

The Gordon Murray Midas – Alistair Courtney

Gordon Murray's Midas-Alfa may well be the most famous example of the marque, but it has spent most of its life tucked away in storage and has only recently been completed and made road legal. In fact, the Midas-Alfa underwent a complete rebuild prior to the 'Gordon Murray One Formula' exhibition, held in November 2017, and has now been finished to a very high standard. The body has been painted, but in the original gelcoat red and the centres of the pepper-pot wheels have been painted in the same colour. The interior has been neatly trimmed all in black and dark grey. A couple of interesting points will be immediately obvious to Midas aficionados: The beam end covers have been cleverly adapted to form air intake scoops for the mid-mounted engine, while inside the dashboard is Rover instrument type from the Mk3 Coupe/Convertible.

It was during the rebuild that the Gordon Murray Design workshop approached the Midas Owners Club and my company, Alternative Cars Ltd, for advice and assistance. As a result of the good relationship formed during the rebuild, Gordon Murray kindly loaned the car to the Club for their stand at the 2018 NEC Classic Motor Show. I was fortunate to be able to get a good look at the car and take some close up photos. These photos, along with some more taken by Hugh Brodie¹ when the Midas-Alfa out of storage, following Murray's departure from McLaren and some photos that GMD shared with us during the rebuild, help to tell the story of the cars gestation and evolution.

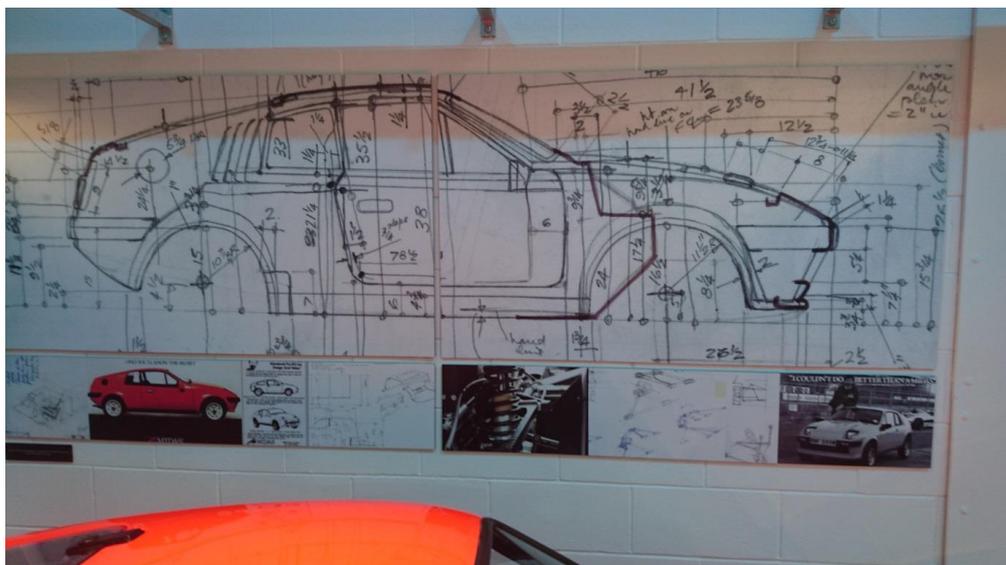


In an interview with Peter Filby in 1982 for Alternative Cars² magazine, Gordon Murray described how it started: "I never lost the urge to build a really 'different' road car. Then, about three years ago, I started drawing again in earnest, producing sketches for a very efficient small car using Formula 1 ideas". Murray had picked up a copy of Filby's Alternative Cars magazine at an airport and discovered the Midas inside "From a size, weight and external shape point of view, it was virtually what I was going to build anyway. So I decided to combine the best of both worlds and build a mid-engined Midas special."

Murray got in contact with Midas boss, Harold Dermott, and a deal was agreed where Midas would modify a shell to Murray's specifications. The exact details of the deal are not recorded, but it included Murray endorsing the Midas, which resulted in the well-known "I couldn't do better than a Midas" advert. He also got in contact with his friends at Alfa-Romeo – Brabham had used Alfa engines from 1976 to 1979 – who supplied him with an Alfasud 1.5 boxer engine and five speed gearbox.



The first hurdle was that Murray wanted drawings of the Midas to layout his modifications, but none existed as Richard Oakes had styled the original Midas buck using plywood and clay. So Harold Dermott lent him a bodyshell and Murray spent all his spare time for three months carefully measuring and drawing the car.



The main modification he required was to the rear of the floorpan to accept the Alfasud drivetrain. Murray required two new bulkheads and a raised boot floor. So he got a pattern made at Brabham, which Midas then used to produce the Midas-Alfa monocoque.



Photo courtesy of Hugh Brodie - Alfa engine mounted in modified Midas monocoque.

He also advised that the underside of the front spoiler should be more rounded and longer to smooth out the airflow under the car, an improvement that was incorporated into the Mk2 Midas. Indeed, Murray planned to fit an undertray to cover what had originally been the engine compartment and his ideas inspired the undertray system that was eventually fitted to the Mk3 Midas Gold.



Front undertray as fitted to the car in 2017 - Author's photo

Murray didn't want to use any of the original Mini components aiming to optimise every component for performance: "It is going to be a totally classic double-wishbone set-up all round with everything adjustable to get the handling spot on. All components are being built as light and efficient as possible, but not in a fragile way as on a racing car." An examination of the photos from the rebuild reveal that most of the suspension components were made especially for the Midas-Alfa and used the same level of technology as found on Formula 1 cars of the early 1980s. Nowadays the majority of such components are made from carbon-fibre, but in 1982 CFRP technology was in its infancy. McLaren and Lotus had introduced full carbon-fibre monocoques in 1981 and while Murray had been the first to use carbon brake discs and CFRP components, his Brabham BT49 of 1980 and 81 was still essentially an aluminium monocoque, with some CFRP panels added for increased stiffness. It was, however, still fast enough for Nelson Piquet to win the 1981 driver's championship.

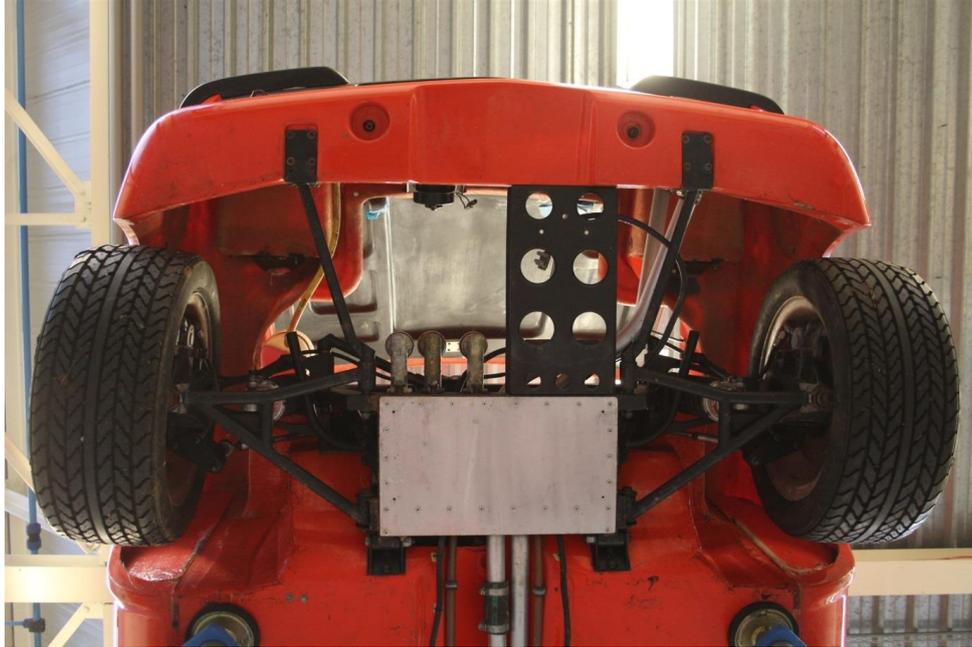


Top: Midas-Alfa front suspension assembly

Bottom left: Brabham BT45 front suspension - Bottom right: BT49 front suspension

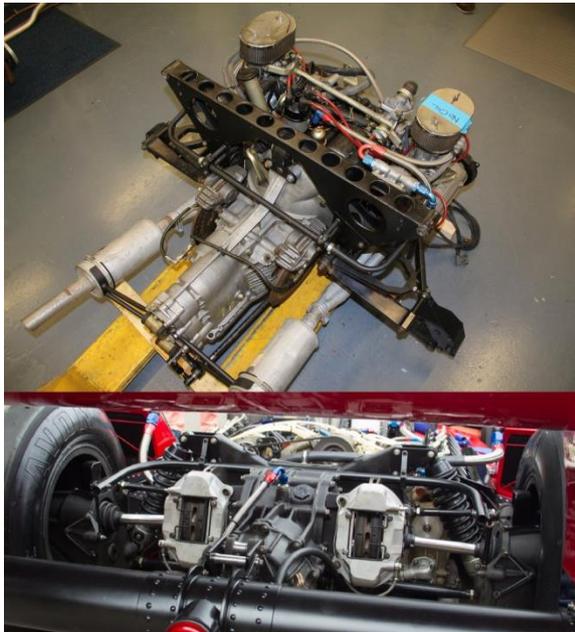
The comparison with the Brabham BT 46 and BT49 is an interesting one and indeed you can see the same manufacturing processes that were used to make the Brabhams' suspension were also used for the Midas-Alfa. The suspension wishbones on the BT49 are made from welded steel oval tube combined with pull-rod operated inboard coil-overs for better aerodynamics. The aerodynamics of the BT45's front suspension were of less concern since it featured a full width 'lobster claw' nose and it was able to feature coil-overs mounted between the wishbones.

The front suspension of Midas consists of welded, round, steel tube lower wishbones and machined aluminium upper wishbones. The coil-overs are mounted conventionally between the wishbones, like the BT45, but then the aerodynamics within the wheel-arches of the Midas are also of less concern.



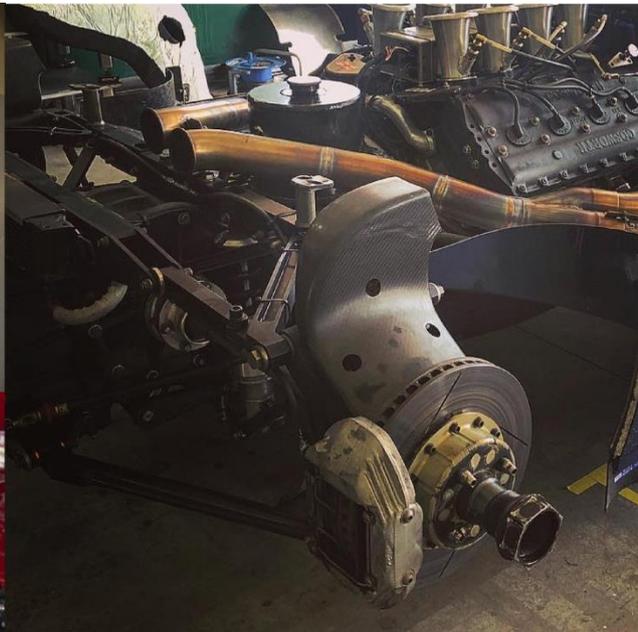
Underside of front end during rebuild - Courtesy of Gordon Murray Design Ltd

At the back the Midas-Alfa features fabricated wishbones at the bottom and top arms that are machined from solid with trailing tie-rods. In many ways this is very close to the rear of the BT45 and that of the BT49. The lower rear wishbones of the BT49 are fabricated from steel tube, but the upper arms look chunky and most likely machined from solid aluminium like the Midas.



Top left: Midas-Alfa rear end assembly

Bottom left: Brabham BT45 rear end.



Right: Brabham BT49 rear end.

The BT49 featured carbon brake discs all round and their lower weight had allowed Murray to mount the rear brakes inside the rear wheels without affecting the unsprung weight too much. This also had the benefit of increasing the space around the gearbox allowing for larger venturi tunnels, which were still important in 1981. The Midas still features steel discs, although in the Peter Filby interview Murray comments “I’m using lightened steel brakes to start with, but eventually hope to use carbon fibre ones”. The front discs are mounted within the wheels with large 2-pot calipers, but the rears are mounted inboard, either side of the gearbox, and use the Alfa calipers. In this respect the rear bears more than a passing similarity to the pre-ground effect Brabhams of the mid-1970s (BT44-46).



Underside of rear end during rebuild - Courtesy of Gordon Murray Design Ltd.

The rear of the Midas features fabricated uprights, which look pretty similar to those at the rear of the Brabham. The front uprights provide a bit more intrigue, those on the BT49 because they are always hidden in photos by the brake cooling ducts and those on the Midas because they differ from Murray’s description in the interview – “Instead of using the Triumph Herald upright you might expect, I’m using a Ford Cortina item as it is more rigid and lighter”. However, in the photos taken during the rebuild they look nothing like the cast steel Cortina upright, being far chunkier and a mid-grey colour. The chunkiness and mid-grey colour is indicative of a magnesium sand-casting, rather than aluminium (lighter grey), or steel. This was confirmed by Murray in the recent feature in *Classic and Sportscar*³ magazine, but that raises the question were they purpose designed for the Midas, or did he find a suitable pair of uprights from another source? For most car builders I would assume the latter to be the case, but Murray clearly had access to a skilled pattern maker at Brabham so perhaps they were purpose made.

The front suspension and Alfasud engine and gearbox are mounted off fabricated steel subframes. These subframes feature holes that are flared, stiffening the panel whilst reducing weight. Similar subframes were common in F1 in the 1970s and 1980s, particularly on cars using the Hewland gearbox where the subframes were necessary to provide the suspension pick up points. In fact the BT49 had moved on from that technology and whilst Brabham continued to use Hewland gearbox internals, they were located within a purpose designed casing and the rear suspension pick up points were provided by machined aluminium brackets bolted to the casing.

The Midas-Alfa now has an aluminium front undertray, as described by Murray in the interview, but as yet the underside of the Alfasud engine and gearbox remain open to the elements. It will be interesting to see whether a rear undertray is added, or if Murray has some other ideas up his sleeve. In an interview with Russel Bulgin in *Cars and Car Conversions*⁴, May 1981, Murray describes a plan to suck air from under the car much like his BT46C fan car: "There'll be a couple of fans sucking air through the radiator, over the engine and out through the low pressure area at the back." The arrangement of the flat boxer engine, its gearbox and low slung exhaust system does not give much scope for rear venturi tunnels, which is the same problem that Murray had with the Flat-12 Alfa engine in the back of the BT46, inspiring his 'fan car' idea. It would be interesting to see the same idea applied to the Midas. It would also be interesting to see if Murray ever decides to fit carbon-fibre brake discs to the Midas-Alfa. In case you are wondering where suitable discs might be obtained it is worth remembering that F1 cars still use 13" diameter wheels. The bigger issue may be whether the energy required to stop the Midas-Alfa would be sufficient to warm the carbon fibre discs up to reach the high temperatures required for them to work properly.



The Midas-Alfa as it arrived at the NEC November 2018 - Author's photo

So what of the car now?

The Midas-Alfa weighs in at 588kg, according to the *Classic & Sports Car* feature, and a standard Alfasud 1.5 litre gives around 105 BHP, which equates to 178 BHP/Tonne. However, Murray already has a 1.7 litre Alfa 33 engine which he plans to have taken up to 1.9 litres and tuned to somewhere closer to 200 BHP. That would take the performance from around the level of the base model Lotus Elise into Porsche Cayman territory (maybe he will need those carbon brakes after all!). As yet the Midas-Alfa has not been road tested by any magazine and levels of performance can only be speculated at, but when we collected the car from the GMD workshop, before the November show, we were told that Murray had recently driven the car at Dunsfold and had finished the test with a very big smile on his face.

References.

1. Additional photos of the Midas-Alfa may be found on the Midas Owners Club website - <http://midasownersclub.co.uk/gallery-2/>
2. Ad Lib, Peter Filby talks to Gordon Murray. Alternative Cars magazine, May 1982. A full copy can be found in the Archive section of the Midas Owners Club website - <http://midasownersclub.co.uk/archive/index.php?dir=archive+cd%2Fhuman+interest%2F>
3. Murray's Minters. Classic and Sports Car magazine, February 2019.
4. Touch of Elan, Russel Bulgin reports. Cars and Car Conversions magazine, May 1981. A full copy can be found in the Archive section of the Midas Owners Club website – <http://midasownersclub.co.uk/archive/index.php?dir=archive+cd%2FBronze+mk1%2F>