

THE XK SPIRIT

THE ARISTOCAT REGISTER MAGAZINE



Mk VII Jag based Aristocat

SPRING 2022



1st Electric Aristocat P4



Antipodes Aristocat P6



Aristocat fhc rebuild P10

ENGINE NOTES

EDITORIAL

For all of us I'm sure there is considerable relief that we are now no longer under COVID19 restrictions and hopefully your lives are moving back to some sort of normality, be it different in many ways to pre-pandemic times. This means the inevitable releasing of ones "Cats" into the wild to go out exploring new territory; unless or course maintenance or further updates and improvements are on the 'to do' list.

As I'm no longer an Aristocat owner but I do so enjoy regularly once or twice a month going with my friend Barry to our local classic car meeting at Bletchingley. Last Saturday, due to the glorious sunshine, we had a spectacular array of vehicles like the 1934 Aston Martin Mk11 Long Chassis Tourer shown. To be driven in a beautiful Jaguar XK120 with the top down, wind in your hair on a sunny day is so therapeutic. This together with great company, regular owners that we are getting to know and to top it all off,



consuming a superb bacon, egg and sausage breakfast brioche bun, who could ask for more on a glorious Saturday morning.

On the subject of our magazine; editing, photo adjusting, proofing, printing, packing and posting each edition takes me about 30-40 hrs. to accomplish for each edition. The main problem that I am having is that the majority of articles, pictures etc. are not sent to me until about one week prior to my deadline of posting out the current issue. I want to encourage you all, to not only think about contributing to our magazine, (after all no articles, no magazine)

but to plan now to start writing so I can be putting the next edition together over the coming months, rather than in the last week prior to mailing. Having just recently celebrated my 76th birthday, 🥳 trying to get this all done in about one week is extremely stressful. Deadline dates for mailing out are: Summer edition is 31st July Winter edition is 30th November.

Finally, an administrative point, the Aristocat Register is changing email address. The new email address is: aristocatregister@gmail.com. This is a small change from aristocatregister@btinternet.com.

TEAM



CHAIRMAN
Martin Webb
Hartlands
1 Jenkins Orchard
New Road
Bromyard
Herefordshire
HR7 4AL
018 8548 3966
aristocatregister@gmail.com



HON SECRETARY & TREASURER
Carolyn Taylor
Autotune Ltd
Riverside Industrial
Estate Rishton
Blackburn
Lancs BB1 4NF
012 5488 6819
taylor@autotuneuk.com



EDITOR
Chris Thacker
Maison Ouverte
24 Fernhurst Road
Addiscombe,
Croydon CR0 7DG
020 8654 7609
aristocateditor@gmail.com

DRIVER'S SEAT

COMMENTS FROM THE CHAIRMAN

Welcome to the latest edition of 'The XK Spirit'. Spring is just around the corner and I am not sure about where you live, but we have had a fairly mild winter so far. Inevitably, at this time of year, my thoughts start to turn to unwrapping my Aristocat from its winter cloak, getting it through its MOT and taking it for its first drive of the year.

However, like most of us, my thoughts are never far away from the horrible events that are currently happening in Ukraine. Although there are a large number of experts on television and radio and in the newspapers each day, I don't think anyone can second-guess what will happen next and when. Let us all hope and pray that peace will prevail sooner rather than later.

What we can be fairly certain about is that the high fuel prices that we are currently experiencing will probably not drop down to the levels that they were at the beginning of February. I imagine many of you will be experiencing £100+ fill ups. I dare not think what the cost would be to fill up the Aristocat. Despite these uncertain times and uncertain prices, I hope that you will all be able to get out and about in your Aristocats over the summer. If you are building your Aristocat, I hope that the current high inflation rate will not affect the cost of spare parts too much.

Whatever you are planning for the summer, there are some good things to look forward to.

One of the first events of the year is the JEC 'Track Day and Club Car Meet' on 6th April at Mallory Park between Leicester and Hinckley, in central England. As an attendee you will have the opportunity to enjoy your Aristocat out on the track. You can choose a short blast or maybe the whole day, this is a great place to stretch your Cat's legs in controlled conditions as well as being an easy short track which would be excellent for novice track day explorers.

Aside from the track action there will be a free car show and free to enter 'Show & Shine' competition, plus opportunities for rides in Jaguar Heritage Trust cars to experience icons from Jaguar's history. The café onsite will be open for tea/coffee, breakfast and lunch. Anthony and Carolyn at Autotune regularly attend and they say that the event is highly recommended!

Details of how to book are in the following link:
<https://events.jec.org.uk/events/jec-track-day-mallory-park>.

In the very near future is the 2022 National Kit Car Show, back at its usual May Day Bank Holiday slot on Sunday 1st and Monday 2nd May. Please let me know if you're attending and I will advise you

where our stand will be located. Let's see if we can beat last year's superb attendance of eight cars over two days of the Show.

We are still planning other events across the summer, so if you have any ideas or events that you think may interest Aristocat Register members do let us know.

One special event that we are hoping will happen this year is that the Aristocat Register will be able to have a stand at the NEC Classic Car Show in November. This is one of the flagship events in the UK for the classic car community. The organisers offer free stands for a limited number of car clubs. We have applied for a stand but we understand that the chances of being allocated one is not a foregone conclusion. If we are lucky enough to be allocated a stand then we will be looking for two or three top class examples of Aristocats and a number of volunteers to help look after the stand and answer questions from members of the public over the three days of the event. If you would like to offer your Aristocat for the stand or volunteer to be on the stand, in the first instance, can let me know and importantly, can you pencil in the dates of 11th to 13th November plus a day either side for setting up and removing the stand. Once (and if) we have a confirmed place, I will let you all know as soon as possible.

1st Electric Aristocat



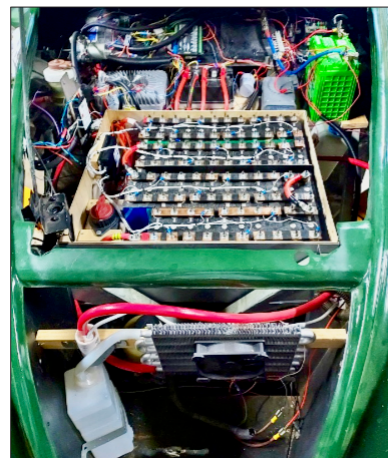
I chose the Aristocat because of its cavernous under bonnet and boot spaces (apart from the fact I am very fond of it!). There are 84 lithium ion phosphate batteries, roughly split 50/50% between bonnet and boot. I am told that the range should be about 100 miles but I am yet to test that, (my approved engineer is away until mid-February), so I have to wait for an engineer's certification before I can lawfully drive on public roads. Maximum voltage is 155v, calling for care of course when working in close proximity of connectors!

On each battery bank I have fitted an isolator switch together with an inertia switch, which is triggered to shut down power in the event of a collision. As an extra precaution I have also fitted a mushroom switch on the dashboard, for manual operation in case power needs to be shut off.

The batteries require a battery management system which I have installed although balancing them is a chore, as they should be within 0.01 of a volt of each other. I have achieved that with both mains and manual charging, the latter with a charger specially suited to this type of battery, each nominally 3.2

volts and 100Ah. I have also fitted a brake transducer which facilitates regenerative braking. It is coupled to a vacuum pump to reproduce the effect of an inlet manifold, in the absence of one. Each time the brake pedal is applied or the accelerator is released, the car's electrical power management system engages the motor to function as an alternator to charge the batteries.

A rough costing is about £15,000 which provides battery numbers, cabling, electric motor, a charger, controller, and a converter which helps to deliver charge to a normal 12 volt battery to power ancillaries such as lights, indicators etc. (taking the place of an alternator). I believe however, that with advances in technology, Tesla



motors and batteries will turn out to be a better option for DIY conversion. I may test that next year on my Shelby Cobra.

I have installed a Great Wall manual gear box, frequently used

in the Toyota Hilux, for its sturdiness. It is not coupled to a clutch. You can select 2nd gear to start off and drive most of the time in that gear, apart from traversing any hills when a change of gear is desirable. It is necessary to have an adapter plate fabricated and fitted between motor and gear box.

Final approval has been delayed by the Certifying Engineer insisting on an internal steel cage to each battery box in order to restrain the batteries in case "the vehicle tipped over in a collision". Each battery box has a lockable cover preventing the batteries from 'escaping' from their confines! My friend Bill, who has been involved from the start with the conversion, and I have started on fabricating the steel cages, but as I am overseas for all of April, I don't expect final approval until May to allow change in registration from internal combustion engine to electric.

In the cockpit photo, you will see a number of fittings:

1. The motor screen which shows any error codes associated with motor operation.
2. The red and silver toggle profile switch permits the setting of different throttle and braking levels.
3. With ignition on, the black screen shows the state of charge of each battery cell, also other info. related to the battery management system.



4. The function of the forward reverse switch is obvious.
5. Headlight high beam switch.
6. The white globe lights up during charging.
7. Headlight switch.
8. The large red mushroom switch will shut down all power. However, there is an active debate here about whether such a switch is needed, if a relay is used wiring up controller pin 24. In that event, simply turning off the key will shut down all power. We have pin 24 wired up in that way in addition to the mushroom switch.

I have deliberately not changed the steering, to avoid the necessity of track testing, to gain approval.

In a clutch-less EV conversion, the electric motor is directly coupled

to the transmission without flywheel, clutch, or any of the other typical components. The spinning mass of the electric motor is significantly less than that of an engine and flywheel. The synchros can still do their job of meshing the gears, although it takes a moment longer.



To change gear you just take your foot off the accelerator and move

the gear lever into neutral. You then gently and slowly introduce the gear lever to the gear you want to select. The synchros will match the gear speeds and you will "feel" the gears mesh and the lever will 'fall' into place; then you put your foot back on the accelerator. The alternative is to bypass neutral and go directly to the gear you want, but I believe this makes the gently and slowly feature even more crucial. I have yet to do it, having only driven on my private property in one unchanged gear, and believe it takes a little practice to do it smoothly. More and more conversions in Australia are going clutch-less and it appears to be the way of the future, unless you have very deep pockets and can afford some of the hardware which does away entirely with a conventional gearbox.

- Mac Bolton

Antipodes Mk VII Jag based Aristocat

I have been interested in old cars and bikes, and particularly those of English manufacture, for as long as I can remember. My 10th birthday present was a 1949 Ford E93 Prefect, and I went through the usual list of cheap starter classics; Morris Mini Cooper, Ford Mark 1 Escort, then a Daimler DB18 roadster before succumbing to the allure of a new, reliable (and more importantly) company provided Ford Falcon.

But I'd always lusted after a Jaguar XK. I came very close to buying an XK120 FHC back in the early 2000's when I had a windfall gain, but as lovely as it looked I couldn't fit in the cockpit.

Since then XK prices have steadily increased, and now they are completely out of reach. I'd looked at the Aristocat for a number of years as an alternative to a real one, but it is notoriously and increasingly difficult to get type approvals for replicas in Australia, so I'd discounted them.

But around 5 years ago I had an epiphany. The original XK's were built on shortened and narrowed Mark V or Mark VII chassis. The Mark VII has a slightly wider track than an XK, but the Aristocat body is around 5" wider than an original XK, so why not shorten a Mark VII chassis and fit the Aristocat body? No issues with one-off approvals and engineering reports, and just as importantly it would be eligible



for period motorsport as a special constructed from original parts.

I sent a request to Carolyn and Anthony asking whether they would consider selling just the shell without a space-frame, and they very kindly agreed. I think the competition aspect of the request was what convinced them! Now I just had to find a donor Mark VII fortunately they are relatively plentiful in Australia. After the USA they were the biggest export market with non-running examples still available and cheap. I paid about £500 for a complete but stripped example, and as well as the chassis and most of the drive train it provided a wealth of parts. I think that the almost exclusive use of period Jaguar components has added to the authenticity of the car.



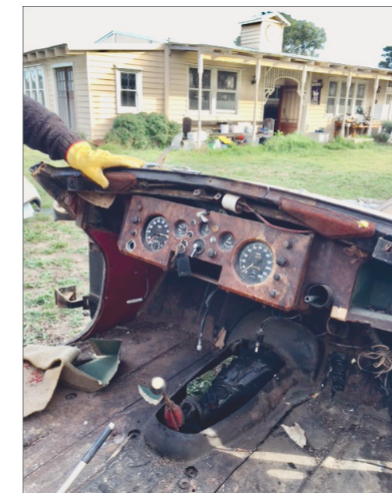
The first job was to strip the donor. This was relatively straightforward as the previous owner had already done much of the tear down. Not being concerned with rebuilding the body also helped.

Generous and indiscriminate use of the oxy cutting gear and angle grinder made short work of the body, and after a couple of weekends I was left with a bare chassis and drive train.

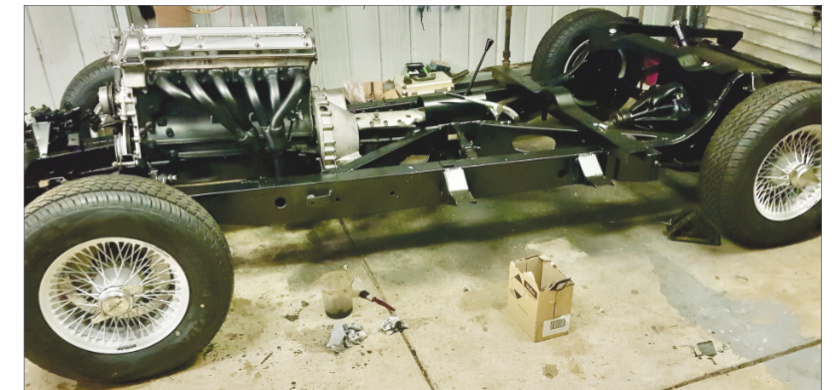
The Mark VII chassis has a 120 inch wheelbase compared to 102 inch of an XK. The engine and gearbox also sit much further back on an XK. I wasn't comfortable shortening the chassis myself, so I farmed that work out to Lewis Chassis Works, a local hot rod and custom builder, who have a very good reputation for making and modifying custom chassis. Peter Lewis did a fantastic job of shortening the chassis and relocating the engine and gearbox mounts. The only way to tell where the work was done is by the quality of the welding as Peter's welds are far superior to the original Jaguar items!

Shortening the chassis should be well within the skills of a reasonably competent welder and fabricator though. Since having my chassis done, I have assisted a friend with shortening a Mark V chassis for another project, and it was very straightforward.

Once the frame was returned I commenced on building it up into a rolling chassis. I hate rust so it was treated to at least 8 coats of zinc primer and chassis black, and stone guard to the lower frames.



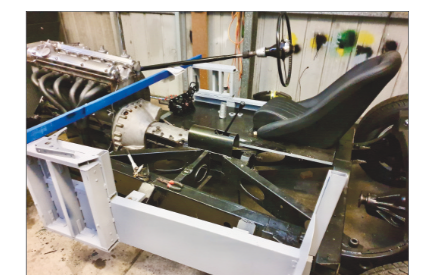
The original Mark VII suspension was renovated with new bushes, wheel bearings and ball joints etc. and refitted. The Mark VII suspension is identical to the XK's so looks absolutely authentic. I did dispense with the original front drum brakes and replaced them with a disc brake conversion kit from M & C Wilkinson in the UK. The kit came with wire wheels as an option. Interestingly the conversion kit with splined hubs was cheaper than the kit for



standard steel wheels. The disc conversion kit was a dream to install, and after a couple of solid weekends work, the front end was back together. The spares situation for old Jaguars is first class. I used a number of suppliers including XK's Unlimited in the USA (now Moss) and Coventry Auto Components in the UK. Both offered quick rebuild kits for various sub-assemblies which made ordering parts and then fitting them very simple. I also refurbished the rear leaf springs with new bushes and clips, after removing a couple of leaves from the spring pack to soften them a little. I cleaned and painted the original Salisbury 2HA rear axle and retained the original drum brakes as the fronts do 60% of the work in any event; so I decided not to convert the rears. I fitted a brake booster to reduce the pedal pressures, but it is probably unnecessary given the relatively low weight versus a Mark VII.

I purchased splined hubs for the rear from MWS, and I got lucky with a set of original XK150 16 inch

wire wheels I purchased very cheaply at a swap meet. After sandblasting and powder coating they came up like new. I changed the bearings and seals in the original steering box, and had a local engineering firm shorten up the steering shaft and column to suit. I now had a rolling chassis prepared and moved on to work on the drive train. I retained the original 4 speed Moss gearbox, as it was in very good order, with no discernible wear on the cogs or bearings. The original engine was knackered, and as a rebuild is approx. £5000, I liberated the low mileage engine from my wrecked Jag Mark 2 (that's another story) and dropped it straight in. One of the lovely things about Jags is that there is a high degree of interchangeability between different models. ▶





◀ I also modified the exhaust system from the Mark 2 to fit, as well as the alloy radiator and thermatic fan. Re-using, repurposing and recycling has been a recurring theme of this build, as I want to keep the costs down as well as use original Jaguar parts wherever possible.

Attention now turned to fitting the body. As you know the Aristocat is a very well-constructed body, and the gelcoat finish is exceptional. In this case I ordered the body in British Racing Green as I thought it would make a great stable mate for my MGA track car.

I started fitting it up to the chassis, and while not without its challenges, was a relatively straightforward operation. Having the chassis built as close as possible to the original design certainly assisted.

I had to manufacture all the supporting framework for the body which is non-load bearing. I fabricated steel sills, front and rear bulkheads, A and B pillars,

floor frames and outriggers based on the original XK Jaguar design, then fitted the body. Floor boards and the boot floor were constructed from half inch marine grade ply, which I fibreglassed into the body panels for stiffness and strength. I also made up a tool locker under the boot floor and fitted a set of correct Jaguar tools I salvaged from the Mark VII, and from various auto-jumbles. Whenever I was unsure about the design of any part of the inner structure I got onto Google and looked at pictures of XK's under restoration, as well as various Jaguar spare parts catalogues, many of which have very good exploded diagrams of the body sub-structure.

While the body fitting sounds simple, I must have fitted and re-fitted the body more than 20 times to get the panel fit and the door shuts to where I was OK with them. Fitting the door hinges was particularly trying. I recycled the front hinges from the Mark 2 and it took tens of hours to get the doors adjusted. In hindsight I should

have bought correct pattern XK120 hinges; although much more expensive, the time savings would have more than repaid the cost!

Wiring was reasonably straightforward. I reused all the original lights from the Mark VII and the Mark 2, but for simplicity I used a 14 circuit after-market wiring loom. These are made for hot rods and are cheap and very easy to follow, even for colour blind, electrically challenged people like me.

I then had a setback when my lovely and very understanding partner suggested that two British Racing Green cars in the stable was one too many, and I should seriously consider another colour. Which of us has not been through that process?

After looking through multiple books, and the internet and YouTube, and only after receiving the car's original build record from Jaguar Heritage in the UK, we (she??) decided to repaint the car in the original Dove Grey. I must say I was unconvinced, but now having painted the car I absolutely love it.



It's quite a polarising colour as people seem to either love it or hate it. But as it's my car, and I'm the only one I have to please, Dove Grey it shall remain.

Following the repaint, I refitted the body and started the final fit-out stage, and still using where possible all original Jag bits.

So it has the original woodwork, dash and gauges and steering wheel from the donor Mark VII, but I have fitted later bucket type seats as the Mark VII units were too wide. The interior has been re-trimmed in a blue/grey leather hide which I got on clearance from a local tannery, and a local

trimmer made up the seat covers. I made all the door cards, and other trims, and covered them with the seat leather as they are very simple in design. I also cut the carpets, and had the trimmer edge them in leather to match the seats.

I had a few dramas with the windscreen wiper mechanism as the bungy tube supplied with the kit was too tight for the actuating cable, and there was too much friction in the system. I had to remove the front clip of the body yet AGAIN, and remake new bungy tubes using a larger diameter tube. My very strong advice to anyone building one of these cars is to

ensure that you retain sufficient clearance under the dash and the bonnet to undertake routine maintenance. Having to take the front of the body off to service windscreen wipers is not fun!

Anyway 3 years after commencing and for considerably less money than a real one (I reckon its cost less than 20% of a good restored example) I have a reasonably accurate looking car, which, aside from the body, is composed almost entirely of period correct genuine Jaguar manufactured parts, and as a result drives almost exactly like a real one. And unlike a real one, it is unlikely to dissolve into iron oxide. **- Steve Duniam**

Adrian Flux Insurance

With over 45 years' experience tailoring insurance policies, at Adrian Flux we understand the passion that Aristocat Register members have for their cars and community.

Working alongside Aristocat Register we're able to offer members the chance to benefit from our low rates, vast range of policies, helpful customer service and up to 15% off for car club members.

We recognise that a one-size-fits-all approach will leave many drivers paying more than they need, so regardless of whether

you're a member of the Mini Fan Club, a diehard 4x4 owner or an avid Aristocat fan, we have a scheme which offers the cover you need. What's more, club members get up to 15% discount, cover for performance cars and left-hand drives, modified cars and even young drivers.

Chat with our experienced sales staff about benefits including:

- Protected no claims bonus
- Laid up cover
- Cover for driving other cars
- Europe-wide breakdown cover and home rescue
- Keycare
- Misfuelling cover
- Limited mileage discounts

We could also offer an agreed valuation on your policy by getting experts to assess your car and cover it for its true value, so there will be no nasty surprises if you suffer a total loss.

Quicker and cheaper rates are available over the phone so call Adrian Flux's knowledgeable customer services team for a free personalised quote on 0800 369 8590.

And to discover a community of like-minded car lovers, visit Adrian Flux's 'Forever Cars' and 'Cult Classics' content hubs, at www.adrianflux.co.uk/forever-cars

Aristocat fixed head coupe rebuild

I bought my car, Registration No. JGS 939N, back in 2017 through an advert in the CMM, which is now unfortunately defunct. The car was located in Port Talbot, so my wife and I had a day trip to view. I'm afraid it was in a sorry state having no side windows, absolutely no interior, and no bumper bars. When I first viewed the car the doors didn't fit at all, they were very weak where the frame had been cut about and the door gaps were atrocious, being an inch at the top, touching at the bottom and on the other side vice versa.



I had the car for maybe a year before I actually started work on it and as it didn't have any power steering the first thing I had to do, because of my health, was to fit electric power steering. This took me quite some time. I had to check all the mechanics and had to replace the brake discs, callipers and pads with new ones. Once that was all done and I had the car running I then had to set about the doors which I had to strengthen with steel and re-laminate the edges of the doors from where they had been cut away. Although they are now not perfect both doors have very good door gaps.



I wanted the body to look as much like a proper XK as possible, so I scored fake flaps in both front wings, put fake wing-edge rubbers down both rear wings, and I fitted a genuine XK aluminium boot lid. I made the bumper bars, front and rear, out of mk.2 Jaguar bumpers, using two rear bumper bars to make quarter bars on the back and one for the front, the front one I fitted using genuine XK aprons. As you can tell from the fact that I am using genuine parts I think the actual shell was manufactured to a high degree of accuracy. Having done all the body changes I then painted the car in Rover Admiralty Blue, which although not an original colour for these cars, looks great. Having done all this, I couldn't leave it on a 1975 reg. number so managed to change it to a more suitable one, which is 287 XKK (XK Kit)?

This maybe sounds as though it was very easy, but it has taken a long time in research, labour, and sourcing parts was very difficult. I had a lot of help and advice from

Carolyn at Autotune and I think the exterior of the car has turned out looking very good.

Having finished the exterior as I wanted it, I then had to set about working on the interior. I fitted all the windows with much heartache, although the winding mechanism has got to be altered as I fitted Mini winders and the handles are not in a suitable place. Luckily I found a good pair of XK140 winders at Beaulieu, along with numerous other parts, including four really good over-riders.

For the interior I used some cut-down rear seats out of an XJS and front seats which I modified from MGB seats. The wiring for the dashboard was just a mess so I removed more wires than I used! I then made a dash from wood, hopefully to look as near to an XK dash as possible, whilst using parts from other cars. I had the dash laminated in walnut as I wanted to keep the cost down as much as possible as the car is intended for daily use.

Then with all this done, which has taken me more than a few hours, at long last I was able to road test it, only to find that it ran too low to the ground and touched at every opportunity, so again with advice from Carolyn and her team, I modified the exhaust and it is much better now. I then found it had overheating problems which it seems many of these cars suffer with. Having tried everything from bigger radiators, electric fans, which are all still in there, I then fitted an electric water pump which seems to have cured the problem, although when people look under the bonnet they wonder where's the fan belt. I am using the car quite successfully although there are still some teething problems to sort out. On the body I still want to put air vents in the bonnet as this also helps to keep it cool and looks more the part.

I wanted to get to the Bicester Jaguar Show this year but had a prior engagement but am hoping to be there next year. - Ken Malson



Insurance for your Jaguar

Call our UK team on 0800 916 1288

45

YEARS OF EXCELLENCE

adrianflux.co.uk

Authorised & regulated by the Financial Conduct Authority
Trustpilot rating checked on 10th January 2022

ADRIAN FLUX

Insurance for the individual

JAGUAR DRIVERS' CLUB



2022 Meetings

4-Hills & SPRINT Championship

Saturday	APRIL 30th,	AINTREE (L9 5AS)	SPRINT
Sunday	MAY 15th,	BLYTON PARK, (DN21 3PE)	SPRINT
Saturday	JUNE 4th,	HAREWOOD, (LS17 9LA)	HILL CLIMB
		Invitation on Sun. 5th	
Sat-Sun	JUNE 25-26th,	HOLMFIRTH, (HD9 3UU)	HILL CLIMB
		Invitation Sat. 25th - Event Sun. 26th	
Saturday	JULY 2nd	SHELSLEY WALSH, (WR6 6RP)	HILL CLIMB
Sunday	JULY 24th	3 Sisters (WN4 8DD)	1 Lap SPRINT
Sunday	SEP. 4th	3 Sisters (WN4 8DD)	2 Lap SPRINT
Sunday	SEP. 18th	HAREWOOD, (LS17 9LA)	HILL CLIMB
		Invitation Sat. 17th	
Sat-Sun	OCT. 1-2nd	ANGLESEY (LL63 5TF)	SPRINT
		Invitation Sat 1st - Event Sun 2nd	

For more details contact Geoff Mansfield on
01388 722570 or geoff663@btinternet.com

4-Hills & Sprint Championship
Sponsored by Autotune Ltd

