



Restorations of Dunlop composite wheels

The Dunlop composite wheel, with an alloy centre with 10 trapezoidal holes and a chromed steel rim, is a particularly strong wheel and in the 1970s it was the type of feature you would have more likely seen on exotic sports cars. Dunlop advertised them as their "Formula D4 alloy/steel composite wheel" to "give your car real personality!" MG chose these distinctive wheels for their new V8 powered MGBGT model launched in August 1973. [Formula D4](#)

Corrosion issues with Dunlop composites

MGBGT V8 owners have found that over time the recess, where the inner edge of the steel rim is attached to the alloy centre can attract rust and if it's not controlled with regular cleaning and polishing find that corrosion can develop to an extent the wheels reach a sad state and need refurbishment.

For many years a very professional and good quality refurbishment service was available from Motor Wheel Services International (MWS) near Slough. Sadly in 2016 they decided they could no longer offer that service as the restoration work had become very difficult. They had to disassemble the wheel, split the steel rim from the alloy centre, examine the rim to assess its condition, clean off all corrosion, rechrome the rim and then reassemble the wheel with new rivets. Carefully balancing each reassembled wheel could take up several hours so the costs became a serious burden leading to their decision to withdraw the service. [MWS news](#)

For MGBGT V8 owners watching their original Dunlop composite wheels for signs of the dreaded corrosion setting in on the chrome rims and then facing the decision whether to send the wheels off for a comprehensive refurbishment, was a growing concern. It is an expensive maintenance issue and increasingly difficult to find a

specialist who could do a good quality refurbishment or full restoration.

Two restoration service options have been available

Since the withdrawal of the full restoration service by MWS in 2016 what refurbishment or restoration options have been available?

- **Solent Wheels** have offered a refurbishment service which does not involve splitting the rim and alloy centre but instead grit blasting the wheel to bare metal to remove corrosion from the chromed steel rim, then repairing any kerb damage, filling any areas where corrosion has been removed and applying the self-etching primer which is baked in a low bake oven, then the wheels are flattened down to create a smooth surface. The wheels are top coated and lacquered with a durable Polyurethane silver coloured paint and clear coat. The result is a smooth, polished finish which is durable, lasting for many years.

These refurbished wheels can only be distinguished from the original chromed rims from a close inspection. It's not an original chrome finish but it looks very good and is good value for money. [Link](#)

- **Renowheel offer a Dunlop composite wheel restoration service**

Renowheel are wheel restoration specialists. Their restoration of Dunlop composites involves splitting the wheels (marking each one as they split them so they go back together exactly as they come apart), removing corrosion and rechroming the steel rims, refurbishing the alloy centres and then reassembling and balancing each wheel. They usually out-source the rechroming of the steel rim. If a wheel has been refurbished before it will be subject to an inspection to assess if the wheel could be restored again. It is an expensive option but does help maintain the originality of chrome rims. [Link](#)

All-alloy replacements – as an option

They are an alternative to a refurbishment or restoration of the original wheels.

All-alloy Dunlop composite look-alike replacement wheels for the MGBGT V8

Just occasionally new replacement parts come up which are really an exciting development and this has been the case as MG V8 parts specialist Clive Wheatley had been working with an alloy wheel specialist in the West Midlands who makes high performance wheels. He shared Clive's enthusiasm for creating an all-alloy wheel that looks like an original Dunlop composite wheel and Clive wanted to offer enthusiasts with MGB V8 Roadster and GT conversions a 15" all-alloy Dunlop composite look-alike replacement wheel. Finding a spare set of original 14" Dunlop composites in good condition is like finding

hens' teeth and they are expensive, so Clive's investment in sourcing all-alloy look-alike wheels are a welcome real alternative and are very good value too. From its launch the all-alloy wheel has been a popular option for many owners of MGBGT V8 and MGBV8 conversions. [Link](#)

Minilite wheels were originally designed for racing and rallying, their good looks ensured that they were soon seen on road cars as well. Today they are available for use on a wide range of historic and classic cars - the Minilite style is never out of fashion. [Link](#)

MGBGT V8 road wheels – a design overview and salvage prospects

Jim Livingstone has an MGBGT V8 and before retirement had a career in motor engineering. Here he offers his views on the Dunlop composite wheels and the refurbishment, restoration and replacement options.

I have no first-hand experience of composite wheels, other than having five rather shabby examples in my garage, but I do have some experience in the design, specification and performance validation of single-material steel and aluminium alloy wheels. I have therefore based my comments on that experience, which may provide some useful background to the salvage prospects of original Dunlop composites.

To a road wheel designer in the late sixties the prospect of combining the impact advantages of a steel rim with the rigidity and weight saving properties of a cast aluminium centre must have been irresistible. In Dunlop's case what followed was the Formula D4 alloy/steel wheel which was adopted by MG for their MGBGT V8.

From a twenty-first century perspective, the composite wheel is something of a compromise, offering relatively few advantages over single-material alternatives while introducing some disadvantages of its own:

- **Joint geometry.** The fit at the interface between rim and centre is critical to load transference. Any loss of clamp force can cause fretting from cyclic loading. The presence of ten rivets also introduces a risk of air loss.



Cast aluminium centre is riveted to a rolled steel rim with iron rivets which create a galvanic corrosion risk

- **Dissimilar materials.** The combination of iron and aluminium creates a galvanic corrosion risk, particularly in the hostile environment experienced by a road wheel. [Link galvanic reaction](#)

Dunlop clearly took wheel validation seriously. I remember visiting their R&D centre and being impressed by the rows of wheel durability test machines, which ran continuously to failure for both new-design and production validation. I have no doubt that the composite wheels met their original performance requirements; I am much less confident that a restorer with limited facilities could reproduce those standards after dismantling and rebuilding a wheel that has been in service.

Personal preference for a salvage procedure

For that reason, my preferred salvage approach would be to avoid disassembly wherever the centre-to-rim joint remains secure and both components are serviceable. This obviously rules out re-chroming the rim and will not satisfy those seeking absolute originality.

On a positive note, if the wheels are structurally sound, I would recommend abrasive blasting and repainting with a modern chrome lookalike finish. If they are not suitable for that restoration and funds permit, Clive Wheatley's 15-inch all-alloy lookalike reproductions would be my preferred alternative.

In conclusion, my design analysis is partly confounded by the evidence of a significant number of original Dunlop composite wheels which have survived fifty years of service. In my defence, I would maintain that this is the triumph of diligent maintenance by V8 owners over an inherent weakness in the design.