

MIDGE MAGAZINE



Summer
2016



MOBC. the Midge Owners and Builders' Club

Ray Jones' Midge 'Ethel'

STILL IN THE DEEP END



So far so good as they say and, although that's only my opinion, I have the advantage of having the keyboard.

It has been written, so it must be true.

What am I on about? Well I just got a letter from the DVLA saying it was my last chance to tax or SORN the third Midge, (of which more later). "?!". I thought and rang Swansea to find out what was going on.

I had previously checked with them to see if I needed to declare SORN or whether it was continued from the previous owner. I was expecting to need to re-declare it, assuming like the road tax it would not be transferred. However the DVLA person said it was already declared and I didn't need to do anything. I got on with other things, and then the Last Chance letter arrived.

Further phone-calls illuminated the matter. Somebody had mis-keyed the data and it was SORN, but in the original owner's name, so would I sign a new form please? Presumably they had binned the old log-book that I had signed.

So anyway, I downloaded a form, filled it in and sent it off by post. Cost me a second class stamp and an envelope too!

Hence my gripe about things being 'written'. They needed a written signature. a medieval habit that goes back to when official forms could only be written or read by a few literate clerks, and the reader would recognise the handwriting of the few correspondents. Surely a digital signature would suffice now? That's what everybody else uses.

A handwritten signature in blue ink that reads "Jim".

Page 1	Editor's rant. Index
Page 2	Braking Bad by Chris Bird
Page 3	Editor on Holiday
Page 4	David Harvey starts for Greece
Page 5	DH has a Bacon and Egg sandwich.
Page 6	DH regrets his sandwich
Page 7	Ethanol Article.
Page 8&9	Stabilising Ray Jones' voltage
Page 10	Is (or are) 3 Midges excessive?
Page 11	Noisy Joints. (Ray again. Good lad.)
Page 12	Some thoughts about tracking. A small on-line film.
Page 13	UK Events
Page 14	Tidying up odds and ends.

Welcome to returning member **Russell Hayes**, (number 376) and **Michael Taylor** (number 233).

Paul Newton and **Nigel Young** have joined and are concentrating on Mk2 Roadster Midges.

Also **Malcolm Hopwood** (Number 706) deserves congratulations for having beaten a computer into submission. He is now on-line and officially tekky.

Braking Bad By Chris Bird

Was Bea's braking, bad? Well it was OK, but it certainly wasn't good – even allowing for the lack of servo. The back brakes had been sorted for the MOT – new shoes and drums – but the discs were 28 years old and although not worn, had were some worrying rings of rust where the pads were clearly not in contact. Now I am used to modern brakes and I have to say that Bea's were a bit ...well...scary!

So I decided that one of the first jobs for the new season was to change the discs and pads. Simple, I thought, and it was, until I tried to get the new pads in and couldn't retract the pistons far enough. All attempts failed so I went straight to my computer and ordered new calipers and brake hoses. That would sort it...

That evening, on Facebook, Peter Stainton explained that a G clamp can be used to push the pistons in (of course!) and then I found far cheaper suppliers than the one I had chosen - but the die was cast.

The calipers went on and the pads went in, so it was just a matter of bleeding the brakes - again - and again. I tried with the automatic valve tube for a one-man job, I tried the old way with a helper, but always the same soft pedal that went nearly to the floor until pumped. I tried driving it to shake it up (not recommended), I tried removing the calipers and raising them to free any bubbles, I tried stomping on the pedal and gentle release - all to no avail.

A couple of members recommended the Gunson Eezibleed to force the fluid through under the pressure from the spare tyre, so I ordered one from Amazon for under £20. When it came I spent quite a while carefully cleaning the top of the master cylinder to get a seal on the Eezibleed cap. It took a while because I had to avoid any of the cleanings dropping into the fluid!

Eventually I got a seal and with a modest 10psi (it is 20psi max), I opened each valve in the correct order. Was the pedal better? I was not sure, so I topped up the reservoir bottle and gave the calipers another go. What I did not know was that the feed tube had dropped off into the reservoir, causing the master cylinder to run dry. My pedal test pumped a nice, big dose of air back into the system.....So I did it all again, and upped the pressure to 18psi for good measure. The result of this was still a pedal with too much travel ...and the "good measure" was of brake fluid all over the bulkhead, despite the pile of safety rags Happy days!

Enough was enough, so I took her to the local garage (another scary drive) and asked if they

could sort it. After my description the mechanic said that he probably couldn't do any better than I could, but suggested an old trick. That was to jam the pedal down with a stick or batten, wedged against the seat frame, and leave it overnight.

Now if I am honest, I was not optimistic and had pretty much decided to order a new master cylinder, but I cut a batten to length, pumped the pedal until it was firm, and wedged it. And, incredibly, it worked! The pedal was nice and hard and worked a treat. Somehow the rogue air bubble had been absorbed into the fluid – I thought! The bad news was that it only lasted a few days and was then as bad as ever.....

So then started a long and painful process of elimination. I found a weep of fluid from the offside caliper, so after many attempts to seal it, it was sent back to the supplier who sent another very quickly (well I had paid again!). The trouble was that this was no different.

I replaced the master cylinder – no difference. Jim Hewlett came to visit and we tried the bleed process – no difference. I replaced the pristine rear offside wheel cylinder and hose (the only parts not new this year) – no difference. And to make matters worse, I was finding it impossible to make the bleed nipples on both calipers seal – there was always fluid round them.

As you can imagine, I had long discussions with the supplier who was also mystified. In the end they suggested re-fitting the original calipers. I used Peter's G clamp method and the pistons moved easily. Once they were on, the brakes were perfect at the first bleed. In fact they are better than I could ever remember.

When I examined the new calipers, I found that the nipples did not seat in a machined cone, as the Girling ones did, they seated in a less-than-perfect hole which gouged into the cone on the nipple. That gouge could never provide a reliable seal.

Well I have been refunded for the three calipers, their shipping and my return costs. I have not found out what the supplier's report said – but I do hope that the items have been withdrawn. And my recommendation would be to always go for reconditioned Girling calipers and not to touch the 'new' ones with the proverbial barge pole!

With the benefit of hindsight, I think that the system was sucking air through the imperfect nipple seal. The 'stick' had forced this air out, but using the brakes quickly brought it back to 'normal' -so it was a temporary quick fix and not a solution.

In all I reckon that I wasted about 24 man hours and over 2 litres of brake fluid, but the new discs have made an astonishing difference, I have learned a lot and hey..... all's well that ends well.

What I did on (and before) my Holidays. by Jim

It has been a busy time here in Tarbrax, so I thought a wee break was in order. Well actually Fiona and I had booked a week in Sardinia a while ago, but it sort of rushed up at me at the last minute and I just managed to get the doors on the garage in time, the two on the right will need a bit of finishing, handles, locks etc.



The Spitfire and the Ferguson Tractor were properly under cover with about 12 hours to spare. The previous weeks had involved quite a lot of 'logistics' as I brought the 3rd Midge up from Essex on a hired trailer and had the Spitfire delivered by a haulage firm from the same address. There was also a trailer and its load of 'bits' mostly Spitfire or Midge. Both the Midge and the Spitfire had been partly disassembled and neither were running, with bits of bodywork 'placed' rather than attached, and some of the bits were in a skip in front of the house, thereby requiring an extensive skip-dive. I can recommend Shipley (<https://www.shiply.com/>) who offer the job around to haulage firms and email you the quotes offered, I was quite happy with the way the price dropped to about half of the first quote. In the end the job cost rather less than the trailer hire and fuel that I used for collecting the Midge, and was much less trouble. Before heading off to the Mediterranean I had time to examine the Midge and have started to plan. The bodywork is sound enough but very heavy and has a few elements that would make completion difficult. I know that Tony had considered replacing the entire body, and progress had rather 'stalled'. As usual it has been quite difficult working out how many builders there have been, and while the running gear has been nicely re-furbished, some of the deviations from the original JC body plans have raised the question "Why?" and occasionally "What the....?" I have therefore decided to combine the best bits of the Red (Ford) Midge with the running gear and chassis of No3. That might seem a little

drastic, but it should work out if the body is transferrable. I don't doubt there will be a few stories and explanations in future magazines.

On my previous garage door project I had used 1" box section steel as a frame with galvanised steel sheeting and had made them in hinged pairs that could be rolled sideways and folded away. That option was not available as I'd run out of box section steel and the ground would not take a channel for the lower runners, so I used hinges and a wooden frame. The galvanised steel sheeting is fairly heavy but the 2" by 3" wood and the agricultural hinges seem to be taking the strain. It gets a bit gusty on occasion, so any weak points are swiftly found by the wind and the resulting loose bits thrown around the countryside.

As to the holiday, well it was warm most of the time, and sunny, we visited a few Castles, Basilica, (I think that's the plural) and the like, popped over to Corsica and walked about a bit. All very relaxing and the hotel had a lagoon around the complex including just outside the



window. The daily routine involved a fair bit of eating and beers by the pool, that kind of thing. The food and coffee were excellent and I even developed enough of a tan to make the officials look twice at my passport photo.

Sadly there was a lack of interesting cars, although some of the native driving explained that and made me happy to be driven, Italian male drivers and motorcyclists, under 30 or so, run on a sort of two stroke - one part testosterone to 30 parts petrol, which can make crossing the road interesting.

There was one automotive element of interest, there are lots of Suzuki 4x4 SJs that would convert nicely into Mk 2 Roadsters, although it would probably be easier to get them from the Italian mainland. Cyprus and Malta drive on the left which would be an advantage, but the salt air might be a worry.

I'm going to work on those garage doors now, they survived the weather.
See you later.

The Long Journey to Greece.

How it started

By **David Harvey**, from his motoring diary.

The idea came to me about February 2012: to take the Midge I had built, to Greece to show my friends. After several people had heard the idea, they thought I was quite mad, well, if the truth be known: I probably am! So I began planning my journey: Shall I go from Derby to the Tunnel into France, Switzerland, Italy Venice-ferry to Corfu and return via Albania, Croatia, Austria, Germany, Belgium, France and back to England, roughly 3000 Miles? Well the answer to that question was no, at the last minute the plan changed. It became just Derby to the tunnel into France. For a while...

But let's start at the beginning, the 10th of June, Chaddesden Park in Derby:

I contacted "Help for Heroes", told them what I proposed to do and requested some car stickers and two collection tins. The stickers were quickly sold, so I ordered two more tins and two buckets plus 200 arm bands, which duly arrived prior to my departure date. So I approached Derby City council for permission to park on Derby market place for



three days. They offered me two days being Friday, Saturday 8th and 9th of June and Sunday on Chaddesden Park.

Starting the journey on Monday 11th of June, this was quite successful, as the pennies and pounds and arm bands sold, leaving me a few arm bands to take to Greece with me. So I started my journey in pouring rain heading for the Channel Tunnel through to France, turn left towards Belgium almost to Brussels, then down into Germany, Austria, Italy. Sounds easy, doesn't it? Well, it was not. First, second, third, fourth and fifth car-problem started, the first being at 89 miles from Derby in pouring rain, when I very nearly lost all my oil. After panicking a bit I phone my son Peter to see, if he had any idea what the problem could be, as there was no obvious leak, although the whole engine and compartment was covered in oil. So I topped it up and tried to make my way home. At the Rugby junction on the motorway the car finally gave up and stopped. Police arrived and phoned the RAC, and Peter arrived and took me home, rather dejected having failed to do the first hundred miles.

The following day whilst I was still asleep Peter had found and cured the problem. It was just one 3mm screw that had come out of the rocker shaft and released the full oil pressure into the rocker cover. Under enough pressure to force oil out of the breather hole in the cap it covered the whole engine compartment, making it look worse than it was. If I hadn't stopped, it could have been a serious seizure of the engine. Well that was the first day, second day lost on repairs, but thanks to Peter I was on my way on Wednesday, two days behind schedule.

Lasting problems.

Having arrived in Folkestone I stayed the night in a lovely homely hotel, "The Wycliffe Hotel" and then getting to the



Tunnel to France and through Belgium, where I stopped for a second refuel. That is when a lot of problems occurred, one after the other.

A gentleman at the filling station in Belgium started it, by admiring the car, he seemed to know a lot about old cars. He recognized it as being a Triumph-based car. After talking for sometime, I said, I was tired, that I wanted to get further, before stopping for a rest. He then asked: "what fuel do you want?" I replied: "98 or 95 octane" and he replied: "no, you want best petrol for this car!" I repeated, that I only wanted 98 or 95 octane...But tiredness got the better of me, I said: "JUST fill It up please", and I did not find out until later, that he had put in 95octane E10 petrol, although I had been using 98oct. The faults came after about 36 miles: the first being failure of the mechanical petrol pump; the rubber oil seals had disintegrated not only losing oil but petrol as well. I put this down to the pump being old. So I raided my spares kit, having made sure that I had bought a new replacement. After fitting the new pump I started on my travels again. About 30 odd miles trouble struck again, this time a blockage. A very helpful Polish trucker came to my rescue with his very efficient and powerful lungs. He nearly blew the car away, clearing the pipes and about half a gallon of petrol through the filler cap! – Well, a slight bit of exaggeration there. But it did the job; he then insisted on me having a cup of Polish tea with him, also a share of his meal, which not really knowing what it was, was most enjoyable. I then slept in the car and got on my way again next morning.

After sleeping rough in my car in one of the many beautiful rest areas, I found myself on the German "Autobahn". It would have been great if my car had been rocket assisted, but in that situation it was frightening: I was doing 70 mph and cars were passing, changing lanes in excess of 170 mph and racing nose to tail. One car, I haven't a clue as to what it was, went past. It had four around six inch diameter exhaust pipes, sticking out the back, and the rear wheels were higher than my car. The noise sounded great and highly tuned, plus, as they went by, the air created I felt, as if they were going to pull me into them; then it took only a few seconds for them to pass, and for me to realise shortly after, there were two of them. I assume they were racing each other.

Helping hands

I broke down again with fuel problems, and along came another good Samaritan: A very pleasant smiling Austrian gentleman named Klose. The first thing he said was: "Have you got a tow rope? Let's get you off this very dangerous highway before the police come". He then proceeded to tow me 15 km to his home, where his wife and son welcomed me as if I was an old friend. They fed me, his son gave me his bed for the night, next day after feeding me again at breakfast, we got stuck into trying to find this reoccurring problem. We stripped everything from petrol tank to carburetors, and then he decided it was time to give it ago, so he suggested that I followed him for 10 kms. After eight km it started misfiring again, I flashed my lights and he signaled to follow him. He then took me to a workshop, like a small factory, two chaps came out, had a listen and proceeded to remove the fuel pump; they then took it to pieces to find that the rubber seals and diaphragm were breaking up. "What petrol have you been putting in", they asked. I told them about the incident at the filling station and they immediately said: "That is your problem, E10 is ethanol bio fuel, and it destroys anything that has rubber or definitive in. Have you got a spare pump?" "Yes," I said, "my last one, and it is electric". "Good so, we fit that, we need some petrol pipe." So of we go in my new friend's car, to get a length of petrol pipe. On returning, my car is seven foot in the air, and they have removed all my exhaust pipes. "What are you doing", we asked him. "We heard it blowing a bit, so we take off and my friend is welding it for you, while we wait for petrol pipe." They not only welded and straightened it, they refitted it perfectly, then proceeded to fit the pump. After checking everything we all shook hands, they wished me a safe journey; they would not accept a payment of any kind, so with fingers crossed and praying "please, please no more

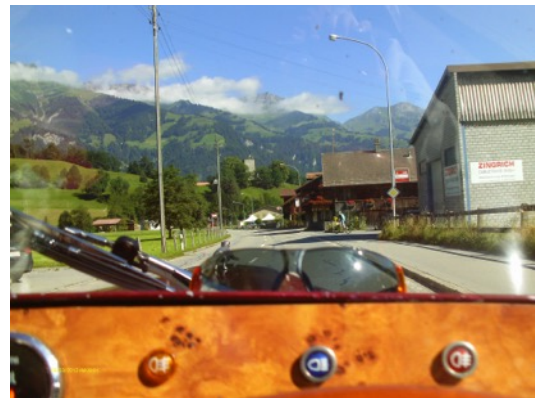
incidents to hold me up". - I think that if it had not been for the help and generosity of these Austrian people, I would have given up. So on with the journey across Austria into Italy.

How quickly things can go wrong



I was feeling quite relaxed and less fatigued; the scenery was absolutely fabulous as I climbed higher and higher through the Tyrol Mountains towards the Brenner Pass, sometimes down in 2nd gear for mile after mile from Innsbruck; though how many I really do not know. I arrived at what I thought was a beautiful spot, the view all-round was superb. I stopped to let the car cool down, went for a walk, on return made a brew, bacon and egg-sandwich and decided to stay the night.

That turned out to be the worse decision I have ever made. Whilst putting my tent up, swarms of mosquitoes covered my



legs, arms and body. The pain was awful, I began to swell up and it was becoming difficult to walk; I managed to put my tent up, the pain by this time was horrendous, I was starting to feel quite ill. –

After a fitful night trying to sleep, early next morning I tried to walk to a lake nearby, that I had seen. It was ice cold but it did temporarily ease the pain. My walking was getting worse and on return to the car I sat on the grass leaning against the car, I have never felt so ill before, my legs and arms were burning, my heart racing, I knew, I was in trouble. I managed to make a cup of tea, when a silver Mercedes car passed me and it returned almost instantly, and three young men got out and the driver came to me and said: "Sir you need help"! "Yes please", I replied. >>

>> Meanwhile the other two boys were saying: "what a nice little motor". After I explained to them that I was ready to push it over the edge, they shouted: "nein, nein" or "no, we help, what is it you want?" - They tried to start the engine, it was misfiring. They also tried to remove the plugs, but could not remove them at all. They helped me to pack everything away and turned the car around to go back a half kilometre downhill, where I came from. The driver said: "follow me to my workshop". I followed the Mercedes very closely, as he assured me not to worry about running into the back of him, as he would use his car as a cushion if I could not control mine. I had to use the handbrake only, as the pain in my legs caused a lot of cramp. I arrived at his small steel fabrication works, about the size of a football pitch. He said: "Don't worry about your car, it will be looked after". I told him, that there was a box of spare spark-plugs in the toolbox at the back; later to find out, that the number on the box was correct, but the plugs did not correspond, they were the wrong size. What is the chance of that happening, to me: every chance!

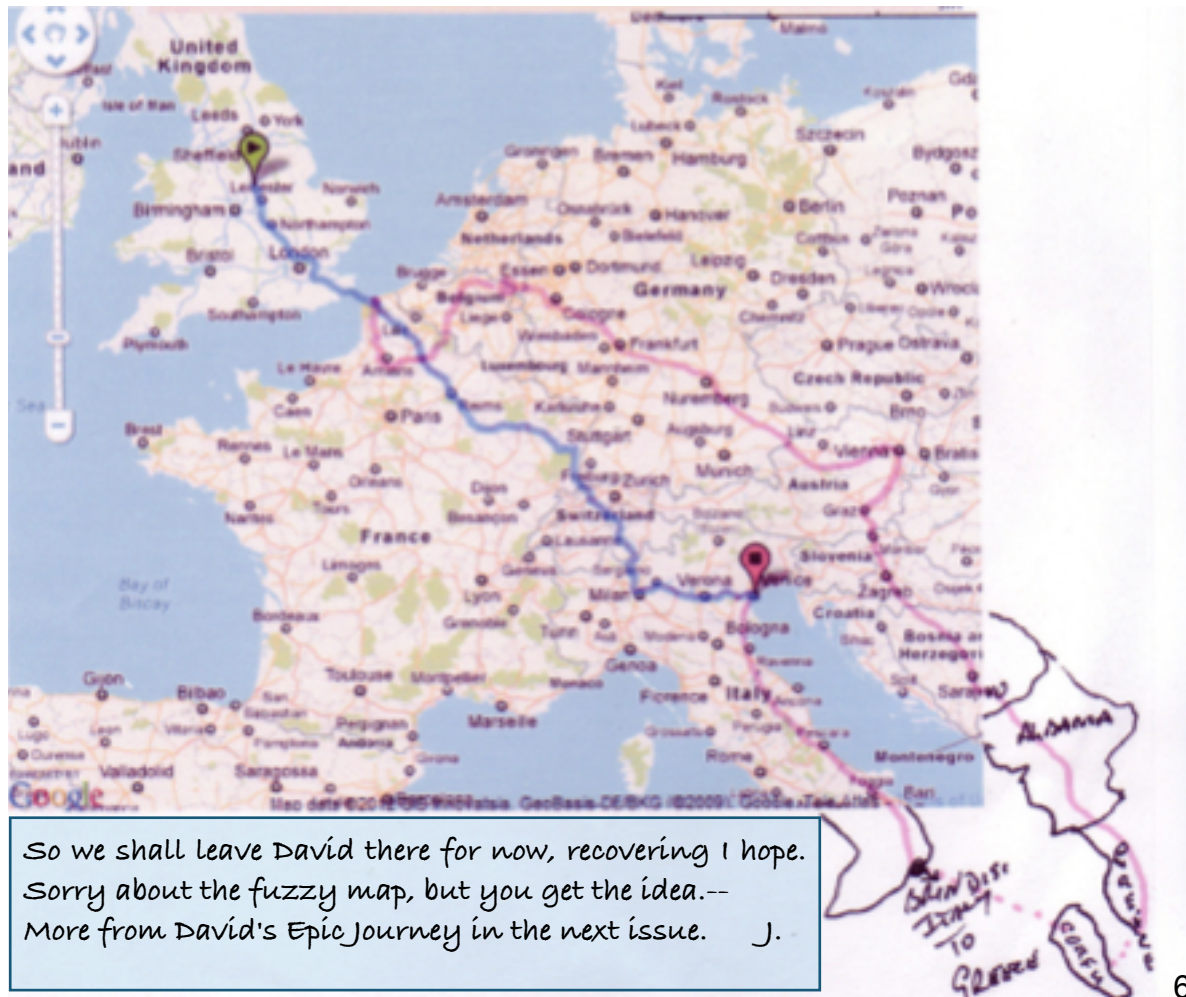
He then instantly took me into Innsbruck to a clinic or hospital for treatment as a result of my bites. At this point I did not really comprehend, what they said there, but as a nurse, I understood some of the terminology and realised, I was going into anaphylactic shock. I felt two injections and drifted into sleep...some three or four hours later I woke up, not too sure about my whereabouts. A

voice offered me a drink; it tasted like warm sweet milk. I must have drifted off again, because I awoke up at about 08:00 hours the next day, and my rescuer was there at my side. He asked: "How do you feel?" also: "Do you feel strong enough to go on?" A doctor then came and examined me and said, I could go, but must rest and take it easy. Well, anybody who knows me: I would have given the same advice, but of course one never takes the advice from oneself.

So I returned to the workshop to find they had purchased two sets of plugs, fuel filters and hand cleaner for me, also they had sorted the car out for me and it was running real smooth. I was then asked, if I needed any food, to which I replied: "Plenty of food, thank you, I just need to get some water, fruit juice and bread". "No problem, I take you to a super market", where upon he purchased what I needed and refused to let me pay.

On return to the factory I started the car to resume my journey. As I was about to leave they asked: "Do you still want to push the car over a cliff, if so, give it to us and we will take you where ever you want to go." I declined their generous offer and they gave me their telephone number, also their email-address. They told me, that if I had any more problems, they would be with me anywhere between them and Italy. I thanked them very much for their help and proceeded on my way, of what was becoming my never-ending journey. So I waved farewell to what I now know as the "Innsbruck brothers". I know, I am probably repeating myself, but I can honestly say, that in all my travels in life - and I have been many places - I cannot recall kindness, generosity, at this level before. I feel more convinced that someone or something has been with me all the time,

And as I am writing this, now some 5 days later, I am still having pain from the hundreds of bites I received that night. Yes, I did have anti-insect-sprays with me, but believe me, they did not work.





Ethanol, its reasons, future and repercussions.

This will be an egg sucking lesson for most, but for those who are not too sure....

Ethanol, currently added to petrol (E5) in the UK at 5% is a biofuel. The USA and Europe use some 10% (E10) and the USA is thinking about 15%.

It's not new, the Ford 'T' ran on ethanol until petrol became widely available.

In 2009 all EU member states signed up to the Renewable Energy Directive, which requires 10% of road transport energy to be from renewable sources by 2020. As there aren't many electric cars, and the electricity that runs them doesn't necessarily come from renewables, the UK government has gone for ethanol, currently at just



5% rather than the possible 10%. A certain amount of farm land is, as a result producing fuel rather than food. Bioethanol is an alcohol produced by fermenting crops such as corn and sugar cane, which doesn't bode well for poor countries. especially if rich countries buy or rent their land for fuel export purposes, as this will drain their water and food resources. Sadly it looks as though bioethanol may cost more energy that it produces, and has a lower MPG than petrol. I can't really see an upside of it.

From the Midge owner's point there is an additional grief, admittedly less than that of the starving. Corrosion and pipe-rot. As a solvent it can loosen deposits in the fuel system, but also causes fuel pump, hose, filter and fuel injector blockages. As David found out it's also corrosive to some seals, plastics and metals, and can lead to fuel leaks and even engine failure. I am currently replacing the 'rubber' pipes in my various elderly vehicles, especially where I see the characteristic linear cracks in the pipes on the flexible side of the jubilee clip.

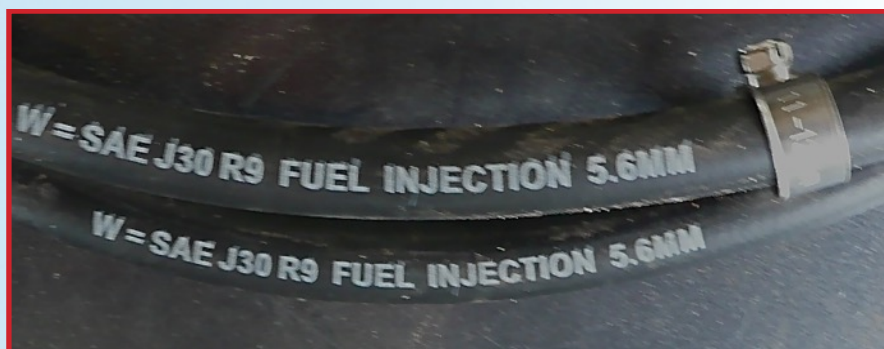
Be aware that the fuel will eventually leak out, but before that, bits of the inside of the corroded pipe are drifting to the carburettor. I found <http://www.drivenracingoil.com/news/dro/training-center/articles/protect-yourself-ethanol-is-killing-your-carburetor/> interesting, if somewhat frightening, and some of the essence of this article is lifted from [whatcar.com](http://www.whatcar.com).

Incidentally the water/ethanol tends to sink, and gets sucked up first, so 'stale' petrol develops another quality you'd rather not have, and will encourage the drainage of float chamber and even the tank if the car is laid up for a while. Ditto petrol lawn mowers, generators, strimmers etc.

A filter at the carburettor end becomes even more useful, though it may become clogged with debris itself, so mount it horizontally and check it regularly. Presumably there is a demand for an additive as a 'cure' for these effects. As yet I have only found 'DRIVEN carb defender' on ebay at £20.23, I haven't tried it yet, so proceed with caution. I imagine it will still be necessary to replace the 'rubber' pipework.

Some fuel additives that are supposed to clean the carburettor actually contain ethanol, which will make the problem worse, so check the contents for anything ending 'ol' as those are the alcohols, (as is ammonia).

SAE J30 R9 (Right) is the newest rating you want when ordering new pipe (they keep changing, so if your stock of pipe is more than a few years old it may no longer be suitable. Check your pipe diameter, I get caught out every time, finding unnecessarily large bore pipes that take longer to fill. 6mm (external) pipe and 6mm (internal) flexible tubing should be big enough for everything except dragsters, and '11 to 13' mm stainless jubilee clips should hold it together. Make sure the 'rubber' pipe is marked J30 R9 and buy from a reputable supplier, as cheap foreign 'knock-offs' will no doubt emerge.



There's a useful page at http://www.theaa.com/motoring_advice/news/biofuels.html which explains that there is no compulsion for petrol stations to warn you about 5% or less, but they will have to for 10%, which we will be getting in 2020.

Incidentally, I am told the fuel companies don't add the stuff to the petrol until they reach the garage tanks, it damages their transportation equipment. Now there's a surprise.

JH

Ray Jones puts a bit of pressure on an electrical gremlin that others might be infested with.

Getting the Measure – Voltage Stabiliser Repair.

My Triumph Midge has suffered from wandering gauge indications for quite a while. Temp gauge was sometimes OK, sometimes not reading at all, and the fuel gauge did very funny stuff moving between almost zero and half full with a known 1/3 content in the tank. Not really good enough to trust, so a few tests were in order. Both gauges were good – they each went to full scale reliably when the sender wires were connected to ground. The fuel sender was too tricky to extract from the (home-made) tank so, since it showed a steady resistance I assumed it was serviceable. Not so for the temperature sender....some oddly fluctuating readings from this were only cured by replacement.

Once this was fitted I had two gauges reading – well, most of the time.



The 1970 voltage stabiliser removed from speedo back.

Frustratingly I could have good fuel and temp measurements, then lose them upon starting the engine. Turning the car off but leaving ignition on would restore the readings. Seemed like the voltage stabiliser was not giving output when the car was charging, so I unscrewed the original unit from the back of the speedo, carefully prised open the can, then cleaned the internal contacts and gave their screw adjuster an extra turn. Refitting finally resulted in two 'good' gauge measures, but there was still variation as the car was driven at differing speeds. Hmm...

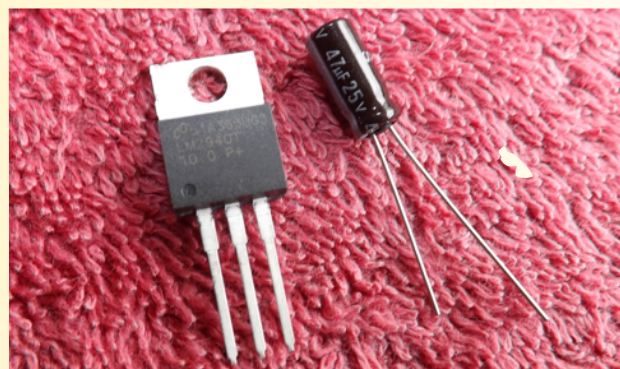
The trouble with these old style voltage stabilisers is that they do not stabilise at all!



Original style bi-metallic mechanism components.

The current uses a heating element to warm a bi-metallic contact arm, normally pressed against another fixed contact when cold. More voltage means more current, and more heat in the element. As the volts rise the bi-metal strip bends to pull the contacts apart, interrupting supply to the gauges. Once cool, the contacts re-close and the whole cycle happens again. Hence the gauge supply is not steady, but 'on/off/on/off' etc, hopefully equivalent to an average value of about 10 volts. The on/off action is not visible at the gauges since their needle movement is heavily damped, so the pointers appear stationary.

I concluded that my 45-yr-old stabiliser was too worn to work reliably – and probably not happy with the car's alternator conversion providing a higher range of charging volts than the old dynamo system had. Replacement is possible, and the modern units are cheap enough, around the £10 mark. However I fancied the challenge, so looked for a means to refurbish the old one. Sure enough a search on the internet yielded the necessary info. Basically, you clip the existing mechanism out of the stabiliser, then replace with a solid-state electronic voltage regulator. (This is in fact how the new replacements are currently manufactured, but after a bad experience with imported electrical spares I preferred rebuild over renew).



Solid-state electronic voltage regulator & capacitor.

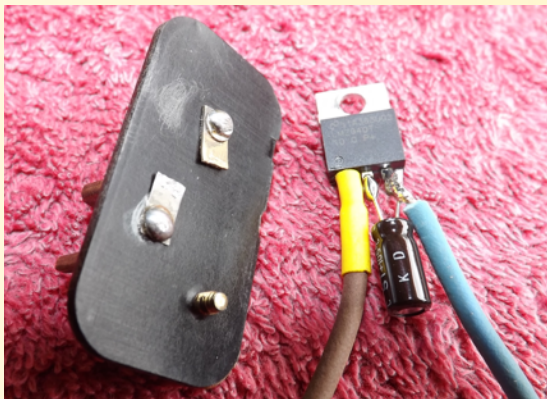
The instruction I found used an LM2940 10 volt regulator, with simple in/out and ground connections – no other components used. This is a so-called 'low dropout' regulator, holding an accurate output from maximum charging volts all the way down to 10.5v. I bought the regulator – very cheap at £1.85 delivered – and lashed up the circuit. Disappointingly, with a steady 12v feed in, the regulator showed almost 11 volts out...high enough to send temp and fuel gauges way too far upscale. Studying the manufacturer's datasheet revealed that a further crucial component was necessary – a fairly high value 'reservoir' capacitor connected between output and ground.

With this in place the circuit gave exactly 10 volts as specified. The capacitor was a 47uF 25v electrolytic type, easily available and less than £1 to buy. Now to install the parts into the old voltage stabiliser!



The midge's elderly unit dismantled & ready for surgery.

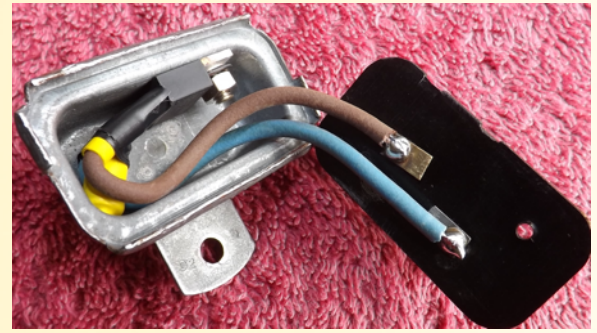
I prised up the return edge of the unit's metal can and released the insulated baseplate. There was just enough depth inside to accept the LM2940 regulator side-on...bolting it to the can would help to dissipate any heat, and its drilled metal tab formed the main ground (negative) connection. I cut some short lengths of individual cores from an old iron flex to serve as internal links. This stuff is ideal for automotive wiring jobs – its insulation is heat resistant, and it will carry current well over 5A without trouble. The pin assignments for the regulator were voltage in, ground, and voltage out, when viewed from the front. The wire tails and capacitor were soldered on appropriately, with the battery side insulated by a short piece of heat shrink tubing. Since the capacitor was electrolytic, polarity had to be correct - the lead marked '-ve' was connected to the regulator centre pin, the other lead to the output leg of the device.



Regulator wiring complete and baseplate prepared.

Existing metallic sections of the old mechanism were cut from the baseplate with some heavy snips. The rivets securing the external connections were cleaned bright with abrasive paper, then a blob of solder flowed into place to accept the wiring from the new electronic circuit. I drilled a mounting hole in one long side cheek of the can, then insulated the lower regulator assembly with a few wraps of tape before bolting into place with a small screw, nut and plain/shakeproof washers. Since the capacitor body had exposed metal at its end, another heat shrink sleeve was added here to ensure no unwanted contact with other parts. Finally the in/out wire tails were soldered to the baseplate (in the photo, brown to the B terminal, blue to the I terminal)

and this was refitted to the stabiliser can, tucking the leads into place carefully as the unit was closed up.



All parts in place and wired before re-closing the can.

I found that when re-closing the unit, the old contact adjustment screw intruded a good way into the casing quite close to the regulator, so this was removed and discarded. Once the can edges had been bent back over enough to temporarily secure the baseplate, I took the chance to test the unit before fully crimping in place. With a DC volt source of over 12v (actually 12.6v) connected to the input, the output terminal produced a steady voltage of 10.02v....a great result, and nice to know that once on the car, the instruments would receive this as a stable, constant voltage irrespective of battery condition or charging rate.



Proof of the pudding, time for a well-earned cuppa.

So there we have it. A refurbished, electronic, reliable voltage stabiliser within the old unit's housing, able to be screwed straight back in place on the vehicle using the existing dash wiring terminations. If the re-crimping is done with care then the only things giving the 'upgrade' game away are the exposed screwhead for the regulator fixing, and a small hole in the baseplate made vacant after removal of the adjusting screw. Total cost £3-£4 depending on where the parts are sourced, and one less factor to worry about when chasing gauge or sender problems, which has to be a good thing. I'm sure my midge will throw other gauge issues at me from time to time, but for now, things seem to be sorted. Fingers crossed!

R.J.

Too much of a good thing?

My initial Midge project was completing a part build, it is now the Red Midge. The Green Midge had the advantage of being complete and turned up part way through. My intent was to sell the Green when I had completed the Red. Unfortunately the



Red has a few engine and transmission faults and, more importantly, a slight identity crisis. The Midge that I shall refer to as the Blue (actually the plastic skin on the alloy) then arrived with excellent engine, transmission, and V5c but a problematic body.

While not unhappy, I find myself on the horns of a dilemma. I have three Midges. The Green one is at the back, in the garage. It is resting after a run in the sun.

Having three is not in itself a problem, although there are those who might feel it excessive. They are all running, although the blue one is on SORN as there are some bits that would fall off if it went around a sharp corner. Certainly I can only drive one at a time, so they could be providing more entertainment if I sold one or two, especially as I also have a '57 Ferguson Tractor and a partly modified / restored Mk4 Spitfire. This is by the way, a combined advertisement and article, so I'll just tell you about it and you can decide which bits are relevant to you, if any.

The newest, and currently somewhat blue Midge has a nicely restored chassis and running gear, it also has a properly filled V5c indicating it is a 'JC Midge', the engine is a 13/60 as it should be, and might even be the original. The bodywork is 'interesting' with a certain

degree of 'What the..!?' The Morris 1000 bonnet 'Boat Tail' is a nice idea, but is unlikely to work, in that there isn't much space in it, won't hold a spare wheel and is rather heavy. Also I don't fancy having my head lopped off in a rear-end shunt.

The current modifications to the original JC plan preclude doors and roof, and the excellent sounding and distinctive exhaust, while interesting to see and hear, is difficult to get around without burning your leg. The previous owner, Tony, had asked me if I thought there were any suitable alternative Midge Bodies that he might buy to replace it, so I don't feel too bad about thinking of re-re-bodying it.

The 'Red Midge' is on a Ford conversion T&J chassis with a rather knackered 1300 cross-flow Ford engine, sadly the scrapyard dealer who sold it to the previous builder was either quite amateur or a rogue. Since it had a quite specific though erroneous '1300 Sport' label on it, I suspect the latter. It runs well enough but blows smoke and could do with an engine re-build. It is a complete b*****d to start for that reason and, as a bonus, seems to leak oil from the back axle. However, its main fault is that its Ford 10 V5c, while genuine, refers to a vehicle notable mostly for its absence.

My thought currently is to put the 'Red' body on the 'Blue' chassis, thereby getting rid of the smokey Ford engine, back axle, all of which are repairable and the iffy V5, (less so) as well as the blue body which has had too much random surgery to make it viable. With this plan I could keep the blue bonnet and side panels, since they are somewhat longer and I'd be able to keep Brian Coventry's excellent Red Midge tonneau cover on the quite acceptable Red body. If that all worked I could start thinking about a long roof, folding windscreen, and an upgrade to 15" wire wheels. Sadly I'd lose the 1937 MOT exemption and the (non transferrable) Ford 10 registration. The alternative being to find a 'Herald' JC body without a V5, of which I think there must be a few.

Incidentally the Spitfire seems to have a two litre GT6 engine with triple Weber carbs, I'd rather have a 1500 with twin SU

from



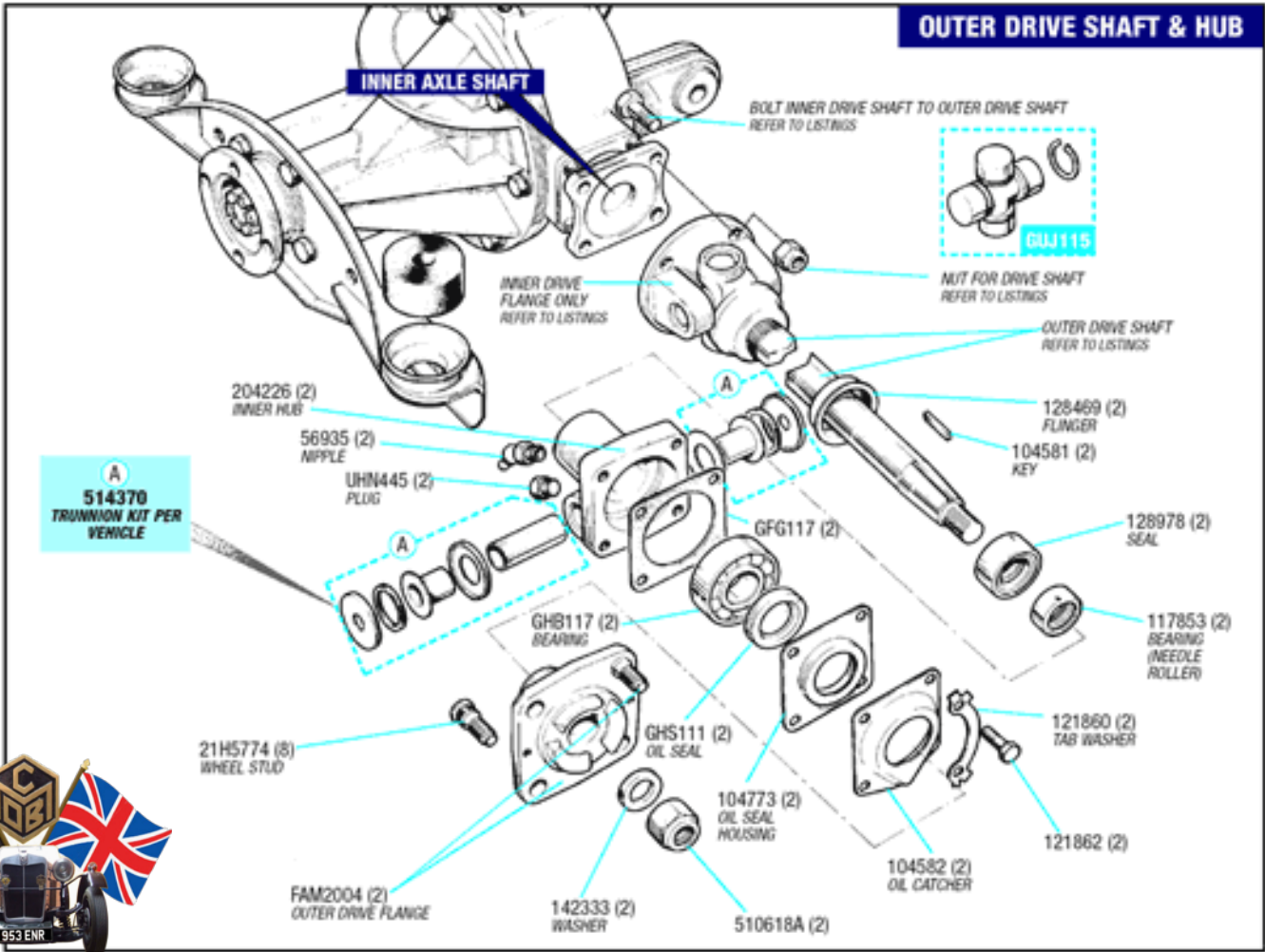
Just in from Ray Jones.

Got to share this one with the club. My herald midge Ethel has had an on/off knocking sound from rear end for more than a year. Seemed like a problem with half shaft Universal Joints's (UJs or sometimes Hardy Spicer Joints) but could find no discernible play in joints, and builder assured me they were replaced less than 2.5k miles ago. Trawled the internet for advice and apparently, since Triumph drive shafts form the lower rear suspension link, the UJs are subject to large forces from the road spring and if ANY lateral play exists



between UJ spiders and the joint yokes, even with new joints, then each time the shaft rotates the spider will move between bearing cups with a 'tick tick' or 'tucka-tucka' sound. Gets worse when not under power, especially when slowing down to a stop at junctions or corners. The cure is to fit oversize (extra thick) circlips to any joints showing play. I jacked up the car on the noisy side, placed on an axle stand to allow wheel rotation, then gently drifted each bearing cup toward centre of joint. Sure enough, one pair of opposing cups (diff side) allowed a feeler gauge blade to slide between circlip and bearing. Oversize clips are on the way from James Paddock, but for now.....acting on an internet tip I fitted two circular sheet metal shims cut from a drinks can before replacing & re-seating the circlips. Amazed at the result....glorious silence, at a cost of precisely nothing. Will do the job 'proper' when the new circlips arrive, but for now, a very happy camper:) R.J.

Well spotted Ray, two other Members read this first on our Facebook page and think they might have the same symptoms. If there's one extra that you don't want on your Midge it's an extra squeak, rattle or click.



Thought for the day:

Tracking geometry, the effect of lightening the car and independent suspension.

I remember being rather startled by the toe-in of the front wheels on my first Midge. I had noticed the tyre wear after a few weeks. Further realisation has dawned slowly with assistance. Some time ago another Midge owner, I think it was Chris Bird, my apologies to all if I mis-remember, pointed out that if the track rod arms were pointing downward at the lateral or outside end then any bounce would cause them to push the wheels apart (at the front) and cause a difference to the steering and suspension. Of course the arms of the steering rack are bound to bounce around on sharp steep corners like hair-pin bends, especially if the shocks are a bit tired so it's best that they are usually horizontal. Worth considering when grip is important. Fortunately, if my mental imagery is correct, there would be a tendency for the suspension on the inside of the curve to extend while the outside would compress. This would balance out if the arms are horizontal at rest. Anyway, as a result, I realised why the car had so much toe-in. The body was higher and pulled the 'toes' together. When it had been a Herald it had been carrying a bit more weight, and while the tracking was probably good then, the lighter body would cause the suspension to lift and the toe-in to increase, but the builder might not correct for this. Changes in engine size would have an effect too.

You'll soon know if your tracking is wrong, as apart from the 'feel' being poor, your front tyres will develop a 'saw tooth' profile. I confess to not noticing until the two front tyres were scrubbed to death, and quite bald on the outside edge. So when we have a moment then I suggest we all consider the quality of our front shock absorbers, see how level our track rods are, with a driver in the seat, and watch for scrubbing.

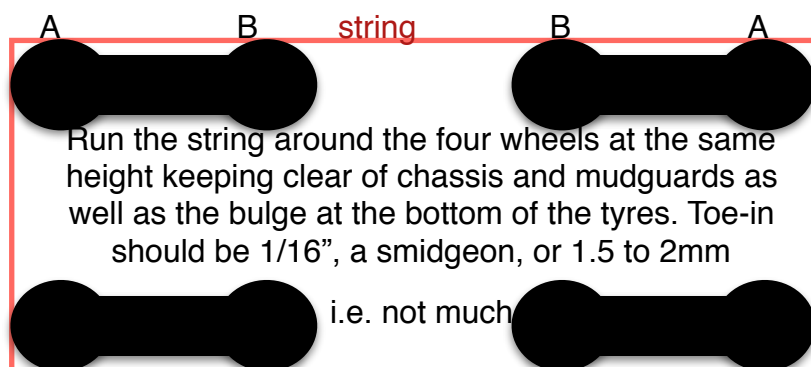
Many of our members will have a much better understanding of suspension geometry than I do, and this will constitute an egg sucking lesson, but it might clear up a few puzzled frowns.

There are track checking tools such as the somewhat over-priced Gunson G4008 Trakrite Wheel Alignment Gauge (usually over £50) but I would tend to get your local garage to measure it. You'll need one that knows what it is doing though, most 'fitters' don't have a clue. A home made method that gets you reasonably close to alignment is a piece of taut string around all four wheels, gently tensioned with a bungee cord, as shown below (next to the movie section).

Hmmm. So the advantages of a beam axle at the front include fixed tracking and camber, easier to mount turning mudguards on, they work with rod brakes, leaf springs and friction dampers. You can still use rack and pinion and it looks better too.

Pity about the road-holding.

Jim



You may want to put a match under the string where indicated by A and the gap should be consistent at B. (at 0 toe in) You will be able to test the toe in shift under different loads by adding weight to the car, and remember to drive it back and forth to settle the suspension.

n.b. Take the string off before driving.



AN M.O.B.C. PRODUCTION

>CLICK HERE<

'A Small Swarm of Midges'

(You-tube)

Well OK, it's just a short film, but you could send in your own and show off in the next Magazine.

UK 2016 Events

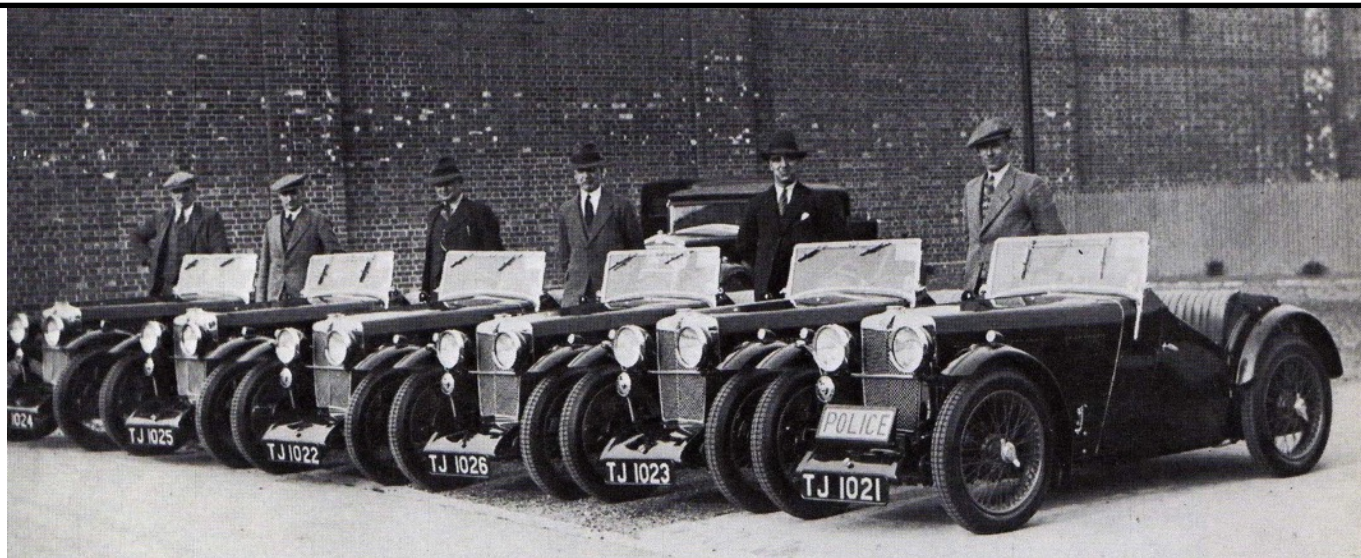
Check before you go, my information might be out of date or just plain wrong.

25 June 2016	Classic, Kit & Retro Action Day	Castle Combe Circuit, Wiltshire
23 to 26 June 2016	Goodwood Festival of Speed	Goodwood West Sussex
24th July 2016	<u>Kent's Kit, Custom&American CarShow</u>	Aylesbury Priory, Kent
6&7 August 2016	<u>Hebden Bridge Vintage Car Rally</u>	Hebden Bridge, West Yorkshire
7th August 2016	RollsRoyce North of England Car Rally	Harewood House,LS17 9LG
14 August 2016	<u>Biggar rally</u>	Biggar ML12 6AY
Sun 21 August '16	<u>Runway display</u>	Stafford ST18 9QE
20, 21 August	<u>Biddenden tractor fest</u>	Biddenden TN27 8EX
21 August	<u>Petrol and pistons</u>	Croft Circuit North Yorkshire
17 Sept 2016	<u>http://10000ftcarrun.co.uk/</u>	Ingleton N Yorkshire
09-11 Sept 2016	<u>Goodwood Revival</u>	Goodwood Circuit, W Sussex
10 September 2016	<u>Forge Motorsport Action Day</u>	Castle Combe Circuit, Wiltshire
Sept 11 2016	Kent's Classic Car Show	Aylesbury Priory, Kent
24 25 Sept 2016	<u>Sywell Classic: Pistons & Props</u>	Sywell, Northamptonshire
18 Sept 11 to 4pm	<u>The Big Welsh Classic Car show</u>	Margam Park, SA13 2TJ
30 October 2016	<u>National Restoration Show</u>	Stoneleigh Park, Warwickshire
12,13 Nov 2016	<u>NEC Classic Motor Show</u>	NEC, Birmingham

Useful links http://www.carandclassic.co.uk/car_events.php

<http://www.classicshowsuk.co.uk/> and <http://www.kentkitcarclub.com/2014events.php>

Almost worth joining the Lancashire Police force. Everything was in black and white in those days





David Harvey's epic trans-continental journey will be continued in the next issue. Autumn by my calculations.

For their achievements and services to motoring the car (and he) were awarded:-

MOBC 'Magnificent Midge of the year'.



Disc brake wear, pad type and efficiency.

Sintered metal pads

-fade less than resin pads and have better performance in wet conditions, they also last longer but consequently wear the disk faster. They don't 'grab' as quickly but deal with long braking better, e.g. on long down-hill runs. Sintered iron was tried a few years ago but deemed a failure and now copper seems to be favoured.

Resin pads

-grab faster but fade sooner and don't last as long as sintered. They tend to 'glaze' if contaminated, and that can lead to uneven wear and uneven braking if the pad surface isn't scuffed a bit to clear it. They tend to be quieter (less squeal) but don't dissipate the heat as quickly which is presumably why they fade under long loads.

In the end I'd use sintered for safety if there's a lot of long hard braking and resin for better short 'stabby' braking in relatively clean environments. There are probably quite a lot of Midges that don't go out in mud, and don't clock up huge mileages, so unless I lived on a long steep hill I might lean toward resin. I don't have

any experience of ceramic, they sound expensive but good otherwise.

Feedback on the different types would be



welcome. There is a lot of information out there. I liked this [page on ebay](#).

If your discs start to look like this (photo courtesy of Chris) then I'd definitely start looking for new discs and pads, You used to be able to get discs skimmed, but it's not really worth the effort with the price of new ones, and now they tend to be produced at minimum weight and thickness anyway.

I have ordered from Dave Gleed, a UK supplier of gearstick extensions. I don't know how many he has of the UNC (Triumph) type. Mine looks a little different to the image in that they have a hexagonal lower end. The bend is less pronounced and the shaft un-stepped. He thinks he has straight ones as well as the bent ones, (but we all have our problems) and hopes to find them in a fortnight. (early July)

In the meantime have a Good Summer. It sounds from the news that some Midge owners may need the amphibious conversion, I'll see about that in the Autumn issue but until then just collect any spare 40 gallon drums and propellers that are lying around.

