

# MIDGE MAGAZINE



Autumn  
2018



MOBC. the Midge Owners and Builders' Club

Ciaran's Midge

## Hello All.

I'm afraid this magazine is going to be a bit short. Ethanol or bio-fuel is becoming more of an issue, so I've spent a while researching its intended effects and consequences. Don't take my conclusions as gospel though.

The primary intent is to reduce CO2 emissions, but no doubt there will be interests involved from the fuel industry, car manufacturers and drivers of older vehicles. How the Americans deal with 85% ethanol mixes I have no idea, perhaps some newer vehicles are designed to be able to use it.

There appears to be a partial and probably temporary solution in that some 'Premium' fuels in England have less (or no) ethanol, but it can be tricky finding out which, as there's no pump labelling of 5% or less, so you can't tell which have none.

On page 2 I've put a bit in about how some enterprising types think you can get the ethanol back out, but it's at your own risk, and I'd advise strongly against using the ethanol thus extracted in your gin and tonic. (It tastes horrible). I don't think anybody has been that daft yet but it's only a matter of time.

The content sent in is a bit light, but if I get some for the next one I'll be able to spend less time at the computer and more in the garage, or even on the road. If you don't think your stuff is interesting enough, send it in anyway. I'll tidy it up, pad it out and suggest additions. Other hobbies, engineering tips, all welcome. Running a bit late, I hope I've removed any typos. JH.



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Stories and photographs to Secretary Jim Hewlett at  
[jim@jimhewlett.com](mailto:jim@jimhewlett.com) or The Old Manse, Tarbrax, West Calder,  
West Lothian, UK EH55 8XD

Welcome to Bill Maddison, Colin Beazley,  
Hadley John and Massimo Santorelli



If you follow the MOBC facebook page then you might have heard of the survey from the Federation of British Historic Vehicle Clubs... John Bircumshaw noticed the survey, now closed, but some of the elements might still be of interest.

Dear Enthusiast,

The Department of Transport has issued a consultation document on the subject of introducing higher levels of ethanol in petrol.

Many older vehicles are likely to suffer damage and possibly dangerous fuel leaks if the E10 grade of petrol is used without modification to their fuel systems.

For the purposes of this consultation the Government is focussing on vehicles more than 25 years old.

Whilst wishing to introduce the higher ethanol level E10 grade of fuel, the Government are guaranteeing a 'protection grade' of petrol at the E5 grade that is equivalent to the currently available 95 RON petrol. However this guarantee will only last until 2020 when further consultation will take place.

It is likely that on the introduction of E10 at the 95 RON level, the currently available 'Super' grades with an octane level of 97 RON or higher, will cease to be available.

The Federation has designed a survey on petrol usage in older vehicles which will provide valuable evidence in the consultation response.

*(The survey closed in August 2018 but apparently late entries can be added JH)*

A copy of the response will be made available on the Federation's website.

Thank you for supporting the Federation of British Historic Vehicle Clubs and helping to keep historic vehicles on the road.

Paul Chasney  
Director - Research

We all know how ethanol affects Midge pipework, but while you are tinkering in the garage perhaps you should check your garden equipment.

I think there must be as many petrol driven devices in the garden sheds as there are older cars. Lawn-mowers, strimmers, cement mixers, emergency electricity generators, chainsaws and pressure washers. Then there are out-board motors, motorboats and motorhome electric generators. I've certainly had strimmer fuel pipe go brittle and leak and I know the square diaphragms at the bottom of almost all two stroke carburettors go stiff. Since that's the bit that controls the fuel intake via the equivalent of the float valve needle it is bound to make the thing hard to start and run badly.

All these things tend to be used now and then and are generally 20 and 30 years old. I expect gardening equipment sales have risen.

You-tube clips and internet pages describe how the ethanol can be removed from petrol (at your own risk) <https://www.youtube.com/watch?v=QH2zgomFdEM> for example. I think there is going to be a considerable demand for ethanol free petrol and petrol treating chemicals.

Having trawled through several learned papers I have concluded that brass (needles and jets) are unaffected. Steel tanks are vulnerable to corrosion as are alloy carburettor parts and older types of 'O' rings and similar. Fibreglass petrol tanks and tank liners certainly are. Despite rumours I don't think there's any evidence that two stroke oil is affected, but engines tend to run hotter on ethanol, so small high revving two strokes may seize up. As mentioned before, there should still be a supply (in most of England at least,) of 'premium' fuels with lower ethanol content. I await an official report from the fire brigade of fires caused by an ethanol corroded fuel system. John Bircumshaw spotted a story of a Herald Convertible which combusted. A corroded rubber pipe was suspected but of course it was destroyed in the fire.

Some more thoughts on ethanol. *(Apologies for the lack of fun in the matter... no pictures either.)*

The most common complaint about ethanol fuel is related to 'rubber' fuel pipe rot. Flexible fuel pipe is not a problem as long as it conforms to the SAE J30 R9 rating. It might be worth ensuring the certification is genuine because the old stock with printed white lettering can be cleaned off and re-printed. I wouldn't want to cast aspersions, but when there's a change in the available fuel the old stock held by less reputable suppliers might just get new markings.

Here's a wikipedia page on the history of ethanol. [https://en.wikipedia.org/wiki/Timeline\\_of\\_alcohol\\_fuel](https://en.wikipedia.org/wiki/Timeline_of_alcohol_fuel) , Henry Ford favoured it for the Model T.

The (UK) SAE J30 R9 specification pipe is good for 5% and 10% ethanol. As yet only 5% Ethanol is used in the UK, and there's no compulsion to mark 5% or less at the pump. Also this means 'up to' so there may actually be less, or none. Confusingly the letter E is used to indicate the EU accepted octane rating, but if petrol with more than 5% ethanol is sold it will be marked as 'unleaded petrol 95 E10'. There's a reasonably understandable analysis by the AA at <https://www.theaa.com/driving-advice/fuels-environment/biofuels>.

Some internal tank paints are vulnerable and (I believe) the diaphragm of the fuel pump (Electric or mechanical). Float chamber seals, plastic floats, plastic housing around float needles and fuel filters may also be vulnerable. I have also had it disintegrate a Land Rover 'in tank' filter. Perversely the bits went on to block my in-line filter. I also found blistered paint inside the Midge engine compartment following a leak. It looked similar to that caused by brake fluid. For the main run of the fuel pipe, as far as I can tell, stainless steel pipe is the least vulnerable, though as usual it mustn't be in contact with mild steel. Personally I have used copper as I don't really trust the brittle nature of stainless steels and most don't bend well. Try not to bend the copper too many times though, as that can cause weak points which the acid exploits.

Ethanol has all sorts of nasty habits, quite apart from the fact that it puts rich 'fuel' customers in competition with poor 'food' customers by converting maize etc otherwise destined to be food. The fuel mix itself also attracts water and, importantly, can grow bacterial colonies (*Acetobacter aceti*) which convert the ethanol into acetic acid which rots your carburettor and tank. It also degrades over time so that stale petrol is even worse for starting than before and there will be water at the bottom of the tank. So it is even more important to drain your tank before over-wintering. The fuel companies might think to put a bactericide in the mix, but I haven't heard of it yet. Bacteria that can grow in 95% petrol must be quite tough.

Midges generally have one advantage in that they usually suck the petrol from the engine end of the pipe rather than blow from the tank end. That way any crack or leak tends to draw air in rather than spray petrol out, but remember the line between the pump and the carb is still pressurised. Modern cars usually push the fuel from the tank end and have a return pipe for the fuel not used. This results in two effects, a higher chance of 'sprayed' fuel and the fuel in newer cars is constantly being re-mixed so manufacturers are going to be less concerned with stratification, something ethanol can cause. High ethanol content is rumoured to settle the oil out of two-stroke, but I've seen no scientific proof yet.

I hear Petrol transport companies have the sense to keep the ethanol and the petrol separate until it goes into the filling station tank. Whether the tank rots and then leaks into the ground is of major interest for the environmental agencies, but presumably explains why there was a huge number of petrol stations recently replacing their tanks or going out of business. I don't suppose the big companies minded, but a lot of small rural businesses went to the wall. A coincidence perhaps but I don't imagine the big companies would mourn the loss of the small independents.

<http://www.ethanil.co.uk/> say they can remove the ethanol component (rather expensive) or you can - at your own risk - mix water to the petrol/ethanol and stratify it out. Ethanol has a greater affinity with water than petrol. When the water settles out there should be 2 or 3 layers. Water/ethanol and petrol. <https://www.youtube.com/watch?v=OfZgDkRwAUk> A rather clumsy demonstration but you'll get the idea. I seem to remember that a petrol soaked filter will stop water droplets or vice versa, which might be of interest when finalising the process. JH

Don't they make a lovely couple? Keith Warren's and Tom Sanderson's Midgets at the last meet of the year, on 1st September, Friday night at the Humber bridge car parks Classic Night organised by the East Yorkshire Thoroughbred Car Club. There were at least 500 cars in 3 car parks from American Muscle cars to Austin Sevens and motor bikes.



East Yorkshire Thoroughbred Car Club website is at

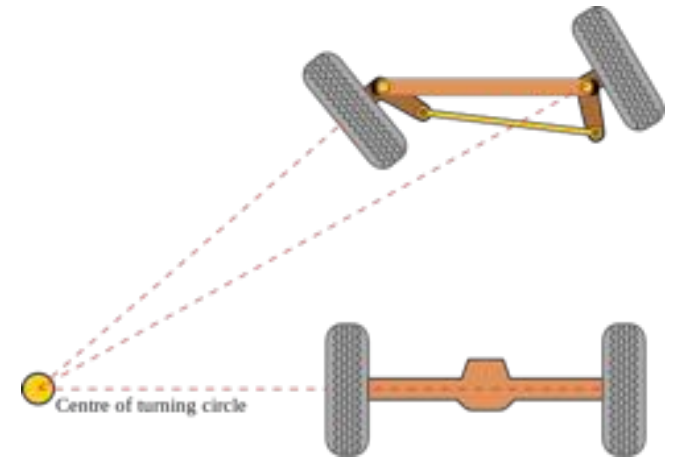
<https://youtu.be/CAC8x72QWYQ>

and you-tube link <https://eytcc.uk/>



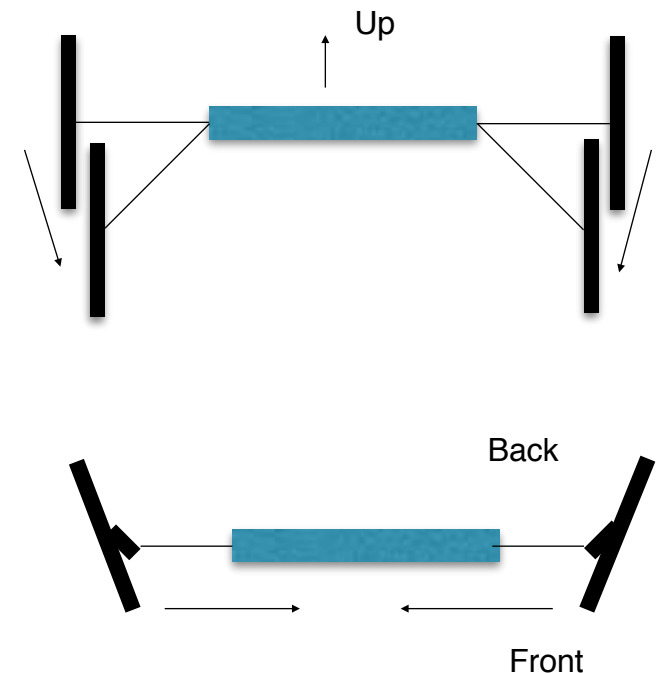
Ackermann steering geometry and the 'Ackerman angle' originally invented by Erasmus Darwin, Charles' grandfather then again by Georg Lankensperger and patented by Rudolph Ackermann Image and references from Wikipedia.

Anyone who rode a 'go-cart' made from pram wheels and a wooden body will remember how they steered with a turntable pivot. The front wheels were always parallel so it tended to jump about a bit on corners. That was because the inner wheel was trying to go around a circle that was smaller than the circle the outer wheel was attempting and you can't do that unless the back end breaks away bringing the front wheels parallel again. In Top Gear this results in a lot of smoke and rear tyre wear for people who presumably don't have to pay for their tyres. Assuming the back end doesn't break away the front tyres understeer and wear quickly, and in the front wheel drive version the inner wheel jumps up and down if the shock absorbers are worn. Of course this all gets more complicated on any axle where the turn rate on the two wheels is fixed, train driving wheels for instance, but that's a story for another day.



Tracking, or 'toe in'.

Independent suspension makes for a more comfortable ride than the beam axle but it has one failing in relation to the Midge. If the steering rack is mounted on the chassis the wheels can move up and down in relation to them. This means the effective length of the track rods and the steering rack is shortened when the car goes over a bump or dip. Exaggerated on the right. Unfortunately, because the steering uses short 'arms' to create the 'Ackermann' effect and they are in front of the centre of the wheels, that means the bump pulls the wheels together at the front of the wheel more than the back, so they toe in. This is quite normal, and reversed if the steering rack is behind rather than in front of the middle of the wheels. As it only happens on dips and bumps that happen to both wheels the effect on handling is minimal. However the original Herald design weight on Midge front wheels is reduced by moving the engine backwards and reducing the body weight, so unless the tracking is adjusted the car is always 'toed in' which wears the outside edge of the front tyres. Most Mk1 Midges have been adjusted for that, but remember if you change to a 6 cylinder engine or replace your front springs or go from one light driver to two heavy occupants, no personal slight being intended.



I was hoping to get a MOBC Calendar together for next year, but I've only had two pictures so far. I could use my three but I don't think there'd be much of a market for that. When I've got 12 I'll re-evaluate. That's 12 pictures, I think my wife would object to twelve Midges.



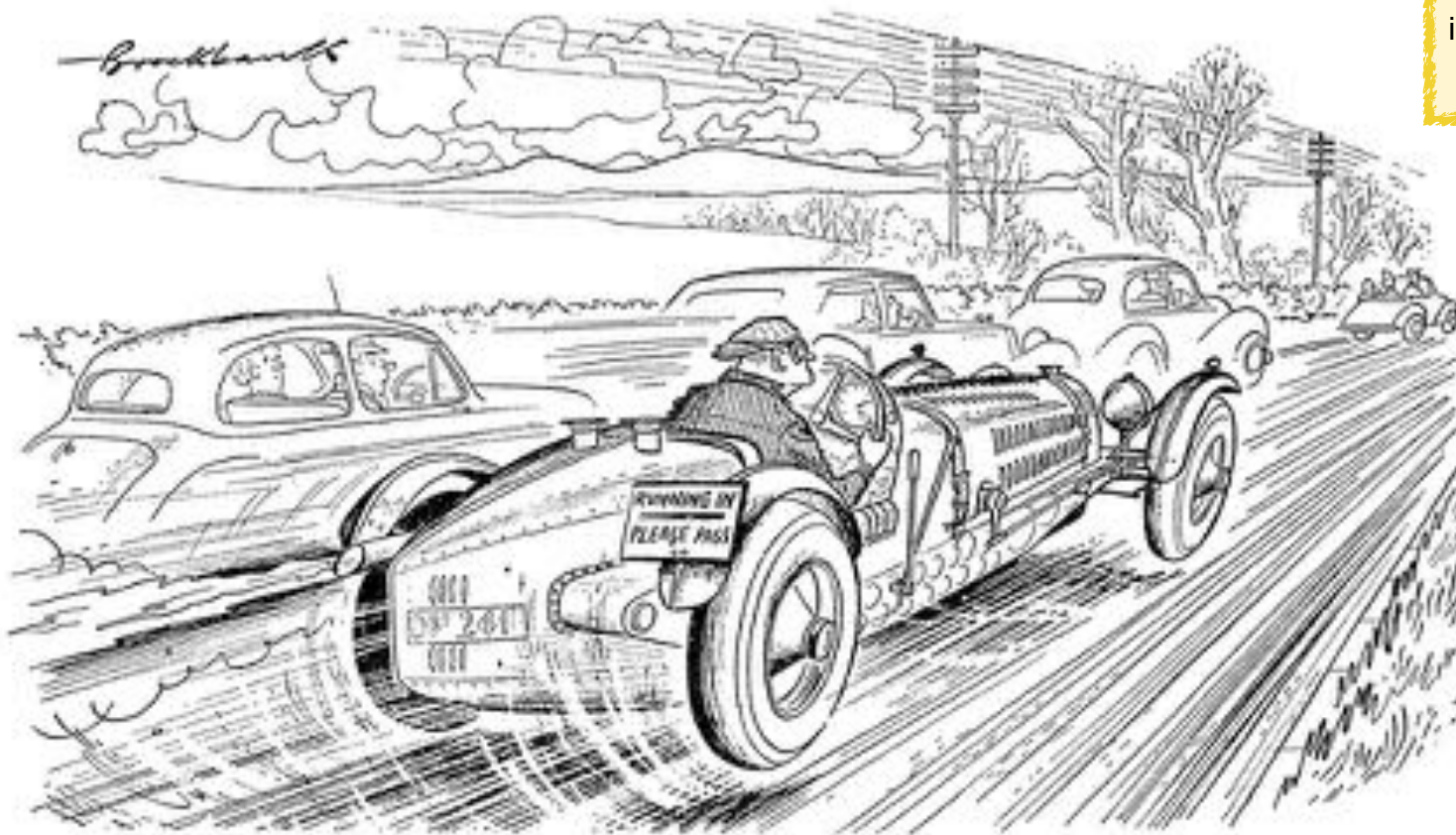
## UK 2018 Events

The Car and Classic site does event prediction so much better than I can, there seems little point in copying their web page, especially as they can update as the months go by.

If you go to

[http://www.carandclassic.co.uk/  
car\\_events.php](http://www.carandclassic.co.uk/car_events.php)

You can get the information direct, that's where I get it. If something you know about isn't on it, tell me and I'll add it to our pages.



# 40 year rolling MOT Exemption

This is only going to be of interest to UK based Midge drivers, my apologies to the others. On the other hand, by way of compensation, you've all seem to have been getting better weather for driving. Opinions and info from continental and other 'outliers' would be interesting for future magazines.

Most UK Mk 1 Midges are now registered as 'historic' and therefore not charged for a tax disc, and we are now, from May 2018, presented with the MOT requirement question. Most of these terms have been changed, out-dated or modified since their inception so a degree of translation will have to be performed when reading. For instance the term Mk1 only came into use when JC invented the Mk2, and MOT should read VOSA certificate or something in that vein. Here's a bit I pinched from Wikipedia.

"The name derives from the Ministry of Transport,<sup>[5]</sup> a defunct [government department](#), which was one of several ancestors of the current [Department for Transport](#), but is still officially used. The MOT test certificates are currently issued in [Great Britain](#) under the auspices of the [Driver and Vehicle Standards Agency](#) (DVSA) (formed as a result of the merger between the [Driving Standards Agency](#) (DSA) and the [Vehicle and Operator Services Agency](#) (VOSA)), an [executive agency](#) of the Department for Transport, and before 1 April 2014 by VOSA. Certificates in [Northern Ireland](#) are issued by the [Driver and Vehicle Agency](#) (DVA). The test and the pass certificate are often referred to simply as the 'MOT'".

Classic cars, Kits, re-bodied cars and Q plates can be registered as VHI (vehicles of historic interest) if they are already 'Historic vehicles' and thus tax exempt. They need to have been first registered on May 31, 1978 ie 40 years before the exemption was introduced and rolling forwards. So exemption can be 'declared' at a post office MoT as of 31 May, 2018 onwards. The car needs to be 40 years old and, importantly, not substantially modified for 30 years. ie since May 31st 1988. In practical terms this means the date of the conversion of the chassis. The 30 year date is also rolling forward, but many Midge owners don't actually know when theirs was converted. Since Heralds were usually being scrapped at about 10 to 15 years old perhaps that would give you a ball park figure. In the end it might be best to continue getting MOT certification so that you know an expert eye has had a good look underneath. Any 'incident' caused by mechanical failure is still the responsibility of the driver, even when driving back from the MOT station. It also gives you a deadline to complete repairs and modifications, and can be used as an excuse for time and financial expenditure.



# Missing your old road fund licence?

I have a shiny chromed tax disc holder and didn't want to waste it now there are no more tax discs to put in it, and I think older cars look 'wrong' without it. Fortunately here are a number of websites offering 'fake' or repro tax discs like this one, [Discy Business](#) from which I have ordered up an example for myself is one. There doesn't seem to be a '30s style one to go with the '30s MGJ2 look yet, (It would be difficult to reproduce in a way that could be modified to taste), but the developer (Carl) is working on one. He also asked for a copy of our logo with a view to incorporating it into a disc which the members might find attractive. The '50s one looks ok to me at about £6 and can even have edge perforations. Incidentally there are a lot of different styles attributed to that time. I haven't seen the quality of other repro discs but some are just a pound or two. You might try [this one](#) or [this one](#). The disc I ordered has now arrived. Much as shown at 75mm diameter but the edge lettering is more regular and on good quality strong paper. On consideration I should have used 1935 as the year, but I'm very pleased with it.



You could order a new one every year, to coincide with the MOT due date, or even have a contemporary disc each year to show how much you miss them. A little expensive perhaps, but it could solve somebody's Christmas present for many years.

Speaking of Christmas, here in Late September the cards, adverts, decorations and such are beginning to emerge. So here's one I copied earlier. It's not so much a card as a demonstration of a complete lack of understanding of vehicular mechanics, (Compare page 6) steering, physics, perspective, health and safety, aerodynamics, anatomy and art. It doesn't include the Ackermann concept and hasn't got number-plates or a tax disc. And they complain about a wee bit of chassis adjustment! The 'artist' went on to become minister for transport. (Actually a complete lie.)





This hasn't much to do with Midge until you look under the surface. Hilda Beatrice Hewlett, or the 'Old Bird' as she was known later, went one stage further than building her own car, she became the first female UK pilot and started up a factory making planes for the first world war effort. There are books about her, a book by her, Wikipedia and other web pages and a few plaques and street names here and there. Her husband, Maurice Hewlett, was an author, famous in his day, and although a bit stuffy about what a flying wife might do to his reputation, didn't actually try to stop her. Bearing in mind what she managed to do when women were considered more or less the husband's property, that might have been a wise move. The car is a 1907 chain drive Daimler and the dog is Kroshka. Hilda (aka Beatrice,) (aka Mrs Bird) also has the qualification of being my great Aunt, or at least I think that's what my grand father's brother's wife comes out as. I may have inherited the family tendency toward writing rather than flying, but it is generally safer.

Being a bit short of material I thought this would do as a filler, but if members write a few stories I can avoid inflicting my family on the club (there are quite a lot more, so be warned). JH



The [facebook](#) page is getting quite a bit of traffic, so I would recommend anyone who has access to a computer to have a look. It's a 'closed' page so access is very limited unless you get added to the list, which I can do fairly easily. Incidentally the invitation sometimes doesn't 'take' so if you don't get an invitation by email then tell me. I think most people join by finding the page when they search for Midge Club or MOBC or kit cars (which I know they aren't, but searchers don't always know what to call them).

Quite a few members are a bit challenged by computers and get their children to help, another trick is to latch onto your wife's facebook page. It's a bit of a faff but that's the way the world is going at the moment and it'll keep you up to date. The best method is to ignore 'suggestions' of interesting sites, friends you don't know and Eastern European women who have noticed you and want to be your friend. The less you put into your 'profile' the less facebook will know about you. Not that it'll stop it from making helpful suggestions, so, although it sounds a bit unfriendly, minimise your number of friends and don't click on anything you are not sure about. And avoid the kittens!

As we have a little space I'll take the opportunity of welcoming Max (Massimo Santorelli ) from Rome, who has rescued a Midge at the last minute, just as the rot was getting into the back end. It looks as though he has a decent amount of space to work in too, or perhaps that's his mechanic's space. I like working on Midges, but having a tame mechanic sounds useful.

