

INSTALLATION INSTRUCTIONS

AOS-R (AIR OIL SEPARATOR-RETURN)

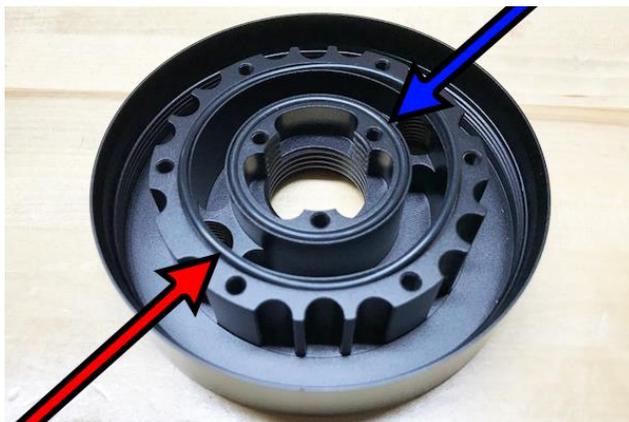
Universal VTE and VTA versions

Document# 19-0106

Support: info@radiumauto.com

1. ENGINE FAILURE MAY OCCUR IF THE AOS-R IS NOT PROPERLY ASSEMBLED

First, place the two provided O-rings into the two O-ring grooves shown.



2. Place the green coolant seal plate on top of the O-rings. This CANNOT go on upside down but it goes on in a VERY specific orientation. The outer fins and all 9 bolt holes should align perfectly, as shown.



3. Apply a high strength thread locker and secure all 9 included button head bolts using a 5/64" Allen hex wrench.



4. Using multi-purpose oil, lubricate the AOS-R lower O-ring shown.

Next, sin the bottom heating section to the AOS-R to complete the assembly of the canister.



5. Adapter fittings are not provided. Go to www.radiumauto.com to find a wide array of 10AN ORB fitting configurations, sizes, and styles. Before installing, make sure to lubricate the O-rings. Aluminum wrenches are recommended to prevent surface marring.

NOTES:

1. AOS-R VTE (vent to engine) ONLY:

- Two adapter fittings are required (inlet/outlet).
- If equipped, the OEM PCV valve is commonly removed and/or plugged.

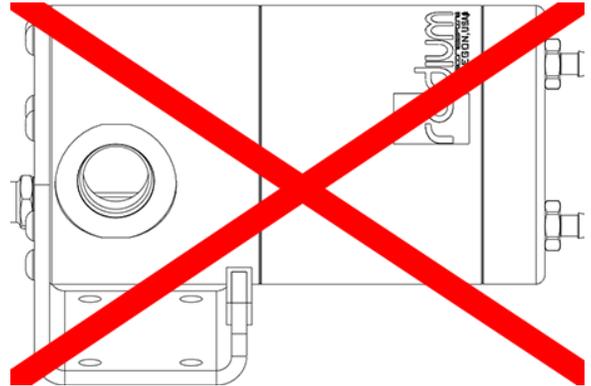
2. AOS-R VTA (vent to atmosphere) ONLY:

- If the engine only has 1 crankcase vent, a 10AN ORB plug should be used on either one of the catch can threaded ports.



6. Find a suitable mounting location. The AOS-R must be high enough where the collected oil can freely flow back into the oil pan with gravity. Do NOT mount the AOS-R horizontally as depicted. The AOS-R should be mounted vertically allowing oil to drain properly out of the bottom port.

NOTE: The AOS-R can be rotated 360 degrees around the provided mount.



7a. AOS-R VTE Kit ONLY

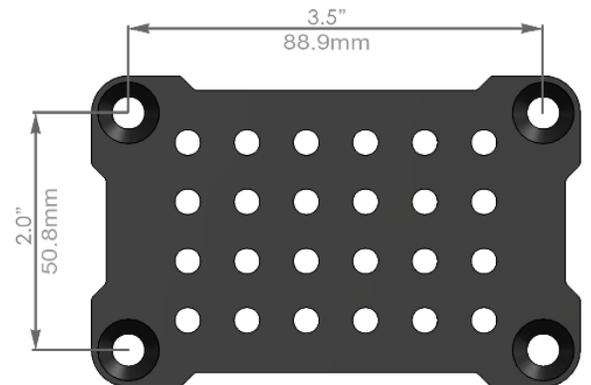
Sandwich the included rubber trim between the mounting bracket and the can.

Apply a medium strength thread locker to the included M5x.8mm screws and torque to 68 in-lbs. Once properly clocked, the AOS-R can be bolted to the bracket. Using a 3mm Allen wrench, tighten the 7 included M5 bolts to the AOS-R VTE.



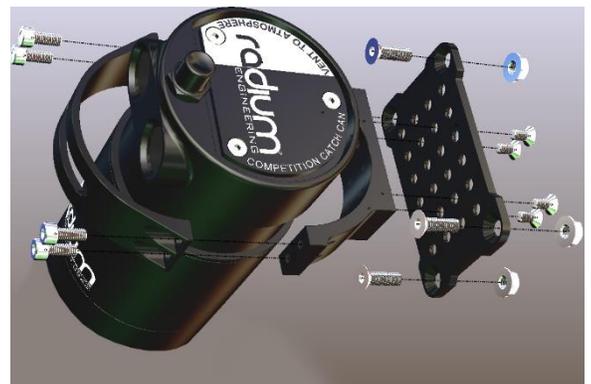
7b. AOS-R VTA Kit ONLY

For mounting, four M6x1mm flat head screws and flange nuts are included for securing to the vehicle.



7c. AOS-R VTA Kit ONLY

Shown is an exploded view of how the hardware can be assembled. Apply a medium-strength thread locker (not included) to all loose screws. Tools required: 3mm Allen wrench, 4mm Allen wrench, and 10mm wrench.



8. Find a water line connection on the engine that can be used to heat the AOS-R. Be sure that the coolant through this hose is circulated when the thermostat is both open and closed. A typical source is at the throttle body. The included 4AN ORB adapter fittings (shown) use barbs suitable for 5/16" (7-8mm) hose. When connecting to the AOS-R, be sure to use coolant rated "heater" hose.

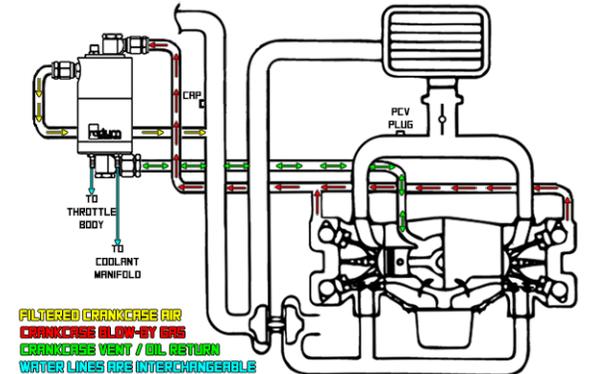
Lubricate the O-rings on the 2 small hose barb adapters with oil. Next, fully tighten these fittings into the bottom cap of the AOS-R.



9. Shown is an example of how a typical engine's crankcase ventilation would be plumbed in an AOS-R system.

NOTES:

1. AOS-R VTA ONLY: The yellow arrows in the diagram illustration do not exist in a vent-to-atmosphere application. Ignore this hose.
2. AOS-R VTE ONLY: The crankcase blow-by gas input and the filtered crankcase air output can be plumbed to either the top or side ports of the AOS-R.
3. A return to the oil pan will need to be sorted. Some engines may require the oil pan to be removed and a bung welded on.



10. Start the vehicle and check for leaks in the coolant system. Top off cooling system, if necessary. **INSTALLATION COMPLETE**

SERVICING:

1. If the oil dipstick ever registers any fluid after the engine has been turned OFF, it is important to find the blockage (or restriction) prior to restarting the engine.
2. The condenser media should be inspected occasionally for excessive debris which will cause restriction in the crankcase ventilation system. The stainless steel media will not corrode and can be cleaned in a parts washer or using soapy water. As shown, flip the can over and remove the lower baffle. **NOTE:** The AOS-R VTA can is shown. The AOS-R VTE can is very similar.

