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HIGHLAND MOTORING

The Newsletter of the Highland MGOC

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EDITORIAL

The MG driving season is now in full swing and we had an excellent turn-out – 10 MGs, 1 'guest' car and 19 members for the club run to Aultbea (report below). Next on the horizon is the **Tain Rally** (18 May) and as this is the only show on our 2017 calendar that we attend as a club, I'm hoping for a large turn-out and a bit of a recruiting drive.

Our **Facebook** page is receiving a lot of 'likes' from around the World so if you haven't visited the page give it a try (whether or not you are a Facebook user) at: https://www.facebook.com/highlandmgoc/

Richard Jenner

UPCOMING EVENTS

The big event for the club will be the **10th Tain Vintage, Historic &**

Classic Car & Motor Cycle Rally on Sunday, 18 June. This is the only show that we attend as a club and I've asked for a stand for 15 MGs. We've made a voluntary contribution of £30 to help the organizers and there is no entry fee for Highland MGOC members' on our club stand (which will *not* be subject to judging). Here is a photo from 2016 when we had 12 MGs on the stand.

Tain 2016

This year, we will also be displaying our 'feather flag' and it would be great to recruit a few more members – there are at least as many non-club MGs at this show as there are members' cars so we should spread the word. I will be sent the entry passes about a week before the event and will then need to mail them on to those attending so **please let me know your intentions** no later than **14 June** (r.h.jenner@btinternet.com or 01463 811080).

The event runs from 1000 – 1600 and there are lots of activities and catering and on-site WCs etc as well as hundreds of interesting vehicles so worth making a day of it.

CLUB RUN TUESDAY, 27 JUNE

We have a place holder in the calendar for a mid-week run near the end of the month designated 'West'. If anyone has some ideas for the run or would like to help with the organization, please contact me.

SAUNTERS & AMBLES IN 2018

Stuart who has taken care of our accommodation bookings has pointed out that it's becoming increasingly difficult to book for groups of the size we are generating and the only answer seems to be to book further ahead. This year we had to work hard in February to find accommodation at sensible prices for our Amble in October. So here are some questions for you! Please tell me your views on the following:

1. Would you be prepared to commit to a costed event around 9 months in advance?
2. Are you interested in going away for more days/nights? For example, a week away?
3. Are you interested in 'going foreign'? For example, a week in Ireland or a week away to the Netherlands?

Richard

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EVENT REPORT – RUN TO AULTBEA 21 MAY

Our first club day run of the year attracted an excellent attendance. Seven MGs met at Strathpeffer – an A, a Midget, 2 B Roadsters, 2 BGTs and an F and then headed-off to Achnasheen to be joined by another BGT (and a VW) before heading off to Aultbea via Kinlochewe where a TF joined. The final BGT caught-up at the Russian Arctic Convoy Museum so 11 (10 MGs) cars and 19 members made the run.

The Convoy Museum proved to be fascinating and this was followed

appropriately with lunch at the Convoy Tavern. The weather was fairly kind with most of the showers occurring during lunch.

Any colour as long as it's red!

Kevin & Jo's V8 fresh from the body shop

And then there were 5

Oldest & youngest together

A nice line-up (photo Tim Moore)

Museum exhibits! (photo Tim Moore)

Tim Moore has kindly provided the following very interesting article on the MGC GT written by Australian owner Bruce Ibbotson. We've permission to run it and as it stretches to 15 pages, I've split it up in to sections – here is part 3 (last part) , again with the short introduction by Ian Hobbs, who is producing a book on the Australian owned MGCs.

THE IBBOTSON SAGA – PART 3 – SUSPENSION & STEERING

Queensland MG enthusiast, Bruce Ibbotson, purchased an MGC GT in 1968 and 49 years later still owns that very same car. As time has passed he has updated and modified his MGC carrying out most of the work himself. As far as I'm aware no other person still owns an MGC today that they purchased new. This is his extraordinary story – Latest Revision: 20th December 2016.

Now we look at why the *'C'* handled so differently to the *'B'*. When the car was released to the *"Press"* lots of clever comments appeared in the UK magazines, one of the most remembered being *"The problem with the C is to get it to go around anything".* The press cars were supplied with low and equal tyre pressures for the roadster 24 psi, cross ply pressures for a car with radial ply tyres, BRILLIANT thinking BMC, this certainly exaggerated the handling problems. The *'C'* needs 3 or 4 psi increase in the front tyres; preferably 36 psi front 32 psi in the rear for the GT. With our car on 185/65 XM1+'s Michelins and our suspension settings 36 front and 32 rear gives slight oversteer 36/33 slight understeer and 36/32.5 neutral, (still the same with the Hoyle IRS fitted). I think we might be getting somewhere with the handling and driveability. What a pity the factory were not allowed to develop the car properly before it was put on sale, or even prepare it properly for Road Tests. They really were absolutely hopeless in 1967/68. Even in 1969 when they revised the car [3.7:1 diff ratio] they gave the press the original cars [3.307:1 diff ratio], surprise, surprise, the press found no difference. Maybe a "Triumph" engineered management plot, they couldn't be so incompetent without some sort of hidden agenda.

Like the engine the handling was also an *'enigma'* excellent ride, very stable and comfortable with good roadholding; but a strange combination of heavy understeer at low speeds with acceptable handling at high speeds, this is for the GT with much better weight distribution than the roadster, but with more body roll.

To compensate for an extra 220 Kilo's (*'C'* roadster versus *'B'* roadster) tyres were up-rated to 165/80 series with 15 inch wheels & 5 inch rims. The *'B'* equivalent was 155/80 tyres on

14 inch wheels and 4.5 inch rims. Both cars were under tyred even in the late 60's. 10 mm extra tyre width to carry a heavy and nose heavy car just defies logical thought. The *'C'* should have had at least 185 tyres on 5.5 inch rims, preferably 195 mm tyres on 6 inch rims. To put this in perspective a 1990 BMW 318Is (weighing 1165Kg, the same as my C-GT) came with 195/65 HR14 tyres on 5.5 inch rims and it handled extremely well. This car came with gas shocks and roll bars front and rear and was a superb driver's car straight out of the dealership. This was the only car that I never needed to modify as it was correct from the start. An absolute pleasure to drive anywhere, anytime, pure good fun. I love BMW's.

Weight distribution for the *'B'* or *'C'* models in % follows:-

	Front %	Rear %
MGB Roadster	52.5	47.5
MGB GT & GTV8	50	50
MGC Roadster	55.7	44.3
MGC GT	54.1	45.9

So the 'C–GT' is a little better than the roadster but a long way behind the 'BGT' which is evenly balanced with both 4 & 8 cylinder engines. I was recently reading a "Road and Track" article on three German sports sedans and two of them had similar front to rear weight ratios to the 'C-GT' and all handled extremely well, so weight distribution is not the problem it was stated to be in the late 1960s, but *anti-roll bars* were not well understood then and low aspect tyres were still in the future. (GM wanted to charge USD 100 per car to fit roll bars, they held the patent), this is what stopped other manufacturers from using them as a matter of course, until GM relented).

The *"Press"* decided in their infinite wisdom that the real problem was the weight of the *'C'* engine versus the *'B'* and that the only solution was to move the engine back into the heater area and rework the bulkhead. Abingdon realized this only too well when they found out that the new engine was a lot heavier than planned (at least 70lbs). So the weight distribution and handling was compromised and this coupled with a 1930's engine design really stopped the *'C'* being the successful big brother to the still very popular B & BGT. The Rover engine could have gone into the *'C'* as the chassis, suspension & brakes are much better than the *'B'* for a high speed touring car. Torsion bars do not have resonance periods like coil springs.

I recently re-read the weight distribution of the MK-2 3.8 Litre Jaguar which people still regard as one of the best sporting sedans of the 1960s. The weight distribution was front 58% rear 42%. The motoring press were not then concerned about weight distribution, or were more used to heavy engines and were not comparing 4's with 6's in the same basic package. The Porsche 911 has a front to rear weight distribution about the opposite of the Jaguars and they seem to satisfy all the critics.

Road & Track (USA) printed a superb definition of handling: - *'When you are enjoying yourself and your passenger is nervous; that is oversteer. When you are nervous and your passenger is relaxed; that is understeer',* VERY WELL DESCRIBED.

Now back to the story, the solution was relatively simple once we knew what to do. 30 years ago this knowledge belonged to serious motorsport not to our young MG car club members. Back in the 1960s we used to go to Club sprint meetings at Lowood, Queensland and later to Lakeside, for standing ¼ mile sprint, standing lap and flying lap events. These were good fun days with lots of enthusiasm but not much skill, we learned more of what 'not to do' rather than 'what to do' with our driving techniques.

The *'B'* was a lot of fun particularly at Lowood, if you went off you disappeared into tall grass with no cement blocks or Armco to damage your car; just roars of laughter from the mob. When I took the *'C'* to Lowood, what a surprise, it certainly was no MGB just a strange handling machine unlike any MG that I had previously driven. Very pronounced understeer, lots of body roll and lifting rear inside wheels etc. In 78 miles the right front tyre lost ½ the tread depth over the outside ½ of the tyre; so it was obvious that we had a big handling problem but what to do about it was beyond us at this time.

After the very long straight was an acute left hand turn followed by a big flat paved area, (Lowood was an old WW2 airstrip) we tried to apply power through this area while turning with the front ploughing, at the rear the inside wheel lifted after finding the travel limit of the rebound strap and then hit the bump stop on the other side with a wild rear slide that did not respond to correction but produced an equally wild slide in the opposite direction, meanwhile the front just ploughed on (I was glad that I was inside and not outside looking on, it would have looked terrifying). Some of our instructors tried to sort it out but none of them could handle this PIG of a car.

The only way to correct this situation was to straighten up and brake, then try again. We now know what the problem was; the rear rolled until the axle reached the rebound strap on one side, then bottomed the bump stop on the other side and so the wild slides, back and forth etc. Tim Harlock (designer and builder of the Centaur Sports Car) explained why, many, many, years later. People still do not understand the operation of roll bars, Tim does. I reluctantly accepted the journalist's explanation and just learned to live with the *Pretty Fast Truck.* At Lakeside a good 'MK I B' could lap in about 1 min 18 sec; the best I could manage in the *'C'* was 1 min 26 sec; some 3 Litre sports car. The Carousel was an experience to avoid and I had to brake for the Dog Leg. A little later the car managed 1 min 22 secs, on old very hard 175/80 Michelin ZX's which were 2% bigger in diameter and raised the gearing to 27.49 mph/1000 rpm. Four seconds better than when I was much more enthusiastic i.e. younger. A more competent driver turned in 1 min 17.6 secs on the same tyres. John Fraser (our instructor on the day) suggested that with a set of new tyres it would probably lap up to 3 seconds quicker. With Lakeside a distant memory I can only guess at how it would perform now.

Many years passed and my mechanical engineer friend said *"what that car needs is some roll stiffness, not by heavy springs but by correct roll bars front and rear".* About this time I had read all about the Light Alloy bodied competition 'C's with 7 inch rims flared guards etc., all the drivers commented how neutral the handling was and how good they were to drive, tucked away in the article was a mention of a Mini Cooper rear roll bar plus telescopic shocks all round, so my interest was awakened. In practice the rear roll bar was not fitted to

the factory GTS cars. There is some dispute on this as some say they were fitted and others say they were not it depends on who is telling the story.

Various people in the UK commented that the *'C'* was much better on the heavier *"police"* springs plus Koni shocks all round; the police vehicles had heavier springs to compensate for the (then) heavy radio equipment carried in the rear of the car. I discussed this with my friendly engineer and he commented; *"Heavy springs increase roll stiffness at the expense of ride and roadholding. On our roads, the standard springs are OK but roll stiffness needs attention. Most people, including some [in the UK], do not understand this. They should study the 1930's BMW 328 roadster chassis and suspension.*

By this time I had fitted a full set of Koni shocks and found a great improvement with the car, particularly the rear. I enquired about roll bars locally, one *"expert"* said rear bars don't work with the *'C'* what worked was a 1 inch front bar but it tore out the mountings so required special heavy mountings. I thanked him for his advice and decided to look elsewhere. I have recently modified my front roll bar chassis mountings by adding 0.080" mild steel plates; pop riveted to the chassis and tapping out the existing 5/16 nuts to 3/8 UNF to distribute the load properly to the chassis rails. The chassis mountings were flexing and after 10 years with the 7/8" roll bar had developed cracks between the mounting nuts in the chassis.

I should mention what made fixing the *'C'*s handing so necessary. In July 1990 I bought a 318is BMW which came with German M-Technik suspension and it handled better than any car I had ever driven. To a driver brought up on MG's this was a *"Whole New World"* and really said that something had to be done to my 'C'. Both cars weighted 1165 Kilograms, why was one superb and the other absolutely *'bloody terrible and frightening on occasion'.* In 'Classic & Thoroughbred Cars' magazine I noticed a *'C'* handling kit from Ron Hopkinson MG Spares in the UK. Faxes confirmed that they had a 7/8 inch front roll bar plus a full set of Bilstein Rally shocks and this gave a great improvement in handling. I faxed back to ask if they had a rear roll bar for the *'C'*. The reply was that they did not, but that they had a 5/8 inch rear bar for the MGB-GTV8. I could not see why a rear bar would work well on a 'BV8' but not on the 'C-GT' as from the centre point they are almost exactly the same, so I ordered both roll bars, to suck it and see. Back came the reply that they would supply the rear bar but did not recommend fitting it to the 'C'.

NOTE: The 'C-GT' with 222 extra kilo's and a weight bias of 5% (*'C'* versus *'B'*) to the front has a front roll bar just 1/8 inch thicker than the standard *'B'* roll bar (originally an option). It is now obvious why the *'C'*, particularly the GT with more up top weight, had so much body roll. The MGB roll bar is 9/16 inch; the MGC roll bar is 11/16 inch and the Special Tuning roll bar for the MGB Roadster is 5/8 inch.

Just before Christmas 1993 a card in the post said my parcel was here; so off to the Post Office and back with my roll bar kits. On Christmas day I removed the standard bar and went for a slow drive around my suburb, what a surprise the car was absolutely hopeless, swinging the wheel between 20 to 4 and 10 to 3 produced a lot of noise and great amount of body roll but almost no change of direction; *"Oh, What a Feeling"* but not as in the Toyota ad.

Back to my workshop to fit the new 7/8 inch bar and then repeat the drive. Now it was "as the Pom's like to say" completely different, the car swung from side to side with little tyre noise but rather heavy steering. After lunch I drove over to Toowong to let my mechanical engineer friend have a drive (he knows a lot about suspension systems but says very little) a slow 25 to 40 KPH drive around the suburb produced this comment; "That's better now fit the rear bar and that should further improve the turn in and lighten the steering as well".

Bright and early on Boxing day I opened the fitting instructions for the 'B-GTV8' roll bars and the opening sentence read; *Quote :* " Remove the existing anti-roll bar." *Note:* "Before commencing to fit the handling kit check that the car is already fitted with a front anti-roll bar, if not a fitting kit will be required". Good old BMC/BLMC again, a "B-GTV8" without roll bars must have been fun in the rain, to say the least.

So on to the rear bar section of the instructions. The bar mounts in front of the fuel tank under the boot floor, with the ends going forward over the axle then by push/pull rods down to the bottom spring plates. This is very neat and almost impossible to see. Because the *'B'* has narrower brakes than the *'C'* the ends of the bar just touch the heads of the bolts for the brake backing plates. This causes no fouling or noise in practice; the only modification required was to slot the bolt holes in the supplied mounting plates slightly to allow for the 1/8" width difference at each end of the bar to be accommodated.

A test drive showed we now had a very different car, turn in is good, not a modern 3 Series BMW to be sure but a huge improvement on how the car was when it left Abingdon in 1968. The steering was now lighter and much more direct even allowing for 3.5 (actually 3.45) turns Lock to Lock and a 34 foot turning circle (the *'B'* has 2.93 turns and 32 foot for comparison) so off to Toowong for comment. *"That's much better, probably would be even better with 1/16 inch smaller diameter bar on the rear or a little thicker on the front as now it oversteers slightly."* Imagine a *'C'* that oversteers having grown up with a 'TF' oversteer was normal and not what I considered a problem, what terrifies me is a car that will not respond to the *"Helm"* and heads for the scrub.

Since I wrote this series Tom Pugsley from Canada has brought in a 2.875:1 'Quick Rack' rack and pinion for my *'C'* from MG Motorsport in the U.K. then AUD 400 if you bring it in yourself. Tom has fitted this kit to his *'C'* roadster and assures me that it is well worth doing. With my Moto-Lita 15.375 inch wheel instead of the 16.625 inch original this will give a rim movement almost the same as my MK1 'B'. I have had the Quick Rack fitted for years now and it is a big improvement, the steering has some feel to it and you can feel it load up unlike the 3.45:1 standard rack. This was a strong criticism of my mechanical engineer friend who commented that as you could not feel the steering you would not get advance warning when the steering started to lighten as in slippery road conditions. The Quick Rack is 2.875:1. The MK1 'B' 2.93:1 both with the ginormous 16.5 inch wheels (the *'C'* with leather cover). With the 15.375" Mota-Lita wheel the steering is about the same muscle wise as the car on original skinny tyres. I find that most sporting sedans with power steering have a steering ratio of 2.9 to 3.0 so the MGB was always about right. More than 3.5 turns is for the family shopping car class.

I now have Minator 15/5.5 inch centre lock alloys fitted with 185/65 tyres and have minimum clearance from the widest part of the sidewall to the turn in on the rear wheel arches of 11 mm on the right and 12 mm on the left. This is fine in practice and nothing rubs anywhere. 195 section tyres are 12 mm wider overall i.e. 6 mm less clearance or only 5 mm right and 6 mm left, not enough clearance for the Cart Sprung rear axle. There is no problem at all with 185/65R15 tyres which most MGC owners use today.

The *'C'* and the BMW handled in a similar manner and interestingly both use a 3 PSI pressure difference but the opposite way around, i.e. BMW front 30 rear 33 and *'C'* front 36 rear 32.5. The *'C'* now goes around Lakeside with ¼ turn of lock rather than handfuls of lock when new, (standard rack). The final tweak was to remove all the shims from the top "A" arms to see what the camber was (as it arrived the right front had ¼ degree negative and the left front ¼ degree positive camber) we ended up with –1.125° left and -0.75° right, with the lower wishbones horizontal i.e. parallel to the ground. Toe in (currently) set at 5 mm.

Like the problems with the early MGA Twin Cam once again Abingdon were forced to rush out a new model without sufficient testing or development in the field and once again a potentially good car was hounded off the roads by the reported problems and very bad press reports. Without spending money on the engine just a few Pounds Sterling would have given the car good shocks and both roll bars which are necessary on a standard car with factory torsion bars and rear springs, by fitting a 7/8" front bar the 5/8" rear bar which really improves the car handling. These changes would have transformed people's impression of the *'C'* which might have survived long enough to get the Rover engine.

My car can now keep up with other MG's on Wednesday runs without heading for an instant '*Off Road Experience'* which as it arrived would have been mandatory. I fed back my experience with the roll bars both on ordinary road work and on circuit training to *Ron Hopkinson's* people so that other *'C'* owners might benefit from our experience.
So after nearly 40 years of, bit by bit, development I now have the 3 Litre sports and GT car that I thought I was ordering way back in 1967. Basically the *'C'* is a very good car, if it is developed as outlined in these articles, to make it how it should have been in the first place. The C-GT is the better car for lots of reasons, it is stronger, with a much stiffer chassis, has better balance and as a high speed cruiser (no longer possible with the new draconian legislation in Australia) is hard to beat and it is quiet particularly when air-conditioned and fully insulated, thermally and acoustically. Decent seats really help.

This is the final part of this saga; it is of interest to *'C'* owners who do their own mechanical work. Included are items that will be of interest to *'B'* owners particularly the rear shock absorbers.

Any MG Club who has MGC owners may run this SAGA, if considered of interest to their members, or make photocopies etc.

REQUEST FOR INFORMATION

Looking for information on MG Midget LEJ 87 R…

Previous owner Stuart Douglas has contacted us via Facebook trying to find his old Midget (as above) believed to be in the Tain area. A check with DVLA shows the car not currently taxed or MOT'd and apart from a brief period on the road in 2011 it seems to have disappeared. If you have any information, please let me know and I'll pass it on.

Richard

BEST WISHES!

Best wishes to Tim & Christine for their trip with the CGT to Chateau-Impney for the MGC 50th celebrations 7 – 11 June.