Lagondaforum: Supercharger

Supercharger
Written by rdesalis at May 18, 2017 11:02 am

Sharing expertise on superchargers.

We are running a 2 litre Speed Model, 1931, but we removed the Cozette #9 supercharger because it wore out. The car goes OK without it, but needs a lot of gearchanging!
I would like to get a discussion going, to share experiences about repairing and maintaining superchargers for this type of car, including substituting other types for the Cozette. We collected a lot of info; our options seem to be expensive to fit and maintain, and not very robust. But I will stop there; maybe I missed another post, but I couldnt see this topic on the forum yet. Anyone interested?

Re: Supercharger
Written by Mark at May 19, 2017 1:20 pm

I am not an expert on superchargers but have a 2 Litre on which I am seeking to install a supercharger. I commenced this project having discovered my engine had a crank that would take the counterbalance weights so I rebuilt it to supercharged specification. My intention is to install a Marshall Rootes type blower of which there are 3 or 4 cars so converted in the club. Whilst I have all the parts I am still some way from completing the project. The Marshall blower installation is a major project which requires a lot of skilled engineering support, but there are those who argue that it has advantages over the vane type blowers such as the Cozette. For example the Rootes type blower does not wear out vanes (of course it has none) or casing (like the Cozette) and has a full lubrication system, so does not, I believe, need engine oil added to the petrol. That said, there are those who believe the vane type blowers (Cozette and Zoller) give superior performance.

My advice would be to seek to get your Cozette blower rebuilt rather than pursue an alternative. If it is original to the car it will maintain the cars provenance and value. You Could contact Derek Chinn Precision Engineering who are experienced in the Cozette.

I know it is expensive to have a blower rebuilt but occasional large bills are the something I have grown to accept with our thoroughbred cars.

Regards
Mark

Re: Supercharger
Written by Rich5ltr at May 19, 2017 1:33 pm

Hi - also I don't know if you use Facebook but there's a thriving group on there with several very clued up people, just search for Lagonda Owners Group.
Rgds
Rich...

Re: Supercharger
Written by bruffsup at May 25, 2017 12:48 am

I am curious about the dates for which the various makes of blowers became available. I had always thought the Marshall was derived from an aircraft cabin blower in the late 1930's and that Cozette, Zoller and Powerplus were all earlier.

Re: Supercharger
Written by Mark at May 25, 2017 10:05 pm

From my recollections of Arnold Davey's writings. Lagonda started developing the blown 2 Litre using the Powerplus blower which was from March 1930 onwards. They then moved onto using a Cozette No. 9 and there followed the No. 5 Zoller. However, the Zoller never replaced the Cozette, so both were available up to the end of production which was, I believe, spring/summer 1932.

The 2 Litre was becoming difficult to sell and with the normal Lagonda cash flow problems the factory was certainly using up what parts were

available. Hence you find a few non blown cars fitted with engines where the crank is pre-drilled for the counter balance weights and wider neck radiator fitted. This is the case with my car.

The Marshall blower (used by 2 Litre owners) was indeed a cabin blower and was never originally fitted by Lagonda. However, in the late 1970s the late Phil Ridout was looking to reinstall a blower on his car and turned to the Marshall Rootes type blower. At the time I believe no one had yet remanufactured the Cozette No 9 so the Marshall was a natural choice and more easily available. This set a trend and around four 2 Litres have the Marshall fitted. Interestingly Phils car was further developed by the next owner and it is coincidently for sale through Richard Edmonds Auctions next month.

Regards

Mark

Re: Supercharger

Written by rdesalis at Jun 26, 2017 11:12 am

Thanks to all who responded - it's great to have some input.

Since my post, our plans have developed. If it were just a matter of cost, we might spend the money with Derek Chinn, Jeremy Brewster etc. and get our Cozette restored. But the chances of repeat failures are too high, looking at the history of several owners.

So instead, we are planning to design a twin-screw blower, which is the best type you can get (for volumetric and thermal efficiency as well as durability). As it is a compressor like the Cozette, it doesnt heat up the air as much as a Rootes, which is a pump. I can elaborate on this if needed.

First we will build a demonstrator into our 2-litre using a modern twin screw blower, which will look, well, modern. Then, if it works well, i.e. adequate boost, low noise and OK exit temperatures, we will design the rotors to fit inside a Cozette outer housing envelope, so that the mod is completely invisible from outside. This looks to be feasible. We want to do the specs such that the VSCC are happy with it and it wont affect eligibility for events. The logic will be that we are replicating what the Cozette and the Powerplus and the Zoller were supposed to be, but with a durable solution that looks identical.

If the leakage is lower, as I expect, then it may also give improved boost at lower RPM. It should perform better than the Marshall, be kinder to the engine (high intake temps are not good) and look a lot better.

If anyone would like to be informed when a batch is finally available, let me know, but it will take until next year at least.

I would love to find out what was the displacement of the Zoller and Powerplus superchargers used on the 2 litre, as at least one of them was bigger than the Cozette (1530 or 1570 cc per rev), I believe. I simply cant find out online. Does anyone know?

Re: Supercharger

Written by bruffsup at Jun 27, 2017 10:50 am

Anyone know what the earliest use of a Marshall was, as a cabin blower

and subsequently on an engine?

Re: Supercharger

Written by Mark at Jul 03, 2017 8:39 pm

Marshall superchargers were certainly used in the early 1930s by MG, Frazer Nash and others. At this time the company were called Marshall Drew and Co. Marshall cabin blowers seem to have been the main business under the Marshall Godfrey name post war but this association ended and by the mid/late 1950s the name was Marshall-Nordec and they were making bolt on performance kits for MGs and other BMC cars like the A35.

Marshall Cabin blowers were developed for cabin pressurisation during the early 1930s and were used by the Air Ministry during WWII. There is an article on Marshall Cabin Blowers from Flight Magazine around 1942 and this can be found via google as can copies of Air Ministry Manuals on the

Marshall

I think all readers will be interested in the development and trials of a twin screw blower. There has often been comments by 2 Litre owners that it would be interesting to see what could be achieved by gearing the standard blowers to give greater boost. The car recently sold by Richard Edmunds Auctions was Marshall blown through a Jones downdraft cylinder head. I am told it was very effective.

Regards
Mark
