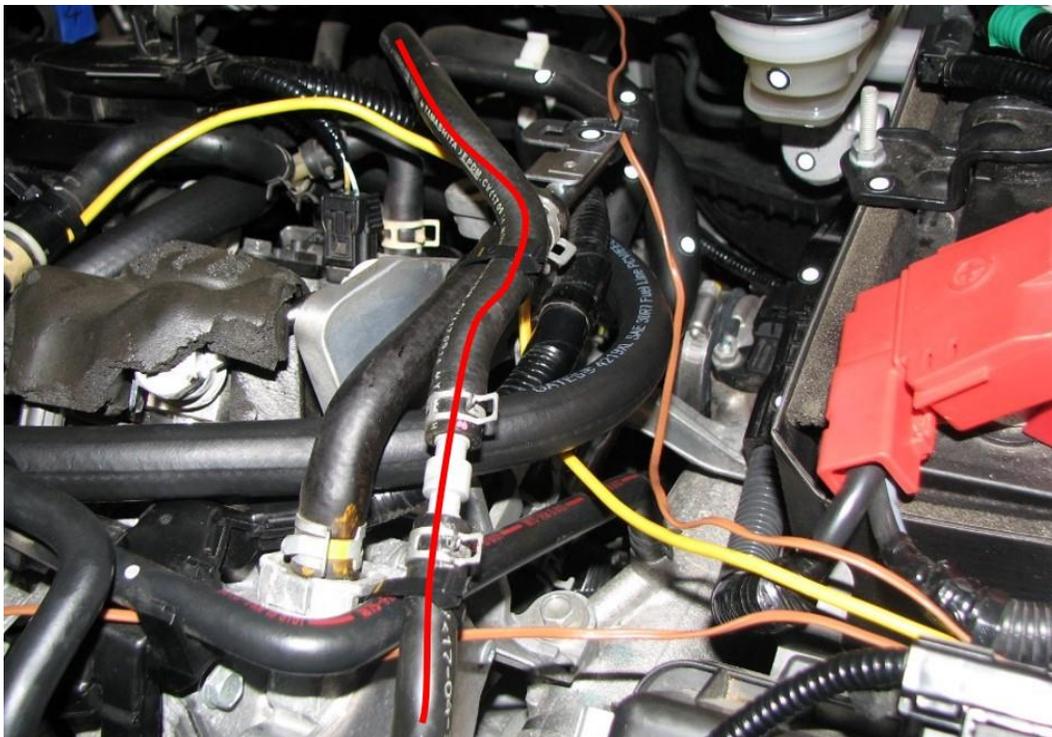
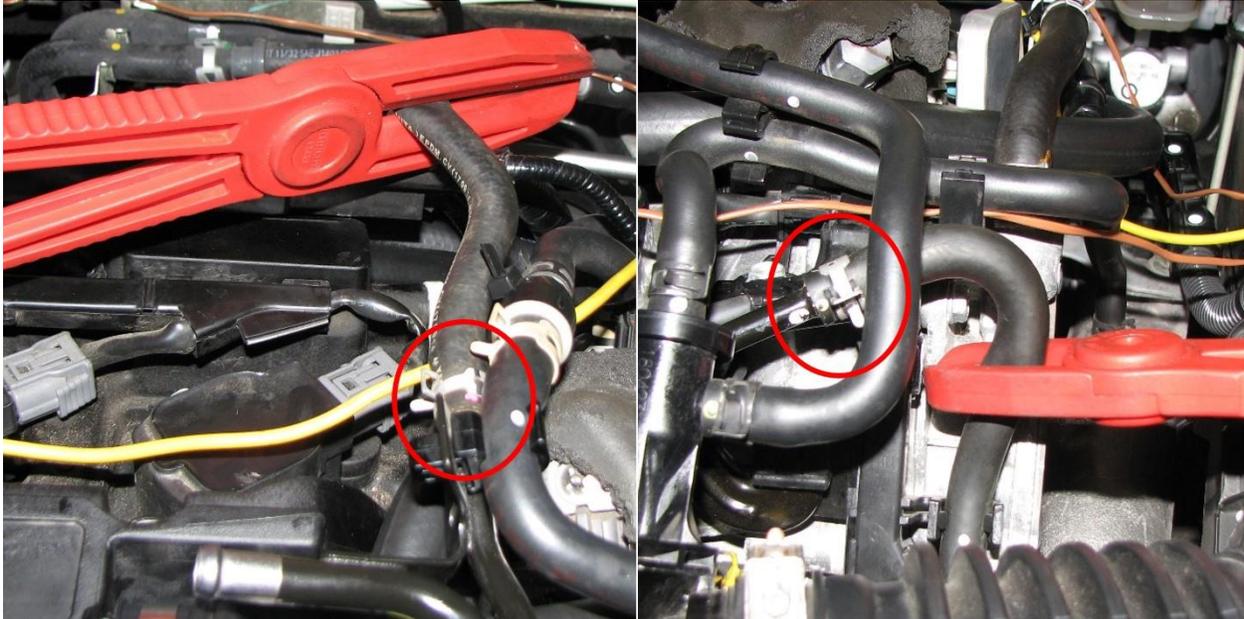
- 2.19.** Using two hose line clamps, clamp the two coolant hoses that connect to the metal coolant line that is welded to the OEM crankcase ventilation pipe.



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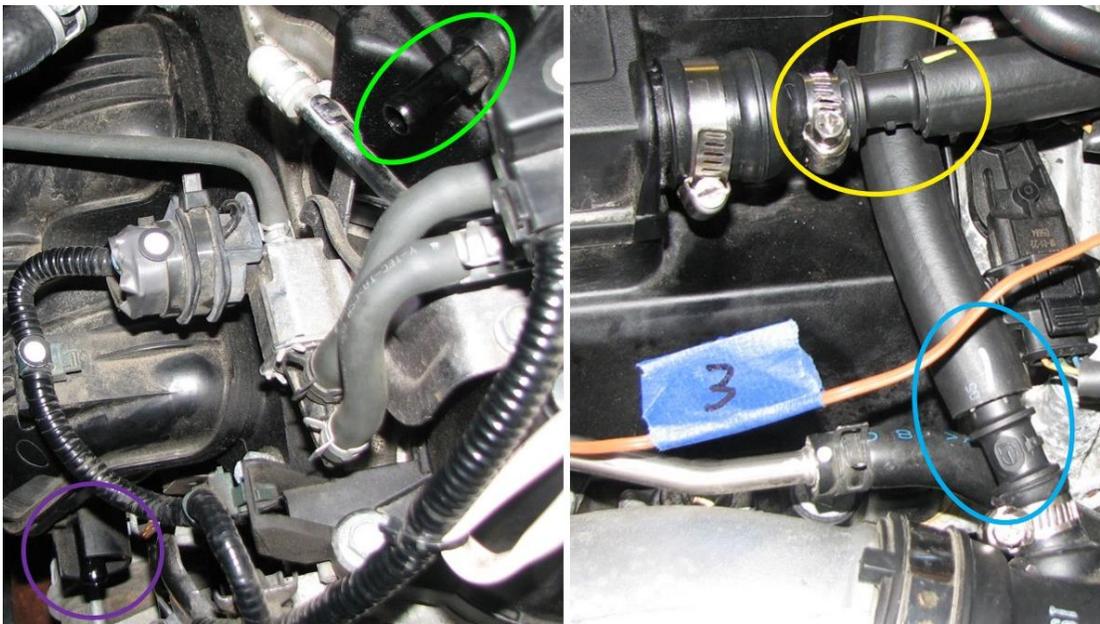
- 2.20.** Remove both coolant hose lines using hose clamp pliers or needle nose pliers and fit our supplied 5/16" to 5/16" barbed adapter to reconnect coolant hoses. Routing the hoses as shown below. Make sure to rotate hose clamps so they do not rub on any hoses.



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2.21. Now connect the hoses to the AOS as shown below.



2.22. Congratulations on installing the FK8 Honda Civic Type R Verus Engineering Air Oil Separator either with or without the coolant add-on kit!

2.23. For any questions or comments, please send us and e-mail at [sales@verus-engineering.com](mailto:sales@verus-engineering.com)

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**3. Fitting the Coolant Add-On Kit****3.1. Prepare the AOS for the coolant add on kit.**

**3.1.1.** Ensure the supplied o-ring is still in place on the backing plate as shown below. If it is not, reinstall the o-ring. **Note: Reinstalling the o-ring will take patience. This is why we preinstall them.**



**3.1.2.** Fit the backing plate to the AOS using the four 16mm long M6 BHCS and 12mm M6 washers in the four outermost locations. Make sure the o-ring does not come unseated and get pinched. After the backing plate is installed with the four bolts and washers, install the bracket using the remaining the 16mm long M6 BHCS, and torque to 6 ft-lbs.



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**3.1.3.** Fit the two supplied banjo bolts to the backing plate. The barbed banjo fitting should be between the two crush washers as shown above.

**3.1.4.** Cut two lengths of 5/16" coolant hose. Cut one to 15 inches long (blue), and the other to 33 inches (red).

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**3.1.5.** Fit the 15” hose to the outer banjo bolt and secure with hose clamp. Fit the 33” hose to the inner banjo bolt and secure with hose clamp.

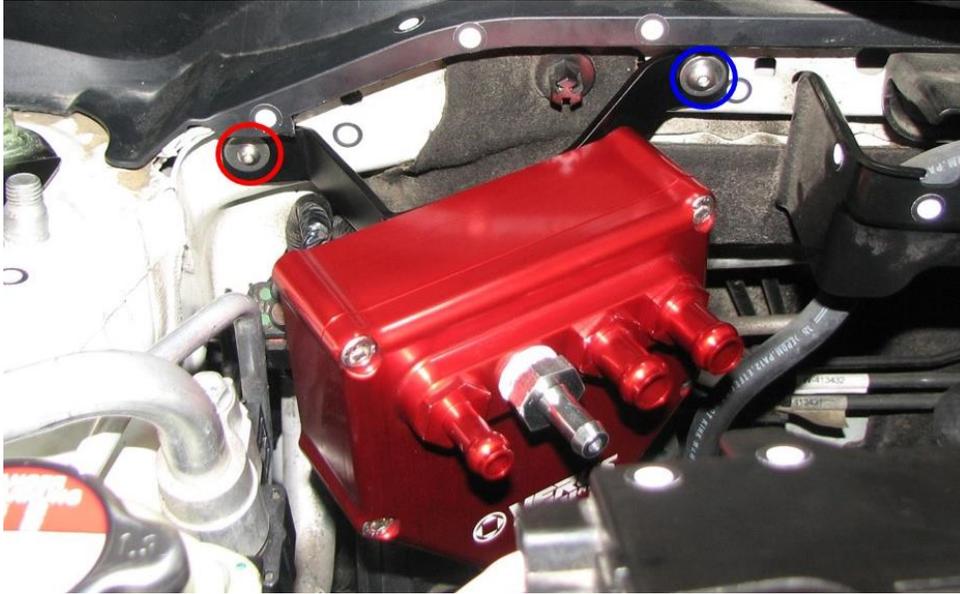
**3.1.6.** With the hoses now installed, orient the banjo bolts as shown below and tighten.



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- 3.2. Install the AOS and AOS bracket to the rivet nuts we installed in 2.3.3. Using the 12mm long M4x0.7 BHCS with an M4 washer (red) for the outer rivet nut and the 12mm long M5x0.8 BHCS with an M5 washer (blue) for the inner rivet nut.



- 3.3. Using two hose line clamps clamp the two coolant hoses that connect to the metal coolant line that is welded to the OEM crankcase ventilation pipe.



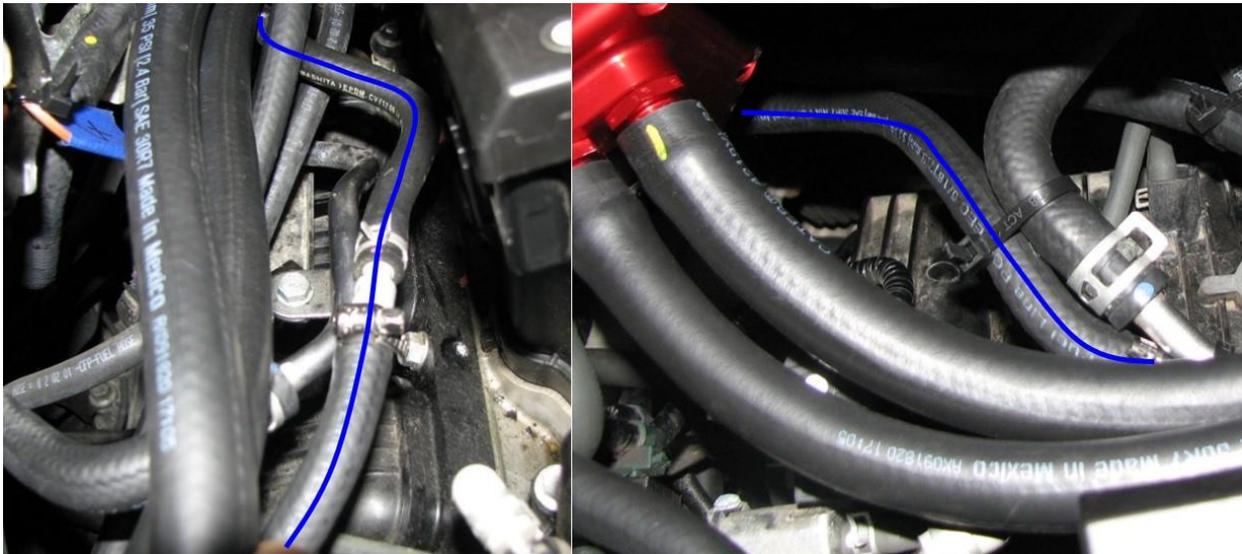
- 3.4. Remove the rear coolant hose line using hose clamp pliers or needle nose pliers.

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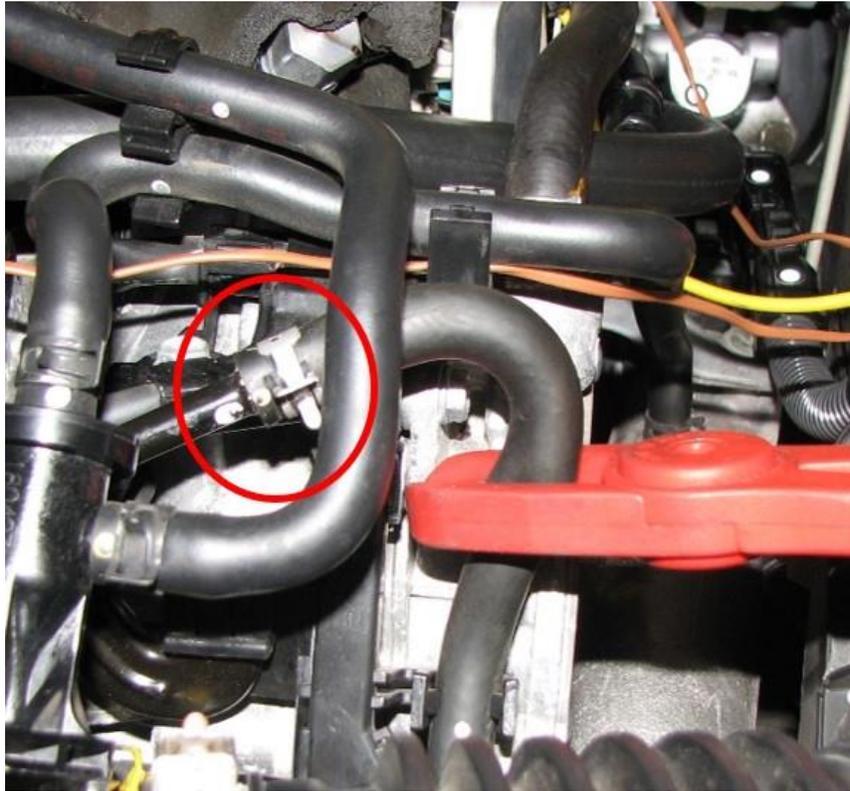
- 3.5. Fit a 5/16" adapter and hose clip to hose line as shown and route along the backside of the engine. Fit the 15" hose and hose clamp it to the 5/16" adapter.



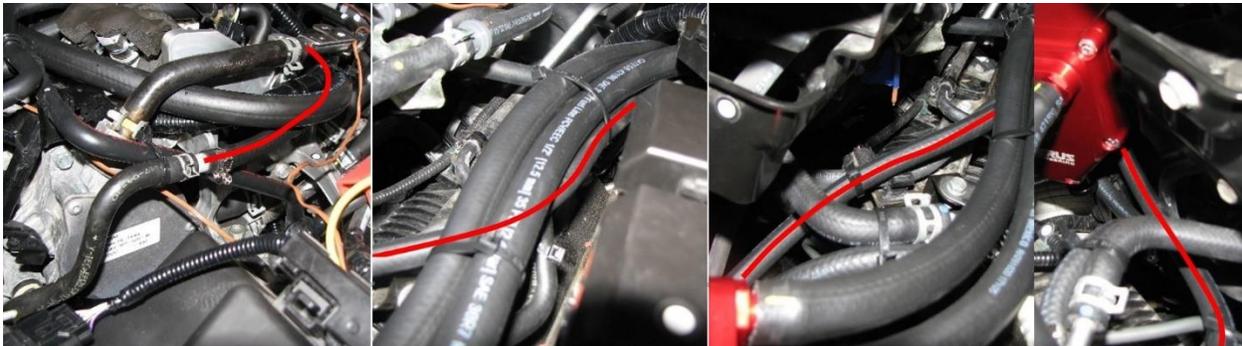
- 3.6. Remove the front coolant hose line using hose clamp pliers or needle nose pliers.

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- 3.7.** Fit a 5/16" adapter and hose clip to the hose line as shown and route and route along the side of the engine. Fit the 33" hose and hose clamp it to the 5/16" adapter.



- 3.8.** Fasten coolant lines down using zip ties and orient hose clamps to ensure they do not rub.
- 3.9.** Congratulations on installing the coolant add-on kit to your FK8 Honda Civic Type R Verus Engineering Air Oil Separator!
- 3.10.** Continue back with the install manual for the AOS at **2.19**.

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