

Ask Ronny

by Ronny Shaver @ Ronny's Garage

Answering Your Questions About Classic Car Care Service And Restoration

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My 1965 Bentley Continental S3 Stinks While Running. Will A Catalytic Converter Correct This?

by Ronny Shaver

Interesting question! Most people would prefer to remove a catalytic converter rather than install one, mostly to improve performance. I will attempt to address this (I am not an expert on pollution controls) as best as I can.

Catalytic converters were first installed in 1975 to help control emissions caused by different components of automotive exhaust gasses. The three basic "bad" elements are: HC (hydrocarbons), CO (carbon monoxide) and NO (nitrous oxide). The HC is usually caused by incomplete combustion of fuel mixture in the engine and usually has an acrid smell and causes one's eyes to burn. The CO is related to fuel mixture percentage (lean = low CO, rich = high CO) and is visible only when too rich (black smoke from tailpipe). NO is caused by high cylinder temperatures and pre-ignition conditions (pinging). The first catalytic converters were like "band-aids" and would clean-up tail pipe emissions and sacrifice auto performance and fuel mileage. Modern cars are incredibly efficient at removing harmful gasses and retaining performance. Of course, they are incredibly complex and require computers to constantly monitor conditions and adjust accordingly (load, speed, fuel mixture, ignition timing, transmission gear, engine temperature, ambient temperature, atmosphere pressure, engine knock, exhaust gas mixture, post-catalytic gas mixture, fuel system evaporative sealing) to allow the catalytic converter to work properly. All of this is happening constantly at incredibly fast speeds as we drive our cars.

An older car will definitely have more odor and possibly more visible exhaust gasses, but should not be obvious to neighbors unless the car is not running properly. Visible gasses can be black smoke (extra rich mixture), blue smoke (oil burning-bad rings or valve seals) or white smoke (coolant combustion-head gasket or combustion chamber cracks). Non-visible unpleasant smelling gasses are usually caused by incorrect ignition timing, too-lean fuel mixture, too-rich mixture and improper crankcase ventilation.

Unfortunately, one cannot just install a catalytic converter and be done. For a converter to work properly it must have very controlled conditions and require many components and modifications. If these conditions are not correct, then the converter will overheat and eventually plug-up or (more importantly) melt down and possibly cause a fire. I have worked on many cars over the years which were equipped from the factory with a catalytic converter and had failures because the necessary conditions for proper converter conditions were not correct. These failures can cause serious (and expensive) damage. I even bought a parts car once, that the owner started up to warm-up, left the garage and forgot about it. The car caught fire and was burned to point of being a total loss.

One more thing, I know that the smog laws prohibit any retrofitting devices for cars covered under the smog program unless they are "CARB" approved and listed by the State. I have tried to find out if they also regulate cars not under the smog check program, but have been unsuccessful. Bottom line, I would not recommend trying a retrofit. It would be extremely expensive, would affect the car's value, decrease performance and could possibly be illegal.

Thank you for the questions and keep them coming. Please send your questions to Ronny at ronnyshaver@ronnysgarage.com.

Happy Motoring!
Ronny