



Wrapping or coating exhaust manifolds

A note on the V8 Bulletin Board from Barry West sought the views of fellow members on covering his RV8 manifolds with an insulating wrap as he wondered whether it was worthwhile. The thread provided a range of views some based on useful practical experience.

Barry West understood "the main benefit of wrapping was reduced underbonnet temperatures coupled with faster exhaust gases and hence lower temperatures on the intake side with slightly increased performance. On the negative side, moisture retention in the wrap can cause cracking by generating differing rates of cooling where it's thicker in some places than others, causing distortion and then cracking". He was also concerned whether increased exhaust temperatures would cause difficulties for catalysts on RV8 models. With a number of products on the market Barry wondered if anyone could recommend any particular option.

Geoff King with a V8 Roadster mentioned he "wrapped his manifolds when he built his car some 15 years ago. The manifolds were supplied by MGBHive and manufactured by Guaranteed Exhaust Systems in Devon. They are 304 stainless steel and exit through the inner wings. He has never run the car without the wrap so does not know if

it has made a difference or not. The wrap he used is intended for a gas turbine exhaust duct and seems to have stood up to the V8 heat without any difficulty. As far as he can tell the exhaust is still in good shape, but he is not going to unwrap it to check! If or when it starts to leak then he will buy another one – and wrap that too.

The only down side he could see is if, when the car has been parked in the rain, water soaks into the wrap and evaporates off as steam through the bonnet louvres when the engine is started but that is not something that would bother him. On this point Geoff noted "my car gets used in sub-zero temperatures and above 40°C".

Mike Haughton said "my RV8 manifolds are wrapped, as is the manifold on my MGC. The C definitely runs a little better, I think mainly because the carburettor bowls are right over the manifold so benefit from the reduced heat. The wrapping on my RV8 was done before I bought it so I cannot comment on that aspect".

Another RV8 and MGC owner, **Peter Ferguson**, added "the C has a stainless steel manifold that I ceramic coated and a measure of its effectiveness is I can touch the manifold after a run but do not try this yourself for fear of burning your finger! I would be interested to know what the temperature of a wrapped manifold might be in the same situation on a C?".

Gavin Brown has had many years of experience in using ceramic coated parts. He has used the two main types available: **High temperature coating** – used for turbo exhaust housings and turbo exhaust manifolds where the surface temperature can exceed 1300 degrees Celsius. **Exhaust system coatings** – used for applications within the temperatures of -190°C to +700°C. Both types of applications have a number of benefits:

- 1) Reduced under bonnet temperatures.
- 2) Improved gas velocity when the coating is applied inside of the pipe.
- 3) Prevents the metal from oxidation and rust.
- 4) Is impervious to coolant, oil and brake fluid.

Gavin reports that he found a noticeable improvement in the coolant temperature reading of a forced induction car he once owned, and after 10 plus years of use on his RV8's headers, he reports that the ceramic coating is lasting extremely well, has not flaked or chipped off and is holding its colour/appearance very well. Gavin added the use of an exhaust wrap is not recommended by any exhaust manufacturer and multiple web page searches shows that whilst it is a cheap option at reducing

temperatures, it comes at a cost due to the damage it can inflict on the pipes. Further to this it is rather unsightly to look at, especially once it starts to get dirty.

In Australia Gavin recommends High Performance Coatings in Leongatha www.hpcoatings.com.au/ or Ceramic Coatings in Tasmania www.ceramiccoatingstas.com.au/

Gavin recommends "go ceramic, it's the best and does make a noticeable difference".

Barry West reported on a call he had made to **Zircotec** seeking information on their procedure for ceramic coating exhausts and the cost to coat manifolds as a cure for heat build-up under the bonnet. For ceramic coating an RV8 eight cylinder tubular manifold in their "Primary Black" range their estimated price is £479 excluding freight and VAT, so probably around £595. He was pleasantly surprised that current MG Car Club members would get a 20% reduction reducing the total to around £480.

Alan Reeling posted a caution saying he felt "wrapping was not a good idea on cast manifolds (standard on Factory MGBGTV8s) as they are far less malleable than stainless steel, plus cast manifolds are not of a uniform thickness which can cause variable expansion and contraction rates and more internal stresses on the casting.

Philp Gent had his MGBGTV8 tubular manifolds ceramic coated by Zircotec and paid £355 including VAT with a discount.

