Somerset Automobile Club
Chairmans' Chat
September 2025

Ladies and Gentlemen,

As I reported in your August Bulletin, our lunch at Hartham Park was thoroughly enjoyed by all especially given the excellent weather which allowed us to relax with coffee in the courtyard afterwards. Our thanks to Dave Blatchford who encouraged and organised that visit. A pictorial report follows.

The Tuesday 9th September RNLI Training centre in Poole is our next event. My previous Bulletins have fully described the scope of this coach trip which includes lunch at the RNLI at a cost of £45/head.

In my August update I provided details of Mike and Julie Sander's Wednesday 15th October 'Avalon Amble' Social Run and lunch. Those details are also published below.

Our November Lunch follows on Sunday 23rd November and the proposed tour of the St Nicholas Market is proposed for Thursday 11th December but until adequate responses are received we cannot make a firm booking. Your replies are now urgently required please.

Membership.

At our Hartham Park lunch we were pleased to welcome Jeff and Helen Fletcher to their first SAC event. We trust that they will enjoy and benefit from their membership. As we are all aware, we always welcome new membership proposals and, as we know, the nomination of a prospective member very much relies on the judgement of the Proposer and Seconder. Ideally, if possible and as a courtesy to the prospective members, they should be given the opportunity to attend at least one event prior to nomination, thereby giving the opportunity to ensure that the SAC is attractive for them. Likewise, it allows your Executive Committee can fairly ratify the proposal.

Future Events:

Tuesday 9th September: RNLI Training College, Poole.

There are still a couple of places available for this visit. Final numbers have to be submitted to the RNLI on 26th August. If you wish to make a 'last minute' decision to attend please let me know (craddyrichard@gmail.com) by close of play on Sunday 25th August.

Prompt payment of £45.00 into the SAC Account, marked with you name and RNLI, will be required.

Wednesday 15th October: The 'Avalon Amble' Social Run and Lunch.

As you are aware this event has been organised by Mike and Julie Sanders.

We are to gather at the Lillypool Cafe, Shipham Road, Cheddar, BS25 1RQ between 10.30 and 11am prior to a 45 min drive to the Avalon Centre where we can have a break for coffee /toilets and look around the craft shop which has some amazing pottery, paintings etc.

This will be followed by another 45 min drive to 'The View' at the Brean Country Club, Red Road, Berrow, TA8 2FG where we will have lunch at 1 pm, overlooking the golf course. The Brean Country Club is a spectacular venue, see: https://www.breancountryclub.co.uk/

The route goes by the old iron works along the top of the Mendips and then we drive down the magnificent Cheddar Gorge leading to the wetlands. There should be some lovely views along the way if the weather is good.

The cost/head for the two-course lunch is £31.00.
Please make your menu selection from the following and let Mike and Julie know at: windmillhill@gmail.com or 07970 472799.

Mains:

a) Braised shin of beef **or** chicken and stuffing with roasted potatoes, seasonal vegetables and red wine jus.
b) Fillet of Salmon, pea and mint risotto, with parmesan crisp.
c) Butternut ravioli in a butter sauce with cherry tomatoes.

Dessert:

d) Apple crumble and custard.
e) Lemon tart and Chantilly cream.
f) Profiteroles with salted caramel or chocolate sauce and ice-cream.

We will have to make full payment in advance and consequently your menu choices and payment will be required by Mike and Julie not later than close of play on Sunday 21st September. Mark your transfer 'Avalon' and add your name.

It goes without stating that we thank Mike and Julie for arranging this event in the heart of our county.

Sunday 23rd November: Autumn Lunch. Once again a booking has been made for a return to The Batch Country Hotel, Lympsham. This is our traditional start to the Christmas Festive Season.

Thursday 11th December (TBC): St Nicholas Market and Air Raid Walking Tour.

St Nicholas Market and Air Raid Walking Tour. Lasting 2 hours a local guide/personal air raid warden will take us on a unique tour from the origins of Bristol's trading past, through the terrifying nights of the Blitz, into the swinging 60's and onto the city's vibrant present. See: https://www.st-nickstours.com/

Depending on our numbers the cost/head will be approximately £15.

While I realise that this date is 3 months in the future **please let me know promptly, without final commitment, if you wish to enjoy this step back in time.**

Please note that until adequate attendance can be assured we will withhold making a firm booking.

Don't forget that Christmas trading will add interest at this time.

Past events:

Thursday 7th August: Lunch at Hartham Park, Corsham.

For many of us a visit to Hartham Park was a very new experience and one which turned out to be a delight.

Our thanks are due to Dave Blatchford who instigated and organised this opportunity. Twenty-eight members and guests enjoyed an excellently prepared lunch that was promptly served by pleasant staff in the Forge and Pheasant café.

We were pleased to welcome our newest members Jeff and Hazel Newman who joined us for the first time.

Afterwards, given that the promised rain did not occur, there was the opportunity to visit the adjacent gardens.

Ni doubt we will visit again.

The Rover 75 Coupe

You will recall that MG Rover went into receivership 20 years ago in April 2005 following the failure of comprehensive negotiations with the Shanghai Automotive Industry Corporation (SAIC) to reach a takeover agreement. The Phoenix Consortium, headed by John Towers, had run the business since it was purchased from BMW, in 2000, for £10 while retaining (some) liabilities. The Serious Fraud Office decided not to investigate the 2005 demise notwithstanding reported concerns of fraudulent management practices. When Longbridge closed, six thousand direct jobs were lost with significantly more in sub-contractor business.

The model policy of MG Rover was questionable given that it relied on face lifted Rover 25 models and, to an extent, the Rover 75 both of which had been developed under the BMW regime. For a small volume car the company imported a very basic 'Metro replacement' from Tata in India.

Given that the expectations of a satisfactory outcome of the SAIC negotiations were strong until the final collapse, MG Rover continued to plan future products. The two main thrusts were a coupe version of the MG TF and a Coupe version of the Rover 75.

Such was the pressure within the company that to impress SAIC with the internal MG Rover design and styling capability work continued a rapid pace. So much so that it is claimed that the 75 Coupe moved from a clay model to a fully road worthy prototype in 90 days!

The changes incorporated a sweeping roof line, a realigned rear 'shoulder' line together with, deeper doors and frames.

The internal finish was luxurious albeit it was unmistakably Rover 75.

The car, which as noted above is fully roadworthy, was an award winner at the 2005 Autocar Awards is now in the hands of a private collector.

Electric Cars: Battery Range Loss with Use.

Recent testing, undertaken in Germany, of a four-year-old VW ID3 electric car that had covered 107,000 miles, (160,000 kms) determined that the battery capacity had reduced by 8 miles usable range over that period.

The tests, having been undertaken by the ADAC (German MIRA equivalent), had employed the car as a research vehicle for the four period. The ID3 is fitted with a 77kWh battery which was regularly charged to 100% capacity. The tests, which were undertaken on a specially designed test rig by a rota of testing staff, ensured that the vehicle was subjected to differing, some aggressive, driving test patterns.

During the period of the tests, the charging systems were upgraded via internet updates, rising from a peak of 125kW to 160kW, supported by an improvement in the charging curve on rapid devices.

When initially delivered, in 2021, the car provided a range of 272 miles (3.11 miles per kWh) and after 107,000 miles, overall, that had dropped only marginally, to 264 miles (but due to charging improvements battery range had improved to 3.40mpkWh). The true battery degradation, before charging upgrades, has not been published/made available. It is not possible to ascertain the extent to which improved charging compensates for battery capacity loss.

At the end of the test, the battery was delivering 91% of its initial capacity.

The tests concluded that battery degradation is reducing as battery and charging technology improves and that high mileages have a minimal impact on overall battery life. Consequently these results place the VW ID3 well clear of its battery warranty, which guaranteed at least 70% of the original capacity at 100,000 miles or 10 years.

The Paulin Bentley, (popularly known as the Embiricos Bentley).
A story of determination.

I thank John Harris for the loan of this book, produced by the Bentley Memorial Foundation, featuring the 1938 one off Embiricos Bentley. This article is based on that book and other sources.

Walter Sleator was, at the time, the manager of Franco-Britannic Autos, the Rolls-Royce subsidiary, based in Paris. Also, at that time, being prior to WW2, Bentley limited their supply of rolling chassis to coach builders of the purchasers choice. The coachbuilder would then design and assemble a body together with the external and internal trimming. Sleator recognised that if Bentley, with an established R-R influenced, reputation for 'conservative' styling, was to compete successfully, with both performance and style, against continental 'attractive' coachbuilt designs from indigenously produced, Bugatti, Delage, Delahaye, Alfa Romeo and Lago Talbot etc, then a special and visually attractive Bentley was required.

Perhaps coincidently, in April 1936 testing of the aerodynamic French Dubonnet Dolphin at Brooklands was witnessed by two Rolls-Royce engineers who concluded that R-R should be encouraged to invest in an experimental aerodynamic development programme. The R-R Board were very resistive to the proposal but eventually it reluctantly agreed and 'handed over' the project to Sleator. The logic being that if it was a failure the project would be seen of French origin.

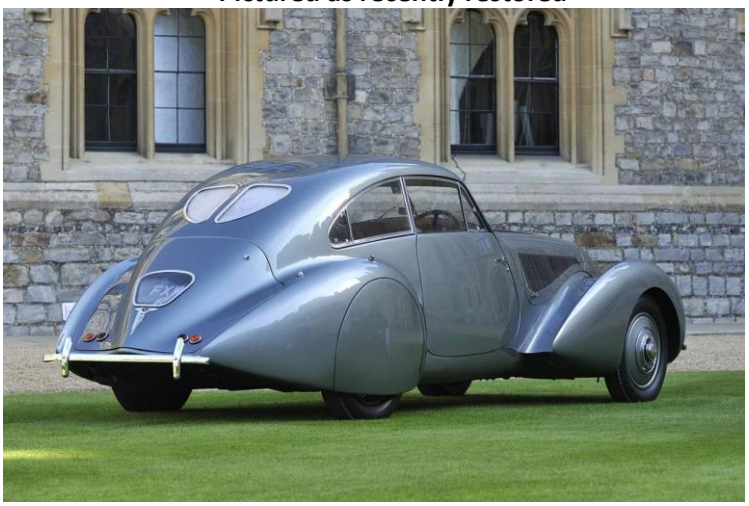
Sleator choose the respected Paris based Carrosserie Pourtout as the coachbuilder for the project. In the early months of 1937 Georges Paulin, Pourtout's designer, promptly commenced the design process for the 'Embiricos'. Paulin was undoubtedly a talented engineer and aerodynamicist, who 'by day' was employed as a dental technician. He undertook the design and styling of the car 'after hours'.

The programme progressed swiftly and in November 1937, a scale model was available for wind tunnel testing initially at Meudon, Paris and following that at Vickers in Weybridge. A full-scale model was available two months later and one report states that it was tested in the Filton wind tunnel. With testing showing impressive results, Andre Maris Embiricos, a wealthy banker and member of a Greek Shipping family, fully committed to financing the project.

So, having gained the necessary financial backing, Sleator commissioned, with the support of Roy Robotham, the Head of the R-R Experimental department, a specially built 4½ litre Bentley chassis with an uprated engine, high ratio rear axle and new overdrive gearbox. This was shipped to Pourtout in the spring of 1938.

Remarkable progress had been made and Pourtout continued at pace given that the car was completed and delivered to Embiricos in July 1938. The cost was FrF 59,210/£7875.

Pictured as recently restored



The technical specification of the Paulin Bentley was impressive especially when compared to a 'standard' 4½ litre Bentley. The actual engine capacity was 4,245cc. Weighing 1564Kgs/3450lbs this was 150kgs/350lbs lighter than a 4½. The engine had been prepared by E W Hives, a member of Rowbotham's staff with an 8:1 compression ratio together with larger SU carburettors increased the power output from 125 to 140bhp. Uprated shock absorbers, a 2.81:1 overdrive top gear and uprated brakes were installed to suit. (Note: E W Hives progressed within Rolls-Royce to become the company Chairman when he was latterly Lord Hives).

Given that it was necessary to prove the performance of the car Embiricos, in around July 1938, loaned the car to Rolls-Royce (Sleator) who undertook testing and demonstrations, typically:

- 12th February 1939 a high-speed continental trial from Paris via Metz, Karlsruhe, Stuttgart and return to Paris with 4 passengers and luggage when a maximum speed of 120mph was recorded
- 14th February 1939 a one-hour Automobile de France observed speed test at the Monthlery track, near Paris, when 107.42mph average with a fastest lap of 110.043 mph was recorded.
- A test on the Autobahn near Mannheim, intended to challenge an 80 mph 'record' held by Mercedes, was abandoned due to inclement weather.
- The car was then taken to the UK where George Easton, famed driver and 1937 land speed record breaker in Thunderbolt, achieved 114.63 mph at Brooklands on 19th July 1939.

However, after 12 months, Embiricos, having frustratingly had minimal use of the car, instructed Rolls-Royce to sell it on his behalf, in the UK, and in July 1939 it was purchased by H.S.F. 'Soltay' Hay, a 24-year-old Barclays Investment Banker. It would appear that Hay was essentially unaware of the history of the car, registered FXW 6, when he drove it away from the R-R London sale room in Conduit Street.

For a few months Hay used the car for commuting between his home in Chelsea and his second home in Chudleigh but the onset of WW2 resulted in it being 'laid up' for the duration due to petrol shortages. Restricted regular use lasted until June 1948 when 'pool' petrol became slightly more available in slowly increasing quantities albeit it was displayed at the Earls Court Motor Show in 1947. Prior to that, in January 1947, Hay had applied for membership of the Bentley Drivers Club this being the initial indication that he intended to use the car for competition purposes. He also joined the Junior Car Club (now the British Automobile Racing Club).

Soltan Hay was an ambitious individual and he was determined to gain and entry, via the RAC, for the 1949 Le Mans 24 Hour Race organised by the Automobile Club de l'Ouest (ACO). With the support of Mary, his wife, also a Bentley owner, and the RAC, ACO entry was obtained and the necessary formalities were completed. Mary was nominated as the second driver albeit Soltay intended to drive the complete 24 hours himself. However, under significant pressure to 'see sense' Tommy Wisdom the accomplished amateur driver and journalist was nominated as the second driver.

By way of preparation the car was serviced by Rolls-Royce in February 1949 which is described as an oil change service and 'attending to the depredations cause by the wartime 'layup'. Prior to that, in March 1948, Rowbotham being still a Rolls-Royce employee, had declined to prepare the car for competition stating *'we cannot agree to groom your car for stardom at racing events'!* Likewise in February 1949 a senior member of Franco-Britannic Autos staff wrote stating: *'With regard to Le Mans, it is my firm conviction that this is not the type of car that can do any good there (a) because it is not fast enough in its category and (b) I cannot imagine how you would keep the brakes on the car for 24 hours'.* The letter then referred the matter back to Rowbotham.

Likewise, in April 1949 Llewellyn-Smith of Bentley Motors at Crewe advised against entering the car stating the '*the car will be running under conditions where it will be mechanically unreliable and as far as the brakes are concerned, unsafe……..I do hope that you very seriously reconsider the matter……Your competing cannot enhance our reputation……..'* It continued: *'I feel so strongly about it that I am having to instruct everybody concerned in our organisation not to associate themselves in any way with the attempt……'.*

However, Hay had gained the unofficial support of Nobby Clarke the former W.O. Bentley works manager, still an employee, who in handwritten form provided comprehensive notes regarding preparation and pit management based on the Le Mans winning 'Cricklewood' in the 1920's. Preparation for the 24 hours by Rolls-Royce did not satisfy Hay and he transferred the task to 'Mac' McKenzie who operated from his eponymous garage in Putney where the RAC, on behalf of the ACO, successfully undertook an inspection of the stripped engine. On reassembly, a difficult task given that the only access was via the removed bonnet, the ancillaries were replaced. On 9th April Hay entered the BDC's Eastbourne Rally and one week later the Bristol Motor Cycle and Light Car Clubs' Lulsgate race meeting where gear change issues caused concern.

However one month prior to the 24 Hours Hay received an unsolicited and thoroughly damming inspection report of the Paulin construction prepared by E A Hellstrand. Hellstrand, a Swedish engineer and a business partner of McKenzie, had previously 'invented' a retro fit 'flexible' bodywork conversion for general use. *His report outlined crude body construction, cracked panels and a prediction that at high speeds and a side wind the roof panel would 'part company from the body'.* A classic example of destructive criticism without offering a solution but no doubt intended to promote his own alternative 'flexible body construction'!

Undeterred, Hay pressed on. Preparations continued with additional accommodation at the Hotel Moderne (how many of those Hotels are named are in France?) having been booked for Bill Shortt, Pit Manager a two Army officers who were to act as timekeepers. Documentation needed to take a car to France in 1949 was intimidating given that a Customs *triptyque* was required, That document typically required a detailed description of a vehicle, proof of ownership, a valuation, list of spares including tyres and an undertaking that import duties would be paid in the event that the vehicle could not be returned to the UK. These documents were required both for the Paulin and the support Jeep and trailer.

Rationing at the time limited each person to taking £35 and of 400 litres per vehicle (enhanced by a French Tourist allowance) out of the UK. In addition the car was insured against accidental damage, fire and theft in the race. The valuation was £3,000 (somewhat less than Embiricos paid) and a premium of £20.1s.0d was paid.

So, with the car now prepared to Hay's satisfaction which included specially manufactured Dunlop 19-inch rear tyres and wheels with knock on hubs, twin fuel fillers and an ACO required bonnet strap the 'Paulin' was ready to be driven via a car ferry to the race.

In 1949 Le Mans 'trim with knock on wheel nuts.

In many respects the programme of the event was similar to the present day with 5 -hour practice sessions held on Thursday and Friday with the race starting on Saturday afternoon. The race had not been held for 10 years and the track had, by necessity, been fully resurfaced. At 4pm 52 cars lined up in front of an estimated 180,000 spectators for the traditional 'Le Mans' start whereby the drivers race across the track was triggered when the starters flag fell. Hay was second away following a 4 ½ litre Delahaye, having entered over a RH gear lever! Hay and Wisdom, whose previous experience of the race was proving invaluable overcame an initial oil pressure issue and were able to maintain a 75mph average as planned. A typical pit stop for fuel and tyres took a commendable 3½ minutes which reduced to 2½ minutes 'with practice' albeit some stops, for example to rectify a flat tyre, lasted over 6 minutes.

The result was spectacular given that the Paulin Embiricos finished in 6th place. A commendable result for a 12-year-old, 60,000-mile 'one off' special that lost top gear for the final hour. The car covered 1,769 miles at an average speed of 75.5mph. Hay drove 143 laps in 16½ hours and Wisdom 68 laps in 7½ hours. 'Not bad' for a car that had been condemned as unsuitable by 'knowledgeable' personnel. 1949 was the year of Ferraris first Le Mans victory.

Hay returned to the UK and continued to compete, starting with the Eastbourne Rally in July and a Prescott Hill Climb one week later on 17th July.

To complete the achievement, in 1949 the Embiricos Paulin Bentley was proudly displayed at the Bentley Drivers Club Annual Dinner Dance in the Dorchester Hotel in October where a pit stop was demonstrated.

Hay returned to Le Mans in 1950 when Hugh Hunter was his co-driver. They finished once again, this time in 14th place. In 1951 Hay returned for the third and final time with Tommy Clarke as his co-driver. Regrettably, dynamo trouble delayed the car with a flat battery which, regulations deemed, had to be used to restart the car following a pit stop. While the car finally started it was not classified as a finisher have completed one lap too few to qualify.

Hay, who arrived at the circuit complete with his family and their luggage them travelled south for a family holiday. On his return journey, Hay 'stopped off' at Monthlery in an attempt to improve on Sleator's 1939 average of 107 mph. Regrettably Hay achieved an average of only 106 mph!

Hay retained ownership of the car until 1968 when, having experienced financial difficulties, he reluctantly placed it for auction with Sotheby's in October. It sold for £4.000. Since then the car has been on view at suitable UK occasions, including at Goodwood, and having had a number of owners it now resides in the Pyramids Collection in California.

Inevitably a single replica has been constructed registration number FLK 966.

HGV Braking Systems.

Picture the scene. You are stationary in a queue of traffic awaiting a 'green light' and a diesel-powered HGV stops beside you. Then, the Air Braking system loudly exhausts. Heavy vehicles (lorries, busses etc) are fitted with dual compressed air braking systems. Air is used (1) because hydraulic systems do not have the capability to safely and repeatedly stop heavy vehicles and (2) dual systems are installed for safety and redundancy in the event that one fails. Each system has a dedicated compressed air reservoir with adequate capacity should one system fail. Both are driven by a single engine mounted compressor.

However, diesel engines lack the natural engine braking effect seen in petrol engines due to the absence of a throttle valve. Therefore, in order to supplement the air braking installations two further systems are available which assist in slowing down the vehicle without solely relying on the wheel-mounted brakes. These devices extend the life of the wheel-mounted braking components like brake pads and discs by sharing the braking load. They are:

- **Diesel Exhaust Brake:** As noted above, this is one system that supplements compressed air braking whereby a butterfly valve is installed in-line in the exhaust system. The valve is typically controlled by air pressure or servo motor. Valve actuation creates additional exhaust system back pressure that, in turn, results in a reduction in vehicle speed. The alternative supplementary system is:
- **Compression Brake:** A Compression Brake works by opening the engine exhaust valves at the top of the compression stroke thereby releasing the compressed air in the cylinders and converting the engine into an energy absorbing air compressor. That creates a braking force once again reduced vehicle speed. Also known as a Jacobs 'Jake' Brake, this system is manually preset by a driver actuated steering column mounted switch.

These alternatives are vehicle-slowing devices and are not a vehicle stopping devices. They are not a substitute for the primary vehicle braking system which must be used to bring the vehicle to a complete stop.

June Mystery Car

The June Mystery Car was the 4-wheel drive Ford RS 200 launched in 1985.

The Ford RS 200 was designed and built to conform to the international Group B Rally Car specification as introduced in 1982.

Group B was instigated as a response to the need to provide less restrictive requirements than the previous Group 4 regulations with the intent of encouraging greater manufacturer involvement and support.

To achieve homologation compliance, the manufacturers were required to produce 'only' 200 road legal examples. While the RS 200 was a bespoke design, other manufacturers such as Audi, Peugeot etc produced compliant cars that visually similar to production versions such as the Audi Quattro and Peugeot 205.

Designed by Tony Southgate (ex F1) and John Wheeler, the mid engined layout produced an ideal front to rear weight balance of virtually 50:50. The basic safety structure was a lightweight aluminium honeycomb floor pan fitted with a steel roll cage. The front and rear double wishbone suspension were both attached to an integral high strength steel front and rear subframes.

Power came from a specially designed turbo charged 16 valve Cosworth BDT engine that produced 250hp at 6,500rpm (road version) with a torque of 215 pounds feet and 450 hp in competition form. The 4-wheel drive transmission was developed by the British FF (Ferguson Formula) company incorporating a five-speed gearbox and a centre differential that could be adjusted, by the driver, in predetermined increments. A front to rear torque choice of 37:63, 50:50 or straightforward rear wheel drive were available to suit the prevailing conditions.

The car handled superbly but production versions suffered from poor build quality and an engine installation that was prone to overheat in stationary traffic.

The body was designed by Ghia of Turin and as cost saving measures the doors were 'cut down' Sierra based items and the windscreen and tail lights were also Sierra items. Glass fibre body panels were adopted for the road production versions and Kevlar for the competition versions. The production versions were sub contract built by Reliant of Tamworth.

However, having been introduced in 1985 the RS 200 was never developed to its full potential given that the Group B regulations were cancelled in 1986 following a number of serious and fatal accidents. Regrettably, the cars produced by Audi, Lancia and Peugeot had taken 'full' performance benefit of the 'relaxed' Group B regulations and their use had to be curtailed. They were deemed to be dangerous!

Of the 200 homologation examples produced, 144 were fully completed of which 90 were 'road' examples. The remainder were retained for spares.

I thank David Webber, Jim Lott, Nigel Adkins and Terry Osborne for providing the correct identification.

September Mystery Car

An international utilitarian for your recognition vehicle this month.

Answers, please, to Dick Craddy: craddyrichard@gmail.com.

The Role of a Motor Sports Steward Part 2.

Part 1 of this descriptive text defined the Stewards responsibilities upto the point where the Steward is satisfied regarding the Legality and Safety preparations in place and can give permission for the event to start.

In Part 2 we now turn to the scope of the role should Judicial Matters arise. Part 3, to be published in December, will finish with the processes to be adhered to in the event of a Serious Incident and the responsibilities to be completed by a Steward at the end of a meeting.

Judicial Procedures.

At a meeting there are two Judicial stages clearly defined by the MsUK Judicial Guidelines to ensure consistency.

1. Protests. Responsibility of the Clerk of the Course.
2. Appeals. Responsibility of the Stewards panel.

First stage: The Clerk of the Course: Penalties and/or Protests.

- Penalise a competitor or competitors for contraventions of GR's including behaviour.
- Adjudicate if/when one competitor Protests the action of another or of an Official.
- Protest Fee against the penalty handed down by the CofC payable by Appellant (National meeting): £300/£475.

Second Stage: Stewards Panel: Appeals.

The Panel consists of the MsUK Steward and the two Event Stewards appointed by the promoting club. Event Stewards should be experienced in the discipline but they are not acting as Licenced Officials.

- The panel receives Appeals against the decision of the Clerk of the Course.
- Appeal fee, additional to Protest Fee, payable by the Appellant (National meeting): £575/£895.

All protests and Appears to be submitted 'in due time', 30 minutes of notification on a C of C Penalty or Protest decision, on a Pro Forma basis.

Appeal procedures:

These occasions can sometimes become emotionally 'heated' and it is the role of the MsUK to ensure that matters are controlled.

1) The Appeal process preparation:

- All parties informed of the time and place of the hearing.
- Introductions when all parties present.
- Parents/guardians for minors attend but cannot take any part in the proceedings.
- No representation by third parties.
- All cross examination by Stewards panel.
- No cross examination of First Party/Appellant by Second Party/being appealed against.
- No Mobile Phones.

2) The Appeal Hearing for a Competitors dispute:

- First party evidence and cross examination.
- First party supporting witnesses and/or evidence (video etc) cross examination.
- Second party evidence and cross examination.
- Second party supporting witnesses or evidence and cross examination.
- Second party closing statement.
- First party closing statement.
- Stewards deliberate in private and agree a decision.
- Prepare formal decision, time date and signed by the three Stewards.
- Deliver findings (agree CofC penalty, increase, decrease, dismiss).
- The range of penalties available to a Stewards panel ranges from a Verbal Reprimand to Suspension of the Competitors Licence. Each stage
- Obtain signature, time and date for receipt of decision from penalised party.
- However, that does not signify acceptance of the decision/penalty by the recipient.
- Remind recipient of right of appeal to the National Court.
- Prepare the Stewards decision report, notes of hearing and any documents/evidence for MsUk together with any forfeit fees and fines.

3) Third stage of the Judicial process.

- The penalised competitor can Appeal against the penalty handed down by the Stewards of the Meeting to the National Court.
- Additional fee: £595/£895
- Both the Steward and the Appellant will be called to the Court and required to justify their position/views.
- No advocates are permitted to attend.

The article will conclude in December.

Miscellany.

UK World Water Speed Record Attempt.

It will not come as a surprise to learn that Richard Noble, OBE, has been motivated to launch an attempt on the World Water Speed Record.

You will recall that in 1983 the Thrust 2 jet powered car masterminded and driven by Richard achieved 633.468 mph (1019 km/h) in the Black Rock Desert in Nevada, US. That record stood until October 1997 when Richard Noble's follow-on project, Thrust SSC, when driven by Andy Green, broke that record when it achieved 763.035 mph (1221 km/h) or Mach 1.02. It therefore became the first and only car to break the sound barrier on land. The record still stands.

Richard Noble with Thrust 2

Thrust SSC

Richard Noble can genuinely be described as an entrepreneur given that in the mid 1980's he conceived alight aircraft, the ARV Super 2, powered by a unique Hewland engine. It was 2 seat trainer and commuter aircraft, in some respects an air taxi. Using innovative construction techniques, only 40 were made before the project was liquidated.

Richard's next project was the Bloodhound LSR created with the aim of achieving 1000mph on land. Members will recall that the car was designed and built in Bristol where in June 2016 we were able to receive a presentation and view the virtually complete car. As we now know that project ran out of funds and while the project was purchased by Ian Warhurst the car now resides with Thrust 2 and Thrust SSC in the Coventry Transport Museum.

Bloodhound LSR

ARV Super 2

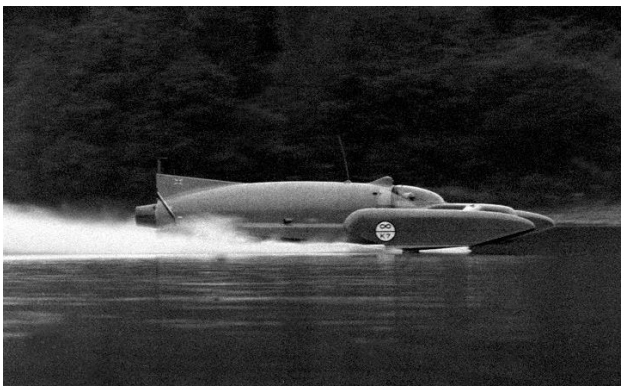
So, Richard Noble's attention has now turned to the World Water Speed Record, currently held by Australian Ken Warby who achieved a speed 317.6 mph in 1978 with Spirit of Australia. Regrettably, WSR attempts have claimed many lives, many British. Sir Henry Seagrave (Miss England II) was killed in June 1930, aged 33, having achieved 98.8 mph (158.94 km/h) over two consecutive mandatory runs on Lake Windemere. Seagrave decided to immediately undertake a further run/attempt which proved fatal. By 1939 Sir Malcolm Cambell, in Bluebird K4, had raised the record on Lake Coniston to 141.74 mph (228.11 km/h). Before then he had broken the land speed record nine times, achieving his highest speed of 301.13 mph (484.62 km/h) in September 1935 at Bonneville Salt Flats.

However, on 29th September 1952, John Cobb was killed when his boat, Crusader **Hydroplane**, disintegrated when travelling at an estimated 201 mph (338 km/h) on Loch Ness. John Cobb was also a Land Speed Record Holder having achieved 394.19 mph (634.39 Km/h) average at Bonneville in 1947.

Given that the desire for achievements in record breaking can be considered to be 'in the genes', Donald Campbell, Malcolm's son also pursued both Land Speed and Water Speed Records. Donald Campbell had achieved the land speed record on July 17, 1964, at Lake Eyre in Australia, achieving a speed of 403.10 mph (648.73 km/h) in his Bristol Proteus powered Bluebird CN7.

Donald Campbell held both the Land and Water Speed Records simultaneously in 1964. He broke the water speed record multiple times, with his final and highest record being 276.33 mph (444.71 km/h) on Lake Dumbleyung in Australia on December 31, 1964. He tragically died in 1967 attempting to break the 300-mph barrier on Coniston Water in the UK when piloting the Bristol Orpheus jet powered Bluebird K7 **Hydroplane**.

John Cobb's Crusader Hydroplane



Donald Campbell's Bluebird K7 Hydroplane

It is against this background that Richard Noble has inspired a design team and sponsors to back a new World Water Speed attempt. The project has been named Thrust WSH. It will be constructed as a **Hydrofoil.**

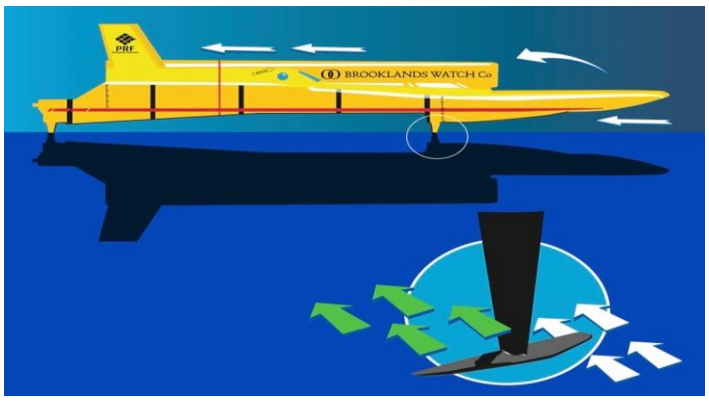
Richard, whose deep concern that British culture that has become strongly risk adverse, views that as strong motivation stating: "*… Britain has become completely risk-averse, which is fantastic because that's exactly what we want. We want to power ahead with a really risky programme to show that this can be done. If you're used to taking risks – as we have done for the past 40 years – then you know what works and you know how to survive."*

The task is fraught with difficulties but since the existing record was achieved 40 years ago, technology has developed such that the design of Thrust WSH will abandon **Hydroplane** principles. A **Hydroplane** boat skims across the surface of water).

The Thrust WSH target is to achieve 450 mph.

The Thrust WSH team constructed a scale model of John Cobb's Crusader in order to investigate the suitability of Hydroplanes for this application and concluded that an alternative solution was required

The answer is to be a very sophisticated 'wings under the water' **Hydrofoil** design that uses the benefits of super cavitation linked to an equally sophisticated computer-controlled stability system that can make corrections to the crafts' attitude by actuating four 'corner' hydrofoils at a rate of 100 times/second. However, to date 'current' Hydrofoil technology, as used in America Cup yachts, is some decades old and is effective only upto 80 knots (90mph).



Thrust WSH illustration showing the Hydrofoil concept

Design is being undertaken by the newly formed Thrust WSH team together with technical support from three leading British 'centres of excellence'. Imperial College and Leeds University for the aerodynamic aspects and QinetiQ for the hydrodynamic research.

Testing of a small, four hydroplane 'proof of concept' test craft in the Teddington Test Tanks, made famous when Barnes Wallace and George Edwards were developing the WW2 Dam Busting 'Bouncing Bomb', is well advanced and has been followed by a 3.3 metre 1/3rd scale 'yellow' test model boat (below) that will achieve 250 mph.

*Noble emphasises. "The Yellow test model is jam-packed with all the equipment for data collection; it has a radio remote shutdown system and it also has (*an underdevelopment*) GPS range control called geofencing, which means that if it leaves a pre-determined area of the loch, then it will shut down. It's a big gamble – no one else has done anything like this before."*

This test craft, which has yet to achieve full functionality has, nevertheless, already proved to be very beneficial to the challenge of Hydrofoil development. It has already demonstrated the need for further advanced avenues of computer aided design, given shortfalls in predicted hydrofoil performance. The photo below shows that the craft, on test, is not yet riding on Hydrofoils. It should not be forgotten that this is a challenging development programme and as such the craft is proving its worth. Development is a 'step by step' process.

It should also be noted that if the Hydrofoil concept cannot be made to work at the projected necessary 450 mph then the project will be still born.

The final full-size design will be powered by a R-R Spey jet engine of the type used in Bloodhound running on Firefly jet fuel made from human sewerage!

As with the Bloodhound programme the Thrust WSH project has a parallel education programme that is designed to encourage students to aspire to careers in engineering and technology. Noble is passionate about the need to recreate British design and manufacturing capability.

That said the 'field' will not be a clear run. Thrust WSH is one of 4 teams currently working on WSR projects, one of which is lead by current Australian WSR holder Ken Warby.

We will monitor progress.

Aerial Expands in Somerset!

The British Car Company, based in Crewkerne, manufacturers of the Aerial Atom lightweight car, is to double its production capacity, having purchased a local 43-acre site in order to build a new factory. Negotiations for this expansion have taken 5 years.

Aerial currently produces 100 vehicles each year. Best known for the Atom, a lightweight two seat sports car for road and track use it also offers the Nomad, a road going off road 'buggy' and the Dash, an urban or off-road lightweight e-bike.

See: https://www.arielmotor.co.uk/ariel-vehicles/ariel-atom/

The Aerial company has a history stretching back to 1871 when it produced what is claimed to be the world's first production vehicle- a 'penny farthing' bicycle.

The Atom

The Atom is powered by a 4-cylinder Honda turbo charged engine that develops 320bhp in standard form or 350bhp with upgrades. Initially made available in 1999, the current car is 'version 4'. It is fitted with a 6-speed sequential gearbox.

Some earlier versions Atom were fitted with a bespoke 3.0-litre flat-plane crank 32-valve V8 is developed in America that produces 500bhp and 284lb ft. The engine was derived from a pair of Suzuki Hayabusa 4-cylinder units.

The Nomad

The Nomad is primarily designed as an Off-Road vehicle which is road legal. Powered by a 305 bhp engine it is fitted with Traction Control.

The Aerial Dash

The Dash is a technically advanced lightweight e-bike that took 5 years to develop.

And finally.

As in all good theatrical productions 'the star comes last' and therefore here is a photo, taken recently, of President David wearing his genuine chain of office. (You will recall that a substitute was used for his induction at the Tea Party).

Until the next time we meet,

With very best wishes,

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

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