



Do MGBGV8s need oil coolers?

An interesting thread developed on the V8 Bulletin Board when Andrew Lord sought advice on moving the oil cooler on a chrome bumpered MGBGV8 to an underslung position seen on rubber bumpered models. Mike Howlett then suggested "why not dispense with the oil cooler and let more air through the radiator? The RV8 doesn't have one, and so when I put a 3.9 litre engine in my 1969 GT I didn't bother fitting one either. I have never had any overheating issues, even on a boiling afternoon at Silverstone a couple of years ago. The oil pressure never varies from its 35 psi however hot the engine is. I don't have any bonnet louvres either." Roger Parker supported Mike's view and added an interesting explanation of his reasoning.

Andrew Lord launched the thread asking "does anyone have any knowledge of what is involved in moving the standard fitment oil cooler on a chrome bumper model to the position on rubber bumper models. It must blank off 50% of the air flow to the radiator in the standard position and moving it seems one way to assist in the very marginal cooling on a V8?"

Mike Howlett added "I have always wondered why the MGB 1800 was always fitted with a cooler, when it patently doesn't need one. On my last 1800 MGB I fitted a thermostatic valve in the oil pipes. This would not allow oil to pass to the cooler until the oil temperature was over 85 C. It very rarely opened: only on the hottest days. I suspect the BGV8 got a cooler just because the 1800 always had one. My experience is that it isn't necessary." It is a

fact that keeping the oil cold is detrimental to the engine as impurities and water won't be evaporated off. My modern VW has an oil temperature readout, and it usually runs at 100 degrees or just over when thoroughly warmed up. I bet on a cool day, an MGB GTV8's oil never gets near that.

Andrew Lord commented "it seems like a good idea to me, after all the big problem with this engine is sludge so maybe getting the oil a bit hotter could help. Anyone else got any thoughts, it only needs a piece of pipe to take the place of the cooler and maybe the fitment of an oil temp gauge for peace of mind!"

Roger Parker's view was clear "Oil coolers; yes I have had a strong view on these for some years and they follow exactly those expressed by Mike Howlett, but it is long and complex explanation!"

Oil coolers on early MGBs

When introduced in 1962 the MGB was fitted with an oil cooler as standard for export markets, but optional on the UK market cars until the 1964 introduction of the 5 main bearing engines (October 1964) when all models were fitted with one. The reason for that introduction was always said to have been to deal with an issue with oil pressure/performance as a result of the extra stress introduced by the extra two bearings. Over the years I have been coming across more and more snippets of information that makes just laying the fault of this at the door of the oil a little simplistic for a number of reasons. Let me elaborate.

Back in the early 1960s multigrade oils were not available and there were thin

weight oils for winter and thicker weight oils for summer, with 20 for winter and 50 weights for summer being examples. Multigrade oil introduction was a big thing in the mid 1960s with I recall great things attached to the use of the distinctive green Duckhams Q 20W/50. Oils like these certainly overcame any oil performance related issues with the MGB engines, but the oil cooler remained a standard feature for the MGB. Before multigrades there was a need to change oil for the different seasons and I think it's likely that many cars ran with winter grade oils in the summer, which probably created some additional oil pressure issues that the oil cooler helped reduce.

Coolant thermostats

Looking at details for the MGB cooling system in the period not long before the 5 main bearing engines were introduced sees changes to the thermostat specification. Originally this was set at 82 degrees C for all markets but the change in September 1964 was to fit a lower 74 degree stat for export markets with hot climates and an 88 degree stat for export market with cold climates. It is very pertinent to note that the 88 degree stat was not offered on the 5 bearing engines introduced the following month and documentation that relates to the 74 degree stat being introduced stated the change was, "to increase oil pressure and decrease oil temperature under normal working conditions".

Oil coolers on other 1800 models?

Noting that in 1969 the 88 degree stat returned as an optional fit for some markets, the Austin and Morris 1800 in both single carb and twin carb format (not forgetting the Wolseley 18/85 to complete the range) from their introduction never had an oil cooler, starts to show a wider picture. Clarity is confused by looking at other vehicles with the 1800cc B series engine such as the Marina and panel vans that also didn't feature oil coolers, the vans specifically could suffer from significant abuse and overloading that would have put the engines under great stress and created significant heat for the cooling system and oil to deal with. Not having an oil cooler is good corroboration that by the 1970s there was not an issue with the oils performance under stress in these engines.

This then leads to a number of considerations that are specific to the MGB and one is whether the original radiator is not as efficient as the other B series engined vehicles, or is airflow through the engine bay significantly less. I do not consider this to be

so, especially when looking at the rather cramped engine bays of the vans, although the V8 in the MGB engine bay does create flow restrictions.

Focus on oil pressure

There are another two considerations that are specific to the MGB and not to most other B series engined vehicles, and these relate to the provision of an oil pressure gauge on the dash, and this comes back to the reason behind the 1964 stat changes that were related to oil pressure. The MGB has a prominent and sensitive oil pressure gauge and this is seen as part of the 'sporting configuration' of the car with emphasis on good oil pressure as part of the well being of the engine. Look at the 'Special Tuning' manual and it shows how adding more than one 0.100" (2.5mm) spacers in the oil pressure relief valve to increase the effective rate of the spring will raise the blow off pressure. On 18G series engines one spacer was used and this resulted in average oil pressures at 3000 rpm hot of between 65 and 70psi. Add one or two and this raised the pressure up to around 80psi. This was in the days when such oil pressures were seen as a necessary part of a strong healthy engine, but this view started to erode when the 18V series engines were supplied with no spacers and a 55 to 60psi average oil pressure at the usual 3000rpm with a fully warmed engine.

I must also mention that for North American export cars from the start of the 1975 model year the oil cooler was deleted, but not from other markets, so here it is reasonable to assume that this was not a simple cost saving measure, but a reflection of the tightening emission requirements in North America and to meet these you can't live with overheated oil as the engine temps need to be higher to gain the best efficiency and with this comes better emission control.

This focus on oil pressure was also evident in the Anglicising of the GM 215 ci V8 to become the Rover V8 and you will find clear references in books on exchanges between Rover engineers and Joe Turley, the imported GM expert on the V8, who initially questioned why the Rover engineers wanted to raise the well proven V8s hot normal running oil pressure, and it was all to do with customer perceptions. This related to the V8s normal working temperature pressures often being below 25psi and at idle speed you could see zero pressure, although plenty of oil volume was still being moved. Rover's engineers did raise oil pressures to an average of 30psi on the

Rover spec engines, but it didn't really improve idle pressures.

I believe that Joe suggested that removal of the oil pressure gauge would save much time and money and remove any issues customers could make, but this wasn't taken up for some years, but plenty of customer queries on the 1970s spec of Range Rover proved this to be a sensible suggestion as the oil pressure gauges on these models, (and I have driven huge mileages in these cars) would frequently show no oil pressure at idle when fully warm and on some only 20 psi maximum, yet 150,000 to 200,000 miles passed with no problems before the cars were sold on. You will note that oil pressure gauges were later removed and this is why many manufacturers do not fit them to this day.

MGB GTV8

This customer perception of oil pressure readings raised its head again when the MGB GTV8 was being developed and this is why we see the oil pump base with a relief valve with a blow off pressure of 42psi set specifically to try an allay fears and contact from customers coming from the 1800 MGB worrying about low oil pressures and it seems that the MG changes were more effective at holding oil pressure up, and there is no doubt the use of an oil cooler is an integral part of holding those pressures up and reducing fluctuations due to temperature.

The other MGB specific aspect is that an oil cooler was considered as a **significant sporting addition and raised the sporting credentials of the MGB** by having one, and it very quickly became a fixed expectation to see an oil cooler when opening an MGB bonnet. Look at an MGB without an oil cooler fitted today and immediately it looks wrong, but only from that visual perspective.

Soon after I bought my 1968 MGB in 1973 my attention was drawn to the subject of over cooling of oil being possibly detrimental to the longevity of the engine by increasing wear, and also holding back on engine efficiency. The availability from Special Tuning of an oil cooler cover for winter use added to the considerations. As I was hungry for increased efficiency, and specifically power gains, I followed this up by fitting an oil stat in the cooler lines. What was patently obvious was that the lines to and from the cooler were always cold except following very hard driving (what would be compared to track day use today) and driving in the occasional scorchingly hot summer days (1976), which provided clear evidence that the cooler was for nearly all the time totally redundant.

Oil coolers not fitted to most V8 engined cars

Having already mentioned the fact that no B series engined production vehicle had a standard oil cooler apart from MGB, the same situation also applies to the cars fitted with the V8, and more emphasis can be placed on the cars made before MGB GTV8 which were bigger and heavier and were not fitted with an oil cooler. It is also worthy to note that the available oils would have been to a lower specification too. The continuance of other V8 cars not being fitted with an oil cooler after the GTV8 ended production simply adds to the case for not needing a cooler, and this continues to gather pace with the increased capacity and power of later engines. However, **it is the arrival of the RV8 which seals the lid on the subject** as here is essentially an MGB engine bay fitted with a larger and significantly more powerful version of the Rover V8, which aside from having a better coolant radiator doesn't have an oil cooler and crucially neither does it have an oil pressure gauge. This model provides the strongest case for not fitting an oil cooler and it has been around for long enough in enough harsh conditions that the lack of an oil cooler has not been seen as an error by Rover engineers when developing the car.

Conclusion

My view today is that whilst there may have been some oil performance shortcomings in the mid 1960's they were soon consigned to history, and the only reason for retention of the oil cooler was to provide a more stable range of oil pressure readings simply to reduce potential worried customer contact. Later when the oil cooler was removed from MGBs going to North America in December 1974 oil pressure readings were a lesser problem than emission compliance. This would have been an ideal time to remove the cooler from all cars and that would have been a good cost saving, they didn't and this was perhaps now not wanting to remove what was considered an accepted standard 'sporting' part on top of what at the time was a considerable backlash from the addition of rubber bumpers.

