NORCEMOG NEWS

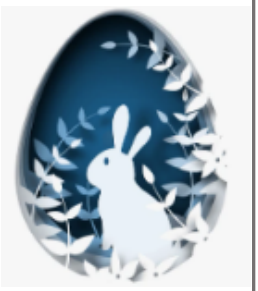
NORTH WEST AND CHESHIRE

April 2024

A Wet Bank Holiday Monday @ Oulton Park

Welcome to your April Newsletter.

Headlines on ONE



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Please send your articles to norcemog.sec@morgansportscarclub.com

Subscriptions for 2024 due 1st April

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Please email Linda Fearn to let her know you've paid or pay at the AGM.

Noggin News

With the second Sunday in March being Mother's Day we were unable to find a lunch venue willing to take 30+ NorceMog members on such a busy day. Nevertheless, we currently have at least 1 event per month for the rest of the year except for November – Volunteer anyone?

April 14th – **AGM and lunch at Vale Royal Abbey Golf Club** – If you have not booked yet please do so **NOW!** And select your meal choice. The menu can be found **HERE. Closing date is 10th April**

May 12th – Autotest & Concours – Thanks to Robin Askew we have a new venue near Clitheroe for 2024. Always good fun in a safe, lighthearted environment - **Details**

June 6th – A mid-week get together at a private American war vehicle museum followed by lunch at The Cross Keys, Whitechapel, near Preston. **Details**

June 30th – Arley Hall Garden Festival – Free entry for display cars, We have 6 spaces remaining if you wish to attend. Contact **Centre Secretary** to reserve a place.

July 14th – Hoghton Tower, PR5 0SH – Privilege parking, Guided tour and lunch in private dining room. £32 per person – Contact Geoff Mizon to reserve a place **Details**

Keith Mowatt

We are saddened to report the passing of Keith Mowatt during March. Our more experienced members will remember Keith as a lively character who greatly supported NorceMog during the time of his Morgan ownership. A previous winner of the Wilkinson Sword and Layshaft Trophy he will be sadly missed by all who knew him. Our thoughts are with his wife Pam at this very sad time

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Event Calendar 2025

At our last committee meeting, reported in the March edition of the Newsletter, we prepared a list of potential venues / places of interest that could be considered for one of our events in 2025.

We just need some volunteers now to select one of the ideas and act as host / event organisor for a month of your choice in 2025.

Some ideas are below and please do not be limited by this list if you know of another venue / event that would be suitable.

- Lancaster Canal cruise from Barton Grange
  - Barton Grange Afternoon, Cream Teas, Lunch and Dinner Cruises (kingfishercruise.co.uk)
- Steam Museum, Poynton
  - http://www.enginemuseum.org/index.html
- Bowland Brewery at Clitheroe
  - Bowland Brewery | Clitheroe, Lancashire
- James' Places – Different venues
- The Carding Shed –
  - http://thecardingshed.co.uk/
- JCB tour – mid week includes lunch.
  - Factory Tour | JCB.com
- RHS Bridgewater in Spring or Autumn
  - RHS Garden Bridgewater / RHS Gardening
- WWT Martin Mere
  - Martin Mere Wetland Centre | WWT
- The Mill at Condor Green – Meal or midweek break
  - Mill At Conder Green -
- Skipton Castle
  - Skipton Castle, Superbly Preserved Medieval Castle, Yorkshire
- Lancaster Castle
  - Home | Lancaster Castle : Lancaster Castle
- St Catherines Hospice – organise a car meet on some Sundays.
  - St Catherine's Hospice | Quality of life to the end of life (stcatherines.co.uk)
- Bancroft Mill Engine Trust & Museum
  - Bancroft Mill Engine Museum | Bancroft Mill Engine Museum, Barnoldswick
- Anderton Boat Lift
  - Anderton Boat Lift & Visitor Centre, Cheshire | Canal & River Trust (canalrivertrust.org.uk)
- Keighly & Worth Valley Railway
  - Keighley & Worth Valley Railway - Keighley & Worth Valley Railway (kwvr.co.uk)
- Bury Transport Museum
  - Bury Transport Museum - The East Lancashire Railway (eastlancsrailway.org.uk)
- National Trust property visit
  - Various locations Home | National Trust

Please contact norcemog.sec@morgansportscarclub if you are available to volunteer.

British GT Championship – Oulton Park

Easter Monday at Oulton Park and NorceMog members were allowed free admission if they pre-booked a display vehicle ticket.
12 Races from 08.35, 6 championships enjoying their first rounds of the season and an eclectic mix of vehicles from Lamborghinis, McLarens, Aston Martin Vantages, Mercedes AMG GT4's and Ginettas to single seaters all contributed to a great day racing. Some in the wet, some in the dry, yes, the sun did shine for a couple of hours in the afternoon! A great day out for petrol heads, me and my Grandson!

A bit wet for the GB3 Championship contenders

Ginetta Junior Championship

Lamborghini leads McLaren in British GT Championship

Before the rain returned

Technical News - Understanding Suspension

with Particular Reference to the Traditional Morgan by *Tony Cory*

In my short time of Morgan ownership, I've read a great deal of correspondence relating to Morgan's traditional suspension, its characteristics, shortcomings, and what various Morganeers have done to adapt the system to suit their preferences. I've also realised that much of the information in circulation is based on hearsay and a limited understanding of engineering principles, and wanted to offer something from my own experience and background which might be useful.

I think I need to explain what qualifies me to contribute. I graduated a long time ago in mechanical engineering and spent my working life as a mechanical engineer with a strong focus on design. However, it wasn't until working on a retirement project that I got to grips with suspension, designing and building an independent rear end for my Hawk Ace – still unique I think! I've also more recently gained a lot of knowledge about my 1977 4/4 which has hopefully added some authenticity to this article. In deference to the era of the traditional Morgan, you will find Imperial units referenced throughout. We'll start with an explanation of three fundamentals, the force-deflection diagram, capacity, and preload.

Force-deflection diagram: This is a means of displaying the motion of the axle relative to the sprung load. It's a fundamental tool to evaluate and optimise any potential changes to the suspension set-up.

Capacity: *(The terminology used here is my own and may or may not be consistent with that of a dedicated suspension engineer)* Capacity is a measure of the ability of the suspension to absorb both static loading, and dynamic loads due to acceleration, braking, cornering and road surface conditions. We'll look at two measures of capacity – first, static capacity, which is the maximum load carried at the limit of deflection, and secondly dynamic capacity, which is expressed as energy, and is represented by the area under the force-deflection graph, to the right of the static deflection.

Preload: A means of setting and controlling the capacity of the suspension, particularly useful where suspension travel is limited. Changes in preload affect the ride height, but preload adjustment is *not* primarily a tool for ride height adjustment, without understanding the corresponding effect on suspension capacity.

The following examples should add some clarity.

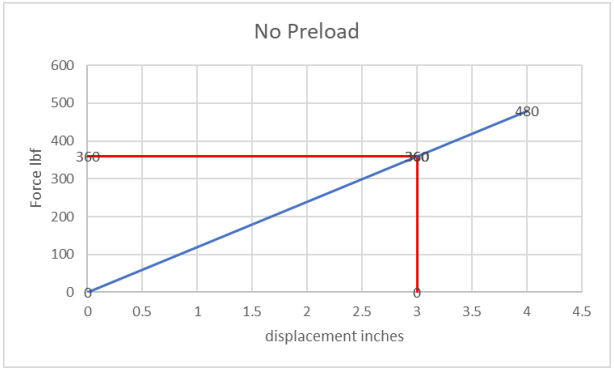

Figure 1: No Preload

Figure 1 is a force-displacement diagram for a simple suspension with no preload. The sprung load is 360lbf, the spring rate is 120lbf/in and the total suspension travel is 4 inches. Dividing the sprung load by the spring rate gives the static deflection, which is three inches. Just one inch remains to cope with dynamic loading. At the full four inches of travel, the load – or 'static capacity' is obtained by multiplying the travel by the spring rate to give 480lbf. The dynamic capacity is the area of the graph under the last inch of travel, found by multiplying the mean load by that inch, and dividing by 12 to convert in-lbf to ft-lbf, giving 35 ft-lbf.

In practice that wouldn't be very satisfactory on the road, the capacity would be inadequate to prevent frequent bottoming-out. If the travel can't be increased, and it is desired for comfort not to increase the spring rate, then preload is required.

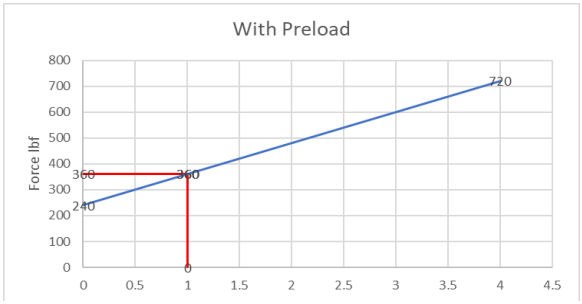

Figure 2: With Preload

Figure 2 shows the effect of applying a preload of 240lbf. In this case the sprung load causes only one inch of deflection, the static capacity is 720lbf which represents 2g, and the dynamic capacity has increased to 135ft-lbf. Note though, that the ride height will have increased by two inches.

Figure 2 is similar to the Morgan's rear leaf spring suspension. Anyone who has struggled to fit a new rear spring will probably have realised they were applying the preload. Without preload, there would be little or no capacity in the suspension beyond the static load point, and the ride height would be much too low.

At the front, the arrangement is rather different, due to the use of a 'rebound' spring below the sliding stub axle. This means that the axle, rather than being infinitely stiff and immobile when loaded until the value of preload is exceeded, moves as soon as loaded but with a high stiffness, being the sum of main and rebound spring. Once the movement is sufficient to unload the rebound spring, the stiffness reduces to that of the main spring alone.

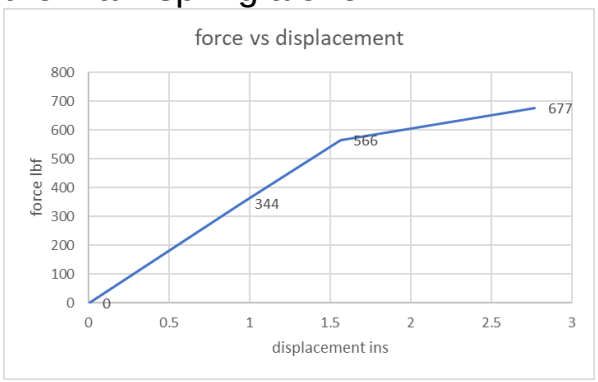

Figure 3: My 4/4

Figure 3 shows the force-displacement diagram for my own 4/4. As standard, the car has a ride quality that is harsh by modern standards, and under high lateral accelerations an unwelcome increase in roll rate may be detected when the stiffness transitions from the combined spring rate to the main spring rate. I have a sprung front corner weight of 344lbf, main spring rate of 91lbf/in and rebound spring rate of 271lbf/in.

Spring calculations lend themselves to a spreadsheet format, generating the force-displacement diagram and calculating the suspension capacities. The effect of any changes is easily seen and evaluated. In Figure 3, the static capacity is 677lbf. The static load deflection is just under an inch, and the area under the graph to the right of this point is equivalent to a dynamic capacity of 86ft-lbf.

Reducing the preload (for example, by using shorter springs) could provide a much softer ride, as shown in **Figure 4**, where the intersection of the two spring rate lines coincides with the static load point. The disadvantage is that, without any other compensatory change, the suspension *capacity* would suffer.

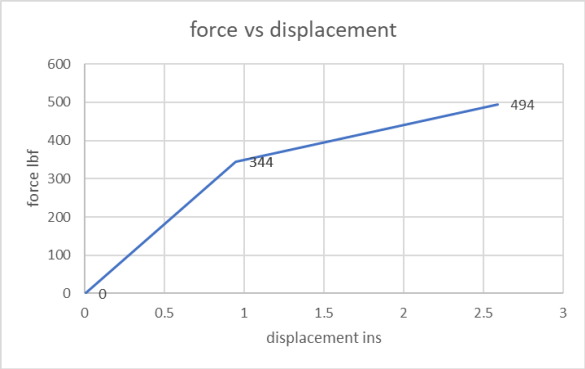

Figure 4: My 4/4, reduced preload

In this case the static capacity is reduced to just 494lbf and the dynamic capacity to 57ft-lbf, which would leave the suspension wanting under more enthusiastic driving or poor road surfaces.

Using stiffer springs would improve the situation, but without being *very much* stiffer, would probably not recover the capacity of the standard arrangement. There is, however, another trick:

Auxiliary spring

It's possible to fit an auxiliary spring to the upper kingpin in place of the rubber bump stop. This is normally unloaded but comes into action part way through the dynamic part of the diagram. This can be tuned to provide a higher rate at increased levels of lateral loading, which is generally considered desirable. The increased stiffness, combined with a little more useful travel, can recover, or better the capacity of the standard setup.

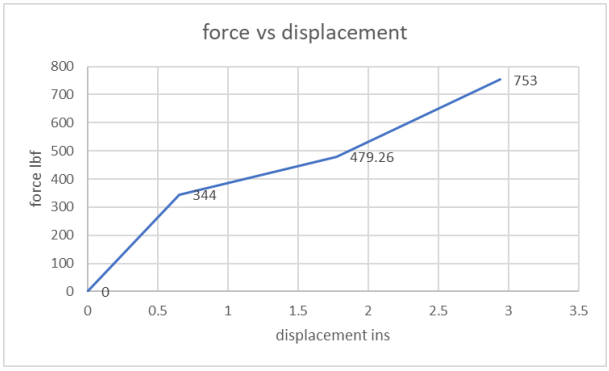

Figure 5: Optimised with auxiliary spring

Figure 5 shows the diagram for an auxiliary spring installation as a 'rate-riser'. The main and rebound spring are somewhat stiffer than the standard installation. The main spring has a rate of 120lb/in which is applicable to most normal driving conditions, with the rate-riser coming into play for higher lateral loadings and road surface irregularities such as potholes. In this particular example the static capacity is 753lbf and the dynamic capacity 99ft-lbf. These figures comfortably exceed the 'standard' capacities typified by my 4/4.

The traditional Morgan suspension is quirky and the way it functions is not always well understood. Hopefully the explanations in this article may prove useful. Should anyone have any questions, please contact me at cory693@btinternet.com. I'll be happy to help.

Tony Cory - March 2024

Your MSCC – The National Committee (NCM)

The MSCC National Committee comprises of elected officers of the club and all the Centre Secretaries from across the UK. There is an NCM meeting scheduled for twice a year, conducted via Zoom since Covid, and all Centre Secretaries are invited. A lengthy agenda is efficiently progressed and any actions recorded on the Decision and Action Log or DAL in Morgan speak. A copy of the latest DAL is available at **this link.** If you wish to receive any further information, please contact the Centre Secretary.

Your MSCC – Survey Summary

You may remember being asked to participate in a survey on behalf of The Morgan Sports Car Club earlier this year. Below are some initial observations from the survey for the Board to consider in due course.

- The overall response rate of c. 30% is good, almost the same as in 2013.
- Encouraging that 96% of members on six-month free membership intend to continue.
- The age profile is stark, with almost 75% of responders over 66.
- One in six responders would not recommend joining the MSCC to others. The comparative figure in 2013 was 2.6%.
- 65% belong to one or more Centres. Although we must accept that the members who responded are more likely to be actively involved in Club activities, this figure is still much higher than I was expecting.
- Over a third say they have used the insurance scheme, of whom half are satisfied.
- 45% say the spares service is important but only 6% have used it in the past 12 months and only 26% are satisfied.
- Almost 30% think the Club is cliquey and 20% old-fashioned.
- Good response on volunteering, either existing or offering. We should ensure contacts are followed up.
- Motorsport: Useful to see level of interest quantified. Summary sentence for Q43 overstates level of ‘active involvement’.

- 86% want Miscellany in printed form – higher than I expected, and relevant to the discussion on subscription rates.
- Lots of interesting results the breakdown of self-service vs dealer owners, for example. How that impacts their views on Miscellany content and lots of other things is fascinating. Centre vs non-centre too.
- The age demographic is interesting compared to 2013 - it suggests we have gained some younger than the main age-group, and lost some of the older ones, but mainly that the bulk
  of our members have aged 10 years in that time... It would be very interesting to see comparisons between under and over 65s (under 55s prob too small a group?)
- The comments have a lot of calls for more local events, but also more driving, active events. I am hoping that breaking down the above Q's by age might suggest which events etc.
  the younger, more active members would like (and therefore what to publicise to attract them).
- The number of Centre members does seem surprising given previous conversations, so whether this reflects the increased propensity of these members to respond or whether in fact the % of Centre members is more that the c30-40% we have been discussing, this is a significant piece of information gathered from the Survey.
- We included the Net Promoter Score question in the standard industry format…so if anyone asks or for comparison with peer organisations we can provide a benchmark.
- In practice if we asked the same question differently e.g. yes/no it may be the number who say they would recommend the Club would be higher.
- Whether you are... a Centre/Non Centre member, Service your car/s yourself or use a Dealer/Specialist, are a recent or long-time member, the relatively even picture in responses to the questions seems to suggest that with a few exceptions... 'our members pretty much think the same way about the Club'…which in some ways makes things easier in terms of planning and developing new services.
- The most obvious strategic issue is the age of the membership…with almost 25% being 76+ the size of the Club might be forecast to shrink significantly over the next 10-15 years, reinforcing the importance of continuing to recruit new UK owners and retaining/winning membership from anyone taking on a pre-loved car.
- The fact that almost 60% rely on Dealers or Specialists to maintain their cars, plus the interest in more Dealer- led events, is perhaps one area the Club could explore more …especially if we were looking to increase

membership recruitment via these channels.

- The area around insurance stands out also …for an area which is 4th in the ranking in terms of Services which are Very Important to members, barely 50% are fairly or very satisfied with the experience via the MSCC signposted Insurance partners.

And Finally…..

We are all used to allowing extra time when we park the Morgan to converse with the envious onlookers who just have to talk to the owner. As I got out of the car at Oulton Park an enthusiastic gentlemen rushed up to me….

"Thank you, thank you, the look on that Ferrari drivers face when you started to turn into their allocated car park space was priceless! You've made my day!"

We aim to please!

For all the latest news on all our events please click this link.
http://www.norcemog.com/Calendar%20of%20Events/2023Diary.pdf