

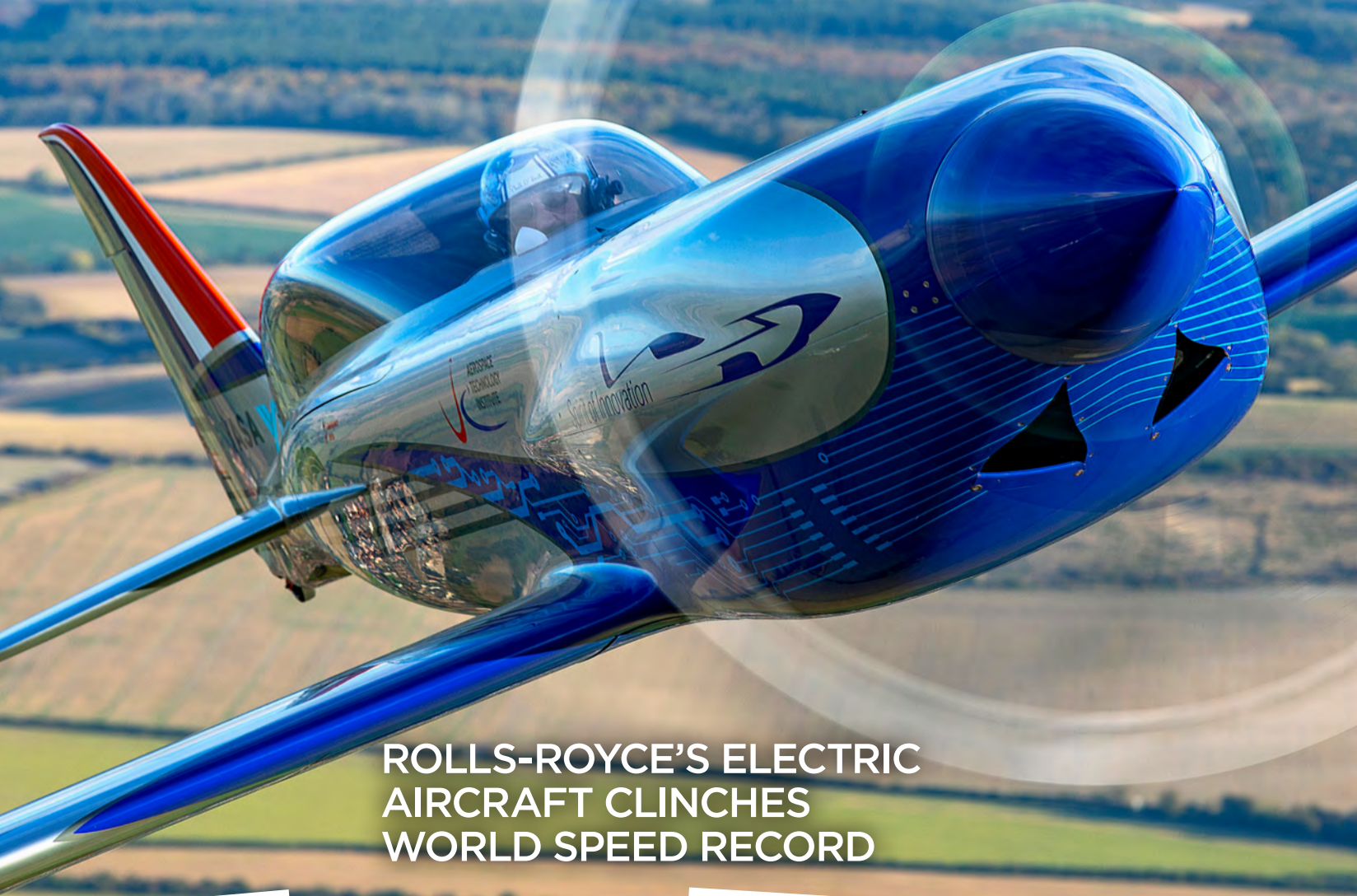
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Website [www.subscriptions.flyer.co.uk](http://www.subscriptions.flyer.co.uk)

## Editorial

Telephone +44 (0)1225 481440  
Email [editor@seager.aero](mailto:editor@seager.aero)  
Website [www.flyer.co.uk](http://www.flyer.co.uk)  
Seager Publishing, PO Box 4261,  
Melksham, SN12 9BN

### EDITOR

Dave Calderwood  
[dave.calderwood@seager.aero](mailto:dave.calderwood@seager.aero)

### EDITOR AT LARGE

Ed Hicks [ed.hicks@seager.aero](mailto:ed.hicks@seager.aero)

### PRODUCTION EDITOR

Lizi Brown [lizi.brown@seager.aero](mailto:lizi.brown@seager.aero)

### ART EDITOR

Lisa Davies [lisa.davies@seager.aero](mailto:lisa.davies@seager.aero)

### CONTRIBUTORS

Ed Bellamy  
Matt Dearden  
Carol de Solla Atkin  
Mark Greenfield  
Geoff Hall  
Mark Hales  
Steve Slater  
Yayeri van Baarsen

### FLIGHT SAFETY EDITOR

Steve Ayres [steve.ayres@seager.aero](mailto:steve.ayres@seager.aero)

### PUBLISHER & MANAGING DIRECTOR

Ian Seager [ics@seager.aero](mailto:ics@seager.aero)

### PRODUCTION MANAGER

Nick Powell [nick.powell@seager.aero](mailto:nick.powell@seager.aero)

### SUBSCRIPTIONS MANAGER

Kirstie May [kirstie.may@seager.aero](mailto:kirstie.may@seager.aero)

### FLYER CLUB CHAMPION

Jonny Salmon [jonny.salmon@seager.aero](mailto:jonny.salmon@seager.aero)

### ADVERTISING ACCOUNT MANAGER

Zoe Yeo [zoe.yeo@seager.aero](mailto:zoe.yeo@seager.aero)

### EXHIBITION MANAGERS

Darran Ward [darran.ward@seager.aero](mailto:darran.ward@seager.aero)  
Paul Yates [paul.yates@seager.aero](mailto:paul.yates@seager.aero)

### FINANCIAL DIRECTOR

Martine Teissier [martine.teissier@seager.aero](mailto:martine.teissier@seager.aero)

### CIRCULATION

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# Editorial

DAVE CALDERWOOD

## Our challenge: #FLY2022

**H**ow much flying do you intend to do in 2022? Here's a thought if you're recreational flyer like most of us: why not aim for 2022 minutes in the air? That works out at 33 hours 42 minutes which some would say is a modest target but for others, it's a bit of a stretch - but not impossible. So that's it. **FLYER's** challenge for this year: #FLY2022.

To help get you started, we've brought together some of the plans from the **FLYER** team and friends of the magazine. There's also an active thread on the **FLYER** Forum with more ideas and people sharing their progress so far. We can say with some certainty (only some, given Covid) that wonderful locations like Glenforsa Airfield and events such as Lundy Sunday and the Italian Raduno are high on many pilots' wishlists. Others are planning to take as many non-pilots as possible up for a flight - that's a splendid way of sharing the gift of flight.

In fact, the disruption that Covid has wrought over the past two flying seasons is probably prompting many pilots to get a move on, and plan flights and activities they've been putting off. Let us know what you're planning for #FLY2022.

There's plenty of incentives to get out there and go flying, not least the support of the General Aviation industry in the UK. Cirrus specialist Echelon Air of Biggin Hill is offering £2022-worth of flying in a Cirrus SR aircraft to one lucky person. How to win that? We'll reveal that in months to come - this is a challenge that we'll return to many times over the next few months.

Also in this issue, we have a behind-the-scenes article from Mark 'Greeners' Greenfield who assisted the Rolls-Royce and Electroflight team with its attempt on the world speed record for electric aircraft late last year. It's a terrific read, with detail that gives a real insight into what goes into such an effort. Glad to say also that the team achieved the target too, and we believe the FAI will ratify the record in the next week or so.


As we go to press, Zara Rutherford is so, so close to completing her round-the-world record attempt. Good luck Zara!

[dave.calderwood@seager.aero](mailto:dave.calderwood@seager.aero)

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# Take-off

Aviation news from around the world – for the latest visit [www.flyer.co.uk](http://www.flyer.co.uk)



## Zara on final legs of round-the-world flight

**Above** Zara's nearly finished her round-the-world solo record bid  
**Inset** Her flight has caught the attention of the world's media... even the FT!

**Zara Rutherford, the 19-year-old pilot, is on course to arrive back at Wevelgem Airfield in Belgium on Thursday, 20 January. When she lands, she will have set a new world record as the youngest woman to fly a microlight around the world solo.**

Arrival is scheduled for 0930 UTC and Zara can be tracked live on her website, [FlyZolo.com](http://FlyZolo.com)

However, weather has already delayed Zara on her progress across Europe. At the time of writing she was at the factory of

the manufacturer of her Shark microlight at Senica, Slovakia, for the aircraft to have a check. Previously she had stopped at Benesov, Czech Republic, at the Shark HQ, to say thank you for providing it and supporting the flight.

A day earlier Zara stopped at Sofia in Bulgaria to say thanks to the main sponsor of the trip, ICDSOFT and meet Dimitar Dimitrov, founder of the internet and software company.

Zara set off on 18 August 2021 from Belgium, heading west, passing through the UK, Iceland,

Greenland, Canada, USA, Latin America to Colombia, then back north via Alaska, to Russia, Korea, Indonesia, India, the Middle East, Europe and back to Belgium.

The Shark microlight proved to be a good choice. It has retractable gear, two seats in tandem, variable-pitch prop, and is powered by a 100hp Rotax 912 ULS engine. It was able to cruise at a maximum of 140kt with a range of 1,600km.

FLYER has interviewed Zara twice on the Thursday night Livestream and caught up with her recently when she landed in Saudi Arabia. Watch the interview [here](#).

## Permission granted to build gigafactory on Coventry Airport

**Coventry Airport 'could close tomorrow' following a decision by Warwick District Council to grant planning permission for a gigafactory to be built on the site.**

Councillors on WDC's planning committee voted to grant the planning application submitted jointly by the operators of Coventry Airport, Rigby Group, and Coventry City Council.

A plea to add a condition to keep the airport open until a confirmed operator for the proposed gigafactory came forward was rejected. Instead, an unenforceable 'request' was made.

The planning application was also considered by Coventry City Council, one of the parties that put it forward, and not surprisingly, passed. The proposal should now go to the Secretary of State for Levelling Up, Housing and Communities (Michael Gove MP) because it is a green belt site.

Rigby Group insists the airport is not viable. However, aviation businesses at the airport say it has been 'run down' resulting in the loss of trade.

Steve Ford, CEO of Sky Harbour UK based at Coventry Airport, said: "Speculative property development, often with no defined end user, is not limited to Coventry Airport but is evident across the entire country.

"In successfully obtaining planning permission for a 'Ghost Factory' by the applicants, overnight Coventry City's airport that defended it in its hour of need, has been turned into a 'Ghost Town'.



**Above** Plan to build a gigafactory on Coventry Airport approved

"A legacy that neither Warwick District Council, Coventry City Council or the Coventry and Warwickshire Local Enterprise Partnership (LEP) should take pride in."

John Gilder of the General Aviation Awareness Council (GAAC) and also chair of the working party looking at airfields for the All-Party Parliamentary Group, said, "It's a spectacular own goal for Coventry. They've agreed to build a toxic manufacturing plant in a green belt location and upwind of the city."

John also told *FLYER* that a Strategic Airfield Network put forward by the APPG working group is now with the Aviation Minister and expected to be implemented. The plan would freeze all airfield non-aviation development for five years while the Network was assessed.

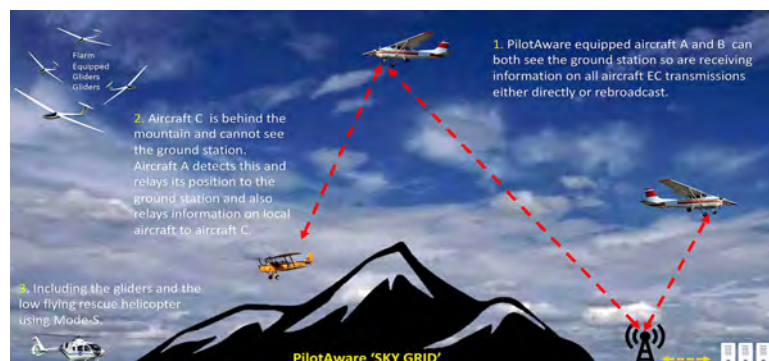
## PilotAware launches SkyGRID

**Electronic conspicuity company PilotAware released a software update on 1 January 2022 which created a new feature called SkyGRID.**

"This update will dramatically improve the detection of all electronic conspicuity systems, particularly when flying at low levels," said a PilotAware statement.

"Once SkyGRID is enabled, every airborne PilotAware device will become the equivalent of an ATOM station operating high in the sky with exceptional uninterrupted coverage.

"SkyGRID will contribute and relay all known traffic information detected from multiple sources, including the UK's 230+ ATOM stations, the 1300+ 360 RADAR ground stations and other time-



**Left** PilotAware's SkyGRID came into effect at the beginning of the new year

stamped sources.

"Low flying aircraft and drones will particularly benefit from the latest technology, which will relay all known traffic either from ATOM stations below, or the SkyGRID up above. If you are flying but not in range of an ATOM station, SkyGRID will take over."

PilotAware says that all 230+

existing UK ATOM stations have been upgraded, and the GRID network expanded.

"Every PilotAware Rosetta will be given ground station functionality so that any aircraft that are not in range of a ground station will get the benefit from the ground stations in the sky," said PilotAware boss Keith Vinning. [PilotAware](#)

# Take-off

## Smart Glide available for Garmin G3X and G5

**Garmin's Smart Glide safety tool is now available as a software update for the G3X Touch and G5 electronic flight instrument in certified aircraft equipped with a GTN Xi series navigator.**

In the event of the loss of engine power in a single-engine aircraft, Smart Glide will recommend a suitable airfield estimated to be within glide range, provide critical information to the pilot and optimise avionics settings.

When paired with a compatible Garmin autopilot, Smart Glide can automatically engage the autopilot and pitch for the aircraft's best glide speed, while simultaneously navigating the aircraft within the vicinity of the selected airport so the pilot can execute an approach and landing.

Smart Glide is activated using an optional dedicated button or by holding the Direct-to button for two seconds, and considers several factors including runway length and condition, proximity, terrain and available weather as well as current measured winds calculated by the PFD.

Alternate airfields within glide range can be selected by the pilot and, if there's no airfield within glide range, Smart Glide provides an aural and



**Above** Smart Glide helps pilot workload during a high stress period such as engine failure

visual alert to the pilot, while pitching for best glide speed and activating level mode in aircraft equipped with a compatible Garmin autopilot.

The Smart Glide Page of the GTN Xi displays glide speed based on the specific aircraft, airfield name, alternate airfield list, arrival above ground level (AGL) altitude, longest runway information including wind components if available.

The Glide Range Ring depicted on the Map Page shows airports within glide range and dynamically adjusts based on winds and terrain.

## Farway Common Airfield to reopen



**Above** England at its greenest and lush best: Farway Common in Devon

**Farway Common Airfield in Devon is to reopen under new owners. The airfield, 9nm east of Exeter, closed last year after the death of owner and operator Terry Case.**

The new owner is James Hartrop, who flies a Navion. James told *FLYER*'s Ian Seager, "Somehow we managed to buy an airfield! We have some big plans. First will be a housewarming fly-in in May/June time." [Farway Common Airfield](#)

**In other airfield news,** Truro Airfield owner Graham Barral has resubmitted plans for 17 rental holiday homes and a cycle/kayak store in a field adjacent to the airfield.

"We had to withdraw our application for rental buildings aimed at pilots as the council said the units were too large and looked too residential," Graham told *FLYER*. "We have submitted a revised scheme that is lower, with curved sedum roofs."

Graham says support from *FLYER* readers was helpful when Cornwall Council considered the original plan and asks if readers could support the revised plan (ref: PA21/11819) [here](#).



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# Take-off

## Fly the world's only two-seat Hawker Hurricane

**For many it will be a dream come true: the world's only two-seat Hawker Hurricane will be available for flights from April 2022.**

Operated by Hurricane Heritage, custodians of Mk1 Hurricane R4118, widely regarded as the most significant aircraft to survive WWII, the two-seat aircraft BE505 will be based primarily at White Waltham Airfield, near Maidenhead.

White Waltham was one of 22 dispersal units for the Air Transport Auxiliary during WWII, delivering thousands of Hurricanes to squadrons.

James Brown of Hurricane Heritage said, "Our aim is to continue preserving the legacy of the Hawker Hurricane and the brave pilots that flew her, for future generations to respect, admire and enjoy."

The aircraft is painted in the colour scheme of RAF serial number BE505 'XP-L' issued to No. 174 squadron at RAF Manston in Kent.

BE505 saw action during the Dieppe amphibious landings on 19 August 1942, when it was flown by Flight Sergeant C Bryce Watson. The aircraft was shot down with Watson becoming a prisoner of war.

The aircraft was struck off charge in September 1944, before being returned to the UK in the early 2000s where restoration began at Hawker Restorations Ltd in Suffolk. The first post-restoration flight was completed in 2009, and the two-seat configuration added in 2020.



**Above** Yes, you could fly in this Hurricane

**Left** Stunning restoration and two-seat conversion



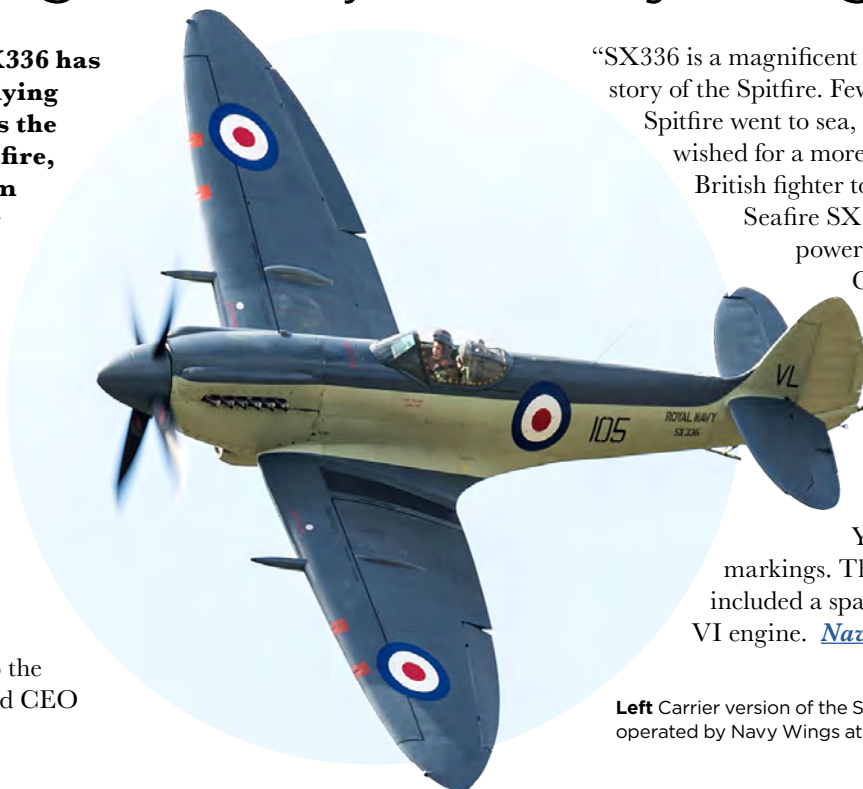
Darren Harbar

## Iconic flying Seafire joins Navy Wings

**Supermarine Seafire SX336 has joined the Navy Wings flying collection. The Seafire is the naval version of the Spitfire, modified to operate from aircraft carriers during WWII.**

Seafire SX336 is the only airworthy Seafire Mk XVII, and one of very few Seafires still flying in the world. The aircraft has been restored meticulously by her former owner and will be based at RNAS Yeovilton, where fighter pilots trained on Seafires during WWII.

"We are very excited to welcome Seafire SX336 into the Navy Wings Collection," said CEO Jock Alexander OBE.



"SX336 is a magnificent example of the naval story of the Spitfire. Few people know that the Spitfire went to sea, and we couldn't have wished for a more iconic and evocative British fighter to add to the collection."

Seafire SX336 has the more powerful Rolls-Royce Griffon VI engine. The aircraft was built by British aircraft manufacturer Westland at Yeovil in 1946 and painted in post-war Royal Navy colours with Yeovilton Squadron markings. The donation also included a spare Rolls Royce Griffon VI engine. [Navy Wings](#)

**Left** Carrier version of the Spitfire, the Seafire now operated by Navy Wings at RNAS Yeovilton

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# Take-off

## More speed, more features for 2022 Cirrus SRs

**More speed, more info, more passenger features and new colour schemes are all featured in the latest 2022 Cirrus SR piston aircraft.**

The new model year SRs have detail changes to the airframe for reduced drag, giving up to 9kt extra speed or reduced fuel burn – your choice.

The changes include sleeker wing and tail surfaces thanks to smoother edges to the ice panels, and the wheel spats are redesigned with tighter tolerances.

There's a new remote unlock and keyless entry to the luggage compartment with a pocket to hold two quarts of engine oil, and 'Spectra' illuminated steps giving better step and ground visibility during dark or low light conditions.

The Cirrus IQ smartphone app status screen is redesigned with new features:

- Maintenance Minder tracks approaching inspections and sends notifications when they are due. When flying, the flight hour meter automatically updates the inspection cards with a progress bar and countdown to the upcoming inspection event.
- My Trips module automatically logs every flight and curates key trip statistics and achievements earned while flying. My Trips will be released in February 2022.



**Above** Himalayan Salt is one of the new colours for the 2022 Model Year Cirrus SRs

**Left** The Cirrus IQ app keeps owners in touch with their aircraft

- The Warranty section references the date and flight hour limits of coverage for Spinner-to-Tail warranty, and CMX coverage, if applicable.

Eight new exterior paint colours include one called Himalayan Salt, shown in the photos and video released by Cirrus.

Ivy McIver, Director of the SR Series Product Line, said, "The model year 2022 G6 SR is refreshed to seamlessly sync with your life – taking you further, keeping you connected and distinguishing your style in the air and on the ramp."

## First flight for Junkers Junior A50

**The stunningly elegant and simple Junkers Junior A50 had its maiden flight just before Christmas.**

The microlight, which seeks to recreate a 1930s German sport aircraft, took off in a 'little more than 100 metres', according to the factory statement.

The Junkers Junior A50 is powered by a Rotax 912iS and is expected to cruise at about 190km/h (102kt) burning just 15 litres of fuel per hour.

The manufacturer, Junkers Flugzeugwerke, is aiming for German approval in the 600kg microlight category.

*Junkers Aircraft*



First flight for the 1930s inspired Junkers Junior A50 microlight

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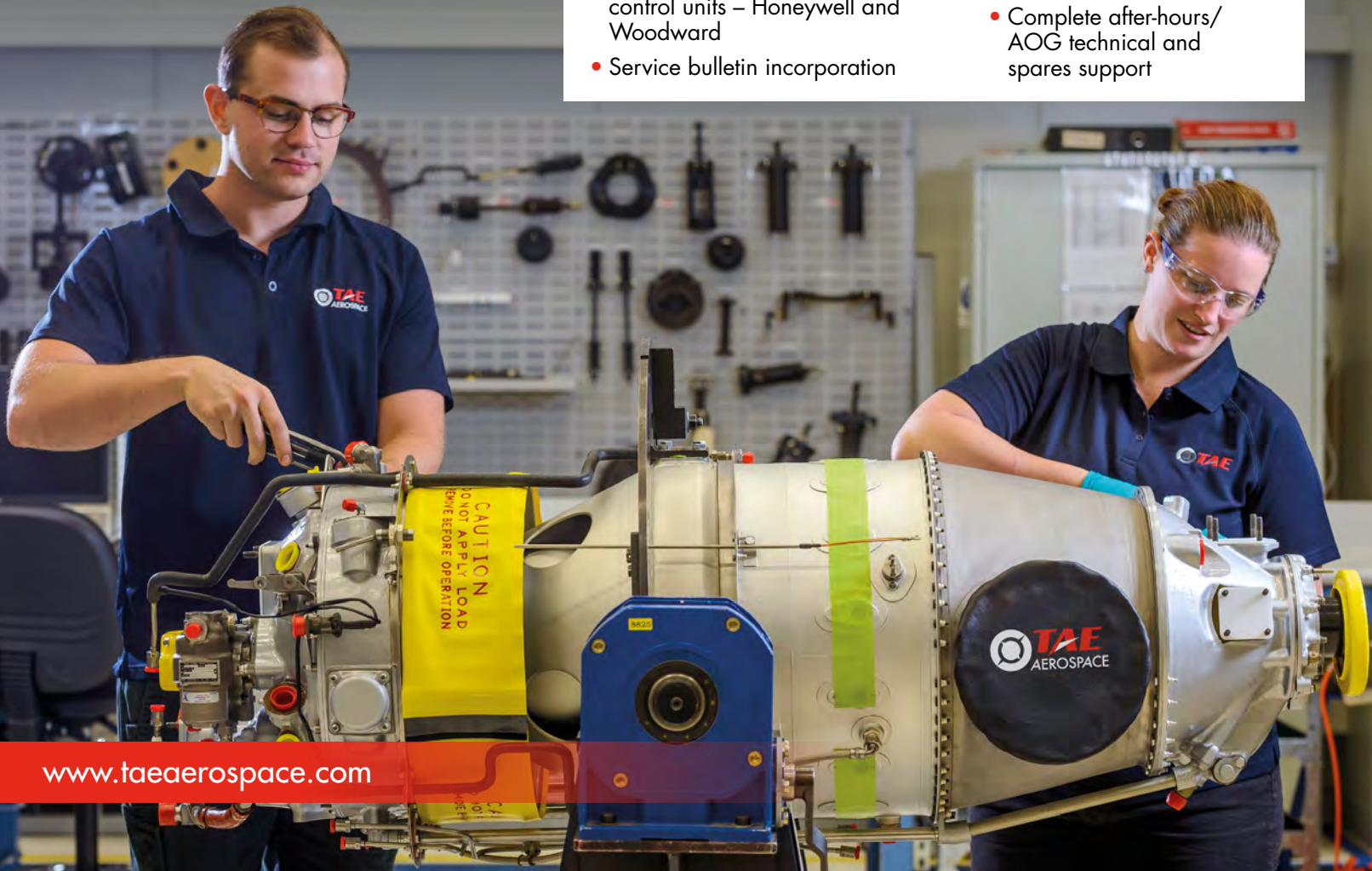
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## Third country to Part-FCL licence conversion

The Department for Transport calls time on UK-based FAA licence holders, as **Ed Bellamy** reports

In August last year we reviewed the issue of UK residents flying under the privileges of ‘third country’ pilot licences, such as those issued by the American FAA. The deadline for UK residents to obtain a UK Part-FCL licence, to continue flying Part-21 (formerly EASA) aircraft types (regardless of registration) was 21 December 2021. This date has now passed without amendment, so if you are affected by this and still not sure how to obtain a Part-FCL licence, let’s recap.

It was around the mid-2000s that the European Commission and Member State representatives passed a law requiring pilots resident in an EU member state to hold an EASA licence, regardless of whether the aircraft being flown was registered in the EU. The date on which this requirement would actually apply was constantly pushed back (referred to as derogated), but as far the UK is concerned, no longer.

Considering it was the EU that brought in the requirement in the first place, it is with a touch of irony that the derogation has now expired for UK residents, while on the continent, member states may continue to derogate up until 20 June this year (not all have, it is at individual discretion).

### Conversion v. validation

The requirements for obtaining a Part-FCL licence or validation on the basis of another ICAO licence are now in *Commission Delegated Regulation (EU) 2020/723*, as retained in UK law. This replaced Annex III to the EASA Aircrew Regulation in March 2020. The version as in force in the UK can be found along with the other retained law [here](#).

There are essentially two options for complying with the UK Part-FCL requirement – either obtain a 12-month validation or obtain a permanent UK Part-FCL licence. The regulations refer to obtaining a Part-FCL licence as ‘conversion’, but this is perhaps a misnomer since you do not surrender the third country licence – you still need to hold a licence issued by the state in which the aircraft is registered.

I will focus on the process for obtaining a full Part-FCL licence. I would suggest that validation is not worth it for UK residents, since it is only valid for 12 months and still requires the licence skills test to be conducted. The validation requirements are similar to simply obtaining the Part-FCL licence, except you do not require a UK medical, and demonstration of theoretical knowledge can be oral, rather than taking the written exams.

For both conversion and validation, it is much more straightforward if you have 100 hours flight time in the relevant category of aircraft. If you do not, I would obtain this somehow beforehand, otherwise you do not really have any alleviation from the full Part-FCL training requirements.

Assuming you have that 100 hours, to obtain a UK Part-FCL PPL on the basis of another ICAO PPL you need to:

- Have your licence verified to the CAA by the issuing state (see form SRG2142);
- Pass the written exams in Air Law and Human Performance;
- Obtain a UK Class 2 medical;
- Pass the UK PPL skills test; and
- Demonstrate English language proficiency, which can normally be done at the same time as the skill test.

In practice I would approach a suitable flying school to guide you through the process, the UK PPL skills test is similar to any other ICAO one, but every state has its own local flavour.

### Foreign Instrument Ratings

For obtaining the UK Part-FCL Instrument Rating (Aeroplanes), you can use the 2014 conversion process for pilots with a third country IR and 50 hours PIC under IFR in aeroplanes (note that is IFR time, not necessarily time in IMC). You must do the UK skills test, during which you will be examined orally on UK air law, operational procedures, meteorology, flight planning and performance. There is no requirement for written exams or training prior to the test.

In practice I would suggest you need a flying school that provides IR training to prepare you for the UK test. Like the experience requirement for converting at PPL level, if you do not have 50 hours PIC under IFR, I would find a way to obtain it, since otherwise the above option is not available.

### Keeping Part-FCL ratings current

Towards the end of 2019 there was some modest good news for those who hold both EASA licences (and by extension, licences that have subsequently become UK Part-FCL), and third country ICAO licences – if you let your EASA or UK Part-FCL class / type or instrument rating lapse, you can go straight to a renewal test without mandatory refresher training, provided your equivalent ICAO rating is still valid.

### Non-Part-21 aircraft

The Part-FCL licence requirement only applies to Part-21 types (formerly known as EASA types), so if you happen to be flying a foreign registered non-Part-21 aircraft (for example classified as vintage or historic) the Part-FCL requirement does not apply for private flights. Article 150 of the Air Navigation Order also allows any ICAO compliant licence to be used privately on a UK registered non-Part-21 aircraft.

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# Pilot Careers

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## In Brief



**Helicentre Aviation Academy has ordered an Entrol H19/AW109 SP FNPT II MCC simulator, meaning the Leicester-based ATO can offer advanced courses such as the MCC (Multi-Crew Co-operation).**

The French Civil Aviation Authority, the DGAC, has certified ALSIM's new jet simulator FNPT II MCC, enabling it as a platform to provide MCC and APS MCC courses and airline preparation and assessment.



**In other ALSIM news, the company recently announced an alliance with Cirrus. The ALSR20 simulator was launched in December 2020 and is EASA compliant and contains the latest G6 specific interior cockpit, as well as simulating the Cirrus Airframe Parachute System.**

Tayside Aviation has been bought by businessman and Falkland's paratrooper veteran Tony Banks. The 53-year-old business, run by the Watt family, will retain the same staff. However Banks intends to develop the school to attract aspiring pilots and from Dundee, the UK, and internationally.

**Airbus says airlines and cargo operators will speed up the retirement of older, less fuel-efficient aircraft in favour of new aircraft over the next 20 years. The company expects the world to need 39,000 new-build passenger and freighter aircraft. By 2040 the majority of commercial aircraft will be the latest generation considerably improving CO2 efficiency.**

## L3Harris recognised in New Year Honours for training RAF pilots



**L3Harris has been recognised in the New Year Honours List for the success of its Multi-Engine Pilot Training Outsource Team, which has delivered bespoke training for more than 100 RAF pilots despite pandemic challenges.**

The Multi-Engine Pilot Training Team was set up in 2018 to collaborate with the RAF to meet an increased Defence requirement for multi-engine pilots. The team is composed of personnel from the RAF, Civil Service and L3Harris, who have worked together to deliver 86 multi-

**Above** L3Harris was recognised in the Honours List for its RAF multi-engine pilot training team

engine pilots and 15 remotely piloted air system pilots to front-line Operational Conversion Units.

The Covid-19 pandemic caused flying training to be temporarily paused in late March 2020.

Despite this the training course was completed on time. Flying training resumed at Bournemouth on 11 May 2020 following implementation of stringent Covid-19 protocols.

Eugene Moriarty, Director of Flight Operations at

L3Harris Airline Academy, said, "We are proud that our Multi-Engine Pilot Training Team has been recognised in the New Year Honours List.

"The Commendation is testament to the team's efforts, over and above the norm, and the positive impact the course has had on the RAF.

"It has been fantastic to work closely with the RAF and Ministry of Defence to implement a bespoke pilot training course, at a time of increased demand and reduced supply of pilots."

■ The full RAF honours list can be found [here](#)





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# I Get Paid for This...

# James Geary

Variety is the spice of life for helicopter pilot James Geary, who combines flying pipeline surveys with instructing. Interview by **Yayeri van Baarsen**

### How did you get into flying?

Learning to fly has always been my childhood ambition. When I was a toddler, my parents took me to the local aerodrome. In 2010, I started flying lessons and obtained my PPL(A).

### Tell us about your job?

I'm a utility pilot and flight instructor for Helicentre Aviation in Leicester. Utility flying is hands-on and takes me all over the country. One patrol you're dealing with the complex airspace around Heathrow, the next you're mountain flying in challenging weather conditions.

Flying gas pipeline surveys are done at 500ft. We have an aerial observer in the helicopter who's looking for anything that affects the pipeline, such as ground works, landslides, or flooding. Occasionally there's a threat and we need to land immediately – for example if someone is digging right on the pipeline. Depending on the terrain, these immediate landings can be very challenging.

What I love most about this job is the variety and the stunning scenery, such as when flying in the Lake District, Wales or Scotland. Interpersonal skills are essential in this work. Although it's a single-pilot operation, you need to operate well as part of a team. Patrols run from Monday to Friday and on location, the observer becomes your partner for the week.

As an instructor, I teach PPL, CPL and type ratings in the R44 and the Cabri G2. I most enjoy teaching the integrated CPL courses, taking students with zero flying experience all the way up to CPL and seeing them develop as a pilot. I usually do one week instructing, one week utility flying. They complement each other. If I only instructed, I'd miss having my hands on the controls, and if I only flew pipeline surveys, I wouldn't get to practise emergency procedures and autorotations very often. Combining the two is a nice mix. In fact, I can't imagine doing anything else for a living.

### What training did you have?

After obtaining my PPL(A), I became an Air Cadets instructor on the Vigilant motor glider which gave me a taste for instructing. In 2014, I joined Helicentre as a student pilot and obtained my PPL(H). Helicentre then offered me a fully funded CPL(H) scholarship, which was a really big leg-up. I spent a couple of years building my hours by doing wedding transfers and helicopter tours, and in 2018 I qualified as a flight instructor. There's no special course for the pipeline work. After getting your type rating and having a minimum of



### Flying CV

Helicentre Aviation's Ground Operations Manager James Geary is a flight instructor on the Cabri G2 and the R44, as well as a utility pilot on the R44.

**Started current job:** 2018

**Now flying:** Robinson R44, Cabri G2

**Favourite aircraft:** 'Anything! Balloon, glider, helicopter, fixed-wing – if it flies, I like it.'

**Hours at job start:** Approx. 250

**Hours now:** Approx. 1,850

“If we spot an threat to the pipeline, we need to land ASAP to intervene...”

1,000 flying hours, you do line training, flying several patrols together with an experienced utility pilot.

### What's been your favourite flight?

A training flight in 2013, in a Vigilant motor glider. I was flying when we saw a Vulcan close by, doing a flypast of RAF Halton, the airfield we'd just taken off from. Not many people get to see a Vulcan in flight when they're also in the air, it was quite a unique moment!


### And your favourite airfield?

I'll always have a soft spot for Headcorn Aerodrome, where I learned to fly. There's always something interesting going on at Headcorn, whether it's vintage aircraft, helicopters, or parachute jumps.

### Do you get to fly much outside of work?

No. The type of flying I do is quite intense so I need something less intense, which is why I go sailing in my spare time.

### What's your most valuable career advice?

There's more than one way of getting a career in aviation. Some have their training sponsored and obtain their qualifications quite quickly, others work part-time, take longer, but eventually get to the same place. Aviation isn't just about becoming an airline pilot. If that's your goal, fine – but if it isn't, do what makes you happy. 

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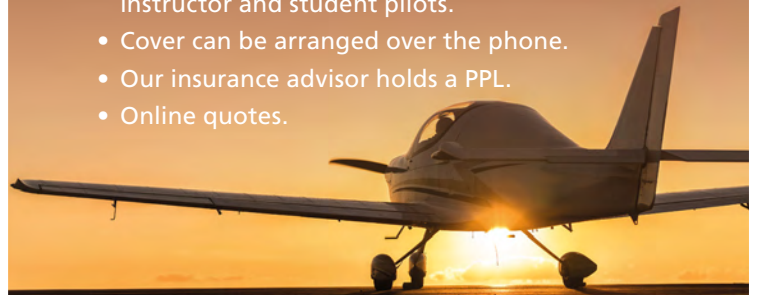
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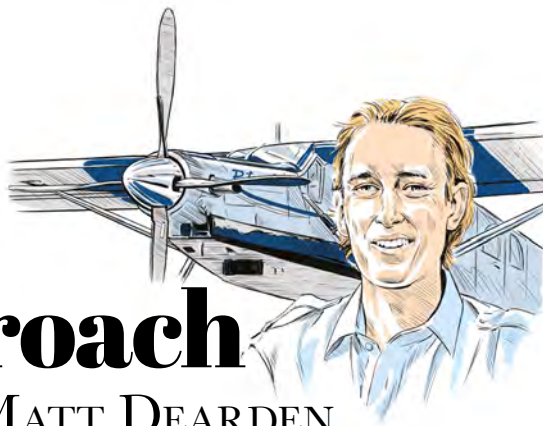
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# On Approach

## MATT DEARDEN

### *Rule of three...*

**T**he other day I was discussing driving standards with some friends and the conversation diverged a little on to a question: “Do you drive any differently when you have passengers in the car?” We all said the same thing, yes. Faster! Now the friends in question are like myself, car enthusiasts, and are all known to enjoy a spirited drive which one tends to do by oneself, so perhaps more regular drivers don’t have this difference quite so much. I know I drive a bit faster and probably take a few more risks when driving by myself but it got me thinking about how I fly and does that change if I’m with someone else or by myself?

The more thought I gave the question, the more I realised it is a harder question to answer than I first imagined, due to the multitude of different scenarios aviation throws at you. For work I fly the PC-12 single pilot, but with a safety pilot next to me, and of course with passengers in the back. But not always. Occasionally I’ll fly completely single pilot either because the passengers don’t want a second pilot or it’s a simple positioning flight for maintenance or something.

For pleasure I fly my little Super Cub which, more often than not, is by myself but

occasionally with another pilot or friend. I suspect most of us would like to think we would always fly in exactly the same manner regardless of what it is we are flying or who we may, or may not be, flying with, but I suspect that’s not the case.

In commercial aviation we follow SOPs which by their very nature ensure each flight is operated in exactly the same manner every time. The nice thing about this is that you can pull many of those SOPs into all flights you pilot, which definitely aids safety and keeps you flying in the same manner each flight.

In the private aviation world though, once you’ve got your PPL it’s up to you to maintain your own standards and unless you are very strict on yourself, it is very easy to let those standards slip as time goes on. Hopefully your bi-annual flight with an instructor / examiner will catch any slippage, but two years is a long time to develop bad habits.

I never got much chance to fly privately before I got my first flying job so I suppose I didn’t really have the chance to develop too many bad habits. However, because that first job was flying as a bush pilot, there was always the possibility of standards slipping and more risks being taken. I certainly didn’t want to become one of those stereotypical cowboy pilots you hear about! Thankfully, they’re not as common as people might think.

Flying over hostile terrain and in challenging environments does weed out those with a more cavalier attitude to safety one way or another. The only way to stay alive was to maintain a good standard of flying and impose a few rules on oneself.

The main one I use is my rule of three. Put simply, I will still fly with one or two things being a bit off, but if there was a third then I will cancel the flight. For example, I wake up and didn’t have the best night’s sleep. Strike one. I check the weather and it’s looking somewhat marginal. Strike two. Provided nothing else raises an eyebrow, the flight will go ahead but if something else pops up like a minor tech issue with the aircraft or some unruly passengers, I’ll cancel the flight.


As for do ‘if I fly differently with a passenger when I’m flying my Cub’, I’d say, yes I do. When alone I tend to throw it around a bit more and will often challenge myself by practicing stalls or crosswind landings. If I have a passenger then I won’t be doing any of that unless they want me to. It comes back to ensuring my level of experience is maintained and preferably expanded.

However, what if you’d promised a non-aviation friend a

**“In private aviation, once you’ve got your PPL it’s up to you to maintain your standards”**

flight which you’d had to cancel a couple of times already due to the weather but today it’s finally good enough and for the first time in weeks you both have the day off work? The pressure to make the flight happen will be greatly increased and you would now have what’s called ‘commercial pressure’ to fly.

You get to the airfield and find the aircraft’s altimeter doesn’t seem to be working when you set the QFE and gives an obviously incorrect altitude. Would you still go flying? After all, your iPad can give you a rough GPS calculated altitude and you’re only going 50nm outside of control airspace to a nearby airfield you know well... What if you decide ‘yes’ but then find a reasonable amount of water in one of the fuel tanks. You drain it away and the engine runs fine but then you realise your iPad’s battery is a bit low. Would you still go flying? For me that would have been the third strike so I would cancel it, but perhaps I should have made that call before draining the tanks.

So, next time you go flying with a passenger, have a think: am I flying any differently today to the last time I flew by myself? 

Currently dividing his time between a Super Cub and a Pilatus PC-12  
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# Full Throttle

MARK HALES

## *Over to you, Brian...*

**I**t's always good to receive feedback on things you've written, even when it suggests the thinking behind your views is flawed... Reader Brian Lawther has been in touch to suggest that my enthusiasm for hydrogen cells was misplaced, mainly he says, because the amount of energy required to source the hydrogen – extract it from water – and compress and transport it to the point of use, renders it rather less green than it looks on paper. The other method of hydrogen production, which is to extract from natural gas (methane is carbon and hydrogen x 4), produces large amounts of CO<sub>2</sub> which is the main thing we are trying to avoid. Brian is right of course, but the same observation holds true for the extraction of crude oil from under the sea, refinement, transport to the point of use and so on, it's just that there's a worldwide mega industry in place to supply all that, which we are trying to replace. If we were considering starting from scratch, it would probably be a similar discussion.

Brian also reminded me that the platinum required for catalysts – like those of a fuel cell, and the exhaust cat on your car – is considerably rarer than lithium (and also found mainly in parts of the world with which we have trickier relations). We are talking much smaller quantities though (smaller still when there are no petrol nor diesel cars on the roads), and there is plenty of ongoing research into alternatives. Rice University in Houston has developed a process to implant metal particles into the new wonder material graphene (metal oxide-laser induced graphene or MO-LIG) and they say it's 60% as efficient as platinum... at the moment. It would be jolly nice to think the ZeroAvia fuel cell featured MO-LIG catalysts developed by one of its own, but it has been nothing if not tight-lipped on the details. It's getting it out there that matters though, and aviation is a nicely high-profile shop window, even if it's effectively a minority activity.

Research into emission reduction has actually been going on for a long time. I remember way back when, flying my Fairchild to the little strip just up the road from the Lotus factory in Hethel, to find that the technology side of Lotus appeared to have carried on where Chapman had left off, an extraordinary ferment of advanced thinking about everything to do with the internal combustion engine. My host showed me a single-cylinder Rover K-series which he had created from an Elise engine, fitted with the electronic camshaft developed from the active suspension on the F1 cars. It allowed him to open the valves wherever in the cycle and as many times as necessary.

I saw it running with a conventional spark, then that was turned off and the cam timing altered to open more than once,


sucking hot exhaust gas back into the cylinder. That ensured the mixture in the cylinder was completely burnt – or something of a Holy Grail in emission reduction. “Look,” said my host, “zero oxides of Nitrogen...”. I agreed it was extraordinary. When would we see it on all cars? “Probably never,” he said, looking into the distance. “It needs a Tier One supplier like Bosch or Visteon to pick it up and offer it to Ford or whoever, and they will say ‘great’, we’ll need 10 million units by March and that’s what we’re prepared to pay. Then they’ll be desperately trying to find a way round our patents...” It was an early lesson in the realities of Big Commerce.

Talking of which, Elon Musk (yes, that one) is on record saying that until battery efficiency reaches 2.5kWh per kilo, electric aircraft will not be a practical proposition. Current weight is about double that and he should know. It's also true that any fuel cell aircraft (like ZeroAvia's) will still need a battery as backup. So, and as Brian says, batteries are probably still the most important thing and there is certainly an enormous

## “Research into emission reduction has actually been going on for a long time”

amount of research going on, mainly in South Korea, Japan and China, which predictably leads the world.

Brief research revealed about 20 different strategies, including vertically aligned carbon nanotube electrodes, cobalt-free lithium-ion, lithium-sulphur, and one using pure silicon produced from ground sand for the anode. A graphene battery from a Spanish company claims a 500-mile range on a regular EV, and there's another from Rice University in the shape of micro supercapacitors made from plastic, offering a 50-fold reduction in charge time. Most of the focus seemed to be cheaper and less toxic materials (and shorter charging time) but there is also some outside-the-box thinking which is always more exciting. Like the aluminium-air battery which relies on a reaction between oxygen in the air and aluminium as we know it, both of which are obviously common. It's not rechargeable, although it is recyclable, but... it needs some form of catalyst.

It would need a complete infrastructure overhaul, where you replace the batteries in your Hyundai (put them in the council's battery recycle bin), drive to the airfield, take the batteries out of your Pipistrel, (in the recycle bin), clip in another set and set off round the circuit with the next student. A bit like replacing a set of AAs in your GPS, only bigger... 

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# Squawks

IAN SEAGER

## *Hard going, but important...*

I used to think General Aviation flying was about lunching in France, floating over the countryside of a summer's evening, aerobatics, meeting up with mates for a cuppa, or even emulating those all-too-important business people proclaiming, usually through blindingly white teeth, that 'GA enables me to crush the competition and spend more time with my family'. Nobody told me that a lot of it was about trawling through impenetrable consultations or the ever-changing regulations they spawn.

While it's tempting to leave this stuff to somebody else, (and we've got more representative groups than Downing Street has boozy parties), some consultations are so important that we should dig deep and dive in. The recently published consultation on the CAA's Airspace Modernisation Strategy is one such example. It's a refresh of the strategy set out in 2018, pushing the timeframe out to 2040, making sure that we align with ICAO's Global Air Navigation Plan (GANP), filling the void that was created when we left EASA, and making sure that we have a system that works and plays well with our aerial neighbours.

The strategy sets out some virtuous principles. It should deliver quicker and cleaner journeys, it should benefit all who use and are affected by UK airspace, it should integrate diverse users and it should be simple and efficient. Cynics might see that as waffle, but much of the GA content would have come from discussions with GA groups. So how about some specifics?

For starters, the strategy proposes that we bin the slightly messy provision of services outside of controlled airspace. So 'bye-bye' Basic Service, Traffic Service etc, and 'hello' to a nationwide Flight Information Service with or without surveillance data. Done right, it could be as good as the FIS in France and Germany or Flight Following in the USA.

Then there's a plan to dump ATZs and replace them, where justified, with Radio Mandatory Zones (RMZs), or if supporting GNSS approaches perhaps with an additional Transponder Mandatory Zone. Again, applied correctly this could be a very good thing, although the recent publication of the CAA's policy on the operation of RMZs and TMZs shows that there's often a huge gulf between the theoretically good, and the cack-handed, small-minded, bonkers application of something like an RMZ, which effectively becomes de facto controlled airspace.

Much is made of airspace flexibility. This brings the prospect of some controlled airspace being switched on and off depending on tactical need (i.e., a change of runway, reduction of traffic etc.). The current status would be an uplinked Flight

Information System Broadcast (FIS-B) which would display (along with weather) on a suitable app such as SkyDemon.

Clearly there would have to be procedures in place to avoid the comedy of a J-3 Cub trying to outrun real-time expanding controlled airspace, but flexible airspace works well in France and elsewhere, and presumably for those who fly tablet or phone free, there's always the new nationwide FIS service to take advantage of. Talking of situational awareness, one proposal is that certain activity sites such as those facilitating large model flying or paragliding/hang-gliding will be co-located with a ground beacon. When the activity is taking place the beacon will be switched on, the resulting display on the pilot's tablet indicating that activity is taking place. I like that idea, and I think there's scope to extend it to other sites too.


There are significant advantages for General Aviation in this strategy, but there's also an elephant (or perhaps a dinosaur) in the room. Making the most of everything that might be on offer, including better sharing of the air with drones, particularly those operating Beyond Visual Line of Sight (BVLOS), is most efficiently done by sharing data. To you and me that will likely mean filing a flight plan of some kind before each flight. That

**“I want to feel the future will be more 2012 Olympics than 2022 rivers of raw sewage”**

could be as simple as clicking 'submit' on your chosen app. It should be flexible enough to cover lunch in France, that evening bumble, aerobatic practice or a 'Kiddell' (a glorious multi-stop tour with your mates). It must also be entirely optional.

The proof of the Airspace Modernisation Strategy is in the implementation. The UK could have a simple, efficient and genuinely elegant national airspace system that benefits all users, but we're every bit as capable of delivering a small-minded, disjointed and dysfunctional mess.

I want to believe that the future will be more 2012 Olympics than 2022 rivers of raw sewage, but when I look at the debacle that was (and is) the approval of GNSS approaches at small airfields, and the CAA's more recent RMZ mess, it's hard to keep the faith.

Regardless, this is an important consultation and one that's worthy of your time. Initially it might seem a bit tedious, but the General Aviation vision is quite descriptive and a relatively easy read. You have until 4 April to share your thoughts. 

**Publisher, pre C-19 often found flying something new and interesting**  
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**SPECIAL FEATURE** | Rolls-Royce Electroflight ACCEL Project

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# Spirit in the sky

The Rolls-Royce and Electroflight Spirit of Innovation smashed the world speed record for electric aircraft. **Mark Greenfield** worked with the team throughout and brings exclusive insight

PHOTOGRAPHY ROLLS-ROYCE & MARK GREENFIELD

In photos the aeroplane looks dramatic – futuristic, sleek, somehow disproportionate. In the metal the impact is more extreme, more space age. The engineering quality is outstanding and the whole aircraft exudes an almost menacing sense of brute purpose. While functioning as a technology breakthrough (covered in the May 2021 issue of *FLYER*), this is very clearly a machine that is designed to go fast. Very fast indeed.

The record for all electric aircraft flight had been set by a Siemens eAircraft-powered Extra 330 LE in 2017 at 213mph. The Spirit of Innovation increased the record on 21 November 2021 to a massive 345.4mph, at the same time becoming the fastest all electric vehicle on the planet. Rolls-Royce is hoping the record will be ratified imminently.

I had worked with the Rolls-Royce pilot team on Upset Prevention and Recovery Training, and three years ago the Flight Upset and handling challenges of a little-known prototype aeroplane were inevitably a strong focus of attention. It was agreed that converting the pilots onto our Extra 300 might be a useful workup in flying a powerful and lightweight taildragger with poor ground visibility. In anticipation of flying an aircraft with eight minute endurance at full power, it was also of value in practicing forced landings at the high glide speed (130kt) required by a wing designed with the sole intention of going fast. The Extra was also used as a safety chase aircraft on the early flights, a decision that initially compounded operational challenges, but later proved to be very much worth the complications.

The first flights of the new aeroplane were initially anticipated at the beginning of 2021 but, unsurprisingly for a



project of this nature, the timeline shifted to the right.

So in the middle of July 2021 I found myself landing the Extra at Boscombe Down, reminding myself not to flare high because of the wide runway (and nearly succeeding), to work on the practicalities of using it as a chase plane. Initially, a P-51 Mustang was used as a stunt double and the integration of record aircraft, chase aircraft, ATC/radar, airspace, telemetry, R/T procedures, pilots and ground crew commenced.

### Challenging on the ground

Designed entirely for high speed level flight, Spirit Of Innovation is extremely challenging to operate on the ground. The pilot sits on the left-hand side of what is notionally a two-seat side-by-side cockpit, although it only ever flew with one pilot. Visibility is therefore OK to the left from immediately left of the cowling all the way round back to the left tailplane;



**Top** P51 Mustang used as a 'stunt double' while Extra 300 acts as chase plane

**Left** Preparation for flight: battery system on charge (right) and being thermally conditioned (left)

**Opposite** Stunning, just stunning... the Rolls-Royce Spirit of Innovation



**Above** Pilot's view of the cockpit displays and controls, a mixture of classic and cutting edge technology

**Right** Garmin G3X primary flight display showing the much needed taxi camera

**Below** Rolls-Royce Chief Executive Warren East, centre, next to Pod, surrounded by most of the Rolls-Royce and Electroflight team



close to non-existent at the front and extremely limited to the right.

Even when in the air there is not a great view directly ahead. It is possible to taxi using 'Spitfire weave' clearing turns, but it would have required complete turns through 90degrees and would have been an extremely time consuming process.

To assist taxi operations the aircraft therefore has a camera mounted on the bottom of the fuselage just forward of the steerable tailwheel, and on a screen in the cockpit the pilot can see the view forward between the landing gear legs. Also used on the ICE NXT, the camera changes taxi operations from extremely challenging to manageable.

### Ready for flight

During ground handling runs the pilots – Phill O'Dell and Steve Jones, an Electroflight founding shareholder, former Red Bull air race pilot and recently retired BA 747 captain – had got used to the new situation of going through the detailed checklist to get the aeroplane ready for flight, then having only the noise of the cooling pumps aurally indicate that the aircraft was ready to go.

Steve: "The bizarre thing is when you're ready to taxi, you turn on the three cooling systems, so you hear three electric pumps turning and of course the prop is stationary. At the beginning you'd call ATC for taxi, and they'd ask you to call back for permission after engine start as the prop wasn't turning, and you'd have to tell them that you had actually started and were ready to taxi!"

By September the aircraft was ready to fly and on the 15th up stepped Rolls-Royce Director of Flight Operations Phill O'Dell to earn his test pilot salary on a flight he later described in a very low key



manner as ‘interesting’. Rolls-Royce pilot Chris Hadlow launched first in the Extra with Electroflight MD Stjohn Youngman in the front seat, ready to operate as the safety aircraft. Phill lined up on the main runway, gently applied power and became airborne. Hitting the UP button on the electrically driven hydraulic undercarriage, it rapidly became clear that the legs had not travelled fully, and to avoid exceeding gear limiting speed of 150kt it was necessary to reduce power at only 500ft.

### Preplanned response

The aeroplane is extremely slippery and flying with the gear down requires twice the energy consumption as flying clean, so battery usage went right up. The gear appeared to be hung halfway and didn’t go up so the preplanned response was applied and the gear was selected down, all the time with extremely close attention being paid to the declining state of charge on this prototype aircraft’s first flight.

Climbing to height with the gear down, Phill carried out the test plan of examining stall and performance in the landing configuration. The Extra positioned in close formation underneath to confirm the legs were indeed locked fully down for the landing. With insufficient time to fully examine the aircraft’s handling characteristics and some potential questions about controllability in pitch at low speeds, Phill elected to land flapless and at a higher speed than originally envisaged to avoid getting anywhere near the stall on touchdown.

It became apparent that the ASI might not have been entirely reliable (later identified as a static port issue) and so Chris flew a formation approach with Phill, calling out the speeds on the way down. Touching back down on the runway, the 3km

Boscombe runway was fully utilised in length as Phill successfully used the brakes as firmly as was possible without allowing the (very forward CofG) aeroplane to nose over.

“We used a set of brakes – but that’s what they’re there for,” observed Stjohn laconically, “And then people remembered that it was an electric prototype, and all the electric bits had worked fine!”

As with all professional prototype first flights, a huge amount of time had been spent in testing on the ground preparing for the known knowns and the known unknowns, and so despite the startle the whole team were able to calmly and effectively deal with these challenges and move forward.

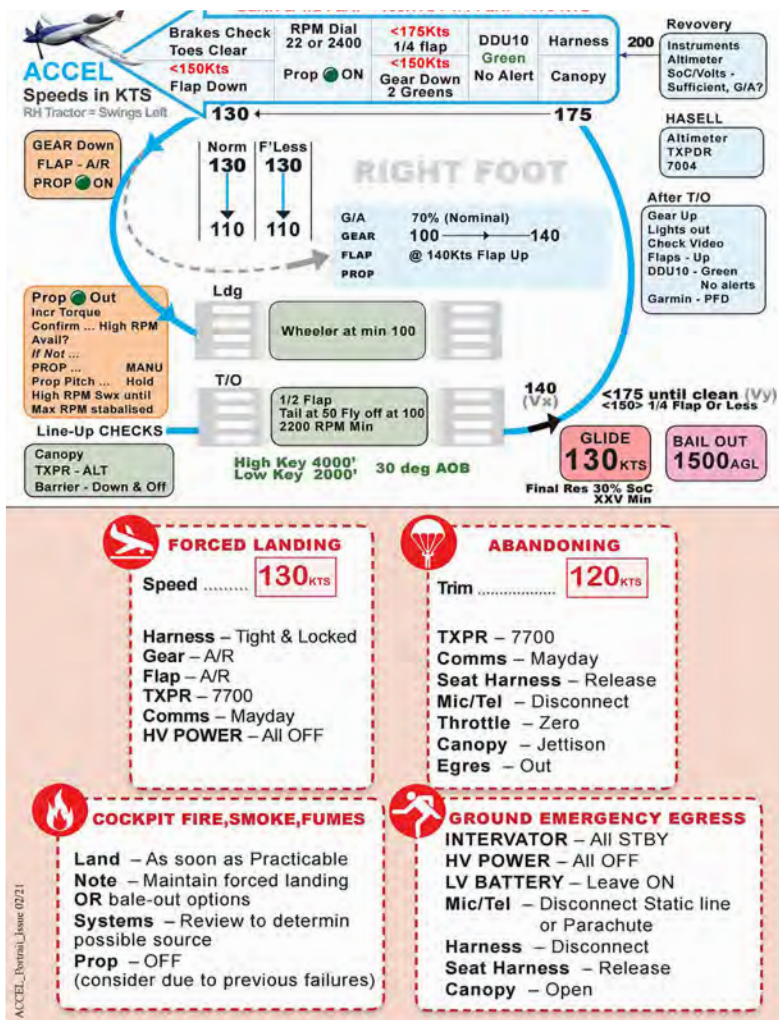
The undercarriage had worked perfectly in ground tests, but the additional aerodynamic loads prevented the doors from closing properly just at the point where the mechanism had least mechanical advantage. On subsequent flights the gear tended to

**Above** First flight of the Rolls-Royce Spirit of Innovation and immediately there was an issue with undercarriage not fully retracting  
**Below** Test pilot Phill O’Dell (Pod) on the first flight dealing with the gear issue





**Above** Close up of the Propulsion system on charge, lower cowling removed  
**Below** Very visual electronic checklist format used across all aircraft flown by the Rolls-Royce operations team, all key checks, speeds and emergencies are covered



‘hang’ on about seven out of 10 occasions, and the pilots used a zero G ‘bunt’ at a safe height to get the gear robustly locked up.

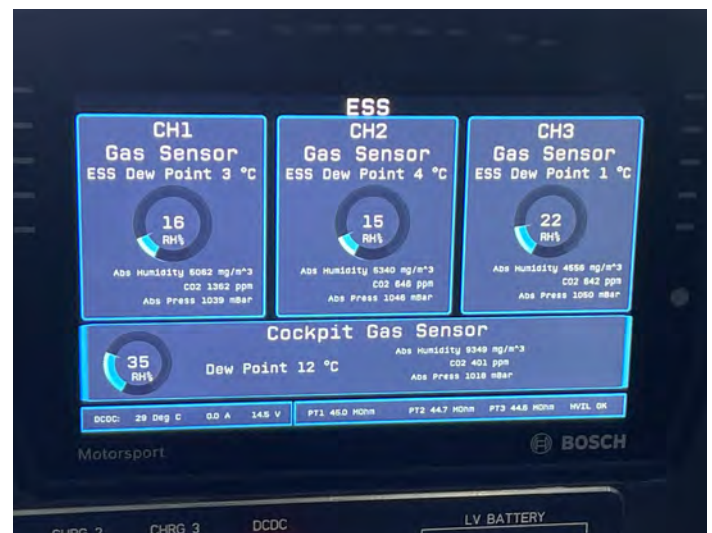
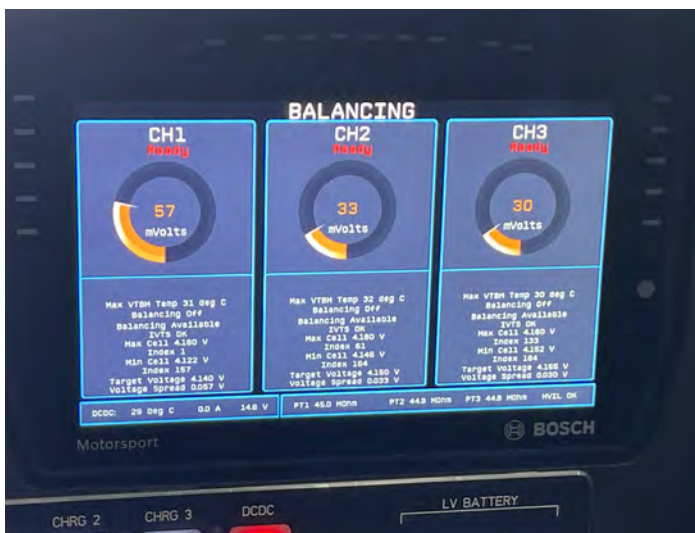
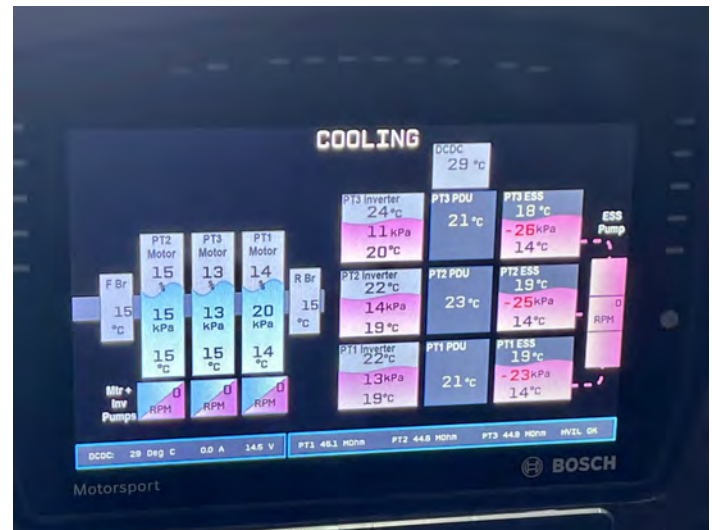
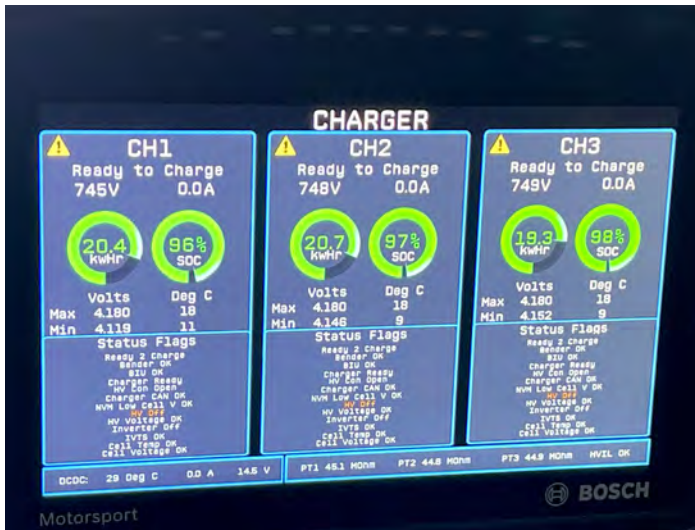
With extensive ground testing of the aircraft throughout the first half of 2021, there were no material modifications to the aircraft in the flight test phase. Changes were focused on a number of software revisions on things such as cooling pump speed, warning parameters and discharge rates etc.

### Decent energy reserve

Some 20 flights followed to become familiar with the aircraft’s handling characteristics and expand the handling envelope. Speed was not a consideration at this stage as the team ensured that the aircraft would be safe to fly, obviously on a series of very short flights with specific objectives on each one, and each time ensuring that the aircraft landed with a decent energy reserve. Steve Jones shared what they’d learned about flying the aeroplane.

“Phill and I had a small number of flights each in the conventional NXT in the US, which was tail heavy as opposed to Spirit of Innovation, which is nose heavy because of the weight of the battery pack structure. Pod and I are both on diets to help manage the MAUW.

“It’s an interesting aeroplane to fly, with similar performance to a late model Griffon-engined Spitfire. It doesn’t particularly point where it’s going and the nose is continually wandering left or right, so it’s quite labour intensive and you’re forever feeling for the balance – we even added a slip string on the coaming to help with this. And it’s like that in pitch as well, it has tiny tail surfaces so every time you yaw (or allow it to yaw) the gyroscopic forces on the prop pitches it up or down – or if you pitch, it



**Steve Jones on the onboard telemetry...** “Full F1 FT1 – absolutely everything is on telemetry. Great motorsport data display in cockpit with a tremendous number of parameters – but ultimately of course we’re pilots, so it’s a series of green bars that turn amber and then go red – ‘simple piloty stuff’ (said in jest but with the huge workload on the pilots and short duration flights, putting as much as possible into the KISS category clearly makes sense)”

**Top left** Charge indication page shows status of the charge procedure for all three battery channels

**Top right** On ground cooling system page helps team check status before flight

**Above left** When on the ground and not charging the system can be commanded to balance the battery cells to help increase total energy utilisation in flight

**Above right** Battery environment sensors help measure internal humidity and toxicity

**Right** Hardly a spare cubic centimetre in the ‘engine bay’



yaws. So you’re forever putting in these little corrections with your feet and hands to try and keep it on the straight and narrow.

“It has a very nasty stall with a rapid wing drop which you especially want to avoid close to the ground. But it’s all part of the character – I love it! I’ve never flown a Sopwith Camel, but I’d describe this as being like a 300mph Camel!

“The straight and level view forward is not very good and it would be a real issue flying VFR in the UK. Threading your way through airspace around the London TMA is not something you’d consider lightly. It very much helps to operate in a radar environment, and we have every piece of Electronic Conspicuity kit possible in the cockpit.

“But we forgive all that because it goes like the clappers – 550hp feels like a lot. On the time to height record attempt I felt like I was being dragged

up by my feet!”

The team liaised with motor providers YASA to determine the optimum rpm. Fascinatingly, the motors have as much torque at 100rpm as they do at 3000rpm – just like a steam train – so they contacted the propeller manufacturer MT and asked them what rpm it would prefer. It felt that 2400rpm was most efficient, and that’s what was mostly used. Experimenting with 2,200rpm gave no material improvement. At 300mph the prop was hugely coarse.

I asked Steve how difficult the take-off process was. “The ‘before take-off’ checklist is very simple, and managing the nose heavy aircraft with very little weight on the tail is critical. Torque is the primary power metric, used in a similar fashion to manifold pressure, and initially is set at 20% to check all three power channels



**Above** Low area high aspect ratio wings are key to the NXT performance  
**Left** Fin extensions added to NXT over time to increase stability  
**Below** Thread in between tape lines to help with directional stability control



are working as they should, then gently up to 50%, (so the tail is unlikely to lift itself) to get the aircraft charging down the runway.

“Poke the stick forward a little bit to get the tail gently up so you can see where you’re going, then 75% torque for getting off the ground, which is plenty.

“You have to be very cautious, as if you do lift the tail too early you probably wouldn’t be able to stop the pitch moment with back stick, so it all has to be done very gently. The temptation is to lift it off too early, but we need to remember that it has tiny little wings and it’s very heavy, so we just sit there, looking at the view, waiting for it to accelerate to 100kt, then rotate determinedly to get the thing off the ground, and once it’s airborne then it flies very nicely. Then, at a safe height, you bunt to get the gear up. And go very fast!”

The only modification made to the aircraft during the flight tests was the addition of a short piece of door sealant strip or ‘P strip’ to the right-hand side of the rudder. Similar in use to P-strips sometimes used on aerobatic aircraft ailerons, the result was a slight improvement in yaw stability.

### Three goals

The three goals aimed for were for the 3km (to be flown by Phill) and 15km distance records and the time to 3,000m height records (both flown by Steve). The FAI has long lists of rules and regulations for the records, but simply put the height record is measured from brakes off to when the aircraft goes through the specified height. The height equates to 9,843ft and to be on the safe side the team aimed to smash through 10,000ft. Interestingly when this record was actually beaten the aircraft was still climbing at about 3,000ft per minute!

The distance records have more demanding profiles. The 15km record is the average of a run over the prescribed distance in each direction to offset wind effects, but with a mandatory 5km level run-in before each measured leg, resulting in a minimum of 40km in a straight line. Battery endurance meant that Steve would not be able to use 100% torque all the way, so it all became a balancing act in flying as fast as possible, whilst still having enough power to land – for this reason the 15km speed was always going to be slower than the 3km record.

The entire process was very much carried out as a team activity, with Rolls-Royce and Electroflight engineers continually looking to make marginal gains. For an ideal run the motors, inverters and battery would all hit their thermal limit at the same time as running out of energy (with a landing reserve) just as the aircraft crossed the finish line.





With hugely impressive CVs and including automotive engineers at the highest level (with work, for example, in F1 and on the Bloodhound land speed record attempt), Stjohn could not speak highly enough of the joint team that had been assembled. The build standards were of the highest possible quality, and I would have been happy eating dinner off any of the components. Aside from the undercarriage issue, there were no snags from the aeroplane over the whole flight test programme, an absolutely stunning achievement for a prototype.

The actual flying of the turns was more of an issue on the 3km record which required four reversal turns, and to assist in the strategy Max Lamb was part of the team. His experience as strategy manager – nicknamed ‘the aeroplane whisperer’ – for his father and world RBAR champion Nigel, was extremely useful in tracking Phill’s turns and helping to improve times. Initially the expectation had been that close to full throttle would be required from start to finish. One later change introduced involved getting to race start height (actually a ‘perch’ about 800ft above) and then throttling back to allow the battery to cool. This resulted in better efficiency and faster overall times.

### Pretty extreme

Putting the aircraft on the ground after each flight was less than straightforward. Steve explained that the approach and landing are pretty extreme. When they were in the US an experienced NXT pilot shared the best methodology which, précised in his American manner, was to ‘position way too high, way too close on a downwind leg, throw the flaps and the wheels down and dive at the numbers!’ And, apparently, that is pretty much what to do!

“The aircraft is incredibly clean with the gear and flap retracted and incredibly draggy with the gear down,” said Steve.

“I’ve been very tight downwind 2,000ft above the threshold. As the numbers are abeam the wing – there’s no conventional downwind or base – I’ll have the first two stages (of three – ¼, ½ and full) of the split flap down, throw the wheels down and turn.

Half way round the turn, last stage of flap and then literally find yourself diving at the numbers at idle power with a high rate of descent, but you can see where you’re going.

“Idle means virtually no battery usage, although the prop will windmill and pretty much maintain 2,400rpm (as unlike a piston engine there is very little drag from the prop), then start to reduce airspeed to move the touchdown point. You add a little torque to cushion the touchdown and gently make sure we don’t flare too high, especially with Boscombe’s wide runway, as the aircraft is delicate and heavy with that nasty stall. We level out very close to the ground and run it on to main wheels as gently as possible. It doesn’t seem to bounce, then it’s a case of just sitting and waiting. The problem is you’re doing at least 110kt and again there’s no drag from the prop, you just have to wait, holding the tail in the air to maintain visibility and protect the tailwheel.

“Visibility is managed by looking out to the left as you need the 3D reference, the camera is not used until the tail is on the ground. The temptation is to brake, but you mustn’t as it’s still going so bloody fast, so plan not to touch the brakes until 60kt after you’ve let the tail onto the ground, and then maybe just take up the slack on the brakes – but definitely don’t brake conventionally else it will nose over. It’s very easy to overheat the brakes and get them red hot as it’s so heavy and fast. Then taxi back using the camera – and home for tea and medals.”

### The last attempt...

On Tuesday 16 November I was having a coffee with Phill in the Bustard Flying Club crewroom. Breaking records requires operating at the limits and breaking records with experimental technology brings further risk. With decent records established, operations would be wound up at the end of the week but the whole team had a sense that there was more to be gained from the aircraft. A low cloud base hung over the airfield with a depressing forecast for the rest of the week.

**Above** Managing the nose heavy aircraft on take-off is critical



**Top** Pod's final flight in the Spirit of Innovation  
**Below** Trace of the record flightpath overlaid onto Google Earth

Phill decided that he'd launch for a weather recon in a CAP10 to see the weather for himself – and landed for a final run at the 3km record. With a rising sense of expectation, the team swung into action to prepare for the 29th (and what turned out to be) the second last flight of the aircraft.

With some comparatively minor changes to the previous flight profile, Stjohn and I watched Pod launch, get the gear up immediately, slow down to cool the batteries then dive down from 1,200ft for his first 500ft run.

The noise of the prop surprises people expecting a performance similar to an electric car, but it's still pretty loud. Judged by eye it was tough to tell if this was a faster average time. It seemed smooth and stable, but all of the telemetry and radio interaction was based in a nearby office so we couldn't really tell how good the runs had been... until Phill taxied in, shut down and opened the canopy with a huge grin on his face. He knew that he'd been close to the

record this time, as did Electroflight founder Roger Targett who decided to mimic the aftermath of the Supermarine S6b Schneider trophy winning run in 1931 and gave Phill a piggyback into the office.

**Record raised**

Everybody waited while Andy Roberts, Rolls-Royce Head of Flight Test and Team Lead for the flight test phase of the project, went over the figures. In a very low key and almost surreal environment, Andy confirmed that, subject to FAI ratification, the 3km record had been raised to 345.4mph. The announcement was met by what I initially felt was almost a wave of mild indifference rather than cheers and roars. The level heads that stayed calm during unexpected events were similarly level given that breaking the record was largely what the team had been working towards and expected. It was also a bittersweet moment for the project team who now had to move on to the next piece of work.

Steve flew the aircraft on its 30th and final flight



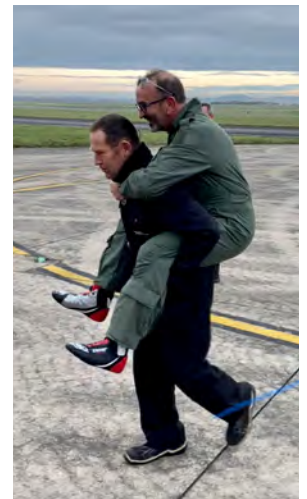
the next day, sadly not quite able to better his already impressive 330mph 15km distance record. The aircraft will be used at a variety of exhibitions this year and is pencilled in to be displayed in a national museum, hopefully with the cowls off so that visitors can appreciate the incredible engineering of the Spirit of Innovation team.

What might the team have done differently? With no mechanical failures and the entire electrical propulsion system working exactly as advertised, the project was clearly a massive success. A lighter battery pack would have helped, but as a key structural part of the aircraft I'm not sure any pilot would want to take any shortcuts in that department.

The single biggest improvement to the records would have been location. Pretty much every other aviation record has been set in Reno or New Mexico, with a runway at 5,000ft and a density altitude of 6,000-7,000ft. The team estimated that flying at Reno would have added another 20 to 30mph to the record – which interestingly compares very favourably with the ICE NXT's record of 415mph. However, the existing electric record was still smashed, and with the patriotic benefit of having been flown from Boscombe Down, the historic and now continued home of UK experimental flight.

### Pushing technology forwards

The programme has always been about far more than breaking the record, focusing on pushing the technology forward. Spirit of Innovation is a really well-built aircraft demonstrating what electric capability can do. With a focus on high power delivery rather than energy, the aircraft nevertheless managed a flight of 32 minutes at an average speed of 150mph. There is lots of technology that will flow into future urban mobility and hybrid projects, and



**Left** Pod opened the canopy knowing he'd got close to the record... but how close?

**Top** Roger Targett gives Pod a celebratory piggyback

**Below** That's it. Records set. The aircraft is to be displayed in a national museum

there is a great battery module which is now marketable for different companies and platforms.

Rob Watson, Rolls-Royce President - Electrical, said, "Staking the claim for the all-electric world-speed record is a fantastic achievement for the ACCEL team and Rolls-Royce. The advanced battery and propulsion technology developed for this programme has exciting applications that will help make 'jet zero' a reality."

This was a real achievement technically for the whole ACCEL team. In the Boscombe officers' mess on the evening the record was broken, I congratulated Phill who went out of his way to highlight that pilots are just a small part of a much larger team, and he absolutely agreed that every single member had contributed to breaking the record. He paused and then commented, "I'm just glad that I can start eating cake again!" 🚩



# My First Solo

## Genesah Duffy

Straight after her first helicopter solo, Genesah Duffy's instructor crashed the aircraft... Interview by **Yayeri van Baarsen**



### Solo stats

Chief pilot and Senior Director of Flight Operations at ICON Aircraft  
Genesah Duffy loves the adventurous side of seaplane flying.

**When:** 12 June 2013

**Where:** Hollywood North Perry Airport (USA)

**Aircraft:** Cessna 172

**Hours at solo:** Approx. 15

**Hours now:** Approx. 2000



### How did you get into aviation?

After my time in the Navy, I randomly went on a discovery flight over Tampa Bay. That flight was amazing – and life-changing. Within a month, I'd quit my job, changed schools, and started flight lessons.

### How did your flight training go?

Learning to fly was a unique experience for me. Having no aviation background, I was definitely out of my comfort zone. I was one of my instructor's first students and the first time practicing stalls, I accidentally put the aircraft into a spin...

### Tell us about your first solo?

It was awful! On my first landing after my instructor got out, the tower told me to taxi back in between runways – and I ended up going down the wrong taxiway... On my second landing, I bounced for the first time ever. As I'd never bounced before, we'd never discussed what to do when it happened. Luckily, another student before me bounced on his solo and told me he applied full power and went around again. I thought 'Let's get out of here!' and did exactly that.

On my first cross-country solo, weather came in suddenly and the airport where I was supposed to land went IFR. I'd never visited the alternate airport before, couldn't see its smaller runway through the rain and landed at the bigger runway, causing an Air Marshal

aeroplane to have to go-around.

My first helicopter solo, in 2019, went well. However, afterwards the instructor took me for a celebratory lap and crashed... We impacted the ground at 40mph, rolled three times and got the tail chopped off. I knew if I didn't get back in soon, I'd develop a phobia, so three days later and all bruised up, I soloed the helicopter again.

### You completed PPL, CPL, Instrument Rating and Instructor Rating in only a year. How did you manage that?

It was a lot. Seven days a week, from sunrise to sunset, I was either flying, taking classes, or working my part-time job. I'm the kind of person who puts the pedal to the metal to accomplish something. After graduating, I worked at an aircraft maintenance shop right across the street from Jack Brown's Seaplane Base. Seeing those Cubs take off from the lake, I soon found myself leaning towards the adventurous side of seaplane flying.

### Is the ICON A5 different from other aircraft to fly?

It's incredibly easy to fly in general. It's very docile, forgiving, and ergonomic – your eyes and hands go where they're supposed to go almost automatically. At ICON, we offer two transition courses – TX-L, a five-day-course from land to sea for pilots who've never flown a seaplane before, and TX-S, a two-day-

course for pilots who are already certified both land and sea. Many of them stay a few days longer to gain some more experience. Since you can't just rent a seaplane in the States, a lot of seaplane pilots never fly by themselves after getting their rating.

### Who are the owners of the ICON A5?

They're an interesting mix. A5 owners range from young entrepreneurs or CEOs who have never flown before to retired commercial airline captains who haven't flown in years but got their spark for aviation re-ignited after seeing this aircraft. We also have many dual-rated pilots.

### What aircraft would you have in your fantasy hangar?

Although the A5 would be my first fixed-wing aircraft choice, I'd go for a helicopter, probably a Bell 407. Two years ago, I obtained my helicopter add-on and I'm planning to get my CPL(H) in 2022. When I started flying lessons, I wasn't sure if I wanted fixed-wing or helicopters, it just happened that the fixed-wing school called me back first!

### What do you love about flying most?

It gives you a sense of power that you don't get anywhere else.

I'm the type of flyer who hooks up music to my headset, avoids all airspace and just flies up and down the coast. I love doing my own thing, enjoying the elements and being in complete control.

[Genesah's YouTube channel.](#) ▶

“I love doing my own thing, and just enjoying the elements...”

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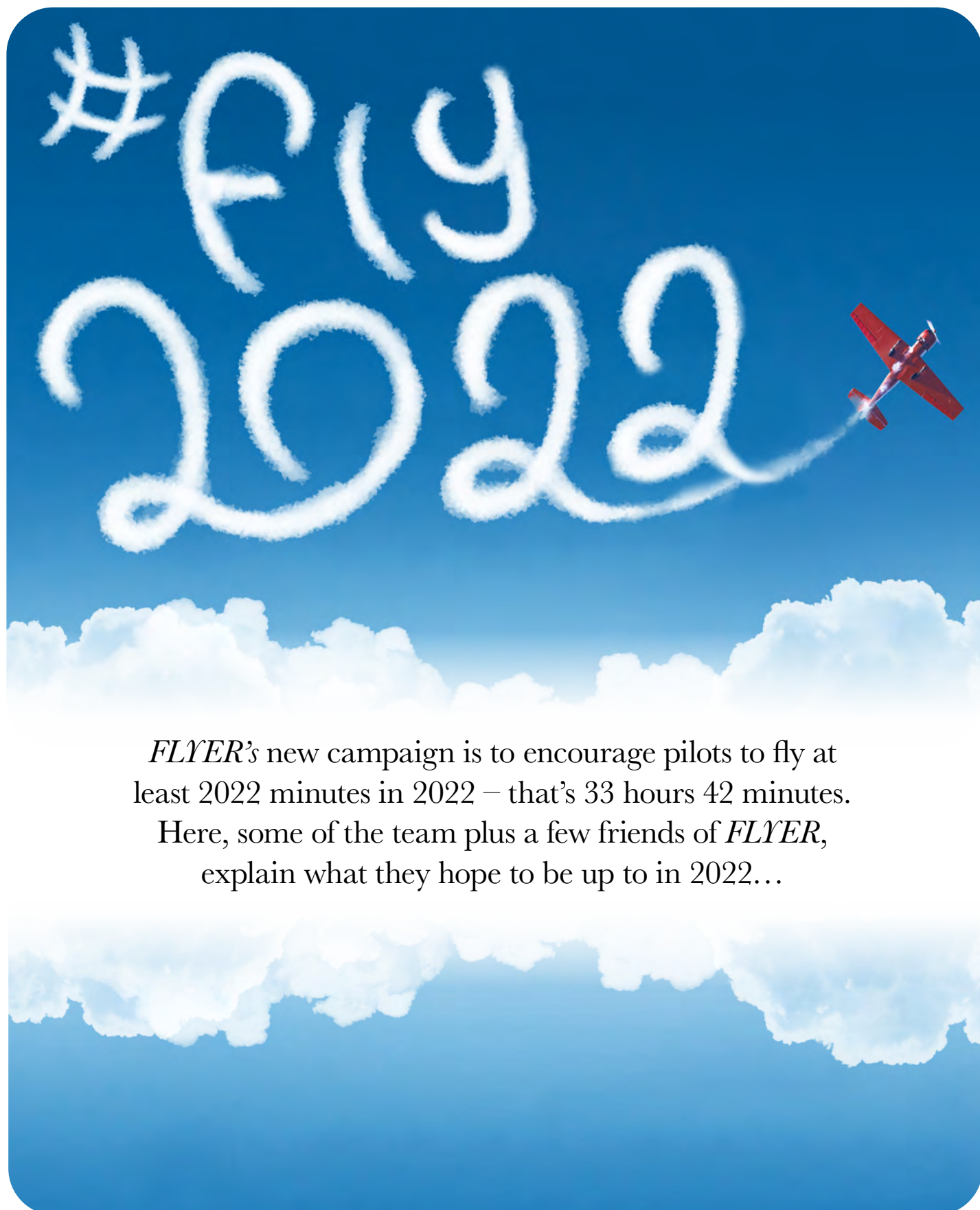
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## SPECIAL FEATURE

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*FLYER's* new campaign is to encourage pilots to fly at least 2022 minutes in 2022 – that's 33 hours 42 minutes.

Here, some of the team plus a few friends of *FLYER*, explain what they hope to be up to in 2022...

## Ian Seager

**L**ike everyone else, I have more flying that I want to do than I have the time or money to accomplish. Working out what I'm actually going to do involves the inevitable dream v. reality battle, so let's kick that off by postponing a few bits and pieces. In 2022 I'm not going to be able to build and fly my own aeroplane. I'm not going to be able to rent or borrow a twin to tour Greenland, and I'm not going to be getting my first type rating. All of those will have to wait for another year or three.

In 2022 I plan to spend my 2022 minutes (and hopefully more) achieving the following three things.

Starting at the simple end of the scale, there's a fabulous fly-in, called the Raduno, that takes place somewhere in Italy. Organised by Riccardo De Nardis on the *FLYER* forum, I plan to visit this on the way to, or back from, flying to Venice. I've always wanted to land at Venice Lido and take a water taxi into town, and this is the year it's going to happen. I imagine that'll account for maybe 12 of the hours.

I've also been banging on about the whole 600kg microlight thing. I find the prospect of flying aircraft

that combine low direct operating costs, impressive performance capabilities, and simpler regulation increasingly attractive. But I'd like to soak up the whole microlight thing, so in 2022 I plan to learn to fly a flexwing and, if I can find a way of wangling it, I'd love to do a couple of hours in a flexwing SSDR.

I don't know how many of the hours all that will take, quite possibly all and more...

Talking about training, and at the more expensive, more complex end of the spectrum, thanks to the DfT's shitty move on people flying with FAA licences in the UK, I need to convert my FAA IR to a CAA IR.

I enjoy training (not so much testing), so will only grumble quietly at the opportunity to spend time and money to do something that I can already do legally anywhere else in the world, other than the country I live in.

Finally, last year I did the CRI course and loved (almost) every minute of it. I'd like to use that rating in 2022, and although I don't have huge amounts of spare time, I look forward to learning more, while hopefully helping others to do the same thing. Maybe introducing a few people to the joys of farm strip flying along the way.



**Below** Venice, and landing at the Lido Airport, is a must for Ian Seager in 2022, while taking in Italy's Raduno fly-in...





**Above** Now, which RV shall I fly today? Ed Hicks includes heading for a tour of Devon and Cornwall, and visiting Eastchurch on the Isle of Sheppey, birthplace of UK aviation, in his plans for 2022

**Ed Hicks**

**L**ike most pilots, I missed the first three months of 2021 due to the various restrictions on flying due to Covid, only making a return to the cockpit on the very last day of March 2021. As it happened, the RV-3 was out of action while I fixed a crack in the engine mount, and that kept me busy working in the hangar until later in May. With that fixed, I flew it, and the Vagabond, pretty regularly for the rest of the year, except for December, which was a bust for weather, and the lack of time. My local sorties with occasional land-aways made for a paltry 17 hours of P1. With that in mind, this year I'm keen to double that and make the #FLY2022 target.

For a start, I have a biennial flight to do this year in July, so I'm contemplating a great way to use that hour with an instructor. Despite not doing huge numbers of hours in a year typically, I've always liked to keep my basic flying skills sharp by making sure every flight has some practice element to it. The late John Farley referred to having 'The Farley Card', a list of flying activities that a pilot should tick off, and I always keep that in mind. One favourite is practicing slow flight in the approach configuration.

Trips-wise, in 2021 I had the best intentions to take the RV-3 on a trip down around Devon and

Cornwall. That seed had been sown in the back of my mind after reading Paul Kiddell's fantastic *Flying Adventure* around the same area that we featured in the [November 2020 issue](#). I didn't get around to it, but this year, I would like to make that trip.

Somewhere else I'd like to visit is the birthplace of aviation in the UK – Eastchurch Airfield on the Isle of Sheppey. Until a friend mentioned that they had made the trip there by road last year, I admit I

wasn't aware of just how steeped in UK aviation history Eastchurch is, but you can fly there. According to a quick check on SkyDemon there's a 660m grass strip and a mile away is the [Eastchurch Aviation Museum](#), which also has a cafe.

Eastchurch played a significant role in the history of British aviation from 1909 and was site of the first controlled flight by a British pilot on British soil, and was used by The Short Brothers, John Moore-Brabazon, Charles S

Rolls and the two chaps who started all of this, Wilbur Wright and his brother Orville.

Otherwise, I'll be in and out of my regular local haunts, plus the fabulous Oaksey Park for fuel, and generally enjoy making holes in the sky. If you see me while you're also clocking up the time towards your own #FLY2022, make sure you say hello...





### Jonny Salmon

I flew 20 hours and 55 minutes in 2021, the fewest I've flown since 2017, so the idea of aiming to hit a certain (higher) number this year is very appealing! Most of my flying is generally short hops and local flying, so straight away I think I need to be flying further to get my hours up.

First of all I want to visit Oban. If time and weather work out then a trip up to Inverness and back via Glenforsa would be great as well. I'm constantly amazed by how far GA pilots in the USA consider a 'short hop'. Inverness feels like the end of the world, but it's the same distance as LA to Reno. I'm also going to try and fit in more farmstrips with a group of friends, including a first visit to Brown Shutters Farm, along with any other farmstrips we can all synchronise our diaries to.

I also plan to use the aircraft for some day trips and night stops with my wife. Salcombe for the day landing at Bolt Head? It saves hauling down the M5. Also on the list is Brighton for the weekend, and there is a garlic farm (called the Garlic Farm!) a short taxi ride from Sandown on the IoW that I'd

like to visit. It has a restaurant and accommodation... and lots of garlic. Flying is often about the destination when spouses are alongside – it's the destination or a good sunset.

One great excuse to go flying is to watch two sunsets. I did it last year and picked a cloudless day, taking off about 10 minutes before sunset. As the time approached, I watched the sun slip behind the Black Mountains, while flying at wide open throttle in the RV. Once the final glint of sun disappeared I pulled back into a steep climb and watched the sun rise until about half of it was back in view. I then ran out of energy and watched it set once more from 1,500ft higher up. It's just one of those things I like to say I've seen, so I'll be doing it again this year.

I'll definitely be revisiting Sleaf, Old Warden, Duxford and Goodwood as often as I can. They're all great airfields that deserve regular visits. Among the calendar of events, I'm hoping to visit Sleaf's Pistons and Props, one Shuttleworth airshow, and I need to follow up on a promise to let the RV-6 grace the static display at Fairford's Air Tattoo...

So, clear prop for 2022!

**Below** Jonny Salmon in his shared Van's RV-6 is planning to fly further afield in 2022 to get his flying time up





James Lewis

**Above** Carol de Solla Atkin and her trusty Chipmunk will be doing as many things as possible that contain '2022' or '22'...

**Carol de Solla Atkin**

**H**ere's an idea, "Let's all wear tutus for #FLY2022!" I proclaimed, as loudly as a chat room comment could be, on the *FLYER* Livestream members-only Wednesday broadcast.

Editor Dave Calderwood's drive to get us all from Couch-to-2022 minutes for 2022 sounds like a fun challenge and it has triggered my inner imp, which is pretty untethered anyway.

I had already set my heart on exploring airfields not yet in my log book. Could I get to 22 (is that cheating?) new airfields in one year? That's a little tough, but not impossible. Suppressing the urge to visit old favourites such as Turweston, Leicester and Sandown is like trying to give up chocolate! Spreading my landing fee money around will benefit many, rather than just myself by bolstering my log book.

The obvious purpose of the *FLYER* challenge is to enliven General Aviation activity, as it has been like a houseplant gasping for water, and clinging on to life. The more valuable reward from this challenge is that it will increase business at under-utilised airfields to keep them alive. That is just so critical with so many airfields facing the threat of closure.

For that extra pizzazz, I aim to get to 2022ft on the altimeter and hold that for 22 seconds on each flight. That's akin to getting a goldfish to sit still. In the summer months, I plan to record that I have flown at 20:22. Each little nugget of frivolity will be logged with *FLYER*. The aim is to inspire others to copy me, or generate their own crazy fun ideas, which I would love to replicate.

The one thing I will not be doing, is treating the challenge as a race. That's not much of a challenge for the pilots who really do not require the fillip to get airborne.

I'm thinking about how many different GA things I can conjure up that contain either '2022' or just '22' in it. I think I will check my running total on my fuel bill to see if it comes to £2022 for the year.

Of course, we all love to introduce more people into aviation. I get a real kick giving rides in my Chipmunk to both newcomers and experienced pilots. Of course, nobody is going to add 2022 new passengers so how about, whoever we take up – who has never been in a non-commercial light aircraft – we add to a *FLYER* Group tally and let's see if we can get it to, at least, total 2022 new passengers for the year?

Or maybe I'll just stick to wearing a tutu.

**Fly a Cirrus for a day (with instructor): value £2022**

Echelon Air Flight Training, a Cirrus Training Centre offering personalised modern flight training and aircraft ownership solutions that fit the lifestyles of its clients, based at Biggin Hill Airport, is offering a day's flying in the advanced Cirrus Aircraft with one of its highly experienced



instructors. Valued at £2022, this day out will be one to remember.

Take a partner, friend or flying buddy with you and share the experience. Always fancied a visit to Le Touquet for lunch? Let's do it! Want to have a seafood meal at one of the best seafood

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Philippe Polman, founder of Echelon Air, said, "We've always shaped our flight training to showcase the fun and adventure of general aviation. That's what #FLY2022 is all about! Getting out there and doing something you love!".

How to win this extraordinary day? Stay tuned to #FLY2022 over the next few months to find out.

[www.echelonair.com](http://www.echelonair.com)

## Steve Slater

**#FLY2022** What a brilliant initiative – and one that the Light Aircraft Association is delighted to support.

In fact the number is pretty close to what most of us fly in the year anyway. Certainly within the LAA membership, the perceived wisdom is that the average leisure pilot flies for about 30 hours a year, and in 2021, even with the Covid shutdown, the average time flown between Permit renewals was 27.6 hours across the fleet, so aiming for 33 hours 42 minutes, or 2022 minutes, shouldn't be too big a stretch. It's a modest target for some and a not-impossible-yet-still-a-stretch for others.

So, what will we do with those 2022 minutes in the air? Some like me may have fallen into the trap of filling far too many pages of one's log book with 'A to A local' entries. Let's add a bit of variety to our flying by adding some new destinations.

I'll personally be hoping to make it to a few of our 'Meet the LAA' events, local fly-ins organised by the LAA regional struts. Some to look out for are the joint LAA and VAC fly in on 23/24 July at Bodmin in Cornwall, the 'We All Fly' weekend where we join with microlighters, paramotorists, gyroplanists and glider pilots (glidists?) at Rufforth in Yorkshire on 6 August, or head east to Rougham in Suffolk on 17 September.

For those that want to sample flying north of the

Border, the LAA is planning a Tour of Scotland between 22 and 28 May. As well as sampling Scottish scenery and hospitality with fellow flyers, we'll also be meeting up with old friends and new at Perth on 28, for a fly-in with Scottish Aeroclub. Drop a line to [office@laa.uk.com](mailto:office@laa.uk.com) if you want more details.

While we are talking fly-ins, even if you don't have access to an older aeroplane, don't discount the Vintage Aircraft Club, which has a series of events around the country. You'll get as friendly a welcome whether you arrive in a PA-28 or a Piper Cub, and there are always plenty of unusual and interesting aircraft to mooch about. See [here](#) for details.

Talking about older aircraft, one experience you might like to try is a vintage taildragger. There are plenty of flying clubs which will offer you a tailwheel lesson and even if you don't do more than the one flight, it will give an added boost to your confidence as you learn about handling an aircraft that may demand you sharpen up your coordination. The same applies to a lesson in a glider too. The long wingspan can trigger adverse yaw, meaning your rudder coordination becomes more important. And that's before you factor in the energy management required for unpowered flight.

As I write this, I keep thinking there's so much I'd like to do. I wonder whether 2022 minutes is enough to fit everything in!

**Below** Steve Slater in *Airy mouse* his Currie Wot homebuilt biplane will be flying to some of the 'Meet the LAA' events as well as Vintage Aircraft Club fly-ins



Susan Stowe



## #FLY2022 on the FLYER forum

The **FLYER Forum** is where we'll be keeping up to date with pilots' progress towards #FLY2022, [click here](#) to join the discussion. Meanwhile, here's what some Forumites have already been saying:

**hjoy** : A brilliant Idea. I think it is a good number for (a lot) of people to aim at. For me IMC/IR(R) should account for at least 15 hours of this. Other goals include Scotland, France and/or Ireland if the situation allows

My first overnight trip last summer, with a recently purchased share, was York races. Landed at Elvington, which I could not recommend more, landing and two nights parking was £45 and included 'handling' if you count being whisked to the entrance in a Hilux. Leeds East is also well situated for this. The four-hour drive each way being reduced to just over an hour in the plane went down very well with my girlfriend and her friend!

I really enjoyed using the plane for something other than a £200 bacon sandwich (\$100 hamburger is so last century). Certainly want to do more.

**RobP**: Raduno

**T6Harvard**: A FLYER Forum Student fly-in with prizes for ever helpful mentors!

**Welsh Richy**: It has been 11 years since I have flown over 33 hours and 42 minutes, mainly down to the fact I had seven years off, renewed my SEP rating, then took nearly a year out to do my CPL exams and then lockdowns ensured. We moved house in October 20 and spent the majority of 21 renovating our bungalow including knocking down internal walls. I managed only 21:10 last year because of this.

This year though will be different. Planning on quite a bit of flying before I start my FIC mid-March which in itself will probably account for more than 33:42 when you take the pre-entry and AOC into the equation.



We're also going to take a trip to Glenforsa this year but it's only an hour away from where we're based. Would like to take a trip over to Northern Ireland this year and may just need to venture over to Donegal as the scenery looks beautiful.

**Flyingearly**: A great idea and something I would love to participate in. Can I suggest that - whatever the final list of suggestions is - a thread is created on here for the purpose of teaming up and finding mentors to support them?

For example, I'd love to make my first Channel crossing this year, but having never done it I'd really appreciate someone to join me and help give me a bit of confidence.

Ditto, I've never been to a fly-in... if there is a way of more experienced forumites offering to join less experienced members to help them tick off some of these, I'd jump at the chance (as I'm sure others would too).

**RobP**: Cross Channel? Anyone who wants to buy me lunch at Restaurant Paris Plage has found their mentor.

**Dominie**: When I've got the undercarriage back on, I want to go to Scilly, Glenforsa, Solas and further in France than Le Touquet (been there 20 years ago four times and never went further!). NB: I did 33 hours and 20 minutes last year - that's exactly 2000 minutes, just 22 minutes short, so I reckon I'll do more in 2022.

**DB85**: I like this idea, I'm a brand shiny new PPL with a big question of what to do next, all I know is I love to fly. Not looking to go commercial so I'm not interested in plain hour building but help going to new places and continuing to learn is what I want.

Something like this can really support that goal giving specific aims and measurables.

**Matspart3**: Only 1992 minutes left to go after a brisk bumble with the door open this afternoon...

## Dates for your #FLY2022 diary

Just a few: go to the **FLYER website** for full listings of what's on

- **16-17 April**  
Easter@Easter Fly-in
- **27-30 April**  
AERO Friedrichshafen
- **30 April-1 May**  
Microlight Trade Fair, Popham
- **27-29 May**  
Spamfield, Sandown
- **28-29 May**  
Fly-in & Meet the LAA, Perth
- **16-18 June**  
AeroExpo, Cotswold Airport
- **22-26 June**  
Raduno, Italy
- **25-26 June**  
VAC Fly-in, Brighton
- **9-10 July**  
SleepKosh '22, Sleep
- **23-24 July**  
VAC Fly-in & Meet the LAA, Bodmin
- **25-31 July**  
Oshkosh, USA
- **31 July**  
Lundy Sunday
- **20 August**  
Shuttleworth Flying Proms Evening Air Show, Old Warden
- **2-4 September**  
LAA Rally
- **1st Saturday of the month**  
(March to October) Vintage Saturday, Compton Abbas

**Left** Glenforsa on the Isle of Mull is on a lot of pilots' wish lists for flying in 2022



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# Distress & Diversion

## Who you gonna call...? D&D!

Flt Lt **Jason Bowditch**, Air Traffic Controller with 78 Sqn which runs the Distress & Diversion service, kicks off a new series explaining its work...

**W**elcome to a series of articles about Distress & Diversion (D&D) which will be spread out over 2022, and a very big thank you to *FLYER* for giving us the opportunity to spread awareness among the GA community regarding D&D's functions, roles and procedures.

The future articles will involve D&D's involvement in aircraft emergencies, practice pans and training fixes, actions on lost pilots, actions taken during tracing action, Emergency Locator Transmitters/ Personal Locator Beacons, Search and Rescue Operations and Temporary Danger Areas.

Before we get started, know that our services are completely free so please use us to practice emergency procedures or simulate that you're lost\*. Get that reassurance that the system works when you really need us. We're here for you and we're available every minute of the year! We're also the only country in the world that provides these services, so make the most out of it (it's free).

*\*Obvious caveat; bear in mind if you are a practice there may be a higher priority ongoing (actual emergencies), but we'll endeavour to support any and all practices when capacity allows.*

This article, being our introduction to you, will take you through who we are, where we are, what we do and the equipment we use to do it. So here goes!

Distress and Diversion Cell is the emergency centre of 78 Squadron (formerly known as RAF(U) Swanwick) based at London Area Control Centre near Southampton. We sit in the corner of the operations room next to terminal control (in our own room). This helps avoid unnecessary distraction while emergencies are in progress.

Our workforce is in place 24 hours a day, every day of the year. During normal working hours we have two D&D controllers and two D&D support controllers with the addition of trainees. During quiet hours, we have one controller and one support controller.

Our main aim is to assist aircrew with accurate safety and operational information to assist with their sortie regardless of emergency status.

The three frequencies used in D&D are 121.5MHz, 243.00MHz and 245.10MHz. The only frequency you'll be interested in is 121.5MHz as the others are predominantly used for military aircraft



in emergencies or to update pertinent information regarding their sortie.

If a pilot finds themselves in distress or doubt exists to the safety of the aircraft or people on board and you're not in communication with an air traffic unit, freecall D&D on 121.5MHz and pass your details. We'll get you to squawk 'emergency' and find out your intentions. We'll be fully aware of the pilot's workload at the time. There are a few things we'll be doing simultaneously in the background but we'll get to that in future articles.

The squawks you need to use for the emergency will depend on the emergency you have. If you squawk any of the following, our EAG (Emergency Attention Getter) will alarm, resulting in the very likely scenario that you'll become our top priority.

### **Emergency Squawks:**

**SOS** – 7700

**Mains Radio Failure/ No-RT** – 7600

**Hijacking** – 7500

**Lost** – 0030

Note how close these Squawks are to the conspicuity code of 7000, so be extra careful when changing your squawk to conspicuity. It might be worth temporarily putting the transponder on standby to avoid an accidental misdial when the SSR recycles.



## What equipment do we have in the room?

I want you to imagine you're sitting down with our desk in front of you. There's a big screen in between two white boards – that's the master plasma screen. This is clear for all to see regardless of where you are in D&D. This screen shows the entire UK and displays the Direction Finder (DF) which is the Auto-Triangulation.

White boards to the left and right of the plasma screen are our wing boards. The wing boards are what gives us information on military aerodromes throughout the UK.

The information on them are the aerodrome's weather, the runway in use and its length, the serviceability states of cables, barriers and instruments used at the airfields and the crash category. This enables us to pick a suitable airfield for diversion based on the aircraft's requirements.

On the desk right in front of you is the comms panel. This has all the frequencies which can be split down into groups or individual legs. This is so we do not disturb the entire UK listening out on guard for every transmission. The comms panel also has direct lines to the majority of large- and medium-sized aerodromes in the UK. For those we don't have direct lines to, we have unique four-digit numbers

which link us to all airfields in the UK, private strips excluded. This makes it quick and easy for D&D to liaise with airfields to pass or acquire information.

In the middle of the desk, in between the controller and support controller, is the EAG. This will alarm whenever an emergency squawk is within radar coverage.


To the left of that is the radar screen. This will be used when it is necessary to control an aircraft in an emergency. It is also used when the High Resolution Direction Finder (HRDF) is out of tolerance and we are unable to give you an accurate position report from auto-triangulation alone.

Straight in front of you is the HRDF (Auto-T) used for position reports and to help lost aircrew.

We are also able to access VFR and IFR flight plans within Swanwick which helps us track and locate you if lost or in distress but location is unknown. We encourage all pilots to file a flight plan for all sorties – it can help make our process much faster in difficult situations.

If you take nothing else from this, take this:

We are here. We are free. If you need help where doubt exists, or you just want to practice procedures, give us a call on 121.5!

See you next month! 

**Above** D&D cell at Swanwick with master plasma screen at the back between white boards



# Safety Accident Analysis

## A notice to airmen!

Wading through Notam's can be a pain, but as *FLYER*'s Safety Editor **Steve Ayres** suggests, there are some very good reasons why doing so might just be worth your while!

I am sure we have all been there, trawling through a long list of Notam for something that might, one day, spoil a beautiful day out. It can all seem a bit like looking for a needle-in-a-haystack on occasions, of course, but these incidents remind us why it can be really important to do so. And not just the night before. A last minute check before getting airborne or following a change of plan can prevent putting us and others at risk and help retain that valuable licence!

### Accident 1

The pilot and a fellow member of the flying group had left their home base with the intention of flying to several different airfields. Their routing initially took them to Kirkbride Airfield where they swapped seats.

They were intending to fly from Kirkbride to Prestwick Airport for the second leg of their route but, due to a lower than expected cloud base over high ground, they decided instead to route along the coast before stopping at Castle Kennedy. Both pilots were familiar with Castle Kennedy.

Concern over weather and a possible maintenance issue at Kirkbride meant neither pilot consulted the Notam for the new route nor telephoned Castle Kennedy to gain PPR. Castle Kennedy Airfield is unlicensed and all operations are PPR except for aircraft based at the airfield. The owner of the airfield was, at the time of this incident, working

with a company in developing technology for the generation of power from large tethered kites. As a result of this the airfield had an active Notam stating the runway would be closed during kite flying operations.

A full-size kite has a wingspan of 10m, with a mass of 30kg. It can travel at speeds up to 100kt and is connected by a tether to a winch on the runway. The tether has a breaking strain of 6,500kg and this kite would present a significant hazard to any aircraft. The kite operates up to 1,100ft above the airfield.

During the flight, the pilot spoke with Scottish Information before transferring to the SafetyCom frequency (135.475 MHz) when the aircraft was approximately 10nm from Castle Kennedy. This allows pilots to broadcast their intentions when there is no frequency allocated to an airfield or landing site, and several broadcasts were made by the pilot before landing at the airfield.

As the pilot approached the runway he noticed there was something just short of the threshold but he was unable to make out what it was until he was in the flare. At this point he saw that the object was a cross which he thought was on a flag placed flat on the tarmac. He saw no further obstacles on the runway and considered that the safest course of action was to continue to land. After the aircraft was shut down, the pilot was approached by members of the kite company who pointed out that

the runway was closed and a Notam was in effect.

The kite company was working at the airfield although they were not flying the full-size kite at the time. There were six members of staff around the airfield with some working close to the runway. A member of the staff was monitoring SafetyCom and was alerted to the imminent arrival of the aircraft. He was able to radio the staff working on the airfield so they could move away from the runway.

It was estimated that it was only 3.5 minutes from the first transmission on SafetyCom until the aircraft landed. The kite staff commented that if they had been flying the full-size kite, this would have been insufficient time to lower the kite and move the equipment clear of the runway.

The pilot was surprised that Scottish Information did not inform him that the runway was closed at Castle Kennedy but it was not the responsibility of ATC to do so and the controllers were unlikely to have been aware of the runway state.

### Accident 2

The pilot was carrying out a series of sightseeing flights, operating from a helicopter base at Manston disused airfield, Kent. The first flight departed to the south of Manston, along the coast at Sandwich Bay to Dover, before turning inland towards Canterbury and then back to Manston.

For the first part of the flight the pilot flew at altitudes of between 700ft and 1,000ft amsl, before climbing to 1,500ft amsl approaching Deal. As he was flying along the coast at around 700ft, he noticed a kite very close by and took avoiding action. He was not aware of any contact and continued the flight, landing back at Manston after approximately 25 minutes.

The pilot then carried out a second flight in the same area. As he was

“A tethered kite has a wingspan of 10m, and weighs 30kg... and is connected to a line with a breaking strain of 6,500kg”





flying along the coast north of Deal, towards Manston, at 1,500ft amsl he noticed a number of kites in the sky at levels which he estimated to be above 1,000ft amsl.

Finally, there was a short (third) flight in a different direction, after which a person assisting with the loading and unloading of the helicopter noticed a scuff mark on the windscreen. He pointed it out to the pilot and the helicopter was shut down for investigation. Further damage was discovered to the right forward door screen, the main rotor pitch change links, one rotor blade and the vertical fin. The helicopter was grounded for a maintenance inspection.

The location where contact with the kite line most likely occurred was on the coast in Sandwich Bay. Online footage of activity at the same location shows a number of people flying kites with 700m line spools. Adapted power drills and winches are used to wind in the lines after flying.

Evidence from the nature of the damage to the helicopter and photographs taken at the probable kite flying location suggest that the kite string was coated with an abrasive substance. There is evidence that a number of different coastal locations in the UK are used for kite flying at heights above 60m but the activity is not being notified.

Permissions for exceptions to Article 92 of the ANO can be obtained through the CAA. On receipt of an application, the location of the activity is checked with regards to the surrounding airspace and the activity's impact on that airspace. Special conditions may be imposed for a permission to be granted, such as attaching streamers to the line to aid conspicuity, and a Notam will be issued.

### Accident 3

A privately operated Fairchild Industries SA226-T Merlin III aircraft departed Bankstown aerodrome, New South Wales at 0720 for Mudgee Airport and then on to Dubbo City Regional Airport and Gunnedah airport, landing at the latter around 1550.

At 1047 that morning a Notam was published closing Gunnedah airport on the following day between 0700 and 1500 for emergency runway works. On arrival at Gunnedah, as the aircraft was taxied to the parking bay, the pilot noticed a rough spot on

“As the aircraft accelerated the pilot saw there were two holes excavated from the runway, which caught one gear leg”



the asphalt near the end of the runway. The aircraft was parked for the night. The next day around 1225, the pilot advised Brisbane Centre air traffic control that the aircraft was taxiing at Gunnedah for departure.

On receiving the taxi call, the controller checked for any current Notam and found one current for the airport, stating that it was closed due to works in progress. The controller attempted to inform the pilot but was unable to establish contact.

About five minutes later, after taxiing by the works in progress to the threshold and turning around, the

pilot commenced the take-off run. He reported seeing patches on the pavement in the distance. As the aircraft accelerated along the runway, it was apparent there were two holes excavated from the runway pavement (3m wide by 5m long), about 30cm deep. The pilot tried to avoid the holes but was unable to clear them with the aircraft's left main landing gear.

The aircraft sustained damage to the left main landing gear assembly that resulted in it collapsing and the left propeller striking the ground. The aircraft veered off the runway and came to rest outside the flight strip.


## Ayres' Analysis

**Don't we all love that 'night before' scroll through the Notam on SkyDemon or some similar app. What seem like endless references to Covid restrictions that don't affect most of us, unlit obstacles and suchlike. However, buried amongst all those irrelevancies there is an occasional nugget and woe betide any of us who miss it!**

I have always rather looked upon Notam as a necessary evil that rarely impacted my flying but increasingly there is something which affects what I want to do and requires a re-route or a complete replan. Those pesky kites, for example. I hadn't realised until I read the first accident that they could be so big. I thought they were always flying bait for birds of prey or some such. Clearly not!

Colliding with any object is worrying enough and all we can do is reduce the risk by being as aware as we can of areas where there is heightened aerial activity. As for airfields or runways that are closed, we are presented with a different category of risk and that risk is not just to ourselves. I was reminded of a close shave a colleague had when taking off on a misty morning and spotted some workmen on the side of the runway out of the corner of his eye. ATC had taken advantage of forecast poor weather and had Notam'd the airfield closed at short notice for maintenance.

A salutary reminder that any 'nighttime' scroll is not necessarily sufficient and that a last minute check is essential, even at airfields which are very familiar to us or which may look 'wide open'! We can only imagine the shock to the pilot of the Fairchild Merlin III as he was confronted by and tried to dodge the excavated sections of runway in Gunnedah! As with incidents of this type, a number of issues conspired to allow an accident to occur but ultimately a check of the Notam would, in both runway incidents, have flagged the danger.

So what about late changes to a plan or an unplanned diversion? Should we be thinking more along the lines of such occasions being an emergency and perhaps require external assistance? That is probably going too far in most circumstances but the incident with the PA-28 shows how badly things can go wrong. One reason given for not checking the Notam was a poor mobile phone signal prior to departing on the revised plan but this is invariably the case when an in-flight change is made. How confident can we then be that we are not going to fall foul of an unforeseen Notam? Certainly, that pre-departure check of Notam for the route and potential diversion airfields would be a good place to start! 



# Safety Accident Reports

## Maintenance mayhem

**Steve Ayres** summarises and comments on accident reports from around the world and looks at 'Notam Info' in this month's Safety Kit as a means of obtaining a live Notam feed...

### Maintenance-induced hydraulic leak

**Cessna R182**

**N8051B**

**Tulsa, Oklahoma**

**Injuries: None**

The pilot reported that during a post-maintenance check flight, when he went to retract the landing gear after take-off, he noticed that the amber light which indicated that the gear was fully retracted, did not illuminate. The pilot verified that the main landing gear indicator lights functioned and decided to validate in flight that the landing gear would extend. When he extended the landing gear, the green light indicating that the landing gear was down and locked did not illuminate, and the pilot was unable to visually confirm the extension of the main landing gear.

After troubleshooting the system and several unsuccessful attempts to extend the main landing gear, the pilot performed a gear-up landing to the dry asphalt runway, with only the nosewheel extended. The aeroplane slid 500ft before coming to a stop. It sustained substantial damage to the right horizontal stabiliser and elevator.

A post-accident examination revealed that a b-nut on the main landing gear actuator gear down hydraulic line was only hand tightened, with visible stripped thread present. The mechanic who performed the annual inspection on the aeroplane, which included work on the main landing gear system, reported that he forgot to fully tighten the b-nut during the recent maintenance work, which resulted in a

loss of main landing gear system hydraulic pressure in flight, and the pilot's inability to fully extend the main landing gear.

A successful main landing gear swing was performed during the maintenance work, but it was not performed after all the maintenance work was completed. Had the main landing gear swing been conducted after the maintenance work was completed, it is likely the loss of the main landing gear system hydraulic pressure would have been identified before the flight.

**Comment** This is a reminder that post-engineering check flights don't always go as planned, and that it pays to be alert for the unexpected.

It is not apparent that ground runs and leak checks were carried out immediately prior to the flight but they may have helped identify the loose union. It is also worth double checking other movables too, such as switches and seat positions etc., to ensure that after maintenance work they are where you expect them to be!

### 'Jump' start

**Aeronca 11AC Chief**

**N9171E**

**Wabash, Indiana**

**Injuries: None**

The pilot was turning the engine through when it started unexpectedly.

He attempted to get back into the cockpit to shut the engine down but was unsuccessful. The aeroplane self-taxed in an arc and struck the hangar before coming to a stop, and it sustained substantial damage to the right wing.

The pilot noted that the magneto

switch was in the BOTH position when he checked it after the accident, and he did not recall turning it on.

**Comment** These incidents continue to occur and it is good to read that no one was injured this time round.

Perhaps the pilot was treating the propeller as 'potentially live' and that saved him but why not also check the switches, levers and brakes are in a safe position as well as make sure there are some chocks in place, before 'pulling the engine through'?

### Road sign not seen...

**Cessna 172S**

**N365CP**

**Saint James, Louisiana**

**Injuries: None**

The pilot of the low-level pipeline patrol flight reported that after about one hour into the flight, a 'very loud pop' noise emitted from behind the instrument panel followed by an unidentified high-pressure air/gas release into the cabin. After not seeing any flames, the pilot opened his window to vent the cabin and decided to conduct an off-airport emergency landing on an empty multi-lane highway.

During the landing rollout, the left wing impacted a metal road sign, and the aeroplane came to a stop on a grass median. It sustained substantial damage to the left wing. A post-accident examination revealed that a high-pressure air conditioning hose failed and separated at a metal crimp connection at the firewall pass-through. The hose ends at the separation showed signs of age deterioration. Maintenance records revealed that the hose had been in service for about 20 years, accumulating 12,500 total hours.

**Comment** We could argue all day as to whether an off-field landing was the right decision in this instance but at least the occupants walked away safely.

The fractured hose required inspection annually, or every 600 hours, whichever came first. The omission to spot signs of a pending

“He attempted to get back into the cockpit to shut the engine down but was unsuccessful”



failure could have had a far worse outcome than a bent wing from the 'precautionary' forced landing that the pilot elected to carry out.

## From bad to worse

**Cessna 182J**

**N288GF**

**Sedona, Arizona**

**Injuries: Two minor**

The pilot reported that, during landing he inputted 10° of flaps and placed the aeroplane in a slight crab with aileron input to compensate for the crosswind.

Just before touchdown, the right wing lifted, and the aeroplane landed hard with a side load on the left main landing gear. It then veered to the left and travelled into a dirt area between the runway and taxiway.

The pilot applied full throttle to abort the landing, however the aeroplane would not climb. It sustained substantial damage after it struck a parked aeroplane and fuel truck. The left wing separated, and the aeroplane came to rest inverted.

**Comment** There have been a number of unsuccessful go-around attempts from pilots following a departure from the runway strip. It is doubtless difficult to override the desire to attempt to get airborne again, but doing so may just add kinetic energy to the eventual crash site and further endanger those on board and nearby. Not an easy evaluation to make in the heat of the moment, though.

## Lorry strike

**Aeronca 7AC Champ**

**N82308**

**Green Bay, Wisconsin**

**Injuries: Two fatal**

The private pilot was on short final approach for landing to the grass runway. The south end of the runway was bordered by an east-west oriented road. Witnesses on this road, and dashboard camera video from another vehicle, confirmed that the aeroplane was flying about 5ft above the ground when it collided with the front left side of a westbound truck. The aeroplane became lodged on top of the truck and they continued off the right side of the road, through a ditch, and came to rest in a residential front yard.

The pilot and driver were both fatally injured during the accident sequence. There were several propeller slash marks on the front left side of the truck, consistent with the propeller



# “The aeroplane became lodged on top of the truck”

rotating during the collision. There was no evidence of tyre skid marks on the road and none of the witnesses reported any evasive manoeuvres by the aeroplane. Therefore, it is likely that neither the pilot nor the driver was aware of the impending collision.

Additionally, there was no roadway signage warning of low-flying aircraft.

**Comment** A number of us operate from airfields close to roads, tracks and footpaths, and many of our small airfields are unfenced and potentially accessible to the general public so this accident is pertinent to us all. Signage is helpful but ultimately being aware of the threats and looking out for conflicts is likely to be the only practicable way to operate.

## Bodge job

**Piper PA-18-105**

**N5489H**

**Gakona, Alaska**

**Injuries: None**

The pilot of the tailwheel-equipped aeroplane reported that the mixture control had been 'working really hard' during the initial flight, so he landed at a remote site to investigate. Once on the ground, he found that the mixture

control cable, just behind the instrument panel, had failed. He manually opened the mixture control lever and departed for his destination airport.

While en route, at about 700ft agl the engine lost all power. He made an emergency off-airport landing to a heavily forested area and the aeroplane impacted several small- to medium-sized spruce trees. The aircraft sustained substantial damage to the wings and left lift strut.

The pilot stated that after the accident, he found the mixture control arm had become detached from his previous temporary repair, and it was in the closed position. Additionally, he noted that he made a poor decision to fly the aeroplane with a failed mixture control cable.

**Comment** There is probably an incentive to make a temporary repair when stuck in the wilds of Alaska, but the real mistake came from not considering the 'what if' of that repair letting go. As the pilot found to his cost, the failure of a repair to fuel related components almost inevitably ends up with a loss of power and all that follows on from it. ▼

## Safety kit

**Notam** plotted on a map or delivered via RSS feeds and Email **FREE** (donate to 'Dave') <https://notaminfo.com/node>

I recognise I might be a bit late to the party with this month's Safety Kit as there are apparently 29,000 registered users of Notam Info, but it was while reflecting on the Analysis piece that I went looking for a Notam 'visualiser', which might prevent me stumbling into a newly issued restriction.

Of course, the likes of SkyDemon should flag up every Notam as it becomes active, but late changes can be missed when scanning the whole route or an operating area.

With Notam Info, however, you simply set up your flying 'area of interest', subscribe to an RSS feed

and 'Bingo' you can read back over the latest Notam issued by NATS directly on your phone as you arrive at the airfield. Notam Info does much more, of course, but this is a really 'neat' feature.





**Above** Geoff Hall and Paul Brooker in the Quik R flexwing microlight, an ideal photo ship  
**This image** Flying over Sheffield Park



# Golden wonders...

**Geoff Hall** of the Kent Microlight Aircraft Club takes us on an aerial tour of the Garden of England on a crisp autumnal day...

**I**f, like me, you are keen on aerial photography then autumn is a much anticipated opportunity to get some very different scenic shots. The Garden of England – Kent – can be truly glorious in autumn with all the orchards, gardens and woodlands dramatically changing hue and casting their long shadows.

For as long as I can remember Paul Brooker, my trusty co-pilot for the last 20 years, and I have been taking an autumnal flight around Kent in search of the best visual displays, but first you need a fine day to take good photographs – and the right aircraft!

Our steed is a P&M Quik R flexwing microlight. It's a beast really with a 100hp Rotax 912S engine and a topless, strutted wing complete with winglets. We can comfortably cruise at 85mph and if you are in a hurry the magic (for a flexwing) ton is achievable. With the high power to weight ratio the aircraft will climb in excess of 1500fpm solo, and with a full 65lt tank you can comfortably fly for 3.5hr or 300 miles.

But the best thing, from a photographer's point of view is... the view! From the front cockpit you have some excellent open air shooting areas either side of the screen.

When we are on a specific photographic sortie I will get Paul to fly from the rear seat via the additional instructor's control bars. This is also the safest method as a good lookout can be maintained.

We find the best height for detailed pictures is between 500ft to 1,000ft above ground level with airspeed of around 70 to 75mph to lessen the effect of the wind-induced camera buffet.

If you are interested in camera equipment, I use a Canon EOS 2000D SLR fitted with an 18-55mm zoom lens. I like to use the viewfinder, even when wearing a helmet with full visor, and I normally use the speed priority setting with a minimum 1,000th second shutter speed, as image sharpness is

everything. I compensate for brightness by under-exposing by 2/3 stop and always use auto-focus. I seldom use much zoom as this increases the chance of blurring and post-shoot I use a basic photo editing programme to manually adjust the shots. I generally don't use any effects apart from cropping, straightening and adjusting the exposure. And of course the golden rule – take lots of shots to ensure you get at least one that is satisfactory.



And so to our autumnal photo sortie. We fly from Kent Microlight Aircraft Club's base at Harringe Court Farm, very close to the famous old airfield of Lympne, which was operational in both wars but is probably more famous for the numerous celebrity pilots who set off from here in the 1930s at the start of their long distance flights to the furthest reaches of the British Empire.

You need fine weather and good light to get the best shots, and both of these can be in somewhat short supply during the autumn months, plus you



need to time your flight to coincide with the best volume and colour of the leaves. When all the stars are in alignment we meet up earlier than usual at the airfield and get prepped – a quick coffee, put the beast together (we have to take the wing off to get it in the hangar), conduct thorough pre-flight checks using a bespoke checklist, add enough fuel for a couple of hours (the Rotax likes E5 mogas) and get ‘toggled up’ in warm clothing – essential at this time of year. We use Flycom helmets with full visors – they are comfortable, have excellent soundproofing and a very clear intercom, which is vital for open cockpit flying.

### Cockpit checks

I am flying from the front, so the Rotax is fired up and left to chunter for a few minutes to get the oil up to a minimum 50° temperature. Cockpit checks complete, radio and strobes on, electric trimmer set and we are ready to go. We have SkyDemon loaded onto an iPad mini for longer trips, but we only pay a monthly subscription as we are far too mean to pay for the winter period! The Quik R takes a bit more runway than the average flexwing, especially when heavy (nothing to do with combined pilots weight you understand!) and it won’t get airborne until you have at least 60mph on the ASI. But once your wheels leave the ground the aircraft quickly climbs to the desired transit altitude and we trim for 80-85mph cruise.

We are flying to Sheffield Park first as it is furthest



**Top left** Scotney Castle near Lamberhurst  
**Above** Bedgebury Pinetum  
**Below** Sissinghurst  
**Right top Moated** Glassenbury House near Cranborne  
**Right middle** Orchards - Kent is full of them!  
**Right bottom ...** although increasingly there are vineyards too

away – and in East Sussex, but don’t tell anybody... It’s around 40 miles and we deviate slightly to have a look at Bewl Water, the largest reservoir in Kent and a very prominent navigational landmark. After 30 minutes flying we arrive at our first ‘target for today’ and are rewarded with the multicoloured vista of an astonishing array of trees, originally landscaped in the 18th century by the man himself – Capability Brown. We are lucky that the sun has reappeared after being a rather dull flight up from Harringe, and it brings out the very best in the subtle leaf colouring.

### A perfect little gem

The GoPro picture taken last year flying over the gardens shows the rather ‘snug’ tandem seating arrangement of the typical flexwing! Everything you are going to need for the flight – map board, pencils, GPS, cameras, glasses etc must be secured / lanyarded in place before you depart as you will struggle to get anything out in flight. More than a few mobile phones have disappeared over the side – if you are lucky it won’t go through the prop, as that would put a severe crimp on the day’s proceedings to say the least!

We now turn eastwards back to the Weald of Kent and Scotney Castle near Lamberhurst. This is a perfect little gem and probably my favourite, with the central feature being the ruins of a medieval, moated manor house, surrounded by a gorgeous selection of trees.

Nearby is Bedgebury National Pinetum & Forest which is always guaranteed to be a riot of colour if conditions are favourable and today is no exception.

Having flown extensively around Kent for the last 35 years you think you know it like the back of your hand, yet it is amazing how often you come across a feature which you have never seen before. We were heading to Sissinghurst when we flew over a stunning moated house with an exquisite garden. When I got home I matched the photo using Google Earth and it was positively identified as 16th century Glassenbury House near Cranbrook. It just shows you that no two flights are ever the same.

We also happened upon some orchards which

“Cockpit checks complete, radio and strobes on, electric trimmer set and we are ready to go”









# “Battle of Britain Memorial above the White Cliffs boasts a fine view over the Channel”



seemed to perfectly encapsulate the Garden of England theme with a fine display of contrasting russet and green fruit trees surrounding an oast house so typical of this area. You could almost imagine Pop Larkin (*Darling Buds of May* fame) waving up at you from the farmyard!

### Distinctive tower...

Sissinghurst Castle Gardens were famously created by the novelist, poet and journalist Vita Sackville-West and her husband Harold Nicolson in 1938, and are one of the most renowned Grade I listed gardens in the country – the distinctive tower makes them easy to identify.

Heading north towards Staplehurst we came across a large vineyard divided into uniform golden-yellow blocks. This is indicative of the changing shape of fruit farming in Kent – wine production is now a serious business and some fine sparkling varieties are currently available that seriously challenge those established Champagne brands we all know and love.

Having visited most of our favourite autumnal targets in west Kent we headed back, coast bound, to enjoy some more local features. There are plenty of other famous sites we could have visited, notably the castles at Hever, Leeds and Bodiam, but the usable daylight hours are short at this time of year so you need to be selective.



**Top** Brockmans Bushes  
**Above** Battle of Britain Memorial at Capel above the famous White Cliffs  
**Below** American Gardens, Saltwood

Flying over another, smaller vineyard near Canterbury we pick up the M20 and fail dismally to catch a Eurostar express on the high-speed line as it races headlong towards the Channel Tunnel. Passing abeam our airfield we arrive, just a few minutes later, at the private Grade II listed Sandling Park Garden, which displays an amazing spread of trees.

Another couple of miles down the line near

**Left top** Kent woodlands starting to turn gold  
**Left middle** Another vineyard, this time near Canterbury  
**Left bottom** Sandling Park, near Saltwood





Saltwood is ‘The American Garden’, which takes its name from a Californian Redwood tree planted in 1854, and is considered a real hidden gem in this part of Kent.

Perched high on the North Downs atop Tolsford Hill is the striking circular plantation of different tree varieties known as ‘Brockman’s Bushes’ – a particular local favourite of mine. Flying towards the coast the Battle of Britain Memorial at Capel appears in view, strikingly sited above the White Cliffs it boasts a fine view over the Channel and there is no finer monument to honour ‘The Few’. See how the main building’s wings are deliberately Spitfire-shaped. This is one landmark you shouldn’t miss out on if flying around this area – I love the Spitfire and Hurricane full-size replicas, but the jury is out on the recently acquired silver Stuka sculpture in crashed pose!

### American Garden

Progressing along the White Cliffs we arrive overhead Dover’s bustling harbour and Eastern Docks from where the Cross Channel ferries depart. This is part of our regular ‘patrol’ beat, but I never tire of the towering cliffs and majestic castle – it is really an outstanding view. You do need to check carefully for Notam in this area – we’ve been

**Above** Anyone know where this is? Oh, the White Cliffs of Dover of course

**Right top** Dover’s Eastern Docks

**Right middle** Carpet of woods near Ashford

**Right bottom** Long shadows of autumn

approach to our freshly mown 350 metre strip at Harringe.

The Quik R doesn’t have the shortest landing roll in the world so accurate flying is essential. Having no flaps the approach speed is quite high for a microlight – at least 70mph even when you have some trim wound on, and you don’t slow down much until you flare for landing. But once on the grass you rapidly lose the speed, especially if landing up the slight slope, and rear disc brakes only need to be used sparingly, if at all.

We have flown for over 1.5hr and must have covered well in excess of 100 miles around Kent. The body is starting to get a bit stiff and chilly, so it’s time to put the Quik to bed in its nice cosy hangar and have a well-earned warming drink – we switch from beer to coffee once the clocks go back – while reflecting upon another successful autumnal sortie. Of course, I get to relive it all again when I arrive home and download the images – another thing I enjoy about aerial photography.

So why don’t you dust off the old lens, do a bit of research and plan a route around some likely colourful targets in your local area in readiness for next autumn?

But first you’ve got to get through the winter – some snow flying perhaps? Now there’s a thought! ▶

plagued with temporary restricted airspace notifications all year, mostly due to large drones operating out of Lydd and covering the Channel area and often large portions of inland airspace – I don’t need to tell you what they are looking for.

When the cliffs eventually run out you arrive at Walmer, then Deal, which is one of the most handsome seaside towns on the Kent coast in my opinion. It comes complete with a recently refurbished pier and an iconic circular Castle (there’s an identical one at Walmer), which Henry VIII built to keep out ‘you know who’! Similar fortifications were still being built across this part of Kent up until the Napoleonic threat eventually subsided.

There are a string of Martello towers from Folkestone to the other side of Rye, East Sussex, plus the iconic Royal military canal.

### Golden-brown carpet

Returning to the airfield and nearing the end of the day the rich, low light illuminates a large golden-brown carpet of woodland near Ashford just perfectly, and the twin line of tall trees we pass grow ever-lengthening shadows. We cross back over the M20 and railway lines before setting up our



# Top Gear

The latest aviation kit, impartially tested and evaluated

## Quad Lock 360

★★★★★ | [www.quadlockcase.net](http://www.quadlockcase.net)

There's probably more than a few people, I'll bet, who turned the page and on first glance of the photos thought of the RAM mount system that's popular with pilots for securing tablet and phone devices. This, though, is Quad Lock, a multi-part system that's been extremely popular with cyclists and motorcyclists for holding smart phones rather than bigger heavier tablets. More specifically it's their new 360 system which Quad Lock thinks has some synergy with the aviation market, and having played around with it for a while, I agree.

What started out as an iPhone Bike Mount, whose production was funded via the Kickstarter platform 10 years ago, this latest Quad Lock 360 system is a modular range of mounts, arms and cases, plus a few other accessories that allow users to create a mount to suit their particular need. With more than 200 different combinations, there's a useful build-your-own tool on their website that helps you pick the items for a particular need.

I'd initially become interested in Quad Lock while looking at ways to fit my iPhone into my RV-3 cockpit, particularly using its wireless charging option that connects the phone to power just by clicking the phone into place, without having to fiddle with leads. By the time I got around to ordering some parts, they had introduced the 360 system.

Quad Lock's 360° connections allow for tremendous flexibility in putting your chosen elements together so that they fit your allocated space neatly and easily. I use the RAM system in a couple of other aeroplanes and occasionally find the parts lock up before I find the perfect angles for everything. The trade-off for the fine adjustment is that an allen key is needed for some of the component-to-component connections.

Sensibly though, should you need some level of day-to-day adjustment, Quad Lock provides the option of a thumb-screw to replace the allen key on items like the pivot arms.

While I'm still plugging away at that particular RV-3 project – it's part of some other panel tweaks I've got planned – Steve, my partner in the RV-8,



**Above** The Quad Lock fix for providing some navigation information for the RV-8's backseat passenger. A USB power lead runs up the back of the black tubular support frame to provide power for the charger

**Below left** There's a wide range of components in the Quad Lock 360 range

**Below right** Two and four hole AMPS mounts are available, and there's a flexible adhesive mount too



suggested the Quad Lock system would be a good way to provide a SkyDemon display in the back seat for the passenger. We picked the medium bar clamp as a base to attach to the tubular mid-cabin brace structure, the small dual pivot arm, and on the end of both of these, the weatherproof wireless charger.

All the parts have a really good quality feel to them. If you need an allen key, one is provided, screws come with a blue thread lock pre-applied (it's cleverly

non-stick, but you notice it if you're screwing something together) and with the wireless charger there are three different lengths of USB lead, plus tie wraps.

If you don't want the option of charging, and just wanted to click a phone into place, then there's a simple lever head attachment that you can select. Whatever you choose, the case fits into place on a four-tongue attachment, and a spring clip locks it firmly in place (hence the name



**Above** The clamp, pivot arm and wireless charger assembled together, ready to fit  
**Above** Quad Lock components assemble using allen screws, and they use these for some of the adjustable friction locks too. If you want more flexibility, then optional thumb screws are included for an easy swap  
**Above** If you want to run your device in landscape mode, it's just a click and twist to change it

Quad Lock). The case for my iPhone X is fine to hold in day-to-day use, and as a case it offers what looks like good edge protection if I were to drop it.

With all the parts assembled, we plugged a power cable into the rear seat USB power socket, and ran it up to the charger. We swapped the allen key adjustment in the pivot arm for the thumbscrew too, so that the passenger can easily make adjustments to the device depending on their viewing angle.

The setup looks really smart and is easy to use. The only gotcha was me not



reading the manual fully, and not realising the charger unit has an on/off switch on its rear face.

So far, it's proven to be a great way to mount a phone for this application. Granted, this isn't a very heavy item to hold, but it's vibration free and the phone easily clicks easily into place every time. The click/twist/lock works first time every time too, and it's easy to flip around from portrait to landscape depending on your viewing preferences.

Cost wise, the Quad Lock compares favourably to RAM mount items, and personally, I think the Quad Lock components just have the edge in terms of quality. There's a pretty wide range of mounting options beside the bar clamps, with two and four-hole AMPS pattern screw attach base plates, and a flexible 3M VHB adhesive mount (the same sticky stuff used to hold GoPro cameras on the outside of aircraft).

It's a shame that they don't offer a case for the iPad Mini, but I'm hoping that might come along in the future. **Ed Hicks**

## Telemetry Overlay

★★★★★ **£73** | [goprotelemetryextractor.com](http://goprotelemetryextractor.com)

Not all action cameras come with a built-in GPS source, meaning there is no data in the video files to position the footage to a particular point in space. This is fine if you don't want that sort of thing for your videos, but what if you do? Equally, if your camera does, and you want more control over how it is displayed, then Telemetry Overlay might be for you.

How does it work? I took a piece of GoPro footage (without any GPS data) and loaded it into the software. When coupled with a GPX file easily exported from SkyDemon, I could, with some tinkering, synchronise the video and GPX data to show flight telemetry data on screen. The software is powerful, with a huge range of configuration options for each instrument. You can change the style, location, size, colours and lots more.

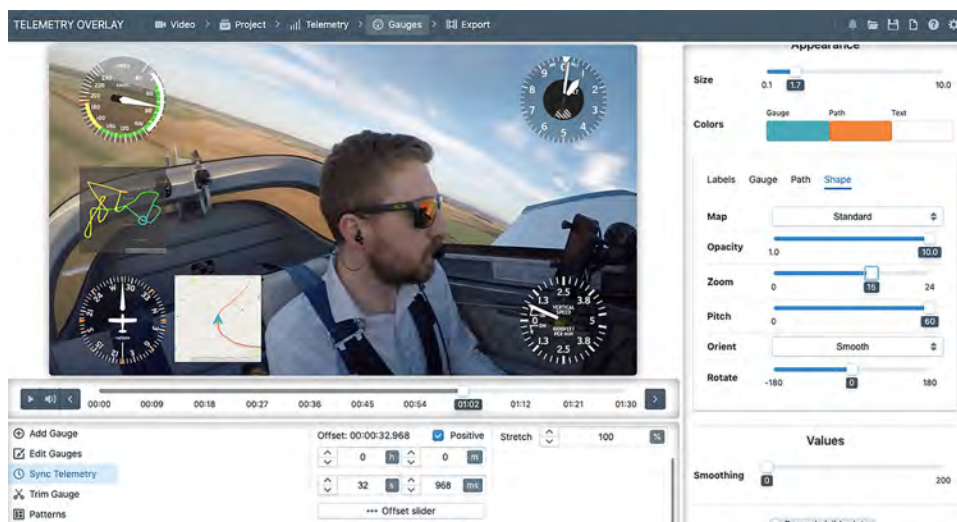
There are limitations, but not in the software. The instrument readouts are only as good as the data they can display. For example, aerobatic manoeuvres will rarely show correctly from GPS data. Fly a loop and look at the GPS track in 3D, I guarantee it won't look like a loop. The GPS data exported from your flight

logging software of choice is effectively straight lines drawn between points in space and time.

However, if you have Garmin avionics like the G1000, G300, G5 and G3X Touch, you can export data straight into Telemetry Overlay. This will give you non-GPS data such as attitude indicator, engine rpm, barometric altitude and indicated airspeed, meaning the

accuracy of the data will be vastly improved. This will then display on your video and when synchronised, the AI will react in time with roll and pitch in the video, as displayed in many of their videos online.

All in all, a powerful way of displaying telemetry data on your videos, with many online tutorials available to help set it up. **Jonny Salmon**



**Above** Dashboard of Telemetry Overlay - you get a very high level of overlay control

# By Association

Looking after General Aviation The UK's flying associations at work

## BMAA Going on tour

**The start of the flying season is always an exciting time as we plan ahead with optimism and hope for never-ending blue skies.**

The BMAA is going on tour – we're taking our custom-built exhibition trailer, complete with a built-in flexwing simulator, to a range of different events in 2022. We're targeting different groups of people to 'talk microlight', including those who already know how affordable it is and the fun that we have, those who are already involved in other forms of aviation, and people who have perhaps

dreamed of gaining their wings.

There has been much emphasis lately on new Light Sport Microlights and the 600kg class – and rightly so – as we are working with suppliers of aeroplanes which would be the envy of any aviator. But we are a big family and not everyone wants to spend their way to carbon fibre-flying heaven.

Our tour will focus on everyday flying, emphasising the low costs and availability of the current fleet. There are plenty of microlights that will fly for thousands of hours at a fraction of the

price of heavier alternatives and with more than enough touring capability to meet *FLYER's* #FLY2022 challenge.

When flying is affordable, we go flying. Microlighters fill their log books and have adventures along the way. Come and see us on tour this year – and bring your aeroplane with you!

**Rob Hughes**



**British Microlight Aircraft Association**  
[www.bmaa.org](http://www.bmaa.org)

## GAAC Airfields: Get early advice

**The General Aviation Awareness Council provides guidance relating to UK GA airfields on operational issues. Our team has town planning, real estate, safeguarding, rights of way, insurance, financial planning, and legal skills.**

As the voice of the 700+ GA airfields, the GAAC liaises directly with the DfT and Secretary of State on planning legislation, the impact of developments on airfields, and national infrastructure projects.

We are growing, particularly with the addition of ARPAS (drones), which has

250,000 members, to our board, and the British Helicopter Association. The All Party Parliamentary Group on GA gives links with government departments and regulators, and GAAC Board members make up half of the APPG's Airfields Working Group.

Recently the Secretary of State endorsed our concept for a Strategic Airfield Network. This would improve airfield protection in planning terms as well as utilisation and the standard of facilities for future generations.

As confidentiality is crucial, we rarely advertise or highlight our work, and we

hope airfields will come to us when they face problems. Our workload has greatly increased in volume and complexity as appreciation of our value steadily grows. Last year 19 new flying sites consulted us.

Our message is this: please don't be complacent; get relevant advice early to inform your strategy. It's free initially. We repeatedly see the difference such advice can make between continued viability or closure of an airfield. **John Gilder**



**General Aviation Awareness Council**  
[www.gaac.org.uk](http://www.gaac.org.uk)

## LAA Weathering the storm

**The LAA and its members can look ahead to 2022 with rather more optimism than this time last year.**

After the inevitable turbulence caused by Covid and lockdowns, the Light Aircraft Association started 2022 with membership numbers and the number of aircraft on LAA-overseen Permits to Fly, back at 2019, pre-Covid, levels.

Last year, the doubts and uncertainty saw the number of aircraft with active LAA Permits, a barometer of aviation activity, falling from 2,785 in 2019 to 2,729 in 2020. It was up to 2,831 at the end of 2021, including 81 aircraft which gained

their first permit in 2021. Our membership levels dipped to a low of 7,683 during lockdown at the start of 2021, with some older members electing to 'hang up their headsets'. I am glad to say these numbers have recovered too, to a total of 7,837 at the end of the year, again reverting to pre-Covid, levels. Equally good news is that this recent increase was driven by record recruitment, with more than 650 new members joining in the past year.

Looking ahead to the longer term, the big question is where will our next generation of members come from? Perhaps one answer can be given by an

event we supported between Christmas and New Year, when 'The Plane Guy' Andre Faehndrich assembled a record 59 pedal planes at Old Warden. We entered into the spirit of things with our 'Build A Pedal Plane' assembly model and Kids Aviation Art drawing area. Impressively, our Facebook page highlighting the event attracted over 11,000 views, the most ever for an LAA event, so the interest is definitely out there! **Steve Slater**



**Light Aircraft Association**  
[www.lightaircraftassociation.co.uk](http://www.lightaircraftassociation.co.uk)

**Aviation associations Got something to say?** You're welcome to contribute to this page, email [editor@seager.aero](mailto:editor@seager.aero)

# THE FLYER CLUB



Pilots flying more economical types might find our #FLY2022 challenge very easy!

## Challenge yourself in 2022

**Before we know it, it will be flying season again! So why not make this year one to remember and join us on our #FLY2022 campaign?**



**F**lying season isn't far off now! It would be great to live in a part of the world where it was 'open season' all year round but absence certainly makes the heart grow fonder. I'm longing for the first warm evenings where I can leave my desk at 1730 and still squeeze in 20 minutes of legal aviation before sundown.

I've been inspired by a lot of adventures I've seen on social media over the last few months, and it's great to see what people are getting up to out there. I live in envy of the adventures undertaken from Wem International Airport (aka Sleep). I know those folks won't struggle to take part in our #FLY2022 campaign. They've probably completed it already.

A not insignificant number of people I know have lapsed in some manner through 2021, so I'm hopeful that they can get checked out or

tested and discover the magic of GA again. Aviation is one of those hobbies where it can feel expensive doing it, but if you neglect things, it can feel even more expensive getting back into it. Two of my other hobbies are photography and clay pigeon shooting, both of which offer avenues to buy the best kit which often ends up costing just as much as flying and can sit around unused for months.

If I can offer any advice to people as we head into a new season, it's to get out there and try new things, push your boundaries (within limits!) and always think about how you can introduce GA to new people. Even if they don't take it up, one more person who has a positive view of it is all for the better for GA. ▼

A handwritten signature in black ink that reads "Jonny".

[jonny.salmon@seager.aero](mailto:jonny.salmon@seager.aero)



# Out & About

The weather is a bit mixed, but the days are slightly longer, and it looks like you've been having fun all around the country – and beyond! Thanks... keep the photos coming!



**David Edes** flying over a slightly wintry Scotland



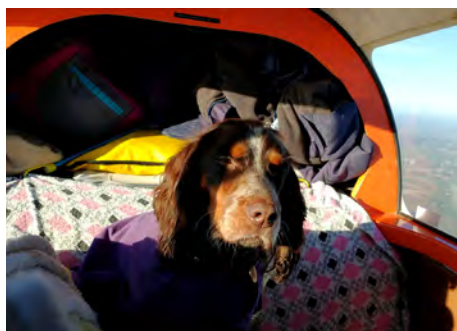
**Riccardo de Nardis**  
flying in France



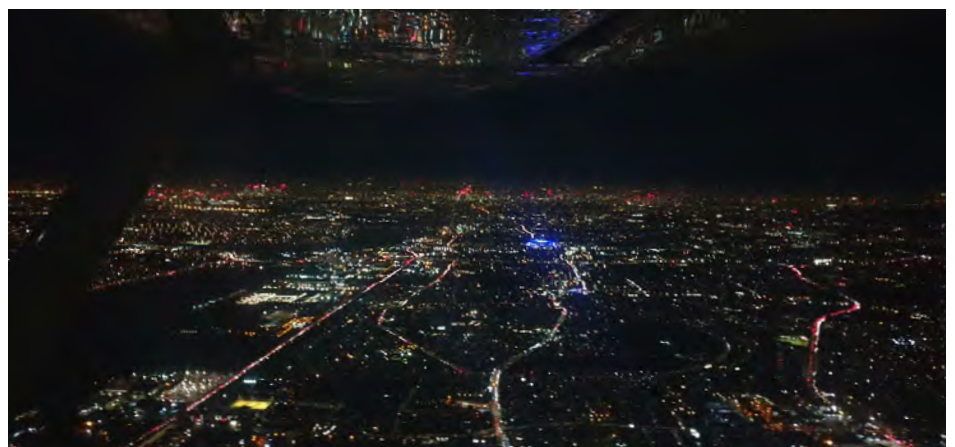
**Martin Handley** over Snowdonia



**Steve Franklin** flew to Halfpenny Green the other day for navigation training



**David Taylor** with Finn the dog flying back from an excellent lunch at Sleep



**Christopher Veazey-Doucet** flexing his night rating





**Anthony Crowe** window open at sunset



**Steph Smith** Rear of a Rearwin on a cold morning



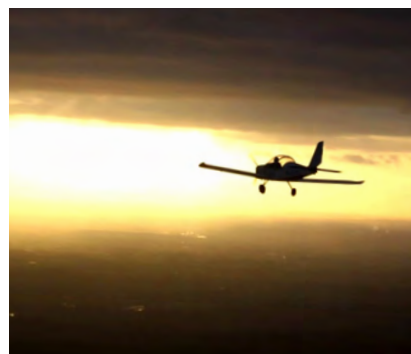
**Neil Parkinson** Chasing the sun



**Mick Ward** getting ready to depart North Coates



**Tim Cook** and **Mark Turner** heading to Turweston for lunch



**Nick Stone** heading back from Sherburn



**Nick Bee** joining the overhead at Gamston Retford

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# Free Landings



If you're a member of **The FLYER Club**, [click here](#) for your personalised vouchers and save over **£40** by claiming one **FREE** landing at each of these airfields valid for February 2022, although not at an aircraft's home field. No jets. Please contact the airfield before setting off.

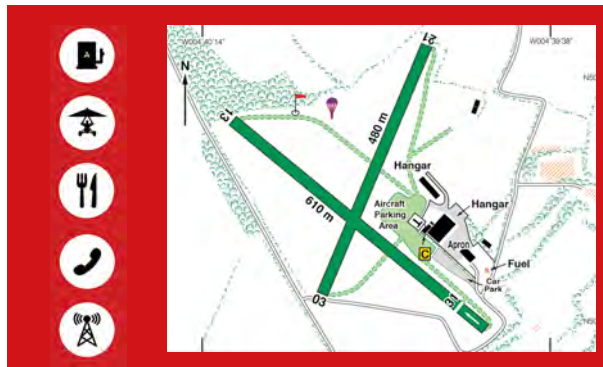
**If you're not currently a member of the FLYER Club, but would like to receive new free landing fees every four weeks plus other Club member benefits, then [click here to join!](#)**

## Bodmin

01208 821419 | EGLA | [www.bodminairfield.com](http://www.bodminairfield.com)

**Bodmin** Airfield is situated on the edge of the picturesque Bodmin Moor in Cornwall and has excellent facilities, including two grass runways and a lunchtime bar and restaurant. It's operated by the Cornwall Flying Club, which will arrange accommodation, car hire and Customs, if requested in advance. CFC has a long training history and offers wing walking and vintage flights. All visitors are strictly PPR.

**Nearby attractions** Bodmin Airfield is only 20 minutes from the Eden Project. The rugged beauty of Poldark Country awaits you.  
**PPR** 01208 821419  
**Radio** 120.330

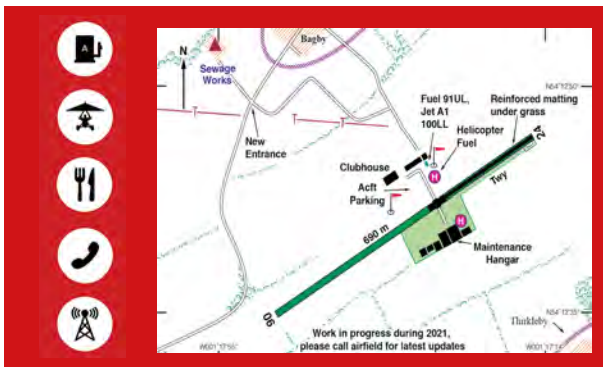


## Bagby

01845 597385 | EGNG | [www.bagbyairfield.com](http://www.bagbyairfield.com)

**Bagby** Airfield has a well-maintained grass runway (06/24). Jet A1 and avgas available, plus tea and hot / cold meals. A selection of aircraft are available for training and hire, including microlights. Runway lighting is available with PPR. The airfield operated an air-ground radio. PPR required for non-radio aircraft. Avoid overflying the neighbouring villages of Bagby and Thirkleby. All visiting aircraft strictly PPR

**Nearby attractions** including the town of Thirsk, which provides a gateway to the stunning Yorkshire Dales.  
**PPR** 01845 597385 / 07917 727 385  
**Radio** 123.255



### Radio

Accepts non-radio light aircraft, but PPR



### PPR

Prior permission is required



### Refreshments

Including restaurants and cafes etc



### Microlights

are welcome



### Fuel

Aviation fuel available  
**A** avgas, **UL** UL91,  
**M** mogas

## While you're there

When you visit these airfields, why not show your support by enjoying a meal in the cafe or filling up with fuel? It's good to support GA in the UK.

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**Free Landings are for FLYER Club member use only – click here to join!**

## Longside

07825 811111 | EGPS | [www.buchanaeroclub.co.uk](http://www.buchanaeroclub.co.uk)

**Longside** Airfield is situated 2.5nm north-west of Peterhead, Aberdeenshire. An unlicensed WWII airfield with a rich heritage, it's home to the Buchan Aero Club, which operates a diverse range of GA aircraft, including microlights, SEPs and gyroplanes from the 500m tarmac runway. There's a clubhouse with good facilities, on-site avgas and mogas by arrangement. PPR essential. All aircraft are assured of a warm welcome!

**Nearby attractions** Aberdeen  
**PPR** 07825 811111  
**Radio** 118.280 'Longside Radio'

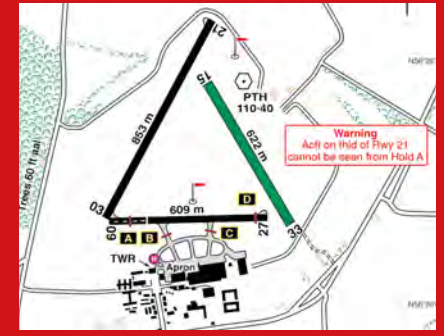


## Perth

01738 551631 | EGPT | [www.perthairport.co.uk](http://www.perthairport.co.uk)

**Perth** Airport, with its 853m tarmac runway is centrally located in the heart of Scotland. It's home to the Scottish Aero Club, which is Scotland's original and largest, and the clubhouse facilities are open to all visitors. There's a friendly and informal atmosphere and it's recommended that you visit the Touchdown Cafe. Visit the ACS Aviation shop for a full range of pilot supplies.

**Nearby attractions** include the Gleneagles Hotel, Scone Palace, Perth Racecourse and the King James VI Golf Club.  
**PPR** 01738 551631  
**Radio** 121.080



## Rufforth East

07802 435158 | <https://rufforthairfieldeast.co.uk>

**Rufforth** Airfield East is in the heart of North Yorks. It welcomes all and lies just outside York's A1237 ring road. The 500m hard runway is orientated 05/23 with a grass overrun, and has a popular cafe (due to reopen in March or April 2022). PPR is not necessary (see website). Care should be taken to avoid gliders from Rufforth West airfield, immediately to the west. Rufforth East is a radio mandatory airfield.

**Nearby attractions** The City of York is just minutes away by taxi, offering a host of activities, night life and history.  
**PPR** Not necessary  
**Radio** 120.380



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## Win! A print and digital Pooleys UK Flight Guide

**QUESTION:** What is the distance between Bodmin and Longside in nautical miles?

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Pooleys March Competition, *FLYER* magazine, PO Box 4261, Melksham, SN12 9BN or send an email to [competitions@seager.aero](mailto:competitions@seager.aero)  
 The closing date is 11 March 2022.

The winner's name and address will be passed to Pooleys, then deleted from Seager's database. Pooleys will send the winner their prize and, in order to do so, also offer to supply them with further information about the company's products and services.

The winner for January 2022 is:  
 John Luck, Aylesford, Kent.



- 1 Bodmin
- 2 Bagby
- 3 Longside
- 4 Perth
- 5 Rufforth East





# Change is coming

**There isn't much time left to join the *FLYER* Club for just £30/year!**

**T**he days are counting down until *FLYER* gets a makeover, and if you're reading this and you're already a *FLYER* Club member, you'll get full access from day one. If you aren't a member, by joining *before* the change you'll be able to lock-in that great price for a whole year. We'll be delivering the same great content, but on a daily basis, so you get the latest news as soon as it happens.

However, some things won't be changing. You'll still get FREE landing vouchers to visit new airfields and support them. You'll still get discounts with retailers like Pooleys and Transair. You'll still get two weekly weather briefings from Dr Simon Keeling. You get the drift? You won't be losing anything! Without giving too much away at the moment, we'll be bringing you

new content each day in a brilliantly accessible format.

We'll also be finalising our first livestream from Leicester in the not too distant future. We're a busy bunch and have multiple calendars to juggle between us and we need to think of a fun new segment to encourage some audience participation, so stay tuned for more information.

Bruce Buglass at Sleep has agreed to a late summer *FLYER* Club fly-in on 17 September, (thanks Bruce).



**Above** Ed Hicks deep in conversation about an RV (what else?) at the *FLYER* fly-in last year

## Join the Club – it makes sense

**If you're not** a member of The *FLYER* Club and you're thinking, 'How do I join? Right now. This instant...!'

Well, good news, it's easy. Just [follow this link](#), complete the simple form, decide how you want to pay and start enjoying the **benefits** instantly.

### Member benefits

- Extensive *FLYER* back issue library
- Save 5% whenever you shop at Pooleys (excludes Bose headsets)
- £10 off when you spend £40 at Transair (excludes Bose headsets)
- 10% Spitfires.com Simulator sessions
- 15% off an Ultimate High Top Gun Experience
- Free copy of *A View from the Hover*

- Get your club membership paid by Stein Pilot Insurance

- An initial conversation with Dr Frank Voeten, FAA & EASA AME

- Twice-weekly General Aviation weather briefings
- FREE Landing vouchers, available through the

[FLYER website](#)

- Mini weather webinar. Catch-up if you missed it.
- Exclusive written content from our archives – first pieces now published.
- Interviews with experts on a number of key topics.
- Our first members' Fly-in was a success! More events soon!

### Coming soon

- Back issues – there's another FIVE years on the website with more to follow.

Last time saw around 25 aircraft attend, let's hope the weather is a bit better. We'll be organising at least one more fly-in from April onwards at other airfields and there's a possible *FLYER* Club talk with Zara Rutherford about her around the world flight. ➤

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NEXT MONTH'S ISSUE

**Available from  
16 February.**

# QSY

For the funny, the weird, the wonderful and the just plane strange...



Above Mike Miller-Smith

Aerobility boss Mike Miller-Smith is one of 12 volunteer Aviation Ambassadors appointed for 2022 by the Department for Transport.

“If anyone can use this role to promote skills development, diversity and inclusion in the aviation sector, it is Mike,” said a statement from Aerobility.

The Aviation Ambassadors Group works with the Department for Transport to help deliver a skilled, diverse and sustainable aviation workforce fit to seize the opportunities of the future,

## Aerobility boss Mike joins 2022 Aviation Ambassadors

said a Govt statement.

Mike added, “Taking the controls of an aeroplane reminds us all what we are capable of, irrespective of who we are, where we come from or whatever our abilities are.

“Today, I make sure anyone, with any disability, has access to aviation, as I know only too well what joy and benefits aviation can bring. It truly changes lives with positive impact that reaches far beyond the airfield.”

The 2022 Aviation Ambassadors are:

- Amy Whitewick, private pilot and aerial artist
- Carol Anderson, aviation lawyer
- Ivana Alvares-Marshall, commercial pilot, founder and governor of the African

Section Ninety-Nines International Organisation of Women Pilots

- Kanchana Gamage, founder of the Aviatrix Project
- Katherine Moloney, pilot sharing her aviation journey and promote GA on social media
- Mandy Hickson, former RAF pilot, now a keynote speaker
- Steven Tisseyre, former police electronics engineer and STEM Ambassador
- Suzanne (Suzy) Morgan, British Airways B777 captain
- Tetyana Shevchenko, only civilian woman flying a vintage jet in the UK
- Tim Bridge, founder and director of Nuncats CIC
- Travis Ludlow, round-the-world pilot.

## HCAP launches 2022 PPL flying scholarships

A number of PPL flying scholarships are available from the Honourable Company of Air Pilots and the window for applications is open until 2 February 2022.

The HCAP scholarships cover all aspects of training up to licence issue for a candidate prepared to dedicate part of the summer to gaining their PPL.

Providing up to 45 hours of flying training, the scholarships can take a candidate with little or no experience to completion of their flying licence during the course of the summer.

Alternatively they can ‘finish off’ someone who is already partially trained.

The scholarships are awarded entirely on merit as evidenced on the completed application form.

Candidates must be 17 or over on 1 June 2022. The course must be commenced during June 2022 and completed by 29 September 2022. For full details and application form for HCAP’s 2022 Flying Scholarships, click [here](#).

## Fifty-nine pedal planes record

World aviation records set in December? Well, yes, sort of. A total of 59 pedal planes attended the Annual World Pedal Plane Gathering at the Shuttleworth Museum on 29 December 2021, beating the previous record of 53 set at Oshkosh, USA in 2019.



## Heroes & Villains

**HEROES** Los Angeles police who dragged an unnamed pilot from a Cessna 150 that crashed on a railway line - split-seconds before a double-decker



train hit the crashed aircraft and sent debris flying in all directions. Watch the video of the incident [here](#).

**VILLAIN** Pilot Trevor Jacob crashed and destroyed an aircraft for his YouTube channel, claiming it was engine failure over mountainous terrain.

Fortunately, he was wearing a parachute and was able to bail out of the Taylorcraft’s door before the aircraft crashed. The FAA is investigating. Watch the video [here](#).



**HERO** Clayton Smeltz is the world’s first type-rated Cirrus Vision Jet pilot with paraplegia, 10 years after gaining his PPL in an adapted Piper PA-28.



Clayton said, “As a boy I dreamed of being a jet pilot but of course that would never happen. Now, after a year in the making, we’ve developed adaptive controls that allow the jet to be flown by hand!”. Watch Clayton fly the Cirrus Jet [here](#).

**HONOURED** Matthew Bolshaw was awarded an MBE in the New Year Honours List for services to aviation and, in particular, for his work for the All-Party Parliamentary Group on General Aviation.

Send your QSY submissions to QSY, PO Box 4261, Melksham, SN12 9BN or to [qsy@seager.aero](mailto:qsy@seager.aero)



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