Development of the V8 at Abingdon
Don Hayter's recollections

V8 Register

The V8 Register welcomes all enthusiasts for the V8 powered MG models covering the recent MG RV8 Roadster, the increasing numbers of MGBV8 Conversions, MGBV8 Costellos and of course the original factory produced MGBGTV8 model. The key strengths of the V8 Register are:

- **Workshop Notes** - two series of workshop notes, the original series for the MGBV8 now in a sixth volume and the recently launched series for the MG RV8 already into the fourth volume.

- **V8 LIFELINE**, an enthusiastic band of V8 specialists and motor factors providing spares and maintenance services for the MGBGTV8, MGBV8 and MG RV8 models.

- **Gatherings of V8 enthusiasts and V8 events** organised by the V8 Register each year. The V8 Register has always been a particularly sociable group with regular gatherings at MG Car Club meetings, particularly at the Club's annual International MG Meeting at Silverstone in June, tours of Scotland and elsewhere, and visits to the 24 hour sports car endurance race at le Mans.

With these strengths and essential support, the V8 Register is certainly the specialist group any V8 enthusiast should join. From its formation in 1978, the V8 Register has attracted large numbers of V8 enthusiasts and continues to grow strongly today with over 2,500 members in the UK and overseas. A measure of the V8 Register's success came from our recent research which indicated that some 87% of enthusiasts running MG RV8s (excluding those in Japan) and 82% of those with MGBGTV8s, are registered with us. This is a remarkable achievement.

Joining the V8 Register

Joining the V8 Register is very straightforward, just contact the V8 Registrar, preferably by e-mail or fax, for details or **register online** at the V8 Register website at **www.v8register.net** for full details:

MG Car Club

If you are an MG enthusiast then here is the MG club for you. We welcome enthusiasts for all models of the famous marque – from machines like the current MGZ saloons and MGF bearing the famous Octagon, through to the recent MG RV8 and modern BCV8 classics, Midgets, MGAs and back to the T-types and those pre-war models that created the legend that is MG! We also welcome the forthcoming X80 – it's good to see V8 power back in a production MG!

The MG Car Club has a regular award winning monthly magazine called **Safety Fast!**, active Registers providing technical support and spares help for each MG model, spares specialists, insurance schemes for MGs and of course some of the best club motor sport and competition events available – all within a wide and comprehensive social network in the UK, Mainland Europe and overseas, In all the MG Car Club has around 30,000 members worldwide.

The MG Car Club, founded with factory support and encouragement in 1930, is run by enthusiasts for enthusiasts. We maintain our close association the old MG factory - our Club Office in Cemetery Road in Abingdon is adjacent to Larkhill House, the former administrative building at the MG plant. The MG Car Club is run in the true spirit of a members' motor club and, as a company limited by guarantee, each member can participate in the activities and the running of the Club.

Joining the MG Car Club

If you are not a member of the MG Car Club, full membership details and a new member pack can be obtained from the Club's office in Abingdon, the home of MG, or on the Club's website. Just contact our Club Office – they will be pleased to hear from you.

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Cover photo: *Paula Cottle (Teal Blue 0691) from London N with the ex Colin Bateson car. (Photo: Paula Cottle)*

Development of the V8 at Abingdon – Don Hayter's recollections

For V8 enthusiasts, Don Hayter speaking on the development of the MGBGTV8 at the Factory during the early seventies was fascinating as it revealed how the design genius and engineering skills of a dedicated team combined to create a classic MG sportscar. The V8 was brought into production on a modest development budget at a time when the dead hand of BL seemed determined to eliminate the independence, initiative and flair of the Abingdon design and development team and its ability to create new models of the MG marque – one the World had grown to love and enjoy. Well over the years since the launch of the V8 in August 1973, many V8 enthusiasts have wondered "how did they get the V8 package so right?" and recall on first driving a V8 how they found it such an extra-ordinary car in terms of driving pleasure and response with the smooth V8 power. This is a transcript of the talk given by Don Hayter at Sandford near Abingdon in February 2002.

Tom Studer (Damask 0108) from Switzerland with an early lefthand drive V8. (Photo: Tom Studer)

Shortly after Don became a Vice President of the MG Car Club in October 2001, he accepted an invitation from the V8 Register to join fellow V8 enthusiasts for an afternoon in February 2002 to talk on how the V8 had been conceived and developed for production. As a design engineer at the MG Factory at the time, the detail of his recollections of the technical and organisational issues during the V8 development period were both interesting and at times amusing. Geoff Allen, with over 27 years at Abingdon with much of that time in Rectifications Department, was alongside Don providing the detailed comments and recollections that highlight points and fill in many gaps in our understanding of why things were used on the V8 and how in many cases improvements were introduced during the later stages of development and then production. During his talk and for the following two hours, Don responded to a range of questions from the V8 enthusiasts present.

Publication

This note is a transcript of the talk and the lively question session that followed. It provides a flavour of the event for those not able to be at such an enjoyable occasion. This transcript has been released for limited publication by the V8 Register of the MG Car Club with the kind permission of Don Hayter who is planning to write and publish a book on his recollections of a fascinating and enjoyable career at the MG car plant at Abingdon. In the 1960s and 70s it was both an extraordinary place and a unique team of people in terms of what was achieved through the design, development and production of a series of wonderful sports cars, the genius and flair of the design team at Abingdon, the initiative of its management and the spirit of the enthusiastic workforce – not to mention their underlying belief in the quality, style, performance and value of the MG marque.

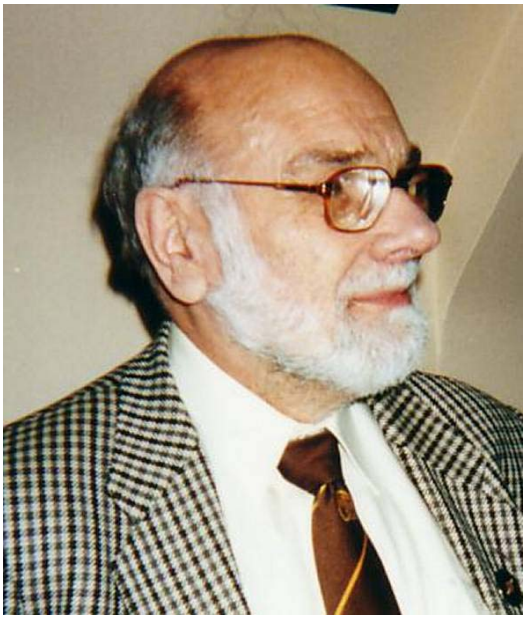
Introduction

Don Hayter, a thoughtful engineer and engaging speaker on his recollections of a career at Abingdon. (Photo: Victor Smith)

Don Hayter joined the design office at MG in February 1956 at a time when the MG Factory was producing MGAs and his first job was to detail the access panel under the nearside wing on the MGA Twin Cam to afford access to the exhaust manifold and distributor. He followed this with work on the Ted Lund MGA Twin Cam Coupé for the GT class at le Mans. He stayed with MG, for much of that time as Design Engineer, right through to August 1979 when the plant finally closed following ***"Black Monday"***. His experience prior to Abingdon was an apprenticeship at the Pressed Steel plant at Cowley during and after the War in aircraft production design following which he joined Aston Martin, then based at Feltham in Middlesex on the west side of London.

In introducing Don, Peter Buckles related a tale of how he had contacted his old friend David Bishop who played a major part in the development of the RV8 and later ran the heritage bodyshell plant originally at Faringdon, now at Witney, for his views of Don. David related how they had contacted Don seeking his help with developing the RV8 and Don said "I would love to help you but I have made a good living out of engineering and am currently involved in creating prosthetic limbs – I am doing that because I want to put something back into the World that gave me a good living." Peter's comment was "that tells you something about the man!"

Of course **Geoff Allen** needed little introduction as he is well known as a founding member of the V8 Register back in 1978 since when he has been the V8 Historian and a well known personality within V8 circles. He has travelled to V8 gatherings in the USA and Australia and amused many groups with his tales of his time at Abingdon and working on the V8. Clearly the V8 was a car which has had a lasting appeal for Don and Geoff because they have both built MGBV8 Roadsters and clearly they feel the V8 powered MGB is the model they particularly enjoy!



Geoff Allen (Teal Blue 2101) a founding member of the V8 Register in 1978 since when he has been an authoritative V8 Historian. (Photo: Victor Smith)

So with introductions over, Don took over.

Don Hayter: You will see as I go along that I really haven't got many slides on the V8 itself because the **V8 development programme was so damned quick!** You had to photograph it going by! I wasn't necessarily on the production end of the programme but I was on the programme on and off and was involved in much of the work on the car to do

with the American market. When I was first asked to give this talk, I felt the question I was really being asked was ***"how did the base car come to be so suitable for the V8?"***.

My first job when I came to MG was doing all sorts of work on the MGA Twin Cam and on the Rileys. But all the time, **Syd Enever had a desire to do another car**. The MGA was in production at that time and I did the productionising of the MGA Coupe. Actually the lines were there and were drawn finally at Bodies Branch at Coventry. But going on all the time, Syd had got Jimmy O'Neal, the Chief Body Engineer at the time, working on **a new design and he had done a curvy quarter scale car, EX205** - which is still at Gaydon where you can see it. It was quite a nice sexy shape with a good front end - Syd liked things that way and so did Jimmy O'Neal! The car was intended to be a replacement for the MGA - a new body on the MGA chassis but using some of the lines from EX181. When I got to MG, the 181 design outline, know as the "Raindrop", was there but the full size had still to be done by Terry Mitchell who was working on it. But some of the curves and front end shape were obviously good for wind-tunnel testing.

Syd wanted **a car to follow up the MGA**, so I then took over and did some of the quarter scale models, most of which still exist and they are at Gaydon. The full scale models were all scrapped but some photos are still available. There were little things like tail fins which were very much the taste of the day which had come on from the Sunbeam Rapier which had quite excessive ones, but they had gradually been paired down until I had done about three or four models, and I came up with the shape for the MGB. I did a quarter scale model and that was approved to go onto a full size.

In doing it, the shape was there but **also I had in mind a GT, a small GT with a fastback body** using the MGA chassis. But when you take a chassis and add a body, you are duplicating a number of things. The body has to have enough in it to be stiff enough in its own right and the chassis is the chassis. You bolt the two together and it all gets very stiff but it's much heavier. Well it worked out that this GT was going to be quite a lot heavier than the MGA which was really beyond the target we thought was reasonable for the engine power we had available at the time – which was then the 1622. There was a chance of warming it up a little, but there was not much else available in the organisation. So we looked at the MGB and said ***"go to monocoque construction"***.

Well this is where I came in because I had been a structural engineer as well as a body engineer at Cowley and had done a lot of work on chassis as well as unit construction. In fact the first MG I had worked on was the ZA Magnette – in fact Gerry Palmer came over with Jimmy O'Neal to Pressed Steel at Cowley, where I was by then a body engineer, and said there is a unit construction car. Well we tried all sorts of combinations of bodies and bodies and chassis, but in the end Syd said ***"we have got to go for a monocoque"***. But it was a big step.

At this point I should say that for us, the most highly rated guy in the car industry was Syd Enever. He was the most underrated design engineer in the industry, an incredible man with a quite intuitive ability of knowing what to do – he was simply unique. He had working with him a very good chassis engineer, Roy Brocklehurst, who subsequently had Terry Mitchell come along with him. So in fact we had a very strong team on that side.

When we finally decided to go monocoque . . . well if you just look at the MGB Roadster from the side, and take the doors off, you will soon see it's only that thick. [Here Don held his hands up showing the relatively small size of the MGB cill section which is the structural link between the front and back of the car]. There is something at the front and something at the back, but not much in between. That has historically been the trouble ever since – they still wriggle. Well the thing that Syd hated was to see the top of the windscreen flexing as it did on older cars. So the first thing we did was to sit down and design a cill section and tunnel section in the middle of the car, make up some long pieces of cill sections, inner and outer with warren girder section in between, and then twist them. What we had to do was to make up some big blocks in a torsion machine using some expertise from Cowley at Pressed Steel and developed a section which would be strong enough. Because we did want to go to at least 2 litres, although we didn't have an engine at the time but we knew it ought to be able to take 2 litres or more.

Having got the sections done and the full size model approved by the management, we very

rapidly went into a drawing mode. I have brought the drawings with me and they are there if anyone would like to look at them. We were hopefully going to use an improved new rear suspension system – that was a rear axle on trailing arms on coil springs in a monocoque, with normal telescopic shockers. The front end was very much T-Type carried on – in fact you can go back to the one and a quarter, all those suspensions were the same.

Having decided on the monocoque, that meant a completely different system right the way through. Number 1, we had to hang the engine way up front on the suspension, on the side members, and then we had the trailing arm rear suspension. The steel fuel tank started its life as a funny shape with the spare wheel tipped up. That was the first prototype built – the green silver prototype. Tomy Haig, Alec, Syd and Roy drove the car but because of the axle location you could feel steer from the rear end – it was very mild but it was there, and Alec and Syd simply weren't going to have that.

So very, very late on, they **decided to change back to cart spring suspension**, but slightly inclined, so you didn't get a steer effect from the rear end. What that did of course was to put a live axle on cart springs which meant the rear end had to be redesigned - the spare wheel had to be dropped and the fuel tank moved down - so the only way to get that in was to lengthen the car by one inch. I had to very rapidly re-do the whole of the rear end lines, moving the tail and redrawing the lines and moving the lamps back. From that the MGB prototype was built.

In the meantime, I had **gone for a fairly wide body** because Dr Stewart, who was at Jaguar Research and was working on a V4 and V6 engine – they were fairly narrow angle engines, something like a 60% V-engine – and we were promised at least one of those engines. So our wide body and under-bonnet design allowed for those engines. But both those engines suffered from vibration in development and we only ever received one engine and that was a V4 mock-up which stood in the engine bay. So at this stage all we had was the existing 1622, the V4 and a heavy old Austin 2 litre cast iron engine and not much else!

The **first car we drove around, the prototype MGB, ran on a 1622**. It didn't go particularly well because it was slightly heavier than the MGA, although a very much better package. But Syd was talking to Charlie Griffith at Longbridge, who was working at that time on the B-series engine – that was of course the old three bearing engine developed from an earlier design – and that was the engine we finally got. Fortunately the 1800 transverse engine car came along using that engine so that gave us the engine. That made all the difference because it gave us the extra horsepower. That was the engine we used for production until the five-bearing engine came along later. So production ran gently on with the 3-bearing engine. We had some oil surge problems with the early competition Bs at Sebring but they were cured with baffles.

In 1965 the GT came along designed by Farina. That was the first time we saw what would be the V8 body - very distinctive. In fact we got the GT into production very quickly once Farina had done the design and everyone had said ***"yes, great"***. John Thornley of course wanted to get it into production and produce what he saw as the "poor man's Aston Martin".

The **next thing to come along was the C** which had a massive heavy engine - the 7 bearing, 3 litre engine – and a very heavy front end which meant we had to modify all the suspension. For that reason it changed the handling considerably. It wasn't too popular at the time, but in actual fact a well set up C is, in my opinion, a very fine motor car.

Paul Denton (BRG 5018) from Cornwall – a fine example of a Costello MGBGTV8. (Photo: Paul Denton)

Then in 1971 **Costello started doing the V8 conversions** using, I think, the Chevrolet engine in the early ones – buying old MGBs

and putting the Chevrolet engine in. We obviously became aware of that.

Then we had for our sins, **acquired the Triumph management – which didn't help at all!** Harry Webster was the engineer appointed by Stokes who was put in charge of Longbridge, so he had become Roy's and my boss. Syd Enever retired in the May. First of all, Roy was given the job by Webster of having a "look-see" at the cost of a car to see what the feasibility of the car was if the engine was available from Rover. Of course Rover had been using the V8 engine for some time in their 3500 saloon and also in the Range Rover There were queries over the volume availability of that engine I believe.

We had a "look-see" at the Costello car and there were a series of snags which we obviously noted at the time - like the steering joint being cut and the steering column welded. Now according to his statement, and I quote from the interview that David Knowles did with him for his book, it was that they did the welding and tested it, and found they were twisting the column before the weld failed. I would not argue with that in one little bit, but if you are in production welding steering columns, the quality control you need on that weld is something you really have to look at. In fact it was something that Syd really wouldn't tolerate that. He said "no" we would have to alter that and get a steering column with a proper steering joint, so we changed it for the steering joint. Those were the minor differences between the V8 and the standard MGB. And there were some others things – for instance the rear fixing for the exhaust manifold – he couldn't get an ordinary bolt clearance, what he got was a short allen screw head in the rear fixing - a one-off to make it work, things like that which we couldn't do in production. So Syd and Terry Mitchell had a first look, and then Roy later on looked at it and said ***"well no, we have got to make sure it's all interchangeable stuff, and to usable engineering standards"***.

The **productionising of the V8 went ahead reasonably well** through 1972. In the same period, Rover did the emission work on the engine because they were going to send it to America. We were selling the B out there and because Rover were out there and because there was a service organisation out there, the obvious thing was to send the V8 out there too. That meant exhaust port air injection with an extra air pump on the engine and modified carburation. Rover did six engines very quickly and when we were doing the pre-production, they built six prototype cars – I am not sure there weren't a few more than that, but do know there were positively at least six. We had to do some crash testing to make sure that the installation of the different engines hadn't altered the crash viability of the car. It wasn't a problem for us from a weight point of view because the car was about 40 lbs lighter as far as I remember. Nothing turned up on the crash test – it didn't alter anything. One thing it did change of course was because the exhaust system came together in one, the exhaust shoved backwards and we had to make sure it didn't ripple up and get into the fuel tank – turn sideways or something like that. So we had to have a good look at the exhaust management. But apart from that it was a fairly straightforward job.

Road testing had started with Tomy Haig who was our calibrated tester who was working with Alec Hounslow and was doing most of the driving. When we first had the V8 engines in, they had the Range Rover carburettor on – carburetion system and manifold. That meant they had a bulge in the bonnet – I think Geoff mentioned that in his notes - as opposed to the Costello which had the big dustbin effect in the top of the bonnet. Alec didn't like this and in conjunction with Roy, and I think it was Bunny Hillier and Harold Wiggins, they actually fabricated an aluminium manifold - which is the one you know on your V8 – and tucked it down into the Vee and turned the carburettors round so we needed special air cleaners and those ends with the air temperature sensors. Terry Buckman from Radiators branch came up with those. The engine installation was cleaned up considerably at that time.

Two other things – first if you dropped the clutch at around 3,000 on the clock, there was a bang and the gearbox didn't do any more as first gear went – it was a 17 tooth bottom gear. So the very early cars were all changed to a 16 tooth which made that stronger. We put in a bigger clutch to make sure that that was alright. But the other thing was in the gearbox, there was so much torque that it was too much in overdrive third so the inhibiting was changed so there was only overdrive in top.

One of the peculiar things with the car was with the wheel we had got for the car and

those were your **lovely alloy, steel rimmed wheels**. The first ones were made I believe for the Scimitar with the outside rather sharp edge although the MG version was a softer profile. That wheel was put onto test where you just bolted it down - well they gave up before the machine broke as it was the strongest MG wheel we had ever tested - for whatever reason but it was very good! So it was put on the car and Dunlop provided the 175 tyres and that was when the peculiar feature came in. Two or three people driving the car said it wandered, but it wandered in a peculiar way. If you recall the roads these days with the large grooves where the heavy vehicles have been going along, well it felt like dropping into those grooves and then trying to come back out again you can feel the effect. Just try the A34 past Abingdon, there are some king size bits there. Well this wandering was on any good surface. They did some research and they said ***"it's the tyres!"*** – you could change them around but it was still there. Dunlop found that with their metal reinforced tyre, the way they made it is to wrap the reinforcement around with several wraps around the tyre, but what they were not doing was getting it absolutely linear round the tyre. That altered the hardness of the shoulder of the tyre so you could feel it as the wheel would walk about on the tyre. So Dunlop had to put a much tighter control over manufacture.

Many people these days are fitting low profile tyres and getting more rubber on the road. One thing you always need to remember when changing your tyres is that when the tyre sits on the road there is a contact patch at the right pressure. The wider you go, the more you change that contact patch and its shape and therefore where the steering effect is. So if you change the tyres with more rubber on the road and you feel a difference, one of the things you may or may not have done is to change the steering effect just that little bit to make a difference in feel.

Interior trim of the MGBGTV8 at the launch of the model in August 1973 was comfortable with the cord fabric on the reclining seats. (Photo: BL MG, Public Relations)

When the MGBV8 came to Abingdon, of course it also did something else to us at that was **we had to alter our production lines**. We had four production lines downstairs and a maximum of four upstairs because we had three which would normally be MGB lines and one Midget line all the time. Bodies as you know would come in from Swindon originally and then later from Cowley – all the paint was transferred to Cowley later on. The bodies would come into the bottom of A-Block and be lifted up on to the top to the trolleys where all the simple work was done – the harnesses went in and the simple trim and fascia – everything that could be done away from the production line downstairs. The bodies were pushed along by hand, there was never any mechanical conveyor line. This was one of the reasons why MG got loathed because people thought we were so out of date – you can't build a motor car like that, you have got to have a mechanical line to control production. One thing with controlled conveyor lines is it provides the shop steward with an argument for stopping the lines! Every where they had mechanically controlled lines they had timing and rate setting problems.

Anyway, everything was moved at Abingdon by hand, stage by stage, then dropped onto the elevated line where the axles had been prepared and engine installations were ready. Then the bodies would drop down for the first time onto their wheels and again manually they were pushed to the end of the line where headlamps and all the rest of it were fitted. When you went into the works, the first thing you would hear in the morning was ***"push em up, push em up!"*** because the group from the night before were maybe up to schedule, maybe they weren't – but they would have a build schedule for the day and they would chalk on the board how many each line had done. They all knew perfectly well who was ahead and who was behind.

The operators were all skilled at their particular job and depended completely on line feeding to keep the production line going and there were always some things which would stop them – Geoff will know about this - things like paint in thread holes. All the car bodies went through a slipper dip and then they were

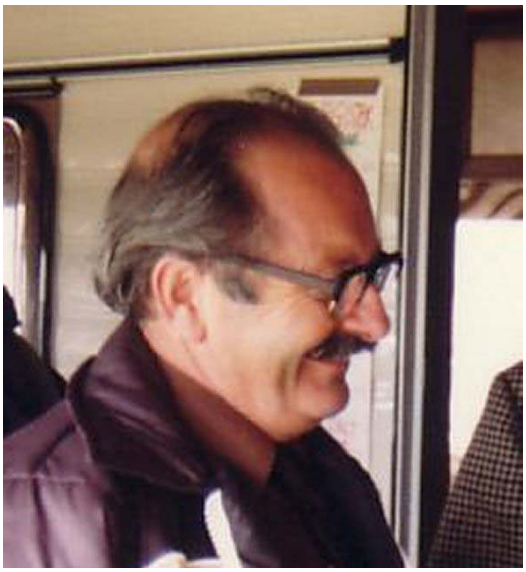
sprayed, and sometimes they had to go through twice. So there was quite an accumulation of paint in the threads so we had to use thread clearing screws which did a lot of the job but even those could not clear it because sometimes it was solid with a great deal of paint, particularly if they had been through twice, in there and you would have a potential strip or they would have to be cleared out by hand. The operators would have a tap shaped like a little starting handle, just cleaning out the paint. Well of course they weren't very good at that either – they would sort of point it in and had to wiggle it about – some were not as good as others!

Geoff Allen: We had quite of lot of thread cleaning - Rectifications was another World!

Don Hayter: Anyway, all those production problems meant we had a **separate production line for the V8s**. But the V8 never went to America – that was stopped because I think Rover was pulling out of America at the same time so the service organisation wasn't there. Although the **V8 was clear to go to America** – it had crash tested and emission tested and was ready to go if the management had said OK. But there you are.

Also right in the middle of this lot, the American regulations involved crash testing because of the **raised bumper regulations** which were coming in – we had started working on that and that was my job, crash testing - and that was one of the things that really did make a difference because we had to raise the MGB by an inch purely because the Americans designed the regulations round all the American cars where the bumper heights were between 16 and 20 inches. Well now our poor old MGB was low, it was right down on the 16 inches and so we had to raise the car a little and make a deeper bumper, a much deeper bumper, so that in fact when they did the test on it we could still pass. If you look at the MGBs from the rubber bumper models you will see in the front where the duct panel is, in fact the duct side member climbs slightly and that is to get opposite the bumper at the new height. That bumper added 105 lbs I think it was to the weight of the MGBGT.

This alteration in fact made the **MGB the first car in the World that had a built-in system which was in fact compliant with the regulations** and was within the bumper. Everyone else, for example Volvo and BMW, had a bumper with mounted inter-rubbers and actual travel was on a large socket or a rubber dish, in fact like a shock absorber. So the bumper actually moved, and they had to make it move **under** the body. We actually got compliance in the bumper itself in that polyurethane moulding.



Bill Wallis (ex Bracken 0991, now RV8 Nightfire Red 0263) from Solihull, the Club President, a warm hearted MG enthusiast and longstanding Club member. (Photo: Victor Smith)

If **anybody has been bumped in a rubber bumpered MGB then you will know how good it is**. I was sat at a T-junction, very soon after I put my car on the road, which is a V8 engined MGB Roadster in an "O-series" shell, and the lady in front selected reverse in a Renault and came back ***very rapidly*** and stove in the whole of the back of her car. In fact my bumper was somewhere about the middle of her boot! She drove forward and came to have a look and it had cracked my number plate and scratched the corner but her car had got a about £2,000 worth of damage! Now I had seen the crash testing but had never been sat there and had it done before my eyes! At least it proves something.

The **rubber bumper moulding was by Marley** and we did one or two exercises with them to paint it in body colour – in fact Alan Eadis who was the director up at Longbridge – I think it was an ordinary B, at the time it wasn't a V8 at that time – had a B with a blue bumper painted body colour where the paint

was flexible paint so you could nominally thump the bumper and not damage the paint."

Bill Wallis: He has still got the car!

Geoff Allen: He had "fancy" trim too!

Geoff Allen: It was said at the time that if the bumper had been left where it had been prior to the rubber bumpers and if anyone had been hit by a B, then it would have hit them just below the knee so they would have toppled them over on top of the bonnet of the car, but by lifting it up they went under the car.

Don Hayter: Yes, but that was not quite the story but nearly. In 1972 I was commissioned to do SSV1, which has got all the safety systems built-in, and that Charlie Griffin said you go off and do anything you like so long as you get these bits on the car which people were inventing for safety. One of the things was Charlie Griffin's bumper and we actually made a big soft polyurethane bumper which started at the height of the MGB one but went below it and his idea was exactly as Geoff said that it is much better to be hit below the knee and pitched onto the big smooth bonnet of the MGB, because we have no badges or anything on there like that. If you are hit by an American car you are hit on the knee cap or just above, which smashes your leg, knocks you down and runs over you. Whereas if you are hit below, then the chances are you will have your body deflected over or sideways – that was the theory of the car for 1972. That was the car that had airbags, big rear view mirror on top and all the other things – that is the vehicle you can see at Gaydon, still sporting its Scimitar wheels. One of the things it did have on it was the self-levelling suspension of course, that was the Lockheed system.

At the time of the V8, because we would have liked to have done something better, we did consider **another change to the suspension** but we were allowed no money whatsoever for body changes unhappily – nothing at all. That was always our trouble it was money because all production planning for changes was all done at Longbridge in the little sales office, not done at Abingdon. It was just imposed on us. So we used to get colour changes imposed on us and trim changes imposed on us. We even had the radiator grille insert (you remember that) imposed from Longbridge which of course all disappeared later and we went back to the MGB grille surround. We even had the period, if you remember, when Roy Haines came from Ford – he was the man who did the Marina, which was an ***interim car*** – and he was then going to re-style the MGB and do all sorts of things, and he sent over some drawings including a beautiful new front badge which was a hexagon! Everybody went ***ah! – didn't you realise that MG is octagonal, and he didn't! And he said what difference does it make!*** Anyway he didn't survive and we did, but that's the sort of problems when the planing gets out of the organisation. Originally we just did everything – styling, engineering but it was all taken away from us. I do remember though we were doing considerable testing on the V8 and Bob Neville, who was one of our mechanics, bought the white GTV8 and started trying to race it, going reasonably well. That is in facts the car Malcolm Beer has raced all this year – the car out of Development via Bob Neville.

We had a most interesting snag with it when Barry Jackson helped in the drawing office. They kept on running into **fuel starvation problems** and had changed the fuel line and done other things but they were also using more fuel than standard but they still ran into fuel starvation until we were crawling under the car and I said should that be like that? – we could see that the axle had flattened the fuel pipe which had gone alongside the bumpstop and had flattened the pipe so instead of a round section it was very small! With that restriction it would run normally but as soon as started on full demand, it was just backing off – you could not get the fuel through there. So something as simple as that so if your are doing some modifications to the car you have to work out what the alterations really do to it.

Geoff Allen: The **crash test cars** were never numbered (recorded with a chassis number or VIN) and there was never any record of them. Don responded that he has "some records of Alex's testing but can find nothing at all on the crash test cars. The car raced by Malcolm Beer hasn't got a number on it although another number is used.

Don Hayter: The other interesting one was during testing of the V8. I did the testing on the first MGB Tourer at MIRA, way before the GT was built, with Lucas with Norman Hood and tried to find at what speed the windscreen wiper blades lift of the screen – they get

sucked off or wound off by the airstream or whatever. The MGB was pretty good but when we came to test the V8, we were going that bit quicker with bigger wiper blades and we got the same problem – we were getting blade chatter at speed so that when you were trying to go fairly quickly in the rain, what you really want is a clean wipe – we were getting this problem. At that time, if you remember, everyone was trying to put these bits of metal like aerofoils on their wiper arms or blades and we tried several of those with some improvement, but not completely. Then we did find that a modification to the original wipers that Lucas did improved it and the BGT is not that bad.

But while we finally were improving that, I went up to MIRA with the BGT and, I think Norman Hood wasn't there and little guy came along who there was their expert and brought the bits and pieces, and we kept changing them and going around. What we had done was to put a tube across the front to create the rain because what you don't want to do is to go round MIRA really fast in the rain unless you can help it! So what you do is produce the rain on the windscreen from a lot of outlets in the tube and you sit there with a washer bottle. So this Lucas fellow gets in alongside me and I wound it up and got the V8 just above the yellow line nicely and said the Lucas chap, keep pumping. I got a little quicker and then a little more and then I pulled back in as I was aware that this little chap was moving down in his seat. When I got back, they said to me where has that Lucas chap gone – we couldn't see him? Well he was getting lower and lower in his seat – he was frightened by the banking as it comes at you a bit rapid at speed. When you are driving the car you can just sit there and take your hands off the steering wheel on a B round there, but this Lucas chap wasn't believing that – he disappeared, but he was still pumping!

Geoff Allen: That's a point, when Car Number 0098, the second car built that Pete Woods had copper tubes fitted under both wings.

Don Hayter: Oh well yes, that may have been the wipers test car then with the tubes left in there – we took the tube off the front and it came out of the corner of the headlamp. Yes it could well be.

That is as much as I can tell you from my memory. **Now questions – anything you want**.

Question session

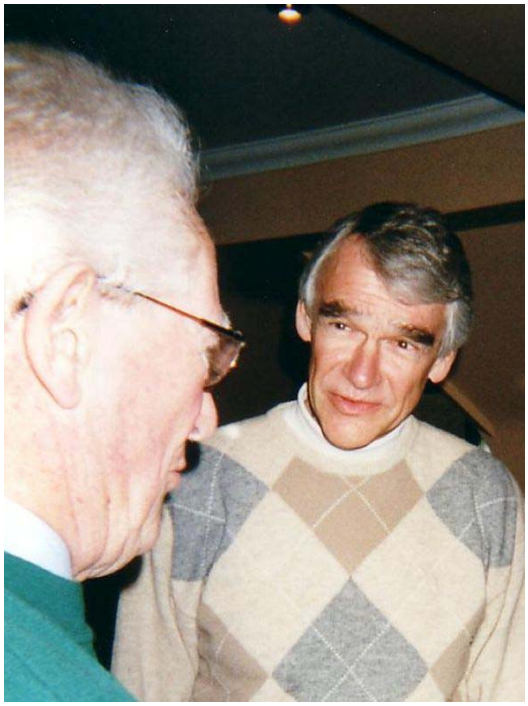
John Targett: Why was there never an MGBV8 Roadster produced by the Factory?

Don Hayter: The story is **they didn't think the B Tourer was stiff enough**. My answer to that has always been that is rubbish because there was never any testing done to prove that is was or wasn't, so that must have been a guess. My indications at the time when we heard this, was that it was a sales pitch because we couldn't get enough engines as it was to build the V8. The most we ever got from Rover was 48 engines in a week from Rover, so therefore we would have been into a certification programme, a second certification programme, for an unknown small number of Tourers, and that wouldn't have made sense – because it would have meant quite a deal of repeated work – just because the car is that little bit different I always thought that was so. In fact my own car – I have got an "O" series car – and I had always wanted to build a V8 Tourer so I did. I had the last of the "O" series shells with an "O" series engine. I had to withdraw the engines as we had to pass all the "O" series engines either to Longbridge who had a few and to Triumph as they were going to develop the TR7 – we had done all the emission testing work, so they would have just had an emission proved engine, a 2 litre with about a 112bhp. We were actually lapping the test circle at MIRA with the standard "O" series B with full emission compliance at about 116mph. That was without tuning and I had also got a turbo-charged one running with about 145bhp – that was quite quick, quicker than the V8. So I think my car has been absolutely fine – the best Tourer I have had and I am hanging onto it thank you very much! It's absolutely a mechano exercise - when we did the "O" series car, I said to Terry Mitchell, don't change the engine mountings so much that we will not be able to drop the V8 engine back in – and he didn't and the V8 does drop straight in any "O" series car.

John Targett: Why was the Rover V8 engine producing more horsepower than the BV8 engine?

Don Hayter: We had the low compression engine because of the American market and

the emission testing and the all the rest of it, so we stayed with that standard of engine all the way through otherwise again we would have had to be into a recertifaction programme. We had in fact hoped to go back into Europe, particularly Germany because they wanted the car out there, but for whatever reason we never got the OK to do so. We could have physically have done it, we were ready to do it but were not allowed to do so.



John Targett (BRG 1022) from Sussex & Akron Ohio USA, a longstanding member of the V8 Register, with Don Hayter. (Photo: Victor Smith)

John Targett: So it was emissions for a market that eventually that didn't come about? Yes a low compression ratio engine in the BV8. Rover also had a higher octane petrol tolerant engine which would produce more - because right then we were then in a petrol octane problems you know. So I think that is another reason why Rover wouldn't have wanted to do it.

Victor Smith: Would gearbox strength become an issue if the more powerful engine had been chosen as the BV8 powerplant?

Don Hayter: I don't think so. Obviously we had run considerably uprated engines without any great problems and we could have stiffened the casing up a wee bit, the clutch might have needed addressing which obviously need to do, but that's straight forward.

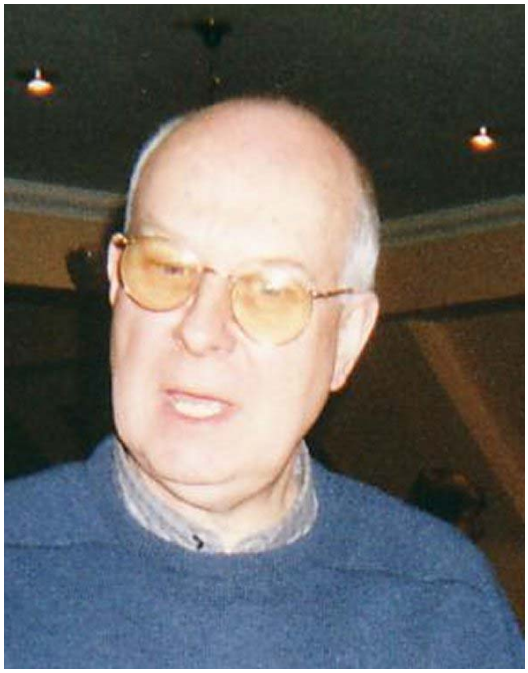
David Biddle: Perhaps wishful thinking Don, but the various time you tried to uprate the rear suspension and perhaps considered independent or semi independent suspensions, with the benefit of hindsight and without BL's reluctance to spend money, how much better might the car have been if you had been able to progress the suspension design?

Victor Smith (Harvest Gold 1089) from London SW, the V8 Registrar and co-founder of the V8 Register in 1978. (Photo: Graeme Francis)

Don Hayter: We would have got a much better ride out of the car with more suspension travel. What you have got to do is to get enough suspension travel with progressive shock absorber operation, and the only way you can do that really is with coil springs. Because with leaf springs you have got variable friction effect all the time and one of the things you have, you probably all know this to some degree, is problems with the leaf springs on the GTV8 setting – that is because they do get fairly well stressed but also because the manufacturing ability of the companies that made them for us has varied

enormously over the years. Number one problem is steel quality problems but also interleaving – you get interleaves tend to squirt out of the side and if the spring goes dead dry, you can get a different ride than if you had a fully lubricated rear spring. Yes I would have liked to have carried on – I would dearly have loved to have done a De-Dion rear suspension had we got a suitable differential unit within the organisation but there just wasn't one. The one when Triumph TR6 came along we looked at that but it wasn't man enough for what we wanted to do, and there wasn't anything big enough which was suitable to go in. The other one we looked at of course was from Jaguar, but that was a bit too big and darned expensive.

David Biddle: Could I ask a supplementary on the rear suspension what sort of shock absorbers did you eventually fit on your own car when you built it?



David Biddle (Chartreuse 2839), a longstanding member from Buckinghamshire who, as the V8 Register Events Coordinator, made the arrangements for the event. We hope the DHT will become an annual event in the V8 calendar. (Photo: Victor Smith)

Don Hayter: My car is absolutely MGB standard – that's V8 standard. Looked after reasonably. In my opinion, when a B is set up correctly, there is nothing more predictable so you can drive it safely and it tells you when it's doing something wrong. Just because I am used to it.

David Biddle: I was trying to lead you as many members have been experimenting with telescopic shock absorbers. Geoff has always said to me exactly what you are saying – foolishly I have tried to fit Konis on mine and I thought I would tempt you into a view.

Don Hayter: For normal road use you will probably find them perfectly OK, it depends how far you want to provoke it. Whether they are as good or better. I have never had enough experience to be able to answer that.

John Bourke: You tantalised us with your mention of the de Dion rear suspension – how far did you go down the line on that?

Don Hayter: Well we had done EX186, which was the le Mans twin-cam engined special – it still exists in America. That was pretty good, in fact the second quickest car round MIRA for a long, long time. Jaguar and Norman Dewar was going round above us on the banking but Tommy Haig was chasing him pretty hard – and that was a De Dion rear suspension. We also had worked on another suspension which was in fact a big "A" frame – if you know the big Porsche, the 928, just like that. Sid Enever had designed that before the Porsche came along. It would have meant considerable changes to the cross member and side member arrangement of the tunnel of the B. In fact it might have pinched some of the space because you know when I did the original B, Wilson McComb was working at Abingdon and you know he was about six foot two, and he came along to me and said when you are doing this mock up for goodness sake make sure I can stretch my legs out. So I said alright We did the package and there was extra bit in there as well – and as you know you can turn the seat runners round and so you can get the seats back further for a long legged person – and I sat him in there with the seat right back and I said to Wilson is that OK, and he couldn't stroke the pedals!! So you do win sometimes.

John Bourke: Did you ever consider with the problem you had with your silver and green prototype rear axle steering, is the control problem with the Panhard rod – particularly as Gerald Palmer had problems when the Panhard rod broke off. The other problem is

the design and the stresses where the Panhard rod goes into the structure.

Don Hayter: That's exactly what we did – we yanked the fixing out on the first test, testing on the road it was OK, but once we did more test – we always did a lot of miles on the pave – and then the ride handling alternately on the circuit and on pave. We actually snatched the inner fixing off the Panhard rod, off the body.

John Bourke (Cavalry Blue 3056) from London N with an MGBGTV8 conversion. (Photo: Victor Smith)

John Bourke: I have seen the tantalising shot of the rear boot of this car with its spare wheel is vertical and it appears to have like a Midget style tank right in the rear – so presumably you had the Panhard rod attached to the spare wheel well.

Don Hayter: Yes, on an extension from the chassis side – there was a little reinforcement there . . .

John Bourke: I could see a row of spot welds in that zone which appears to be possibly a top hat fixed to the back of that spare wheel well. I have never seen the car and don't know whether it still exists?

Don Hayter: Yes that's right but no it was scrapped. I have got an outline drawing of it but the car was actually scrapped.

John Bourke: Did you ever consider going to a Watts linkage?

Don Hayter: Yes – a Watts linkage was a problem with the lower fixing on the chassis. It's this deep, so it's OK this way, but then you have got to get enough travel up into the body so in fact it alters what is normally the rear bulkhead. It alters that configuration, so it considerably alters the boot space as well.

John Bourke: When you look at it in the Scimitar when they did it on that car, they had to bend one of the arms upwards. At the end of the day, most designers, when you look at the design of suspensions, don't appear to think it is worth it, although Rover did of course do it with the SD1. They actually productionised it. It's just interesting because, I am in to modifying the car and run my car with RV8 single taper leaf springs in an MGB, and I thought about the De Dion rear suspension and feel it is possibly not worth it but very interesting using the De Dion with single taper leaf springs.

Don Hayter: Well it's OK if the axle is nice and positive of course but you have got to get a good anchorage off the axle in the right place.

John Bourke: I was thinking that using a De Dion because the torque doesn't go into the axle so although you are using these leaf springs to locate it, now your leaf springs are just locating your De Dion tube.

Don Hayter: That depends on how much hard cornering you do because you get considerable side movement on leaf springs – I mean you can get well over 3/8 inch just on a normal corner and you can get more on a leaf spring.

John Bourke: Well I have built a Panhard rod – I have been through the exercise of working out how the Panhard rod works – and it's not easy to fit one to a B because the handbrake system is in the way and will need changing.

Don Hayter: You are quite right because you in production had always to consider the safety angle and you literally had to try and break it because you knew someone else

might break it and then sue you! So if you fit a Panhard onto a B you end up with a handbrake cable which will get depressed under full travel.

Geoff Allen: Ron Gammons used to do a kit didn't he? Because I fitted one to John Gay's V8.

Geoff Allen (Ermine White 4101) has an MGBV8 Roaster conversion based on an ex Development "O" series car (AD0232174). He was in Rectifications Department for over 27 years. Here he inspects a V8 CWP and the split pin modification in 1985. (Photo: Victor Smith)

John Bourke: There is a guy in the US – British Automotive I believe – and he is producing a kit at the moment but the problem with all these kits is they always "bolt-on" and it is the boot floor pressing or panel – they supply a piece of one eighth plate, a crude bracket, which is bolted in. You know that if you fit that, it is literally going to flex and the boot floor is going to crack. With mine I braced it by welding into the boot floor right the way back to the chassis.

Don Hayter: Well it drops so far below the chassis doesn't it – it's that corner.

John Bourke: You have to put a web right the way back up the chassis. That's me working it out but I was interested in how far you went down the road with the De Dion suspension?

Don Hayter: Not as far as we would have liked to have done obviously. I mean the Salisbury axle was a great heavy axle after the original Banjo axle on the early Bs anyway but it has done very well. One of the guys who had a V8 at Marcham in Abingdon, told me about putting a split pin through the roll pin to stop the roll pin coming loose in the axle. I don't know whether that is still current practice or not.

Geoff Allen: That was Peter Laidler. Whenever I did an axle, I gave the option of the split pin going in there or not, but if it is going to shear a roll pin then a split pin is not going to make any difference – it's such soft material. Sid Beer said at the time you are then going to get three or four bits of split pin floating around in the axle.

Don Hayter: You would have to have a perfect fit of something pretty strong to increase the stiffness of the roll pin – if there is any movement at all, then the roll pin will go through, I am sure it will.

Bryan Ditchman: What I have done with mine is to put a roll pin inside a roll pin.

Don Hayter: Right, and you can still shove it through. That's better obviously.

Geoff Allen: If the roll pin shears the bits stay in place whereas a split pin will go all over the place. In fact I have seen one where the roll pin had split, had sheared, and the pinion pin was actually turning in the diff-housing. It had done a big mileage like it and hadn't particularly worn too much.

Don Hayter: Geoff, have you got anything to say about the V8 from the Rectifications point of view.

Geoff Allen: Well basically a lot of it was the same as the B, getting back to the tapping of threaded holes and what have you, but of course the other thing we used to do was to put a tap in with an air tool to try and clear the thread. If it didn't break the tap, it tore the cage nut of the back – it didn't do a great deal of good to it – but we had a lot of problems with bits being dropped in the engine when we first started making them. When they brought the

engines down from the stores they ended up with the inlet manifold adapter being removed to allow the fitting of the engine sling. They took these off, and the six nuts and spring and flat washers were scuttling about and some were dropped inside the engine, so a plywood box was made up with the bottom the same profile as the manifold, including the stud holes. This was fitted over the studs and covered the inlet ports. After that the manifold adapter was taken off, the pushed the box on the studs which contained the nuts

Bryan Ditchman (Bracken 1012 & Blaze 1059) from Hampshire. The Editor of the RV8 Workshop Notes series and a regular contributor to the V8 Workshop Notes series over the years. (Photo: Victor Smith)

and washers and also filled the holes in so that things could not be dropped in. But we did have a lot where washers did go in there and clonked a bit and we had a magnet on a drain plug braised onto a piece of welding wire which was just swilled about in there to hook them out! Of course the other one was the "dropping balls" one! On the early carburettors they didn't have a clip to hold the dash-pot plunger so sometimes you would take the dash-pot off – it wasn't a nylon sleeve with balls on at that time – the sleeve was brass and the balls just dropped out into the top of the dash-pot. They didn't realise and put the dash pot back in and when it was started up again, there was a clicking noise.

Victor Smith: Geoff, that is a workshop note you wrote called "take care you balls may drop!" [For reference it's V8 Note 101 in Volume 4].

Geoff Allen: If you would like to pass that around - [At this stage Geoff passed round a piston] – and that's what it does to the top of the piston. That's how the middle was evenly dished on Car No GD2D1 0120G, one of the early ones. But I rebuilt that engine at 95,000 miles the second time around – how long it had been like that I do not know but it was going OK! The other thing we had a little problem with at first was the shims were not fitted to the offside engine mounting allowing the exhaust manifold to foul the steering column. Another was we had a lot of trouble with the clutch at first before they put the metal spacer in the rubber boot on the master cylinder, clutch would override – dip the clutch right down and it made nasty clunking noises. Getting back to the tyres, in the end they went over to Goodyear G800 Grand Prix and they tested

The last batch of cars had Dunlops fitted - I think, David [Biddle], you had them on your V8 which was a very late car.

David Biddle: Yes, they flat spotted whenever you parked it. If you parked for a couple of months in the Winter, it was driving with square wheels when it next went out. Eventually Dunlop took them back and gave me a refund on them. They were a fully non-metallic braced radials.

Geoff Allen: I remember with number 101, a left hand drive car finished in Green Mallard, they wanted the speedo changed for the New York Motor Show. Also another Green Mallard coloured car, number 133, was practically cannibalised when we first rectified it because there was a shortage of bits and bobs which were non-Rover and non-MG on the engine – various hoses, the inlet manifold and exhaust manifolds – I think with number 133 it just stayed in the yard for weeks – we just robbed bits off it for Rectifications and eventually we had to rebuild that car to put it back together again!

[**Note from the V8 Registrar**: Green Mallard 0101 is presently owned by Guido Belser in Switzerland and it has changed colour to Flame, and Green Mallard 0133 is presently owned by Brian Lovatt in Derbyshire who will

no doubt be amused to learn his car was a "parts bin on wheels" for a while.]

Don Hayter: Let me tell you something about tyres which I found somewhere else but I hadn't realised it, particularly with alloy wheels which are completely true and machined and all the rest of it, that for whatever reason if you put wide section tyres in right of top of the rim. As you blow the tyre up, for whatever reason it sticks in the safety ledge. I had had some experience with cars – in fact the one I particular got involved with was Volvo, but it applied to other cars as well – but that is if you put the tyre on a balance machine and run it slowly and put a pointer at the corner of the tread, you will find the tyre is coming like this. [At this point Don tried to demonstrate eccentricity – difficult!].

They don't run true to the centre because the tyre is stuck in the well at that point as it was blown up and the other side is further out, so effectively the tyre is doing this and you can feel that going down the road. So if you have an alloy wheel car – I know it can happen with Minilites or the Minilite replacement and I know it can happen with Kent wheels – but I have seen. Someone came along to me and said I have heard you have found this problem and cured it and I said no I haven't cured it, but I have found out what you need to do to cure it! That is you have to let the tyre down and put soap in all the way round the rim and make sure you blow the tyre up gently and find out that it is running true off the centre of the wheel and not running like this, not running corner to corner. Because you can actually feel that walking down the road – you probably don't know that with wide section tyres, do have a look at that one.

Geoff Allen: We got involved in Rectifications probably more with the V8 than we did with the four cylinder B because at that time the V8 was announced, the Allegro was announced as well. So where normally Publicity would have done the work on the cars, we had to do it in Rectifications. Then they got there own back by giving us the Vandem Plas Allegro afterwards! But members of staff did 1,000 miles or more in the ten HOH publicity cars and two others – MMO 226 and MMO 229 – one was in Glacier White one and the other in Harvest Gold. They did the mileage and then Development took them again, because they started off as basic Bs and those early ones, but the HOH cars were the first that came off the line as production cars. They then went into Development – they still managed to keep four of those. We had them back and did the rectification and then they eventually went out as demonstrators to the various agents.

Victor Smith: What proportion of the V8s went into Rectifications as a rough guide?

Geoff Allen: Practically every one. Well every one did, because it was the only car at that time that was Crypton tuned. We had all of those and did the carburation.

Don Hayter: There was no rolling road testing at that time was there?

Geoff Allen: There was but the V8 didn't go on it. The V8s were the only ones which were not roller tested. They just had the standard road test.

Victor Smith: Why was the fuel pump put in the wheel arch? It seems an awful place to have a fuel pump.

Geoff Allen: Well I think basically it was to keep it out of harms way outside the car in a convenient place close to the petrol tank.

Victor Smith: When you say "harms way", you mean human?

Geoff Allen: No, inboard so it couldn't get damaged, and you couldn't have it inside the boot because although some people thought of changing it there were inevitably concerns – because even on the rubber bumpered model with the pump half in and half out, the actual fuel side of it is still outside the boot.

Victor Smith: Could you not have had a 12 volt battery one side underneath the battery compartment access panel and the fuel pump on the other side?

Geoff Allen: There is one car that has got that and that's mine! I have got a ventilated box opposite the battery box, with the fuel pump under and the fuel filter, and then a board goes on top with a toolkit on top of that. I would say it was the expense against a change to a single 12 volt.

Victor Smith: Could I ask Don, why did you go for two six volts and not of one 12 volt battery?

Don Hayter: Originally we were on six volts because the batteries were at the rear to keep the weight balance on the car – that was Sid Enever from the original MGB. But also had – when did we change from twin six volts to the 12 volt?

Geoff Allen: With the rubber bumpered model in 1975. At one time they thought about putting on an exhaust system something similar to the transverse 1800 saloons, where the silencer was transversely mounted with the pipe both entering and exiting the silencer at the same end. It could have been that the silencer would occupy the space where the offside battery was located. But they didn't bring it in the end.

Don Hayter: The B stayed on with the two six volt batteries for years – it was the way it was designed with the battery pick-ups there. It meant a tooling alteration – in fact two alterations, one in the piecing in the cover and the other in the battery carrier itself. I think it just stayed on with the six volts as long as they could until there were other reasons for changing it.

Victor Smith: One workshop note we have done recently is the replacement of the top hat battery terminal connectors with the clamps because the space between the screw going through the top hat and the underside of the access panel is incredibly close.

Don Hayter: Yes very close, that's right. You look at a Range Rover battery carrier as well, the space sideways is incredibly close. That was one of the things which was changed as soon as we could, but do not forget we were with one battery supplier for most of the time but there was a variation between the batteries. I think Lucas was the tallest . . .

Geoff Allen: Towards the end Daganite were not so tall. Mind you, when I was at City Motors (Geoff might have added that this was in the later 1940s that Lucas went over from clamp type to top hat connectors and I think it was for cheapness – they just cast the top hats on the end of the battery leads and put it on, and that was it.

I can tell you a story about that, I was working just at the end of my apprenticeship at City Motors in Oxford, and on Sunday morning and someone rang in and they said ***"we are coming down from Coventry with a Morris Oxford. When we left Coventry the battery was flat so we put a new one on and now we have just pulled up at the traffic lights in Oxford and went to move off and stalled and can't start it again"***. So do you remember Harry Ridell, well I was the "boy" with Harry then and he was a cockney and we jumped in the tow wagon and went out. The chap had said ***"we will pay you anything to get this car going again!"*** We got there and lifted the bonnet and it had these top hat battery connectors and Harry just got a hammer and just went bonk, bonk, on the terminals and it started. So the chap said "***that's brilliant how much is that?***" So Harry says "***a pound for the turnout***" - you have to bear in mind this was around 1949. The motorist replied "***Well that's daylight robbery – you only hit it with a hammer!***" "***Yes***" said Harry, "***six pence for hitting it and 19/6 for knowing where to hit it!***".

The hooks on the batteries that hold them in the battery box – they had a scheme at Abingdon where they thought they could save about a ha'penny on every ten hooks and so they had slightly thinner hooks made. The chaps on the line put the hooks in the retaining eyes, dropped the batteries in and set about putting the battery clamp on. But with the thinner hooks they wouldn't stay in their holes – so the chaps on the line just dropped the batteries in and left them. So we had to have two man job on overtime one holding the hooks while the other did up the nuts on the end of the hooks on the clamp!

Victor Smith: Geoff, would you like to relate that story about that part on the B known as "Ted's knob"!

Geoff Allen: I thought that was going to come up! We had a chap in the shop – I shan't mention the name in case anybody here knows him – he was a great man for the sexual prowess, and we were working on a B one day, Harry Grant and me, and we looked up in the tunnel at that drain tube with the split ball on the bottom hanging down. Old Harry Grant said ***"look at the tube hanging down there, it looks just like Ted's knob!"*** Quite how he knew what it looked like I don't know! But for ever onwards that part was known in Rectifications as Ted's knob!

Don Hayter: Can I tell you one story about testing which we noticed before on the GT but when we started to do consistent high speed

running, we really noticed it. If you do a long run down the motorway at constant speed – it's not so easy these days – the lines coming from the windscreen corners on a GT across the roof meet. If they come in and meet at the back of the roof, you have been doing a steady 100mph – you have a look. I don't want to pay the fine! But we found you could tell how fast the car had been going by where the dirt lines met just above the glass of the tailgate.

John Targett (BRG 1022) in the ex Philip Morgan car at a GRRC members' track day at Goodwood in June 2002 – an opportunity to stretch the V8's legs! (Photo: Victor Smith)

Geoff Allen: On these Development sheets there was always trouble with the starter heat shield being too close and the manifolds rattling on the steering rack. Early on we had trouble and had to change the pick-up for the oil pressure gauge. We went in one Easter and we changed all the HOH gearboxes and the other two early cars to have overdrive only on top, and they fabricated pipework to go from the oil pump rather than the oil filter.

Victor Smith: The removal of overdrive on third – the saga seems to have it that the police cars which caused the decision to make that change. What was the reason for changing it in the end?

Don Hayter: Mainly the torque through the overdrive unit itself – through the overdrive clutch.

John Targett: So the overdrive unit was not strong enough. When was that change made?

Victor Smith: Around 1260 to 1340 that sort of range.

Geoff Allen: Yes that's right. I wonder if the trouble came – with the overdrive on third if anyone changed out of overdrive third into second it was OK going down, but if the switch was left in, coming back up it surged into overdrive third and eventually it cracked a tooth. If the tooth drops off later on, you don't know it has gone, not at once. If you are lucky it goes into the bottom of the gearbox and that's it. If it goes round between the main shaft and layshaft, then it's like Star Wars it just pushes past and that's it! But if you drop one in the bottom of the box and then it puts the load on the next two and one of those drops off, it then it clonks a bit and then with a bit of luck you will hear it. Peter you had one go. The strangest story was that I did a service on a V8 and drained the gearbox oil and found a gearbox tooth. So I rang the owner up and said I have found a gearbox tooth in the oil – it looks like you have lost a tooth off third. So he said we had better sort it out. So I took the gearbox out and to my embarrassment all the teeth were intact on everything. He had had the car secondhand and came to the conclusion that it had had a burst gearbox but whoever had done the gearbox previously had not cleaned the bits and pieces outbox out – you know there is like a rain gutter inside the gearbox and it must have been lodged there. So hard luck.

John Bourke: Can I ask something about the about the gearbox. In chatting to Dave Vale at V8 Conversions in Kent, it was interesting to talk with him because when he has measured a V8 gearbox that hasn't blown up and compared it with an MGB standard gearbox, he found the wall thickness of the V8 gearbox was less than that on a four cylinder car. I don't know what you feel about this?

Don Hayter: In that case they have got the wrong casting.

Geoff Allen: But I would think even so, if the tooth went round between the main shaft and the layshaft, there's nothing that would stand that. But getting back to the third gear again, on my white V8 Roadster I have rigged up a circuit that if you come out of third gear into second and the overdrive switch is in, it sounds a buzzer to remind you to knock the switch out. I put that back to overdrive on third and top.

David Biddle: I have noticed, I think it's on Volvos, they have a similar arrangement. When the Volvo had overdrive it used to kick out of overdrive when you changed into third

so that when you came back again. I don't know how they did it but it was a neat way out of the difficulty . . .

Geoff Allen: I think what it was it had a relay that held the overdrive in. The switch wasn't like ours on the V8, it wasn't an on-off switch, it was a two push switch pushed it once for in and once again for out and if you came out of the gear, it broke the circuit and the relay dropped out.

Victor Smith: Well my Volvo does just that and I must say it is a very convenient feature.

Don Hayter: If you remember the original, early MGBs they had an inhibitor from the inlet manifold vacuum switch which worked very well. It was fitted just because they were a little unhappy about the strength of the overdrive at the time. The overdrive was improved well enough for them to remove it later.

John Targett: I think the big Healey had it too.

Geoff Allen: That was different because it had a rotary switch on the overdrive on the accelerator pedal which was literally a circular bearing with a flat on one side with a link connecting it to the throttle linkage. That little vacuum switch on the B it was a good switch – I pinched one at the time and fitted it to my A99 Westminster because it was the same switch they had on the servo reservoir to show when there was no vacuum left.

John Bourke: Can I ask you Don about the structure of the car and in relation to what you see today and what happened to the RV8 when you put holes in the inner wings for the exhaust manifolds. What's your view on that or what do you think it does for the compliance of the car – I know the engineers cleared it on the RV8, but it's something I would like your views on as you were involved in the structural work on the B in relation to torsional rigidity at the front and also crash resistance.

Don Hayter: Well I looked at that when they did the first one at Farringdon and Dave Bishop did the first one and he said that's what they were doing, there's the alteration. I said then are you going to reinforce the hole or do you think you will need to reinforce the hole? He said "No" - and I said well do have you any facility for doing any torsional test and the answer was "No". All the original torsional tests used to be done at Pressed Steel in the basement of the engineering place but that was all scrapped a long, long time ago. I don't think in fact that there . . I have never know any flexing in that wheel arch cause any problems with anything else we did. So in other words, if the wheel arch moved . . so it would only act as a diagonal tie it wouldn't act as a strut, and you put a hole through it, and the hole was going to open up – as you say – would it reduce the stiffness. I don't think significantly, I don't think so – but that is a guess.

John Bourke: But we do put more load – I am interested in conversions - and you convert a car and you have got wider tyres, a bigger anti-roll bar and all these things add up – more load on the front of the car. As you were involved in the original design, I wondered what your views were when you saw the RV8 system come out first of all.

Don Hayter: I would personally have done something about . . .

John Bourke: The MGC has a longer inner wing reinforcer and . . .

Don Hayter: Well the MGC the side members are smaller but wider as well. Yes smaller so the wheel arch section is steeper in actual fact. So you get much more of a continuous line from the bonnet opening stiffness and that channel down to the chassis – the further over you get the more you can get twisting.

John Bourke: So you were considering it in section – what you were looking at was the distance between the box section and the top of the wing and the further apart they were, the greater the stiffness.

Don Hayter: That's right. You are getting suspension loads coming up from the front suspension straight up through the chassis at that particular point. Hopefully – it depends – a lot of that stiffness depends on the roll bar we are using, how much gets transferred from one side to the other. One side of the suspension kicks the other side of the body which is why I have always gone for a slightly stiffer suspension and a slightly bigger roll bar to keep everything so it works as a platform.

John Bourke: Lots of people run very big roll bars and I wonder whether with the RV8

holes, whether in fact the front is flexing and they don't really realise it.

Don Hayter: It probably is, yes, it probably is. But monocoques do flex very well provided they are welded correctly – and the welds stick. They do flex quite a bit.

John Bourke: Torsional rigidity comes up a great deal in conversations about modern cars and hatchbacks being flexible, do you what sort of figure for torque that you were designing to? I know the Land Crab series was reckoned to be one of the most torsionally . . .

Don Hayter: It was the stiffest body that Longbridge had ever tested that's right.

John Bourke: How did the B relate to that?

Don Hayter: The GT was pretty close, yes – it's a lot stiffer than the Tourer. Well it just had to be.

John Bourke: It is interesting to know where it was in relation to the Land Crab because there was a figure floating around – I don't know how you measure it . . .

Don Hayter: Pounds feet per inch or per degree or something as it was then – in old money.

John Bourke: Do you reckon the GT was somewhere near the Land Crab in torsional rigidity. A ballpark figure.

Don Hayter: It was certainly stiffer than any of the 1100 series which were not bad. No I would have to look up the figures to remember what that was.

Victor Smith: Don when you look back at your time designing the V8, thinking of what you aimed to do, do you think the car was a success?

Don Hayter: I don't think it had good luck. I think two or three things happened all at once with the V8. Number one, the chief products engineer, Roy Brocklehurst came to me and said we were going up to Longbridge and I said "OK what's this all about?" and he said "I will tell you when we get to the Factory". When we got halfway up to Longbridge he said you are chief engineer, I have been headhunted by Longbridge and your first job is to launch the V8. I said "great, thank you very much" – we can go from here. I went straight into a whole lot of chatter with Tony Dawson, the sales people, and subsequently with the Americans, Bruce McWilliams who came over trying to get the car to go to America saying how do we approach this and I said are you going to sell into the States? He said for goodness sake give it to us! We are waiting for something like this! Everybody wanted the car to go well.

We ran into problems with engine supply – we were limited the number we could build but also the fact that we couldn't do the Tourer – I think we would have needed to do the Tourer as well and I am sure that in the light of our experience later that the Tourer would have outsold the GT. I am sure it would have gone well. The other thing that happened as well was the Middle East oil problem so that there was fuel and insurance those sort of things all blew up. So I think it was a wee bit unlucky. It meant we didn't get into Europe so we didn't get a wide enough push for it. If we had spent a little more on it, we could have done much better than it was.

Victor Smith: That's success in terms of marketing. What about success in terms of the engineering objectives you had?

Don Hayter: We never had any major come-back problems in terms of the service with the car. The one thing we did do a lot of work on was cooling in terms of twin fans and a bigger radiator. It is a car depend completely on the cooling fans working properly as everyone will know. When we went to the "O" series car, we did a lot of work using the same radiator configuration as the V8 but using a later type of cooling fan motor which Lucas had developed. We actually achieved with the late V8 and the early "O" series car the best cooling figures in New Orleans we had ever had in terms of cooling against ambient temperature. So there was some detail work to be done but we didn't have any major service problems with the cars as we sold them.

Victor Smith: In terms of the car – its appeal and driveability, did you achieve the objectives you set out there?

Don Hayter: Yes I think so, yes I think so.

Victor Smith: We are all biased – we think you did.

Don Hayter: Yes, the V8 is just that bit quieter and longer legged – it's reasonable on fuel if set up right. I did a round trip to Italy and back doing 29 and a bit miles to the gallon – if it's set up right.

Peter Beadle: Was the car originally designed to run with a mechanical cooling fan because on the early cars on the radiator they had a little shield welded to the back of the top of the radiator as if to provide protection from a mechanical fan? This was dropped after the first three hundred cars or so. I just wondered whether this was protection against the alternator pulley or the possibility of a mechanical fan.

Peter Beadle (Damask 0503) from Gloucestershire, another founder of the V8 Register in 1978, and for many years the V8 Spares Member through his knowledge whilst working with University Motors at Epsom and later with Moss Europe. Currently he is organising the V8 Cotswold Tour 2002 for October 2002. (Photo: Victor Smith)

Don Hayter: We never actually fitted a mechanical fan in testing, ever as far as I know. We would have had to do an auxiliary position for the fan wouldn't we if you look at the configuration of the engine.

Geoff Allen: Could it have possibly been that the top tank was going to be shared with something else?

Don Hayter: With the "O" series car, we were also into twin fans for the USA car. The other thing of course, you have got to look at is when you fit electric fans there is much more current draw, so one of the things the V8 has got is a different alternator to any of the Bs – it has got the AC DELCO, the small one. We did some running with a bigger one and one of the things also that cropped up later on is the fact that the little fan on the alternator is there and if you start up the engine and touch it you are going to catch your hand in it or something like that. We actually designed a little shield – I have actually built one and put it on my own car from a safety point of view and it is something that went on.

Geoff Allen: It went on the Triumph engined Midget that shield, but not the V8.

Don Hayter: Yes it did but not the V8 – the V8 had finished production by then.

John Bourke: Didn't one of the Rover engines have one of those fitted – maybe your shield?

Don Hayter: Yes – it's one of the things which we were starting to look at safety and that question and all the other things just because legislation pressure was there, not only in this country but particularly in America.

Geoff Allen: Was there ever any attempt to use a four bladed fan on the V8? Was there any reason for it being three bladed fan?

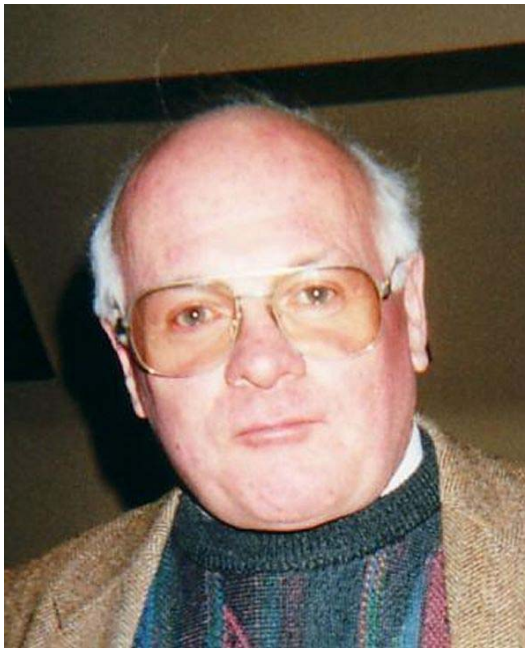
Don Hayter: That was the best one which was tested – there was about six fans tested and Alec had a whole pile of them at the back of his office, and that was best one for the motors we had.

Geoff Allen: On mine, I have made up two seven bladed fans which are actually four cylinder B fans that I cut down to size and that fetches the temperature down a lot quicker than the standard blades.

John Targett: Don on a different tack, was there any consideration ever given to further improvement of the braking system? The front discs and callipers are slightly bigger than on the four cylinder car. Was there any thought given to vented discs, four pot callipers and discs on the back?

Don Hayter: Oh yes we certainly tried different callipers on the front and in actual fact on my car – we had got a different calliper, another Lockheed calliper which is another 45% in area and they have special pads so they were a bit more expensive. So the answer was there was available a bigger single pot calliper than that on the standard V8 – it would have been nice to have gone bigger in diameter as well but of course you are limited by the wheel size, so you would have to think about going up to 15" wheels and grabbing another half inch. Against was more money, different tyres, additional certification and everything else so it didn't run long enough to get into a full development programme.

John Targett: Which calliper was this option of bigger surface area?



Clive Wheatley, the well know V8 spares specialist from Wolverhampton, is increasingly helping V8 enthusiasts track down essential spares, particularly for the MG RV8. (Photo: Victor Smith)

Don Hayter: I don't know what the number of that calliper is, I just don't remember – we used in on the "O" series car anyway – which is why it's on mine.

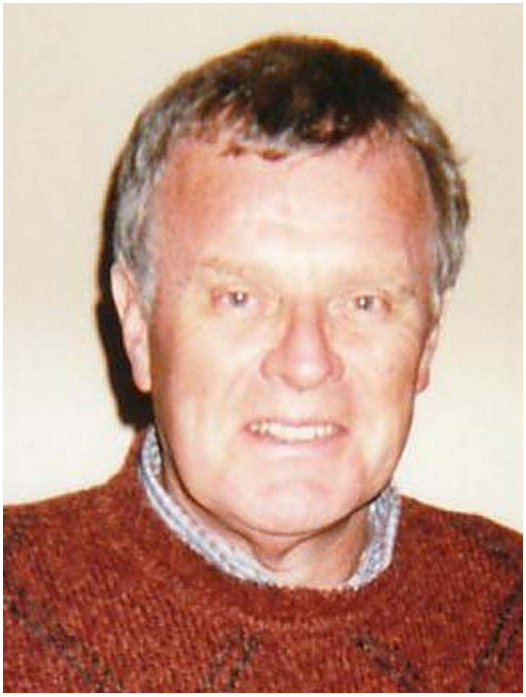
Geoff Allen: I think the discs were B discs with V8 pads probably.

Don Hayter: The rear brakes generally were very good and just didn't wear. Those AM8 rear linings just go on and on if they are set up correctly.

Clive Wheatley: Did you have many problems in production with the original gearbox itself?

Don Hayter: Not that I am aware of.

Clive Wheatley: Why was that gearbox chosen - wasn't there another gearbox available at the time?



Alan Kingwell (ex Citron 1679) from Hampshire – a longstanding member of the V8 Register and well know Club personality – his natural humour has always been a tonic for members. He once started an after-dinner speech at Silverstone by announcing "I can't stop long, my wife thinks I've just popped out to the dump and that was two hours ago! No seriously this is no dump, this is our Club and one of the best motor clubs in the World!!". (Photo: Victor Smith)

Don Hayter: It was the MGC gearbox that was there available to us.

Don Hayter: The base casting is the same although there are alterations for the V8. Same as we used the MGC rear axle ratios, that was there.

Geoff Allen: I often wonder why we didn't make an automatic V8. When they were talking about building a V8, I thought they were bound to make an automatic version because in the Rover there is an automatic there already. The Borg Warner Type 35. When the P6 Rover first came out as a V8, it wasn't offered as a manual – they were all automatic.

Victor Smith: Isn't the explanation that at that time, sports cars were supposed to be for the hairy-arsed young driver whereas today you have people with Mercedes . . . . Mercedes sports cars with automatic transmissions and electric hoods, and similar cars that are for hairdressers and people like that!

Alan Kingwell: I don't think we are either young or hairy-arsed . . . can we quote you on that Victor?

Don Hayter: We did a couple of automatic versions and there was some thought about automatics but Sid way back before he retired, had been interested in what they call Steptronic, although in those days it wasn't called Steptronic. It was the one where as soon as you touched the gear lever you put it out of gear – Porsche and NSU had they used this gearbox and Borg Warner actually did one which was a sports manual one – I think it was a five position thing where I think you could select a three gear change. It was the middle hole for the sports car overtaking rather than the normal drive. They did do a special gearbox and we actually fitted one but I don't know whatever happened to it. Whether it was expense or decided not to go into volume production with it – we never did any more on that.

Geoff Allen: We had that Manumatic on the Magnette didn't we.

Victor Smith: One of the criticisms in the road tests at the time was the wind noise. Did that cause you any problems at the time?

Don Hayter: One of the problems the GT just had was wind noise. We tried all sorts of things like taking the mouldings off – the drip moulding and the channel down the pillar that causes the wind noise. We took that off and it was umpteen percent better but on the other hand as soon as you take it off and get into the car in the wet all the water fell in. So we said you can't do that because all the lady's will get water on their dresses and all sorts of things. We never really got anywhere near dealing with it. We also tried closing in the drip mould at the front so that water would run down there so effectively water would run across the screen and run in there and run out and blow off. It was virtually solid but water from the roof would still be able to run down the moulding onto the wing and away. We actually tried that and it was marginally better but it was just the size of that corner down the pillar which caused the buffeting points.

Victor Smith: The later cars had slightly stronger rubber door seals didn't they.

Don Hayter: Yes they did and that was the idea. It is the wind passing the gap even on a modern car you only need a minor gap and you get a whistle. That's the reason why modern cars just haven't got drip mouldings on them – you look at any of them and they have got this extra lip on the seal and on the roof, and if there is water on the roof it does fall on you.

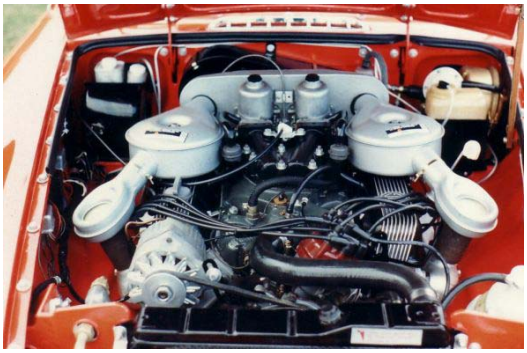
John Targett: Does it make the shape of the car more slippery to take those drip mouldings off?

Don Hayter: Oh yes everything like that has been taken off to get a reasonable wind tunnel figure. We were trying desperately and we got some figures down to about 0.38 on the B. In fact the Tourer was better than the GT and the soft top was marginally better than the hardtop. It is also considerably better in a side wind – a Tourer compared with a GT because the centre of pressure of GT is further back so therefore wind pressure effect is bigger – the lever arm is bigger.

David Biddle: We wee talking about cooling a little earlier. Another thing that crops up from time to time is louvering on bonnets. Do you think louvres on bonnets would improve the cooling and if so whereabouts should they be placed?

Don Hayter: The trouble if you have louvres with nothing else, as soon as you put the brakes on any water on the bonnet, it rushes straight through the louvres and drops all over the engine! So you have got to have channels underneath and they don't work.

Geoff Allen: Through the rubber seal on the back edge of the bonnet away and just put a piece in the back corners. It works on mine!



V8 engine bay can get very hot but is a surprisingly neat installation. Don Hayter and his colleagues avoided the "dustbin blister" on the bonnet by putting the carburettors back in the engine bay where the clearance was better. (Photo: Victor Smith)

Don Hayter: There are sorts of things you can do. One of the jobs I did at Aston Martin all those years ago, I did the re-engineering of the re-styling of the front end of the DB2/4 Mk 3 when the radiator instead of being back went forward. That was one of my first jobs there. But we were also doing a car for the Tulip Rally and one of the other rallies for Gatsonides, you remember the Alpine and for some of the Summer rallies, it got very hot. And one of the problems with the Aston was it did get very hot! The bonnet of course on the Aston hinged forward like a Frogeye Sprite so we actually did a jack-up on the bonnet release which was a first stage. So it would pop up so far but not go on up because once you put the brakes on you would have a real problem! We were trying to get a cooling area out of there. The problem is that at some speeds, at the bottom of the windscreen, the airflow reverses and so you can find that instead of extracting air you are pushing it in there which doesn't help at all. We found that we could get an improvement over the bits that really mattered over a windy road at slower speeds. I came to MG and one of the jobs I got involved in was doing the Healey from the BN4 to the BN6 – when we first built the BN6. So we did all the road testing on this big six cylinder engine. Comps were just starting to become involved with the car and Tomy Wellman and I were going out doing exactly the same thing trying to get under-bonnet temperatures down with extraction from under the bonnet and we found we got exactly the same thing. We got this reversal of flow – we were going along very unscientifically with bits of cotton wool on strings trying to see where the airflow went at 60, 70, 80 and 100. We were doing this along the road passed the Dog House. So the Healey had a whole lot of louvres on it but had problems with water entering the louvres under extreme conditions. So alright you can get some air out but you have to accept the consequences.

Geoff Alan: There is a chap, Lothar Taverne from Vienna, who has got a Costello GT and, I don't quite know where he ducts it from, but he has got a couple of something almost like MGA air vents just a foot forward from the door aperture above the chrome strip. He is venting the engine compartment but how he gets it there I am not sure.

Don Hayter: You can do it if you are prepared to bore a hole through your outer wheel arch but it involves a convoluted airflow but you can get some extraction effect right on the outside, yes.

Geoff Allen: It seems to be more when the vehicle is not moving than when it's going at speed.

Don Hayter: When we were doing the installation adjustments during the cooling on the "O" series car in particular, we were starting to play with under-fairings because if you have got a decent air intake at the front, and the MGB was originally designed with about 120 square inches of free area before you put the slats in – quite a lot of space – but when we went to the rubber bumpered car, that was considerably less. So you rely more on the access underneath, but what of course you don't want to do is to get the air that is going underneath to get sucked underneath rather than shoved up round the bottom of the radiator and cooling the bottom of the radiator and cooling the engine. So then you start putting the under-fairings – that's these panels like tarred hardboard – to try and hold the air as far as you can up the side of the engine. That's one of the things you can do.

Geoff Allen: It's not on the car at the moment but I have done that on the V8 with an undershield from the back of the radiator through to the sump and that did make a difference. I also put two holes in the radiator

diaphragms to get more air into the engine compartment.

Don Hayter: One of the other things we found in Development – this is with the early Bs, 1963 and onwards – we did a lot of work in very bad weather conditions and there are some conditions where the MGB front cross member – that forward turning flange – will catch snow beautifully and fill the underside of the bonnet. In fact on my B when I was trying to get somewhere rapidly and got some mis-firing and got out, lifted the bonnet and there was the engine sat there in the shape of snow. It had pushed enough up there and with the engine moving about it had kept its own clearance. The reason it was starting to mis-fire was of course the snow had got fairly close to the distributor and the sparks were starting to lose themselves. So again another reason for modern technology really looking at airflow. We had no wind tunnel – we were completing reliant on MIRA and somewhere like that or into East Works at Longbridge and using the test facility there. But the time on wind tunnel and what you could do in there was very limited.

Victor Smith: The le Mans Healey had under trays didn't it.

Don Hayter: Yes it did for very good reasons.

John Bourke: Do you think it affects the airflow under the car. The front cross-member acting as a vertical wall under the car.

Don Hayter: Yes. If you can deflect the air from underneath so you collect it and get it up just enough to get it going over the top, you get more air through where you need it. It goes up past the exhaust system and keeps all that part a little cooler.

John Bourke: I am thinking in terms of a tray that would run from the forward lip of the cross-member to the front bottom edge of the valance?

Don Hayter: Yes, I have got something roughly like that on my car. The only trouble with that tarred hardboard is it doesn't hold its shape very well half the time and you need a stiffener on the edge. It's a wee bit complicated to do.

John Bourke: I have done what you have said in aluminium on the V8 but up to the front edge of the bottom of the radiator. It's made a lot of difference – I have sealed the two holes at the front valance up to the radiator . . .

Don Hayter: So you are cooling the front of the bottom OK.

John Bourke: Yes. The problem with the V8 you see with a lot of them that the hardboard has fallen away and it's not there so the bottom half of the radiator is not doing anything. You have extended it down. But the thing I was also going to say is that with modern oils, the oil cooler isn't strictly necessary – I run mine with an oil cooler thermostat and a temperature gauge so I can se what is going on. With that fairing in, I have found on a cold day, say 50°F, it won't come up, even with the thermostat in line because the cooler is too efficient. The only time you can get it to make against itself is in traffic or if you start going up a hill and give it some welly. You don't actually work the oil enough so you . . . I think in the old days you didn't have such good oils so you had to keep it cool.

Mike Dunlop (Limeflower 0118) from Berkshire has an early works car in a rare colour, Limeflower – similar to Harvest Gold. (Photo: Victor Smith)

Don Hayter: Yes you are dead right, the modern long-chain oils are vastly better than we used to have and can run at considerably higher temperatures. We really found that problem when we took over the Triumph engine into the Midget – that was not very good. But we got over the problem. If the oil and water are run at temperatures not too far

apart, that's a good balance for the engine. But even then that's the temperatures you see at the gauge, the temperatures you don't see are the temperatures at the bearings. The one thing about the V8 – this American engine which Martin Hurst bought from Buick – it was designed with an America big flow oil system with a 25psi pressure, that was the maximum they ever ran at – and Sid and Alec looked at this and said we can't sell an MG that only produces 25psi, our people won't believe it. They will think this is no good and everything is going to blow up. Because all the others do at 25psi! So they put a much stringer control spring in to put it up to about 45psi – which is more reasonable. But the oil flow in a the V8 engine is much bigger than most of the British engines, comparable engines of the time.

John Targett, as an aside: High volume, low pressure.

Peter Beadle: You have mentioned the "O" series engine a couple of times, how close did that get into production in an MGB?

Don Hayter: It was signed off completely. We had it running in 2 litre form, producing as I said around 112bhp in absolutely standard form with full emission gear. About 120bhp available in this country in a tuned engine and a Garrett turbo version we could have gone onto. It was signed off, it had been crash tested – you remember the Aston Martin buyout business, well I was sent for by those who matter and they said ***"you are to cooperate in this"***. In fact it was Roy Brocklehurst who was my engineer, one of my old palls from Abingdon, who was one of the bosses of Alan Edis at Longbridge who said this and that you are not to give them any motor cars or anything, but if they want confirmation of when the car could be sold and how much more testing, you are to tell them how much it will cost to actually sign it off the last bit. In other words the change from B series to "O" series into production – I have still got the file it never went anywhere – because it was ready to go, we had costed it and in three months we could have produced that car – if we could have got the engines, we could have produced that car. But those who matter knew more and Triumph wanted to sell the TR7 – they were going to put the engine in the TR7 instead of the old slant four engine, the Dolomite engine. We actually converted an Princess Ambassador for Ray Bates at Longbridge and that was an "O" series fuel injected car running around – he was very pleased with it. It could have gone into the later version of the Ambassador as well.

V8 enthusiasts return to the Factory site after the closure in 1979. A sad sight and the end of an era but not the end of the spirit that is MG! (Photo: Victor Smith)

David Biddle: Was the "O" series proposed for the B fuel injected or carburettored?

Don Hayter: Both – we got a European twin carb version but we would have liked to have done a fuel injected car for both markets – it would have commonised the cars but of course that much more expensive – the carburettor set up was cheaper. That was the "bean-counters" making their minds up which we would go for but we certified it in both.

Brian Field (Harvest Gold 0097) from Cardiff in action in his early pre-production V8 which was used for US engine emission tests at Abingdon and later very actively campaigned by Brian as a full rally V8. (Photo: A Speedsports (Ruthin) photograph)

Peter Beadle: Didn't you have a problem on the LHD cars because of the inline servo on the pedal box being very close to the "O" series engine on the manifolds there?

Tom Studer (Damask 0108) from Switzerland in his LHD car at speed at Silverstone. (Photo: Tom Studer)

Don Hayter: Yes we did. We actually did that by having a convoluted hose and changed the air cleaner set up and then it all went in OK.

Transcript was made by Victor Smith from his audio tapes of the talk and from the soundtrack of a video recording made by Dr Gavin Bailey.

Dr Gavin Bailey (Glacier White 0199), a longstanding member of the V8 Register and former V8 Scribe, has an early V8 which was on exhibition in Longbridge Hall in 1973. (Photo: Victor Smith)

There was then a break, followed by the slide show, and then later a convivial supper.

An advertisement for the MGBGTV8 back in the seventies when the rubber bumpered model had been introduced

Photo: British Leyland Publicity.

The V8 Register is planning another talk in the "Don Hayter Talk series" for 2003. Details will be posted on both the V8 website at **www.v8register.net** and in the V8 Column in Safety Fast! but it is likely to be held in February or March 2003 at a venue in the Abingdon area. The year 2003 is the **25th Anniversary of the V8 Register** so that event will be one of the V8 25th Anniversary 2003 Events as part of the special programme of eight events to celebrate the V8 Register's successes over 25 years.