

Somerset Automobile Club

Chairman's Chat

March 2026



I trust that it is not seen as a political statement but simply a factual comment that the continuing inclement weather has resulted in a totally unacceptable development of potholes, including on Motorways, broken edges on rural roads to a level that is beyond totally unacceptable and damaged or missing unreadable road signs. It is difficult to judge when this situation may be resolved, if ever, however, I am entirely pleased that I do not ride a motorcycle or likewise, that the SAC is not viewed as a 'lobby group' that could be expected to 'represent' motorists' complaints.

So, we have reached March when our events calendar for 2026 starts with our Thursday 5th March visit to the Country Classics Motor Museum in Taunton. While I have already submitted details of our attendees to the Museum I'm sure that late 'entries' will be acceptable. If you still wish to enjoy this visit please let me know promptly.

As you know, Jim has already circulated the Calling Papers for our AGM on Wednesday 1st April with a clear calendar prior to the event. As you also know, The Batch Country Hotel at Lympham is our regular venue.

It is the time of the year when you can give consideration to joining the SAC committee. The role is not onerous, given that we meet 5 times annually, by Zoom, for meetings which are very brief. That said, I am extremely pleased with the support given to our 2026 programme by Alan and Pam Williams, May Social Run and Lunch, and Andrew Owst who with Jim Lott will organise our similar event in October. New 'blood' on a committee is always welcome, if not necessary, but the SAC can function in an entirely satisfactory manner if your strong and willing support is available.

During our AGM, which will start promptly at 12.30pm, I will seek to ensure that adequate time is given to present the annual reports and for any necessary discussion and voting. It will, however, be completed in 'good' time to ensure that our lunch will be served equally promptly at 1.00pm. If you are unable to attend, an Apology will be appreciated.

Future events:

Thursday 5th March: A Visit to County Classics Motor Museum, Taunton

While 'final details' have been submitted to the Museum staff, if you wish to join the visit at the last minute, please respond to me by return. Cost/head is £13.95, payable to the SAC Account in advance. Lunch will be available to prior order. The 1.5 hour Guided Tour starts at 11.00am.

Wednesday 1st April. AGM and Lunch.

Once again we return to The Batch Country Hotel, Lympham. Jim will organise the AGM I thank Pauline for agreeing to organise the lunch. We will gather from 11.45am for a prompt AGM start at 12.30pm. That will ensure a timely start of the Lunch at 1.00pm. I assure you that while the AGM will provide adequate time to cover the necessary formalities, our dining will not be delayed.

As ever, guests are very welcome and I look forward to greeting you when, undoubtedly, we will once again enjoy a hospitable and well supported lunch at this popular venue.

If so, please make your selection from the following menu and email Pauline with your choices at: pgrally@aol.com or on 07971529721

a) Starters:

- (A) Home-made Chicken and Orange Pate with Cointreau with Wholemeal Toast on a bed of Mixed Leaves.
- (B) Smoked Salmon, Creme Fraiche and Rocket Puff Pastry Tart with a Salad Garnish.
- (C) Cream of Stilton and Broccoli Soup (V).

b) Mains:

- (D) Rolled Leg of Lamb roasted with Garlic and Rosemary served with Red Wine Jus.
- (E) Home-made Traditional Fisherman's Pie.
- (F) Mushroom Stroganoff (V).

c) Desserts:

- (G) Apple and Cinnamon Crumble.
- (H) Sticky Toffee Pudding with Creamy Custard.
- (J) Vanilla Cheesecake with Raspberry Compote (V).

The cost/head will be £35.00. Please respond by Monday 23rd March and make payment to the SAC account marked with your Name and 'AGM Lunch'.

Tuesday 12th May: Picturesque Wye Valley Tour and Lunch.

Pam and Alan Williams, who have given much thought to this event, write:

We will meet at 1030 at the Wolfridge Alpaca Café, Forty Acre Lane, Alveston, BS35 3QU for coffee/cakes. See: <https://www.wolfridgealpaca.co.uk/wolfridge-cafe/>

Setting off at 11.10, we will head for lunch for 13.00 at The Lion Inn, Church Street, Trellech, NP25 4PA. They can accommodate up to 50 in their restaurant. See: <https://lioninn.co.uk>

No dogs are allowed at either venue.

Pam and Alan can be contacted on: pamwilliams603@gmail.com / 07891871718.

More details, including Lunch choices, to follow in March.

Friday 22nd May: Visit to the Science and Innovation Museum at Wroughton.

Phil Rumney's tenacity has now secured a guided tour visit to the Science Museum collection at Wroughton, on Friday 22nd May see: <https://www.scienceinnovationpark.org.uk/>. We have secured 15 places for a 1¼ hour visit starting at 10.00am. Cost £25.00/head. A venue for a 'Pub Lunch' will be sought for lunch. More details to follow next month or direct from Phil Rumney.

Tuesday 16th June: Tea Party at the Walton Park Hotel, Clevedon.

Once again we have chosen the popular Walton Park Hotel for our annual Tea Party which, this year returns to the traditional date, marking the anniversary of the foundation of the SAC. Pauline Gullick will organise this popular event and be your contact. Details to follow.

Thursday 6th August: Lunch at the Forge and Pheasant Restaurant, Hartham Park, Corsham.

Following a 'make you own way' drive we plan to return the Forge and Pheasant Restaurant at Hartham Park, Corsham following our enjoyable 2025 visit. Dave Blatchford will organise this event for the second year.

Monday 7th September (TBC): Visit To Bristol Aerospace and the Rolls-Royce Engine Collection.

As noted above Roger is close to agreeing a date for this visit to the Aerospace museum which will include a Guided tour of the newly introduced R-R 'Bristol' aero engine collection. Roger has sought expressions of interest with a request that you respond to Jim Lott at sac.secretary.24@gmail.com.

Thursday 15th October: Social Run and Lunch.

I am very pleased to confirm that Andrew Owst together with Jim Lott have agreed to run this event for us. Starting at the Ring o' Bells in Compton Martin we will finish for lunch in the Clevedon area.

Sunday 22nd November: Autumn Lunch to be held at The Batch Country Hotel, Lympsham.

I will organise this event.

Members Cars 1: John Harris 1926, 3 litre Bentley. 100 Historic Years. 60 Years Ownership!

John purchased his 1926, 3 litre Red Label Bentley with Van den Plas touring body in 1966 having registration number RU 3089. Inevitably, it became a central focus of John, Margaret and their family's motoring life. During John's 60 years of ownership the car has travelled extensively in the UK and Europe, given his longstanding membership of the Bentley Drivers Club. Most recently, in 2025, together with his sons, Richard and Philip, he attended a 7-day Bentley gathering on the Isle of Man.



RU 3089 pictured at the SAC 110th Anniversary Tea Party held at Ston Easton on 15th June 2014. John Harris centre, Margaret second right.

In the period when these cars were manufactured, Bentley only supplied rolling chassis to well-known coachbuilders of the time. As such, the Van den Plas Company was a leading and favoured supplier of open touring bodies for vintage Bentleys'. The '3 litre' was supplied in three levels of tune:

- Blue label long chassis and short chassis and lowest state of tune.
- Red label or speed model, short chassis only and higher state of tune.
- Rare Green label or super sports, extra short chassis, highest state of tune, basically a 2-seater and guaranteed to do 100mph



The 'Label' is illustrated by the colour of the Radiator Badge

John is the fourteenth owner with two former custodians being noteworthy.

Firstly, Harry Bowler, who owned RU 3089 from early 1934 having responded to a 'small ad' in The Autocar of 2nd February. While the asking price was £200 he paid £184, that being a 'market price' at the time. Harry Bowler, who latterly became the President of the Vintage Sports Car Club, started what he described as 'a mild competition career' in both off-road, classic trials and racing, predominately at Brooklands but also notably at Donnington. In fact in Harry Bowler's 'hands', between 1934 and 1936, '3089' amassed an enviable and permanent record of achievement at Brooklands:

- the only Bentley to win on the Mountain Circuit* course.
- the only Bentley of any size to win twice on the Mountain Circuit course.
- the only 3-litre to score a 'double' at Brooklands.

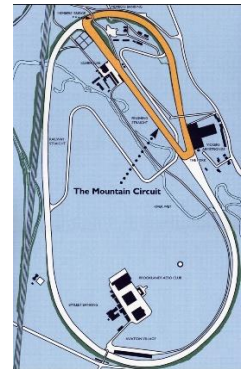
These achievements and others are recorded on two plaques, shown here, affixed to the bonnet of '3089'.



* The Brooklands Mountain Course is currently described by the Brooklands Museum 'as having been introduced in 1930, as a smaller section of the track by the new Clerk of the Course, Mr A Percy Bradley.

This fast and furious 1¼ mile lap running from the Fork to the rear of Members' Hill and back, provided a cross between road and track racing. It was a tough course for the drivers and a stern test of acceleration, braking, and road holding for the cars'.

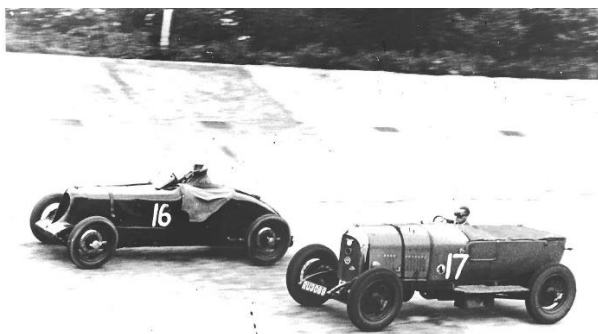
In addition, at its last Brooklands race meeting in October 1936, Harry Bowler achieved a best lap speed of 97.85 mph during a 3-lap race on the Outer Circuit.



During the period of his ownership Harry Bowler modified the engine, having taken the opportunity, following failures, to lighten the crankshaft, install 'improved' pistons and to increase the compression ratio to 6.4:1 from 6.0:1! That work cost £58 and together with a chassis repair of £30 were the total maintenance costs incurred until he sold the car in 1941. Also, in that period the windscreen was lowered in the interests of improving the attainable top speed. The manufacturers claimed top speed of a 'Red Label' was 100mph and consequently the performance achieved at Brooklands demonstrated both the benefit of these modifications and the skill of Harry Bowler, pictured below.

Harry Bowler was the father of the late Michael Bowler, the highly respected magazine journalist and editor (The Autocar and The Automobile), prominent historic racer, FIA delegate and engineering chief of Aston Martin. Michael Bowler donated all of his father's extensive archive of information about '3089' which has been added to John's own records. It is, therefore, not a surprise to learn that this car was centrally featured in 'The Automobile' in January 2004.

Photo Left: Harry Bowler racing on the Brooklands Banking in 1935 and Right: taking part in the first VSCC Trial held in the Chilterns in January 1935. That photo is also to be found in Peter Hull's definitive book 'The History of the Vintage Sports Car Club' published in 1964.



The second notable owner (before John!) was George Errington, who having purchased '3089' in 1945, retained ownership for 10 years. Four owners later, John purchased this Bentley. George Errington was a very accomplished Test Pilot and a contemporary of Neville Duke (Hawkers), John 'cats eyes' Cunningham (De Havilland), Roly Falk (Avro), Bill Pegg (Bristol), and Mike Lithgow (Vickers Supermarine). His life is chronicled in the book: George Errington, A Test Pilots Story.

Errington joined the Airspeed Company in 1934 and was appointed as Chief Test Pilot in 1935. He made the first flight of 5 different Airspeed aircraft including the WW2 Troop and equipment carrying Horsa Towed Glider and the Airspeed Ambassador Airliner. He flew over 100 different types of aircraft during his career that was tragically ended in June 1966. He took off from Hatfield in a Hawker Siddeley type 121 Trident Airliner (reg G-ARPY) on a test flight which ended when the aircraft entered a 'superstall' (airflow to the tailplane masked by the mainplane wings) and crashed near the village of Felthorpe in Norfolk killing all four crew.

The Airspeed Company was founded by Neville Shute Norway, the author, and the aircraft designer Alfred Tiltman in 1931. In 1940 it became a subsidiary of the De Havilland Company.

During the 1990's, over a period of 8 years '3089' was totally rebuilt by a local restorer to a very meticulously high standard. Pictured here during and immediately after restoration.



Given its Brooklands heritage '3089' is extremely well known and regarded in the 'Bentley Community' and has, on occasion, been displayed, with priority, at Brooklands gatherings.

Unsurprisingly, during John's 60 years of ownership, '3089' has been a favourite mode of transport for local weddings, by providing a 'sense of occasion' to memorable family events.



However, this photograph is somewhat poignant given, at John's request, he has asked me to record that '3089' was present both his wedding to Margaret in September 1973 and at her funeral in June 2020.

In addition to providing John and his family with very many hours of enjoyment and the opportunity to travel extensively, often with Bentley Drivers Club arranged tours, John has regularly invited friends to experience 'Vintage Bentley' motoring – an unforgettable experience.

Finally, George Errington wrote in praise of 3089 in a BDC Journal in the 1950's when he remarked that 'the maintenance and preservation of such a masterpiece is a pleasure' but adds 'I like to think of my 1926 Bentley, as a dear and dependable, noisy and uncomfortable old pet, which is inexplicable fun to drive, as part of an era worth remembering.

Members Cars 2. Phil Rumney: Mini Marcos Owner Number 1. 60 Years and Counting.

This is a rewritten version of an interview given by Phil to the 'Midas and Mini Marcos Owners Club' as published in their Winter 2025 magazine. Our thanks to Roger Garland, the MMMOC Club Secretary for agreeing to this rewrite.

In the spring of 1965 I received a phone call from Jem Marsh asking if I could visit Bradford on Avon to talk about a new project he had in mind.

In those days Marcos was based at Greenland Mills beside the river in the middle of the town. It was a lovely old building but hardly big enough to swing a cat round in. Jem showed me some drawings of an idea he had to build a car based on a BMC Mini, the idea being that there was a good supply of scrapped or written off cars so engines and drive trains should be plentiful, also a good choice of engine sizes and power outputs.



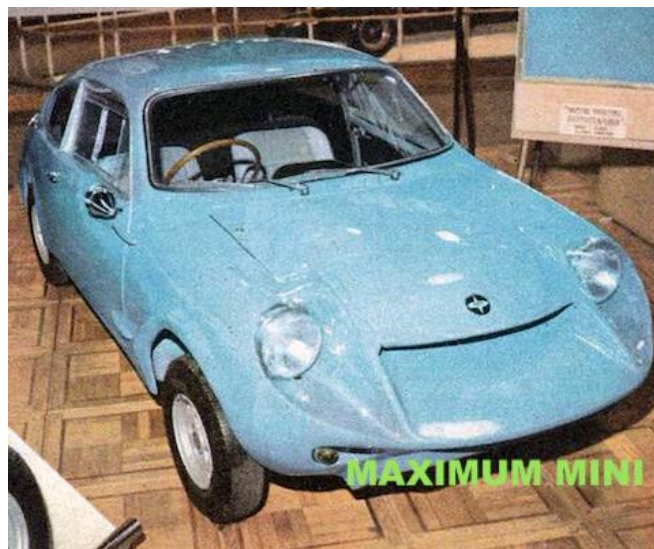
Most 'Mini specials' up to then were clever but quite complicated and by sticking the engine in the back. Jem wanted something simple that the average 'club owner/DIY builder' could put together at home, so engine in the front and use Mini sub-frames to hold all the running gear.

The deal was if Marcos supplied me with a body shell, could I build a car using tools and equipment most of us have in our garages and once built I could use it in 'club motorsport' and get it seen. For me, the thought of having a nearly free car was too good to be true, especially coming from Jem Marsh. Luck would have it that within a few days a friendly insurance worker ask me if wanted a written off Cooper S that had been rolled. It had a 998cc engine and only 1500 miles on the clock.

Also, I had a deadline to finish the build in time for The Racing Car Show at London's Olympia in January 1966 to be put on the Marcos stand.

The other prototype shell was delivered to local rally and racing driver Geoff Mabbs, to build an out and out racing car. Sadly, supported by Janspeed, he made such a good job of it that doing the Weston super Mare Speed Trials on the sea front it took off and hit a lamp post at nearly 100 miles per hour. The accident put Geoff on hospital for a few weeks and the car was 'swept up'.

When I went, with a trailer, to collect the Cooper S I had been offered, I found it was still drivable. If you bent your head over to sit behind the wheel! I couldn't understand why it had been written off as the rest was like a new car. I got it back to my ever-patient parents' home and in a couple of days I had it striped down to a bare shell and filled up half of their garage. I sold the Cooper S shell to a well-known Kingswood body shop for nearly what I paid for the whole car.



Marcos turned up a few weeks later with a bright blue Mini Marcos shell. It was a bit like Marmite, you either liked it or you thought it looked awful. As it was 'free' and as I was going to sit inside it, I argued that it didn't matter what the outside looked like!

The idea was to use as much Cooper S as possible, so it didn't take long to fit the now beautifully painted sub-frames, engine etc once I got the head back from a local Mini tuning expert who got another 30 brake out of it. The wiring loom was easy to adapt as well as lights and instruments etc. Then I took the frame from the bottom of the seats fitted them on simple sliders. Nearly everything got used. A modified exhaust system was created to get the pipe up into the tunnel, a enormous tail pipe (boy racer type) was fitted it then was time to get it ready to be registered, taxed and 'job done'.

Marcos came back and collected it, took it back to the factory to see what had been done and used, then they spent time making it look very tidy in time for the Mini Marcos official launch at the Racing Car Show in January 1966 – a full 60 years ago!

At the show the press were really impressed and it drew a lot of interest from the public. I didn't see it but I was told that the car was on the cover of the next edition of Autosport Magazine.

Maybe that was because it was very little and incredibly low, only 36 inches from the cars' floor (which was flat initially) to the roof top.

Once I had the car back from the show it had to have a couple of new seats as it seemed a photographer had left some spotlights on the seats and melted the lovely BMC (fake) leather. Jem, bless him, treated me to a pair of expensive (looking) racing seats.

I describe my Mini Marcos as a fun car that I could drive under barriers in multi-story car parks and once even go under the bed of an articulated lorry in traffic (not recommended!). The bodywork was incredibly thin and it used to flex when cornering quickly. Once at Dyrham Park Hill Climb, the windscreen popped out on the last bend before the finish.

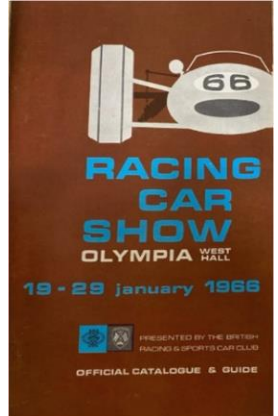
You can't build a car that weighs just over half a ton and expect it to be solid but the slightly later production models were much thicker, they had the floor dropped to give a little more head room and proper door windows instead of sliding jobs.

As we know the Marcos company built many hundreds of Mini Marcos cars and even has success at Le Mans (gosh, the drivers must have been brave) and there are still quite a few doing club sport today. I kept the car for a year, but it had to go because my back could not take any more punishment!

RAC

The Morris Commercial Retro Styled type JE Electric van.

The original (Nuffield) Morris J Type van was introduced in 1949 and remained in production until 1961 when 48,600 had been manufactured. Initially powered by a 1476cc 4-cylinder side valve engine it was re-engined in 1957 with a 1489cc version of the, then new, BMC 'B Series' engine. The load capacity was 10cwt/1/2 ton. While the J Type was essentially available as a van with side sliding doors, it was also supplied in chassis with cab configuration to specialist coach builders. With distinctive styling and a 'forward' driving position the Van was a familiar sight on UK roads especially due to wide use by the GPO.



Original Morris J Type Van 1949 - 1961



Morris Commercial Type JE Van 2026

Interestingly, however, two electric vehicles were on display. One in series production and another as a prototype. These concepts were, far in advance of wider acceptance or perceived need.

1) Zagato Zele 1000 Micro Car.

Unexpectedly, this small electric 2 seat car was exhibited on the Bristol Cars stand. Having been initially introduced in Italy in 1972 the Zele was in production from 1974. The UK purchase price was £1,995.



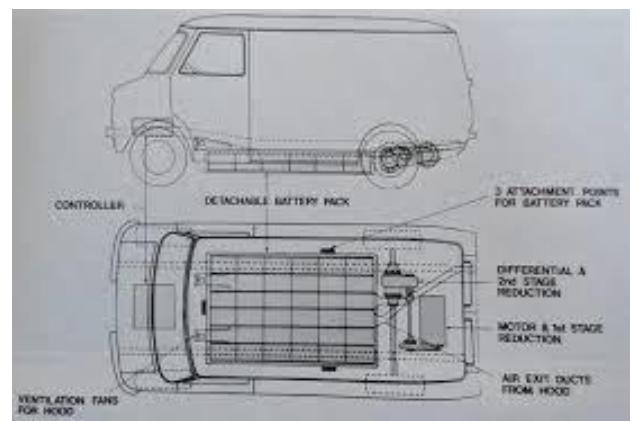
The Zele specification was comprehensive:

- 2 doors
- Space for two 'overnight' bags.
- Length: 1.950 m.
- Width: 1.350 m.
- Height: 1,615 m.
- Drive motor: 1000 watts, 3 hp equivalent.
- Battery: 12 volts, 160 ampere hours.
- 240 volt charging. Lead Acid type.
- Rubber suspension.
- Front independent.
- Rear semi-independent.
- Transmission: 3 forward and one manual reverse.
- Weight: 556 kgs.
- Top speed: 40 km/hr (25 mph).
- Range 70 Km (40 miles)



The Zele, in initial 1000 form was followed in later in 1975 by the 2000, with a 2000-watt motor, 35 mph top speed and 80 km range and finally as the larger Novo Zele. The concept remained in production until 1991. It was particularly popular in Europe and sold strongly in the USA. In total 3000 of all models were manufactured.

2) The Lucas Electric Taxi.



Encouraged by the OPEC oil crisis in the early 1970's this electric vehicle was initially displayed at the 1975 London Earls Court Motor show when Lucas Industries displayed one of two demonstration prototypes of this front wheel drive 4-seater saloon intended for use as a taxi in city environments. Styled by the Ogle design studio the cars were powered by a 50bhp motor driven by 216v (36 x 6 volt) lead acid batteries. A range of 100 miles was claimed with a top speed of 50mph. It was equipped with regenerative braking.

The 3.59-metre-long vehicle weighed 2.25 tonnes. Batteries could be charged 'in situ' or by exchange with a fully charged modular replacement pack. Development continued with 1 ton Bedford CF delivery vans shown on the right.

Trials were carried out in London city, Heathrow Airport and a 'midi-bus' incorporating 60 batteries with space for 19 seated passengers with 15 standing was constructed. The project certainly demonstrated and encouraged enthusiasm for 'zero emission' vehicles but eventually failed due to reliability and high maintenance demands.

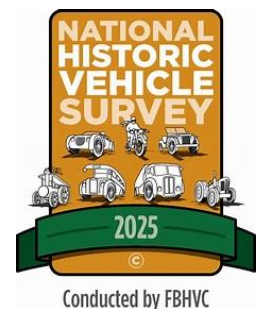
One car remains in private hands the other having been destroyed in a testing fire. The Lucas/Ogle vision was highly innovative, given that it trialed concepts widely adopted today, but regrettably, the technology available in the 1970's was not adequately developed to allow further economic development.

The 2025 National Historic Vehicle Survey.

Federation of British Historic Vehicle Clubs (FBHVC) commissioned the 2025 National Historic Vehicle Survey between February and May 2025. The survey is taken every 5 years.

In excess of 19,900 responses were returned by vehicle owners, enthusiasts, businesses, clubs and members of the public. The FBHVC is an established association of over 500 member clubs and consequently it is recognised by the UK Government as a legitimate and respected representative of the 690,777 owners of the 1,934,178 historic vehicles currently registered with the DVLA.

This survey was deemed necessary in order to provide evidence in support of the credibility of the FBHVC and as such it was the most comprehensive survey arranged to date covering this major sector of UK motoring.



For the purposes of the survey the 'Historic Vehicle' scope included cars, lorries, busses and motorcycles of at least 40 years old. Typically:

- the average annual mileage per vehicle is 837.
- accounting for only 0.2% of all miles driven annually.

Other conclusions from the survey where:

- the 'Historic motoring sector' contributes £7.3 billion to the UK economy annually.
- owners spend an average of £4,567 per year maintaining their cars.
- the sector is supported by 2,700 specialist businesses and suppliers employing 34,500 staff.

The focus of the FBHVC in forthcoming years will be to use its influence and soundly based data to seek to ensure that Government legislation does not hinder the current access and freedoms enjoyed by historic vehicle owners.

I thank John Harris for bringing this survey to my attention.

Power Steering.

All modern cars, vans, trucks are fitted with Power Steering.

Those of us who have owned or still own a car without Power Steering will know how much effort is required, especially at low speeds, in order to manoeuvre the vehicle. We also know that correct tyre pressures are most important if turning effort is to be reduced.

Power steering was initially introduced in the early 1950s but did not become widely adopted until 20 plus years later.

This article surveys the three types of Power steering in the order in which they were developed.

1. Hydraulic Power Steering.

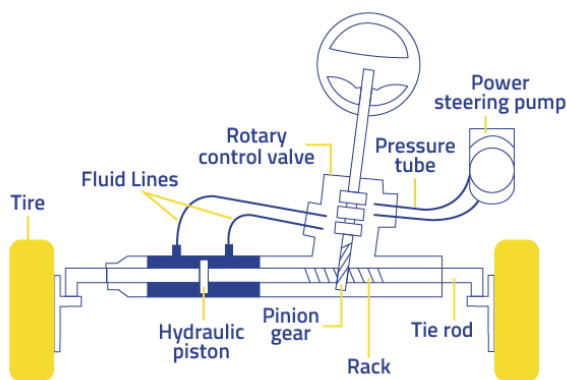
With this system an engine driven mechanical hydraulic pump provides fluid at high pressure to assist the steering effort via an inline spool valve integral with the steering rack. The fluid is then redirected back to the reservoir at low pressure. To an extent the assistance provided by these systems could vary with engine speed. However, a regulating valve minimises that effect. These systems are relatively heavy and require regular maintenance.

2. Electro-hydraulic Power Steering.

Here the hydraulic pump is driven by a brushless motor which pressurises the fluid. It provides the same 'feel' as the mechanical system without the variation in effort that could be experienced by an engine driven pump due to engine speed.

3. Electric Motor Driven Power Steering.

This system eliminates the need for pressurised hydraulic fluid. In this application a brushless permanent magnet electric motor is directly connected to the steering column or steering rack. The system incorporates an Electronic Control Unit (ECU) and sensors which ascertain the direction of steering in order to activate the motor. Electric Motor Systems are now universally adopted by all manufacturers given that they provide enhanced adaptable steering control to suit varying driving styles.



Hydraulic Power Steering



Electric Power Steering

Electric Vehicle In-Wheel Motors and the matter of Unsprung Weight.

This is a complex subject and this article attempts to simplify the essence of the benefits and issues to be overcome with the concept of installing 'In-Wheel' Electric motors.

Conventional Electric vehicles/cars (EV's) are equipped with one, for two-wheel drive, or two, for four-wheel drive, electric motors mounted centrally in the chassis. Consequently, drive power is transmitted to the road wheels in a conventional manner via drive shafts and universal joints.

As we know, vehicle suspension consists of two primary elements. Firstly the spring which supports the vehicle's weight and absorbs the initial impact from road imperfections, and secondly the suspension damper which controls the energy stored by the spring.

Suspension design focusses on minimising the 'unsprung' total weight of wheels, tyres, brakes, drive shafts etc that are not supported by the suspension springs. From the introduction on production cars, initially of independent front suspension (ifs) and latterly independent rear suspension (irs), both usually incorporating coil springs, the primary objective was to minimise unsprung vehicle weight by the elimination of beam front and rear axles. As we know, the rear beam axle conventionally also enclosed the differential gear.

Those 'historic', pre ifs and irs, suspension designs were 'heavy' and not responsive to many adverse road conditions. They also restricted the development of vehicle dynamics. Rear 'axle tramp', caused by inadequate damping, was not an uncommon resulting disadvantage of beam rear axles.

So, low unsprung weight reduces the momentum created by suspension movement which, in turn, benefits the demands on the energy absorption capability of the dampers thereby providing improved vehicle handling.

While modern ifs and irs systems have been optimised to provide minimal weight/mass, alloy wheels being the most obvious contributing component, the opportunity to install an electric motor in each wheel has been a challenge if an increase in unsprung weight was to be avoided or at least minimised.

Installing an electric motor in each wheel, when supported by 'state of the art' electronic control systems, has been seen to benefit the safety and handing of the vehicle by enabling precise, independent and instantaneous torque control of each wheel. Which in turn improves vehicle stability during cornering, acceleration and braking, (including ABS control). However, until recent advances in design and development, this concept would have increased unsprung weight thereby detrimentally affecting suspension dynamics (ride quality and handling).

To quantify the issue in terms of weight, the removal of drive shafts, universal joints and hubs from a 'conventional' drive train would typically save 20 kgs of unsprung weight per wheel if conventional caliper type brakes were retained.

The challenge, therefore, was to design an in-wheel electric drive that does not exceed the weight of the components effectively being removed.

I was attracted to the development, by S Drive, a British start-up company, of an in-wheel motor system, including control electronics, which does not increase the unsprung weight of the suspension. The S Drive design replaces the driveshafts and wheel hub but currently retains the conventional caliper brake essentially for safety reasons, albeit vehicle braking is essentially achieved by means of energy recovery.

The S Drive system is fully described here: <https://www.s-drive.tech/technology/> together with the Youtube video: <https://youtu.be/KdfmuKH1K-k?si=p-lqDi-ZIbYhxGap>

However, in a further step, Dongfeng, the Chinese electric vehicle manufacturer, has announced an intention to introduce their model 007 that not only has a combined 4-wheel output power of 536 hp but which does not incorporate the traditional braking system of discs, pads or calipers as back-up, these currently being a legal requirement. Dongfeng is currently seeking Chinese regulatory safety approval for the design which is expected to be released in time for the major Beijing Auto Show in the spring.

In addition, Protean, another British company (See: <https://www.proteanelectric.com/technology/>) based in Farnham appears to be developing a similar system, dispensing with 'back up' caliper brakes, to that under development by Dongfeng. It is illustrated here:



The adoption of in-wheel drive motors also has 'knock on' benefits. The most significant being the elimination of a centrally mounted single drive front motor thereby improving the safety capability of the body structure by providing space for larger and improved impact crumple zones. Secondly, the underfloor battery pack can be placed in an advantageous central position which also contributes to improved vehicle handling and thirdly, the aerodynamic styling of the front of a car is not restrained by a central engine or motor, thereby by producing a sleeker shape with reduced front 'overhang' as illustrated above by the Dongfeng 007.

F1 in 2026. A summary of the Car regulation changes.

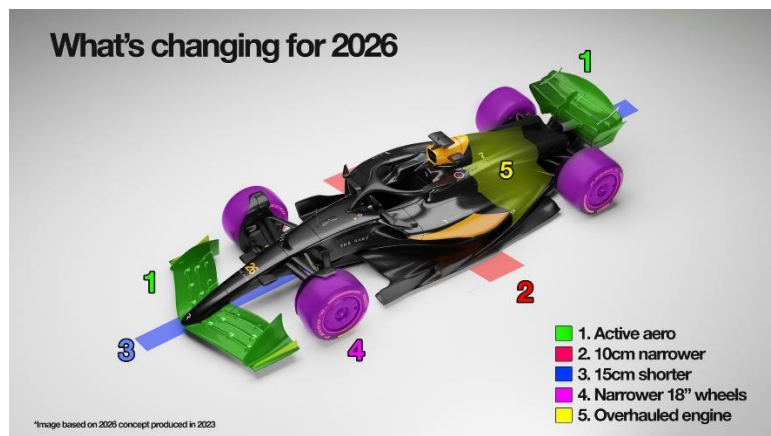
With the 2026 Formula 1 season about to commence, it is opportune to review the essence of the extensive changes to both the chassis and power units that have been introduced by the FIA.



2026 Williams FW48

Firstly the chassis.

The cars, will be both shorter than the 2025 cars (3,400 mm wheelbase being a reduction of 200 mm) and narrower (1,900 mm being 100 mm less), thereby resulting in a lighter car (30kg reduction to 768 kgs) They will be fitted with 25 mm narrower tyres, but retaining 18-inch diameter wheels thereby reducing the tyre drag effect. In theory these changes will create more manoeuvrable and responsive cars especially when cornering.



The most significant 'chassis' changes have focussed on aerodynamics. Those of us who follow F1 have, in recent years, become familiar with the importance of the Drag Reduction System (DRS). That being one transverse element of the rear wing which could be 'feathered' on predetermined straight parts of a track to assist an overtaking attempt by the 'following' car (when it was within 1 second of the leading car). The DRS System has been scrapped.

Likewise 'Ground Effect' aerodynamics, which have consumed significant development activity, have also been scrapped. Those floor designs/structures featured long tunnel shaped under floor tracts which, in order to be effective, required the car to run very close to the ground. The cars will now incorporate flatter floors together with larger rear diffusers thereby resulting in significantly reduced (30% predicted) downforce. A consequence is that the cars will be set up higher from the surface of the track/ground. In that respect the cars will be easier to drive.

In place of DRS and Ground Effect floors the drivers will have 'Active Aero' at their disposal. With this system the driver will be in a position to adjust the angle of both their front and rear wing elements into 'low drag' mode, to their choice on designated 'straights' on every lap without being within 1 second of the leading car. This manoeuvre will reduce downforce but increase top speed.

A visible change will be seen with the rear wing. No longer will it be a simply supported beam with endplates. In place we will see a return to a centrally supported wing structure not permitted by the outgoing rules. What 'comes around comes around'!

Power Unit.

The Engine regulations in place from 2014 until 31st December 2025 stipulated that a Power Unit of the car should consist of:

- An Internal Combustion Engine, Energy recovery systems and control electronic referred to as the ICE.

The individual items were:

- A 1.6 litre V6 turbo charged petrol engine, referred to as the PU, typically producing 350 kw (470Hp) .
- An Energy Recovery System (ERS) designed to recover energy from the car, store it and make it available to propel the car and ancillaries. The ERS incorporated:
 - Motor Generator Unit being a 'kinetic electrical machine' (motor generator) mechanically linked to the drive train and referred to as the MGU-K. The MGU-K output, at best, was typically 120Kw (165hp)
 - Heat Motor Generator also an 'electrical machine' referred to as the MGU-H. It converted waste heat from the turbo charger and turned it into electrical energy. The MGU-H output was 75KW (105Hp).

The '2017 to 2025' Power Units were developed whereby the PU output was approximately 80% internal combustion engine (I.C.E) and 20% electronic power giving typical ICE output of 700+Kw (1000 Hp).

The major ICE change for 2026 is the specification of an even ratio split of 50% PU (for which output is retained at 350 kw) and 50% electronic power. However, the complicated MGU-H system will be eliminated and the MHU-K system will be uprated such that the 700+KW overall output will be maintained. Apparently the variation between different manufacturers ICE output until the December 2025 was essentially due to MGU-H efficiency with Renault being the lowest. This elimination/change will seek to 'level the playing field'. However, unlike recent in years the engine manufacturers will be allowed to develop their engines albeit within a cost cap restriction. The development 'freeze' has been eliminated.

It should be noted that the stored electrical energy will be available 'on demand' by the driver to suit racing needs thereby creating strategic focus for drivers and strategists. However, given that the capacity of the battery is only slightly greater than previous systems, the available electrical energy will be inadequate to cover the demands of a full lap. Consequently, the drivers will use lower gears more frequently in order to increase engine revs thereby generating and harvesting adequate 'energy recovery' to charge the battery for 'future' use during a lap. Therefore, for example, when negotiating turn 4 drivers will be 'thinking' about the energy required at turn 11.

Fuel.

In addition a change to sustainable fuels has been mandated. The FIA (Governing body) requires that the fuel is to be made from a minimum of 99-per-cent advanced sustainable components (ASC) certified to have been derived from a renewable source of non-biological origin such as, municipal waste, or non-food biomass.

The challenge for drivers.

Given that fuel capacity limit has been reduced from around 105kg to about 70kg, this will result in the drivers having to rely on their increased electrical power and battery deployment if lap times are to be maximised, while ensuring adequate duration of the stored power.

That combined with the 'active aero' systems will present the drivers and race strategists with a very differing set of challenges.

However, the power unit has become the focus of particular criticism and concern as evidenced by these comments:

"All of our senses, how we feel—we'll need to think a lot more while driving about what to do, to go quicker," Quote from **Esteban Ocon**, Haas F1 Team Driver.

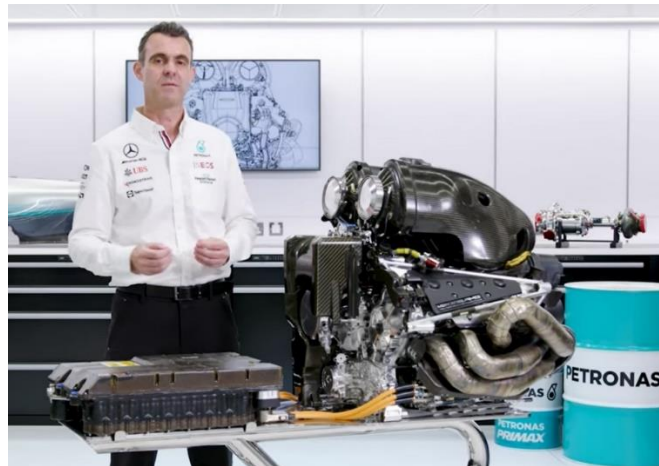
Max Verstappen explained: *"As a pure driver, I enjoy driving flat out. At the moment, we cannot drive like that. These cars are so energy inefficient on the straights that in certain corners on some circuits we'll be better off cornering slower to recover more energy for the straight."*

Lewis Hamilton, Ferrari commented: *"This is a period of time when you have to learn to be the most efficient driver you've ever been, utilising all the tools you have in your armoury ... to save fuel, to recharge power, utilise the power, use the grip and put all these things together."* And then, following initial testing in Barcelona and Bahrain Hamilton added: *"The cars feel slower than Formula 2 right now. It's ridiculously complex..... it's like you need a university degree to fully figure it all out. None of the fans are going to understand these rules."*

Charles Leclerc: *"I expect chaos. Overtaking will be a big challenge and there are many question marks."*

While some concerns have been addressed as a consequence of recent testing a major concern related to the starting procedure where the 'adjustable' front aerodynamics are viewed as presenting a danger.

We will soon see who is best able to adapt but the 'Rookie' drivers will have not known any different of course.



This Mercedes Benz engine is the subject of controversy. The current regulations state that the compression ratio shall be 16:1 and that tests are to be carried out when the engine is cold. It is claimed, by the other manufacturers, Ferrari, Audi, Honds and Red Bull Ford, that MB has incorporated materials in their piston design which, when the engine is hot, expand and achieve a compression ratio of 18:1. That ratio provides enhanced performance. The rival engine suppliers, who did not think of the idea, have protested the MB solution. However, the clever MB design/piston construction conforms to the current regulations but the debate continues. The latest position is that a regulation change will be invoked that will require a compression test when the piston temperature is 170 C.

December Mystery Car. Reliant Scimitar.

The December mystery Car was the Reliant Scimitar GT SE4 which was manufactured from 1964 to 1970.



While the body style was consistent, the SE4 was produced in three models:

- SE4 'A'. (1964 to 1966) powered by the 120 bhp Ford 2.6 litre straight six as fitted to the then current Zephyr and Zodiac saloons. The car illustrated is an 'A' model being the only one in the series fitted with wire road wheels.
- SE4 'B'. (1966 to 1967) that was powered by the Ford 3 litre V6 'Essex' engine.
- SE4 'C'. (1967 to 1970) which was fitted with the 2.5 litre V6 'Essex' engine.

The styling of the car was based on the Ogle SX250, an independent styling exercise that was built on the chassis of the Daimler SP250 Dart. While two were built to special commission from a private buyer, the Daimler company did not pursue the opportunity. The SX 250 had been displayed at the 1962 London Motor show where it attracted the interest of the Reliant senior management. Subsequently, by agreement with David Ogle, the body style was adapted to fit the earlier, but by then outdated, Reliant Sabre car.

In total 1005 SE4's were produced.

Scimitar GTE SE5 series.

In 1967 Reliant commenced the design of the GTE SE5 series which was also based on an Ogle design exercise, designated by them as the hatchback GTS Estate Car.



In the 12 months prior to the launch Reliant development staff produced a significantly revised car with a lengthened and widened chassis, new suspension, repositioned fuel tank and spare wheel.

The GTE SE5 was introduced in 1968, being powered by and retaining the Ford 3 litre V6 'Essex' engine together with the 4-speed manual transmission of the SE4. A 3-speed automatic version was made available in 1971. In 1972 the SE5A, acknowledging an additional but modest increase in engine power was substituted. The model was an outstanding success with 4,311 being produced until it was succeeded by the GTE SE6 in 1975.

A Scimitar GTE SE5 was given by the Queen and Prince Philip to Princess Anne as a 20th birthday gift in 1970. A reliable source, being a former employee of the Reliant Car Company, confirmed to me that Anne received a new car on a regular 'on loan' basis. In total 9 were supplied for her use.

Scimitar GTE SE6 series.

The SE6 series was introduced in 1975 and remained in production until 1986 in three versions. 4827 were produced. By incorporating a longer wheelbase and wider track the SE6 addressed the rear seating deficiency of the SE5. The car was a genuine 4-seater.



While the 3.0 litre Ford V6 130bhp engine was retained another change was the installation of a 3rd and 4th gear Laycock de Normanville overdrive. In 1976 the SE6A was introduced incorporating improved Lockheed disc brakes. A further change was forced in 1980 following the decision by Ford to cease manufacture of the 'Essex' 3.0 litre V6 engine. Consequently, the SE6B was introduced being re-engined with the German Ford Cologne 2.8 litre V6. The SE6B was retained until production ceased in 1986.

Scimitar GTC SE8.

The Convertible SE 8 was the final iteration of the Scimitar being another design from 'the pen' of Ogle's Tom Karen. Based on his original GTE chassis the power was supplied by the Ford Cologne 2.8 litre V6. Manufactured from 1980 to 1986 the total production of this 4 seater was 442 of which 340 were built in 1980. Unfortunately, timing of the initial market availability was affected by the country wide recession combined with a 'high' unit price.



The rise and demise:

The Reliant company was founded in 1935 by two former Raleigh Cycle employees, T L Williams and E S Tompson who resigned following the company decision to discontinue the production of their 3 wheeled vehicles. It was founded in Tamworth, Staffordshire. In later years its expertise in the manufacture of glass fibre components allowed a diversification including the production of the Ford RS 2000 Rally car. The Reliant Company remained in Tamworth until the closure of car production in 2002.

March Mystery Car.

This British car carries the name of a former successful racing team.



Can you identify the make and model? Answers, to Dick Craddy please: craddyrichard@gmail.com

Members Cars. A Survey.

At a recent committee meeting, support was given to Roger's proposal that a list of all the cars members had previously or currently owned would make an interesting read. The rules proposed for this list would mean that it is non-attributable so the location of valuable cars could not be traced. It is recognised that the list will not be complete as there will be no input from previous members of the club (Pre and immediately post WW2).

The list would be published to current members only. Please support this survey. It could produce some interesting results!

SAC Baseball Hats.

Please don't forget that our Navy-Blue Baseball hats are available at £10.20 each + P&P if required. Contact Dick Craddy.

Race Retro, Stoneleigh, Warwickshire, 21 – 23 March.

Race Retro remains an event for meeting and browsing. Perhaps, there were fewer 'interesting' cars to enjoy but the traders stalls were plentiful. The previous Auto Jumble is no longer available, which is a mixed benefit because it was always located in a large un hospitable and unheated agricultural barn.

As a record I have selected this display of attractively decorated Martini sponsored Rally and Race cars.



And Finally,

With our 2026 programme now settled we can look forward to nine events which, hopefully, will feature in our diaries. I look forward to meeting again soon – perhaps at the AGM and Lunch on 1st April and 12th May Social Run and Lunch.

Until then,

Dick. (craddyrichard@gmail.com/01454 414842/07776 202 663)

SAC Bank Account: Bank: Lloyds, Business Account number: 00577513, Sort code: 30.00.01. Please mark your transfer with your name and the identity of the event.