

## RCC350 Frequently Asked Questions

### Ryco Crankcase Ventilation Filtration System

**Q: Why should I fit an RCC350 to my vehicles engine?**

**A:** Internal combustion engines employ a crankcase breather, known as a PCV valve, that relieves the pressure generated inside an operating engine by venting to an engines air intake. Crankcase gases contain several components such as oil, water & soot that can contaminate the engines air intake system over time. Without this chemical sludge being properly cleaned, the engine will suffer from power loss and increased fuel consumption. There are numerous ways of removing this sludge unfortunately, all require an unwanted and expensive trip to a mechanical workshop. The best course of action is to avoid the build-up in the first place. This can be done easily and inexpensively, by installing an RCC350 RYCO Crankcase Ventilation System.

**Q: Where is the best location to install my RCC350 in my vehicle?**

**A:** Modern engine bays are tight and may already have other accessories fitted, therefore it is difficult to recommend one location for every vehicle. Our top tips are:

- Avoid mounting directly behind the radiator or close to the exhaust
- Don't mount the RCC350 directly to the engine
- PCV hoses should be routed so as not to rub against other sensitive equipment or kink

**Q: What hoses do I need when installing an RCC350?**

**A:** You need automotive fuel or emissions hose similar to the hoses already installed on your vehicles PCV system. It's important to use hose of sufficient diameter to fit to the PCV valve and air intake port. It's also important to use a hose compatible with fuel & oil. Depending on the location chosen in your engine bay, you may be able to re-use some or all of the existing PCV hose.

**Q: My vehicle has a petrol engine, aren't catch cans for diesels?**

**A:** Petrol engines also benefit from preventing crankcase emissions from entering the engines air intake. Oil mist when drawn into the engines combustion chamber can reduce the effective octane of the fuel air mixture causing detonation. The oil mist can also coat important air intake components such as an intercooler reducing efficiency.

**Q: I have an older diesel engine without an EGR valve, do I still need an RCC350?**

**A:** Any engine fitted with a closed crankcase ventilation system which connects the rocker cover to the engine air intake, will benefit from an RCC350 which will prevent oil & carbon build up in the intake manifold and oil contamination of the intercooler.

**Q: How do I know if my RCC350 filter element needs replacing?**

**A:** We recommend changing the filter element every 40,000km or when you can see oil weeping around the relief valve of the unit. You can check for oil around the relief valve each time you drain the unit.

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**Q: How long will my RCC350 filter element last?**

**A:** Filter life is dependent on many factors but primarily based on the amount of contaminants in your engines blow by. A typical element should last around 40,000km.

**Q: Oil is weeping from the RCC350 relief valve, is this OK?**

**A:** You need to drain the RCC350 and/or replace the filter element as it may be blocked.

**Q: Does the RCC350 invalidate my new vehicle warranty?**

**A:** The RCC350 is designed to provide additional protection to your vehicles engine without affecting normal operation so the manufacturer's warranty should be unaffected. If you suspect that the unit is defective, you are covered by Ryco's product warranty which covers damages caused by proven defective product. You can read the policy here: <http://rycofilters.com.au/company/warranty/>

**Q: Do I need to connect the outlet of the RCC350 to the engine air intake?**

**A:** 100% yes! It is illegal to vent crankcase gases to atmosphere even if the gases have been filtered.

**Q: Can I return the separated crankcase oil back to the sump?**

**A:** No. We don't recommend returning captured crankcase blow by oil to the sump as it will contain other contaminants such as water, fuel and soot.

**Q: Is it possible to install 2 RCC350's into my vehicle?**

**A:** Yes, but they must be installed in parallel.

**Q: Can I use a non-Ryco replacement filter element?**

**A:** The Ryco RCC150F replacement filter element has been carefully engineered to work with the RCC350 and contains specialized high efficiency coalescing filter media. Non-Ryco filters may not trap enough crankcase oil or block prematurely.

**Q: Is the RCC350 filter element washable?**

**A:** No. The RCC350 filter element coalesces tiny 1-2 micron oil droplets into bigger ones. Other contaminants such as soot can also be adsorbed into the filter element. Washing the filter element won't remove particles trapped inside the filter media thus we recommend replacing the element once it is no longer effective.

**Q: What kind of engine oil do I need to use?**

**A:** The RCC350 is designed to work with all types of engine oil.

**Q: Can the RCC350 withstand high temperatures?**

**A:** Yes. The RCC350 is constructed from high grade glass-fibre reinforced polymer, which is similar to the material used in other plastic parts in an engine bay. It can withstand very high ambient engine bay temperatures but should not be mounted close to or above the exhaust manifold or turbo charger assembly.

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THE PROFESSIONALS CHOICE

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**Q: Can't I just block my EGR valve to avoid sludge forming in my intake manifold?**

**A:** No. Blocking the EGR is illegal, comes with significant fines and is likely to void your manufacturer's warranty. It can also cause diagnostic trouble codes (DTC's), increase your fuel consumption, reduce power and greatly increase NOx emissions. Though you have eliminated the soot contamination from the EGR, you still have the oil and soot contamination from the crankcase PCV coating the air intake system components such as intercooler, turbo and manifold causing eventual problems.

**Q: Is oil contamination of my intercooler really a problem?**

**A:** Yes. The oil forms an insulating barrier on the inside of the intercooler preventing the intake air from shedding its heat. The hotter intake air will reduce your engine power and increase fuel consumption.

**Q: Is it expensive to have my engine air intake manifold cleaned?**

**A:** Depends on the vehicle in question but most manifold and EGR system cleans can be well over \$1000. In certain cases, some air intake components and EGR valves may need replacing.

**Q: Why don't the vehicle manufacturers install crankcase filters in the factory?**

**A:** This is likely to be based on cost and that intake manifold contamination usually occurs over a period of time with issues presenting outside of the warranty period. This means that the manufacturers may not be aware of the magnitude of the issue.

**Q: How do I know if the RCC350 can handle my engine's crankcase emissions?**

**A:** Our lab testing has shown that the RCC350 can handle up to 240L/min of crankcase gases when used with typical automotive PCV hose diameters. This volume loosely translates to engine outputs up to 350kW. Studies have shown however that well-worn engines can generate up to 6 times the blow by gas as the same engine when new, so it pays to have plenty of flow capacity to meet your future needs as well as your immediate needs. A well-worn large diesel engine such as in a LandCruiser will produce <100L/min however it's also important to fit a crankcase filter with a large sump to hold enough blow by oil between service intervals.

**Q: I recently installed an RCC350 but can't see any oil run out when I open the tap. Is it working?**

**A:** The high efficiency coalescing media in the RCC350 will absorb a significant amount of oil droplets before there is enough to coalesce and run down to the sump. Usually 5-15 ml of oil is separated every 1000km, which means it can take between 3,000km and 10,000km until a noticeable amount of oil has been captured in the sump.

**Q: Does the RCC350 affect my vehicles emissions system?**

**A:** No. The RCC350 is designed to operate with the vehicles PCV system, allowing crankcase gases to be expelled from the engine as normal and not vent to the atmosphere. The difference being that instead of these gases flowing into your engine air intake system untreated the blow by gas has the contaminants removed by the RCC350.

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